



Citrix XenServer Management API

API Revision 2.7

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Chapter 1

Introduction

This document defines the Citrix XenServer Management API—an API for remotely configuring and controlling virtualised guests running on a XenServer pool.

The API is presented here as a set of Remote Procedure Calls, with a wire format based upon XML-RPC. No specific language bindings are prescribed, although examples will be given in the python programming language. Although we adopt some terminology from object-oriented programming, future client language bindings may or may not be object oriented. The API reference uses the terminology *classes* and *objects*. For our purposes a *class* is simply a hierarchical namespace; an *object* is an instance of a class with its fields set to specific values. Objects are persistent and exist on the server-side. Clients may obtain opaque references to these server-side objects and then access their fields via get/set RPCs.

For each class we specify a list of fields along with their *types* and *qualifiers*. A qualifier is one of:

- *RO_{run}*: the field is Read Only. Furthermore, its value is automatically computed at runtime. For example: current CPU load and disk IO throughput.
- *RO_{ins}*: the field must be manually set when a new object is created, but is then Read Only for the duration of the object's life. For example, the maximum memory addressable by a guest is set before the guest boots.
- *RW*: the field is Read/Write. For example, the name of a VM.

A full list of types is given in Chapter 2. However, there are three types that require explicit mention:

- *t Ref*: signifies a reference to an object of type *t*.
- *t Set*: signifies a set containing values of type *t*.
- *(t₁, t₂) Map*: signifies a mapping from values of type *t₁* to values of type *t₂*.

Note that there are a number of cases where *Refs* are *doubly linked*—e.g. a VM has a field called *VIFs* of type (*VIF Ref*) *Set*; this field lists the network interfaces attached to a particular VM. Similarly, the *VIF* class has a field called *VM* of type (*VM Ref*) which references the VM to which the interface is connected. These two fields are *bound together*, in the sense that creating a new *VIF* causes the *VIFs* field of the corresponding *VM* object to be updated automatically.

The API reference explicitly lists the fields that are bound together in this way. It also contains a diagram that shows relationships between classes. In this diagram an edge signifies the existence of a pair of fields that are bound together, using standard crows-foot notation to signify the type of relationship (e.g. one-many, many-many).

1.1 RPCs associated with fields

Each field, f , has an RPC accessor associated with it that returns f 's value:

- “`get_f(Ref x)`”: takes a `Ref` that refers to an object and returns the value of f .

Each field, f , with attribute *RW* and whose outermost type is *Set* has the following additional RPCs associated with it:

- an “`add_to_f(Ref x, v)`” RPC adds a new element v to the set¹;
- a “`remove_from_f(Ref x, v)`” RPC removes element v from the set;

Each field, f , with attribute *RW* and whose outermost type is *Map* has the following additional RPCs associated with it:

- an “`add_to_f(Ref x, k, v)`” RPC adds new pair (k, v) to the mapping stored in f in object x . Adding a new pair for duplicate key, k , overwrites any previous mapping for k .
- a “`remove_from_f(Ref x, k)`” RPC removes the pair with key k from the mapping stored in f in object x .

Each field whose outermost type is neither *Set* nor *Map*, but whose attribute is *RW* has an RPC accessor associated with it that sets its value:

- For *RW* (*Read/Write*), a “`set_f(Ref x, v)`” RPC function is also provided. This sets field f on object x to value v .

1.2 RPCs associated with classes

- Each class has a *constructor* RPC named “`create`” that takes as parameters all fields marked *RW* and *RO_{ins}*. The result of this RPC is that a new *persistent* object is created on the server-side with the specified field values.
- Each class has a `get_by_uuid(uuid)` RPC that returns the object of that class that has the specified `uuid`.
- Each class that has a `name_label` field has a “`get_by_name_label(name)`” RPC that returns a set of objects of that class that have the specified `label`.
- Each class has a “`destroy(Ref x)`” RPC that explicitly deletes the persistent object specified by x from the system. This is a non-cascading delete – if the object being removed is referenced by another object then the `destroy` call will fail.

1.2.1 Additional RPCs

As well as the RPCs enumerated above, some classes have additional RPCs associated with them. For example, the `VM` class has RPCs for cloning, suspending, starting etc. Such additional RPCs are described explicitly in the API reference.

¹Since sets cannot contain duplicate values this operation has no action in the case that v was already in the set.

1.3 Wire Protocol for Remote API Calls

API calls are sent over a network to a Xen-enabled host using the XML-RPC protocol. In this Section we describe how the higher-level types used in our API Reference are mapped to primitive XML-RPC types.

In our API Reference we specify the signatures of API functions in the following style:

```
(ref_vm Set) VM.get_all()
```

This specifies that the function with name `VM.get_all` takes no parameters and returns a Set of `ref_vms`. These types are mapped onto XML-RPC types in a straight-forward manner:

- Floats, Booleans, DateTimes and Strings map directly to the XML-RPC `double`, `boolean`, `dateTime.iso8601`, and `string` elements.
- all “`ref_`” types are opaque references, encoded as the XML-RPC’s `String` type. Users of the API should not make assumptions about the concrete form of these strings and should not expect them to remain valid after the client’s session with the server has terminated.
- fields named “`uuid`” of type “`String`” are mapped to the XML-RPC `String` type. The string itself is the OSF DCE UUID presentation format (as output by `uuidgen`, etc).
- ints are all assumed to be 64-bit in our API and are encoded as a string of decimal digits (rather than using XML-RPC’s built-in 32-bit `i4` type).
- values of enum types are encoded as strings. For example, a value of `destroy` of type `on_normal_exit`, would be conveyed as:

```
<value><string>destroy</string></value>
```

- for all our types, `t`, our type `t Set` simply maps to XML-RPC’s `Array` type, so for example a value of type `String Set` would be transmitted like this:

```
<array>
  <data>
    <value><string>CX8</string></value>
    <value><string>PSE36</string></value>
    <value><string>FPU</string></value>
  </data>
</array>
```

- for types `k` and `v`, our type `(k, v) Map` maps onto an XML-RPC struct, with the key as the name of the struct. Note that the `(k, v) Map` type is only valid when `k` is a `String`, `Ref`, or `Int`, and in each case the keys of the maps are stringified as above. For example, the `(String, double) Map` containing a the mappings `Mike → 2.3` and `John → 1.2` would be represented as:

```
<value>
  <struct>
    <member>
      <name>Mike</name>
      <value><double>2.3</double></value>
    </member>
```



```

    <member>
      <name>John</name>
      <value><double>1.2</double></value>
    </member>
  </struct>
</value>

```

- our `Void` type is transmitted as an empty string.

1.3.1 Note on References vs UUIDs

References are opaque types — encoded as XML-RPC strings on the wire — understood only by the particular server which generated them. Servers are free to choose any concrete representation they find convenient; clients should not make any assumptions or attempt to parse the string contents. References are not guaranteed to be permanent identifiers for objects; clients should not assume that references generated during one session are valid for any future session. References do not allow objects to be compared for equality. Two references to the same object are not guaranteed to be textually identical.

UUIDs are intended to be permanent names for objects. They are guaranteed to be in the OSF DCE UUID presentation format (as output by `uuidgen`). Clients may store UUIDs on disk and use them to lookup objects in subsequent sessions with the server. Clients may also test equality on objects by comparing UUID strings. The API provides mechanisms for translating between UUIDs and opaque references. Each class that contains a UUID field provides:

- A “`get_by_uuid`” method that takes a UUID, u , and returns an opaque reference to the server-side object that has `UUID=u`;
- A `get_uuid` function (a regular “field getter” RPC) that takes an opaque reference, r , and returns the UUID of the server-side object that is referenced by r .

1.3.2 Return Values/Status Codes

The return value of an RPC call is an XML-RPC `Struct`.

- The first element of the struct is named `Status`; it contains a string value indicating whether the result of the call was a “`Success`” or a “`Failure`”.

If `Status` was set to `Success` then the `Struct` contains a second element named `Value`:

- The element of the struct named `Value` contains the function’s return value.

In the case where `Status` is set to `Failure` then the struct contains a second element named `ErrorDescription`:

- The element of the struct named `ErrorDescription` contains an array of string values. The first element of the array is an error code; the remainder of the array are strings representing error parameters relating to that code.

For example, an XML-RPC return value from the `host.get_resident_VMs` function above may look like this:

```

<struct>
  <member>
    <name>Status</name>
    <value>Success</value>
  </member>

```

```

<member>
  <name>Value</name>
  <value>
    <array>
      <data>
        <value>81547a35-205c-a551-c577-00b982c5fe00</value>
        <value>61c85a22-05da-b8a2-2e55-06b0847da503</value>
        <value>1d401ec4-3c17-35a6-fc79-cee6bd9811fe</value>
      </data>
    </array>
  </value>
</member>
</struct>

```

1.4 Making XML-RPC Calls

1.4.1 Transport Layer

The following transport layers are currently supported:

- HTTP/S for remote administration
- HTTP over Unix domain sockets for local administration

1.4.2 Session Layer

The XML-RPC interface is session-based; before you can make arbitrary RPC calls you must login and initiate a session. For example:

```
session_id session.login_with_password(string uname, string pwd, string version, string originator)
```

Where `uname` and `password` refer to your username and password while `version` and `originator` are optional and refer to the api version and client name respectively, as defined by the Xen administrator. (The `version` is ignored at present though. A client that doesn't want to specify it can send `uname, pwd, "", originator`) The `session_id` returned by `session.login_with_password` is passed to subsequent RPC calls as an authentication token.

A session can be terminated with the `session.logout` function:

```
void session.logout(session_id session)
```

1.4.3 Synchronous and Asynchronous invocation

Each method call (apart from methods on “Session” and “Task” objects and “getters” and “setters” derived from fields) can be made either synchronously or asynchronously. A synchronous RPC call blocks until the return value is received; the return value of a synchronous RPC call is exactly as specified in Section 1.3.2.

Only synchronous API calls are listed explicitly in this document. All asynchronous versions are in the special `Async` namespace. For example, synchronous call `VM.clone(...)` (described in Chapter 2) has an asynchronous counterpart, `Async.VM.clone(...)`, that is non-blocking.

Instead of returning its result directly, an asynchronous RPC call returns a `task-id`; this identifier is subsequently used to track the status of a running asynchronous RPC. Note that an asynchronous call may fail immediately, before a `task-id` has even been created—to represent this eventuality, the returned `task-id` is wrapped in an XML-RPC struct with a `Status`, `ErrorDescription` and `Value` fields, exactly as specified in Section 1.3.2.

The `task-id` is provided in the `Value` field if `Status` is set to `Success`.

The RPC call

```
(ref_task Set) Task.get_all(session_id s)
```

returns a set of all task IDs known to the system. The status (including any returned result and error codes) of these tasks can then be queried by accessing the fields of the Task object in the usual way. Note that, in order to get a consistent snapshot of a task's state, it is advisable to call the "get_record" function.

1.5 Example interactive session

This section describes how an interactive session might look, using the python XML-RPC client library. First, initialise python and import the library `xmlrpclib`:

```
\$ python2.4
...
>>> import xmlrpclib
```

Create a python object referencing the remote server:

```
>>> xen = xmlrpclib.Server("https://localhost:443")
```

Acquire a session reference by logging in with a username and password (error-handling omitted for brevity; the session reference is returned under the key 'Value' in the resulting dictionary)

```
>>> session = xen.session.login_with_password("user", "passwd", "version", "originator")['Value']
```

When serialised, this call looks like the following:

```
<?xml version='1.0'?>
<methodCall>
  <methodName>session.login_with_password</methodName>
  <params>
    <param>
      <value><string>user</string></value>
    </param>
    <param>
      <value><string>passwd</string></value>
    </param>
    <param>
      <value><string>version</string></value>
    </param>
    <param>
      <value><string>originator</string></value>
    </param>
  </params>
</methodCall>
```

Next, the user may acquire a list of all the VMs known to the system: (Note the call takes the session reference as the only parameter)

```
>>> all_vms = xen.VM.get_all(session)['Value']
>>> all_vms
['OpaqueRef:1', 'OpaqueRef:2', 'OpaqueRef:3', 'OpaqueRef:4']
```

The VM references here have the form `OpaqueRef:X`, though they may not be that simple in the future, and you should treat them as opaque strings. *Templates* are VMs with the `is_a_template` field set to true. We can find the subset of template VMs using a command like the following:

```
>>> all_templates = filter(lambda x: xen.VM.get_is_a_template(session, x)['Value'], all_vms)
```

Once a reference to a VM has been acquired a lifecycle operation may be invoked:

```
>>> xen.VM.start(session, all_templates[0], False, False)
{'Status': 'Failure', 'ErrorDescription': ['VM_IS_TEMPLATE', 'OpaqueRef:X']}
```

In this case the `start` message has been rejected, because the VM is a template, and so an error response has been returned. These high-level errors are returned as structured data (rather than as XML-RPC faults), allowing them to be internationalised.

Rather than querying fields individually, whole *records* may be returned at once. To retrieve the record of a single object as a python dictionary:

```
>>> record = xen.VM.get_record(session, all_templates[0])['Value']
>>> record['power_state']
'Halted'
>>> record['name_label']
'XenSource P2V Server'
```

To retrieve all the VM records in a single call:

```
>>> records = xen.VM.get_all_records(session)['Value']
>>> records.keys()
['OpaqueRef:1', 'OpaqueRef:2', 'OpaqueRef:3', 'OpaqueRef:4' ]
>>> records['OpaqueRef:1']['name_label']
'RHDL 4.1 Autoinstall Template'
```

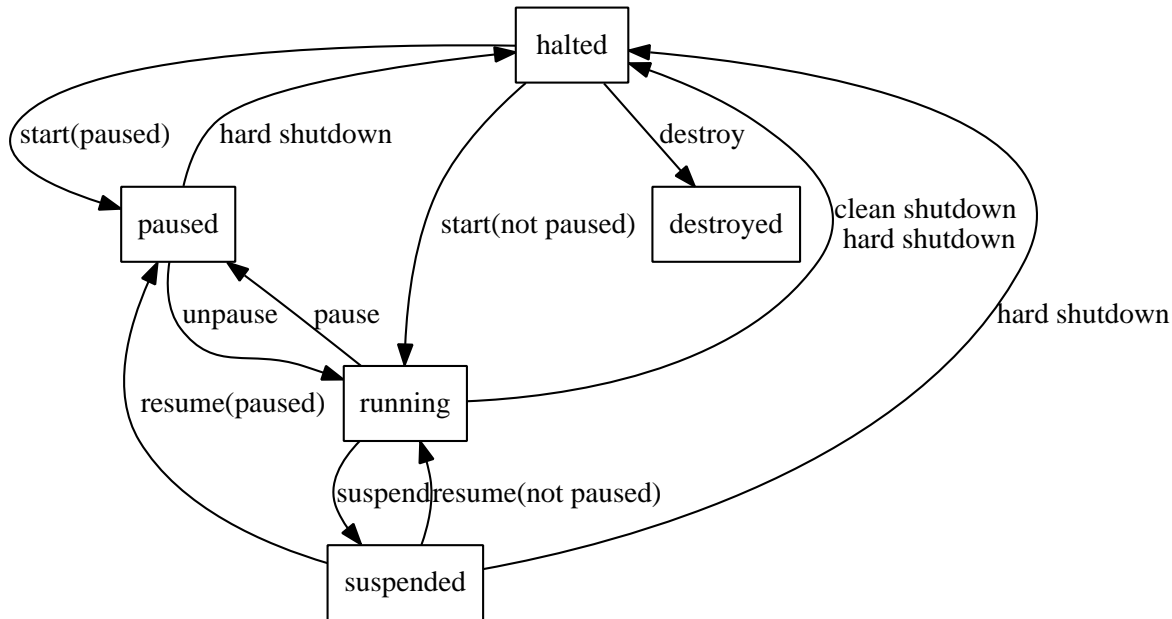


Figure 1.1: VM Lifecycle

1.6 VM Lifecycle

Figure 1.1 shows the states that a VM can be in and the API calls that can be used to move the VM between these states.

1.7 VM boot parameters

The VM class contains a number of fields that control the way in which the VM is booted. With reference to the fields defined in the VM class (see later in this document), this section outlines the boot options available and the mechanisms provided for controlling them.

VM booting is controlled by setting one of the two mutually exclusive groups: “PV”, and “HVM”. If `HVM.boot_policy` is the empty string, then paravirtual domain building and booting will be used; otherwise the VM will be loaded as an HVM domain, and booted using an emulated BIOS.

When paravirtual booting is in use, the `PV/bootloader` field indicates the bootloader to use. It may be “pygrub”, in which case the platform’s default installation of pygrub will be used, or a full path within the control domain to some other bootloader. The other fields, `PV/kernel`, `PV/ramdisk`, `PV/args` and `PV/bootloader_args` will be passed to the bootloader unmodified, and interpretation of those fields is then specific to the bootloader itself, including the possibility that the bootloader will ignore some or all of those given values. Finally the paths of all bootable disks are added to the bootloader commandline (a disk is bootable if its VBD has the bootable flag set). There may be zero, one or many bootable disks; the bootloader decides which disk (if any) to boot from. If the bootloader is pygrub, then the `menu.lst` is parsed if present in the guest’s filesystem, otherwise the specified kernel and ramdisk are used, or an autodetected kernel is used if nothing is specified and autodetection is possible. `PV/args` is appended to the kernel command line, no matter which mechanism is used for finding the kernel.

If `PV/bootloader` is empty but `PV/kernel` is specified, then the kernel and ramdisk values will be treated as paths within the control domain. If both `PV/bootloader` and `PV/kernel` are empty, then the behaviour is as if `PV/bootloader` was specified as “pygrub”.

When using HVM booting, `HVM/boot_policy` and `HVM/boot_params` specify the boot handling. Only one

policy is currently defined: “BIOS order”. In this case, HVM/boot_params should contain one key-value pair “order” = “N” where N is the string that will be passed to QEMU.

Chapter 2

API Reference

2.1 Classes

The following classes are defined:

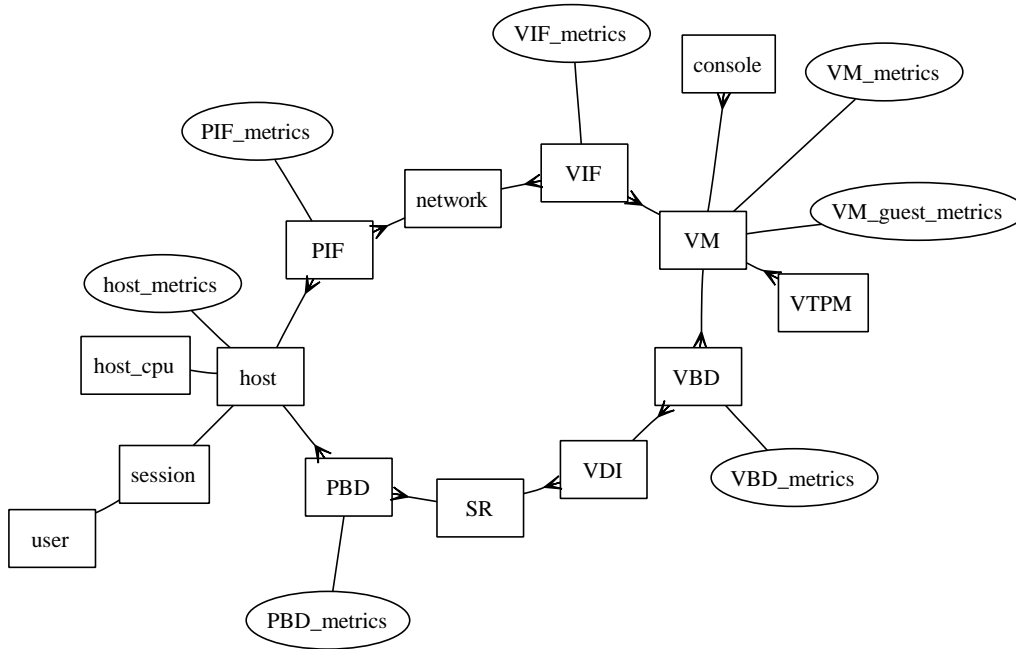
Name	Description
session	A session
auth	Management of remote authentication services
subject	A user or group that can log in xapi
role	A set of permissions associated with a subject
task	A long-running asynchronous task
event	Asynchronous event registration and handling
pool	Pool-wide information
pool_patch	Pool-wide patches
pool_update	Pool-wide updates to the host software
VM	A virtual machine (or 'guest')
VM_metrics	The metrics associated with a VM
VM_guest_metrics	The metrics reported by the guest (as opposed to inferred from outside)
VMPP	VM Protection Policy
VMSS	VM Snapshot Schedule
VM_appliance	VM appliance
DR_task	DR task
host	A physical host
host_crashdump	Represents a host crash dump
host_patch	Represents a patch stored on a server
host_metrics	The metrics associated with a host
host_cpu	A physical CPU
network	A virtual network
VIF	A virtual network interface
VIF_metrics	The metrics associated with a virtual network device
PIF	A physical network interface (note separate VLANs are represented as several PIFs)
PIF_metrics	The metrics associated with a physical network interface
Bond	
VLAN	A VLAN mux/demux
SM	A storage manager plugin
SR	A storage repository
LVHD	LVHD SR specific operations
VDI	A virtual disk image
VBD	A virtual block device
VBD_metrics	The metrics associated with a virtual block device
PBD	The physical block devices through which hosts access SRs
crashdump	A VM crashdump
VTPM	A virtual TPM device
console	A console
user	A user of the system
data_source	Data sources for logging in RRDs
blob	A placeholder for a binary blob
message	An message for the attention of the administrator
secret	A secret
tunnel	A tunnel for network traffic
PCI	A PCI device
PGPU	A physical GPU (pGPU)
GPU_group	A group of compatible GPUs across the resource pool
VGPU	A virtual GPU (vGPU)
VGPU_type	A type of virtual GPU
PVS_site	machines serving blocks of data for provisioning VMs
PVS_server	individual machine serving provisioning (block) data
PVS_proxy	a proxy connects a VM/VIF with a PVS site
PVS_cache_storage	Describes the storage that is available to a PVS site for caching purposes
Feature	A new piece of functionality

2.2 Relationships Between Classes

Fields that are bound together are shown in the following table:

<i>object.field</i>	<i>object.field</i>	<i>relationship</i>
VM.snapshot_of	VM.snapshots	one-to-many
VDI.snapshot_of	VDI.snapshots	one-to-many
VM.parent	VM.children	one-to-many
task.subtask_of	task.subtasks	one-to-many
PIF.bond_slave_of	Bond.slaves	one-to-many
Bond.master	PIF.bond_master_of	one-to-many
VLAN.tagged_PIF	PIF.VLAN_slave_of	one-to-many
tunnel.access_PIF	PIF.tunnel_access_PIF_of	one-to-many
tunnel.transport_PIF	PIF.tunnel_transport_PIF_of	one-to-many
PBD.host	host.PBDs	one-to-many
PBD.SR	SR.PBDs	one-to-many
VBD.VDI	VDI.VBDs	one-to-many
crashdump.VDI	VDI.crash_dumps	one-to-many
VBD.VM	VM.VBDs	one-to-many
crashdump.VM	VM.crash_dumps	one-to-many
VIF.VM	VM.VIFs	one-to-many
VIF.network	network.VIFs	one-to-many
PIF.host	host.PIFs	one-to-many
PIF.network	network.PIFs	one-to-many
VDI.SR	SR.VDIs	one-to-many
VTPM.VM	VM.VTPMs	one-to-many
console.VM	VM.consoles	one-to-many
VM.resident_on	host.resident_VMs	one-to-many
host_cpu.host	host.host_CPUs	one-to-many
host_crashdump.host	host.crashdumps	one-to-many
host_patch.host	host.patches	one-to-many
host_patch.pool_patch	pool_patch.host_patches	one-to-many
host_updates	pool_update.hosts	many-to-many
subject.roles	subject.roles	unknown type
role.subroles	role.subroles	many-to-many
VM.protection_policy	VMPP.VMs	one-to-many
VM.snapshot_schedule	VMSS.VMs	one-to-many
VM.appliance	VM_appliance.VMs	one-to-many
PGPU.GPU_group	GPU_group.PGPUs	one-to-many
VGPU.GPU_group	GPU_group.VGPUs	one-to-many
VGPU.type	VGPU_type.VGPUs	one-to-many
VGPU.VM	VM.VGPUs	one-to-many
VGPU.resident_on	PGPU.resident_VGPUs	one-to-many
PGPU.supported_VGPU_types	VGPU_type.supported_on_PGPUs	many-to-many
PGPU.enabled_VGPU_types	VGPU_type.enabled_on_PGPUs	many-to-many
GPU_group.supported_VGPU_types	VGPU_type.supported_on_GPU_groups	many-to-many
GPU_group.enabled_VGPU_types	VGPU_type.enabled_on_GPU_groups	many-to-many
PCI.host	host.PCIs	one-to-many
PGPU.host	host.PGPUs	one-to-many
VDI.metadata_of_pool	pool.metadata_VDIs	one-to-many
SR.introduced_by	DR_task.introduced_SRs	one-to-many
PVS_server.site	PVS_site.servers	one-to-many
PVS_proxy.site	PVS_site.proxies	one-to-many
PVS_cache_storage.site	PVS_site.cache_storage	one-to-many
Feature.host	host.features	one-to-many

The following represents bound fields (as specified above) diagrammatically, using crows-foot notation to specify one-to-one, one-to-many or many-to-many relationships:



2.3 Types

2.3.1 Primitives

The following primitive types are used to specify methods and fields in the API Reference:

Type	Description
string	text strings
int	64-bit integers
float	IEEE double-precision floating-point numbers
bool	boolean
datetime	date and timestamp

2.3.2 Higher-order types

The following type constructors are used:

Type	Description
<i>c</i> ref	reference to an object of class <i>c</i>
<i>t</i> set	a set of elements of type <i>t</i>
$(a \rightarrow b)$ map	a table mapping values of type <i>a</i> to values of type <i>b</i>

2.3.3 Enumeration types

The following enumeration types are used:

```
enum event_operation
```

add	An object has been created
del	An object has been deleted
mod	An object has been modified

enum pvs_proxy_status	
stopped	The proxy is not currently running
initialised	The proxy is setup but has not yet cached anything
cached	The proxy is currently caching data
incompatible_write_cache_mode	The PVS device is configured to use an incompatible write-cache mode
incompatible_protocol_version	The PVS protocol in use is not compatible with the PVS proxy

enum vgpu_type_implementation	
passthrough	Pass through an entire physical GPU to a guest
nvidia	vGPU using NVIDIA hardware
gvt_g	vGPU using Intel GVT-g
mxgpu	vGPU using AMD MxGPU

enum pgpu_dom0_access	
enabled	dom0 can access this device as normal
disable_on_reboot	On host reboot dom0 will be blocked from accessing this device
disabled	dom0 cannot access this device
enable_on_reboot	On host reboot dom0 will be allowed to access this device

enum console_protocol	
vt100	VT100 terminal
rfb	Remote FrameBuffer protocol (as used in VNC)
rdp	Remote Desktop Protocol

enum vbd_operations	
attach	Attempting to attach this VBD to a VM
eject	Attempting to eject the media from this VBD
insert	Attempting to insert new media into this VBD
plug	Attempting to hotplug this VBD

unplug	Attempting to hot unplug this VBD
unplug_force	Attempting to forcibly unplug this VBD
pause	Attempting to pause a block device backend
unpause	Attempting to unpause a block device backend

enum vdi_operations	
scan	Scanning backends for new or deleted VDIs
clone	Cloning the VDI
copy	Copying the VDI
resize	Resizing the VDI
resize_online	Resizing the VDI which may or may not be online
snapshot	Snapshotting the VDI
mirror	Mirroring the VDI
destroy	Destroying the VDI
forget	Forget about the VDI
update	Refreshing the fields of the VDI
force_unlock	Forcibly unlocking the VDI
generate_config	Generating static configuration
blocked	Operations on this VDI are temporarily blocked

enum storage_operations	
scan	Scanning backends for new or deleted VDIs
destroy	Destroying the SR
forget	Forgetting about SR
plug	Plugging a PBD into this SR
unplug	Unplugging a PBD from this SR
update	Refresh the fields on the SR
vdi_create	Creating a new VDI
vdi_introduce	Introducing a new VDI
vdi_destroy	Destroying a VDI
vdi_resize	Resizing a VDI
vdi_clone	Cloneing a VDI
vdi_snapshot	Snapshotting a VDI
vdi_mirror	Mirroring a VDI
pbd_create	Creating a PBD for this SR
pbd_destroy	Destroying one of this SR's PBDs

enum vif_operations	
attach	Attempting to attach this VIF to a VM
plug	Attempting to hotplug this VIF

unplug	Attempting to hot unplug this VIF
--------	-----------------------------------

enum network_operations	
attaching	Indicates this network is attaching to a VIF or PIF

enum host_allowed_operations	
provision	Indicates this host is able to provision another VM
evacuate	Indicates this host is evacuating
shutdown	Indicates this host is in the process of shutting itself down
reboot	Indicates this host is in the process of rebooting
power_on	Indicates this host is in the process of being powered on
vm_start	This host is starting a VM
vm_resume	This host is resuming a VM
vm_migrate	This host is the migration target of a VM

enum vm_appliance_operation	
start	Start
clean_shutdown	Clean shutdown
hard_shutdown	Hard shutdown
shutdown	Shutdown

enum tristate_type	
yes	Known to be true
no	Known to be false
unspecified	Unknown or unspecified

enum vm_power_state	
Halted	VM is offline and not using any resources
Paused	All resources have been allocated but the VM itself is paused and its vCPUs are not running
Running	Running
Suspended	VM state has been saved to disk and it is no longer running. Note that disks remain in-use while the

enum update_after_apply_guidance	
restartHVM	This update requires HVM guests to be restarted once applied.
restartPV	This update requires PV guests to be restarted once applied.
restartHost	This update requires the host to be restarted once applied.
restartXAPI	This update requires XAPI to be restarted once applied.

enum livepatch_status	
ok_livepatch_complete	An applicable live patch exists for every required component
ok_livepatch_incomplete	An applicable live patch exists but it is not sufficient
ok	There is no applicable live patch

enum after_apply_guidance	
restartHVM	This patch requires HVM guests to be restarted once applied.
restartPV	This patch requires PV guests to be restarted once applied.
restartHost	This patch requires the host to be restarted once applied.
restartXAPI	This patch requires XAPI to be restarted once applied.

enum pool_allowed_operations	
ha_enable	Indicates this pool is in the process of enabling HA
ha_disable	Indicates this pool is in the process of disabling HA

enum task_allowed_operations	
cancel	refers to the operation "cancel"
destroy	refers to the operation "destroy"

enum task_status_type	
pending	task is in progress
success	task was completed successfully
failure	task has failed
cancelling	task is being cancelled
cancelled	task has been cancelled

enum on_normal_exit	
destroy	destroy the VM state
restart	restart the VM

enum on_crash_behaviour	
destroy	destroy the VM state
coredump_and_destroy	record a coredump and then destroy the VM state
restart	restart the VM
coredump_and_restart	record a coredump and then restart the VM
preserve	leave the crashed VM paused
rename_restart	rename the crashed VM and start a new copy

enum vm_operations	
snapshot	refers to the operation "snapshot"
clone	refers to the operation "clone"
copy	refers to the operation "copy"
create_template	refers to the operation "create_template"
revert	refers to the operation "revert"
checkpoint	refers to the operation "checkpoint"
snapshot_with_quiesce	refers to the operation "snapshot_with_quiesce"
provision	refers to the operation "provision"
start	refers to the operation "start"
start_on	refers to the operation "start_on"
pause	refers to the operation "pause"
unpause	refers to the operation "unpause"
clean_shutdown	refers to the operation "clean_shutdown"
clean_reboot	refers to the operation "clean_reboot"
hard_shutdown	refers to the operation "hard_shutdown"
power_state_reset	refers to the operation "power_state_reset"
hard_reboot	refers to the operation "hard_reboot"
suspend	refers to the operation "suspend"
csvm	refers to the operation "csvm"
resume	refers to the operation "resume"
resume_on	refers to the operation "resume_on"
pool_migrate	refers to the operation "pool_migrate"
migrate_send	refers to the operation "migrate_send"
get_boot_record	refers to the operation "get_boot_record"
send_sysrq	refers to the operation "send_sysrq"
send_trigger	refers to the operation "send_trigger"
query_services	refers to the operation "query_services"
shutdown	refers to the operation "shutdown"
call_plugin	refers to the operation "call_plugin"
changing_memory_live	Changing the memory settings

<code>awaiting_memory_live</code>	Waiting for the memory settings to change
<code>changing_dynamic_range</code>	Changing the memory dynamic range
<code>changing_static_range</code>	Changing the memory static range
<code>changing_memory_limits</code>	Changing the memory limits
<code>changing_shadow_memory</code>	Changing the shadow memory for a halted VM.
<code>changing_shadow_memory_live</code>	Changing the shadow memory for a running VM.
<code>changing_VCPUs</code>	Changing VCPU settings for a halted VM.
<code>changing_VCPUs_live</code>	Changing VCPU settings for a running VM.
<code>assert_operation_valid</code>	
<code>data_source_op</code>	Add, remove, query or list data sources
<code>update_allowed_operations</code>	
<code>make_into_template</code>	Turning this VM into a template
<code>import</code>	importing a VM from a network stream
<code>export</code>	exporting a VM to a network stream
<code>metadata_export</code>	exporting VM metadata to a network stream
<code>reverting</code>	Reverting the VM to a previous snapshotted state
<code>destroy</code>	refers to the act of uninstalling the VM

enum <code>vmpp_backup_frequency</code>	
<code>hourly</code>	Hourly backups
<code>daily</code>	Daily backups
<code>weekly</code>	Weekly backups

enum <code>vmpp_archive_frequency</code>	
<code>never</code>	Never archive
<code>always_after_backup</code>	Archive after backup
<code>daily</code>	Daily archives
<code>weekly</code>	Weekly backups

enum <code>vmpp_archive_target_type</code>	
<code>none</code>	No target config
<code>cifs</code>	CIFS target config
<code>nfs</code>	NFS target config

enum <code>vmpp_backup_type</code>	
<code>snapshot</code>	The backup is a snapshot
<code>checkpoint</code>	The backup is a checkpoint

enum vmss_frequency	
hourly	Hourly snapshots
daily	Daily snapshots
weekly	Weekly snapshots

enum vmss_type	
snapshot	The snapshot is a disk snapshot
checkpoint	The snapshot is a checkpoint
snapshot_with_quiesce	The snapshot is a VSS

enum host_display	
enabled	This host is outputting its console to a physical display device
disable_on_reboot	The host will stop outputting its console to a physical display device on next boot
disabled	This host is not outputting its console to a physical display device
enable_on_reboot	The host will start outputting its console to a physical display device on next boot

enum network_default_locking_mode	
unlocked	Treat all VIFs on this network with locking_mode = 'default' as if they have locking
disabled	Treat all VIFs on this network with locking_mode = 'default' as if they have locking

enum vif_locking_mode	
network_default	No specific configuration set - default network policy applies
locked	Only traffic to a specific MAC and a list of IPv4 or IPv6 addresses is permitted
unlocked	All traffic is permitted
disabled	No traffic is permitted

enum vif_ipv4_configuration_mode	
None	Follow the default IPv4 configuration of the guest (this is guest-dependent)
Static	Static IPv4 address configuration

enum vif_ipv6_configuration_mode	
None	Follow the default IPv6 configuration of the guest (this is guest-dependent)
Static	Static IPv6 address configuration

enum ip_configuration_mode	
None	Do not acquire an IP address
DHCP	Acquire an IP address by DHCP
Static	Static IP address configuration

enum ipv6_configuration_mode	
None	Do not acquire an IPv6 address
DHCP	Acquire an IPv6 address by DHCP
Static	Static IPv6 address configuration
Autoconf	Router assigned prefix delegation IPv6 allocation

enum primary_address_type	
IPv4	Primary address is the IPv4 address
IPv6	Primary address is the IPv6 address

enum bond_mode	
balance-slb	Source-level balancing
active-backup	Active/passive bonding: only one NIC is carrying traffic
lacp	Link aggregation control protocol

enum vdi_type	
system	a disk that may be replaced on upgrade
user	a disk that is always preserved on upgrade
ephemeral	a disk that may be reformatted on upgrade
suspend	a disk that stores a suspend image
crashdump	a disk that stores VM crashdump information
ha_statefile	a disk used for HA storage heartbeating
metadata	a disk used for HA Pool metadata
redo_log	a disk used for a general metadata redo-log

<code>rrd</code>	a disk that stores SR-level RRDs
<code>pvs_cache</code>	a disk that stores PVS cache data

<code>enum on_boot</code>	
<code>reset</code>	When a VM containing this VDI is started, the contents of the VDI are reset to the state they were in when
<code>persist</code>	Standard behaviour.

<code>enum vbd_mode</code>	
<code>RO</code>	only read-only access will be allowed
<code>RW</code>	read-write access will be allowed

<code>enum vbd_type</code>	
<code>CD</code>	VBD will appear to guest as CD
<code>Disk</code>	VBD will appear to guest as disk
<code>Floppy</code>	VBD will appear as a floppy

<code>enum cls</code>	
<code>VM</code>	VM
<code>Host</code>	Host
<code>SR</code>	SR
<code>Pool</code>	Pool
<code>VMPP</code>	VMPP
<code>VMSS</code>	VMSS
<code>PVS_proxy</code>	PVS_proxy

<code>enum allocation_algorithm</code>	
<code>breadth_first</code>	vGPUs of a given type are allocated evenly across supporting pGPUs.
<code>depth_first</code>	vGPUs of a given type are allocated on supporting pGPUs until they are full.

<code>enum sdn_controller_protocol</code>

<code>ssl</code>	Active ssl connection
<code>pssl</code>	Passive ssl connection

2.4 Class: session

2.4.1 Fields for class: session

Name	session		
Description	<i>A session.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_{run}</i>	<code>this_host</code>	host ref	Currently connected host
<i>RO_{run}</i>	<code>this_user</code>	user ref	Currently connected user
<i>RO_{run}</i>	<code>last_active</code>	datetime	Timestamp for last time session was active
<i>RO_{run}</i>	<code>pool</code>	bool	True if this session relates to a intra-pool login, false otherwise
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration
<i>RO_{run}</i>	<code>is_local_superuser</code>	bool	true iff this session was created using local superuser credentials
<i>RO_{run}</i>	<code>subject</code>	subject ref	references the subject instance that created the session. If a session instance has <code>is_local_superuser</code> set, then the value of this field is undefined.
<i>RO_{run}</i>	<code>validation_time</code>	datetime	time when session was last validated
<i>RO_{run}</i>	<code>auth_user_sid</code>	string	the subject identifier of the user that was externally authenticated. If a session instance has <code>is_local_superuser</code> set, then the value of this field is undefined.
<i>RO_{run}</i>	<code>auth_user_name</code>	string	the subject name of the user that was externally authenticated. If a session instance has <code>is_local_superuser</code> set, then the value of this field is undefined.
<i>RO_{ins}</i>	<code>rbac_permissions</code>	string set	list with all RBAC permissions for this session
<i>RO_{run}</i>	<code>tasks</code>	task ref set	list of tasks created using the current session
<i>RO_{ins}</i>	<code>parent</code>	session ref	references the parent session that created this session
<i>RO_{run}</i>	<code>originator</code>	string	a key string provided by a API user to distinguish itself from other users sharing the same login name

2.4.2 RPCs associated with class: session

RPC name: `login_with_password`

Overview:

Attempt to authenticate the user, returning a session reference if successful.

Signature:

(session ref) `login_with_password` (string uname, string pwd, string version, string originator)

Arguments:

type	name	description
string	uname	Username for login.
string	pwd	Password for login.
string	version	Client API version.
string	originator	Key string for distinguishing different API users sharing the same login name.

Return Type: session ref
reference of newly created session

Possible Error Codes: SESSION_AUTHENTICATION_FAILED, HOST_IS_SLAVE

RPC name: logout

Overview:
Log out of a session.

Signature:

```
void logout (session_id s)
```

Return Type: void

RPC name: change_password

Overview:
Change the account password; if your session is authenticated with root privileges then the old_pwd is validated and the new_pwd is set regardless.

Signature:

```
void change_password (session_id s, string old_pwd, string new_pwd)
```

Arguments:

type	name	description
string	old_pwd	Old password for account
string	new_pwd	New password for account

Return Type: void

RPC name: slave_local_login_with_password

Overview:
Authenticate locally against a slave in emergency mode. Note the resulting sessions are only good for use on this host.

Signature:

```
(session ref) slave_local_login_with_password (string uname, string pwd)
```

Arguments:

type	name	description
string	uname	Username for login.
string	pwd	Password for login.

Return Type: session ref

ID of newly created session

RPC name: create_from_db_file**Overview:**

.

Signature:`(session ref) create_from_db_file (session_id s, string filename)`**Arguments:**

type	name	description
string	filename	Database dump filename.

Return Type: session ref

ID of newly created session

RPC name: local_logout**Overview:**

Log out of local session.

Signature:`void local_logout (session_id s)`**Return Type:** void**RPC name:** get_all_subject_identifiers**Overview:**

Return a list of all the user subject-identifiers of all existing sessions.

Signature:`(string set) get_all_subject_identifiers (session_id s)`**Return Type:** string set

The list of user subject-identifiers of all existing sessions

RPC name: `logout_subject_identifier`**Overview:**

Log out all sessions associated to a user subject-identifier, except the session associated with the context calling this function.

Signature:

```
void logout_subject_identifier (session_id s, string subject_identifier)
```

Arguments:

type	name	description
string	subject_identifier	User subject-identifier of the sessions to be destroyed

Return Type: void

RPC name: `get_uuid`**Overview:**

Get the uuid field of the given session.

Signature:

```
string get_uuid (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_this_host`**Overview:**

Get the this_host field of the given session.

Signature:

```
(host ref) get_this_host (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: host ref

value of the field

RPC name: `get_this_user`

Overview:

Get the `this_user` field of the given session.

Signature:

```
(user ref) get_this_user (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: user ref

value of the field

RPC name: `get_last_active`

Overview:

Get the `last_active` field of the given session.

Signature:

```
datetime get_last_active (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: datetime

value of the field

RPC name: `get_pool`

Overview:

Get the `pool` field of the given session.

Signature:

```
bool get_pool (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given session.

Signature:

```
((string -> string) map) get_other_config (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given session.

Signature:

```
void set_other_config (session_id s, session ref self, (string -> string) map value)
```

Arguments:

type	name	description
session ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given session.

Signature:

```
void add_to_other_config (session_id s, session ref self, string key, string value)
```

Arguments:

type	name	description
session ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given session. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, session ref self, string key)
```

Arguments:

type	name	description
session ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: get_is_local_superuser**Overview:**

Get the is_local_superuser field of the given session.

Signature:

```
bool get_is_local_superuser (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_subject**Overview:**

Get the subject field of the given session.

Signature:

```
(subject ref) get_subject (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: subject ref

value of the field

RPC name: `get_validation_time`

Overview:

Get the `validation_time` field of the given session.

Signature:

```
datetime get_validation_time (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: `datetime`

value of the field

RPC name: `get_auth_user_sid`

Overview:

Get the `auth_user_sid` field of the given session.

Signature:

```
string get_auth_user_sid (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_auth_user_name`

Overview:

Get the `auth_user_name` field of the given session.

Signature:

```
string get_auth_user_name (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_rbac_permissions`

Overview:

Get the `rbac_permissions` field of the given session.

Signature:

```
(string set) get_rbac_permissions (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: `string set`

value of the field

RPC name: `get_tasks`

Overview:

Get the `tasks` field of the given session.

Signature:

```
(task ref set) get_tasks (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: `task ref set`

value of the field

RPC name: `get_parent`

Overview:

Get the `parent` field of the given session.

Signature:

```
(session ref) get_parent (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: `session ref`

value of the field

RPC name: `get_originator`

Overview:

Get the originator field of the given session.

Signature:

```
string get_originator (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_by_uuid`

Overview:

Get a reference to the session instance with the specified UUID.

Signature:

```
(session ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: `session ref`

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given session.

Signature:

```
(session record) get_record (session_id s, session ref self)
```

Arguments:

type	name	description
session ref	self	reference to the object

Return Type: `session record`

all fields from the object

2.5 Class: auth

2.5.1 Fields for class: auth

Class auth has no fields.

2.5.2 RPCs associated with class: auth

RPC name: `get_subject_identifier`

Overview:

This call queries the external directory service to obtain the `subject_identifier` as a string from the human-readable `subject_name`.

Signature:

```
string get_subject_identifier (session_id s, string subject_name)
```

Arguments:

type	name	description
string	subject_name	The human-readable <code>subject_name</code> , such as a username or a groupname

Return Type: string

the `subject_identifier` obtained from the external directory service

RPC name: `get_subject_information_from_identifier`

Overview:

This call queries the external directory service to obtain the user information (e.g. username, organization etc) from the specified `subject_identifier`.

Signature:

```
((string -> string) map) get_subject_information_from_identifier (session_id s, string subject_identifier)
```

Arguments:

type	name	description
string	subject_identifier	A string containing the <code>subject_identifier</code> , unique in the external directory service

Return Type: (string → string) map

key-value pairs containing at least a key called `subject_name`

RPC name: `get_group_membership`

Overview:

This calls queries the external directory service to obtain the transitively-closed set of groups that the the `subject_identifier` is member of.

Signature:

(string set) `get_group_membership (session_id s, string subject_identifier)`

Arguments:

type	name	description
string	subject_identifier	A string containing the subject_identifier, unique in the external directory service

Return Type: string set

set of subject_identifiers that provides the group membership of subject_identifier passed as argument, it contains, recursively, all groups a subject_identifier is member of.

2.6 Class: subject

2.6.1 Fields for class: subject

Name	subject		
Description	<i>A user or group that can log in xapi.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	subject_identifier	string	the subject identifier, unique in the external directory service
<i>RO_{ins}</i>	other_config	(string → string) map	additional configuration
<i>RO_{run}</i>	roles	role ref set	the roles associated with this subject

2.6.2 RPCs associated with class: subject

RPC name: `add_to_roles`

Overview:

This call adds a new role to a subject.

Signature:

```
void add_to_roles (session_id s, subject ref self, role ref role)
```

Arguments:

type	name	description
subject ref	self	The subject who we want to add the role to
role ref	role	The unique role reference

Return Type: void

RPC name: `remove_from_roles`

Overview:

This call removes a role from a subject.

Signature:

```
void remove_from_roles (session_id s, subject ref self, role ref role)
```

Arguments:

type	name	description
subject ref	self	The subject from whom we want to remove the role
role ref	role	The unique role reference in the subject's roles field

Return Type: void

RPC name: `get_permissions_name_label`

Overview:

This call returns a list of permission names given a subject.

Signature:

```
(string set) get_permissions_name_label (session_id s, subject ref self)
```

Arguments:

type	name	description
subject ref	self	The subject whose permissions will be retrieved

Return Type: `string set`

a list of permission names

RPC name: `get_all`

Overview:

Return a list of all the subjects known to the system.

Signature:

```
(subject ref set) get_all (session_id s)
```

Return Type: `subject ref set`

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of subject references to subject records for all subjects known to the system.

Signature:

```
((subject ref -> subject record) map) get_all_records (session_id s)
```

Return Type: `(subject ref → subject record) map`

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given subject.

Signature:

```
string get_uuid (session_id s, subject ref self)
```

Arguments:

type	name	description
subject ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_subject_identifier**Overview:**

Get the subject_identifier field of the given subject.

Signature:

```
string get_subject_identifier (session_id s, subject ref self)
```

Arguments:

type	name	description
subject ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given subject.

Signature:

```
((string -> string) map) get_other_config (session_id s, subject ref self)
```

Arguments:

type	name	description
subject ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: get_roles**Overview:**

Get the roles field of the given subject.

Signature:

```
(role ref set) get_roles (session_id s, subject ref self)
```

Arguments:

type	name	description
subject ref	self	reference to the object

Return Type: role ref set
value of the field

RPC name: create**Overview:**

Create a new subject instance, and return its handle.

Signature:

(subject ref) create (session_id s, subject record args)

Arguments:

type	name	description
subject record	args	All constructor arguments

Return Type: subject ref
reference to the newly created object

RPC name: destroy**Overview:**

Destroy the specified subject instance.

Signature:

void destroy (session_id s, subject ref self)

Arguments:

type	name	description
subject ref	self	reference to the object

Return Type: void

RPC name: get_by_uuid**Overview:**

Get a reference to the subject instance with the specified UUID.

Signature:

(subject ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: subject ref
reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given subject.

Signature:

(subject record) get_record (session_id s, subject ref self)

Arguments:

type	name	description
subject ref	self	reference to the object

Return Type: subject record
all fields from the object

2.7 Class: role

2.7.1 Fields for class: role

Name	role		
Description	<i>A set of permissions associated with a subject.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	name_label	string	a short user-friendly name for the role
<i>RO_{ins}</i>	name_description	string	what this role is for
<i>RO_{ins}</i>	subroles	role ref set	a list of pointers to other roles or permissions

2.7.2 RPCs associated with class: role

RPC name: `get_permissions`

Overview:

This call returns a list of permissions given a role.

Signature:

```
(role ref set) get_permissions (session_id s, role ref self)
```

Arguments:

type	name	description
role ref	self	a reference to a role

Return Type: role ref set

a list of permissions

RPC name: `get_permissions_name_label`

Overview:

This call returns a list of permission names given a role.

Signature:

```
(string set) get_permissions_name_label (session_id s, role ref self)
```

Arguments:

type	name	description
role ref	self	a reference to a role

Return Type: string set

a list of permission names

RPC name: `get_by_permission`

Overview:

This call returns a list of roles given a permission.

Signature:

```
(role ref set) get_by_permission (session_id s, role ref permission)
```

Arguments:

type	name	description
role ref	permission	a reference to a permission

Return Type: `role ref set`

a list of references to roles

RPC name: `get_by_permission_name_label`

Overview:

This call returns a list of roles given a permission name.

Signature:

```
(role ref set) get_by_permission_name_label (session_id s, string label)
```

Arguments:

type	name	description
string	label	The short friendly name of the role

Return Type: `role ref set`

a list of references to roles

RPC name: `get_all`

Overview:

Return a list of all the roles known to the system.

Signature:

```
(role ref set) get_all (session_id s)
```

Return Type: `role ref set`

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of role references to role records for all roles known to the system.

Signature:


```
((role ref -> role record) map) get_all_records (session_id s)
```

Return Type: (role ref → role record) map
records of all objects

RPC name: get_uuid

Overview:

Get the uuid field of the given role.

Signature:

```
string get_uuid (session_id s, role ref self)
```

Arguments:

type	name	description
role ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_name_label

Overview:

Get the name/label field of the given role.

Signature:

```
string get_name_label (session_id s, role ref self)
```

Arguments:

type	name	description
role ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_name_description

Overview:

Get the name/description field of the given role.

Signature:

```
string get_name_description (session_id s, role ref self)
```

Arguments:

type	name	description
role ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_subroles

Overview:

Get the subroles field of the given role.

Signature:

(role ref set) get_subroles (session_id s, role ref self)

Arguments:

type	name	description
role ref	self	reference to the object

Return Type: role ref set
value of the field

RPC name: get_by_uuid

Overview:

Get a reference to the role instance with the specified UUID.

Signature:

(role ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: role ref
reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given role.

Signature:

(role record) get_record (session_id s, role ref self)

Arguments:

type	name	description
role ref	self	reference to the object

Return Type: role record

all fields from the object

RPC name: `get_by_name_label`

Overview:

Get all the role instances with the given label.

Signature:

`(role ref set) get_by_name_label (session_id s, string label)`

Arguments:

type	name	description
string	label	label of object to return

Return Type: `role ref set`

references to objects with matching names

2.8 Class: task

2.8.1 Fields for class: task

Name	task		
Description	<i>A long-running asynchronous task.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_run</i>	<code>name_label</code>	string	a human-readable name
<i>RO_run</i>	<code>name_description</code>	string	a notes field containing human-readable description
<i>RO_run</i>	<code>allowed_operations</code>	task_allowed_operations set	list of the operations allowed in this state. This list is advisory only and the server state may have changed by the time this field is read by a client.
<i>RO_run</i>	<code>current_operations</code>	(string → task_allowed_operations) map	links each of the running tasks using this object (by reference) to a current_operation enum which describes the nature of the task.
<i>RO_run</i>	<code>created</code>	datetime	Time task was created
<i>RO_run</i>	<code>finished</code>	datetime	Time task finished (i.e. succeeded or failed). If task-status is pending, then the value of this field has no meaning
<i>RO_run</i>	<code>status</code>	task_status_type	current status of the task
<i>RO_run</i>	<code>resident_on</code>	host ref	the host on which the task is running
<i>RO_run</i>	<code>progress</code>	float	This field contains the estimated fraction of the task which is complete. This field should not be used to determine whether the task is complete - for this the status field of the task should be used.
<i>RO_run</i>	<code>type</code>	string	if the task has completed successfully, this field contains the type of the encoded result (i.e. name of the class whose reference is in the result field). Undefined otherwise.
<i>RO_run</i>	<code>result</code>	string	if the task has completed successfully, this field contains the result value (either Void or an object reference). Undefined otherwise.
<i>RO_run</i>	<code>error_info</code>	string set	if the task has failed, this field contains the set of associated error strings. Undefined otherwise.
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration
<i>RO_run</i>	<code>subtask_of</code>	task ref	Ref pointing to the task this is a subtask of.
<i>RO_run</i>	<code>subtasks</code>	task ref set	List pointing to all the subtasks.
<i>RO_run</i>	<code>backtrace</code>	string	Function call trace for debugging.

2.8.2 RPCs associated with class: task

RPC name: create

Overview:

Create a new task object which must be manually destroyed.

Signature:

```
(task ref) create (session_id s, string label, string description)
```

Arguments:

type	name	description
string	label	short label for the new task
string	description	longer description for the new task

Return Type: task ref

The reference of the created task object

RPC name: destroy

Overview:

Destroy the task object.

Signature:

```
void destroy (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	Reference to the task object

Return Type: void

RPC name: cancel

Overview:

Request that a task be cancelled. Note that a task may fail to be cancelled and may complete or fail normally and note that, even when a task does cancel, it might take an arbitrary amount of time.

Signature:

```
void cancel (session_id s, task ref task)
```

Arguments:

type	name	description
task ref	task	The task

Return Type: void

Possible Error Codes: OPERATION_NOT_ALLOWED

RPC name: `set_status`

Overview:

Set the task status.

Signature:

```
void set_status (session_id s, task ref self, task_status_type value)
```

Arguments:

type	name	description
task ref	self	Reference to the task object
task_status_type	value	task status value to be set

Return Type: void

RPC name: `get_all`

Overview:

Return a list of all the tasks known to the system.

Signature:

```
(task ref set) get_all (session_id s)
```

Return Type: task ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of task references to task records for all tasks known to the system.

Signature:

```
((task ref -> task record) map) get_all_records (session_id s)
```

Return Type: (task ref → task record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given task.

Signature:

```
string get_uuid (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: string
value of the field

RPC name: `get_name_label`

Overview:

Get the name/label field of the given task.

Signature:

```
string get_name_label (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: string
value of the field

RPC name: `get_name_description`

Overview:

Get the name/description field of the given task.

Signature:

```
string get_name_description (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: string
value of the field

RPC name: `get_allowed_operations`

Overview:

Get the allowed_operations field of the given task.

Signature:

```
(task_allowed_operations set) get_allowed_operations (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: `task_allowed_operations` set
value of the field

RPC name: `get_current_operations`**Overview:**

Get the `current_operations` field of the given task.

Signature:

```
((string -> task_allowed_operations) map) get_current_operations (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: `(string → task_allowed_operations)` map
value of the field

RPC name: `get_created`**Overview:**

Get the `created` field of the given task.

Signature:

```
datetime get_created (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: `datetime`
value of the field

RPC name: `get_finished`**Overview:**

Get the `finished` field of the given task.

Signature:

```
datetime get_finished (session_id s, task ref self)
```


Arguments:

type	name	description
task ref	self	reference to the object

Return Type: datetime

value of the field

RPC name: get_status**Overview:**

Get the status field of the given task.

Signature:

```
(task_status_type) get_status (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: task_status_type

value of the field

RPC name: get_resident_on**Overview:**

Get the resident_on field of the given task.

Signature:

```
(host ref) get_resident_on (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: host ref

value of the field

RPC name: get_progress**Overview:**

Get the progress field of the given task.

Signature:

```
float get_progress (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: float

value of the field

RPC name: get_type**Overview:**

Get the type field of the given task.

Signature:

```
string get_type (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_result**Overview:**

Get the result field of the given task.

Signature:

```
string get_result (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_error_info**Overview:**

Get the error_info field of the given task.

Signature:

```
(string set) get_error_info (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: string set
value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given task.

Signature:

```
((string -> string) map) get_other_config (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given task.

Signature:

```
void set_other_config (session_id s, task ref self, (string -> string) map value)
```

Arguments:

type	name	description
task ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given task.

Signature:

```
void add_to_other_config (session_id s, task ref self, string key, string value)
```

Arguments:

type	name	description
task ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** `remove_from_other_config`**Overview:**

Remove the given key and its corresponding value from the `other_config` field of the given task. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, task ref self, string key)
```

Arguments:

type	name	description
task ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** `get_subtask_of`**Overview:**

Get the `subtask_of` field of the given task.

Signature:

```
(task ref) get_subtask_of (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: task ref

value of the field

RPC name: `get_subtasks`**Overview:**

Get the `subtasks` field of the given task.

Signature:

```
(task ref set) get_subtasks (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: task ref set
value of the field

RPC name: get_backtrace**Overview:**

Get the backtrace field of the given task.

Signature:

```
string get_backtrace (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_by_uuid**Overview:**

Get a reference to the task instance with the specified UUID.

Signature:

```
(task ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: task ref
reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given task.

Signature:

```
(task record) get_record (session_id s, task ref self)
```

Arguments:

type	name	description
task ref	self	reference to the object

Return Type: task record
all fields from the object

RPC name: get_by_name_label

Overview:

Get all the task instances with the given label.

Signature:

(task ref set) get_by_name_label (session_id s, string label)

Arguments:

type	name	description
string	label	label of object to return

Return Type: task ref set
references to objects with matching names

2.9 Class: event

2.9.1 Fields for class: event

Name	event		
Description	<i>Asynchronous event registration and handling.</i>		
Quals	Field	Type	Description
<i>RO_{ins}</i>	id	int	An ID, monotonically increasing, and local to the current session
<i>RO_{ins}</i>	timestamp	datetime	The time at which the event occurred
<i>RO_{ins}</i>	class	string	The name of the class of the object that changed
<i>RO_{ins}</i>	operation	event_operation	The operation that was performed
<i>RO_{ins}</i>	ref	string	A reference to the object that changed
<i>RO_{ins}</i>	obj_uuid	string	The uuid of the object that changed

2.9.2 RPCs associated with class: event

RPC name: register

Overview:

Registers this session with the event system. Specifying * as the desired class will register for all classes.

Signature:

```
void register (session_id s, string set classes)
```

Arguments:

type	name	description
string set	classes	register for events for the indicated classes

Return Type: void

RPC name: unregister

Overview:

Unregisters this session with the event system.

Signature:

```
void unregister (session_id s, string set classes)
```

Arguments:

type	name	description
string set	classes	remove this session's registration for the indicated classes

Return Type: void

RPC name: next**Overview:**

Blocking call which returns a (possibly empty) batch of events. This method is only recommended for legacy use. New development should use event.from which supercedes this method. .

Signature:

```
(event record set) next (session_id s)
```

Return Type: event record set

the batch of events

Possible Error Codes: SESSION_NOT_REGISTERED, EVENTS_LOST

RPC name: from**Overview:**

Blocking call which returns a new token and a (possibly empty) batch of events. The returned token can be used in subsequent calls to this function.

Signature:

```
(event record set) from (session_id s, string set classes, string token, float timeout)
```

Arguments:

type	name	description
string set	classes	register for events for the indicated classes
string	token	A token representing the point from which to generate database events. The empty string represents the beginning.
float	timeout	Return after this many seconds if no events match

Return Type: event record set

the batch of events

Possible Error Codes: SESSION_NOT_REGISTERED, EVENTS_LOST

RPC name: get_current_id**Overview:**

Return the ID of the next event to be generated by the system.

Signature:

```
int get_current_id (session_id s)
```

Return Type: int

the event ID

RPC name: inject

Overview:

Injects an artificial event on the given object and return the corresponding ID.

Signature:

```
string inject (session_id s, string class, string ref)
```

Arguments:

type	name	description
string	class	class of the object
string	ref	A reference to the object that will be changed.

Return Type: string

the event ID

2.10 Class: pool

2.10.1 Fields for class: pool

Name	pool		
Description	<i>Pool-wide information.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RW</i>	<code>name_label</code>	string	Short name
<i>RW</i>	<code>name_description</code>	string	Description
<i>RO_run</i>	<code>master</code>	host ref	The host that is pool master
<i>RW</i>	<code>default_SR</code>	SR ref	Default SR for VDIs
<i>RW</i>	<code>suspend_image_SR</code>	SR ref	The SR in which VDIs for suspended VMs are created
<i>RW</i>	<code>crash_dump_SR</code>	SR ref	The SR in which VDIs for crash dump files are created
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration
<i>RO_run</i>	<code>ha_enabled</code>	bool	true if HA is enabled on the pool, false otherwise
<i>RO_run</i>	<code>ha_configuration</code>	(string → string) map	The current HA configuration
<i>RO_run</i>	<code>ha_statefiles</code>	string set	HA statefile VDIs in use
<i>RO_run</i>	<code>ha_host_failures_to_tolerate</code>	int	Number of host failures to tolerate before the Pool is declared to be overcommitted
<i>RO_run</i>	<code>ha_plan_exists_for</code>	int	Number of future host failures the Pool is managed to find a plan for. Once this number reaches zero any future host failures will cause the failure of protected VMs
<i>RW</i>	<code>ha_allow_overcommit</code>	bool	If set to false then operations which would cause the Pool to become overcommitted will be blocked.
<i>RO_run</i>	<code>ha_overcommitted</code>	bool	True if the Pool is considered to be overcommitted i.e. if there exist insufficient physical resources to tolerate the configured number of host failures
<i>RO_run</i>	<code>blobs</code>	(string → blob ref) map	Binary blobs associated with this Pool
<i>RW</i>	<code>tags</code>	string set	user-specified tags for categorization
<i>RW</i>	<code>gui_config</code>	(string → string) map	gui-specific configuration for pool
<i>RW</i>	<code>health_check_config</code>	(string → string) map	Configuration for the automatic health check feature
<i>RO_run</i>	<code>wlb_url</code>	string	Url for the configured workload balancing host
<i>RO_run</i>	<code>wlb_username</code>	string	Username for accessing the workload balancing host
<i>RW</i>	<code>wlb_enabled</code>	bool	true if workload balancing is enabled on the pool, false otherwise
<i>RW</i>	<code>wlb_verify_cert</code>	bool	true if communication with the workload balancing server should enforce SSL certification.

<i>RO_{run}</i>	<code>redo_log_enabled</code>	bool	true a redo-log is to be used otherwise when HA is enabled, false otherwise
<i>RO_{run}</i>	<code>redo_log_vdi</code>	VDI ref	indicates the VDI to use for the redo-log other than when HA is enabled
<i>RO_{run}</i>	<code>vswitch_controller</code>	string	address of the vswitch controller
<i>RO_{run}</i>	<code>restrictions</code>	(string → string) map	Pool-wide restrictions currently in effect
<i>RO_{run}</i>	<code>metadata_VDIs</code>	VDI ref set	The set of currently known metadata VDIs for this pool
<i>RO_{run}</i>	<code>ha_cluster_stack</code>	string	The HA cluster stack that is currently in use. Only valid when HA is enabled
<i>RO_{run}</i>	<code>allowed_operations</code>	pool_allowed_operations set	list of the operations allowed in the current state. This list is advisory only and the current state may have changed by the time this field is read by a client.
<i>RO_{run}</i>	<code>current_operations</code>	(string → pool_allowed_operations) map	links each of the running tasks in this object (by reference) to the current_operation enum which describes the nature of the task.
<i>RO_{run}</i>	<code>guest_agent_config</code>	(string → string) map	Pool-wide guest agent configuration information
<i>RO_{run}</i>	<code>cpu_info</code>	(string → string) map	Details about the physical CPUs in the pool
<i>RW</i>	<code>policy_no_vendor_device</code>	bool	The pool-wide policy for clients on how to use the vendor device or not on newly created VMs. This field will also be returned if the 'has_vendor_device' field is specified in the VM.create call.
<i>RW</i>	<code>live_patching_disabled</code>	bool	The pool-wide flag to show if the live patching feature is disabled or not

2.10.2 RPCs associated with class: pool

RPC name: join

Overview:

Instruct host to join a new pool.

Signature:

```
void join (session_id s, string master_address, string master_username, string master_password)
```

Arguments:

type	name	description
string	master_address	The hostname of the master of the pool to join
string	master_username	The username of the master (for initial authentication)
string	master_password	The password for the master (for initial authentication)

Return Type: void

Possible Error Codes: JOINING_HOST_CANNOT_CONTAIN_SHARED_SRS

RPC name: `join_force`

Overview:

Instruct host to join a new pool.

Signature:

```
void join_force (session_id s, string master_address, string master_username, string master_password)
```

Arguments:

type	name	description
string	master_address	The hostname of the master of the pool to join
string	master_username	The username of the master (for initial authentication)
string	master_password	The password for the master (for initial authentication)

Return Type: void

RPC name: `eject`

Overview:

Instruct a pool master to eject a host from the pool.

Signature:

```
void eject (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host to eject

Return Type: void

RPC name: `emergency_transition_to_master`

Overview:

Instruct host that's currently a slave to transition to being master.

Signature:

```
void emergency_transition_to_master (session_id s)
```

Return Type: void

RPC name: emergency_reset_master**Overview:**

Instruct a slave already in a pool that the master has changed.

Signature:

```
void emergency_reset_master (session_id s, string master_address)
```

Arguments:

type	name	description
string	master_address	The hostname of the master

Return Type: void

RPC name: recover_slaves**Overview:**

Instruct a pool master, M, to try and contact its slaves and, if slaves are in emergency mode, reset their master address to M.

Signature:

```
(host ref set) recover_slaves (session_id s)
```

Return Type: host ref set

list of hosts whose master address were successfully reset

RPC name: create_VLAN**Overview:**

Create PIFs, mapping a network to the same physical interface/VLAN on each host. This call is deprecated: use Pool.create_VLAN_from_PIF instead.

Signature:

```
(PIF ref set) create_VLAN (session_id s, string device, network ref network, int VLAN)
```

Arguments:

type	name	description
string	device	physical interface on which to create the VLAN interface
network ref	network	network to which this interface should be connected
int	VLAN	VLAN tag for the new interface

Return Type: PIF ref set

The references of the created PIF objects

Possible Error Codes: VLAN_TAG_INVALID

RPC name: create_VLAN_from_PIF**Overview:**

Create a pool-wide VLAN by taking the PIF.

Signature:

```
(PIF ref set) create_VLAN_from_PIF (session_id s, PIF ref pif, network ref network, int VLAN)
```

Arguments:

type	name	description
PIF ref	pif	physical interface on any particular host, that identifies the PIF on which to create the (pool-wide) VLAN interface
network ref	network	network to which this interface should be connected
int	VLAN	VLAN tag for the new interface

Return Type: PIF ref set

The references of the created PIF objects

Possible Error Codes: VLAN_TAG_INVALID**RPC name: enable_ha****Overview:**

Turn on High Availability mode.

Signature:

```
void enable_ha (session_id s, SR ref set heartbeat_srs, (string -> string) map configuration)
```

Arguments:

type	name	description
SR ref set	heartbeat_srs	Set of SRs to use for storage heartbeating
(string → string) map	configuration	Detailed HA configuration to apply

Return Type: void**RPC name: disable_ha****Overview:**

Turn off High Availability mode.

Signature:

```
void disable_ha (session_id s)
```

Return Type: void

RPC name: `sync_database`

Overview:

Forcibly synchronise the database now.

Signature:

```
void sync_database (session_id s)
```

Return Type: `void`

RPC name: `designate_new_master`

Overview:

Perform an orderly handover of the role of master to the referenced host.

Signature:

```
void designate_new_master (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host who should become the new master

Return Type: `void`

RPC name: `ha_prevent_restarts_for`

Overview:

When this call returns the VM restart logic will not run for the requested number of seconds. If the argument is zero then the restart thread is immediately unblocked.

Signature:

```
void ha_prevent_restarts_for (session_id s, int seconds)
```

Arguments:

type	name	description
int	seconds	The number of seconds to block the restart thread for

Return Type: `void`

RPC name: `ha_failover_plan_exists`

Overview:

Returns true if a VM failover plan exists for up to 'n' host failures.

Signature:

```
bool ha_failover_plan_exists (session_id s, int n)
```

Arguments:

type	name	description
int	n	The number of host failures to plan for

Return Type: bool

true if a failover plan exists for the supplied number of host failures

RPC name: `ha_compute_max_host_failures_to_tolerate`**Overview:**

Returns the maximum number of host failures we could tolerate before we would be unable to restart configured VMs.

Signature:

```
int ha_compute_max_host_failures_to_tolerate (session_id s)
```

Return Type: int

maximum value for `ha_host_failures_to_tolerate` given current configuration

RPC name: `ha_compute_hypothetical_max_host_failures_to_tolerate`**Overview:**

Returns the maximum number of host failures we could tolerate before we would be unable to restart the provided VMs.

Signature:

```
int ha_compute_hypothetical_max_host_failures_to_tolerate (session_id s, (VM ref -> string) map configura
```

Arguments:

type	name	description
(VM ref → string) map	configuration	Map of protected VM reference to restart priority

Return Type: int

maximum value for `ha_host_failures_to_tolerate` given provided configuration

RPC name: `ha_compute_vm_failover_plan`**Overview:**

Return a VM failover plan assuming a given subset of hosts fail.

Signature:

```
((VM ref -> (string -> string) map) map) ha_compute_vm_failover_plan (session_id s, host ref set failed_h
```


Arguments:

type	name	description
host ref set	failed_hosts	The set of hosts to assume have failed
VM ref set	failed_vms	The set of VMs to restart

Return Type: (VM ref → (string → string) map) map
 VM failover plan: a map of VM to host to restart the host on

RPC name: `set_ha_host_failures_to_tolerate`**Overview:**

Set the maximum number of host failures to consider in the HA VM restart planner.

Signature:

```
void set_ha_host_failures_to_tolerate (session_id s, pool ref self, int value)
```

Arguments:

type	name	description
pool ref	self	The pool
int	value	New number of host failures to consider

Return Type: void

RPC name: `create_new_blob`**Overview:**

Create a placeholder for a named binary blob of data that is associated with this pool.

Signature:

```
(blob ref) create_new_blob (session_id s, pool ref pool, string name, string mime_type, bool public)
```

Arguments:

type	name	description
pool ref	pool	The pool
string	name	The name associated with the blob
string	mime_type	The mime type for the data. Empty string translates to application/octet-stream
bool	public	True if the blob should be publicly available

Return Type: blob ref

The reference of the blob, needed for populating its data

RPC name: enable_external_auth**Overview:**

This call enables external authentication on all the hosts of the pool.

Signature:

```
void enable_external_auth (session_id s, pool ref pool, (string -> string) map config, string service_name)
```

Arguments:

type	name	description
pool ref	pool	The pool whose external authentication should be enabled
(string → string) map	config	A list of key-values containing the configuration data
string	service_name	The name of the service
string	auth_type	The type of authentication (e.g. AD for Active Directory)

Return Type: void

RPC name: disable_external_auth**Overview:**

This call disables external authentication on all the hosts of the pool.

Signature:

```
void disable_external_auth (session_id s, pool ref pool, (string -> string) map config)
```

Arguments:

type	name	description
pool ref	pool	The pool whose external authentication should be disabled
(string → string) map	config	Optional parameters as a list of key-values containing the configuration data

Return Type: void

RPC name: detect_nonhomogeneous_external_auth**Overview:**

This call asynchronously detects if the external authentication configuration in any slave is different from that in the master and raises appropriate alerts.

Signature:

```
void detect_nonhomogeneous_external_auth (session_id s, pool ref pool)
```

Arguments:

type	name	description
pool ref	pool	The pool where to detect non-homogeneous external authentication configuration

Return Type: void

RPC name: initialize_wlb

Overview:

Initializes workload balancing monitoring on this pool with the specified wlb server.

Signature:

```
void initialize_wlb (session_id s, string wlb_url, string wlb_username, string wlb_password, string xenserver_username, string xenserver_password)
```

Arguments:

type	name	description
string	wlb_url	The ip address and port to use when accessing the wlb server
string	wlb_username	The username used to authenticate with the wlb server
string	wlb_password	The password used to authenticate with the wlb server
string	xenserver_username	The username used by the wlb server to authenticate with the xenserver
string	xenserver_password	The password used by the wlb server to authenticate with the xenserver

Return Type: void

RPC name: deconfigure_wlb

Overview:

Permanently deconfigures workload balancing monitoring on this pool.

Signature:

```
void deconfigure_wlb (session_id s)
```

Return Type: void

RPC name: send_wlb_configuration

Overview:

Sets the pool optimization criteria for the workload balancing server.

Signature:

```
void send_wlb_configuration (session_id s, (string -> string) map config)
```

Arguments:

type	name	description
(string → string) map	config	The configuration to use in optimizing this pool

Return Type: void

RPC name: retrieve_wlb_configuration**Overview:**

Retrieves the pool optimization criteria from the workload balancing server.

Signature:

```
((string -> string) map) retrieve_wlb_configuration (session_id s)
```

Return Type: (string → string) map

The configuration used in optimizing this pool

RPC name: retrieve_wlb_recommendations**Overview:**

Retrieves vm migrate recommendations for the pool from the workload balancing server.

Signature:

```
((VM ref -> string set) map) retrieve_wlb_recommendations (session_id s)
```

Return Type: (VM ref → string set) map

The list of vm migration recommendations

RPC name: send_test_post**Overview:**

Send the given body to the given host and port, using HTTPS, and print the response. This is used for debugging the SSL layer.

Signature:

```
string send_test_post (session_id s, string host, int port, string body)
```

Arguments:

type	name	description
string	host	
int	port	
string	body	

Return Type: string

The response

RPC name: `certificate_install`

Overview:

Install an SSL certificate pool-wide.

Signature:

```
void certificate_install (session_id s, string name, string cert)
```

Arguments:

type	name	description
string	name	A name to give the certificate
string	cert	The certificate

Return Type: void

RPC name: `certificate_uninstall`

Overview:

Remove an SSL certificate.

Signature:

```
void certificate_uninstall (session_id s, string name)
```

Arguments:

type	name	description
string	name	The certificate name

Return Type: void

RPC name: `certificate_list`

Overview:

List all installed SSL certificates.

Signature:

```
(string set) certificate_list (session_id s)
```

Return Type: string set

All installed certificates

RPC name: crl_install**Overview:**

Install an SSL certificate revocation list, pool-wide.

Signature:

```
void crl_install (session_id s, string name, string cert)
```

Arguments:

type	name	description
string	name	A name to give the CRL
string	cert	The CRL

Return Type: void

RPC name: crl_uninstall**Overview:**

Remove an SSL certificate revocation list.

Signature:

```
void crl_uninstall (session_id s, string name)
```

Arguments:

type	name	description
string	name	The CRL name

Return Type: void

RPC name: crl_list**Overview:**

List all installed SSL certificate revocation lists.

Signature:

```
(string set) crl_list (session_id s)
```

Return Type: string set

All installed CRLs

RPC name: certificate_sync**Overview:**

Sync SSL certificates from master to slaves.

Signature:

```
void certificate_sync (session_id s)
```

Return Type: void

RPC name: enable_redo_log

Overview:

Enable the redo log on the given SR and start using it, unless HA is enabled.

Signature:

```
void enable_redo_log (session_id s, SR ref sr)
```

Arguments:

type	name	description
SR ref	sr	SR to hold the redo log.

Return Type: void

RPC name: disable_redo_log

Overview:

Disable the redo log if in use, unless HA is enabled.

Signature:

```
void disable_redo_log (session_id s)
```

Return Type: void

RPC name: set_vswitch_controller

Overview: **This message is deprecated** Set the IP address of the vswitch controller.

Signature:

```
void set_vswitch_controller (session_id s, string address)
```

Arguments:

type	name	description
string	address	IP address of the vswitch controller.

Return Type: void

RPC name: test_archive_target

Overview:

This call tests if a location is valid.

Signature:

```
string test_archive_target (session_id s, pool ref self, (string -> string) map config)
```

Arguments:

type	name	description
pool ref	self	Reference to the pool
(string → string) map	config	Location config settings to test

Return Type: string

An XMLRPC result

RPC name: enable_local_storage_caching

Overview:

This call attempts to enable pool-wide local storage caching.

Signature:

```
void enable_local_storage_caching (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	Reference to the pool

Return Type: void

RPC name: disable_local_storage_caching

Overview:

This call disables pool-wide local storage caching.

Signature:

```
void disable_local_storage_caching (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	Reference to the pool

Return Type: void

RPC name: `get_license_state`

Overview:

This call returns the license state for the pool.

Signature:

```
((string -> string) map) get_license_state (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	Reference to the pool

Return Type: `(string → string) map`

The pool's license state

RPC name: `apply_edition`

Overview:

Apply an edition to all hosts in the pool.

Signature:

```
void apply_edition (session_id s, pool ref self, string edition)
```

Arguments:

type	name	description
pool ref	self	Reference to the pool
string	edition	The requested edition

Return Type: `void`

RPC name: `enable_ssl_legacy`

Overview:

Sets `ssl_legacy` true on each host, pool-master last. See `Host.ssl_legacy` and `Host.set_ssl_legacy`.

Signature:

```
void enable_ssl_legacy (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	(ignored)

Return Type: `void`

RPC name: `disable_ssl_legacy`

Overview:

Sets `ssl_legacy` true on each host, pool-master last. See `Host.ssl_legacy` and `Host.set_ssl_legacy`.

Signature:

```
void disable_ssl_legacy (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	(ignored)

Return Type: `void`

RPC name: `has_extension`

Overview:

Return true if the extension is available on the pool.

Signature:

```
bool has_extension (session_id s, pool ref self, string name)
```

Arguments:

type	name	description
pool ref	self	The pool
string	name	The name of the API call

Return Type: `bool`

True if the extension exists, false otherwise

RPC name: `add_to_guest_agent_config`

Overview:

Add a key-value pair to the pool-wide guest agent configuration.

Signature:

```
void add_to_guest_agent_config (session_id s, pool ref self, string key, string value)
```

Arguments:

type	name	description
pool ref	self	The pool
string	key	The key to add
string	value	The value to add

Return Type: `void`

RPC name: `remove_from_guest_agent_config`**Overview:**

Remove a key-value pair from the pool-wide guest agent configuration.

Signature:

```
void remove_from_guest_agent_config (session_id s, pool ref self, string key)
```

Arguments:

type	name	description
pool ref	self	The pool
string	key	The key to remove

Return Type: void

RPC name: `get_all`**Overview:**

Return a list of all the pools known to the system.

Signature:

```
(pool ref set) get_all (session_id s)
```

Return Type: pool ref set

references to all objects

RPC name: `get_all_records`**Overview:**

Return a map of pool references to pool records for all pools known to the system.

Signature:

```
((pool ref -> pool record) map) get_all_records (session_id s)
```

Return Type: (pool ref \rightarrow pool record) map

records of all objects

RPC name: `get_uuid`**Overview:**

Get the uuid field of the given pool.

Signature:

```
string get_uuid (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_name_label

Overview:

Get the name_label field of the given pool.

Signature:

```
string get_name_label (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_name_label

Overview:

Set the name_label field of the given pool.

Signature:

```
void set_name_label (session_id s, pool ref self, string value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_name_description

Overview:

Get the name_description field of the given pool.

Signature:

```
string get_name_description (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_name_description**Overview:**

Set the name_description field of the given pool.

Signature:

```
void set_name_description (session_id s, pool ref self, string value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_master**Overview:**

Get the master field of the given pool.

Signature:

```
(host ref) get_master (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: host ref
value of the field

RPC name: get_default_SR**Overview:**

Get the default_SR field of the given pool.

Signature:

```
(SR ref) get_default_SR (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: SR ref
value of the field

RPC name: set_default_SR**Overview:**

Set the default_SR field of the given pool.

Signature:

```
void set_default_SR (session_id s, pool ref self, SR ref value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
SR ref	value	New value to set

Return Type: void

RPC name: get_suspend_image_SR**Overview:**

Get the suspend_image_SR field of the given pool.

Signature:

```
(SR ref) get_suspend_image_SR (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: SR ref
value of the field

RPC name: set_suspend_image_SR**Overview:**

Set the suspend_image_SR field of the given pool.

Signature:

```
void set_suspend_image_SR (session_id s, pool ref self, SR ref value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
SR ref	value	New value to set

Return Type: void**RPC name:** get_crash_dump_SR**Overview:**

Get the crash_dump_SR field of the given pool.

Signature:`(SR ref) get_crash_dump_SR (session_id s, pool ref self)`**Arguments:**

type	name	description
pool ref	self	reference to the object

Return Type: SR ref

value of the field

RPC name: set_crash_dump_SR**Overview:**

Set the crash_dump_SR field of the given pool.

Signature:`void set_crash_dump_SR (session_id s, pool ref self, SR ref value)`**Arguments:**

type	name	description
pool ref	self	reference to the object
SR ref	value	New value to set

Return Type: void**RPC name:** get_other_config**Overview:**

Get the other_config field of the given pool.

Signature:`((string -> string) map) get_other_config (session_id s, pool ref self)`

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given pool.

Signature:

```
void set_other_config (session_id s, pool ref self, (string -> string) map value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given pool.

Signature:

```
void add_to_other_config (session_id s, pool ref self, string key, string value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given pool. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, pool ref self, string key)
```


Arguments:

type	name	description
pool ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_ha_enabled**Overview:**

Get the ha_enabled field of the given pool.

Signature:

```
bool get_ha_enabled (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_ha_configuration**Overview:**

Get the ha_configuration field of the given pool.

Signature:

```
((string -> string) map) get_ha_configuration (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: get_ha_statefiles**Overview:**

Get the ha_statefiles field of the given pool.

Signature:

```
(string set) get_ha_statefiles (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: string set
value of the field

RPC name: `get_ha_host_failures_to_tolerate`

Overview:

Get the `ha_host_failures_to_tolerate` field of the given pool.

Signature:

```
int get_ha_host_failures_to_tolerate (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: int
value of the field

RPC name: `get_ha_plan_exists_for`

Overview:

Get the `ha_plan_exists_for` field of the given pool.

Signature:

```
int get_ha_plan_exists_for (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: int
value of the field

RPC name: `get_ha_allow_overcommit`

Overview:

Get the `ha_allow_overcommit` field of the given pool.

Signature:

```
bool get_ha_allow_overcommit (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: bool
value of the field

RPC name: set_ha_allow_overcommit**Overview:**

Set the ha_allow_overcommit field of the given pool.

Signature:

```
void set_ha_allow_overcommit (session_id s, pool ref self, bool value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
bool	value	New value to set

Return Type: void

RPC name: get_ha_overcommitted**Overview:**

Get the ha_overcommitted field of the given pool.

Signature:

```
bool get_ha_overcommitted (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_blobs**Overview:**

Get the blobs field of the given pool.

Signature:

```
((string -> blob ref) map) get_blobs (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: (string → blob ref) map
value of the field

RPC name: get_tags

Overview:

Get the tags field of the given pool.

Signature:

```
(string set) get_tags (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: string set
value of the field

RPC name: set_tags

Overview:

Set the tags field of the given pool.

Signature:

```
void set_tags (session_id s, pool ref self, string set value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
string set	value	New value to set

Return Type: void

RPC name: add_tags

Overview:

Add the given value to the tags field of the given pool. If the value is already in that Set, then do nothing.

Signature:

```
void add_tags (session_id s, pool ref self, string value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
string	value	New value to add

Return Type: void**RPC name:** remove_tags**Overview:**

Remove the given value from the tags field of the given pool. If the value is not in that Set, then do nothing.

Signature:

```
void remove_tags (session_id s, pool ref self, string value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
string	value	Value to remove

Return Type: void**RPC name:** get_gui_config**Overview:**

Get the gui_config field of the given pool.

Signature:

```
((string -> string) map) get_gui_config (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_gui_config**Overview:**

Set the gui_config field of the given pool.

Signature:

```
void set_gui_config (session_id s, pool ref self, (string -> string) map value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_gui_config**Overview:**

Add the given key-value pair to the gui_config field of the given pool.

Signature:

```
void add_to_gui_config (session_id s, pool ref self, string key, string value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_gui_config**Overview:**

Remove the given key and its corresponding value from the gui_config field of the given pool. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_gui_config (session_id s, pool ref self, string key)
```

Arguments:

type	name	description
pool ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_health_check_config**Overview:**

Get the health_check_config field of the given pool.

Signature:

```
((string -> string) map) get_health_check_config (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_health_check_config**Overview:**

Set the health_check_config field of the given pool.

Signature:

```
void set_health_check_config (session_id s, pool ref self, (string -> string) map value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_health_check_config**Overview:**

Add the given key-value pair to the health_check_config field of the given pool.

Signature:

```
void add_to_health_check_config (session_id s, pool ref self, string key, string value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_health_check_config**Overview:**

Remove the given key and its corresponding value from the health_check_config field of the given pool. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_health_check_config (session_id s, pool ref self, string key)
```

Arguments:

type	name	description
pool ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_wlb_url**Overview:**

Get the wlb_url field of the given pool.

Signature:

```
string get_wlb_url (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_wlb_username**Overview:**

Get the wlb_username field of the given pool.

Signature:

```
string get_wlb_username (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_wlb_enabled**Overview:**

Get the wlb_enabled field of the given pool.

Signature:

```
bool get_wlb_enabled (session_id s, pool ref self)
```


Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: bool
value of the field

RPC name: set_wlb_enabled**Overview:**

Set the wlb_enabled field of the given pool.

Signature:

```
void set_wlb_enabled (session_id s, pool ref self, bool value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
bool	value	New value to set

Return Type: void

RPC name: get_wlb_verify_cert**Overview:**

Get the wlb_verify_cert field of the given pool.

Signature:

```
bool get_wlb_verify_cert (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: bool
value of the field

RPC name: set_wlb_verify_cert**Overview:**

Set the wlb_verify_cert field of the given pool.

Signature:

```
void set_wlb_verify_cert (session_id s, pool ref self, bool value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
bool	value	New value to set

Return Type: void**RPC name:** get_redo_log_enabled**Overview:**

Get the redo_log_enabled field of the given pool.

Signature:

```
bool get_redo_log_enabled (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_redo_log_vdi**Overview:**

Get the redo_log_vdi field of the given pool.

Signature:

```
(VDI ref) get_redo_log_vdi (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: VDI ref

value of the field

RPC name: get_vswitch_controller**Overview:** This message is deprecated Get the vswitch_controller field of the given pool.**Signature:**

```
string get_vswitch_controller (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_restrictions**Overview:**

Get the restrictions field of the given pool.

Signature:

```
((string -> string) map) get_restrictions (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: get_metadata_VDIs**Overview:**

Get the metadata_VDIs field of the given pool.

Signature:

```
(VDI ref set) get_metadata_VDIs (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: VDI ref set
value of the field

RPC name: get_ha_cluster_stack**Overview:**

Get the ha_cluster_stack field of the given pool.

Signature:

```
string get_ha_cluster_stack (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_allowed_operations**Overview:**

Get the allowed_operations field of the given pool.

Signature:

```
(pool_allowed_operations set) get_allowed_operations (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: pool_allowed_operations set
value of the field

RPC name: get_current_operations**Overview:**

Get the current_operations field of the given pool.

Signature:

```
((string -> pool_allowed_operations) map) get_current_operations (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: (string → pool_allowed_operations) map
value of the field

RPC name: get_guest_agent_config**Overview:**

Get the guest_agent_config field of the given pool.

Signature:

```
((string -> string) map) get_guest_agent_config (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: get_cpu_info**Overview:**

Get the cpu_info field of the given pool.

Signature:

```
((string -> string) map) get_cpu_info (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: get_policy_no_vendor_device**Overview:**

Get the policy_no_vendor_device field of the given pool.

Signature:

```
bool get_policy_no_vendor_device (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: bool
value of the field

RPC name: set_policy_no_vendor_device**Overview:**

Set the policy_no_vendor_device field of the given pool.

Signature:

```
void set_policy_no_vendor_device (session_id s, pool ref self, bool value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
bool	value	New value to set

Return Type: void**RPC name:** get_live_patching_disabled**Overview:**

Get the live_patching_disabled field of the given pool.

Signature:

```
bool get_live_patching_disabled (session_id s, pool ref self)
```

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: bool

value of the field

RPC name: set_live_patching_disabled**Overview:**

Set the live_patching_disabled field of the given pool.

Signature:

```
void set_live_patching_disabled (session_id s, pool ref self, bool value)
```

Arguments:

type	name	description
pool ref	self	reference to the object
bool	value	New value to set

Return Type: void**RPC name:** get_by_uuid**Overview:**

Get a reference to the pool instance with the specified UUID.

Signature:

```
(pool ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: pool ref
reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given pool.

Signature:

(pool record) get_record (session_id s, pool ref self)

Arguments:

type	name	description
pool ref	self	reference to the object

Return Type: pool record
all fields from the object

2.11 Class: pool_patch

2.11.1 Fields for class: pool_patch

Name	pool_patch		
Description	<i>Pool-wide patches.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	name_label	string	a human-readable name
<i>RO_{ins}</i>	name_description	string	a notes field containing human-readable description
<i>RO_{ins}</i>	version	string	Patch version number
<i>RO_{run}</i>	size	int	Size of the patch
<i>RO_{run}</i>	pool_applied	bool	This patch should be applied across the entire pool
<i>RO_{run}</i>	host_patches	host_patch ref set	This hosts this patch is applied to.
<i>RO_{run}</i>	after_apply_guidance	after_apply_guidance set	What the client should do after this patch has been applied.
<i>RO_{ins}</i>	pool_update	pool_update ref	A reference to the associated pool_update object
<i>RW</i>	other_config	(string → string) map	additional configuration

2.11.2 RPCs associated with class: pool_patch

RPC name: apply

Overview: This message is deprecated Apply the selected patch to a host and return its output.

Signature:

```
string apply (session_id s, pool_patch ref self, host ref host)
```

Arguments:

type	name	description
pool_patch ref	self	The patch to apply
host ref	host	The host to apply the patch too

Return Type: string

the output of the patch application process

RPC name: pool_apply

Overview: This message is deprecated Apply the selected patch to all hosts in the pool and return a map of host_ref -> patch output.

Signature:

```
void pool_apply (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
pool_patch ref	self	The patch to apply

Return Type: void

RPC name: precheck

Overview: **This message is deprecated** Execute the precheck stage of the selected patch on a host and return its output.

Signature:

```
string precheck (session_id s, pool_patch ref self, host ref host)
```

Arguments:

type	name	description
pool_patch ref	self	The patch whose prechecks will be run
host ref	host	The host to run the prechecks on

Return Type: string

the output of the patch prechecks

RPC name: clean

Overview: **This message is deprecated** Removes the patch's files from the server.

Signature:

```
void clean (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
pool_patch ref	self	The patch to clean up

Return Type: void

RPC name: pool_clean

Overview: **This message is deprecated** Removes the patch's files from all hosts in the pool, but does not remove the database entries.

Signature:

```
void pool_clean (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
pool_patch ref	self	The patch to clean up

Return Type: void

RPC name: `destroy`

Overview: **This message is deprecated** Removes the patch's files from all hosts in the pool, and removes the database entries. Only works on unapplied patches.

Signature:

```
void destroy (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
pool_patch ref	self	The patch to destroy

Return Type: `void`

RPC name: `clean_on_host`

Overview: **This message is deprecated** Removes the patch's files from the specified host.

Signature:

```
void clean_on_host (session_id s, pool_patch ref self, host ref host)
```

Arguments:

type	name	description
pool_patch ref	self	The patch to clean up
host ref	host	The host on which to clean the patch

Return Type: `void`

RPC name: `get_all`

Overview: **This message is deprecated** Return a list of all the pool_patches known to the system.

Signature:

```
(pool_patch ref set) get_all (session_id s)
```

Return Type: `pool_patch ref set`
references to all objects

RPC name: `get_all_records`

Overview:

Return a map of pool_patch references to pool_patch records for all pool_patches known to the system.

Signature:

```
((pool_patch ref -> pool_patch record) map) get_all_records (session_id s)
```

Return Type: (pool_patch ref → pool_patch record) map records of all objects

RPC name: get_uuid

Overview:

Get the uuid field of the given pool_patch.

Signature:

```
string get_uuid (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
pool_patch ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_name_label

Overview:

Get the name/label field of the given pool_patch.

Signature:

```
string get_name_label (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
pool_patch ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_name_description

Overview:

Get the name/description field of the given pool_patch.

Signature:

```
string get_name_description (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
pool_patch ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_version`

Overview:

Get the version field of the given `pool_patch`.

Signature:

```
string get_version (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
<code>pool_patch ref</code>	<code>self</code>	reference to the object

Return Type: `string`

value of the field

RPC name: `get_size`

Overview:

Get the size field of the given `pool_patch`.

Signature:

```
int get_size (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
<code>pool_patch ref</code>	<code>self</code>	reference to the object

Return Type: `int`

value of the field

RPC name: `get_pool_applied`

Overview:

Get the `pool_applied` field of the given `pool_patch`.

Signature:

```
bool get_pool_applied (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
<code>pool_patch ref</code>	<code>self</code>	reference to the object

Return Type: `bool`

value of the field

RPC name: `get_host_patches`

Overview:

Get the `host_patches` field of the given `pool_patch`.

Signature:

```
(host_patch ref set) get_host_patches (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
<code>pool_patch ref</code>	<code>self</code>	reference to the object

Return Type: `host_patch ref set`

value of the field

RPC name: `get_after_apply_guidance`

Overview:

Get the `after_apply_guidance` field of the given `pool_patch`.

Signature:

```
(after_apply_guidance set) get_after_apply_guidance (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
<code>pool_patch ref</code>	<code>self</code>	reference to the object

Return Type: `after_apply_guidance set`

value of the field

RPC name: `get_pool_update`

Overview:

Get the `pool_update` field of the given `pool_patch`.

Signature:

```
(pool_update ref) get_pool_update (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
<code>pool_patch ref</code>	<code>self</code>	reference to the object

Return Type: `pool_update ref`

value of the field

RPC name: `get_other_config`**Overview:**

Get the `other_config` field of the given `pool_patch`.

Signature:

```
((string -> string) map) get_other_config (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
<code>pool_patch ref</code>	<code>self</code>	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `set_other_config`**Overview:**

Set the `other_config` field of the given `pool_patch`.

Signature:

```
void set_other_config (session_id s, pool_patch ref self, (string -> string) map value)
```

Arguments:

type	name	description
<code>pool_patch ref</code>	<code>self</code>	reference to the object
<code>(string → string) map</code>	<code>value</code>	New value to set

Return Type: `void`

RPC name: `add_to_other_config`**Overview:**

Add the given key-value pair to the `other_config` field of the given `pool_patch`.

Signature:

```
void add_to_other_config (session_id s, pool_patch ref self, string key, string value)
```

Arguments:

type	name	description
<code>pool_patch ref</code>	<code>self</code>	reference to the object
<code>string</code>	<code>key</code>	Key to add
<code>string</code>	<code>value</code>	Value to add

Return Type: `void`

RPC name: `remove_from_other_config`**Overview:**

Remove the given key and its corresponding value from the `other_config` field of the given `pool_patch`. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, pool_patch ref self, string key)
```

Arguments:

type	name	description
<code>pool_patch ref</code>	<code>self</code>	reference to the object
<code>string</code>	<code>key</code>	Key to remove

Return Type: `void`

RPC name: `get_by_uuid`

Overview: **This message is deprecated** Get a reference to the `pool_patch` instance with the specified UUID.

Signature:

```
(pool_patch ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
<code>string</code>	<code>uuid</code>	UUID of object to return

Return Type: `pool_patch ref`
reference to the object

RPC name: `get_record`

Overview: **This message is deprecated** Get a record containing the current state of the given `pool_patch`.

Signature:

```
(pool_patch record) get_record (session_id s, pool_patch ref self)
```

Arguments:

type	name	description
<code>pool_patch ref</code>	<code>self</code>	reference to the object

Return Type: `pool_patch record`
all fields from the object

RPC name: `get_by_name_label`

Overview: **This message is deprecated** Get all the `pool_patch` instances with the given label.

Signature:

```
(pool_patch ref set) get_by_name_label (session_id s, string label)
```

Arguments:

type	name	description
string	label	label of object to return

Return Type: `pool_patch ref set`

references to objects with matching names

2.12 Class: pool_update

2.12.1 Fields for class: pool_update

Name	pool_update		
Description	<i>Pool-wide updates to the host software.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	uuid	string	Unique identifier/object reference
<i>RO_ins</i>	name_label	string	a human-readable name
<i>RO_ins</i>	name_description	string	a notes field containing human-readable description
<i>RO_ins</i>	version	string	Update version number
<i>RO_ins</i>	installation_size	int	Size of the update in bytes
<i>RO_ins</i>	key	string	GPG key of the update
<i>RO_ins</i>	after_apply_guidance	update_after_apply_guidance set	What the client should do after this update has been applied.
<i>RO_ins</i>	vdi	VDI ref	VDI the update was uploaded to
<i>RO_run</i>	hosts	host ref set	The hosts that have applied this update.

2.12.2 RPCs associated with class: pool_update

RPC name: **introduce**

Overview:

Introduce update VDI.

Signature:

```
(pool_update ref) introduce (session_id s, VDI ref vdi)
```

Arguments:

type	name	description
VDI ref	vdi	The VDI which contains a software update.

Return Type: pool_update ref

the introduced pool update

RPC name: **precheck**

Overview:

Execute the precheck stage of the selected update on a host.

Signature:

```
(livepatch_status) precheck (session_id s, pool_update ref self, host ref host)
```

Arguments:

type	name	description
pool_update ref	self	The update whose prechecks will be run
host ref	host	The host to run the prechecks on.

Return Type: livepatch_status

The precheck pool update

RPC name: apply

Overview:

Apply the selected update to a host.

Signature:

```
void apply (session_id s, pool_update ref self, host ref host)
```

Arguments:

type	name	description
pool_update ref	self	The update to apply
host ref	host	The host to apply the update to.

Return Type: void

RPC name: pool_apply

Overview:

Apply the selected update to all hosts in the pool.

Signature:

```
void pool_apply (session_id s, pool_update ref self)
```

Arguments:

type	name	description
pool_update ref	self	The update to apply

Return Type: void

RPC name: pool_clean

Overview:

Removes the update's files from all hosts in the pool, but does not revert the update.

Signature:

```
void pool_clean (session_id s, pool_update ref self)
```

Arguments:

type	name	description
pool_update ref	self	The update to clean up

Return Type: void

RPC name: `destroy`

Overview:

Removes the database entry. Only works on unapplied update.

Signature:

```
void destroy (session_id s, pool_update ref self)
```

Arguments:

type	name	description
pool_update ref	self	The update to destroy

Return Type: `void`

RPC name: `get_all`

Overview:

Return a list of all the pool_updates known to the system.

Signature:

```
(pool_update ref set) get_all (session_id s)
```

Return Type: `pool_update ref set`

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of pool_update references to pool_update records for all pool_updates known to the system.

Signature:

```
((pool_update ref -> pool_update record) map) get_all_records (session_id s)
```

Return Type: `(pool_update ref → pool_update record) map`

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given pool_update.

Signature:

```
string get_uuid (session_id s, pool_update ref self)
```

Arguments:

type	name	description
pool_update ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_name_label

Overview:

Get the name/label field of the given pool_update.

Signature:

```
string get_name_label (session_id s, pool_update ref self)
```

Arguments:

type	name	description
pool_update ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_name_description

Overview:

Get the name/description field of the given pool_update.

Signature:

```
string get_name_description (session_id s, pool_update ref self)
```

Arguments:

type	name	description
pool_update ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_version

Overview:

Get the version field of the given pool_update.

Signature:

```
string get_version (session_id s, pool_update ref self)
```

Arguments:

type	name	description
pool_update ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_installation_size

Overview:

Get the installation_size field of the given pool_update.

Signature:

```
int get_installation_size (session_id s, pool_update ref self)
```

Arguments:

type	name	description
pool_update ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_key

Overview:

Get the key field of the given pool_update.

Signature:

```
string get_key (session_id s, pool_update ref self)
```

Arguments:

type	name	description
pool_update ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_after_apply_guidance

Overview:

Get the after_apply_guidance field of the given pool_update.

Signature:

```
(update_after_apply_guidance set) get_after_apply_guidance (session_id s, pool_update ref self)
```

Arguments:

type	name	description
pool_update ref	self	reference to the object

Return Type: update_after_apply_guidance set
value of the field

RPC name: get_vdi**Overview:**

Get the vdi field of the given pool_update.

Signature:

(VDI ref) get_vdi (session_id s, pool_update ref self)

Arguments:

type	name	description
pool_update ref	self	reference to the object

Return Type: VDI ref
value of the field

RPC name: get_hosts**Overview:**

Get the hosts field of the given pool_update.

Signature:

(host ref set) get_hosts (session_id s, pool_update ref self)

Arguments:

type	name	description
pool_update ref	self	reference to the object

Return Type: host ref set
value of the field

RPC name: get_by_uuid**Overview:**

Get a reference to the pool_update instance with the specified UUID.

Signature:

(pool_update ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: pool_update ref
reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given pool_update.

Signature:

```
(pool_update record) get_record (session_id s, pool_update ref self)
```

Arguments:

type	name	description
pool_update ref	self	reference to the object

Return Type: pool_update record
all fields from the object

RPC name: get_by_name_label

Overview:

Get all the pool_update instances with the given label.

Signature:

```
(pool_update ref set) get_by_name_label (session_id s, string label)
```

Arguments:

type	name	description
string	label	label of object to return

Return Type: pool_update ref set
references to objects with matching names

2.13 Class: VM

2.13.1 Fields for class: VM

Name	VM		
Description	<i>A virtual machine (or 'guest').</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_{run}</i>	<code>allowed_operations</code>	vm_operations set	list of the operations allowed in this state. This list is advisory only and the server state may have changed by the time this field is read by a client.
<i>RO_{run}</i>	<code>current_operations</code>	(string → vm_operations) map	links each of the running tasks using this object (by reference) to a current_operation enum which describes the nature of the task.
<i>RO_{run}</i>	<code>power_state</code>	vm_power_state	Current power state of the machine
<i>RW</i>	<code>name_label</code>	string	a human-readable name
<i>RW</i>	<code>name_description</code>	string	a notes field containing human-readable description
<i>RW</i>	<code>user_version</code>	int	Creators of VMs and templates may store version information here.
<i>RW</i>	<code>is_a_template</code>	bool	true if this is a template. Template VMs can never be started, they are used only for cloning other VMs
<i>RO_{run}</i>	<code>is_default_template</code>	bool	true if this is a default template. Default template VMs can never be started or migrated, they are used only for cloning other VMs
<i>RO_{run}</i>	<code>suspend_VDI</code>	VDI ref	The VDI that a suspend image is stored on. (Only has meaning if VM is currently suspended)
<i>RO_{run}</i>	<code>resident_on</code>	host ref	the host the VM is currently resident on
<i>RW</i>	<code>affinity</code>	host ref	A host which the VM has some affinity for (or NULL). This is used as a hint to the start call when it decides where to run the VM. Resource constraints may cause the VM to be started elsewhere.
<i>RO_{run}</i>	<code>memory_overhead</code>	int	Virtualization memory overhead (bytes).
<i>RO_{ins}</i>	<code>memory_target</code>	int	Dynamically-set memory target (bytes). The value of this field indicates the current target for memory available to this VM.
<i>RO_{ins}</i>	<code>memory_static_max</code>	int	Statically-set (i.e. absolute) maximum (bytes). The value of this field at VM start time acts as a hard limit of the amount of memory a guest can use. New values only take effect on reboot.
<i>RO_{ins}</i>	<code>memory_dynamic_max</code>	int	Dynamic maximum (bytes)
<i>RO_{ins}</i>	<code>memory_dynamic_min</code>	int	Dynamic minimum (bytes)

<i>RO</i> _{ins}	<code>memory_static_min</code>	int	Statically-set (i.e. absolute) minimum (bytes). The value of this field indicates the least amount of memory this VM can boot with without crashing.
<i>RW</i>	<code>VCPUs_params</code>	(string → string) map	configuration parameters for the selected VCPU policy
<i>RO</i> _{ins}	<code>VCPUs_max</code>	int	Max number of VCPUs
<i>RO</i> _{ins}	<code>VCPUs_at_startup</code>	int	Boot number of VCPUs
<i>RW</i>	<code>actions_after_shutdown</code>	on_normal_exit	action to take after the guest has shutdown itself
<i>RW</i>	<code>actions_after_reboot</code>	on_normal_exit	action to take after the guest has rebooted itself
<i>RW</i>	<code>actions_after_crash</code>	on_crash_behaviour	action to take if the guest crashes
<i>RO</i> _{run}	<code>consoles</code>	console ref set	virtual console devices
<i>RO</i> _{run}	<code>VIFs</code>	VIF ref set	virtual network interfaces
<i>RO</i> _{run}	<code>VBDs</code>	VBD ref set	virtual block devices
<i>RO</i> _{run}	<code>crash_dumps</code>	crashdump ref set	crash dumps associated with this VM
<i>RO</i> _{run}	<code>VTPMs</code>	VTPM ref set	virtual TPMs
<i>RW</i>	<code>PV_bootloader</code>	string	name of or path to bootloader
<i>RW</i>	<code>PV_kernel</code>	string	path to the kernel
<i>RW</i>	<code>PV_ramdisk</code>	string	path to the initrd
<i>RW</i>	<code>PV_args</code>	string	kernel command-line arguments
<i>RW</i>	<code>PV_bootloader_args</code>	string	miscellaneous arguments for the boot-loader
<i>RW</i>	<code>PV_legacy_args</code>	string	to make Zurich guests boot
<i>RW</i>	<code>HVM_boot_policy</code>	string	HVM boot policy
<i>RW</i>	<code>HVM_boot_params</code>	(string → string) map	HVM boot params
<i>RO</i> _{ins}	<code>HVM_shadow_multiplier</code>	float	multiplier applied to the amount of shadow that will be made available to the guest
<i>RW</i>	<code>platform</code>	(string → string) map	platform-specific configuration
<i>RW</i>	<code>PCI_bus</code>	string	PCI bus path for pass-through devices
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration
<i>RO</i> _{run}	<code>domid</code>	int	domain ID (if available, -1 otherwise)
<i>RO</i> _{run}	<code>domarch</code>	string	Domain architecture (if available, null string otherwise)
<i>RO</i> _{run}	<code>last_boot_CPU_flags</code>	(string → string) map	describes the CPU flags on which the VM was last booted
<i>RO</i> _{run}	<code>is_control_domain</code>	bool	true if this is a control domain (domain 0 or a driver domain)
<i>RO</i> _{run}	<code>metrics</code>	VM_metrics ref	metrics associated with this VM
<i>RO</i> _{run}	<code>guest_metrics</code>	VM_guest_metrics ref	metrics associated with the running guest
<i>RO</i> _{run}	<code>last_booted_record</code>	string	marshalled value containing VM record at time of last boot, updated dynamically to reflect the runtime state of the domain
<i>RW</i>	<code>recommendations</code>	string	An XML specification of recommended values and ranges for properties of this VM
<i>RW</i>	<code>xenstore_data</code>	(string → string) map	data to be inserted into the xenstore tree (/local/domain/ <i>i</i> /domid _{<i>i</i>} /vm-data) after the VM is created.
<i>RO</i> _{ins}	<code>ha_always_run</code>	bool	if true then the system will attempt to keep the VM running as much as possible.

<i>RO_{ins}</i>	<code>ha_restart_priority</code>	string	has possible values: “best-effort” meaning “try to restart this VM if possible but don’t consider the Pool to be overcommitted if this is not possible”; “restart” meaning “this VM should be restarted”; “” meaning “do not try to restart this VM”
<i>RO_{run}</i>	<code>is_a_snapshot</code>	bool	true if this is a snapshot. Snapshotted VMs can never be started, they are used only for cloning other VMs
<i>RO_{run}</i>	<code>snapshot_of</code>	VM ref	Ref pointing to the VM this snapshot is of.
<i>RO_{run}</i>	<code>snapshots</code>	VM ref set	List pointing to all the VM snapshots.
<i>RO_{run}</i>	<code>snapshot_time</code>	datetime	Date/time when this snapshot was created.
<i>RO_{run}</i>	<code>transportable_snapshot_id</code>	string	Transportable ID of the snapshot VM
<i>RO_{run}</i>	<code>blobs</code>	(string → blob ref) map	Binary blobs associated with this VM
<i>RW</i>	<code>tags</code>	string set	user-specified tags for categorization purposes
<i>RW</i>	<code>blocked_operations</code>	(vm_operations → string) map	List of operations which have been explicitly blocked and an error code
<i>RO_{run}</i>	<code>snapshot_info</code>	(string → string) map	Human-readable information concerning this snapshot
<i>RO_{run}</i>	<code>snapshot_metadata</code>	string	Encoded information about the VM’s metadata this is a snapshot of
<i>RO_{run}</i>	<code>parent</code>	VM ref	Ref pointing to the parent of this VM
<i>RO_{run}</i>	<code>children</code>	VM ref set	List pointing to all the children of this VM
<i>RO_{run}</i>	<code>bios_strings</code>	(string → string) map	BIOS strings
<i>RO_{ins}</i>	<code>protection_policy</code>	VMPP ref	Ref pointing to a protection policy for this VM
<i>RO_{ins}</i>	<code>is_snapshot_from_vmpp</code>	bool	true if this snapshot was created by the protection policy
<i>RO_{ins}</i>	<code>snapshot_schedule</code>	VMSS ref	Ref pointing to a snapshot schedule for this VM
<i>RO_{ins}</i>	<code>is_vmss_snapshot</code>	bool	true if this snapshot was created by the snapshot schedule
<i>RO_{ins}</i>	<code>appliance</code>	VM_appliance ref	the appliance to which this VM belongs
<i>RO_{ins}</i>	<code>start_delay</code>	int	The delay to wait before proceeding to the next order in the startup sequence (seconds)
<i>RO_{ins}</i>	<code>shutdown_delay</code>	int	The delay to wait before proceeding to the next order in the shutdown sequence (seconds)
<i>RO_{ins}</i>	<code>order</code>	int	The point in the startup or shutdown sequence at which this VM will be started
<i>RO_{run}</i>	<code>VGPUs</code>	VGPU ref set	Virtual GPUs
<i>RO_{run}</i>	<code>attached_PCIs</code>	PCI ref set	Currently passed-through PCI devices
<i>RW</i>	<code>suspend_SR</code>	SR ref	The SR on which a suspend image is stored
<i>RO_{ins}</i>	<code>version</code>	int	The number of times this VM has been recovered
<i>RO_{ins}</i>	<code>generation_id</code>	string	Generation ID of the VM
<i>RW</i>	<code>hardware_platform_version</code>	int	The host virtual hardware platform version the VM can run on

<i>RO_{ins}</i>	<code>has_vendor_device</code>	bool	When an HVM guest starts, this controls the presence of the emulated C000 PCI device which triggers Windows Update to fetch or update PV drivers.
<i>RO_{run}</i>	<code>requires_reboot</code>	bool	Indicates whether a VM requires a reboot in order to update its configuration, e.g. its memory allocation.
<i>RO_{ins}</i>	<code>reference_label</code>	string	Textual reference to the template used to create a VM. This can be used by clients in need of an immutable reference to the template since the latter's uuid and name_label may change, for example, after a package installation or upgrade.

2.13.2 RPCs associated with class: VM

RPC name: snapshot

Overview:

Snapshots the specified VM, making a new VM. Snapshot automatically exploits the capabilities of the underlying storage repository in which the VM's disk images are stored (e.g. Copy on Write).

Signature:

```
(VM ref) snapshot (session_id s, VM ref vm, string new_name)
```

Arguments:

type	name	description
VM ref	vm	The VM to be snapshotted
string	new_name	The name of the snapshotted VM

Return Type: VM ref

The reference of the newly created VM.

Possible Error Codes: VM_BAD_POWER_STATE, SR_FULL, OPERATION_NOT_ALLOWED

RPC name: snapshot_with_quiesce

Overview:

Snapshots the specified VM with quiesce, making a new VM. Snapshot automatically exploits the capabilities of the underlying storage repository in which the VM's disk images are stored (e.g. Copy on Write).

Signature:

```
(VM ref) snapshot_with_quiesce (session_id s, VM ref vm, string new_name)
```

Arguments:

type	name	description
VM ref	vm	The VM to be snapshotted
string	new_name	The name of the snapshotted VM

Return Type: VM ref

The reference of the newly created VM.

Possible Error Codes: VM_BAD_POWER_STATE, SR_FULL, OPERATION_NOT_ALLOWED, VM_SNAPSHOT_WITH_QUIESCE_FAILED, VM_SNAPSHOT_WITH_QUIESCE_TIMEOUT, VM_SNAPSHOT_WITH_QUIESCE_PLUGIN_DEOS_NOT_RESPOND, VM_SNAPSHOT_WITH_QUIESCE_NOT

RPC name: clone

Overview:

Clones the specified VM, making a new VM. Clone automatically exploits the capabilities of the underlying storage repository in which the VM's disk images are stored (e.g. Copy on Write). This function can only be called when the VM is in the Halted State.

Signature:

(VM ref) clone (session_id s, VM ref vm, string new_name)

Arguments:

type	name	description
VM ref	vm	The VM to be cloned
string	new_name	The name of the cloned VM

Return Type: VM ref

The reference of the newly created VM.

Possible Error Codes: VM_BAD_POWER_STATE, SR_FULL, OPERATION_NOT_ALLOWED, LICENCE_RESTRICTION

RPC name: copy

Overview:

Copied the specified VM, making a new VM. Unlike clone, copy does not exploits the capabilities of the underlying storage repository in which the VM's disk images are stored. Instead, copy guarantees that the disk images of the newly created VM will be 'full disks' - i.e. not part of a CoW chain. This function can only be called when the VM is in the Halted State.

Signature:

(VM ref) copy (session_id s, VM ref vm, string new_name, SR ref sr)

Arguments:

type	name	description
VM ref	vm	The VM to be copied
string	new_name	The name of the copied VM
SR ref	sr	An SR to copy all the VM's disks into (if an invalid reference then it uses the existing SRs)

Return Type: VM ref

The reference of the newly created VM.

Possible Error Codes: VM_BAD_POWER_STATE, SR_FULL, OPERATION_NOT_ALLOWED, LICENCE_RESTRICTION

RPC name: revert**Overview:**

Reverts the specified VM to a previous state.

Signature:

```
void revert (session_id s, VM ref snapshot)
```

Arguments:

type	name	description
VM ref	snapshot	The snapshotted state that we revert to

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, OPERATION_NOT_ALLOWED, SR_FULL, VM_REVERT_FAILED

RPC name: checkpoint**Overview:**

Checkpoints the specified VM, making a new VM. Checkpoint automatically exploits the capabilities of the underlying storage repository in which the VM's disk images are stored (e.g. Copy on Write) and saves the memory image as well.

Signature:

```
(VM ref) checkpoint (session_id s, VM ref vm, string new_name)
```

Arguments:

type	name	description
VM ref	vm	The VM to be checkpointed
string	new_name	The name of the checkpointed VM

Return Type: VM ref

The reference of the newly created VM.

Possible Error Codes: VM_BAD_POWER_STATE, SR_FULL, OPERATION_NOT_ALLOWED, VM_CHECKPOINT_SUSPEND_FAILED, VM_CHECKPOINT_RESUME_FAILED

RPC name: provision**Overview:**

Inspects the disk configuration contained within the VM's other_config, creates VDIs and VBDs and then executes any applicable post-install script.

Signature:

```
void provision (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM to be provisioned

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, SR_FULL, OPERATION_NOT_ALLOWED, LICENCE_RESTRICTION

RPC name: start

Overview:

Start the specified VM. This function can only be called with the VM is in the Halted State.

Signature:

```
void start (session_id s, VM ref vm, bool start_paused, bool force)
```

Arguments:

type	name	description
VM ref	vm	The VM to start
bool	start_paused	Instantiate VM in paused state if set to true.
bool	force	Attempt to force the VM to start. If this flag is false then the VM may fail pre-boot safety checks (e.g. if the CPU the VM last booted on looks substantially different to the current one)

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, VM_HVM_REQUIRED, VM_IS_TEMPLATE, OTHER_OPERATION_IN_PROGRESS, OPERATION_NOT_ALLOWED, BOOTLOADER_FAILED, UNKNOWN_BOOTLOADER, NO_HOSTS_AVAILABLE, LICENCE_RESTRICTION

RPC name: start_on

Overview:

Start the specified VM on a particular host. This function can only be called with the VM is in the Halted State.

Signature:

```
void start_on (session_id s, VM ref vm, host ref host, bool start_paused, bool force)
```

Arguments:

type	name	description
VM ref	vm	The VM to start
host ref	host	The Host on which to start the VM
bool	start_paused	Instantiate VM in paused state if set to true.
bool	force	Attempt to force the VM to start. If this flag is false then the VM may fail pre-boot safety checks (e.g. if the CPU the VM last booted on looks substantially different to the current one)

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, VM_IS_TEMPLATE, OTHER_OPERATION_IN_PROGRESS, OPERATION_NOT_ALLOWED, BOOTLOADER_FAILED, UNKNOWN_BOOTLOADER

RPC name: pause

Overview:

Pause the specified VM. This can only be called when the specified VM is in the Running state.

Signature:

```
void pause (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM to pause

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, OTHER_OPERATION_IN_PROGRESS, OPERATION_NOT_ALLOWED, VM_IS_TEMPLATE

RPC name: unpause

Overview:

Resume the specified VM. This can only be called when the specified VM is in the Paused state.

Signature:

```
void unpause (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM to unpause

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, OPERATION_NOT_ALLOWED, VM_IS_TEMPLATE

RPC name: clean_shutdown

Overview:

Attempt to cleanly shutdown the specified VM. (Note: this may not be supported—e.g. if a guest agent is not installed). This can only be called when the specified VM is in the Running state.

Signature:

```
void clean_shutdown (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM to shutdown

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, OTHER_OPERATION_IN_PROGRESS, OPERATION_NOT_ALLOWED, VM_IS_TEMPLATE

RPC name: shutdown**Overview:**

Attempts to first clean shutdown a VM and if it should fail then perform a hard shutdown on it.

Signature:

```
void shutdown (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM to shutdown

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, OTHER_OPERATION_IN_PROGRESS, OPERATION_NOT_ALLOWED, VM_IS_TEMPLATE

RPC name: clean_reboot**Overview:**

Attempt to cleanly shutdown the specified VM (Note: this may not be supported—e.g. if a guest agent is not installed). This can only be called when the specified VM is in the Running state.

Signature:

```
void clean_reboot (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM to shutdown

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, OTHER_OPERATION_IN_PROGRESS, OPERATION_NOT_ALLOWED, VM_IS_TEMPLATE

RPC name: hard_shutdown**Overview:**

Stop executing the specified VM without attempting a clean shutdown.

Signature:

```
void hard_shutdown (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM to destroy

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, OTHER_OPERATION_IN_PROGRESS, OPERATION_NOT_ALLOWED, VM_IS_TEMPLATE

RPC name: power_state_reset**Overview:**

Reset the power-state of the VM to halted in the database only. (Used to recover from slave failures in pooling scenarios by resetting the power-states of VMs running on dead slaves to halted.) This is a potentially dangerous operation; use with care.

Signature:

```
void power_state_reset (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM to reset

Return Type: void

RPC name: hard_reboot**Overview:**

Stop executing the specified VM without attempting a clean shutdown and immediately restart the VM.

Signature:

```
void hard_reboot (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM to reboot

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, OTHER_OPERATION_IN_PROGRESS, OPERATION_NOT_ALLOWED, VM_IS_TEMPLATE

RPC name: suspend**Overview:**

Suspend the specified VM to disk. This can only be called when the specified VM is in the Running state.

Signature:

```
void suspend (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM to suspend

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, OTHER_OPERATION_IN_PROGRESS, OPERATION_NOT_ALLOWED, VM_IS_TEMPLATE

RPC name: resume**Overview:**

Awaken the specified VM and resume it. This can only be called when the specified VM is in the Suspended state.

Signature:

```
void resume (session_id s, VM ref vm, bool start_paused, bool force)
```

Arguments:

type	name	description
VM ref	vm	The VM to resume
bool	start_paused	Resume VM in paused state if set to true.
bool	force	Attempt to force the VM to resume. If this flag is false then the VM may fail pre-resume safety checks (e.g. if the CPU the VM was running on looks substantially different to the current one)

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, OPERATION_NOT_ALLOWED, VM_IS_TEMPLATE

RPC name: resume_on**Overview:**

Awaken the specified VM and resume it on a particular Host. This can only be called when the specified VM is in the Suspended state.

Signature:

```
void resume_on (session_id s, VM ref vm, host ref host, bool start_paused, bool force)
```

Arguments:

type	name	description
VM ref	vm	The VM to resume
host ref	host	The Host on which to resume the VM
bool	start_paused	Resume VM in paused state if set to true.
bool	force	Attempt to force the VM to resume. If this flag is false then the VM may fail pre-resume safety checks (e.g. if the CPU the VM was running on looks substantially different to the current one)

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, OPERATION_NOT_ALLOWED, VM_IS_TEMPLATE

RPC name: pool_migrate**Overview:**

Migrate a VM to another Host.

Signature:

```
void pool_migrate (session_id s, VM ref vm, host ref host, (string -> string) map options)
```

Arguments:

type	name	description
VM ref	vm	The VM to migrate
host ref	host	The target host
(string → string) map	options	Extra configuration operations

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE, OTHER_OPERATION_IN_PROGRESS, VM_IS_TEMPLATE, OPERATION_NOT_ALLOWED, VM_MIGRATE_FAILED

RPC name: set_VCPUs_number_live**Overview:**

Set the number of VCPUs for a running VM.

Signature:

```
void set_VCPUs_number_live (session_id s, VM ref self, int nvcpu)
```

Arguments:

type	name	description
VM ref	self	The VM
int	nvcpu	The number of VCPUs

Return Type: void

Possible Error Codes: OPERATION_NOT_ALLOWED, LICENCE_RESTRICTION

RPC name: add_to_VCPUs_params_live**Overview:**

Add the given key-value pair to VM.VCPUs_params, and apply that value on the running VM.

Signature:

```
void add_to_VCPUs_params_live (session_id s, VM ref self, string key, string value)
```

Arguments:

type	name	description
VM ref	self	The VM
string	key	The key
string	value	The value

Return Type: void

RPC name: set_ha_restart_priority

Overview:

Set the value of the ha_restart_priority field.

Signature:

```
void set_ha_restart_priority (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	The VM
string	value	The value

Return Type: void

RPC name: set_ha_always_run

Overview: This message is deprecated Set the value of the ha_always_run.

Signature:

```
void set_ha_always_run (session_id s, VM ref self, bool value)
```

Arguments:

type	name	description
VM ref	self	The VM
bool	value	The value

Return Type: void

RPC name: compute_memory_overhead

Overview:

Computes the virtualization memory overhead of a VM.

Signature:

```
int compute_memory_overhead (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM for which to compute the memory overhead

Return Type: int

the virtualization memory overhead of the VM.

RPC name: `set_memory_dynamic_max`

Overview:

Set the value of the `memory_dynamic_max` field.

Signature:

```
void set_memory_dynamic_max (session_id s, VM ref self, int value)
```

Arguments:

type	name	description
VM ref	self	The VM to modify
int	value	The new value of <code>memory_dynamic_max</code>

Return Type: void

RPC name: `set_memory_dynamic_min`

Overview:

Set the value of the `memory_dynamic_min` field.

Signature:

```
void set_memory_dynamic_min (session_id s, VM ref self, int value)
```

Arguments:

type	name	description
VM ref	self	The VM to modify
int	value	The new value of <code>memory_dynamic_min</code>

Return Type: void

RPC name: `set_memory_dynamic_range`

Overview:

Set the minimum and maximum amounts of physical memory the VM is allowed to use.

Signature:

```
void set_memory_dynamic_range (session_id s, VM ref self, int min, int max)
```

Arguments:

type	name	description
VM ref	self	The VM
int	min	The new minimum value
int	max	The new maximum value

Return Type: void

RPC name: `set_memory_static_max`

Overview:

Set the value of the `memory_static_max` field.

Signature:

```
void set_memory_static_max (session_id s, VM ref self, int value)
```

Arguments:

type	name	description
VM ref	self	The VM to modify
int	value	The new value of <code>memory_static_max</code>

Return Type: `void`

Possible Error Codes: `HA_OPERATION_WOULD_BREAK_FAILOVER_PLAN`

RPC name: `set_memory_static_min`

Overview:

Set the value of the `memory_static_min` field.

Signature:

```
void set_memory_static_min (session_id s, VM ref self, int value)
```

Arguments:

type	name	description
VM ref	self	The VM to modify
int	value	The new value of <code>memory_static_min</code>

Return Type: `void`

RPC name: `set_memory_static_range`

Overview:

Set the static (ie boot-time) range of virtual memory that the VM is allowed to use.

Signature:

```
void set_memory_static_range (session_id s, VM ref self, int min, int max)
```

Arguments:

type	name	description
VM ref	self	The VM
int	min	The new minimum value
int	max	The new maximum value

Return Type: `void`

RPC name: set_memory_limits**Overview:**

Set the memory limits of this VM.

Signature:

```
void set_memory_limits (session_id s, VM ref self, int static_min, int static_max, int dynamic_min, int d
```

Arguments:

type	name	description
VM ref	self	The VM
int	static_min	The new value of memory_static_min.
int	static_max	The new value of memory_static_max.
int	dynamic_min	The new value of memory_dynamic_min.
int	dynamic_max	The new value of memory_dynamic_max.

Return Type: void

RPC name: set_memory**Overview:**

Set the memory allocation of this VM. Sets all of memory_static_max, memory_dynamic_min, and memory_dynamic_max to the given value, and leaves memory_static_min untouched.

Signature:

```
void set_memory (session_id s, VM ref self, int value)
```

Arguments:

type	name	description
VM ref	self	The VM
int	value	The new memory allocation (bytes).

Return Type: void

RPC name: set_memory_target_live

Overview: This message is deprecated Set the memory target for a running VM.

Signature:

```
void set_memory_target_live (session_id s, VM ref self, int target)
```

Arguments:

type	name	description
VM ref	self	The VM
int	target	The target in bytes

Return Type: void

RPC name: wait_memory_target_live

Overview: **This message is deprecated** Wait for a running VM to reach its current memory target.

Signature:

```
void wait_memory_target_live (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	The VM

Return Type: void

RPC name: get_cooperative

Overview: **This message is deprecated** Return true if the VM is currently 'co-operative' i.e. is expected to reach a balloon target and actually has done.

Signature:

```
bool get_cooperative (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	The VM

Return Type: bool

true if the VM is currently 'co-operative'; false otherwise

RPC name: set_HVM_shadow_multiplier

Overview:

Set the shadow memory multiplier on a halted VM.

Signature:

```
void set_HVM_shadow_multiplier (session_id s, VM ref self, float value)
```

Arguments:

type	name	description
VM ref	self	The VM
float	value	The new shadow memory multiplier to set

Return Type: void

RPC name: `set_shadow_multiplier_live`

Overview:

Set the shadow memory multiplier on a running VM.

Signature:

```
void set_shadow_multiplier_live (session_id s, VM ref self, float multiplier)
```

Arguments:

type	name	description
VM ref	self	The VM
float	multiplier	The new shadow memory multiplier to set

Return Type: void

RPC name: `set_VCPUs_max`

Overview:

Set the maximum number of VCPUs for a halted VM.

Signature:

```
void set_VCPUs_max (session_id s, VM ref self, int value)
```

Arguments:

type	name	description
VM ref	self	The VM
int	value	The new maximum number of VCPUs

Return Type: void

RPC name: `set_VCPUs_at_startup`

Overview:

Set the number of startup VCPUs for a halted VM.

Signature:

```
void set_VCPUs_at_startup (session_id s, VM ref self, int value)
```

Arguments:

type	name	description
VM ref	self	The VM
int	value	The new maximum number of VCPUs

Return Type: void

RPC name: send_sysrq**Overview:**

Send the given key as a sysrq to this VM. The key is specified as a single character (a String of length 1). This can only be called when the specified VM is in the Running state.

Signature:

```
void send_sysrq (session_id s, VM ref vm, string key)
```

Arguments:

type	name	description
VM ref	vm	The VM
string	key	The key to send

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE

RPC name: send_trigger**Overview:**

Send the named trigger to this VM. This can only be called when the specified VM is in the Running state.

Signature:

```
void send_trigger (session_id s, VM ref vm, string trigger)
```

Arguments:

type	name	description
VM ref	vm	The VM
string	trigger	The trigger to send

Return Type: void

Possible Error Codes: VM_BAD_POWER_STATE

RPC name: maximise_memory**Overview:**

Returns the maximum amount of guest memory which will fit, together with overheads, in the supplied amount of physical memory. If 'exact' is true then an exact calculation is performed using the VM's current settings. If 'exact' is false then a more conservative approximation is used.

Signature:

```
int maximise_memory (session_id s, VM ref self, int total, bool approximate)
```

Arguments:

type	name	description
VM ref	self	The VM
int	total	Total amount of physical RAM to fit within
bool	approximate	If false the limit is calculated with the guest's current exact configuration. Otherwise a more approximate calculation is performed

Return Type: int

The maximum possible static-max

RPC name: migrate_send**Overview:**

Migrate the VM to another host. This can only be called when the specified VM is in the Running state.

Signature:

```
(VM ref) migrate_send (session_id s, VM ref vm, (string -> string) map dest, bool live, (VDI ref -> SR ref) map vdi_map, (VIF ref -> network ref) map vif_map, (string -> string) map options)
```

Arguments:

type	name	description
VM ref	vm	The VM
(string → string) map	dest	The result of a Host.migrate_receive call.
bool	live	Live migration
(VDI ref → SR ref) map	vdi_map	Map of source VDI to destination SR
(VIF ref → network ref) map	vif_map	Map of source VIF to destination network
(string → string) map	options	Other parameters

Return Type: VM ref

The reference of the newly created VM in the destination pool

Possible Error Codes: VM_BAD_POWER_STATE, LICENCE_RESTRICTION

RPC name: assert_can_migrate**Overview:**

Assert whether a VM can be migrated to the specified destination.

Signature:

```
void assert_can_migrate (session_id s, VM ref vm, (string -> string) map dest, bool live, (VDI ref -> SR ref) map vdi_map, (VIF ref -> network ref) map vif_map, (string -> string) map options)
```

Arguments:

type	name	description
VM ref	vm	The VM
(string → string) map	dest	The result of a VM.migrate_receive call.
bool	live	Live migration
(VDI ref → SR ref) map	vdi_map	Map of source VDI to destination SR
(VIF ref → network ref) map	vif_map	Map of source VIF to destination network
(string → string) map	options	Other parameters

Return Type: void

Possible Error Codes: LICENCE_RESTRICTION

RPC name: `get_boot_record`**Overview:**

Returns a record describing the VM's dynamic state, initialised when the VM boots and updated to reflect runtime configuration changes e.g. CPU hotplug.

Signature:

```
(VM record) get_boot_record (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	The VM whose boot-time state to return

Return Type: VM record

A record describing the VM

RPC name: `get_data_sources`**Overview:****Signature:**

```
(data_source record set) get_data_sources (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	The VM to interrogate

Return Type: `data_source record set`

A set of data sources

RPC name: `record_data_source`**Overview:**

Start recording the specified data source.

Signature:

```
void record_data_source (session_id s, VM ref self, string data_source)
```

Arguments:

type	name	description
VM ref	self	The VM
string	data_source	The data source to record

Return Type: void

RPC name: query_data_source**Overview:**

Query the latest value of the specified data source.

Signature:

```
float query_data_source (session_id s, VM ref self, string data_source)
```

Arguments:

type	name	description
VM ref	self	The VM
string	data_source	The data source to query

Return Type: float

The latest value, averaged over the last 5 seconds

RPC name: forget_data_source_archives**Overview:**

Forget the recorded statistics related to the specified data source.

Signature:

```
void forget_data_source_archives (session_id s, VM ref self, string data_source)
```

Arguments:

type	name	description
VM ref	self	The VM
string	data_source	The data source whose archives are to be forgotten

Return Type: void**RPC name: assert_operation_valid****Overview:**

Check to see whether this operation is acceptable in the current state of the system, raising an error if the operation is invalid for some reason.

Signature:

```
void assert_operation_valid (session_id s, VM ref self, vm_operations op)
```

Arguments:

type	name	description
VM ref	self	reference to the object
vm_operations	op	proposed operation

Return Type: void

RPC name: update_allowed_operations**Overview:**

Recomputes the list of acceptable operations.

Signature:

```
void update_allowed_operations (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: void

RPC name: get_allowed_VBD_devices**Overview:**

Returns a list of the allowed values that a VBD device field can take.

Signature:

```
(string set) get_allowed_VBD_devices (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM to query

Return Type: string set

The allowed values

RPC name: get_allowed_VIF_devices**Overview:**

Returns a list of the allowed values that a VIF device field can take.

Signature:

```
(string set) get_allowed_VIF_devices (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM to query

Return Type: string set

The allowed values

RPC name: `get_possible_hosts`

Overview:

Return the list of hosts on which this VM may run.

Signature:

```
(host ref set) get_possible_hosts (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM

Return Type: `host ref set`

The possible hosts

RPC name: `assert_can_boot_here`

Overview:

Returns an error if the VM could not boot on this host for some reason.

Signature:

```
void assert_can_boot_here (session_id s, VM ref self, host ref host)
```

Arguments:

type	name	description
VM ref	self	The VM
host ref	host	The host

Return Type: `void`

Possible Error Codes: `HOST_NOT_ENOUGH_FREE_MEMORY`, `VM_REQUIRES_SR`, `VM_HOST_INCOMPATIBLE_VERSION`, `VM_HOST_INCOMPATIBLE_VIRTUAL_HARDWARE_PLATFORM_VERSION`

RPC name: `create_new_blob`

Overview:

Create a placeholder for a named binary blob of data that is associated with this VM.

Signature:

```
(blob ref) create_new_blob (session_id s, VM ref vm, string name, string mime_type, bool public)
```

Arguments:

type	name	description
VM ref	vm	The VM
string	name	The name associated with the blob
string	mime_type	The mime type for the data. Empty string translates to <code>application/octet-stream</code>
bool	public	True if the blob should be publicly available

Return Type: `blob ref`

The reference of the blob, needed for populating its data

RPC name: `assert_agile`

Overview:

Returns an error if the VM is not considered agile e.g. because it is tied to a resource local to a host.

Signature:

```
void assert_agile (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	The VM

Return Type: void

RPC name: `retrieve_wlb_recommendations`

Overview:

Returns mapping of hosts to ratings, indicating the suitability of starting the VM at that location according to wlb. Rating is replaced with an error if the VM cannot boot there.

Signature:

```
((host ref -> string set) map) retrieve_wlb_recommendations (session_id s, VM ref vm)
```

Arguments:

type	name	description
VM ref	vm	The VM

Return Type: (host ref → string set) map

The potential hosts and their corresponding recommendations or errors

RPC name: `copy_bios_strings`

Overview:

Copy the BIOS strings from the given host to this VM.

Signature:

```
void copy_bios_strings (session_id s, VM ref vm, host ref host)
```

Arguments:

type	name	description
VM ref	vm	The VM to modify
host ref	host	The host to copy the BIOS strings from

Return Type: void

RPC name: `set_protection_policy`

Overview:

Set the value of the `protection_policy` field.

Signature:

```
void set_protection_policy (session_id s, VM ref self, VMPP ref value)
```

Arguments:

type	name	description
VM ref	self	The VM
VMPP ref	value	The value

Return Type: void

RPC name: `set_snapshot_schedule`

Overview:

Set the value of the `snapshot_schedule` field.

Signature:

```
void set_snapshot_schedule (session_id s, VM ref self, VMSS ref value)
```

Arguments:

type	name	description
VM ref	self	The VM
VMSS ref	value	The value

Return Type: void

RPC name: `set_start_delay`

Overview:

Set this VM's start delay in seconds.

Signature:

```
void set_start_delay (session_id s, VM ref self, int value)
```

Arguments:

type	name	description
VM ref	self	The VM
int	value	This VM's start delay in seconds

Return Type: void

RPC name: `set_shutdown_delay`

Overview:

Set this VM's shutdown delay in seconds.

Signature:

```
void set_shutdown_delay (session_id s, VM ref self, int value)
```

Arguments:

type	name	description
VM ref	self	The VM
int	value	This VM's shutdown delay in seconds

Return Type: void

RPC name: `set_order`

Overview:

Set this VM's boot order.

Signature:

```
void set_order (session_id s, VM ref self, int value)
```

Arguments:

type	name	description
VM ref	self	The VM
int	value	This VM's boot order

Return Type: void

RPC name: `set_suspend_VDI`

Overview:

Set this VM's suspend VDI, which must be identical to its current one.

Signature:

```
void set_suspend_VDI (session_id s, VM ref self, VDI ref value)
```

Arguments:

type	name	description
VM ref	self	The VM
VDI ref	value	The suspend VDI uuid

Return Type: void

RPC name: assert_can_be_recovered**Overview:**

Assert whether all SRs required to recover this VM are available.

Signature:

```
void assert_can_be_recovered (session_id s, VM ref self, session ref session_to)
```

Arguments:

type	name	description
VM ref	self	The VM to recover
session ref	session_to	The session to which the VM is to be recovered.

Return Type: void

Possible Error Codes: VM_IS_PART_OF_AN_APPLIANCE, VM_REQUIRES_SR

RPC name: get_SRs_required_for_recovery**Overview:**

List all the SR's that are required for the VM to be recovered.

Signature:

```
(SR ref set) get_SRs_required_for_recovery (session_id s, VM ref self, session ref session_to)
```

Arguments:

type	name	description
VM ref	self	The VM for which the SRs have to be recovered
session ref	session_to	The session to which the SRs of the VM have to be recovered.

Return Type: SR ref set

refs for SRs required to recover the VM

RPC name: recover**Overview:**

Recover the VM.

Signature:

```
void recover (session_id s, VM ref self, session ref session_to, bool force)
```

Arguments:

type	name	description
VM ref	self	The VM to recover
session ref	session_to	The session to which the VM is to be recovered.
bool	force	Whether the VM should replace newer versions of itself.

Return Type: void

RPC name: import_convert

Overview:

Import using a conversion service.

Signature:

```
void import_convert (session_id s, string type, string username, string password, SR ref sr, (string -> s
```

Arguments:

type	name	description
string	type	Type of the conversion
string	username	Admin username on the host
string	password	Password on the host
SR ref	sr	The destination SR
(string -> string) map	remote_config	Remote configuration options

Return Type: void

RPC name: set_appliance

Overview:

Assign this VM to an appliance.

Signature:

```
void set_appliance (session_id s, VM ref self, VM_appliance ref value)
```

Arguments:

type	name	description
VM ref	self	The VM to assign to an appliance.
VM_appliance ref	value	The appliance to which this VM should be assigned.

Return Type: void

RPC name: query_services

Overview:

Query the system services advertised by this VM and register them. This can only be applied to a system domain.

Signature:

```
((string -> string) map) query_services (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	The VM

Return Type: (string → string) map
map of service type to name

RPC name: call_plugin**Overview:**

Call a XenAPI plugin on this vm.

Signature:

```
string call_plugin (session_id s, VM ref vm, string plugin, string fn, (string -> string) map args)
```

Arguments:

type	name	description
VM ref	vm	The vm
string	plugin	The name of the plugin
string	fn	The name of the function within the plugin
(string → string) map	args	Arguments for the function

Return Type: string
Result from the plugin

RPC name: set_has_vendor_device**Overview:**

Controls whether, when the VM starts in HVM mode, its virtual hardware will include the emulated PCI device for which drivers may be available through Windows Update. Usually this should never be changed on a VM on which Windows has been installed: changing it on such a VM is likely to lead to a crash on next start.

Signature:

```
void set_has_vendor_device (session_id s, VM ref self, bool value)
```

Arguments:

type	name	description
VM ref	self	The VM on which to set this flag
bool	value	True to provide the vendor PCI device.

Return Type: void

RPC name: import**Overview:**

Import an XVA from a URI.

Signature:

```
(VM ref set) import (session_id s, string url, SR ref sr, bool full_restore, bool force)
```

Arguments:

type	name	description
string	url	The URL of the XVA file
SR ref	sr	The destination SR for the disks
bool	full_restore	Perform a full restore
bool	force	Force the import

Return Type: VM ref set

Imported VM reference

RPC name: get_all**Overview:**

Return a list of all the VMs known to the system.

Signature:

```
(VM ref set) get_all (session_id s)
```

Return Type: VM ref set

references to all objects

RPC name: get_all_records**Overview:**

Return a map of VM references to VM records for all VMs known to the system.

Signature:

```
((VM ref -> VM record) map) get_all_records (session_id s)
```

Return Type: (VM ref → VM record) map

records of all objects

RPC name: get_uuid**Overview:**

Get the uuid field of the given VM.

Signature:

```
string get_uuid (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_allowed_operations**Overview:**

Get the allowed_operations field of the given VM.

Signature:

```
(vm_operations set) get_allowed_operations (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: vm_operations set

value of the field

RPC name: get_current_operations**Overview:**

Get the current_operations field of the given VM.

Signature:

```
((string -> vm_operations) map) get_current_operations (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: (string → vm_operations) map

value of the field

RPC name: get_power_state**Overview:**

Get the power_state field of the given VM.

Signature:

```
(vm_power_state) get_power_state (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: `vm_power_state`
value of the field

RPC name: `get_name_label`**Overview:**

Get the name/label field of the given VM.

Signature:

```
string get_name_label (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: `string`
value of the field

RPC name: `set_name_label`**Overview:**

Set the name/label field of the given VM.

Signature:

```
void set_name_label (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	New value to set

Return Type: `void`

RPC name: `get_name_description`**Overview:**

Get the name/description field of the given VM.

Signature:

```
string get_name_description (session_id s, VM ref self)
```


Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_name_description**Overview:**

Set the name/description field of the given VM.

Signature:

```
void set_name_description (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_user_version**Overview:**

Get the user_version field of the given VM.

Signature:

```
int get_user_version (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int
value of the field

RPC name: set_user_version**Overview:**

Set the user_version field of the given VM.

Signature:

```
void set_user_version (session_id s, VM ref self, int value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
int	value	New value to set

Return Type: void**RPC name:** get_is_a_template**Overview:**

Get the is_a_template field of the given VM.

Signature:

```
bool get_is_a_template (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: bool

value of the field

RPC name: set_is_a_template**Overview:**

Set the is_a_template field of the given VM.

Signature:

```
void set_is_a_template (session_id s, VM ref self, bool value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
bool	value	New value to set

Return Type: void**RPC name:** get_is_default_template**Overview:**

Get the is_default_template field of the given VM.

Signature:

```
bool get_is_default_template (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_suspend_VDI**Overview:**

Get the suspend_VDI field of the given VM.

Signature:

(VDI ref) get_suspend_VDI (session_id s, VM ref self)

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: VDI ref

value of the field

RPC name: get_resident_on**Overview:**

Get the resident_on field of the given VM.

Signature:

(host ref) get_resident_on (session_id s, VM ref self)

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: host ref

value of the field

RPC name: get_affinity**Overview:**

Get the affinity field of the given VM.

Signature:

(host ref) get_affinity (session_id s, VM ref self)

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: host ref
value of the field

RPC name: set_affinity**Overview:**

Set the affinity field of the given VM.

Signature:

```
void set_affinity (session_id s, VM ref self, host ref value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
host ref	value	New value to set

Return Type: void

RPC name: get_memory_overhead**Overview:**

Get the memory/overhead field of the given VM.

Signature:

```
int get_memory_overhead (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_memory_target

Overview: This message is deprecated Get the memory/target field of the given VM.

Signature:

```
int get_memory_target (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_memory_static_max**Overview:**

Get the memory/static_max field of the given VM.

Signature:

```
int get_memory_static_max (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_memory_dynamic_max**Overview:**

Get the memory/dynamic_max field of the given VM.

Signature:

```
int get_memory_dynamic_max (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_memory_dynamic_min**Overview:**

Get the memory/dynamic_min field of the given VM.

Signature:

```
int get_memory_dynamic_min (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_memory_static_min**Overview:**

Get the memory/static_min field of the given VM.

Signature:

```
int get_memory_static_min (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_VCPUs_params**Overview:**

Get the VCPUs/params field of the given VM.

Signature:

```
((string -> string) map) get_VCPUs_params (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: set_VCPUs_params**Overview:**

Set the VCPUs/params field of the given VM.

Signature:

```
void set_VCPUs_params (session_id s, VM ref self, (string -> string) map value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_VCPUs_params**Overview:**

Add the given key-value pair to the VCPUs/params field of the given VM.

Signature:

```
void add_to_VCPUs_params (session_id s, VM ref self, string key, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_VCPUs_params**Overview:**

Remove the given key and its corresponding value from the VCPUs/params field of the given VM. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_VCPUs_params (session_id s, VM ref self, string key)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_VCPUs_max**Overview:**

Get the VCPUs/max field of the given VM.

Signature:

```
int get_VCPUs_max (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_VCPUs_at_startup**Overview:**

Get the VCPUs/at_startup field of the given VM.

Signature:

```
int get_VCPUs_at_startup (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_actions_after_shutdown**Overview:**

Get the actions/after_shutdown field of the given VM.

Signature:

```
(on_normal_exit) get_actions_after_shutdown (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: on_normal_exit

value of the field

RPC name: set_actions_after_shutdown**Overview:**

Set the actions/after_shutdown field of the given VM.

Signature:

```
void set_actions_after_shutdown (session_id s, VM ref self, on_normal_exit value)
```


Arguments:

type	name	description
VM ref	self	reference to the object
on_normal_exit	value	New value to set

Return Type: void**RPC name:** get_actions_after_reboot**Overview:**

Get the actions/after_reboot field of the given VM.

Signature:

```
(on_normal_exit) get_actions_after_reboot (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: on_normal_exit
value of the field**RPC name:** set_actions_after_reboot**Overview:**

Set the actions/after_reboot field of the given VM.

Signature:

```
void set_actions_after_reboot (session_id s, VM ref self, on_normal_exit value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
on_normal_exit	value	New value to set

Return Type: void**RPC name:** get_actions_after_crash**Overview:**

Get the actions/after_crash field of the given VM.

Signature:

```
(on_crash_behaviour) get_actions_after_crash (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: on_crash_behaviour
value of the field

RPC name: set_actions_after_crash**Overview:**

Set the actions/after_crash field of the given VM.

Signature:

```
void set_actions_after_crash (session_id s, VM ref self, on_crash_behaviour value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
on_crash_behaviour	value	New value to set

Return Type: void

RPC name: get_consoles**Overview:**

Get the consoles field of the given VM.

Signature:

```
(console ref set) get_consoles (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: console ref set
value of the field

RPC name: get_VIFs**Overview:**

Get the VIFs field of the given VM.

Signature:

```
(VIF ref set) get_VIFs (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: VIF ref set

value of the field

RPC name: get_VBDs**Overview:**

Get the VBDs field of the given VM.

Signature:

(VBD ref set) get_VBDs (session_id s, VM ref self)

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: VBD ref set

value of the field

RPC name: get_crash_dumps**Overview:**

Get the crash_dumps field of the given VM.

Signature:

(crashdump ref set) get_crash_dumps (session_id s, VM ref self)

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: crashdump ref set

value of the field

RPC name: get_VTPMs**Overview:**

Get the VTPMs field of the given VM.

Signature:

(VTPM ref set) get_VTPMs (session_id s, VM ref self)

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: VTPM ref set
value of the field

RPC name: get_PV_bootloader**Overview:**

Get the PV/bootloader field of the given VM.

Signature:

```
string get_PV_bootloader (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_PV_bootloader**Overview:**

Set the PV/bootloader field of the given VM.

Signature:

```
void set_PV_bootloader (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_PV_kernel**Overview:**

Get the PV/kernel field of the given VM.

Signature:

```
string get_PV_kernel (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_PV_kernel**Overview:**

Set the PV/kernel field of the given VM.

Signature:

```
void set_PV_kernel (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_PV_ramdisk**Overview:**

Get the PV/ramdisk field of the given VM.

Signature:

```
string get_PV_ramdisk (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_PV_ramdisk**Overview:**

Set the PV/ramdisk field of the given VM.

Signature:

```
void set_PV_ramdisk (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	New value to set

Return Type: void**RPC name:** get_PV_args**Overview:**

Get the PV/args field of the given VM.

Signature:

```
string get_PV_args (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string

value of the field

RPC name: set_PV_args**Overview:**

Set the PV/args field of the given VM.

Signature:

```
void set_PV_args (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	New value to set

Return Type: void**RPC name:** get_PV_bootloader_args**Overview:**

Get the PV/bootloader_args field of the given VM.

Signature:

```
string get_PV_bootloader_args (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_PV_bootloader_args**Overview:**

Set the PV/bootloader_args field of the given VM.

Signature:

```
void set_PV_bootloader_args (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_PV_legacy_args**Overview:**

Get the PV/legacy_args field of the given VM.

Signature:

```
string get_PV_legacy_args (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_PV_legacy_args**Overview:**

Set the PV/legacy_args field of the given VM.

Signature:

```
void set_PV_legacy_args (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	New value to set

Return Type: void**RPC name:** get_HVM_boot_policy**Overview:**

Get the HVM/boot_policy field of the given VM.

Signature:

```
string get_HVM_boot_policy (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string

value of the field

RPC name: set_HVM_boot_policy**Overview:**

Set the HVM/boot_policy field of the given VM.

Signature:

```
void set_HVM_boot_policy (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	New value to set

Return Type: void**RPC name:** get_HVM_boot_params**Overview:**

Get the HVM/boot_params field of the given VM.

Signature:

```
((string -> string) map) get_HVM_boot_params (session_id s, VM ref self)
```


Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_HVM_boot_params**Overview:**

Set the HVM/boot_params field of the given VM.

Signature:

```
void set_HVM_boot_params (session_id s, VM ref self, (string -> string) map value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_HVM_boot_params**Overview:**

Add the given key-value pair to the HVM/boot_params field of the given VM.

Signature:

```
void add_to_HVM_boot_params (session_id s, VM ref self, string key, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_HVM_boot_params**Overview:**

Remove the given key and its corresponding value from the HVM/boot_params field of the given VM. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_HVM_boot_params (session_id s, VM ref self, string key)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_HVM_shadow_multiplier**Overview:**

Get the HVM/shadow_multiplier field of the given VM.

Signature:

```
float get_HVM_shadow_multiplier (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: float

value of the field

RPC name: get_platform**Overview:**

Get the platform field of the given VM.

Signature:

```
((string -> string) map) get_platform (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: set_platform**Overview:**

Set the platform field of the given VM.

Signature:

```
void set_platform (session_id s, VM ref self, (string -> string) map value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_platform**Overview:**

Add the given key-value pair to the platform field of the given VM.

Signature:

```
void add_to_platform (session_id s, VM ref self, string key, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_platform**Overview:**

Remove the given key and its corresponding value from the platform field of the given VM. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_platform (session_id s, VM ref self, string key)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_PCI_bus

Overview: This message is deprecated Get the PCI_bus field of the given VM.

Signature:

```
string get_PCI_bus (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_PCI_bus

Overview: This message is deprecated Set the PCI_bus field of the given VM.

Signature:

```
void set_PCI_bus (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_other_config**Overview:**

Get the other_config field of the given VM.

Signature:

```
((string -> string) map) get_other_config (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given VM.

Signature:

```
void set_other_config (session_id s, VM ref self, (string -> string) map value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given VM.

Signature:

```
void add_to_other_config (session_id s, VM ref self, string key, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given VM. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, VM ref self, string key)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_domid**Overview:**

Get the domid field of the given VM.

Signature:

```
int get_domid (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_domarch**Overview:**

Get the domarch field of the given VM.

Signature:

```
string get_domarch (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_last_boot_CPU_flags**Overview:**

Get the last_boot_CPU_flags field of the given VM.

Signature:

```
((string -> string) map) get_last_boot_CPU_flags (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: get_is_control_domain**Overview:**

Get the is_control_domain field of the given VM.

Signature:

```
bool get_is_control_domain (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_metrics

Overview:

Get the metrics field of the given VM.

Signature:

```
(VM_metrics ref) get_metrics (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: VM_metrics ref
value of the field

RPC name: get_guest_metrics

Overview:

Get the guest_metrics field of the given VM.

Signature:

```
(VM_guest_metrics ref) get_guest_metrics (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: VM_guest_metrics ref
value of the field

RPC name: get_last_booted_record

Overview:

Get the last_booted_record field of the given VM.

Signature:

```
string get_last_booted_record (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_recommendations**Overview:**

Get the recommendations field of the given VM.

Signature:

```
string get_recommendations (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_recommendations**Overview:**

Set the recommendations field of the given VM.

Signature:

```
void set_recommendations (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_xenstore_data**Overview:**

Get the xenstore_data field of the given VM.

Signature:

```
((string -> string) map) get_xenstore_data (session_id s, VM ref self)
```


Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_xenstore_data**Overview:**

Set the xenstore_data field of the given VM.

Signature:

```
void set_xenstore_data (session_id s, VM ref self, (string -> string) map value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_xenstore_data**Overview:**

Add the given key-value pair to the xenstore_data field of the given VM.

Signature:

```
void add_to_xenstore_data (session_id s, VM ref self, string key, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_xenstore_data**Overview:**

Remove the given key and its corresponding value from the xenstore_data field of the given VM. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_xenstore_data (session_id s, VM ref self, string key)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** `get_ha_always_run`**Overview:** This message is deprecated Get the `ha_always_run` field of the given VM.**Signature:**

```
bool get_ha_always_run (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: bool

value of the field

RPC name: `get_ha_restart_priority`**Overview:**Get the `ha_restart_priority` field of the given VM.**Signature:**

```
string get_ha_restart_priority (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_is_a_snapshot`**Overview:**Get the `is_a_snapshot` field of the given VM.**Signature:**

```
bool get_is_a_snapshot (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_snapshot_of**Overview:**

Get the snapshot_of field of the given VM.

Signature:`(VM ref) get_snapshot_of (session_id s, VM ref self)`**Arguments:**

type	name	description
VM ref	self	reference to the object

Return Type: VM ref

value of the field

RPC name: get_snapshots**Overview:**

Get the snapshots field of the given VM.

Signature:`(VM ref set) get_snapshots (session_id s, VM ref self)`**Arguments:**

type	name	description
VM ref	self	reference to the object

Return Type: VM ref set

value of the field

RPC name: get_snapshot_time**Overview:**

Get the snapshot_time field of the given VM.

Signature:`datetime get_snapshot_time (session_id s, VM ref self)`

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: datetime

value of the field

RPC name: `get_transportable_snapshot_id`**Overview:**Get the `transportable_snapshot_id` field of the given VM.**Signature:**

```
string get_transportable_snapshot_id (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_blobs`**Overview:**Get the `blobs` field of the given VM.**Signature:**

```
((string -> blob ref) map) get_blobs (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: `(string → blob ref) map`

value of the field

RPC name: `get_tags`**Overview:**Get the `tags` field of the given VM.**Signature:**

```
(string set) get_tags (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string set
value of the field

RPC name: set_tags**Overview:**

Set the tags field of the given VM.

Signature:

```
void set_tags (session_id s, VM ref self, string set value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string set	value	New value to set

Return Type: void

RPC name: add_tags**Overview:**

Add the given value to the tags field of the given VM. If the value is already in that Set, then do nothing.

Signature:

```
void add_tags (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	New value to add

Return Type: void

RPC name: remove_tags**Overview:**

Remove the given value from the tags field of the given VM. If the value is not in that Set, then do nothing.

Signature:

```
void remove_tags (session_id s, VM ref self, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
string	value	Value to remove

Return Type: void**RPC name:** get_blocked_operations**Overview:**

Get the blocked_operations field of the given VM.

Signature:

```
((vm_operations -> string) map) get_blocked_operations (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: (vm_operations → string) map
value of the field**RPC name:** set_blocked_operations**Overview:**

Set the blocked_operations field of the given VM.

Signature:

```
void set_blocked_operations (session_id s, VM ref self, (vm_operations -> string) map value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
(vm_operations → string) map	value	New value to set

Return Type: void**RPC name:** add_to_blocked_operations**Overview:**

Add the given key-value pair to the blocked_operations field of the given VM.

Signature:

```
void add_to_blocked_operations (session_id s, VM ref self, vm_operations key, string value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
vm_operations	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_blocked_operations**Overview:**

Remove the given key and its corresponding value from the blocked_operations field of the given VM. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_blocked_operations (session_id s, VM ref self, vm_operations key)
```

Arguments:

type	name	description
VM ref	self	reference to the object
vm_operations	key	Key to remove

Return Type: void**RPC name:** get_snapshot_info**Overview:**

Get the snapshot_info field of the given VM.

Signature:

```
((string -> string) map) get_snapshot_info (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: get_snapshot_metadata**Overview:**

Get the snapshot_metadata field of the given VM.

Signature:

```
string get_snapshot_metadata (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_parent**Overview:**

Get the parent field of the given VM.

Signature:

```
(VM ref) get_parent (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: VM ref
value of the field

RPC name: get_children**Overview:**

Get the children field of the given VM.

Signature:

```
(VM ref set) get_children (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: VM ref set
value of the field

RPC name: get_bios_strings**Overview:**

Get the bios_strings field of the given VM.

Signature:

```
((string -> string) map) get_bios_strings (session_id s, VM ref self)
```


Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: get_protection_policy

Overview: **This message is deprecated** Get the protection_policy field of the given VM.

Signature:

(VMPP ref) get_protection_policy (session_id s, VM ref self)

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: VMPP ref
value of the field

RPC name: get_is_snapshot_from_vmpp

Overview: **This message is deprecated** Get the is_snapshot_from_vmpp field of the given VM.

Signature:

bool get_is_snapshot_from_vmpp (session_id s, VM ref self)

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_snapshot_schedule**Overview:**

Get the snapshot_schedule field of the given VM.

Signature:

(VMSS ref) get_snapshot_schedule (session_id s, VM ref self)

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: VMSS ref
value of the field

RPC name: get_is_vmss_snapshot

Overview:

Get the is_vmss_snapshot field of the given VM.

Signature:

```
bool get_is_vmss_snapshot (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_appliance

Overview:

Get the appliance field of the given VM.

Signature:

```
(VM_appliance ref) get_appliance (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: VM_appliance ref
value of the field

RPC name: get_start_delay

Overview:

Get the start_delay field of the given VM.

Signature:

```
int get_start_delay (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int

value of the field

RPC name: `get_shutdown_delay`

Overview:

Get the `shutdown_delay` field of the given VM.

Signature:

```
int get_shutdown_delay (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: `int`

value of the field

RPC name: `get_order`

Overview:

Get the `order` field of the given VM.

Signature:

```
int get_order (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: `int`

value of the field

RPC name: `get_VGPUs`

Overview:

Get the `VGPUs` field of the given VM.

Signature:

```
(VGPU ref set) get_VGPUs (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: `VGPU ref set`

value of the field

RPC name: `get_attached_PCIs`**Overview:**

Get the `attached_PCIs` field of the given VM.

Signature:

```
(PCI ref set) get_attached_PCIs (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: PCI ref set

value of the field

RPC name: `get_suspend_SR`**Overview:**

Get the `suspend_SR` field of the given VM.

Signature:

```
(SR ref) get_suspend_SR (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: SR ref

value of the field

RPC name: `set_suspend_SR`**Overview:**

Set the `suspend_SR` field of the given VM.

Signature:

```
void set_suspend_SR (session_id s, VM ref self, SR ref value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
SR ref	value	New value to set

Return Type: void

RPC name: `get_version`

Overview:

Get the version field of the given VM.

Signature:

```
int get_version (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int

value of the field

RPC name: `get_generation_id`

Overview:

Get the generation_id field of the given VM.

Signature:

```
string get_generation_id (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_hardware_platform_version`

Overview:

Get the hardware_platform_version field of the given VM.

Signature:

```
int get_hardware_platform_version (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: int

value of the field

RPC name: `set_hardware_platform_version`

Overview:

Set the `hardware_platform_version` field of the given VM.

Signature:

```
void set_hardware_platform_version (session_id s, VM ref self, int value)
```

Arguments:

type	name	description
VM ref	self	reference to the object
int	value	New value to set

Return Type: void

RPC name: `get_has_vendor_device`

Overview:

Get the `has_vendor_device` field of the given VM.

Signature:

```
bool get_has_vendor_device (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: bool

value of the field

RPC name: `get_requires_reboot`

Overview:

Get the `requires_reboot` field of the given VM.

Signature:

```
bool get_requires_reboot (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: bool

value of the field

RPC name: `get_reference_label`**Overview:**

Get the `reference_label` field of the given VM.

Signature:

```
string get_reference_label (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `create`**Overview:**

NOT RECOMMENDED! `VM.clone` or `VM.copy` (or `VM.import`) is a better choice in almost all situations. The standard way to obtain a new VM is to call `VM.clone` on a template VM, then call `VM.provision` on the new clone. Caution: if `VM.create` is used and then the new VM is attached to a virtual disc that has an operating system already installed, then there is no guarantee that the operating system will boot and run. Any software that calls `VM.create` on a future version of this API may fail or give unexpected results. For example this could happen if an additional parameter were added to `VM.create`. `VM.create` is intended only for use in the automatic creation of the system VM templates. It creates a new VM instance, and returns its handle.

Signature:

```
(VM ref) create (session_id s, VM record args)
```

Arguments:

type	name	description
VM record	args	All constructor arguments

Return Type: `VM ref`

reference to the newly created object

RPC name: `destroy`**Overview:**

Destroy the specified VM. The VM is completely removed from the system. This function can only be called when the VM is in the Halted State.

Signature:

```
void destroy (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: void

RPC name: get_by_uuid

Overview:

Get a reference to the VM instance with the specified UUID.

Signature:

```
(VM ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VM ref

reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given VM.

Signature:

```
(VM record) get_record (session_id s, VM ref self)
```

Arguments:

type	name	description
VM ref	self	reference to the object

Return Type: VM record

all fields from the object

RPC name: get_by_name_label

Overview:

Get all the VM instances with the given label.

Signature:

```
(VM ref set) get_by_name_label (session_id s, string label)
```

Arguments:

type	name	description
string	label	label of object to return

Return Type: VM ref set

references to objects with matching names

2.14 Class: VM_metrics

2.14.1 Fields for class: VM_metrics

Name	VM_metrics		
Description	<i>The metrics associated with a VM.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_run</i>	<code>memory_actual</code>	int	Guest's actual memory (bytes)
<i>RO_run</i>	<code>VCPUs_number</code>	int	Current number of VCPUs
<i>RO_run</i>	<code>VCPUs_utilisation</code>	(int → float) map	Utilisation for all of guest's current VCPUs
<i>RO_run</i>	<code>VCPUs_CPU</code>	(int → int) map	VCPU to PCPU map
<i>RO_run</i>	<code>VCPUs_params</code>	(string → string) map	The live equivalent to VM.VCPUs_params
<i>RO_run</i>	<code>VCPUs_flags</code>	(int → string set) map	CPU flags (blocked,online,running)
<i>RO_run</i>	<code>state</code>	string set	The state of the guest, eg blocked, dying etc
<i>RO_run</i>	<code>start_time</code>	datetime	Time at which this VM was last booted
<i>RO_run</i>	<code>install_time</code>	datetime	Time at which the VM was installed
<i>RO_run</i>	<code>last_updated</code>	datetime	Time at which this information was last updated
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration
<i>RO_run</i>	<code>hvm</code>	bool	hardware virtual machine
<i>RO_run</i>	<code>nested_virt</code>	bool	VM supports nested virtualisation
<i>RO_run</i>	<code>nomigrate</code>	bool	VM is immobile and can't migrate between hosts

2.14.2 RPCs associated with class: VM_metrics

RPC name: `get_all`

Overview:

Return a list of all the VM_metrics instances known to the system.

Signature:

```
(VM_metrics ref set) get_all (session_id s)
```

Return Type: VM_metrics ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of VM_metrics references to VM_metrics records for all VM_metrics instances known to the system.

Signature:

```
((VM_metrics ref → VM_metrics record) map) get_all_records (session_id s)
```

Return Type: (VM_metrics ref → VM_metrics record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given VM_metrics.

Signature:

```
string get_uuid (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
VM_metrics ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_memory_actual`

Overview:

Get the memory/actual field of the given VM_metrics.

Signature:

```
int get_memory_actual (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
VM_metrics ref	self	reference to the object

Return Type: int

value of the field

RPC name: `get_VCPUs_number`

Overview:

Get the VCPUs/number field of the given VM_metrics.

Signature:

```
int get_VCPUs_number (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
VM_metrics ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_VCPUs_utilisation**Overview:**

Get the VCPUs/utilisation field of the given VM_metrics.

Signature:

```
((int -> float) map) get_VCPUs_utilisation (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
VM_metrics ref	self	reference to the object

Return Type: (int → float) map

value of the field

RPC name: get_VCPUs_CPU**Overview:**

Get the VCPUs/CPU field of the given VM_metrics.

Signature:

```
((int -> int) map) get_VCPUs_CPU (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
VM_metrics ref	self	reference to the object

Return Type: (int → int) map

value of the field

RPC name: get_VCPUs_params**Overview:**

Get the VCPUs/params field of the given VM_metrics.

Signature:

```
((string -> string) map) get_VCPUs_params (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
VM_metrics ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: `get_VCPUs_flags`

Overview:

Get the VCPUs/flags field of the given VM_metrics.

Signature:

```
((int -> string set) map) get_VCPUs_flags (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
VM_metrics ref	self	reference to the object

Return Type: `(int → string set) map`
value of the field

RPC name: `get_state`

Overview:

Get the state field of the given VM_metrics.

Signature:

```
(string set) get_state (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
VM_metrics ref	self	reference to the object

Return Type: `string set`
value of the field

RPC name: `get_start_time`

Overview:

Get the start_time field of the given VM_metrics.

Signature:

```
datetime get_start_time (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
VM_metrics ref	self	reference to the object

Return Type: `datetime`
value of the field

RPC name: `get_install_time`

Overview:

Get the `install_time` field of the given `VM_metrics`.

Signature:

```
datetime get_install_time (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
<code>VM_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `datetime`

value of the field

RPC name: `get_last_updated`

Overview:

Get the `last_updated` field of the given `VM_metrics`.

Signature:

```
datetime get_last_updated (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
<code>VM_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `datetime`

value of the field

RPC name: `get_other_config`

Overview:

Get the `other_config` field of the given `VM_metrics`.

Signature:

```
((string -> string) map) get_other_config (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
<code>VM_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `(string → string) map`

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given VM_metrics.

Signature:

```
void set_other_config (session_id s, VM_metrics ref self, (string -> string) map value)
```

Arguments:

type	name	description
VM_metrics ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given VM_metrics.

Signature:

```
void add_to_other_config (session_id s, VM_metrics ref self, string key, string value)
```

Arguments:

type	name	description
VM_metrics ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given VM_metrics. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, VM_metrics ref self, string key)
```

Arguments:

type	name	description
VM_metrics ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: `get_hvm`

Overview:

Get the `hvm` field of the given `VM_metrics`.

Signature:

```
bool get_hvm (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
<code>VM_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `bool`

value of the field

RPC name: `get_nested_virt`

Overview:

Get the `nested_virt` field of the given `VM_metrics`.

Signature:

```
bool get_nested_virt (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
<code>VM_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `bool`

value of the field

RPC name: `get_nomigrate`

Overview:

Get the `nomigrate` field of the given `VM_metrics`.

Signature:

```
bool get_nomigrate (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
<code>VM_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `bool`

value of the field

RPC name: `get_by_uuid`

Overview:

Get a reference to the `VM_metrics` instance with the specified UUID.

Signature:

```
(VM_metrics ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: `VM_metrics ref`

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given `VM_metrics`.

Signature:

```
(VM_metrics record) get_record (session_id s, VM_metrics ref self)
```

Arguments:

type	name	description
<code>VM_metrics ref</code>	self	reference to the object

Return Type: `VM_metrics record`

all fields from the object

2.15 Class: VM_guest_metrics

2.15.1 Fields for class: VM_guest_metrics

Name	VM_guest_metrics		
Description	<i>The metrics reported by the guest (as opposed to inferred from outside).</i>		
Quals	Field	Type	Description
<i>RO_run</i>	uuid	string	Unique identifier/object reference
<i>RO_run</i>	os_version	(string → string) map	version of the OS
<i>RO_run</i>	PV_drivers_version	(string → string) map	version of the PV drivers
<i>RO_run</i>	PV_drivers_up_to_date	bool	Logically equivalent to PV_drivers_detected
<i>RO_run</i>	memory	(string → string) map	This field exists but has no data. Use the memory and memory_internal_free RRD data-sources instead.
<i>RO_run</i>	disks	(string → string) map	This field exists but has no data.
<i>RO_run</i>	networks	(string → string) map	network configuration
<i>RO_run</i>	other	(string → string) map	anything else
<i>RO_run</i>	last_updated	datetime	Time at which this information was last updated
<i>RW</i>	other_config	(string → string) map	additional configuration
<i>RO_run</i>	live	bool	True if the guest is sending heartbeat messages via the guest agent
<i>RO_run</i>	can_use_hotplug_vbd	tristate_type	The guest's statement of whether it supports VBD hotplug, i.e. whether it is capable of responding immediately to instantiation of a new VBD by bringing online a new PV block device. If the guest states that it is not capable, then the VBD plug and unplug operations will not be allowed while the guest is running.
<i>RO_run</i>	can_use_hotplug_vif	tristate_type	The guest's statement of whether it supports VIF hotplug, i.e. whether it is capable of responding immediately to instantiation of a new VIF by bringing online a new PV network device. If the guest states that it is not capable, then the VIF plug and unplug operations will not be allowed while the guest is running.
<i>RO_run</i>	PV_drivers_detected	bool	At least one of the guest's devices has successfully connected to the backend.

2.15.2 RPCs associated with class: VM_guest_metrics

RPC name: get_all

Overview:

Return a list of all the VM_guest_metrics instances known to the system.

Signature:

```
(VM_guest_metrics ref set) get_all (session_id s)
```

Return Type: VM_guest_metrics ref set
references to all objects

RPC name: get_all_records

Overview:

Return a map of VM_guest_metrics references to VM_guest_metrics records for all VM_guest_metrics instances known to the system.

Signature:

```
((VM_guest_metrics ref -> VM_guest_metrics record) map) get_all_records (session_id s)
```

Return Type: (VM_guest_metrics ref → VM_guest_metrics record) map
records of all objects

RPC name: get_uuid

Overview:

Get the uuid field of the given VM_guest_metrics.

Signature:

```
string get_uuid (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
VM_guest_metrics ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_os_version

Overview:

Get the os_version field of the given VM_guest_metrics.

Signature:

```
((string -> string) map) get_os_version (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
VM_guest_metrics ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: `get_PV_drivers_version`

Overview:

Get the `PV_drivers_version` field of the given `VM_guest_metrics`.

Signature:

```
((string -> string) map) get_PV_drivers_version (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
<code>VM_guest_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `get_PV_drivers_up_to_date`

Overview: **This message is deprecated** Get the `PV_drivers_up_to_date` field of the given `VM_guest_metrics`.

Signature:

```
bool get_PV_drivers_up_to_date (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
<code>VM_guest_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `bool`
value of the field

RPC name: `get_memory`

Overview:

Get the `memory` field of the given `VM_guest_metrics`.

Signature:

```
((string -> string) map) get_memory (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
<code>VM_guest_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `get_disks`

Overview:

Get the disks field of the given VM_guest_metrics.

Signature:

```
((string -> string) map) get_disks (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
VM_guest_metrics ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: `get_networks`

Overview:

Get the networks field of the given VM_guest_metrics.

Signature:

```
((string -> string) map) get_networks (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
VM_guest_metrics ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: `get_other`

Overview:

Get the other field of the given VM_guest_metrics.

Signature:

```
((string -> string) map) get_other (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
VM_guest_metrics ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: `get_last_updated`**Overview:**

Get the `last_updated` field of the given `VM_guest_metrics`.

Signature:

```
datetime get_last_updated (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
<code>VM_guest_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `datetime`

value of the field

RPC name: `get_other_config`**Overview:**

Get the `other_config` field of the given `VM_guest_metrics`.

Signature:

```
((string -> string) map) get_other_config (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
<code>VM_guest_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `(string → string) map`

value of the field

RPC name: `set_other_config`**Overview:**

Set the `other_config` field of the given `VM_guest_metrics`.

Signature:

```
void set_other_config (session_id s, VM_guest_metrics ref self, (string -> string) map value)
```

Arguments:

type	name	description
<code>VM_guest_metrics ref</code>	<code>self</code>	reference to the object
<code>(string → string) map</code>	<code>value</code>	New value to set

Return Type: `void`

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given VM_guest_metrics.

Signature:

```
void add_to_other_config (session_id s, VM_guest_metrics ref self, string key, string value)
```

Arguments:

type	name	description
VM_guest_metrics ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given VM_guest_metrics. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, VM_guest_metrics ref self, string key)
```

Arguments:

type	name	description
VM_guest_metrics ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: get_live**Overview:**

Get the live field of the given VM_guest_metrics.

Signature:

```
bool get_live (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
VM_guest_metrics ref	self	reference to the object

Return Type: bool

value of the field

RPC name: `get_can_use_hotplug_vbd`

Overview:

Get the `can_use_hotplug_vbd` field of the given `VM_guest_metrics`.

Signature:

```
(tristate_type) get_can_use_hotplug_vbd (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
<code>VM_guest_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `tristate_type`

value of the field

RPC name: `get_can_use_hotplug_vif`

Overview:

Get the `can_use_hotplug_vif` field of the given `VM_guest_metrics`.

Signature:

```
(tristate_type) get_can_use_hotplug_vif (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
<code>VM_guest_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `tristate_type`

value of the field

RPC name: `get_PV_drivers_detected`

Overview:

Get the `PV_drivers_detected` field of the given `VM_guest_metrics`.

Signature:

```
bool get_PV_drivers_detected (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
<code>VM_guest_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `bool`

value of the field

RPC name: `get_by_uuid`

Overview:

Get a reference to the `VM_guest_metrics` instance with the specified UUID.

Signature:

```
(VM_guest_metrics ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: `VM_guest_metrics ref`

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given `VM_guest_metrics`.

Signature:

```
(VM_guest_metrics record) get_record (session_id s, VM_guest_metrics ref self)
```

Arguments:

type	name	description
<code>VM_guest_metrics ref</code>	self	reference to the object

Return Type: `VM_guest_metrics record`

all fields from the object

2.16 Class: VMPP

2.16.1 Fields for class: VMPP

Name	VMPP		
Description	VM Protection Policy.		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RW</i>	name_label	string	a human-readable name
<i>RW</i>	name_description	string	a notes field containing human-readable description
<i>RW</i>	is_policy_enabled	bool	enable or disable this policy
<i>RW</i>	backup_type	vmpp_backup_type	type of the backup sub-policy
<i>RO_{ins}</i>	backup_retention_value	int	maximum number of backups that should be stored at any time
<i>RO_{ins}</i>	backup_frequency	vmpp_backup_frequency	frequency of the backup schedule
<i>RO_{ins}</i>	backup_schedule	(string → string) map	schedule of the backup containing 'hour', 'min', 'days'. Date/time-related information is in Local Timezone
<i>RO_{run}</i>	is_backup_running	bool	true if this protection policy's backup is running
<i>RO_{run}</i>	backup_last_run_time	datetime	time of the last backup
<i>RO_{ins}</i>	archive_target_type	vmpp_archive_target_type	type of the archive target config
<i>RO_{ins}</i>	archive_target_config	(string → string) map	configuration for the archive, including its 'location', 'username', 'password'
<i>RO_{ins}</i>	archive_frequency	vmpp_archive_frequency	frequency of the archive schedule
<i>RO_{ins}</i>	archive_schedule	(string → string) map	schedule of the archive containing 'hour', 'min', 'days'. Date/time-related information is in Local Timezone
<i>RO_{run}</i>	is_archive_running	bool	true if this protection policy's archive is running
<i>RO_{run}</i>	archive_last_run_time	datetime	time of the last archive
<i>RO_{run}</i>	VMs	VM ref set	all VMs attached to this protection policy
<i>RO_{ins}</i>	is_alarm_enabled	bool	true if alarm is enabled for this policy
<i>RO_{ins}</i>	alarm_config	(string → string) map	configuration for the alarm
<i>RO_{run}</i>	recent_alerts	string set	recent alerts

2.16.2 RPCs associated with class: VMPP

RPC name: `protect_now`

Overview:

This call executes the protection policy immediately.

Signature:

```
string protect_now (session_id s, VMPP ref vmpp)
```

Arguments:

type	name	description
VMPP ref	vmpp	The protection policy to execute

Return Type: string

An XMLRPC result

RPC name: `archive_now`

Overview:

This call archives the snapshot provided as a parameter.

Signature:

```
string archive_now (session_id s, VM ref snapshot)
```

Arguments:

type	name	description
VM ref	snapshot	The snapshot to archive

Return Type: `string`

An XMLRPC result

RPC name: `get_alerts`

Overview:

This call fetches a history of alerts for a given protection policy.

Signature:

```
(string set) get_alerts (session_id s, VMPP ref vmpp, int hours_from_now)
```

Arguments:

type	name	description
VMPP ref	vmpp	The protection policy
int	hours_from_now	how many hours in the past the oldest record to fetch is

Return Type: `string set`

A list of alerts encoded in xml

RPC name: `set_backup_retention_value`

Overview:

.

Signature:

```
void set_backup_retention_value (session_id s, VMPP ref self, int value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
int	value	the value to set

Return Type: void

RPC name: set_backup_frequency

Overview:

Set the value of the backup_frequency field.

Signature:

```
void set_backup_frequency (session_id s, VMPP ref self, vmpp_backup_frequency value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
vmpp_backup_frequency	value	the backup frequency

Return Type: void

RPC name: set_backup_schedule

Overview:

.

Signature:

```
void set_backup_schedule (session_id s, VMPP ref self, (string -> string) map value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
(string -> string) map	value	the value to set

Return Type: void

RPC name: set_archive_frequency

Overview:

Set the value of the archive_frequency field.

Signature:

```
void set_archive_frequency (session_id s, VMPP ref self, vmpp_archive_frequency value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
vmpp_archive_frequency	value	the archive frequency

Return Type: void

RPC name: `set_archive_schedule`

Overview:

.

Signature:

```
void set_archive_schedule (session_id s, VMPP ref self, (string -> string) map value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
(string → string) map	value	the value to set

Return Type: void

RPC name: `set_archive_target_type`

Overview:

Set the value of the `archive_target_config_type` field.

Signature:

```
void set_archive_target_type (session_id s, VMPP ref self, vmpp_archive_target_type value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
<code>vmpp_archive_target_type</code>	value	the archive target config type

Return Type: void

RPC name: `set_archive_target_config`

Overview:

.

Signature:

```
void set_archive_target_config (session_id s, VMPP ref self, (string -> string) map value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
(string → string) map	value	the value to set

Return Type: void

RPC name: `set_is_alarm_enabled`

Overview:

Set the value of the `is_alarm_enabled` field.

Signature:

```
void set_is_alarm_enabled (session_id s, VMPP ref self, bool value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
bool	value	true if alarm is enabled for this policy

Return Type: void

RPC name: `set_alarm_config`

Overview:

.

Signature:

```
void set_alarm_config (session_id s, VMPP ref self, (string -> string) map value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
(string → string) map	value	the value to set

Return Type: void

RPC name: `add_to_backup_schedule`

Overview:

.

Signature:

```
void add_to_backup_schedule (session_id s, VMPP ref self, string key, string value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
string	key	the key to add
string	value	the value to add

Return Type: void

RPC name: `add_to_archive_target_config`

Overview:

.

Signature:

```
void add_to_archive_target_config (session_id s, VMPP ref self, string key, string value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
string	key	the key to add
string	value	the value to add

Return Type: void

RPC name: `add_to_archive_schedule`

Overview:

.

Signature:

```
void add_to_archive_schedule (session_id s, VMPP ref self, string key, string value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
string	key	the key to add
string	value	the value to add

Return Type: void

RPC name: `add_to_alarm_config`

Overview:

.

Signature:

```
void add_to_alarm_config (session_id s, VMPP ref self, string key, string value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
string	key	the key to add
string	value	the value to add

Return Type: void

RPC name: `remove_from_backup_schedule`

Overview:

.

Signature:

```
void remove_from_backup_schedule (session_id s, VMPP ref self, string key)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
string	key	the key to remove

Return Type: void

RPC name: `remove_from_archive_target_config`

Overview:

.

Signature:

```
void remove_from_archive_target_config (session_id s, VMPP ref self, string key)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
string	key	the key to remove

Return Type: void

RPC name: `remove_from_archive_schedule`

Overview:

.

Signature:

```
void remove_from_archive_schedule (session_id s, VMPP ref self, string key)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
string	key	the key to remove

Return Type: void

RPC name: `remove_from_alarm_config`

Overview:

.

Signature:

```
void remove_from_alarm_config (session_id s, VMPP ref self, string key)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
string	key	the key to remove

Return Type: void

RPC name: `set_backup_last_run_time`

Overview:

.

Signature:

```
void set_backup_last_run_time (session_id s, VMPP ref self, datetime value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
datetime	value	the value to set

Return Type: void

RPC name: `set_archive_last_run_time`

Overview:

.

Signature:

```
void set_archive_last_run_time (session_id s, VMPP ref self, datetime value)
```

Arguments:

type	name	description
VMPP ref	self	The protection policy
datetime	value	the value to set

Return Type: void

RPC name: `get_all`

Overview:

Return a list of all the VMPPs known to the system.

Signature:

```
(VMPP ref set) get_all (session_id s)
```

Return Type: VMPP ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of VMPP references to VMPP records for all VMPPs known to the system.

Signature:

```
((VMPP ref -> VMPP record) map) get_all_records (session_id s)
```

Return Type: (VMPP ref → VMPP record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given VMPP.

Signature:

```
string get_uuid (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_name_label`

Overview:

Get the name/label field of the given VMPP.

Signature:

```
string get_name_label (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_name_label**Overview:**

Set the name/label field of the given VMPP.

Signature:

```
void set_name_label (session_id s, VMPP ref self, string value)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_name_description**Overview:**

Get the name/description field of the given VMPP.

Signature:

```
string get_name_description (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_name_description**Overview:**

Set the name/description field of the given VMPP.

Signature:

```
void set_name_description (session_id s, VMPP ref self, string value)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object
string	value	New value to set

Return Type: void**RPC name:** get_is_policy_enabled**Overview:**

Get the is_policy_enabled field of the given VMPP.

Signature:

```
bool get_is_policy_enabled (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: bool

value of the field

RPC name: set_is_policy_enabled**Overview:**

Set the is_policy_enabled field of the given VMPP.

Signature:

```
void set_is_policy_enabled (session_id s, VMPP ref self, bool value)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object
bool	value	New value to set

Return Type: void**RPC name:** get_backup_type**Overview:**

Get the backup_type field of the given VMPP.

Signature:

```
(vmpp_backup_type) get_backup_type (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: `vmpp_backup_type`
value of the field

RPC name: `set_backup_type`**Overview:**

Set the `backup_type` field of the given VMPP.

Signature:

```
void set_backup_type (session_id s, VMPP ref self, vmpp_backup_type value)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object
<code>vmpp_backup_type</code>	value	New value to set

Return Type: `void`

RPC name: `get_backup_retention_value`**Overview:**

Get the `backup_retention_value` field of the given VMPP.

Signature:

```
int get_backup_retention_value (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: `int`
value of the field

RPC name: `get_backup_frequency`**Overview:**

Get the `backup_frequency` field of the given VMPP.

Signature:

```
(vmpp_backup_frequency) get_backup_frequency (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: `vmpp_backup_frequency`
value of the field

RPC name: `get_backup_schedule`**Overview:**

Get the `backup_schedule` field of the given VMPP.

Signature:

```
((string -> string) map) get_backup_schedule (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `get_is_backup_running`**Overview:**

Get the `is_backup_running` field of the given VMPP.

Signature:

```
bool get_is_backup_running (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: `bool`
value of the field

RPC name: `get_backup_last_run_time`**Overview:**

Get the `backup_last_run_time` field of the given VMPP.

Signature:

```
datetime get_backup_last_run_time (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: datetime
value of the field

RPC name: get_archive_target_type**Overview:**

Get the archive_target_type field of the given VMPP.

Signature:

```
(vmpp_archive_target_type) get_archive_target_type (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: vmpp_archive_target_type
value of the field

RPC name: get_archive_target_config**Overview:**

Get the archive_target_config field of the given VMPP.

Signature:

```
((string -> string) map) get_archive_target_config (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: get_archive_frequency**Overview:**

Get the archive_frequency field of the given VMPP.

Signature:

```
(vmpp_archive_frequency) get_archive_frequency (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: `vmpp_archive_frequency`
value of the field

RPC name: `get_archive_schedule`

Overview:

Get the `archive_schedule` field of the given VMPP.

Signature:

```
((string -> string) map) get_archive_schedule (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `get_is_archive_running`

Overview:

Get the `is_archive_running` field of the given VMPP.

Signature:

```
bool get_is_archive_running (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: `bool`
value of the field

RPC name: `get_archive_last_run_time`

Overview:

Get the `archive_last_run_time` field of the given VMPP.

Signature:

```
datetime get_archive_last_run_time (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: datetime
value of the field

RPC name: get_VMs**Overview:**

Get the VMs field of the given VMPP.

Signature:

```
(VM ref set) get_VMs (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: VM ref set
value of the field

RPC name: get_is_alarm_enabled**Overview:**

Get the is_alarm_enabled field of the given VMPP.

Signature:

```
bool get_is_alarm_enabled (session_id s, VMPP ref self)
```

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_alarm_config**Overview:**

Get the alarm_config field of the given VMPP.

Signature:

```
((string -> string) map) get_alarm_config (session_id s, VMPP ref self)
```


Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: get_recent_alerts**Overview:**

Get the recent_alerts field of the given VMPP.

Signature:

(string set) get_recent_alerts (session_id s, VMPP ref self)

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: string set
value of the field

RPC name: create**Overview:**

Create a new VMPP instance, and return its handle.

Signature:

(VMPP ref) create (session_id s, VMPP record args)

Arguments:

type	name	description
VMPP record	args	All constructor arguments

Return Type: VMPP ref
reference to the newly created object

RPC name: destroy**Overview:**

Destroy the specified VMPP instance.

Signature:

void destroy (session_id s, VMPP ref self)

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: void**RPC name:** get_by_uuid**Overview:**

Get a reference to the VMPP instance with the specified UUID.

Signature:

(VMPP ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VMPP ref

reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given VMPP.

Signature:

(VMPP record) get_record (session_id s, VMPP ref self)

Arguments:

type	name	description
VMPP ref	self	reference to the object

Return Type: VMPP record

all fields from the object

RPC name: get_by_name_label**Overview:**

Get all the VMPP instances with the given label.

Signature:

(VMPP ref set) get_by_name_label (session_id s, string label)

Arguments:

type	name	description
string	label	label of object to return

Return Type: VMPP ref set

references to objects with matching names

2.17 Class: VMSS

2.17.1 Fields for class: VMSS

Name	VMSS		
Description	<i>VM Snapshot Schedule.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RW</i>	<code>name_label</code>	string	a human-readable name
<i>RW</i>	<code>name_description</code>	string	a notes field containing human-readable description
<i>RW</i>	<code>enabled</code>	bool	enable or disable this snapshot schedule
<i>RO_{ins}</i>	<code>type</code>	vmss_type	type of the snapshot schedule
<i>RO_{ins}</i>	<code>retained_snapshots</code>	int	maximum number of snapshots that should be stored at any time
<i>RO_{ins}</i>	<code>frequency</code>	vmss_frequency	frequency of taking snapshot from snapshot schedule
<i>RO_{ins}</i>	<code>schedule</code>	(string → string) map	schedule of the snapshot containing 'hour', 'min', 'days'. Date/time-related information is in Local Timezone
<i>RO_{run}</i>	<code>last_run_time</code>	datetime	time of the last snapshot
<i>RO_{run}</i>	<code>VMs</code>	VM ref set	all VMs attached to this snapshot schedule

2.17.2 RPCs associated with class: VMSS

RPC name: `snapshot_now`

Overview:

This call executes the snapshot schedule immediately.

Signature:

```
string snapshot_now (session_id s, VMSS ref vmss)
```

Arguments:

type	name	description
VMSS ref	vmss	Snapshot Schedule to execute

Return Type: string

An XMLRPC result

RPC name: `set_retained_snapshots`

Overview:

.

Signature:

```
void set_retained_snapshots (session_id s, VMSS ref self, int value)
```

Arguments:

type	name	description
VMSS ref	self	The schedule snapshot
int	value	the value to set

Return Type: void

RPC name: set_frequency

Overview:

Set the value of the frequency field.

Signature:

```
void set_frequency (session_id s, VMSS ref self, vmss_frequency value)
```

Arguments:

type	name	description
VMSS ref	self	The snapshot schedule
vmss_frequency	value	the snapshot schedule frequency

Return Type: void

RPC name: set_schedule

Overview:

.

Signature:

```
void set_schedule (session_id s, VMSS ref self, (string -> string) map value)
```

Arguments:

type	name	description
VMSS ref	self	The snapshot schedule
(string -> string) map	value	the value to set

Return Type: void

RPC name: add_to_schedule

Overview:

.

Signature:

```
void add_to_schedule (session_id s, VMSS ref self, string key, string value)
```

Arguments:

type	name	description
VMSS ref	self	The snapshot schedule
string	key	the key to add
string	value	the value to add

Return Type: void

RPC name: remove_from_schedule

Overview:

.

Signature:

```
void remove_from_schedule (session_id s, VMSS ref self, string key)
```

Arguments:

type	name	description
VMSS ref	self	The snapshot schedule
string	key	the key to remove

Return Type: void

RPC name: set_last_run_time

Overview:

.

Signature:

```
void set_last_run_time (session_id s, VMSS ref self, datetime value)
```

Arguments:

type	name	description
VMSS ref	self	The snapshot schedule
datetime	value	the value to set

Return Type: void

RPC name: set_type

Overview:

.

Signature:

```
void set_type (session_id s, VMSS ref self, vmss_type value)
```

Arguments:

type	name	description
VMSS ref	self	The snapshot schedule
vmss_type	value	the snapshot schedule type

Return Type: void**RPC name:** get_all**Overview:**

Return a list of all the VMSSs known to the system.

Signature:

```
(VMSS ref set) get_all (session_id s)
```

Return Type: VMSS ref set

references to all objects

RPC name: get_all_records**Overview:**

Return a map of VMSS references to VMSS records for all VMSSs known to the system.

Signature:

```
((VMSS ref -> VMSS record) map) get_all_records (session_id s)
```

Return Type: (VMSS ref → VMSS record) map

records of all objects

RPC name: get_uuid**Overview:**

Get the uuid field of the given VMSS.

Signature:

```
string get_uuid (session_id s, VMSS ref self)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_name_label`

Overview:

Get the name/label field of the given VMSS.

Signature:

```
string get_name_label (session_id s, VMSS ref self)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object

Return Type: string

value of the field

RPC name: `set_name_label`

Overview:

Set the name/label field of the given VMSS.

Signature:

```
void set_name_label (session_id s, VMSS ref self, string value)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: `get_name_description`

Overview:

Get the name/description field of the given VMSS.

Signature:

```
string get_name_description (session_id s, VMSS ref self)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object

Return Type: string

value of the field

RPC name: set_name_description**Overview:**

Set the name/description field of the given VMSS.

Signature:

```
void set_name_description (session_id s, VMSS ref self, string value)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_enabled**Overview:**

Get the enabled field of the given VMSS.

Signature:

```
bool get_enabled (session_id s, VMSS ref self)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object

Return Type: bool

value of the field

RPC name: set_enabled**Overview:**

Set the enabled field of the given VMSS.

Signature:

```
void set_enabled (session_id s, VMSS ref self, bool value)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object
bool	value	New value to set

Return Type: void

RPC name: `get_type`

Overview:

Get the type field of the given VMSS.

Signature:

```
(vmss_type) get_type (session_id s, VMSS ref self)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object

Return Type: `vmss_type`

value of the field

RPC name: `get_retained_snapshots`

Overview:

Get the retained_snapshots field of the given VMSS.

Signature:

```
int get_retained_snapshots (session_id s, VMSS ref self)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object

Return Type: `int`

value of the field

RPC name: `get_frequency`

Overview:

Get the frequency field of the given VMSS.

Signature:

```
(vmss_frequency) get_frequency (session_id s, VMSS ref self)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object

Return Type: `vmss_frequency`

value of the field

RPC name: `get_schedule`

Overview:

Get the schedule field of the given VMSS.

Signature:

```
((string -> string) map) get_schedule (session_id s, VMSS ref self)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `get_last_run_time`

Overview:

Get the last_run_time field of the given VMSS.

Signature:

```
datetime get_last_run_time (session_id s, VMSS ref self)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object

Return Type: `datetime`
value of the field

RPC name: `get_VMs`

Overview:

Get the VMs field of the given VMSS.

Signature:

```
(VM ref set) get_VMs (session_id s, VMSS ref self)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object

Return Type: `VM ref set`
value of the field

RPC name: create

Overview:

Create a new VMSS instance, and return its handle.

Signature:

```
(VMSS ref) create (session_id s, VMSS record args)
```

Arguments:

type	name	description
VMSS record	args	All constructor arguments

Return Type: VMSS ref

reference to the newly created object

RPC name: destroy

Overview:

Destroy the specified VMSS instance.

Signature:

```
void destroy (session_id s, VMSS ref self)
```

Arguments:

type	name	description
VMSS ref	self	reference to the object

Return Type: void

RPC name: get_by_uuid

Overview:

Get a reference to the VMSS instance with the specified UUID.

Signature:

```
(VMSS ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VMSS ref

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given VMSS.

Signature:

`(VMSS record) get_record (session_id s, VMSS ref self)`

Arguments:

type	name	description
VMSS ref	self	reference to the object

Return Type: VMSS record

all fields from the object

RPC name: `get_by_name_label`

Overview:

Get all the VMSS instances with the given label.

Signature:

`(VMSS ref set) get_by_name_label (session_id s, string label)`

Arguments:

type	name	description
string	label	label of object to return

Return Type: VMSS ref set

references to objects with matching names

2.18 Class: VM_appliance

2.18.1 Fields for class: VM_appliance

Name	VM_appliance		
Description	<i>VM appliance.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RW</i>	<code>name_label</code>	string	a human-readable name
<i>RW</i>	<code>name_description</code>	string	a notes field containing human-readable description
<i>RO_run</i>	<code>allowed_operations</code>	vm_appliance_operation set	list of the operations allowed in this state. This list is advisory only and the server state may have changed by the time this field is read by a client.
<i>RO_run</i>	<code>current_operations</code>	(string → vm_appliance_operation) map	links each of the running tasks using this object (by reference) to a current_operation enum which describes the nature of the task.
<i>RO_run</i>	<code>VMs</code>	VM ref set	all VMs in this appliance

2.18.2 RPCs associated with class: VM_appliance

RPC name: start

Overview:

Start all VMs in the appliance.

Signature:

```
void start (session_id s, VM_appliance ref self, bool paused)
```

Arguments:

type	name	description
VM_appliance ref	self	The VM appliance
bool	paused	Instantiate all VMs belonging to this appliance in paused state if set to true.

Return Type: void

Possible Error Codes: OPERATION_PARTIALLY_FAILED

RPC name: clean_shutdown

Overview:

Perform a clean shutdown of all the VMs in the appliance.

Signature:

```
void clean_shutdown (session_id s, VM_appliance ref self)
```

Arguments:

type	name	description
VM_appliance ref	self	The VM appliance

Return Type: void

Possible Error Codes: OPERATION_PARTIALLY_FAILED

RPC name: hard_shutdown

Overview:

Perform a hard shutdown of all the VMs in the appliance.

Signature:

```
void hard_shutdown (session_id s, VM_appliance ref self)
```

Arguments:

type	name	description
VM_appliance ref	self	The VM appliance

Return Type: void

Possible Error Codes: OPERATION_PARTIALLY_FAILED

RPC name: shutdown

Overview:

For each VM in the appliance, try to shut it down cleanly. If this fails, perform a hard shutdown of the VM.

Signature:

```
void shutdown (session_id s, VM_appliance ref self)
```

Arguments:

type	name	description
VM_appliance ref	self	The VM appliance

Return Type: void

Possible Error Codes: OPERATION_PARTIALLY_FAILED

RPC name: assert_can_be_recovered

Overview:

Assert whether all SRs required to recover this VM appliance are available.

Signature:

```
void assert_can_be_recovered (session_id s, VM_appliance ref self, session ref session_to)
```

Arguments:

type	name	description
VM_appliance ref	self	The VM appliance to recover
session ref	session_to	The session to which the VM appliance is to be recovered.

Return Type: void**Possible Error Codes:** VM_REQUIRES_SR**RPC name:** get_SRs_required_for_recovery**Overview:**

Get the list of SRs required by the VM appliance to recover.

Signature:

```
(SR ref set) get_SRs_required_for_recovery (session_id s, VM_appliance ref self, session ref session_to)
```

Arguments:

type	name	description
VM_appliance ref	self	The VM appliance for which the required list of SRs has to be recovered.
session ref	session_to	The session to which the list of SRs have to be recovered .

Return Type: SR ref set

refs for SRs required to recover the VM

RPC name: recover**Overview:**

Recover the VM appliance.

Signature:

```
void recover (session_id s, VM_appliance ref self, session ref session_to, bool force)
```

Arguments:

type	name	description
VM_appliance ref	self	The VM appliance to recover
session ref	session_to	The session to which the VM appliance is to be recovered.
bool	force	Whether the VMs should replace newer versions of themselves.

Return Type: void**Possible Error Codes:** VM_REQUIRES_SR

RPC name: `get_all`**Overview:**

Return a list of all the VM_appliances known to the system.

Signature:

```
(VM_appliance ref set) get_all (session_id s)
```

Return Type: VM_appliance ref set

references to all objects

RPC name: `get_all_records`**Overview:**

Return a map of VM_appliance references to VM_appliance records for all VM_appliances known to the system.

Signature:

```
((VM_appliance ref -> VM_appliance record) map) get_all_records (session_id s)
```

Return Type: (VM_appliance ref → VM_appliance record) map

records of all objects

RPC name: `get_uuid`**Overview:**

Get the uuid field of the given VM_appliance.

Signature:

```
string get_uuid (session_id s, VM_appliance ref self)
```

Arguments:

type	name	description
VM_appliance ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_name_label`**Overview:**

Get the name/label field of the given VM_appliance.

Signature:

```
string get_name_label (session_id s, VM_appliance ref self)
```

Arguments:

type	name	description
VM_appliance ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_name_label**Overview:**

Set the name/label field of the given VM_appliance.

Signature:

```
void set_name_label (session_id s, VM_appliance ref self, string value)
```

Arguments:

type	name	description
VM_appliance ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_name_description**Overview:**

Get the name/description field of the given VM_appliance.

Signature:

```
string get_name_description (session_id s, VM_appliance ref self)
```

Arguments:

type	name	description
VM_appliance ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_name_description**Overview:**

Set the name/description field of the given VM_appliance.

Signature:

```
void set_name_description (session_id s, VM_appliance ref self, string value)
```

Arguments:

type	name	description
VM_appliance ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_allowed_operations**Overview:**

Get the allowed_operations field of the given VM_appliance.

Signature:

```
(vm_appliance_operation set) get_allowed_operations (session_id s, VM_appliance ref self)
```

Arguments:

type	name	description
VM_appliance ref	self	reference to the object

Return Type: vm_appliance_operation set
value of the field

RPC name: get_current_operations**Overview:**

Get the current_operations field of the given VM_appliance.

Signature:

```
((string -> vm_appliance_operation) map) get_current_operations (session_id s, VM_appliance ref self)
```

Arguments:

type	name	description
VM_appliance ref	self	reference to the object

Return Type: (string → vm_appliance_operation) map
value of the field

RPC name: get_VMs**Overview:**

Get the VMs field of the given VM_appliance.

Signature:

```
(VM ref set) get_VMs (session_id s, VM_appliance ref self)
```

Arguments:

type	name	description
VM_appliance ref	self	reference to the object

Return Type: VM ref set
value of the field

RPC name: create**Overview:**

Create a new VM_appliance instance, and return its handle.

Signature:

(VM_appliance ref) create (session_id s, VM_appliance record args)

Arguments:

type	name	description
VM_appliance record	args	All constructor arguments

Return Type: VM_appliance ref
reference to the newly created object

RPC name: destroy**Overview:**

Destroy the specified VM_appliance instance.

Signature:

void destroy (session_id s, VM_appliance ref self)

Arguments:

type	name	description
VM_appliance ref	self	reference to the object

Return Type: void

RPC name: get_by_uuid**Overview:**

Get a reference to the VM_appliance instance with the specified UUID.

Signature:

(VM_appliance ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VM_appliance ref
reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given VM_appliance.

Signature:

(VM_appliance record) get_record (session_id s, VM_appliance ref self)

Arguments:

type	name	description
VM_appliance ref	self	reference to the object

Return Type: VM_appliance record
all fields from the object

RPC name: get_by_name_label**Overview:**

Get all the VM_appliance instances with the given label.

Signature:

(VM_appliance ref set) get_by_name_label (session_id s, string label)

Arguments:

type	name	description
string	label	label of object to return

Return Type: VM_appliance ref set
references to objects with matching names

2.19 Class: DR_task

2.19.1 Fields for class: DR_task

Name	DR_task		
Description	<i>DR task.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{run}</i>	introduced_SRs	SR ref set	All SRs introduced by this appliance

2.19.2 RPCs associated with class: DR_task

RPC name: create

Overview:

Create a disaster recovery task which will query the supplied list of devices.

Signature:

```
(DR_task ref) create (session_id s, string type, (string -> string) map device_config, string set whiteli
```

Arguments:

type	name	description
string	type	The SR driver type of the SRs to introduce
(string → string) map	device_config	The device configuration of the SRs to introduce
string set	whitelist	The devices to use for disaster recovery

Return Type: DR_task ref

The reference to the created task

RPC name: destroy

Overview:

Destroy the disaster recovery task, detaching and forgetting any SRs introduced which are no longer required.

Signature:

```
void destroy (session_id s, DR_task ref self)
```

Arguments:

type	name	description
DR_task ref	self	The disaster recovery task to destroy

Return Type: void

RPC name: `get_all`

Overview:

Return a list of all the DR_tasks known to the system.

Signature:

```
(DR_task ref set) get_all (session_id s)
```

Return Type: DR_task ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of DR_task references to DR_task records for all DR_tasks known to the system.

Signature:

```
((DR_task ref -> DR_task record) map) get_all_records (session_id s)
```

Return Type: (DR_task ref → DR_task record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given DR_task.

Signature:

```
string get_uuid (session_id s, DR_task ref self)
```

Arguments:

type	name	description
DR_task ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_introduced_SRs`

Overview:

Get the introduced_SRs field of the given DR_task.

Signature:

```
(SR ref set) get_introduced_SRs (session_id s, DR_task ref self)
```

Arguments:

type	name	description
DR_task ref	self	reference to the object

Return Type: SR ref set
value of the field

RPC name: get_by_uuid

Overview:

Get a reference to the DR_task instance with the specified UUID.

Signature:

(DR_task ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: DR_task ref
reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given DR_task.

Signature:

(DR_task record) get_record (session_id s, DR_task ref self)

Arguments:

type	name	description
DR_task ref	self	reference to the object

Return Type: DR_task record
all fields from the object

2.20 Class: host

2.20.1 Fields for class: host

Name	host		
Description	<i>A physical host.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	uuid	string	Unique identifier/object reference
<i>RW</i>	name_label	string	a human-readable name
<i>RW</i>	name_description	string	a notes field containing human-readable description
<i>RO_run</i>	memory_overhead	int	Virtualization memory overhead
<i>RO_run</i>	allowed_operations	host_allowed_operations set	list of the operations allowed on this host. This list is advisory only and the state may have changed by the time the field is read by a client.
<i>RO_run</i>	current_operations	(string → host_allowed_operations) map	links each of the running operations on this object (by reference) to the current_operation enum which describes the nature of the task.
<i>RO_run</i>	API_version_major	int	major version number
<i>RO_run</i>	API_version_minor	int	minor version number
<i>RO_run</i>	API_version_vendor	string	identification of vendor
<i>RO_run</i>	API_version_vendor_implementation	(string → string) map	details of vendor implementation
<i>RO_run</i>	enabled	bool	True if the host is currently running
<i>RO_ins</i>	software_version	(string → string) map	version strings
<i>RW</i>	other_config	(string → string) map	additional configuration
<i>RO_ins</i>	capabilities	string set	Xen capabilities
<i>RO_run</i>	cpu_configuration	(string → string) map	The CPU configuration for this host. May contain keys such as "sockets_per_node", "cores_per_socket", and "threads_per_core"
<i>RO_run</i>	sched_policy	string	Scheduler policy currently in use on this host
<i>RO_run</i>	supported_bootloaders	string set	a list of the bootloaders supported on this machine
<i>RO_run</i>	resident_VMs	VM ref set	list of VMs currently resident on this host
<i>RW</i>	logging	(string → string) map	logging configuration
<i>RO_run</i>	PIFs	PIF ref set	physical network interfaces currently in use on this host
<i>RW</i>	suspend_image_sr	SR ref	The SR in which VDIs for this host are created
<i>RW</i>	crash_dump_sr	SR ref	The SR in which VDIs for this host's crash dumps are created
<i>RO_run</i>	crashdumps	host_crashdump ref set	Set of host crash dumps
<i>RO_run</i>	patches	host_patch ref set	Set of host patches
<i>RO_run</i>	updates	pool_update ref set	Set of updates
<i>RO_run</i>	PBDs	PBD ref set	physical blockdevices
<i>RO_run</i>	host_CPUs	host_cpu ref set	The physical CPUs on this host
<i>RO_run</i>	cpu_info	(string → string) map	Details about the physical CPUs on this host
<i>RW</i>	hostname	string	The hostname of this host

<i>RW</i>	address	string	The address by which this host is contacted from any other host
<i>RO_{run}</i>	metrics	host_metrics ref	metrics associated with this host
<i>RO_{run}</i>	license_params	(string → string) map	State of the current license
<i>RO_{run}</i>	ha_statefiles	string set	The set of statefiles accessible to this host
<i>RO_{run}</i>	ha_network_peers	string set	The set of hosts visible via HA from this host
<i>RO_{run}</i>	blobs	(string → blob ref) map	Binary blobs associated with this host
<i>RW</i>	tags	string set	user-specified tags for categorization
<i>RO_{run}</i>	external_auth_type	string	type of external authentication configured; empty if none configured
<i>RO_{run}</i>	external_auth_service_name	string	name of external authentication service configured; empty if none configured
<i>RO_{run}</i>	external_auth_configuration	(string → string) map	configuration specific to external authentication service
<i>RO_{run}</i>	edition	string	Product edition
<i>RW</i>	license_server	(string → string) map	Contact information of the license server
<i>RO_{run}</i>	bios_strings	(string → string) map	BIOS strings
<i>RO_{run}</i>	power_on_mode	string	The power on mode
<i>RO_{run}</i>	power_on_config	(string → string) map	The power on config
<i>RO_{ins}</i>	local_cache_sr	SR ref	The SR that is used as a local cache
<i>RO_{run}</i>	chipset_info	(string → string) map	Information about chipset
<i>RO_{run}</i>	PCIs	PCI ref set	List of PCI devices in the system
<i>RO_{run}</i>	PGPUs	PGPU ref set	List of physical GPUs in the system
<i>RO_{ins}</i>	ssl_legacy	bool	Allow SSLv3 protocol and cipher suites used by older XenServers. Both incoming and outgoing connections. When this is set to a different value, this host immediately restarts its listening service; typically this means a second but existing connection will be broken. XenAPI login will remain valid.
<i>RW</i>	guest_VCPUs_params	(string → string) map	VCPUs params to apply to all guests
<i>RW</i>	display	host_display	indicates whether the host should output its console to a physical device
<i>RO_{run}</i>	virtual_hardware_platform_versions	int set	The set of versions of the virtual hardware platform that the host supports its guests
<i>RO_{run}</i>	control_domain	VM ref	The control domain (domain 0) for this host
<i>RO_{run}</i>	updates_requiring_reboot	pool.update ref set	List of updates which require a reboot
<i>RO_{run}</i>	features	Feature ref set	List of features available on this host

2.20.2 RPCs associated with class: host

RPC name: disable

Overview:

Puts the host into a state in which no new VMs can be started. Currently active VMs on the host continue to execute.

Signature:

```
void disable (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The Host to disable

Return Type: void

RPC name: enable

Overview:

Puts the host into a state in which new VMs can be started.

Signature:

```
void enable (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The Host to enable

Return Type: void

RPC name: shutdown

Overview:

Shutdown the host. (This function can only be called if there are no currently running VMs on the host and it is disabled.).

Signature:

```
void shutdown (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The Host to shutdown

Return Type: void

RPC name: reboot**Overview:**

Reboot the host. (This function can only be called if there are no currently running VMs on the host and it is disabled.)

Signature:

```
void reboot (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The Host to reboot

Return Type: void

RPC name: dmesg**Overview:**

Get the host xen dmesg.

Signature:

```
string dmesg (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The Host to query

Return Type: string

dmesg string

RPC name: dmesg_clear**Overview:**

Get the host xen dmesg, and clear the buffer.

Signature:

```
string dmesg_clear (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The Host to query

Return Type: string

dmesg string

RPC name: `get_log`

Overview:

Get the host's log file.

Signature:

```
string get_log (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The Host to query

Return Type: `string`

The contents of the host's primary log file

RPC name: `send_debug_keys`

Overview:

Inject the given string as debugging keys into Xen.

Signature:

```
void send_debug_keys (session_id s, host ref host, string keys)
```

Arguments:

type	name	description
host ref	host	The host
string	keys	The keys to send

Return Type: `void`

RPC name: `bugreport_upload`

Overview:

Run `xen-bugtool -yestoall` and upload the output to support.

Signature:

```
void bugreport_upload (session_id s, host ref host, string url, (string -> string) map options)
```

Arguments:

type	name	description
host ref	host	The host on which to run xen-bugtool
string	url	The URL to upload to
(string -> string) map	options	Extra configuration operations

Return Type: `void`

RPC name: list_methods**Overview:**

List all supported methods.

Signature:

```
(string set) list_methods (session_id s)
```

Return Type: string set

The name of every supported method.

RPC name: license_apply**Overview:**

Apply a new license to a host.

Signature:

```
void license_apply (session_id s, host ref host, string contents)
```

Arguments:

type	name	description
host ref	host	The host to upload the license to
string	contents	The contents of the license file, base64 encoded

Return Type: void

Possible Error Codes: LICENSE_PROCESSING_ERROR

RPC name: license_add**Overview:**

Apply a new license to a host.

Signature:

```
void license_add (session_id s, host ref host, string contents)
```

Arguments:

type	name	description
host ref	host	The host to upload the license to
string	contents	The contents of the license file, base64 encoded

Return Type: void

Possible Error Codes: LICENSE_PROCESSING_ERROR

RPC name: license_remove

Overview:

Remove any license file from the specified host, and switch that host to the unlicensed edition.

Signature:

```
void license_remove (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host from which any license will be removed

Return Type: void

RPC name: destroy

Overview:

Destroy specified host record in database.

Signature:

```
void destroy (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	The host record to remove

Return Type: void

RPC name: power_on

Overview:

Attempt to power-on the host (if the capability exists).

Signature:

```
void power_on (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The Host to power on

Return Type: void

RPC name: emergency_ha_disable**Overview:**

This call disables HA on the local host. This should only be used with extreme care.

Signature:

```
void emergency_ha_disable (session_id s, bool soft)
```

Arguments:

type	name	description
bool	soft	Disable HA temporarily, revert upon host re-boot or further changes, idempotent

Return Type: void

RPC name: get_data_sources**Overview:**

.

Signature:

```
(data_source record set) get_data_sources (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host to interrogate

Return Type: data_source record set

A set of data sources

RPC name: record_data_source**Overview:**

Start recording the specified data source.

Signature:

```
void record_data_source (session_id s, host ref host, string data_source)
```

Arguments:

type	name	description
host ref	host	The host
string	data_source	The data source to record

Return Type: void

RPC name: query_data_source**Overview:**

Query the latest value of the specified data source.

Signature:

```
float query_data_source (session_id s, host ref host, string data_source)
```

Arguments:

type	name	description
host ref	host	The host
string	data_source	The data source to query

Return Type: float

The latest value, averaged over the last 5 seconds

RPC name: forget_data_source_archives**Overview:**

Forget the recorded statistics related to the specified data source.

Signature:

```
void forget_data_source_archives (session_id s, host ref host, string data_source)
```

Arguments:

type	name	description
host ref	host	The host
string	data_source	The data source whose archives are to be forgotten

Return Type: void**RPC name: assert_can_evacuate****Overview:**

Check this host can be evacuated.

Signature:

```
void assert_can_evacuate (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host to evacuate

Return Type: void

RPC name: `get_vms_which_prevent_evacuation`**Overview:**

Return a set of VMs which prevent the host being evacuated, with per-VM error codes.

Signature:

```
((VM ref -> string set) map) get_vms_which_prevent_evacuation (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	The host to query

Return Type: `(VM ref → string set) map`

VMs which block evacuation together with reasons

RPC name: `get_uncooperative_resident_VMs`

Overview: This message is deprecated Return a set of VMs which are not co-operating with the host's memory control system.

Signature:

```
(VM ref set) get_uncooperative_resident_VMs (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	The host to query

Return Type: `VM ref set`

VMs which are not co-operating

RPC name: `evacuate`**Overview:**

Migrate all VMs off of this host, where possible.

Signature:

```
void evacuate (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host to evacuate

Return Type: `void`

RPC name: syslog_reconfigure

Overview:

Re-configure syslog logging.

Signature:

```
void syslog_reconfigure (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	Tell the host to reread its Host.logging parameters and reconfigure itself accordingly

Return Type: void

RPC name: management_reconfigure

Overview:

Reconfigure the management network interface.

Signature:

```
void management_reconfigure (session_id s, PIF ref pif)
```

Arguments:

type	name	description
PIF ref	pif	reference to a PIF object corresponding to the management interface

Return Type: void

RPC name: local_management_reconfigure

Overview:

Reconfigure the management network interface. Should only be used if Host.management_reconfigure is impossible because the network configuration is broken.

Signature:

```
void local_management_reconfigure (session_id s, string interface)
```

Arguments:

type	name	description
string	interface	name of the interface to use as a management interface

Return Type: void

RPC name: management_disable**Overview:**

Disable the management network interface.

Signature:

```
void management_disable (session_id s)
```

Return Type: void

RPC name: get_management_interface**Overview:**

Returns the management interface for the specified host.

Signature:

```
(PIF ref) get_management_interface (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	Which host's management interface is required

Return Type: PIF ref

The management interface for the host

RPC name: get_system_status_capabilities**Overview:**

.

Signature:

```
string get_system_status_capabilities (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host to interrogate

Return Type: string

An XML fragment containing the system status capabilities.

RPC name: restart_agent**Overview:**

Restarts the agent after a 10 second pause. **WARNING:** this is a dangerous operation. Any operations in progress will be aborted, and unrecoverable data loss may occur. The caller is responsible for ensuring that there are no operations in progress when this method is called.

Signature:

```
void restart_agent (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The Host on which you want to restart the agent

Return Type: void**RPC name:** shutdown_agent**Overview:**

Shuts the agent down after a 10 second pause. **WARNING:** this is a dangerous operation. Any operations in progress will be aborted, and unrecoverable data loss may occur. The caller is responsible for ensuring that there are no operations in progress when this method is called.

Signature:

```
void shutdown_agent (session_id s)
```

Return Type: void**RPC name:** set_hostname_live**Overview:**

Sets the host name to the specified string. Both the API and lower-level system hostname are changed immediately.

Signature:

```
void set_hostname_live (session_id s, host ref host, string hostname)
```

Arguments:

type	name	description
host ref	host	The host whose host name to set
string	hostname	The new host name

Return Type: void**Possible Error Codes:** HOST_NAME_INVALID**RPC name:** compute_free_memory**Overview:**

Computes the amount of free memory on the host.

Signature:

```
int compute_free_memory (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host to send the request to

Return Type: int

the amount of free memory on the host.

RPC name: compute_memory_overhead**Overview:**

Computes the virtualization memory overhead of a host.

Signature:

```
int compute_memory_overhead (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host for which to compute the memory overhead

Return Type: int

the virtualization memory overhead of the host.

RPC name: sync_data**Overview:**

This causes the synchronisation of the non-database data (messages, RRDs and so on) stored on the master to be synchronised with the host.

Signature:

```
void sync_data (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host to whom the data should be sent

Return Type: void**RPC name:** backup_rrds**Overview:**

This causes the RRDs to be backed up to the master.

Signature:

```
void backup_rrds (session_id s, host ref host, float delay)
```

Arguments:

type	name	description
host ref	host	Schedule a backup of the RRDs of this host
float	delay	Delay in seconds from when the call is received to perform the backup

Return Type: void

RPC name: create_new_blob**Overview:**

Create a placeholder for a named binary blob of data that is associated with this host.

Signature:

```
(blob ref) create_new_blob (session_id s, host ref host, string name, string mime_type, bool public)
```

Arguments:

type	name	description
host ref	host	The host
string	name	The name associated with the blob
string	mime_type	The mime type for the data. Empty string translates to application/octet-stream
bool	public	True if the blob should be publicly available

Return Type: blob ref

The reference of the blob, needed for populating its data

RPC name: call_plugin**Overview:**

Call a XenAPI plugin on this host.

Signature:

```
string call_plugin (session_id s, host ref host, string plugin, string fn, (string -> string) map args)
```

Arguments:

type	name	description
host ref	host	The host
string	plugin	The name of the plugin
string	fn	The name of the function within the plugin
(string -> string) map	args	Arguments for the function

Return Type: string

Result from the plugin

RPC name: has_extension

Overview:

Return true if the extension is available on the host.

Signature:

```
bool has_extension (session_id s, host ref host, string name)
```

Arguments:

type	name	description
host ref	host	The host
string	name	The name of the API call

Return Type: bool

True if the extension exists, false otherwise

RPC name: call_extension

Overview:

Call a XenAPI extension on this host.

Signature:

```
string call_extension (session_id s, host ref host, string call)
```

Arguments:

type	name	description
host ref	host	The host
string	call	Rpc call for the extension

Return Type: string

Result from the extension

RPC name: get_servvertime

Overview:

This call queries the host's clock for the current time.

Signature:

```
datetime get_servvertime (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host whose clock should be queried

Return Type: datetime

The current time

RPC name: `get_server_localtime`**Overview:**

This call queries the host's clock for the current time in the host's local timezone.

Signature:

```
datetime get_server_localtime (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host whose clock should be queried

Return Type: `datetime`

The current local time

RPC name: `enable_external_auth`**Overview:**

This call enables external authentication on a host.

Signature:

```
void enable_external_auth (session_id s, host ref host, (string -> string) map config, string service_name)
```

Arguments:

type	name	description
host ref	host	The host whose external authentication should be enabled
(string → string) map	config	A list of key-values containing the configuration data
string	service_name	The name of the service
string	auth_type	The type of authentication (e.g. AD for Active Directory)

Return Type: `void`**RPC name:** `disable_external_auth`**Overview:**

This call disables external authentication on the local host.

Signature:

```
void disable_external_auth (session_id s, host ref host, (string -> string) map config)
```

Arguments:

type	name	description
host ref	host	The host whose external authentication should be disabled
(string → string) map	config	Optional parameters as a list of key-values containing the configuration data

Return Type: void

RPC name: retrieve_wlb_evacuate_recommendations

Overview:

Retrieves recommended host migrations to perform when evacuating the host from the wlb server. If a VM cannot be migrated from the host the reason is listed instead of a recommendation.

Signature:

```
((VM ref -> string set) map) retrieve_wlb_evacuate_recommendations (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	The host to query

Return Type: (VM ref → string set) map

VMs and the reasons why they would block evacuation, or their target host recommended by the wlb server

RPC name: get_server_certificate

Overview:

Get the installed server SSL certificate.

Signature:

```
string get_server_certificate (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host

Return Type: string

The installed server SSL certificate, in PEM form.

RPC name: apply_edition

Overview:

Change to another edition, or reactivate the current edition after a license has expired. This may be subject to the successful checkout of an appropriate license.

Signature:

```
void apply_edition (session_id s, host ref host, string edition, bool force)
```

Arguments:

type	name	description
host ref	host	The host
string	edition	The requested edition
bool	force	Update the license params even if the apply call fails

Return Type: void

RPC name: refresh_pack_info

Overview: This message is deprecated Refresh the list of installed Supplemental Packs.

Signature:

```
void refresh_pack_info (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The Host to modify

Return Type: void

RPC name: set_power_on_mode

Overview:

Set the power-on-mode, host, user and password .

Signature:

```
void set_power_on_mode (session_id s, host ref self, string power_on_mode, (string -> string) map power_o
```

Arguments:

type	name	description
host ref	self	The host
string	power_on_mode	power-on-mode can be empty,iLO,wake-on-lan, DRAC or other
(string → string) map	power_on_config	Power on config

Return Type: void

RPC name: set_cpu_features

Overview:

Set the CPU features to be used after a reboot, if the given features string is valid.

Signature:

```
void set_cpu_features (session_id s, host ref host, string features)
```

Arguments:

type	name	description
host ref	host	The host
string	features	The features string (32 hexadecimal digits)

Return Type: void**RPC name:** reset_cpu_features**Overview:**

Remove the feature mask, such that after a reboot all features of the CPU are enabled.

Signature:

```
void reset_cpu_features (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host

Return Type: void**RPC name:** enable_local_storage_caching**Overview:**

Enable the use of a local SR for caching purposes.

Signature:

```
void enable_local_storage_caching (session_id s, host ref host, SR ref sr)
```

Arguments:

type	name	description
host ref	host	The host
SR ref	sr	The SR to use as a local cache

Return Type: void**RPC name:** disable_local_storage_caching**Overview:**

Disable the use of a local SR for caching purposes.

Signature:

```
void disable_local_storage_caching (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host

Return Type: void**RPC name:** migrate_receive**Overview:**

Prepare to receive a VM, returning a token which can be passed to VM.migrate.

Signature:

```
((string -> string) map) migrate_receive (session_id s, host ref host, network ref network, (string -> st
```

Arguments:

type	name	description
host ref	host	The target host
network ref	network	The network through which migration traffic should be received.
(string -> string) map	options	Extra configuration operations

Return Type: (string -> string) map

A value which should be passed to VM.migrate

RPC name: declare_dead**Overview:**

Declare that a host is dead. This is a dangerous operation, and should only be called if the administrator is absolutely sure the host is definitely dead.

Signature:

```
void declare_dead (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The Host to declare is dead

Return Type: void**RPC name:** enable_display**Overview:**

Enable console output to the physical display device next time this host boots.

Signature:

```
(host_display) enable_display (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host

Return Type: host_display

This host's physical display usage

RPC name: disable_display**Overview:**

Disable console output to the physical display device next time this host boots.

Signature:

```
(host_display) disable_display (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host

Return Type: host_display

This host's physical display usage

RPC name: set_ssl_legacy**Overview:**

Enable/disable SSLv3 for interoperability with older versions of XenServer. When this is set to a different value, the host immediately restarts its SSL/TLS listening service; typically this takes less than a second but existing connections to it will be broken. XenAPI login sessions will remain valid.

Signature:

```
void set_ssl_legacy (session_id s, host ref self, bool value)
```

Arguments:

type	name	description
host ref	self	The host
bool	value	True to allow SSLv3 and ciphersuites as used in old XenServer versions

Return Type: void**RPC name:** get_all**Overview:**

Return a list of all the hosts known to the system.

Signature:

```
(host ref set) get_all (session_id s)
```

Return Type: host ref set
references to all objects

RPC name: get_all_records

Overview:

Return a map of host references to host records for all hosts known to the system.

Signature:

```
((host ref -> host record) map) get_all_records (session_id s)
```

Return Type: (host ref → host record) map
records of all objects

RPC name: get_uuid

Overview:

Get the uuid field of the given host.

Signature:

```
string get_uuid (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_name_label

Overview:

Get the name/label field of the given host.

Signature:

```
string get_name_label (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: string
value of the field

RPC name: `set_name_label`

Overview:

Set the name/label field of the given host.

Signature:

```
void set_name_label (session_id s, host ref self, string value)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: `get_name_description`

Overview:

Get the name/description field of the given host.

Signature:

```
string get_name_description (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: string

value of the field

RPC name: `set_name_description`

Overview:

Set the name/description field of the given host.

Signature:

```
void set_name_description (session_id s, host ref self, string value)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: `get_memory_overhead`

Overview:

Get the `memory/overhead` field of the given host.

Signature:

```
int get_memory_overhead (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `int`

value of the field

RPC name: `get_allowed_operations`

Overview:

Get the `allowed_operations` field of the given host.

Signature:

```
(host_allowed_operations set) get_allowed_operations (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `host_allowed_operations set`

value of the field

RPC name: `get_current_operations`

Overview:

Get the `current_operations` field of the given host.

Signature:

```
((string -> host_allowed_operations) map) get_current_operations (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `(string → host_allowed_operations) map`

value of the field

RPC name: `get_API_version_major`

Overview:

Get the `API_version/major` field of the given host.

Signature:

```
int get_API_version_major (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: int

value of the field

RPC name: `get_API_version_minor`

Overview:

Get the `API_version/minor` field of the given host.

Signature:

```
int get_API_version_minor (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: int

value of the field

RPC name: `get_API_version_vendor`

Overview:

Get the `API_version/vendor` field of the given host.

Signature:

```
string get_API_version_vendor (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_API_version_vendor_implementation`**Overview:**

Get the `API_version/vendor_implementation` field of the given host.

Signature:

```
((string -> string) map) get_API_version_vendor_implementation (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `get_enabled`**Overview:**

Get the `enabled` field of the given host.

Signature:

```
bool get_enabled (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `bool`
value of the field

RPC name: `get_software_version`**Overview:**

Get the `software_version` field of the given host.

Signature:

```
((string -> string) map) get_software_version (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given host.

Signature:

```
((string -> string) map) get_other_config (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given host.

Signature:

```
void set_other_config (session_id s, host ref self, (string -> string) map value)
```

Arguments:

type	name	description
host ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given host.

Signature:

```
void add_to_other_config (session_id s, host ref self, string key, string value)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given host. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, host ref self, string key)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: get_capabilities**Overview:**

Get the capabilities field of the given host.

Signature:

```
((string set) get_capabilities (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: string set
value of the field

RPC name: get_cpu_configuration**Overview:**

Get the cpu_configuration field of the given host.

Signature:

```
((string -> string) map) get_cpu_configuration (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: `get_sched_policy`

Overview:

Get the `sched_policy` field of the given host.

Signature:

```
string get_sched_policy (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_supported_bootloaders`

Overview:

Get the `supported_bootloaders` field of the given host.

Signature:

```
(string set) get_supported_bootloaders (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `string set`

value of the field

RPC name: `get_resident_VMs`

Overview:

Get the `resident_VMs` field of the given host.

Signature:

```
(VM ref set) get_resident_VMs (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `VM ref set`

value of the field

RPC name: get_logging**Overview:**

Get the logging field of the given host.

Signature:

```
((string -> string) map) get_logging (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_logging**Overview:**

Set the logging field of the given host.

Signature:

```
void set_logging (session_id s, host ref self, (string -> string) map value)
```

Arguments:

type	name	description
host ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_logging**Overview:**

Add the given key-value pair to the logging field of the given host.

Signature:

```
void add_to_logging (session_id s, host ref self, string key, string value)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_logging**Overview:**

Remove the given key and its corresponding value from the logging field of the given host. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_logging (session_id s, host ref self, string key)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: get_PIFs**Overview:**

Get the PIFs field of the given host.

Signature:

```
(PIF ref set) get_PIFs (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: PIF ref set
value of the field

RPC name: get_suspend_image_sr**Overview:**

Get the suspend_image_sr field of the given host.

Signature:

```
(SR ref) get_suspend_image_sr (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: SR ref
value of the field

RPC name: `set_suspend_image_sr`

Overview:

Set the `suspend_image_sr` field of the given host.

Signature:

```
void set_suspend_image_sr (session_id s, host ref self, SR ref value)
```

Arguments:

type	name	description
host ref	self	reference to the object
SR ref	value	New value to set

Return Type: void

RPC name: `get_crash_dump_sr`

Overview:

Get the `crash_dump_sr` field of the given host.

Signature:

```
(SR ref) get_crash_dump_sr (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: SR ref
value of the field

RPC name: `set_crash_dump_sr`

Overview:

Set the `crash_dump_sr` field of the given host.

Signature:

```
void set_crash_dump_sr (session_id s, host ref self, SR ref value)
```

Arguments:

type	name	description
host ref	self	reference to the object
SR ref	value	New value to set

Return Type: void

RPC name: `get_crashdumps`

Overview:

Get the crashdumps field of the given host.

Signature:

```
(host_crashdump ref set) get_crashdumps (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `host_crashdump ref set`

value of the field

RPC name: `get_patches`

Overview: ~~This message is deprecated~~ Get the patches field of the given host.

Signature:

```
(host_patch ref set) get_patches (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `host_patch ref set`

value of the field

RPC name: `get_updates`

Overview:

Get the updates field of the given host.

Signature:

```
(pool_update ref set) get_updates (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `pool_update ref set`

value of the field

RPC name: `get_PBDs`

Overview:

Get the PBDs field of the given host.

Signature:

```
(PBD ref set) get_PBDs (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: PBD ref set

value of the field

RPC name: `get_host_CPUs`

Overview:

Get the host_CPUs field of the given host.

Signature:

```
(host_cpu ref set) get_host_CPUs (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: host_cpu ref set

value of the field

RPC name: `get_cpu_info`

Overview:

Get the cpu_info field of the given host.

Signature:

```
((string -> string) map) get_cpu_info (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: `get_hostname`

Overview:

Get the hostname field of the given host.

Signature:

```
string get_hostname (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: string

value of the field

RPC name: `set_hostname`

Overview:

Set the hostname field of the given host.

Signature:

```
void set_hostname (session_id s, host ref self, string value)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: `get_address`

Overview:

Get the address field of the given host.

Signature:

```
string get_address (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: string

value of the field

RPC name: `set_address`

Overview:

Set the address field of the given host.

Signature:

```
void set_address (session_id s, host ref self, string value)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	value	New value to set

Return Type: `void`

RPC name: `get_metrics`

Overview:

Get the metrics field of the given host.

Signature:

```
(host_metrics ref) get_metrics (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `host_metrics ref`
value of the field

RPC name: `get_license_params`

Overview:

Get the license_params field of the given host.

Signature:

```
((string -> string) map) get_license_params (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `get_ha_statefiles`

Overview:

Get the `ha_statefiles` field of the given host.

Signature:

```
(string set) get_ha_statefiles (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `string set`

value of the field

RPC name: `get_ha_network_peers`

Overview:

Get the `ha_network_peers` field of the given host.

Signature:

```
(string set) get_ha_network_peers (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `string set`

value of the field

RPC name: `get_blobs`

Overview:

Get the `blobs` field of the given host.

Signature:

```
((string -> blob ref) map) get_blobs (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `(string → blob ref) map`

value of the field

RPC name: `get_tags`

Overview:

Get the tags field of the given host.

Signature:

```
(string set) get_tags (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: string set

value of the field

RPC name: `set_tags`

Overview:

Set the tags field of the given host.

Signature:

```
void set_tags (session_id s, host ref self, string set value)
```

Arguments:

type	name	description
host ref	self	reference to the object
string set	value	New value to set

Return Type: void

RPC name: `add_tags`

Overview:

Add the given value to the tags field of the given host. If the value is already in that Set, then do nothing.

Signature:

```
void add_tags (session_id s, host ref self, string value)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	value	New value to add

Return Type: void

RPC name: remove_tags**Overview:**

Remove the given value from the tags field of the given host. If the value is not in that Set, then do nothing.

Signature:

```
void remove_tags (session_id s, host ref self, string value)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	value	Value to remove

Return Type: void

RPC name: get_external_auth_type**Overview:**

Get the external_auth_type field of the given host.

Signature:

```
string get_external_auth_type (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_external_auth_service_name**Overview:**

Get the external_auth_service_name field of the given host.

Signature:

```
string get_external_auth_service_name (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_external_auth_configuration`**Overview:**

Get the `external_auth_configuration` field of the given host.

Signature:

```
((string -> string) map) get_external_auth_configuration (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `get_edition`**Overview:**

Get the `edition` field of the given host.

Signature:

```
string get_edition (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `string`
value of the field

RPC name: `get_license_server`**Overview:**

Get the `license_server` field of the given host.

Signature:

```
((string -> string) map) get_license_server (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `set_license_server`

Overview:

Set the `license_server` field of the given host.

Signature:

```
void set_license_server (session_id s, host ref self, (string -> string) map value)
```

Arguments:

type	name	description
host ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: `add_to_license_server`

Overview:

Add the given key-value pair to the `license_server` field of the given host.

Signature:

```
void add_to_license_server (session_id s, host ref self, string key, string value)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: `remove_from_license_server`

Overview:

Remove the given key and its corresponding value from the `license_server` field of the given host. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_license_server (session_id s, host ref self, string key)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: `get_bios_strings`

Overview:

Get the `bios_strings` field of the given host.

Signature:

```
((string -> string) map) get_bios_strings (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `get_power_on_mode`

Overview:

Get the `power_on_mode` field of the given host.

Signature:

```
string get_power_on_mode (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `string`
value of the field

RPC name: `get_power_on_config`

Overview:

Get the `power_on_config` field of the given host.

Signature:

```
((string -> string) map) get_power_on_config (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `get_local_cache_sr`

Overview:

Get the `local_cache_sr` field of the given host.

Signature:

```
(SR ref) get_local_cache_sr (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: SR ref

value of the field

RPC name: `get_chipset_info`

Overview:

Get the `chipset_info` field of the given host.

Signature:

```
((string -> string) map) get_chipset_info (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `(string → string) map`

value of the field

RPC name: `get_PCIs`

Overview:

Get the `PCIs` field of the given host.

Signature:

```
(PCI ref set) get_PCIs (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: PCI ref set

value of the field

RPC name: `get_PGPUs`

Overview:

Get the PGPUs field of the given host.

Signature:

```
(PGPU ref set) get_PGPUs (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: PGPU ref set

value of the field

RPC name: `get_ssl_legacy`

Overview:

Get the ssl_legacy field of the given host.

Signature:

```
bool get_ssl_legacy (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: bool

value of the field

RPC name: `get_guest_VCPUs_params`

Overview:

Get the guest_VCPUs_params field of the given host.

Signature:

```
((string -> string) map) get_guest_VCPUs_params (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: `set_guest_VCPUs_params`

Overview:

Set the `guest_VCPUs_params` field of the given host.

Signature:

```
void set_guest_VCPUs_params (session_id s, host ref self, (string -> string) map value)
```

Arguments:

type	name	description
host ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: `add_to_guest_VCPUs_params`

Overview:

Add the given key-value pair to the `guest_VCPUs_params` field of the given host.

Signature:

```
void add_to_guest_VCPUs_params (session_id s, host ref self, string key, string value)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: `remove_from_guest_VCPUs_params`

Overview:

Remove the given key and its corresponding value from the `guest_VCPUs_params` field of the given host. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_guest_VCPUs_params (session_id s, host ref self, string key)
```

Arguments:

type	name	description
host ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: `get_display`

Overview:

Get the display field of the given host.

Signature:

```
(host_display) get_display (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `host_display`

value of the field

RPC name: `set_display`

Overview:

Set the display field of the given host.

Signature:

```
void set_display (session_id s, host ref self, host_display value)
```

Arguments:

type	name	description
host ref	self	reference to the object
host_display	value	New value to set

Return Type: `void`

RPC name: `get_virtual_hardware_platform_versions`

Overview:

Get the virtual_hardware_platform_versions field of the given host.

Signature:

```
(int set) get_virtual_hardware_platform_versions (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `int set`

value of the field

RPC name: `get_control_domain`

Overview:

Get the `control_domain` field of the given host.

Signature:

`(VM ref) get_control_domain (session_id s, host ref self)`

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: VM ref

value of the field

RPC name: `get_updates_requiring_reboot`

Overview:

Get the `updates_requiring_reboot` field of the given host.

Signature:

`(pool_update ref set) get_updates_requiring_reboot (session_id s, host ref self)`

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: pool_update ref set

value of the field

RPC name: `get_features`

Overview:

Get the `features` field of the given host.

Signature:

`(Feature ref set) get_features (session_id s, host ref self)`

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: Feature ref set

value of the field

RPC name: `get_by_uuid`

Overview:

Get a reference to the host instance with the specified UUID.

Signature:

```
(host ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: `host ref`

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given host.

Signature:

```
(host record) get_record (session_id s, host ref self)
```

Arguments:

type	name	description
host ref	self	reference to the object

Return Type: `host record`

all fields from the object

RPC name: `get_by_name_label`

Overview:

Get all the host instances with the given label.

Signature:

```
(host ref set) get_by_name_label (session_id s, string label)
```

Arguments:

type	name	description
string	label	label of object to return

Return Type: `host ref set`

references to objects with matching names

2.21 Class: host_crashdump

2.21.1 Fields for class: host_crashdump

Name	host_crashdump		
Description	<i>Represents a host crash dump.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	host	host ref	Host the crashdump relates to
<i>RO_{run}</i>	timestamp	datetime	Time the crash happened
<i>RO_{run}</i>	size	int	Size of the crashdump
<i>RW</i>	other_config	(string → string) map	additional configuration

2.21.2 RPCs associated with class: host_crashdump

RPC name: **destroy**

Overview:

Destroy specified host crash dump, removing it from the disk.

Signature:

```
void destroy (session_id s, host_crashdump ref self)
```

Arguments:

type	name	description
host_crashdump ref	self	The host crashdump to destroy

Return Type: void

RPC name: **upload**

Overview:

Upload the specified host crash dump to a specified URL.

Signature:

```
void upload (session_id s, host_crashdump ref self, string url, (string -> string) map options)
```

Arguments:

type	name	description
host_crashdump ref	self	The host crashdump to upload
string	url	The URL to upload to
(string → string) map	options	Extra configuration operations

Return Type: void

RPC name: `get_all`

Overview:

Return a list of all the `host_crashdumps` known to the system.

Signature:

```
(host_crashdump ref set) get_all (session_id s)
```

Return Type: `host_crashdump ref set`

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of `host_crashdump` references to `host_crashdump` records for all `host_crashdumps` known to the system.

Signature:

```
((host_crashdump ref -> host_crashdump record) map) get_all_records (session_id s)
```

Return Type: `(host_crashdump ref → host_crashdump record) map`

records of all objects

RPC name: `get_uuid`

Overview:

Get the `uuid` field of the given `host_crashdump`.

Signature:

```
string get_uuid (session_id s, host_crashdump ref self)
```

Arguments:

type	name	description
<code>host_crashdump ref</code>	<code>self</code>	reference to the object

Return Type: `string`

value of the field

RPC name: `get_host`

Overview:

Get the `host` field of the given `host_crashdump`.

Signature:

```
(host ref) get_host (session_id s, host_crashdump ref self)
```

Arguments:

type	name	description
host_crashdump ref	self	reference to the object

Return Type: host ref
value of the field

RPC name: get_timestamp**Overview:**

Get the timestamp field of the given host_crashdump.

Signature:

```
datetime get_timestamp (session_id s, host_crashdump ref self)
```

Arguments:

type	name	description
host_crashdump ref	self	reference to the object

Return Type: datetime
value of the field

RPC name: get_size**Overview:**

Get the size field of the given host_crashdump.

Signature:

```
int get_size (session_id s, host_crashdump ref self)
```

Arguments:

type	name	description
host_crashdump ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given host_crashdump.

Signature:

```
((string -> string) map) get_other_config (session_id s, host_crashdump ref self)
```

Arguments:

type	name	description
host_crashdump ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given host_crashdump.

Signature:

```
void set_other_config (session_id s, host_crashdump ref self, (string -> string) map value)
```

Arguments:

type	name	description
host_crashdump ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given host_crashdump.

Signature:

```
void add_to_other_config (session_id s, host_crashdump ref self, string key, string value)
```

Arguments:

type	name	description
host_crashdump ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given host_crashdump. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, host_crashdump ref self, string key)
```

Arguments:

type	name	description
host_crashdump ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: get_by_uuid**Overview:**

Get a reference to the host_crashdump instance with the specified UUID.

Signature:

```
(host_crashdump ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: host_crashdump ref
reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given host_crashdump.

Signature:

```
(host_crashdump record) get_record (session_id s, host_crashdump ref self)
```

Arguments:

type	name	description
host_crashdump ref	self	reference to the object

Return Type: host_crashdump record
all fields from the object

2.22 Class: host_patch

2.22.1 Fields for class: host_patch

Name	host_patch		
Description	<i>Represents a patch stored on a server.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	name_label	string	a human-readable name
<i>RO_{ins}</i>	name_description	string	a notes field containing human-readable description
<i>RO_{ins}</i>	version	string	Patch version number
<i>RO_{ins}</i>	host	host ref	Host the patch relates to
<i>RO_{run}</i>	applied	bool	True if the patch has been applied
<i>RO_{run}</i>	timestamp_applied	datetime	Time the patch was applied
<i>RO_{run}</i>	size	int	Size of the patch
<i>RO_{ins}</i>	pool_patch	pool_patch ref	The patch applied
<i>RW</i>	other_config	(string → string) map	additional configuration

2.22.2 RPCs associated with class: host_patch

RPC name: destroy

Overview: **This message is deprecated** Destroy the specified host patch, removing it from the disk. This does NOT reverse the patch.

Signature:

```
void destroy (session_id s, host_patch ref self)
```

Arguments:

type	name	description
host_patch ref	self	The patch to destroy

Return Type: void

RPC name: apply

Overview: **This message is deprecated** Apply the selected patch and return its output.

Signature:

```
string apply (session_id s, host_patch ref self)
```

Arguments:

type	name	description
host_patch ref	self	The patch to apply

Return Type: string

the output of the patch application process

RPC name: `get_all`**Overview:** This message is deprecated Return a list of all the `host_patches` known to the system.**Signature:**

```
(host_patch ref set) get_all (session_id s)
```

Return Type: `host_patch ref set`

references to all objects

RPC name: `get_all_records`**Overview:**Return a map of `host_patch` references to `host_patch` records for all `host_patches` known to the system.**Signature:**

```
((host_patch ref -> host_patch record) map) get_all_records (session_id s)
```

Return Type: `(host_patch ref → host_patch record) map`

records of all objects

RPC name: `get_uuid`**Overview:**Get the `uuid` field of the given `host_patch`.**Signature:**

```
string get_uuid (session_id s, host_patch ref self)
```

Arguments:

type	name	description
<code>host_patch ref</code>	<code>self</code>	reference to the object

Return Type: `string`

value of the field

RPC name: `get_name_label`**Overview:**Get the `name/label` field of the given `host_patch`.**Signature:**

```
string get_name_label (session_id s, host_patch ref self)
```


Arguments:

type	name	description
host_patch ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_name_description**Overview:**

Get the name/description field of the given host_patch.

Signature:

```
string get_name_description (session_id s, host_patch ref self)
```

Arguments:

type	name	description
host_patch ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_version**Overview:**

Get the version field of the given host_patch.

Signature:

```
string get_version (session_id s, host_patch ref self)
```

Arguments:

type	name	description
host_patch ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_host**Overview:**

Get the host field of the given host_patch.

Signature:

```
(host ref) get_host (session_id s, host_patch ref self)
```

Arguments:

type	name	description
host_patch ref	self	reference to the object

Return Type: host ref
value of the field

RPC name: get_applied**Overview:**

Get the applied field of the given host_patch.

Signature:

```
bool get_applied (session_id s, host_patch ref self)
```

Arguments:

type	name	description
host_patch ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_timestamp_applied**Overview:**

Get the timestamp_applied field of the given host_patch.

Signature:

```
datetime get_timestamp_applied (session_id s, host_patch ref self)
```

Arguments:

type	name	description
host_patch ref	self	reference to the object

Return Type: datetime
value of the field

RPC name: get_size**Overview:**

Get the size field of the given host_patch.

Signature:

```
int get_size (session_id s, host_patch ref self)
```

Arguments:

type	name	description
host_patch ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_pool_patch**Overview:**

Get the pool_patch field of the given host_patch.

Signature:

```
(pool_patch ref) get_pool_patch (session_id s, host_patch ref self)
```

Arguments:

type	name	description
host_patch ref	self	reference to the object

Return Type: pool_patch ref

value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given host_patch.

Signature:

```
((string -> string) map) get_other_config (session_id s, host_patch ref self)
```

Arguments:

type	name	description
host_patch ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given host_patch.

Signature:

```
void set_other_config (session_id s, host_patch ref self, (string -> string) map value)
```

Arguments:

type	name	description
host_patch ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given host_patch.

Signature:

```
void add_to_other_config (session_id s, host_patch ref self, string key, string value)
```

Arguments:

type	name	description
host_patch ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given host_patch. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, host_patch ref self, string key)
```

Arguments:

type	name	description
host_patch ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_by_uuid

Overview: This message is deprecated Get a reference to the host_patch instance with the specified UUID.

Signature:

```
(host_patch ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: host_patch ref
reference to the object

RPC name: get_record

Overview: **This message is deprecated** Get a record containing the current state of the given host_patch.

Signature:

(host_patch record) get_record (session_id s, host_patch ref self)

Arguments:

type	name	description
host_patch ref	self	reference to the object

Return Type: host_patch record
all fields from the object

RPC name: get_by_name_label

Overview: **This message is deprecated** Get all the host_patch instances with the given label.

Signature:

(host_patch ref set) get_by_name_label (session_id s, string label)

Arguments:

type	name	description
string	label	label of object to return

Return Type: host_patch ref set
references to objects with matching names

2.23 Class: host_metrics

2.23.1 Fields for class: host_metrics

Name	host_metrics		
Description	<i>The metrics associated with a host.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{run}</i>	memory_total	int	Total host memory (bytes)
<i>RO_{run}</i>	memory_free	int	Free host memory (bytes)
<i>RO_{run}</i>	live	bool	Pool master thinks this host is live
<i>RO_{run}</i>	last_updated	datetime	Time at which this information was last updated
<i>RW</i>	other_config	(string → string) map	additional configuration

2.23.2 RPCs associated with class: host_metrics

RPC name: get_all

Overview:

Return a list of all the host_metrics instances known to the system.

Signature:

```
(host_metrics ref set) get_all (session_id s)
```

Return Type: host_metrics ref set
references to all objects

RPC name: get_all_records

Overview:

Return a map of host_metrics references to host_metrics records for all host_metrics instances known to the system.

Signature:

```
((host_metrics ref -> host_metrics record) map) get_all_records (session_id s)
```

Return Type: (host_metrics ref → host_metrics record) map
records of all objects

RPC name: get_uuid

Overview:

Get the uuid field of the given host_metrics.

Signature:

```
string get_uuid (session_id s, host_metrics ref self)
```

Arguments:

type	name	description
host_metrics ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_memory_total

Overview:

Get the memory/total field of the given host_metrics.

Signature:

```
int get_memory_total (session_id s, host_metrics ref self)
```

Arguments:

type	name	description
host_metrics ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_memory_free

Overview: This message is deprecated Get the memory/free field of the given host_metrics.

Signature:

```
int get_memory_free (session_id s, host_metrics ref self)
```

Arguments:

type	name	description
host_metrics ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_live

Overview:

Get the live field of the given host_metrics.

Signature:

```
bool get_live (session_id s, host_metrics ref self)
```

Arguments:

type	name	description
host_metrics ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_last_updated**Overview:**

Get the last_updated field of the given host_metrics.

Signature:

```
datetime get_last_updated (session_id s, host_metrics ref self)
```

Arguments:

type	name	description
host_metrics ref	self	reference to the object

Return Type: datetime
value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given host_metrics.

Signature:

```
((string -> string) map) get_other_config (session_id s, host_metrics ref self)
```

Arguments:

type	name	description
host_metrics ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given host_metrics.

Signature:

```
void set_other_config (session_id s, host_metrics ref self, (string -> string) map value)
```


Arguments:

type	name	description
host_metrics ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given host_metrics.

Signature:

```
void add_to_other_config (session_id s, host_metrics ref self, string key, string value)
```

Arguments:

type	name	description
host_metrics ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given host_metrics. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, host_metrics ref self, string key)
```

Arguments:

type	name	description
host_metrics ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_by_uuid**Overview:**

Get a reference to the host_metrics instance with the specified UUID.

Signature:

```
(host_metrics ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: `host_metrics ref`
reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given `host_metrics`.

Signature:

```
(host_metrics record) get_record (session_id s, host_metrics ref self)
```

Arguments:

type	name	description
<code>host_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `host_metrics record`
all fields from the object

2.24 Class: host_cpu

2.24.1 Fields for class: host_cpu

Name	host_cpu		
Description	<i>A physical CPU.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{run}</i>	host	host ref	the host the CPU is in
<i>RO_{run}</i>	number	int	the number of the physical CPU within the host
<i>RO_{run}</i>	vendor	string	the vendor of the physical CPU
<i>RO_{run}</i>	speed	int	the speed of the physical CPU
<i>RO_{run}</i>	modelname	string	the model name of the physical CPU
<i>RO_{run}</i>	family	int	the family (number) of the physical CPU
<i>RO_{run}</i>	model	int	the model number of the physical CPU
<i>RO_{run}</i>	stepping	string	the stepping of the physical CPU
<i>RO_{run}</i>	flags	string	the flags of the physical CPU (a decoded version of the features field)
<i>RO_{run}</i>	features	string	the physical CPU feature bitmap
<i>RO_{run}</i>	utilisation	float	the current CPU utilisation
<i>RW</i>	other_config	(string → string) map	additional configuration

2.24.2 RPCs associated with class: host_cpu

RPC name: `get_all`

Overview: This message is deprecated Return a list of all the host_cpus known to the system.

Signature:

```
(host_cpu ref set) get_all (session_id s)
```

Return Type: host_cpu ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of host_cpu references to host_cpu records for all host_cpus known to the system.

Signature:

```
((host_cpu ref -> host_cpu record) map) get_all_records (session_id s)
```

Return Type: (host_cpu ref → host_cpu record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given `host_cpu`.

Signature:

```
string get_uuid (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_host`

Overview:

Get the host field of the given `host_cpu`.

Signature:

```
(host ref) get_host (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object

Return Type: `host ref`

value of the field

RPC name: `get_number`

Overview:

Get the number field of the given `host_cpu`.

Signature:

```
int get_number (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object

Return Type: `int`

value of the field

RPC name: `get_vendor`

Overview:

Get the vendor field of the given `host_cpu`.

Signature:

```
string get_vendor (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_speed`

Overview:

Get the speed field of the given `host_cpu`.

Signature:

```
int get_speed (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object

Return Type: int

value of the field

RPC name: `get_modelname`

Overview:

Get the modelname field of the given `host_cpu`.

Signature:

```
string get_modelname (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_family`

Overview:

Get the family field of the given `host_cpu`.

Signature:

```
int get_family (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
<code>host_cpu ref</code>	<code>self</code>	reference to the object

Return Type: `int`

value of the field

RPC name: `get_model`

Overview:

Get the model field of the given `host_cpu`.

Signature:

```
int get_model (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
<code>host_cpu ref</code>	<code>self</code>	reference to the object

Return Type: `int`

value of the field

RPC name: `get_stepping`

Overview:

Get the stepping field of the given `host_cpu`.

Signature:

```
string get_stepping (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
<code>host_cpu ref</code>	<code>self</code>	reference to the object

Return Type: `string`

value of the field

RPC name: `get_flags`

Overview:

Get the flags field of the given `host_cpu`.

Signature:

```
string get_flags (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_features`

Overview:

Get the features field of the given `host_cpu`.

Signature:

```
string get_features (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_utilisation`

Overview:

Get the utilisation field of the given `host_cpu`.

Signature:

```
float get_utilisation (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object

Return Type: float

value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given host_cpu.

Signature:

```
((string -> string) map) get_other_config (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given host_cpu.

Signature:

```
void set_other_config (session_id s, host_cpu ref self, (string -> string) map value)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given host_cpu.

Signature:

```
void add_to_other_config (session_id s, host_cpu ref self, string key, string value)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given host_cpu. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, host_cpu ref self, string key)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: get_by_uuid

Overview: This message is deprecated Get a reference to the host_cpu instance with the specified UUID.

Signature:

```
(host_cpu ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: host_cpu ref
reference to the object

RPC name: get_record

Overview: This message is deprecated Get a record containing the current state of the given host_cpu.

Signature:

```
(host_cpu record) get_record (session_id s, host_cpu ref self)
```

Arguments:

type	name	description
host_cpu ref	self	reference to the object

Return Type: host_cpu record
all fields from the object

2.25 Class: network

2.25.1 Fields for class: network

Name	network		
Description	<i>A virtual network.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RW</i>	<code>name_label</code>	string	a human-readable name
<i>RW</i>	<code>name_description</code>	string	a notes field containing human-readable description
<i>RO_{run}</i>	<code>allowed_operations</code>	network_operations set	list of the operations allowed in this state. This list is advisory only and the server state may have changed by the time this field is read by a client.
<i>RO_{run}</i>	<code>current_operations</code>	(string → network_operations) map	links each of the running tasks using this object (by reference) to a current_operation enum which describes the nature of the task.
<i>RO_{run}</i>	<code>VIFs</code>	VIF ref set	list of connected vifs
<i>RO_{run}</i>	<code>PIFs</code>	PIF ref set	list of connected pifs
<i>RW</i>	<code>MTU</code>	int	MTU in octets
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration
<i>RO_{ins}</i>	<code>bridge</code>	string	name of the bridge corresponding to this network on the local host
<i>RO_{ins}</i>	<code>managed</code>	bool	true if the bridge is managed by xapi
<i>RO_{run}</i>	<code>blobs</code>	(string → blob ref) map	Binary blobs associated with this network
<i>RW</i>	<code>tags</code>	string set	user-specified tags for categorization purposes
<i>RO_{run}</i>	<code>default_locking_mode</code>	network_default_locking_mode	The network will use this value to determine the behaviour of all VIFs where locking_mode = default
<i>RO_{run}</i>	<code>assigned_ips</code>	(VIF ref → string) map	The IP addresses assigned to VIFs on networks that have active xapi-managed DHCP

2.25.2 RPCs associated with class: network

RPC name: `create_new_blob`

Overview:

Create a placeholder for a named binary blob of data that is associated with this pool.

Signature:

```
(blob ref) create_new_blob (session_id s, network ref network, string name, string mime_type, bool public)
```

Arguments:

type	name	description
network ref	network	The network
string	name	The name associated with the blob
string	mime.type	The mime type for the data. Empty string translates to application/octet-stream
bool	public	True if the blob should be publicly available

Return Type: blob ref

The reference of the blob, needed for populating its data

RPC name: set_default_locking_mode**Overview:**

Set the default locking mode for VIFs attached to this network.

Signature:

```
void set_default_locking_mode (session_id s, network ref network, network_default_locking_mode value)
```

Arguments:

type	name	description
network ref	network	The network
network_default_locking_mode	value	The default locking mode for VIFs attached to this network.

Return Type: void**RPC name:** get_all**Overview:**

Return a list of all the networks known to the system.

Signature:

```
((network ref set) get_all (session_id s)
```

Return Type: network ref set

references to all objects

RPC name: get_all_records**Overview:**

Return a map of network references to network records for all networks known to the system.

Signature:

```
((network ref -> network record) map) get_all_records (session_id s)
```

Return Type: (network ref → network record) map
records of all objects

RPC name: get_uuid

Overview:

Get the uuid field of the given network.

Signature:

```
string get_uuid (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_name_label

Overview:

Get the name/label field of the given network.

Signature:

```
string get_name_label (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: string

value of the field

RPC name: set_name_label

Overview:

Set the name/label field of the given network.

Signature:

```
void set_name_label (session_id s, network ref self, string value)
```

Arguments:

type	name	description
network ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_name_description

Overview:

Get the name/description field of the given network.

Signature:

```
string get_name_description (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: string

value of the field

RPC name: set_name_description

Overview:

Set the name/description field of the given network.

Signature:

```
void set_name_description (session_id s, network ref self, string value)
```

Arguments:

type	name	description
network ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_allowed_operations

Overview:

Get the allowed_operations field of the given network.

Signature:

```
(network_operations set) get_allowed_operations (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: network_operations set

value of the field

RPC name: `get_current_operations`

Overview:

Get the `current_operations` field of the given network.

Signature:

```
((string -> network_operations) map) get_current_operations (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: `(string → network_operations) map`
value of the field

RPC name: `get_VIFs`

Overview:

Get the `VIFs` field of the given network.

Signature:

```
(VIF ref set) get_VIFs (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: `VIF ref set`
value of the field

RPC name: `get_PIFs`

Overview:

Get the `PIFs` field of the given network.

Signature:

```
(PIF ref set) get_PIFs (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: `PIF ref set`
value of the field

RPC name: `get_MTU`

Overview:

Get the MTU field of the given network.

Signature:

```
int get_MTU (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: int

value of the field

RPC name: `set_MTU`

Overview:

Set the MTU field of the given network.

Signature:

```
void set_MTU (session_id s, network ref self, int value)
```

Arguments:

type	name	description
network ref	self	reference to the object
int	value	New value to set

Return Type: void

RPC name: `get_other_config`

Overview:

Get the other_config field of the given network.

Signature:

```
((string -> string) map) get_other_config (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given network.

Signature:

```
void set_other_config (session_id s, network ref self, (string -> string) map value)
```

Arguments:

type	name	description
network ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given network.

Signature:

```
void add_to_other_config (session_id s, network ref self, string key, string value)
```

Arguments:

type	name	description
network ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given network. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, network ref self, string key)
```

Arguments:

type	name	description
network ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: `get_bridge`

Overview:

Get the bridge field of the given network.

Signature:

```
string get_bridge (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_managed`

Overview:

Get the managed field of the given network.

Signature:

```
bool get_managed (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: bool

value of the field

RPC name: `get_blobs`

Overview:

Get the blobs field of the given network.

Signature:

```
((string -> blob ref) map) get_blobs (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: (string → blob ref) map

value of the field

RPC name: `get_tags`

Overview:

Get the tags field of the given network.

Signature:

```
(string set) get_tags (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: string set

value of the field

RPC name: `set_tags`

Overview:

Set the tags field of the given network.

Signature:

```
void set_tags (session_id s, network ref self, string set value)
```

Arguments:

type	name	description
network ref	self	reference to the object
string set	value	New value to set

Return Type: void

RPC name: `add_tags`

Overview:

Add the given value to the tags field of the given network. If the value is already in that Set, then do nothing.

Signature:

```
void add_tags (session_id s, network ref self, string value)
```

Arguments:

type	name	description
network ref	self	reference to the object
string	value	New value to add

Return Type: void

RPC name: remove_tags**Overview:**

Remove the given value from the tags field of the given network. If the value is not in that Set, then do nothing.

Signature:

```
void remove_tags (session_id s, network ref self, string value)
```

Arguments:

type	name	description
network ref	self	reference to the object
string	value	Value to remove

Return Type: void

RPC name: get_default_locking_mode**Overview:**

Get the default_locking_mode field of the given network.

Signature:

```
(network_default_locking_mode) get_default_locking_mode (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: network_default_locking_mode
value of the field

RPC name: get_assigned_ips**Overview:**

Get the assigned_ips field of the given network.

Signature:

```
((VIF ref -> string) map) get_assigned_ips (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: (VIF ref → string) map
value of the field

RPC name: create

Overview:

Create a new network instance, and return its handle.

Signature:

```
(network ref) create (session_id s, network record args)
```

Arguments:

type	name	description
network record	args	All constructor arguments

Return Type: network ref

reference to the newly created object

RPC name: destroy

Overview:

Destroy the specified network instance.

Signature:

```
void destroy (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: void

RPC name: get_by_uuid

Overview:

Get a reference to the network instance with the specified UUID.

Signature:

```
(network ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: network ref

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given network.

Signature:

```
(network record) get_record (session_id s, network ref self)
```

Arguments:

type	name	description
network ref	self	reference to the object

Return Type: `network record`

all fields from the object

RPC name: `get_by_name_label`

Overview:

Get all the network instances with the given label.

Signature:

```
(network ref set) get_by_name_label (session_id s, string label)
```

Arguments:

type	name	description
string	label	label of object to return

Return Type: `network ref set`

references to objects with matching names

2.26 Class: VIF

2.26.1 Fields for class: VIF

Name	VIF		
Description	<i>A virtual network interface.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_{run}</i>	<code>allowed_operations</code>	vif_operations set	list of the operations allowed in this state. This list is advisory only and the server state may have changed by the time this field is read by a client.
<i>RO_{run}</i>	<code>current_operations</code>	(string → vif_operations) map	links each of the running tasks using this object (by reference) to a <code>current_operation</code> enum which describes the nature of the task.
<i>RO_{ins}</i>	<code>device</code>	string	order in which VIF backends are created by xapi
<i>RO_{ins}</i>	<code>network</code>	network ref	virtual network to which this vif is connected
<i>RO_{ins}</i>	<code>VM</code>	VM ref	virtual machine to which this vif is connected
<i>RO_{ins}</i>	<code>MAC</code>	string	ethernet MAC address of virtual interface, as exposed to guest
<i>RO_{ins}</i>	<code>MTU</code>	int	MTU in octets
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration
<i>RO_{run}</i>	<code>currently_attached</code>	bool	is the device currently attached (erased on reboot)
<i>RO_{run}</i>	<code>status_code</code>	int	error/success code associated with last attach-operation (erased on reboot)
<i>RO_{run}</i>	<code>status_detail</code>	string	error/success information associated with last attach-operation status (erased on reboot)
<i>RO_{run}</i>	<code>runtime_properties</code>	(string → string) map	Device runtime properties
<i>RW</i>	<code>qos_algorithm_type</code>	string	QoS algorithm to use
<i>RW</i>	<code>qos_algorithm_params</code>	(string → string) map	parameters for chosen QoS algorithm
<i>RO_{run}</i>	<code>qos_supported_algorithms</code>	string set	supported QoS algorithms for this VIF
<i>RO_{run}</i>	<code>metrics</code>	VIF_metrics ref	metrics associated with this VIF
<i>RO_{run}</i>	<code>MAC_autogenerated</code>	bool	true if the MAC was autogenerated; false indicates it was set manually
<i>RO_{ins}</i>	<code>locking_mode</code>	vif_locking_mode	current locking mode of the VIF
<i>RO_{ins}</i>	<code>ipv4_allowed</code>	string set	A list of IPv4 addresses which can be used to filter traffic passing through this VIF
<i>RO_{ins}</i>	<code>ipv6_allowed</code>	string set	A list of IPv6 addresses which can be used to filter traffic passing through this VIF
<i>RO_{run}</i>	<code>ipv4_configuration_mode</code>	vif_ipv4_configuration_mode	Determines whether IPv4 addresses are configured on the VIF
<i>RO_{run}</i>	<code>ipv4_addresses</code>	string set	IPv4 addresses in CIDR format
<i>RO_{run}</i>	<code>ipv4_gateway</code>	string	IPv4 gateway (the empty string means that no gateway is set)

<i>RO_{run}</i>	<code>ipv6_configuration_mode</code>	<code>vif_ipv6_configuration_mode</code>	Determines whether IPv6 addresses are configured on the VIF
<i>RO_{run}</i>	<code>ipv6_addresses</code>	string set	IPv6 addresses in CIDR format
<i>RO_{run}</i>	<code>ipv6_gateway</code>	string	IPv6 gateway (the empty string means that no gateway is set)

2.26.2 RPCs associated with class: VIF

RPC name: `plug`

Overview:

Hotplug the specified VIF, dynamically attaching it to the running VM.

Signature:

```
void plug (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	The VIF to hotplug

Return Type: void

RPC name: `unplug`

Overview:

Hot-unplug the specified VIF, dynamically unattaching it from the running VM.

Signature:

```
void unplug (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	The VIF to hot-unplug

Return Type: void

RPC name: `unplug_force`

Overview:

Forcibly unplug the specified VIF.

Signature:

```
void unplug_force (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	The VIF to forcibly unplug

Return Type: void

RPC name: move

Overview:

Move the specified VIF to the specified network, even while the VM is running.

Signature:

```
void move (session_id s, VIF ref self, network ref network)
```

Arguments:

type	name	description
VIF ref	self	The VIF to move
network ref	network	The network to move it to

Return Type: void

RPC name: set_locking_mode

Overview:

Set the locking mode for this VIF.

Signature:

```
void set_locking_mode (session_id s, VIF ref self, vif_locking_mode value)
```

Arguments:

type	name	description
VIF ref	self	The VIF whose locking mode will be set
vif_locking_mode	value	The new locking mode for the VIF

Return Type: void

RPC name: set_ipv4_allowed

Overview:

Set the IPv4 addresses to which traffic on this VIF can be restricted.

Signature:

```
void set_ipv4_allowed (session_id s, VIF ref self, string set value)
```

Arguments:

type	name	description
VIF ref	self	The VIF which the IP addresses will be associated with
string set	value	The IP addresses which will be associated with the VIF

Return Type: void

RPC name: `add_ipv4_allowed`

Overview:

Associates an IPv4 address with this VIF.

Signature:

```
void add_ipv4_allowed (session_id s, VIF ref self, string value)
```

Arguments:

type	name	description
VIF ref	self	The VIF which the IP address will be associated with
string	value	The IP address which will be associated with the VIF

Return Type: void

RPC name: `remove_ipv4_allowed`

Overview:

Removes an IPv4 address from this VIF.

Signature:

```
void remove_ipv4_allowed (session_id s, VIF ref self, string value)
```

Arguments:

type	name	description
VIF ref	self	The VIF from which the IP address will be removed
string	value	The IP address which will be removed from the VIF

Return Type: void

RPC name: `set_ipv6_allowed`

Overview:

Set the IPv6 addresses to which traffic on this VIF can be restricted.

Signature:

```
void set_ipv6_allowed (session_id s, VIF ref self, string set value)
```

Arguments:

type	name	description
VIF ref	self	The VIF which the IP addresses will be associated with
string set	value	The IP addresses which will be associated with the VIF

Return Type: void

RPC name: add_ipv6_allowed

Overview:

Associates an IPv6 address with this VIF.

Signature:

```
void add_ipv6_allowed (session_id s, VIF ref self, string value)
```

Arguments:

type	name	description
VIF ref	self	The VIF which the IP address will be associated with
string	value	The IP address which will be associated with the VIF

Return Type: void

RPC name: remove_ipv6_allowed

Overview:

Removes an IPv6 address from this VIF.

Signature:

```
void remove_ipv6_allowed (session_id s, VIF ref self, string value)
```

Arguments:

type	name	description
VIF ref	self	The VIF from which the IP address will be removed
string	value	The IP address which will be removed from the VIF

Return Type: void

RPC name: configure_ipv4

Overview:

Configure IPv4 settings for this virtual interface.

Signature:

```
void configure_ipv4 (session_id s, VIF ref self, vif_ipv4_configuration_mode mode, string address, string
```

Arguments:

type	name	description
VIF ref	self	The VIF to configure
vif_ipv4_configuration_mode	mode	Whether to use static or no IPv4 assignment
string	address	The IPv4 address in <code>jaddr_i/iprefix length_i</code> format (for static mode only)
string	gateway	The IPv4 gateway (for static mode only; leave empty to not set a gateway)

Return Type: void**RPC name:** `configure_ipv6`**Overview:**

Configure IPv6 settings for this virtual interface.

Signature:

```
void configure_ipv6 (session_id s, VIF ref self, vif_ipv6_configuration_mode mode, string address, string
```

Arguments:

type	name	description
VIF ref	self	The VIF to configure
vif_ipv6_configuration_mode	mode	Whether to use static or no IPv6 assignment
string	address	The IPv6 address in <code>jaddr_i/iprefix length_i</code> format (for static mode only)
string	gateway	The IPv6 gateway (for static mode only; leave empty to not set a gateway)

Return Type: void**RPC name:** `get_all`**Overview:**

Return a list of all the VIFs known to the system.

Signature:

```
(VIF ref set) get_all (session_id s)
```

Return Type: VIF ref set

references to all objects

RPC name: `get_all_records`**Overview:**

Return a map of VIF references to VIF records for all VIFs known to the system.

Signature:

```
((VIF ref -> VIF record) map) get_all_records (session_id s)
```

Return Type: (VIF ref → VIF record) map
records of all objects

RPC name: get_uuid

Overview:

Get the uuid field of the given VIF.

Signature:

```
string get_uuid (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_allowed_operations

Overview:

Get the allowed_operations field of the given VIF.

Signature:

```
(vif_operations set) get_allowed_operations (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: vif_operations set
value of the field

RPC name: get_current_operations

Overview:

Get the current_operations field of the given VIF.

Signature:

```
((string -> vif_operations) map) get_current_operations (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: (string → vif_operations) map
value of the field

RPC name: get_device

Overview:

Get the device field of the given VIF.

Signature:

```
string get_device (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_network

Overview:

Get the network field of the given VIF.

Signature:

```
(network ref) get_network (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: network ref

value of the field

RPC name: get_VM

Overview:

Get the VM field of the given VIF.

Signature:

```
(VM ref) get_VM (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: VM ref

value of the field

RPC name: `get_MAC`

Overview:

Get the MAC field of the given VIF.

Signature:

```
string get_MAC (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_MTU`

Overview:

Get the MTU field of the given VIF.

Signature:

```
int get_MTU (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `int`

value of the field

RPC name: `get_other_config`

Overview:

Get the other_config field of the given VIF.

Signature:

```
((string -> string) map) get_other_config (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `(string → string) map`

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given VIF.

Signature:

```
void set_other_config (session_id s, VIF ref self, (string -> string) map value)
```

Arguments:

type	name	description
VIF ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given VIF.

Signature:

```
void add_to_other_config (session_id s, VIF ref self, string key, string value)
```

Arguments:

type	name	description
VIF ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given VIF. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, VIF ref self, string key)
```

Arguments:

type	name	description
VIF ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: `get_currently_attached`

Overview:

Get the `currently_attached` field of the given VIF.

Signature:

```
bool get_currently_attached (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `bool`

value of the field

RPC name: `get_status_code`

Overview:

Get the `status_code` field of the given VIF.

Signature:

```
int get_status_code (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `int`

value of the field

RPC name: `get_status_detail`

Overview:

Get the `status_detail` field of the given VIF.

Signature:

```
string get_status_detail (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_runtime_properties`

Overview:

Get the `runtime_properties` field of the given VIF.

Signature:

```
((string -> string) map) get_runtime_properties (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `get_qos_algorithm_type`

Overview:

Get the `qos/algorithm_type` field of the given VIF.

Signature:

```
string get_qos_algorithm_type (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `string`
value of the field

RPC name: `set_qos_algorithm_type`

Overview:

Set the `qos/algorithm_type` field of the given VIF.

Signature:

```
void set_qos_algorithm_type (session_id s, VIF ref self, string value)
```

Arguments:

type	name	description
VIF ref	self	reference to the object
string	value	New value to set

Return Type: `void`

RPC name: `get_qos_algorithm_params`**Overview:**

Get the qos/algorithm_params field of the given VIF.

Signature:

```
((string -> string) map) get_qos_algorithm_params (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `set_qos_algorithm_params`**Overview:**

Set the qos/algorithm_params field of the given VIF.

Signature:

```
void set_qos_algorithm_params (session_id s, VIF ref self, (string -> string) map value)
```

Arguments:

type	name	description
VIF ref	self	reference to the object
<code>(string → string) map</code>	value	New value to set

Return Type: `void`

RPC name: `add_to_qos_algorithm_params`**Overview:**

Add the given key-value pair to the qos/algorithm_params field of the given VIF.

Signature:

```
void add_to_qos_algorithm_params (session_id s, VIF ref self, string key, string value)
```

Arguments:

type	name	description
VIF ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: `void`

RPC name: `remove_from_qos_algorithm_params`**Overview:**

Remove the given key and its corresponding value from the `qos/algorithm_params` field of the given VIF. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_qos_algorithm_params (session_id s, VIF ref self, string key)
```

Arguments:

type	name	description
VIF ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: `get_qos_supported_algorithms`**Overview:**

Get the `qos/supported_algorithms` field of the given VIF.

Signature:

```
(string set) get_qos_supported_algorithms (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: string set
value of the field

RPC name: `get_metrics`**Overview:**

Get the `metrics` field of the given VIF.

Signature:

```
(VIF_metrics ref) get_metrics (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: VIF_metrics ref
value of the field

RPC name: `get_MAC_autogenerated`

Overview:

Get the `MAC_autogenerated` field of the given VIF.

Signature:

```
bool get_MAC_autogenerated (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `bool`

value of the field

RPC name: `get_locking_mode`

Overview:

Get the `locking_mode` field of the given VIF.

Signature:

```
(vif_locking_mode) get_locking_mode (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `vif_locking_mode`

value of the field

RPC name: `get_ipv4_allowed`

Overview:

Get the `ipv4_allowed` field of the given VIF.

Signature:

```
(string set) get_ipv4_allowed (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `string set`

value of the field

RPC name: `get_ipv6_allowed`

Overview:

Get the `ipv6_allowed` field of the given VIF.

Signature:

```
(string set) get_ipv6_allowed (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `string set`

value of the field

RPC name: `get_ipv4_configuration_mode`

Overview:

Get the `ipv4_configuration_mode` field of the given VIF.

Signature:

```
(vif_ipv4_configuration_mode) get_ipv4_configuration_mode (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `vif_ipv4_configuration_mode`

value of the field

RPC name: `get_ipv4_addresses`

Overview:

Get the `ipv4_addresses` field of the given VIF.

Signature:

```
(string set) get_ipv4_addresses (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `string set`

value of the field

RPC name: `get_ipv4_gateway`

Overview:

Get the `ipv4_gateway` field of the given VIF.

Signature:

```
string get_ipv4_gateway (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_ipv6_configuration_mode`

Overview:

Get the `ipv6_configuration_mode` field of the given VIF.

Signature:

```
(vif_ipv6_configuration_mode) get_ipv6_configuration_mode (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `vif_ipv6_configuration_mode`

value of the field

RPC name: `get_ipv6_addresses`

Overview:

Get the `ipv6_addresses` field of the given VIF.

Signature:

```
(string set) get_ipv6_addresses (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `string set`

value of the field

RPC name: `get_ipv6_gateway`

Overview:

Get the `ipv6_gateway` field of the given VIF.

Signature:

```
string get_ipv6_gateway (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `create`

Overview:

Create a new VIF instance, and return its handle.

Signature:

```
(VIF ref) create (session_id s, VIF record args)
```

Arguments:

type	name	description
VIF record	args	All constructor arguments

Return Type: `VIF ref`

reference to the newly created object

RPC name: `destroy`

Overview:

Destroy the specified VIF instance.

Signature:

```
void destroy (session_id s, VIF ref self)
```

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: `void`

RPC name: `get_by_uuid`

Overview:

Get a reference to the VIF instance with the specified UUID.

Signature:

(VIF ref) `get_by_uuid (session_id s, string uuid)`

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VIF ref

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given VIF.

Signature:

(VIF record) `get_record (session_id s, VIF ref self)`

Arguments:

type	name	description
VIF ref	self	reference to the object

Return Type: VIF record

all fields from the object

2.27 Class: VIF_metrics

2.27.1 Fields for class: VIF_metrics

Name	VIF_metrics		
Description	<i>The metrics associated with a virtual network device.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	uuid	string	Unique identifier/object reference
<i>RO_run</i>	io_read_kbs	float	Read bandwidth (KiB/s)
<i>RO_run</i>	io_write_kbs	float	Write bandwidth (KiB/s)
<i>RO_run</i>	last_updated	datetime	Time at which this information was last updated
<i>RW</i>	other_config	(string → string) map	additional configuration

2.27.2 RPCs associated with class: VIF_metrics

RPC name: `get_all`

Overview:

Return a list of all the VIF_metrics instances known to the system.

Signature:

```
(VIF_metrics ref set) get_all (session_id s)
```

Return Type: VIF_metrics ref set
references to all objects

RPC name: `get_all_records`

Overview:

Return a map of VIF_metrics references to VIF_metrics records for all VIF_metrics instances known to the system.

Signature:

```
((VIF_metrics ref -> VIF_metrics record) map) get_all_records (session_id s)
```

Return Type: (VIF_metrics ref → VIF_metrics record) map
records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given VIF_metrics.

Signature:

```
string get_uuid (session_id s, VIF_metrics ref self)
```

Arguments:

type	name	description
VIF_metrics ref	self	reference to the object

Return Type: string
value of the field

RPC name: `get_io_read_kbs`

Overview:

Get the `io/read_kbs` field of the given `VIF_metrics`.

Signature:

```
float get_io_read_kbs (session_id s, VIF_metrics ref self)
```

Arguments:

type	name	description
VIF_metrics ref	self	reference to the object

Return Type: float
value of the field

RPC name: `get_io_write_kbs`

Overview:

Get the `io/write_kbs` field of the given `VIF_metrics`.

Signature:

```
float get_io_write_kbs (session_id s, VIF_metrics ref self)
```

Arguments:

type	name	description
VIF_metrics ref	self	reference to the object

Return Type: float
value of the field

RPC name: `get_last_updated`

Overview:

Get the `last_updated` field of the given `VIF_metrics`.

Signature:

```
datetime get_last_updated (session_id s, VIF_metrics ref self)
```

Arguments:

type	name	description
VIF_metrics ref	self	reference to the object

Return Type: datetime
value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given VIF_metrics.

Signature:

```
((string -> string) map) get_other_config (session_id s, VIF_metrics ref self)
```

Arguments:

type	name	description
VIF_metrics ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given VIF_metrics.

Signature:

```
void set_other_config (session_id s, VIF_metrics ref self, (string -> string) map value)
```

Arguments:

type	name	description
VIF_metrics ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given VIF_metrics.

Signature:

```
void add_to_other_config (session_id s, VIF_metrics ref self, string key, string value)
```

Arguments:

type	name	description
VIF_metrics ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given VIF_metrics. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, VIF_metrics ref self, string key)
```

Arguments:

type	name	description
VIF_metrics ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_by_uuid**Overview:**

Get a reference to the VIF_metrics instance with the specified UUID.

Signature:

```
(VIF_metrics ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VIF_metrics ref

reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given VIF_metrics.

Signature:

```
(VIF_metrics record) get_record (session_id s, VIF_metrics ref self)
```

Arguments:

type	name	description
VIF_metrics ref	self	reference to the object

Return Type: VIF_metrics record
all fields from the object

2.28 Class: PIF

2.28.1 Fields for class: PIF

Name	PIF		
Description	<i>A physical network interface (note separate VLANs are represented as several PIFs).</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_{ins}</i>	<code>device</code>	string	machine-readable name of the interface (e.g. eth0)
<i>RO_{ins}</i>	<code>network</code>	network ref	virtual network to which this pif is connected
<i>RO_{ins}</i>	<code>host</code>	host ref	physical machine to which this pif is connected
<i>RO_{ins}</i>	<code>MAC</code>	string	ethernet MAC address of physical interface
<i>RO_{ins}</i>	<code>MTU</code>	int	MTU in octets
<i>RO_{ins}</i>	<code>VLAN</code>	int	VLAN tag for all traffic passing through this interface
<i>RO_{run}</i>	<code>metrics</code>	PIF_metrics ref	metrics associated with this PIF
<i>RO_{run}</i>	<code>physical</code>	bool	true if this represents a physical network interface
<i>RO_{run}</i>	<code>currently_attached</code>	bool	true if this interface is online
<i>RO_{run}</i>	<code>ip_configuration_mode</code>	ip_configuration_mode	Sets if and how this interface gets an IP address
<i>RO_{run}</i>	<code>IP</code>	string	IP address
<i>RO_{run}</i>	<code>netmask</code>	string	IP netmask
<i>RO_{run}</i>	<code>gateway</code>	string	IP gateway
<i>RO_{run}</i>	<code>DNS</code>	string	IP address of DNS servers to use
<i>RO_{run}</i>	<code>bond_slave_of</code>	Bond ref	Indicates which bond this interface is part of
<i>RO_{run}</i>	<code>bond_master_of</code>	Bond ref set	Indicates this PIF represents the results of a bond
<i>RO_{run}</i>	<code>VLAN_master_of</code>	VLAN ref	Indicates which VLAN this interface receives untagged traffic from
<i>RO_{run}</i>	<code>VLAN_slave_of</code>	VLAN ref set	Indicates which VLANs this interface transmits tagged traffic to
<i>RO_{run}</i>	<code>management</code>	bool	Indicates whether the control software is listening for connections on this interface
<i>RW</i>	<code>other_config</code>	(string → string) map	Additional configuration
<i>RW</i>	<code>disallow_unplug</code>	bool	Prevent this PIF from being unplugged; set this to notify the management tool-stack that the PIF has a special use and should not be unplugged under any circumstances (e.g. because you're running storage traffic over it)
<i>RO_{run}</i>	<code>tunnel_access_PIF_of</code>	tunnel ref set	Indicates to which tunnel this PIF gives access
<i>RO_{run}</i>	<code>tunnel_transport_PIF_of</code>	tunnel ref set	Indicates to which tunnel this PIF provides transport

<i>RO_{run}</i>	<code>ipv6_configuration_mode</code>	<code>ipv6_configuration_mode</code>	Sets if and how this interface gets an IPv6 address
<i>RO_{run}</i>	<code>IPv6</code>	string set	IPv6 address
<i>RO_{run}</i>	<code>ipv6_gateway</code>	string	IPv6 gateway
<i>RO_{run}</i>	<code>primary_address_type</code>	<code>primary_address_type</code>	Which protocol should define the primary address of this interface
<i>RO_{ins}</i>	<code>managed</code>	bool	Indicates whether the interface is managed by xapi. If it is not, then xapi will not configure the interface, the commands <code>PIF.plugin/unplug/reconfigure_ip(v6)</code> can not be used, nor can the interface be bonded or have VLANs based on top through xapi.
<i>RO_{run}</i>	<code>properties</code>	(string → string) map	Additional configuration properties for the interface.
<i>RO_{run}</i>	<code>capabilities</code>	string set	Additional capabilities on the interface.

2.28.2 RPCs associated with class: PIF

RPC name: `create_VLAN`

Overview: **This message is deprecated** Create a VLAN interface from an existing physical interface. This call is deprecated: use `VLAN.create` instead.

Signature:

(PIF ref) `create_VLAN` (session_id s, string device, network ref network, host ref host, int VLAN)

Arguments:

type	name	description
string	device	physical interface on which to create the VLAN interface
network ref	network	network to which this interface should be connected
host ref	host	physical machine to which this PIF is connected
int	VLAN	VLAN tag for the new interface

Return Type: PIF ref

The reference of the created PIF object

Possible Error Codes: `VLAN_TAG_INVALID`

RPC name: `destroy`

Overview: **This message is deprecated** Destroy the PIF object (provided it is a VLAN interface). This call is deprecated: use `VLAN.destroy` or `Bond.destroy` instead.

Signature:

void `destroy` (session_id s, PIF ref self)

Arguments:

type	name	description
PIF ref	self	the PIF object to destroy

Return Type: void**Possible Error Codes:** PIF_IS_PHYSICAL**RPC name:** reconfigure_ip**Overview:**

Reconfigure the IP address settings for this interface.

Signature:

```
void reconfigure_ip (session_id s, PIF ref self, ip_configuration_mode mode, string IP, string netmask, s
```

Arguments:

type	name	description
PIF ref	self	the PIF object to reconfigure
ip_configuration_mode	mode	whether to use dynamic/static/no-assignment
string	IP	the new IP address
string	netmask	the new netmask
string	gateway	the new gateway
string	DNS	the new DNS settings

Return Type: void**RPC name:** reconfigure_ipv6**Overview:**

Reconfigure the IPv6 address settings for this interface.

Signature:

```
void reconfigure_ipv6 (session_id s, PIF ref self, ipv6_configuration_mode mode, string IPv6, string gate
```

Arguments:

type	name	description
PIF ref	self	the PIF object to reconfigure
ipv6_configuration_mode	mode	whether to use dynamic/static/no-assignment
string	IPv6	the new IPv6 address (in <code>¡addr¡/¡prefix length¡</code> format)
string	gateway	the new gateway
string	DNS	the new DNS settings

Return Type: void

RPC name: set_primary_address_type**Overview:**

Change the primary address type used by this PIF.

Signature:

```
void set_primary_address_type (session_id s, PIF ref self, primary_address_type primary_address_type)
```

Arguments:

type	name	description
PIF ref	self	the PIF object to reconfigure
primary_address_type	primary_address_type	Whether to prefer IPv4 or IPv6 connections

Return Type: void

RPC name: scan**Overview:**

Scan for physical interfaces on a host and create PIF objects to represent them.

Signature:

```
void scan (session_id s, host ref host)
```

Arguments:

type	name	description
host ref	host	The host on which to scan

Return Type: void

RPC name: introduce**Overview:**

Create a PIF object matching a particular network interface.

Signature:

```
(PIF ref) introduce (session_id s, host ref host, string MAC, string device, bool managed)
```

Arguments:

type	name	description
host ref	host	The host on which the interface exists
string	MAC	The MAC address of the interface
string	device	The device name to use for the interface
bool	managed	Indicates whether the interface is managed by xapi (defaults to “true”)

Return Type: PIF ref

The reference of the created PIF object

RPC name: forget

Overview:

Destroy the PIF object matching a particular network interface.

Signature:

```
void forget (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	The PIF object to destroy

Return Type: void

Possible Error Codes: PIF_TUNNEL_STILL_EXISTS

RPC name: unplug

Overview:

Attempt to bring down a physical interface.

Signature:

```
void unplug (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	the PIF object to unplug

Return Type: void

RPC name: plug

Overview:

Attempt to bring up a physical interface.

Signature:

```
void plug (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	the PIF object to plug

Return Type: void

Possible Error Codes: TRANSPORT_PIF_NOT_CONFIGURED

RPC name: db_introduce**Overview:**

Create a new PIF record in the database only.

Signature:

```
(PIF ref) db_introduce (session_id s, string device, network ref network, host ref host, string MAC, int MTU, int VLAN, bool physical, ip_configuration_mode ip_configuration_mode, string IP, string netmask, string gateway, string DNS, Bond ref bond_slave_of, VLAN ref VLAN_master_of, bool management, (string → string) map other_config, bool disallow_unplug, ipv6_configuration_mode ipv6_configuration_mode, string set IPv6, string ipv6_gateway, primary_address_type primary_address_type, bool managed, (string → string) map properties)
```

Arguments:

type	name	description
string	device	
network ref	network	
host ref	host	
string	MAC	
int	MTU	
int	VLAN	
bool	physical	
ip_configuration_mode	ip_configuration_mode	
string	IP	
string	netmask	
string	gateway	
string	DNS	
Bond ref	bond_slave_of	
VLAN ref	VLAN_master_of	
bool	management	
(string → string) map	other_config	
bool	disallow_unplug	
ipv6_configuration_mode	ipv6_configuration_mode	
string set	IPv6	
string	ipv6_gateway	
primary_address_type	primary_address_type	
bool	managed	
(string → string) map	properties	

Return Type: PIF ref

The ref of the newly created PIF record.

RPC name: db_forget**Overview:**

Destroy a PIF database record.

Signature:

```
void db_forget (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	The ref of the PIF whose database record should be destroyed

Return Type: void

RPC name: set_property

Overview:

Set the value of a property of the PIF.

Signature:

```
void set_property (session_id s, PIF ref self, string name, string value)
```

Arguments:

type	name	description
PIF ref	self	The PIF
string	name	The property name
string	value	The property value

Return Type: void

RPC name: get_all

Overview:

Return a list of all the PIFs known to the system.

Signature:

```
(PIF ref set) get_all (session_id s)
```

Return Type: PIF ref set

references to all objects

RPC name: get_all_records

Overview:

Return a map of PIF references to PIF records for all PIFs known to the system.

Signature:

```
((PIF ref -> PIF record) map) get_all_records (session_id s)
```

Return Type: (PIF ref → PIF record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given PIF.

Signature:

```
string get_uuid (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_device`

Overview:

Get the device field of the given PIF.

Signature:

```
string get_device (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_network`

Overview:

Get the network field of the given PIF.

Signature:

```
(network ref) get_network (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: network ref

value of the field

RPC name: `get_host`

Overview:

Get the host field of the given PIF.

Signature:

```
(host ref) get_host (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `host ref`

value of the field

RPC name: `get_MAC`

Overview:

Get the MAC field of the given PIF.

Signature:

```
string get_MAC (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_MTU`

Overview:

Get the MTU field of the given PIF.

Signature:

```
int get_MTU (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `int`

value of the field

RPC name: `get_VLAN`

Overview:

Get the VLAN field of the given PIF.

Signature:

```
int get_VLAN (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `int`

value of the field

RPC name: `get_metrics`

Overview:

Get the metrics field of the given PIF.

Signature:

```
(PIF_metrics ref) get_metrics (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `PIF_metrics ref`

value of the field

RPC name: `get_physical`

Overview:

Get the physical field of the given PIF.

Signature:

```
bool get_physical (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `bool`

value of the field

RPC name: `get_currently_attached`

Overview:

Get the `currently_attached` field of the given PIF.

Signature:

```
bool get_currently_attached (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `bool`

value of the field

RPC name: `get_ip_configuration_mode`

Overview:

Get the `ip_configuration_mode` field of the given PIF.

Signature:

```
(ip_configuration_mode) get_ip_configuration_mode (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `ip_configuration_mode`

value of the field

RPC name: `get_IP`

Overview:

Get the IP field of the given PIF.

Signature:

```
string get_IP (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_netmask`

Overview:

Get the netmask field of the given PIF.

Signature:

```
string get_netmask (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_gateway`

Overview:

Get the gateway field of the given PIF.

Signature:

```
string get_gateway (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_DNS`

Overview:

Get the DNS field of the given PIF.

Signature:

```
string get_DNS (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_bond_slave_of`

Overview:

Get the `bond_slave_of` field of the given PIF.

Signature:

`(Bond ref) get_bond_slave_of (session_id s, PIF ref self)`

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: Bond ref

value of the field

RPC name: `get_bond_master_of`

Overview:

Get the `bond_master_of` field of the given PIF.

Signature:

`(Bond ref set) get_bond_master_of (session_id s, PIF ref self)`

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: Bond ref set

value of the field

RPC name: `get_VLAN_master_of`

Overview:

Get the `VLAN_master_of` field of the given PIF.

Signature:

`(VLAN ref) get_VLAN_master_of (session_id s, PIF ref self)`

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: VLAN ref

value of the field

RPC name: `get_VLAN_slave_of`

Overview:

Get the `VLAN_slave_of` field of the given PIF.

Signature:

```
(VLAN ref set) get_VLAN_slave_of (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `VLAN ref set`

value of the field

RPC name: `get_management`

Overview:

Get the `management` field of the given PIF.

Signature:

```
bool get_management (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `bool`

value of the field

RPC name: `get_other_config`

Overview:

Get the `other_config` field of the given PIF.

Signature:

```
((string -> string) map) get_other_config (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `(string → string) map`

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given PIF.

Signature:

```
void set_other_config (session_id s, PIF ref self, (string -> string) map value)
```

Arguments:

type	name	description
PIF ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given PIF.

Signature:

```
void add_to_other_config (session_id s, PIF ref self, string key, string value)
```

Arguments:

type	name	description
PIF ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given PIF. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, PIF ref self, string key)
```

Arguments:

type	name	description
PIF ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: `get_disallow_unplug`**Overview:**

Get the `disallow_unplug` field of the given PIF.

Signature:

```
bool get_disallow_unplug (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `bool`

value of the field

RPC name: `set_disallow_unplug`**Overview:**

Set the `disallow_unplug` field of the given PIF.

Signature:

```
void set_disallow_unplug (session_id s, PIF ref self, bool value)
```

Arguments:

type	name	description
PIF ref	self	reference to the object
bool	value	New value to set

Return Type: `void`**RPC name:** `get_tunnel_access_PIF_of`**Overview:**

Get the `tunnel_access_PIF_of` field of the given PIF.

Signature:

```
(tunnel ref set) get_tunnel_access_PIF_of (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `tunnel ref set`

value of the field

RPC name: `get_tunnel_transport_PIF_of`

Overview:

Get the `tunnel_transport_PIF_of` field of the given PIF.

Signature:

`(tunnel ref set) get_tunnel_transport_PIF_of (session_id s, PIF ref self)`

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `tunnel ref set`

value of the field

RPC name: `get_ipv6_configuration_mode`

Overview:

Get the `ipv6_configuration_mode` field of the given PIF.

Signature:

`(ipv6_configuration_mode) get_ipv6_configuration_mode (session_id s, PIF ref self)`

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `ipv6_configuration_mode`

value of the field

RPC name: `get_IPv6`

Overview:

Get the IPv6 field of the given PIF.

Signature:

`(string set) get_IPv6 (session_id s, PIF ref self)`

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `string set`

value of the field

RPC name: `get_ipv6_gateway`

Overview:

Get the `ipv6_gateway` field of the given PIF.

Signature:

```
string get_ipv6_gateway (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_primary_address_type`

Overview:

Get the `primary_address_type` field of the given PIF.

Signature:

```
(primary_address_type) get_primary_address_type (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `primary_address_type`

value of the field

RPC name: `get_managed`

Overview:

Get the `managed` field of the given PIF.

Signature:

```
bool get_managed (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `bool`

value of the field

RPC name: `get_properties`

Overview:

Get the properties field of the given PIF.

Signature:

```
((string -> string) map) get_properties (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `(string → string) map`
value of the field

RPC name: `get_capabilities`

Overview:

Get the capabilities field of the given PIF.

Signature:

```
(string set) get_capabilities (session_id s, PIF ref self)
```

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: `string set`
value of the field

RPC name: `get_by_uuid`

Overview:

Get a reference to the PIF instance with the specified UUID.

Signature:

```
(PIF ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: `PIF ref`
reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given PIF.

Signature:

(PIF record) `get_record` (session_id s, PIF ref self)

Arguments:

type	name	description
PIF ref	self	reference to the object

Return Type: PIF record

all fields from the object

2.29 Class: PIF_metrics

2.29.1 Fields for class: PIF_metrics

Name	PIF_metrics		
Description	<i>The metrics associated with a physical network interface.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	uuid	string	Unique identifier/object reference
<i>RO_run</i>	io_read_kbs	float	Read bandwidth (KiB/s)
<i>RO_run</i>	io_write_kbs	float	Write bandwidth (KiB/s)
<i>RO_run</i>	carrier	bool	Report if the PIF got a carrier or not
<i>RO_run</i>	vendor_id	string	Report vendor ID
<i>RO_run</i>	vendor_name	string	Report vendor name
<i>RO_run</i>	device_id	string	Report device ID
<i>RO_run</i>	device_name	string	Report device name
<i>RO_run</i>	speed	int	Speed of the link (if available)
<i>RO_run</i>	duplex	bool	Full duplex capability of the link (if available)
<i>RO_run</i>	pci_bus_path	string	PCI bus path of the pif (if available)
<i>RO_run</i>	last_updated	datetime	Time at which this information was last updated
<i>RW</i>	other_config	(string → string) map	additional configuration

2.29.2 RPCs associated with class: PIF_metrics

RPC name: `get_all`

Overview:

Return a list of all the PIF_metrics instances known to the system.

Signature:

```
(PIF_metrics ref set) get_all (session_id s)
```

Return Type: PIF_metrics ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of PIF_metrics references to PIF_metrics records for all PIF_metrics instances known to the system.

Signature:

```
((PIF_metrics ref -> PIF_metrics record) map) get_all_records (session_id s)
```

Return Type: (PIF_metrics ref → PIF_metrics record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the `uuid` field of the given `PIF_metrics`.

Signature:

```
string get_uuid (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
<code>PIF_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `string`

value of the field

RPC name: `get_io_read_kbs`

Overview:

Get the `io/read_kbs` field of the given `PIF_metrics`.

Signature:

```
float get_io_read_kbs (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
<code>PIF_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `float`

value of the field

RPC name: `get_io_write_kbs`

Overview:

Get the `io/write_kbs` field of the given `PIF_metrics`.

Signature:

```
float get_io_write_kbs (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
<code>PIF_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `float`

value of the field

RPC name: `get_carrier`

Overview:

Get the carrier field of the given PIF_metrics.

Signature:

```
bool get_carrier (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
PIF_metrics ref	self	reference to the object

Return Type: bool

value of the field

RPC name: `get_vendor_id`

Overview:

Get the vendor_id field of the given PIF_metrics.

Signature:

```
string get_vendor_id (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
PIF_metrics ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_vendor_name`

Overview:

Get the vendor_name field of the given PIF_metrics.

Signature:

```
string get_vendor_name (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
PIF_metrics ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_device_id`

Overview:

Get the `device_id` field of the given `PIF_metrics`.

Signature:

```
string get_device_id (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
<code>PIF_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `string`

value of the field

RPC name: `get_device_name`

Overview:

Get the `device_name` field of the given `PIF_metrics`.

Signature:

```
string get_device_name (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
<code>PIF_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `string`

value of the field

RPC name: `get_speed`

Overview:

Get the `speed` field of the given `PIF_metrics`.

Signature:

```
int get_speed (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
<code>PIF_metrics ref</code>	<code>self</code>	reference to the object

Return Type: `int`

value of the field

RPC name: `get_duplex`

Overview:

Get the duplex field of the given PIF_metrics.

Signature:

```
bool get_duplex (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
PIF_metrics ref	self	reference to the object

Return Type: bool

value of the field

RPC name: `get_pci_bus_path`

Overview:

Get the pci_bus_path field of the given PIF_metrics.

Signature:

```
string get_pci_bus_path (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
PIF_metrics ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_last_updated`

Overview:

Get the last_updated field of the given PIF_metrics.

Signature:

```
datetime get_last_updated (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
PIF_metrics ref	self	reference to the object

Return Type: datetime

value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given PIF_metrics.

Signature:

```
((string -> string) map) get_other_config (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
PIF_metrics ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given PIF_metrics.

Signature:

```
void set_other_config (session_id s, PIF_metrics ref self, (string -> string) map value)
```

Arguments:

type	name	description
PIF_metrics ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given PIF_metrics.

Signature:

```
void add_to_other_config (session_id s, PIF_metrics ref self, string key, string value)
```

Arguments:

type	name	description
PIF_metrics ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given PIF_metrics. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, PIF_metrics ref self, string key)
```

Arguments:

type	name	description
PIF_metrics ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: get_by_uuid**Overview:**

Get a reference to the PIF_metrics instance with the specified UUID.

Signature:

```
(PIF_metrics ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: PIF_metrics ref
reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given PIF_metrics.

Signature:

```
(PIF_metrics record) get_record (session_id s, PIF_metrics ref self)
```

Arguments:

type	name	description
PIF_metrics ref	self	reference to the object

Return Type: PIF_metrics record
all fields from the object

2.30 Class: Bond

2.30.1 Fields for class: Bond

Name	Bond		
Description	·		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_{ins}</i>	<code>master</code>	PIF ref	The bonded interface
<i>RO_{run}</i>	<code>slaves</code>	PIF ref set	The interfaces which are part of this bond
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration
<i>RO_{run}</i>	<code>primary_slave</code>	PIF ref	The PIF of which the IP configuration and MAC were copied to the bond, and which will receive all configuration/VLANs/VIFs on the bond if the bond is destroyed
<i>RO_{run}</i>	<code>mode</code>	bond_mode	The algorithm used to distribute traffic among the bonded NICs
<i>RO_{run}</i>	<code>properties</code>	(string → string) map	Additional configuration properties specific to the bond mode.
<i>RO_{run}</i>	<code>links_up</code>	int	Number of links up in this bond

2.30.2 RPCs associated with class: Bond

RPC name: create

Overview:

Create an interface bond.

Signature:

(Bond ref) create (session_id s, network ref network, PIF ref set members, string MAC, bond_mode mode, (s

Arguments:

type	name	description
network ref	network	Network to add the bonded PIF to
PIF ref set	members	PIFs to add to this bond
string	MAC	The MAC address to use on the bond itself. If this parameter is the empty string then the bond will inherit its MAC address from the primary slave.
bond_mode	mode	Bonding mode to use for the new bond
(string → string) map	properties	Additional configuration parameters specific to the bond mode

Return Type: Bond ref

The reference of the created Bond object

RPC name: destroy

Overview:

Destroy an interface bond.

Signature:

```
void destroy (session_id s, Bond ref self)
```

Arguments:

type	name	description
Bond ref	self	Bond to destroy

Return Type: void

RPC name: set_mode

Overview:

Change the bond mode.

Signature:

```
void set_mode (session_id s, Bond ref self, bond_mode value)
```

Arguments:

type	name	description
Bond ref	self	The bond
bond_mode	value	The new bond mode

Return Type: void

RPC name: set_property

Overview:

Set the value of a property of the bond.

Signature:

```
void set_property (session_id s, Bond ref self, string name, string value)
```

Arguments:

type	name	description
Bond ref	self	The bond
string	name	The property name
string	value	The property value

Return Type: void

RPC name: `get_all`**Overview:**

Return a list of all the Bonds known to the system.

Signature:

```
(Bond ref set) get_all (session_id s)
```

Return Type: `Bond ref set`

references to all objects

RPC name: `get_all_records`**Overview:**

Return a map of Bond references to Bond records for all Bonds known to the system.

Signature:

```
((Bond ref -> Bond record) map) get_all_records (session_id s)
```

Return Type: `(Bond ref → Bond record) map`

records of all objects

RPC name: `get_uuid`**Overview:**

Get the uuid field of the given Bond.

Signature:

```
string get_uuid (session_id s, Bond ref self)
```

Arguments:

type	name	description
Bond ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_master`**Overview:**

Get the master field of the given Bond.

Signature:

```
(PIF ref) get_master (session_id s, Bond ref self)
```

Arguments:

type	name	description
Bond ref	self	reference to the object

Return Type: PIF ref

value of the field

RPC name: get_slaves**Overview:**

Get the slaves field of the given Bond.

Signature:

```
(PIF ref set) get_slaves (session_id s, Bond ref self)
```

Arguments:

type	name	description
Bond ref	self	reference to the object

Return Type: PIF ref set

value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given Bond.

Signature:

```
((string -> string) map) get_other_config (session_id s, Bond ref self)
```

Arguments:

type	name	description
Bond ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given Bond.

Signature:

```
void set_other_config (session_id s, Bond ref self, (string -> string) map value)
```

Arguments:

type	name	description
Bond ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given Bond.

Signature:

```
void add_to_other_config (session_id s, Bond ref self, string key, string value)
```

Arguments:

type	name	description
Bond ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given Bond. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, Bond ref self, string key)
```

Arguments:

type	name	description
Bond ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_primary_slave**Overview:**

Get the primary_slave field of the given Bond.

Signature:

```
(PIF ref) get_primary_slave (session_id s, Bond ref self)
```

Arguments:

type	name	description
Bond ref	self	reference to the object

Return Type: PIF ref
value of the field

RPC name: get_mode**Overview:**

Get the mode field of the given Bond.

Signature:

```
(bond_mode) get_mode (session_id s, Bond ref self)
```

Arguments:

type	name	description
Bond ref	self	reference to the object

Return Type: bond_mode
value of the field

RPC name: get_properties**Overview:**

Get the properties field of the given Bond.

Signature:

```
((string -> string) map) get_properties (session_id s, Bond ref self)
```

Arguments:

type	name	description
Bond ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: get_links_up**Overview:**

Get the links_up field of the given Bond.

Signature:

```
int get_links_up (session_id s, Bond ref self)
```

Arguments:

type	name	description
Bond ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_by_uuid

Overview:

Get a reference to the Bond instance with the specified UUID.

Signature:

(Bond ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: Bond ref
reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given Bond.

Signature:

(Bond record) get_record (session_id s, Bond ref self)

Arguments:

type	name	description
Bond ref	self	reference to the object

Return Type: Bond record
all fields from the object

2.31 Class: VLAN

2.31.1 Fields for class: VLAN

Name	VLAN		
Description	A VLAN mux/demux.		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	tagged_PIF	PIF ref	interface on which traffic is tagged
<i>RO_{run}</i>	untagged_PIF	PIF ref	interface on which traffic is untagged
<i>RO_{ins}</i>	tag	int	VLAN tag in use
<i>RW</i>	other_config	(string → string) map	additional configuration

2.31.2 RPCs associated with class: VLAN

RPC name: create

Overview:

Create a VLAN mux/demuxer.

Signature:

(VLAN ref) create (session_id s, PIF ref tagged_PIF, int tag, network ref network)

Arguments:

type	name	description
PIF ref	tagged_PIF	PIF which receives the tagged traffic
int	tag	VLAN tag to use
network ref	network	Network to receive the untagged traffic

Return Type: VLAN ref

The reference of the created VLAN object

RPC name: destroy

Overview:

Destroy a VLAN mux/demuxer.

Signature:

void destroy (session_id s, VLAN ref self)

Arguments:

type	name	description
VLAN ref	self	VLAN mux/demuxer to destroy

Return Type: void

RPC name: `get_all`**Overview:**

Return a list of all the VLANs known to the system.

Signature:

```
(VLAN ref set) get_all (session_id s)
```

Return Type: `VLAN ref set`

references to all objects

RPC name: `get_all_records`**Overview:**

Return a map of VLAN references to VLAN records for all VLANs known to the system.

Signature:

```
((VLAN ref -> VLAN record) map) get_all_records (session_id s)
```

Return Type: `(VLAN ref → VLAN record) map`

records of all objects

RPC name: `get_uuid`**Overview:**

Get the uuid field of the given VLAN.

Signature:

```
string get_uuid (session_id s, VLAN ref self)
```

Arguments:

type	name	description
VLAN ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_tagged_PIF`**Overview:**

Get the tagged_PIF field of the given VLAN.

Signature:

```
(PIF ref) get_tagged_PIF (session_id s, VLAN ref self)
```

Arguments:

type	name	description
VLAN ref	self	reference to the object

Return Type: PIF ref

value of the field

RPC name: get_untagged_PIF**Overview:**

Get the untagged_PIF field of the given VLAN.

Signature:

```
(PIF ref) get_untagged_PIF (session_id s, VLAN ref self)
```

Arguments:

type	name	description
VLAN ref	self	reference to the object

Return Type: PIF ref

value of the field

RPC name: get_tag**Overview:**

Get the tag field of the given VLAN.

Signature:

```
int get_tag (session_id s, VLAN ref self)
```

Arguments:

type	name	description
VLAN ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given VLAN.

Signature:

```
((string -> string) map) get_other_config (session_id s, VLAN ref self)
```

Arguments:

type	name	description
VLAN ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given VLAN.

Signature:

```
void set_other_config (session_id s, VLAN ref self, (string -> string) map value)
```

Arguments:

type	name	description
VLAN ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given VLAN.

Signature:

```
void add_to_other_config (session_id s, VLAN ref self, string key, string value)
```

Arguments:

type	name	description
VLAN ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given VLAN. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, VLAN ref self, string key)
```

Arguments:

type	name	description
VLAN ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: get_by_uuid**Overview:**

Get a reference to the VLAN instance with the specified UUID.

Signature:

(VLAN ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VLAN ref
reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given VLAN.

Signature:

(VLAN record) get_record (session_id s, VLAN ref self)

Arguments:

type	name	description
VLAN ref	self	reference to the object

Return Type: VLAN record
all fields from the object

2.32 Class: SM

2.32.1 Fields for class: SM

Name	SM		
Description	<i>A storage manager plugin.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_run</i>	<code>name_label</code>	string	a human-readable name
<i>RO_run</i>	<code>name_description</code>	string	a notes field containing human-readable description
<i>RO_run</i>	<code>type</code>	string	SR.type
<i>RO_run</i>	<code>vendor</code>	string	Vendor who created this plugin
<i>RO_run</i>	<code>copyright</code>	string	Entity which owns the copyright of this plugin
<i>RO_run</i>	<code>version</code>	string	Version of the plugin
<i>RO_run</i>	<code>required_api_version</code>	string	Minimum SM API version required on the server
<i>RO_run</i>	<code>configuration</code>	(string → string) map	names and descriptions of device config keys
<i>RO_run</i>	<code>capabilities</code>	string set	capabilities of the SM plugin
<i>RO_run</i>	<code>features</code>	(string → int) map	capabilities of the SM plugin, with capability version numbers
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration
<i>RO_run</i>	<code>driver_filename</code>	string	filename of the storage driver
<i>RO_run</i>	<code>required_cluster_stack</code>	string set	The storage plugin requires that one of these cluster stacks is configured and running.

2.32.2 RPCs associated with class: SM

RPC name: `get_all`

Overview:

Return a list of all the SMs known to the system.

Signature:

```
(SM ref set) get_all (session_id s)
```

Return Type: SM ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of SM references to SM records for all SMs known to the system.

Signature:

```
((SM ref -> SM record) map) get_all_records (session_id s)
```

Return Type: (SM ref → SM record) map
records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given SM.

Signature:

```
string get_uuid (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_name_label`

Overview:

Get the name/label field of the given SM.

Signature:

```
string get_name_label (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_name_description`

Overview:

Get the name/description field of the given SM.

Signature:

```
string get_name_description (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_type

Overview:

Get the type field of the given SM.

Signature:

```
string get_type (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_vendor

Overview:

Get the vendor field of the given SM.

Signature:

```
string get_vendor (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_copyright

Overview:

Get the copyright field of the given SM.

Signature:

```
string get_copyright (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_version`

Overview:

Get the version field of the given SM.

Signature:

```
string get_version (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_required_api_version`

Overview:

Get the `required_api_version` field of the given SM.

Signature:

```
string get_required_api_version (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_configuration`

Overview:

Get the configuration field of the given SM.

Signature:

```
((string -> string) map) get_configuration (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: `get_capabilities`

Overview: This message is deprecated Get the capabilities field of the given SM.

Signature:

```
((string set) get_capabilities (session_id s, SM ref self))
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: string set

value of the field

RPC name: `get_features`

Overview:

Get the features field of the given SM.

Signature:

```
((string -> int) map) get_features (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: (string → int) map

value of the field

RPC name: `get_other_config`

Overview:

Get the other_config field of the given SM.

Signature:

```
((string -> string) map) get_other_config (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given SM.

Signature:

```
void set_other_config (session_id s, SM ref self, (string -> string) map value)
```

Arguments:

type	name	description
SM ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given SM.

Signature:

```
void add_to_other_config (session_id s, SM ref self, string key, string value)
```

Arguments:

type	name	description
SM ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given SM. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, SM ref self, string key)
```

Arguments:

type	name	description
SM ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: `get_driver_filename`

Overview:

Get the `driver_filename` field of the given SM.

Signature:

```
string get_driver_filename (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_required_cluster_stack`

Overview:

Get the `required_cluster_stack` field of the given SM.

Signature:

```
(string set) get_required_cluster_stack (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: string set

value of the field

RPC name: `get_by_uuid`

Overview:

Get a reference to the SM instance with the specified UUID.

Signature:

```
(SM ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: SM ref

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given SM.

Signature:

```
(SM record) get_record (session_id s, SM ref self)
```

Arguments:

type	name	description
SM ref	self	reference to the object

Return Type: SM record

all fields from the object

RPC name: `get_by_name_label`

Overview:

Get all the SM instances with the given label.

Signature:

```
(SM ref set) get_by_name_label (session_id s, string label)
```

Arguments:

type	name	description
string	label	label of object to return

Return Type: SM ref set

references to objects with matching names

2.33 Class: SR

2.33.1 Fields for class: SR

Name	SR		
Description	<i>A storage repository.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_{ins}</i>	<code>name_label</code>	string	a human-readable name
<i>RO_{ins}</i>	<code>name_description</code>	string	a notes field containing human-readable description
<i>RO_{run}</i>	<code>allowed_operations</code>	storage_operations set	list of the operations allowed in this state. This list is advisory only and the server state may have changed by the time this field is read by a client.
<i>RO_{run}</i>	<code>current_operations</code>	(string → storage_operations) map	links each of the running tasks using this object (by reference) to a current_operation enum which describes the nature of the task.
<i>RO_{run}</i>	<code>VDIs</code>	VDI ref set	all virtual disks known to this storage repository
<i>RO_{run}</i>	<code>PBDs</code>	PBD ref set	describes how particular hosts can see this storage repository
<i>RO_{run}</i>	<code>virtual_allocation</code>	int	sum of virtual_sizes of all VDIs in this storage repository (in bytes)
<i>RO_{run}</i>	<code>physical_utilisation</code>	int	physical space currently utilised on this storage repository (in bytes). Note that for sparse disk formats, physical_utilisation may be less than virtual_allocation
<i>RO_{ins}</i>	<code>physical_size</code>	int	total physical size of the repository (in bytes)
<i>RO_{ins}</i>	<code>type</code>	string	type of the storage repository
<i>RO_{ins}</i>	<code>content_type</code>	string	the type of the SR's content, if required (e.g. ISOs)
<i>RO_{run}</i>	<code>shared</code>	bool	true if this SR is (capable of being) shared between multiple hosts
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration
<i>RW</i>	<code>tags</code>	string set	user-specified tags for categorization purposes
<i>RW</i>	<code>sm_config</code>	(string → string) map	SM dependent data
<i>RO_{run}</i>	<code>blobs</code>	(string → blob ref) map	Binary blobs associated with this SR
<i>RO_{run}</i>	<code>local_cache_enabled</code>	bool	True if this SR is assigned to be the local cache for its host
<i>RO_{run}</i>	<code>introduced_by</code>	DR_task ref	The disaster recovery task which introduced this SR
<i>RO_{run}</i>	<code>clustered</code>	bool	True if the SR is using aggregated local storage
<i>RO_{run}</i>	<code>is_tools_sr</code>	bool	True if this is the SR that contains the Tools ISO VDIs

2.33.2 RPCs associated with class: SR

RPC name: create

Overview:

Create a new Storage Repository and introduce it into the managed system, creating both SR record and PBD record to attach it to current host (with specified device_config parameters).

Signature:

(SR ref) create (session_id s, host ref host, (string -> string) map device_config, int physical_size, st.

Arguments:

type	name	description
host ref	host	The host to create/make the SR on
(string -> string) map	device_config	The device config string that will be passed to backend SR driver
int	physical_size	The physical size of the new storage repository
string	name_label	The name of the new storage repository
string	name_description	The description of the new storage repository
string	type	The type of the SR; used to specify the SR backend driver to use
string	content_type	The type of the new SRs content, if required (e.g. ISOs)
bool	shared	True if the SR (is capable of) being shared by multiple hosts
(string -> string) map	sm_config	Storage backend specific configuration options

Return Type: SR ref

The reference of the newly created Storage Repository.

Possible Error Codes: SR_UNKNOWN_DRIVER

RPC name: introduce

Overview:

Introduce a new Storage Repository into the managed system.

Signature:

(SR ref) introduce (session_id s, string uuid, string name_label, string name_description, string type, s

Arguments:

type	name	description
string	uuid	The uuid assigned to the introduced SR
string	name_label	The name of the new storage repository
string	name_description	The description of the new storage repository
string	type	The type of the SR; used to specify the SR backend driver to use
string	content_type	The type of the new SRs content, if required (e.g. ISOs)
bool	shared	True if the SR (is capable of) being shared by multiple hosts
(string -> string) map	sm_config	Storage backend specific configuration options

Return Type: SR ref

The reference of the newly introduced Storage Repository.

RPC name: make

Overview: This message is deprecated Create a new Storage Repository on disk. This call is deprecated: use SR.create instead.

Signature:

```
string make (session_id s, host ref host, (string -> string) map device_config, int physical_size, string
```

Arguments:

type	name	description
host ref	host	The host to create/make the SR on
(string → string) map	device_config	The device config string that will be passed to backend SR driver
int	physical_size	The physical size of the new storage repository
string	name_label	The name of the new storage repository
string	name_description	The description of the new storage repository
string	type	The type of the SR; used to specify the SR backend driver to use
string	content_type	The type of the new SRs content, if required (e.g. ISOs)
(string → string) map	sm_config	Storage backend specific configuration options

Return Type: string

The uuid of the newly created Storage Repository.

RPC name: destroy**Overview:**

Destroy specified SR, removing SR-record from database and remove SR from disk. (In order to affect this operation the appropriate device_config is read from the specified SR's PBD on current host).

Signature:

```
void destroy (session_id s, SR ref sr)
```

Arguments:

type	name	description
SR ref	sr	The SR to destroy

Return Type: void

Possible Error Codes: SR_HAS_PBD

RPC name: forget**Overview:**

Removing specified SR-record from database, without attempting to remove SR from disk.

Signature:

```
void forget (session_id s, SR ref sr)
```

Arguments:

type	name	description
SR ref	sr	The SR to destroy

Return Type: void

Possible Error Codes: SR_HAS_PBD

RPC name: update**Overview:**

Refresh the fields on the SR object.

Signature:

```
void update (session_id s, SR ref sr)
```

Arguments:

type	name	description
SR ref	sr	The SR whose fields should be refreshed

Return Type: void

RPC name: get_supported_types**Overview:**

Return a set of all the SR types supported by the system.

Signature:

```
(string set) get_supported_types (session_id s)
```

Return Type: string set

the supported SR types

RPC name: scan**Overview:**

Refreshes the list of VDIs associated with an SR.

Signature:

```
void scan (session_id s, SR ref sr)
```


Arguments:

type	name	description
SR ref	sr	The SR to scan

Return Type: void

RPC name: probe**Overview:**

Perform a backend-specific scan, using the given device_config. If the device_config is complete, then this will return a list of the SRs present of this type on the device, if any. If the device_config is partial, then a backend-specific scan will be performed, returning results that will guide the user in improving the device_config.

Signature:

```
string probe (session_id s, host ref host, (string -> string) map device_config, string type, (string ->
```

Arguments:

type	name	description
host ref	host	The host to create/make the SR on
(string -> string) map	device_config	The device config string that will be passed to backend SR driver
string	type	The type of the SR; used to specify the SR backend driver to use
(string -> string) map	sm_config	Storage backend specific configuration options

Return Type: string

An XML fragment containing the scan results. These are specific to the scan being performed, and the backend.

RPC name: set_shared**Overview:**

Sets the shared flag on the SR.

Signature:

```
void set_shared (session_id s, SR ref sr, bool value)
```

Arguments:

type	name	description
SR ref	sr	The SR
bool	value	True if the SR is shared

Return Type: void

RPC name: `set_name_label`

Overview:

Set the name label of the SR.

Signature:

```
void set_name_label (session_id s, SR ref sr, string value)
```

Arguments:

type	name	description
SR ref	sr	The SR
string	value	The name label for the SR

Return Type: void

RPC name: `set_name_description`

Overview:

Set the name description of the SR.

Signature:

```
void set_name_description (session_id s, SR ref sr, string value)
```

Arguments:

type	name	description
SR ref	sr	The SR
string	value	The name description for the SR

Return Type: void

RPC name: `create_new_blob`

Overview:

Create a placeholder for a named binary blob of data that is associated with this SR.

Signature:

```
(blob ref) create_new_blob (session_id s, SR ref sr, string name, string mime_type, bool public)
```

Arguments:

type	name	description
SR ref	sr	The SR
string	name	The name associated with the blob
string	mime_type	The mime type for the data. Empty string translates to application/octet-stream
bool	public	True if the blob should be publicly available

Return Type: blob ref

The reference of the blob, needed for populating its data

RPC name: `set_physical_size`

Overview:

Sets the SR's `physical_size` field.

Signature:

```
void set_physical_size (session_id s, SR ref self, int value)
```

Arguments:

type	name	description
SR ref	self	The SR to modify
int	value	The new value of the SR's <code>physical_size</code>

Return Type: void

RPC name: `set_virtual_allocation`

Overview:

Sets the SR's `virtual_allocation` field.

Signature:

```
void set_virtual_allocation (session_id s, SR ref self, int value)
```

Arguments:

type	name	description
SR ref	self	The SR to modify
int	value	The new value of the SR's <code>virtual_allocation</code>

Return Type: void

RPC name: `set_physical_utilisation`

Overview:

Sets the SR's `physical_utilisation` field.

Signature:

```
void set_physical_utilisation (session_id s, SR ref self, int value)
```

Arguments:

type	name	description
SR ref	self	The SR to modify
int	value	The new value of the SR's <code>physical utilisation</code>

Return Type: void

RPC name: `assert_can_host_ha_statefile`

Overview:

Returns successfully if the given SR can host an HA statefile. Otherwise returns an error to explain why not.

Signature:

```
void assert_can_host_ha_statefile (session_id s, SR ref sr)
```

Arguments:

type	name	description
SR ref	sr	The SR to query

Return Type: void

RPC name: `assert_supports_database_replication`

Overview:

Returns successfully if the given SR supports database replication. Otherwise returns an error to explain why not.

Signature:

```
void assert_supports_database_replication (session_id s, SR ref sr)
```

Arguments:

type	name	description
SR ref	sr	The SR to query

Return Type: void

RPC name: `enable_database_replication`

Overview:

.

Signature:

```
void enable_database_replication (session_id s, SR ref sr)
```

Arguments:

type	name	description
SR ref	sr	The SR to which metadata should be replicated

Return Type: void

RPC name: `disable_database_replication`

Overview:

.

Signature:

```
void disable_database_replication (session_id s, SR ref sr)
```

Arguments:

type	name	description
SR ref	sr	The SR to which metadata should be no longer replicated

Return Type: `void`

RPC name: `get_data_sources`

Overview:

.

Signature:

```
(data_source record set) get_data_sources (session_id s, SR ref sr)
```

Arguments:

type	name	description
SR ref	sr	The SR to interrogate

Return Type: `data_source record set`

A set of data sources

RPC name: `record_data_source`

Overview:

Start recording the specified data source.

Signature:

```
void record_data_source (session_id s, SR ref sr, string data_source)
```

Arguments:

type	name	description
SR ref	sr	The SR
string	data_source	The data source to record

Return Type: `void`

RPC name: `query_data_source`

Overview:

Query the latest value of the specified data source.

Signature:

```
float query_data_source (session_id s, SR ref sr, string data_source)
```

Arguments:

type	name	description
SR ref	sr	The SR
string	data_source	The data source to query

Return Type: float

The latest value, averaged over the last 5 seconds

RPC name: `forget_data_source_archives`

Overview:

Forget the recorded statistics related to the specified data source.

Signature:

```
void forget_data_source_archives (session_id s, SR ref sr, string data_source)
```

Arguments:

type	name	description
SR ref	sr	The SR
string	data_source	The data source whose archives are to be forgotten

Return Type: void

RPC name: `get_all`

Overview:

Return a list of all the SRs known to the system.

Signature:

```
(SR ref set) get_all (session_id s)
```

Return Type: SR ref set

references to all objects

RPC name: `get_all_records`**Overview:**

Return a map of SR references to SR records for all SRs known to the system.

Signature:

```
((SR ref -> SR record) map) get_all_records (session_id s)
```

Return Type: (SR ref → SR record) map

records of all objects

RPC name: `get_uuid`**Overview:**

Get the uuid field of the given SR.

Signature:

```
string get_uuid (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_name_label`**Overview:**

Get the name/label field of the given SR.

Signature:

```
string get_name_label (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_name_description`**Overview:**

Get the name/description field of the given SR.

Signature:

```
string get_name_description (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_allowed_operations**Overview:**

Get the allowed_operations field of the given SR.

Signature:

```
(storage_operations set) get_allowed_operations (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: storage_operations set

value of the field

RPC name: get_current_operations**Overview:**

Get the current_operations field of the given SR.

Signature:

```
((string -> storage_operations) map) get_current_operations (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: (string → storage_operations) map

value of the field

RPC name: get_VDIs**Overview:**

Get the VDIs field of the given SR.

Signature:

```
(VDI ref set) get_VDIs (session_id s, SR ref self)
```


Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: VDI ref set
value of the field

RPC name: get_PBDs**Overview:**

Get the PBDs field of the given SR.

Signature:

```
(PBD ref set) get_PBDs (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: PBD ref set
value of the field

RPC name: get_virtual_allocation**Overview:**

Get the virtual_allocation field of the given SR.

Signature:

```
int get_virtual_allocation (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_physical_utilisation**Overview:**

Get the physical_utilisation field of the given SR.

Signature:

```
int get_physical_utilisation (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_physical_size**Overview:**

Get the physical_size field of the given SR.

Signature:

```
int get_physical_size (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_type**Overview:**

Get the type field of the given SR.

Signature:

```
string get_type (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_content_type**Overview:**

Get the content_type field of the given SR.

Signature:

```
string get_content_type (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_shared**Overview:**

Get the shared field of the given SR.

Signature:

```
bool get_shared (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given SR.

Signature:

```
((string -> string) map) get_other_config (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given SR.

Signature:

```
void set_other_config (session_id s, SR ref self, (string -> string) map value)
```

Arguments:

type	name	description
SR ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given SR.

Signature:

```
void add_to_other_config (session_id s, SR ref self, string key, string value)
```

Arguments:

type	name	description
SR ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given SR. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, SR ref self, string key)
```

Arguments:

type	name	description
SR ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_tags**Overview:**

Get the tags field of the given SR.

Signature:

```
(string set) get_tags (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: string set
value of the field

RPC name: set_tags**Overview:**

Set the tags field of the given SR.

Signature:

```
void set_tags (session_id s, SR ref self, string set value)
```

Arguments:

type	name	description
SR ref	self	reference to the object
string set	value	New value to set

Return Type: void

RPC name: add_tags**Overview:**

Add the given value to the tags field of the given SR. If the value is already in that Set, then do nothing.

Signature:

```
void add_tags (session_id s, SR ref self, string value)
```

Arguments:

type	name	description
SR ref	self	reference to the object
string	value	New value to add

Return Type: void

RPC name: remove_tags**Overview:**

Remove the given value from the tags field of the given SR. If the value is not in that Set, then do nothing.

Signature:

```
void remove_tags (session_id s, SR ref self, string value)
```

Arguments:

type	name	description
SR ref	self	reference to the object
string	value	Value to remove

Return Type: void**RPC name:** get_sm_config**Overview:**

Get the sm_config field of the given SR.

Signature:

```
((string -> string) map) get_sm_config (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: (string → string) map
value of the field**RPC name:** set_sm_config**Overview:**

Set the sm_config field of the given SR.

Signature:

```
void set_sm_config (session_id s, SR ref self, (string -> string) map value)
```

Arguments:

type	name	description
SR ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_sm_config**Overview:**

Add the given key-value pair to the sm_config field of the given SR.

Signature:

```
void add_to_sm_config (session_id s, SR ref self, string key, string value)
```

Arguments:

type	name	description
SR ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_sm_config**Overview:**

Remove the given key and its corresponding value from the sm_config field of the given SR. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_sm_config (session_id s, SR ref self, string key)
```

Arguments:

type	name	description
SR ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_blobs**Overview:**

Get the blobs field of the given SR.

Signature:

```
((string -> blob ref) map) get_blobs (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: (string → blob ref) map
value of the field

RPC name: get_local_cache_enabled**Overview:**

Get the local_cache_enabled field of the given SR.

Signature:

```
bool get_local_cache_enabled (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_introduced_by**Overview:**

Get the introduced_by field of the given SR.

Signature:

```
(DR_task ref) get_introduced_by (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: DR_task ref

value of the field

RPC name: get_clustered**Overview:**

Get the clustered field of the given SR.

Signature:

```
bool get_clustered (session_id s, SR ref self)
```

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_is_tools_sr**Overview:**

Get the is_tools_sr field of the given SR.

Signature:

```
bool get_is_tools_sr (session_id s, SR ref self)
```


Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_by_uuid**Overview:**

Get a reference to the SR instance with the specified UUID.

Signature:

(SR ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: SR ref

reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given SR.

Signature:

(SR record) get_record (session_id s, SR ref self)

Arguments:

type	name	description
SR ref	self	reference to the object

Return Type: SR record

all fields from the object

RPC name: get_by_name_label**Overview:**

Get all the SR instances with the given label.

Signature:

(SR ref set) get_by_name_label (session_id s, string label)

Arguments:

type	name	description
string	label	label of object to return

Return Type: SR ref set

references to objects with matching names

2.34 Class: LVHD

2.34.1 Fields for class: LVHD

Name	LVHD		
Description	<i>LVHD SR specific operations.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<i>uuid</i>	string	Unique identifier/object reference

2.34.2 RPCs associated with class: LVHD

RPC name: enable_thin_provisioning

Overview:

Upgrades an LVHD SR to enable thin-provisioning. Future VDIs created in this SR will be thinly-provisioned, although existing VDIs will be left alone. Note that the SR must be attached to the SRmaster for upgrade to work.

Signature:

```
string enable_thin_provisioning (session_id s, host ref host, SR ref SR, int initial_allocation, int allo
```

Arguments:

type	name	description
host ref	host	The LVHD Host to upgrade to being thin-provisioned.
SR ref	SR	The LVHD SR to upgrade to being thin-provisioned.
int	initial_allocation	The initial amount of space to allocate to a newly-created VDI in bytes
int	allocation_quantum	The amount of space to allocate to a VDI when it needs to be enlarged in bytes

Return Type: string

Message from LVHD.enable_thin_provisioning extension

RPC name: get_uuid

Overview:

Get the uuid field of the given LVHD.

Signature:

```
string get_uuid (session_id s, LVHD ref self)
```

Arguments:

type	name	description
LVHD ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_by_uuid`

Overview:

Get a reference to the LVHD instance with the specified UUID.

Signature:

`(LVHD ref) get_by_uuid (session_id s, string uuid)`

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: LVHD ref

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given LVHD.

Signature:

`(LVHD record) get_record (session_id s, LVHD ref self)`

Arguments:

type	name	description
LVHD ref	self	reference to the object

Return Type: LVHD record

all fields from the object

2.35 Class: VDI

2.35.1 Fields for class: VDI

Name	VDI		
Description	<i>A virtual disk image.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_{ins}</i>	<code>name_label</code>	string	a human-readable name
<i>RO_{ins}</i>	<code>name_description</code>	string	a notes field containing human-readable description
<i>RO_{run}</i>	<code>allowed_operations</code>	vdi_operations set	list of the operations allowed in this state. This list is advisory only and the server state may have changed by the time this field is read by a client.
<i>RO_{run}</i>	<code>current_operations</code>	(string → vdi_operations) map	links each of the running tasks using this object (by reference) to a current_operation enum which describes the nature of the task.
<i>RO_{ins}</i>	<code>SR</code>	SR ref	storage repository in which the VDI resides
<i>RO_{run}</i>	<code>VBDs</code>	VBD ref set	list of vbds that refer to this disk
<i>RO_{run}</i>	<code>crash_dumps</code>	crashdump ref set	list of crash dumps that refer to this disk
<i>RO_{ins}</i>	<code>virtual_size</code>	int	size of disk as presented to the guest (in bytes). Note that, depending on storage backend type, requested size may not be respected exactly
<i>RO_{run}</i>	<code>physical_utilisation</code>	int	amount of physical space that the disk image is currently taking up on the storage repository (in bytes)
<i>RO_{ins}</i>	<code>type</code>	vdi_type	type of the VDI
<i>RO_{ins}</i>	<code>sharable</code>	bool	true if this disk may be shared
<i>RO_{ins}</i>	<code>read_only</code>	bool	true if this disk may ONLY be mounted read-only
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration
<i>RO_{run}</i>	<code>storage_lock</code>	bool	true if this disk is locked at the storage level
<i>RO_{run}</i>	<code>location</code>	string	location information
<i>RO_{run}</i>	<code>managed</code>	bool	
<i>RO_{run}</i>	<code>missing</code>	bool	true if SR scan operation reported this VDI as not present on disk
<i>RO_{run}</i>	<code>parent</code>	VDI ref	This field is always null. Deprecated
<i>RW</i>	<code>xenstore_data</code>	(string → string) map	data to be inserted into the xenstore tree (/local/domain/0/backend/vbd/ <i>id_i</i> / <i>device-id_i</i> /sm-data) after the VDI is attached. This is generally set by the SM backends on vdi_attach.
<i>RW</i>	<code>sm_config</code>	(string → string) map	SM dependent data
<i>RO_{run}</i>	<code>is_a_snapshot</code>	bool	true if this is a snapshot.
<i>RO_{run}</i>	<code>snapshot_of</code>	VDI ref	Ref pointing to the VDI this snapshot is of.
<i>RO_{run}</i>	<code>snapshots</code>	VDI ref set	List pointing to all the VDIs snapshots.

<i>RO_{run}</i>	<code>snapshot_time</code>	datetime	Date/time when this snapshot was created.
<i>RW</i>	<code>tags</code>	string set	user-specified tags for categorization purposes
<i>RO_{run}</i>	<code>allow_caching</code>	bool	true if this VDI is to be cached in the local cache SR
<i>RO_{run}</i>	<code>on_boot</code>	on_boot	The behaviour of this VDI on a VM boot
<i>RO_{run}</i>	<code>metadata_of_pool</code>	pool ref	The pool whose metadata is contained in this VDI
<i>RO_{run}</i>	<code>metadata_latest</code>	bool	Whether this VDI contains the latest known accessible metadata for the pool
<i>RO_{run}</i>	<code>is_tools_iso</code>	bool	Whether this VDI is a Tools ISO

2.35.2 RPCs associated with class: VDI

RPC name: snapshot

Overview:

Take a read-only snapshot of the VDI, returning a reference to the snapshot. If any `driver_params` are specified then these are passed through to the storage-specific substrate driver that takes the snapshot. NB the snapshot lives in the same Storage Repository as its parent.

Signature:

```
(VDI ref) snapshot (session_id s, VDI ref vdi, (string -> string) map driver_params)
```

Arguments:

type	name	description
VDI ref	vdi	The VDI to snapshot
(string → string) map	driver_params	Optional parameters that can be passed through to backend driver in order to specify storage-type-specific snapshot options

Return Type: VDI ref

The ID of the newly created VDI.

RPC name: clone

Overview:

Take an exact copy of the VDI and return a reference to the new disk. If any `driver_params` are specified then these are passed through to the storage-specific substrate driver that implements the clone operation. NB the clone lives in the same Storage Repository as its parent.

Signature:

```
(VDI ref) clone (session_id s, VDI ref vdi, (string -> string) map driver_params)
```

Arguments:

type	name	description
VDI ref	vdi	The VDI to clone
(string → string) map	driver_params	Optional parameters that are passed through to the backend driver in order to specify storage-type-specific clone options

Return Type: VDI ref

The ID of the newly created VDI.

RPC name: resize**Overview:**

Resize the VDI.

Signature:

```
void resize (session_id s, VDI ref vdi, int size)
```

Arguments:

type	name	description
VDI ref	vdi	The VDI to resize
int	size	The new size of the VDI

Return Type: void**RPC name:** resize_online**Overview:**

Resize the VDI which may or may not be attached to running guests.

Signature:

```
void resize_online (session_id s, VDI ref vdi, int size)
```

Arguments:

type	name	description
VDI ref	vdi	The VDI to resize
int	size	The new size of the VDI

Return Type: void**RPC name:** introduce**Overview:**

Create a new VDI record in the database only.

Signature:

```
(VDI ref) introduce (session_id s, string uuid, string name_label, string name_description, SR ref SR, vd
```

Arguments:

type	name	description
string	uuid	The uuid of the disk to introduce
string	name_label	The name of the disk record
string	name_description	The description of the disk record
SR ref	SR	The SR that the VDI is in
vdi_type	type	The type of the VDI
bool	sharable	true if this disk may be shared
bool	read_only	true if this disk may ONLY be mounted read-only
(string → string) map	other_config	additional configuration
string	location	location information
(string → string) map	xenstore_data	Data to insert into xenstore
(string → string) map	sm_config	Storage-specific config
bool	managed	Storage-specific config
int	virtual_size	Storage-specific config
int	physical_utilisation	Storage-specific config
pool ref	metadata_of_pool	Storage-specific config
bool	is_a_snapshot	Storage-specific config
datetime	snapshot_time	Storage-specific config
VDI ref	snapshot_of	Storage-specific config

Return Type: VDI ref

The ref of the newly created VDI record.

Possible Error Codes: SR_OPERATION_NOT_SUPPORTED

RPC name: db_introduce

Overview:

Create a new VDI record in the database only.

Signature:

(VDI ref) db_introduce (session_id s, string uuid, string name_label, string name_description, SR ref SR,

Arguments:

type	name	description
string	uuid	The uuid of the disk to introduce
string	name_label	The name of the disk record
string	name_description	The description of the disk record
SR ref	SR	The SR that the VDI is in
vdi_type	type	The type of the VDI
bool	sharable	true if this disk may be shared
bool	read_only	true if this disk may ONLY be mounted read-only
(string → string) map	other_config	additional configuration
string	location	location information
(string → string) map	xenstore_data	Data to insert into xenstore
(string → string) map	sm_config	Storage-specific config
bool	managed	Storage-specific config
int	virtual_size	Storage-specific config
int	physical_utilisation	Storage-specific config
pool ref	metadata_of_pool	Storage-specific config
bool	is_a_snapshot	Storage-specific config
datetime	snapshot_time	Storage-specific config
VDI ref	snapshot_of	Storage-specific config

Return Type: VDI ref

The ref of the newly created VDI record.

RPC name: db_forget**Overview:**

Removes a VDI record from the database.

Signature:

```
void db_forget (session_id s, VDI ref vdi)
```

Arguments:

type	name	description
VDI ref	vdi	The VDI to forget about

Return Type: void**RPC name:** update**Overview:**

Ask the storage backend to refresh the fields in the VDI object.

Signature:

```
void update (session_id s, VDI ref vdi)
```

Arguments:

type	name	description
VDI ref	vdi	The VDI whose stats (eg size) should be updated

Return Type: void

Possible Error Codes: SR_OPERATION_NOT_SUPPORTED

RPC name: copy

Overview:

Copy either a full VDI or the block differences between two VDIs into either a fresh VDI or an existing VDI.

Signature:

(VDI ref) copy (session_id s, VDI ref vdi, SR ref sr, VDI ref base_vdi, VDI ref into_vdi)

Arguments:

type	name	description
VDI ref	vdi	The VDI to copy
SR ref	sr	The destination SR (only required if the destination VDI is not specified)
VDI ref	base_vdi	The base VDI (only required if copying only changed blocks, by default all blocks will be copied)
VDI ref	into_vdi	The destination VDI to copy blocks into (if omitted then a destination SR must be provided and a fresh VDI will be created)

Return Type: VDI ref

The reference of the VDI where the blocks were written.

Possible Error Codes: VDI_READONLY, VDI_TOO_SMALL, VDI_NOT_SPARSE

RPC name: set_managed

Overview:

Sets the VDI's managed field.

Signature:

void set_managed (session_id s, VDI ref self, bool value)

Arguments:

type	name	description
VDI ref	self	The VDI to modify
bool	value	The new value of the VDI's managed field

Return Type: void

RPC name: forget

Overview:

Removes a VDI record from the database.

Signature:

```
void forget (session_id s, VDI ref vdi)
```

Arguments:

type	name	description
VDI ref	vdi	The VDI to forget about

Return Type: void

RPC name: set_sharable

Overview:

Sets the VDI's sharable field.

Signature:

```
void set_sharable (session_id s, VDI ref self, bool value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
bool	value	The new value of the VDI's sharable field

Return Type: void

RPC name: set_read_only

Overview:

Sets the VDI's read_only field.

Signature:

```
void set_read_only (session_id s, VDI ref self, bool value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
bool	value	The new value of the VDI's read_only field

Return Type: void

RPC name: `set_missing`

Overview:

Sets the VDI's missing field.

Signature:

```
void set_missing (session_id s, VDI ref self, bool value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
bool	value	The new value of the VDI's missing field

Return Type: void

RPC name: `set_virtual_size`

Overview:

Sets the VDI's virtual_size field.

Signature:

```
void set_virtual_size (session_id s, VDI ref self, int value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
int	value	The new value of the VDI's virtual size

Return Type: void

RPC name: `set_physical_utilisation`

Overview:

Sets the VDI's physical_utilisation field.

Signature:

```
void set_physical_utilisation (session_id s, VDI ref self, int value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
int	value	The new value of the VDI's physical utilisation

Return Type: void

RPC name: `set_is_a_snapshot`

Overview:

Sets whether this VDI is a snapshot.

Signature:

```
void set_is_a_snapshot (session_id s, VDI ref self, bool value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
bool	value	The new value indicating whether this VDI is a snapshot

Return Type: void

RPC name: `set_snapshot_of`

Overview:

Sets the VDI of which this VDI is a snapshot.

Signature:

```
void set_snapshot_of (session_id s, VDI ref self, VDI ref value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
VDI ref	value	The VDI of which this VDI is a snapshot

Return Type: void

RPC name: `set_snapshot_time`

Overview:

Sets the snapshot time of this VDI.

Signature:

```
void set_snapshot_time (session_id s, VDI ref self, datetime value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
datetime	value	The snapshot time of this VDI.

Return Type: void

RPC name: set_metadata_of_pool**Overview:**

Records the pool whose metadata is contained by this VDI.

Signature:

```
void set_metadata_of_pool (session_id s, VDI ref self, pool ref value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
pool ref	value	The pool whose metadata is contained by this VDI

Return Type: void

RPC name: set_name_label**Overview:**

Set the name label of the VDI. This can only happen when then its SR is currently attached.

Signature:

```
void set_name_label (session_id s, VDI ref self, string value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
string	value	The name lable for the VDI

Return Type: void

RPC name: set_name_description**Overview:**

Set the name description of the VDI. This can only happen when its SR is currently attached.

Signature:

```
void set_name_description (session_id s, VDI ref self, string value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
string	value	The name description for the VDI

Return Type: void

RPC name: set_on_boot**Overview:**

Set the value of the on_boot parameter. This value can only be changed when the VDI is not attached to a running VM.

Signature:

```
void set_on_boot (session_id s, VDI ref self, on_boot value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
on_boot	value	The value to set

Return Type: void

RPC name: set_allow_caching**Overview:**

Set the value of the allow_caching parameter. This value can only be changed when the VDI is not attached to a running VM. The caching behaviour is only affected by this flag for VHD-based VDIs that have one parent and no child VHDs. Moreover, caching only takes place when the host running the VM containing this VDI has a nominated SR for local caching.

Signature:

```
void set_allow_caching (session_id s, VDI ref self, bool value)
```

Arguments:

type	name	description
VDI ref	self	The VDI to modify
bool	value	The value to set

Return Type: void

RPC name: open_database**Overview:**

Load the metadata found on the supplied VDI and return a session reference which can be used in XenAPI calls to query its contents.

Signature:

```
(session ref) open_database (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	The VDI which contains the database to open

Return Type: session ref

A session which can be used to query the database

RPC name: `read_database_pool_uuid`

Overview:

Check the VDI cache for the pool UUID of the database on this VDI.

Signature:

```
string read_database_pool_uuid (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	The metadata VDI to look up in the cache.

Return Type: `string`

The cached pool UUID of the database on the VDI.

RPC name: `pool_migrate`

Overview:

Migrate a VDI, which may be attached to a running guest, to a different SR. The destination SR must be visible to the guest.

Signature:

```
(VDI ref) pool_migrate (session_id s, VDI ref vdi, SR ref sr, (string -> string) map options)
```

Arguments:

type	name	description
VDI ref	vdi	The VDI to migrate
SR ref	sr	The destination SR
(string → string) map	options	Other parameters

Return Type: `VDI ref`

The new reference of the migrated VDI.

RPC name: `get_all`

Overview:

Return a list of all the VDIs known to the system.

Signature:

```
(VDI ref set) get_all (session_id s)
```

Return Type: `VDI ref set`

references to all objects

RPC name: `get_all_records`**Overview:**

Return a map of VDI references to VDI records for all VDIs known to the system.

Signature:

```
((VDI ref -> VDI record) map) get_all_records (session_id s)
```

Return Type: (VDI ref → VDI record) map

records of all objects

RPC name: `get_uuid`**Overview:**

Get the uuid field of the given VDI.

Signature:

```
string get_uuid (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_name_label`**Overview:**

Get the name/label field of the given VDI.

Signature:

```
string get_name_label (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_name_description`**Overview:**

Get the name/description field of the given VDI.

Signature:

```
string get_name_description (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_allowed_operations**Overview:**

Get the allowed_operations field of the given VDI.

Signature:

```
(vdi_operations set) get_allowed_operations (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: vdi_operations set

value of the field

RPC name: get_current_operations**Overview:**

Get the current_operations field of the given VDI.

Signature:

```
((string -> vdi_operations) map) get_current_operations (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: (string → vdi_operations) map

value of the field

RPC name: get_SR**Overview:**

Get the SR field of the given VDI.

Signature:

```
(SR ref) get_SR (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: SR ref

value of the field

RPC name: get_VBDs**Overview:**

Get the VBDs field of the given VDI.

Signature:

```
(VBD ref set) get_VBDs (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: VBD ref set

value of the field

RPC name: get_crash_dumps**Overview:**

Get the crash_dumps field of the given VDI.

Signature:

```
(crashdump ref set) get_crash_dumps (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: crashdump ref set

value of the field

RPC name: get_virtual_size**Overview:**

Get the virtual_size field of the given VDI.

Signature:

```
int get_virtual_size (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_physical_utilisation**Overview:**

Get the physical_utilisation field of the given VDI.

Signature:

```
int get_physical_utilisation (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: int

value of the field

RPC name: get_type**Overview:**

Get the type field of the given VDI.

Signature:

```
(vdi_type) get_type (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: vdi_type

value of the field

RPC name: get_sharable**Overview:**

Get the sharable field of the given VDI.

Signature:

```
bool get_sharable (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_read_only**Overview:**

Get the read_only field of the given VDI.

Signature:

```
bool get_read_only (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given VDI.

Signature:

```
((string -> string) map) get_other_config (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given VDI.

Signature:

```
void set_other_config (session_id s, VDI ref self, (string -> string) map value)
```

Arguments:

type	name	description
VDI ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given VDI.

Signature:

```
void add_to_other_config (session_id s, VDI ref self, string key, string value)
```

Arguments:

type	name	description
VDI ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given VDI. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, VDI ref self, string key)
```

Arguments:

type	name	description
VDI ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_storage_lock**Overview:**

Get the storage_lock field of the given VDI.

Signature:

```
bool get_storage_lock (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_location**Overview:**

Get the location field of the given VDI.

Signature:

```
string get_location (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_managed**Overview:**

Get the managed field of the given VDI.

Signature:

```
bool get_managed (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_missing**Overview:**

Get the missing field of the given VDI.

Signature:

```
bool get_missing (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_parent

Overview: This message is deprecated Get the parent field of the given VDI.

Signature:

```
(VDI ref) get_parent (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: VDI ref
value of the field

RPC name: get_xenstore_data**Overview:**

Get the xenstore_data field of the given VDI.

Signature:

```
((string -> string) map) get_xenstore_data (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_xenstore_data**Overview:**

Set the xenstore_data field of the given VDI.

Signature:

```
void set_xenstore_data (session_id s, VDI ref self, (string -> string) map value)
```


Arguments:

type	name	description
VDI ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_xenstore_data**Overview:**

Add the given key-value pair to the xenstore_data field of the given VDI.

Signature:

```
void add_to_xenstore_data (session_id s, VDI ref self, string key, string value)
```

Arguments:

type	name	description
VDI ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_xenstore_data**Overview:**

Remove the given key and its corresponding value from the xenstore_data field of the given VDI. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_xenstore_data (session_id s, VDI ref self, string key)
```

Arguments:

type	name	description
VDI ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_sm_config**Overview:**

Get the sm_config field of the given VDI.

Signature:

```
((string -> string) map) get_sm_config (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_sm_config**Overview:**

Set the sm_config field of the given VDI.

Signature:

```
void set_sm_config (session_id s, VDI ref self, (string -> string) map value)
```

Arguments:

type	name	description
VDI ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_sm_config**Overview:**

Add the given key-value pair to the sm_config field of the given VDI.

Signature:

```
void add_to_sm_config (session_id s, VDI ref self, string key, string value)
```

Arguments:

type	name	description
VDI ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_sm_config**Overview:**

Remove the given key and its corresponding value from the sm_config field of the given VDI. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_sm_config (session_id s, VDI ref self, string key)
```

Arguments:

type	name	description
VDI ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: `get_is_a_snapshot`**Overview:**

Get the `is_a_snapshot` field of the given VDI.

Signature:

```
bool get_is_a_snapshot (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: bool

value of the field

RPC name: `get_snapshot_of`**Overview:**

Get the `snapshot_of` field of the given VDI.

Signature:

```
(VDI ref) get_snapshot_of (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: VDI ref

value of the field

RPC name: `get_snapshots`**Overview:**

Get the `snapshots` field of the given VDI.

Signature:

```
(VDI ref set) get_snapshots (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: VDI ref set

value of the field

RPC name: `get_snapshot_time`**Overview:**Get the `snapshot_time` field of the given VDI.**Signature:**

```
datetime get_snapshot_time (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: `datetime`

value of the field

RPC name: `get_tags`**Overview:**Get the `tags` field of the given VDI.**Signature:**

```
(string set) get_tags (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: `string set`

value of the field

RPC name: `set_tags`**Overview:**Set the `tags` field of the given VDI.**Signature:**

```
void set_tags (session_id s, VDI ref self, string set value)
```

Arguments:

type	name	description
VDI ref	self	reference to the object
string set	value	New value to set

Return Type: void**RPC name:** add_tags**Overview:**

Add the given value to the tags field of the given VDI. If the value is already in that Set, then do nothing.

Signature:

```
void add_tags (session_id s, VDI ref self, string value)
```

Arguments:

type	name	description
VDI ref	self	reference to the object
string	value	New value to add

Return Type: void**RPC name:** remove_tags**Overview:**

Remove the given value from the tags field of the given VDI. If the value is not in that Set, then do nothing.

Signature:

```
void remove_tags (session_id s, VDI ref self, string value)
```

Arguments:

type	name	description
VDI ref	self	reference to the object
string	value	Value to remove

Return Type: void**RPC name:** get_allow_caching**Overview:**

Get the allow_caching field of the given VDI.

Signature:

```
bool get_allow_caching (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_on_boot**Overview:**

Get the on_boot field of the given VDI.

Signature:

```
(on_boot) get_on_boot (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: on_boot

value of the field

RPC name: get_metadata_of_pool**Overview:**

Get the metadata_of_pool field of the given VDI.

Signature:

```
(pool ref) get_metadata_of_pool (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: pool ref

value of the field

RPC name: get_metadata_latest**Overview:**

Get the metadata_latest field of the given VDI.

Signature:

```
bool get_metadata_latest (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: bool
value of the field

RPC name: `get_is_tools_iso`

Overview:

Get the `is_tools_iso` field of the given VDI.

Signature:

```
bool get_is_tools_iso (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: bool
value of the field

RPC name: `create`

Overview:

Create a new VDI instance, and return its handle.

Signature:

```
(VDI ref) create (session_id s, VDI record args)
```

Arguments:

type	name	description
VDI record	args	All constructor arguments

Return Type: VDI ref
reference to the newly created object

RPC name: `destroy`

Overview:

Destroy the specified VDI instance.

Signature:

```
void destroy (session_id s, VDI ref self)
```

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: void

RPC name: get_by_uuid**Overview:**

Get a reference to the VDI instance with the specified UUID.

Signature:

(VDI ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VDI ref

reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given VDI.

Signature:

(VDI record) get_record (session_id s, VDI ref self)

Arguments:

type	name	description
VDI ref	self	reference to the object

Return Type: VDI record

all fields from the object

RPC name: get_by_name_label**Overview:**

Get all the VDI instances with the given label.

Signature:

(VDI ref set) get_by_name_label (session_id s, string label)

Arguments:

type	name	description
string	label	label of object to return

Return Type: VDI ref set

references to objects with matching names

2.36 Class: VBD

2.36.1 Fields for class: VBD

Name	VBD		
Description	<i>A virtual block device.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_{run}</i>	<code>allowed_operations</code>	vbd_operations set	list of the operations allowed in this state. This list is advisory only and the server state may have changed by the time this field is read by a client.
<i>RO_{run}</i>	<code>current_operations</code>	(string → vbd_operations) map	links each of the running tasks using this object (by reference) to a current_operation enum which describes the nature of the task.
<i>RO_{ins}</i>	<code>VM</code>	VM ref	the virtual machine
<i>RO_{ins}</i>	<code>VDI</code>	VDI ref	the virtual disk
<i>RO_{run}</i>	<code>device</code>	string	device seen by the guest e.g. hda1
<i>RW</i>	<code>userdevice</code>	string	user-friendly device name e.g. 0,1,2,etc.
<i>RW</i>	<code>bootable</code>	bool	true if this VBD is bootable
<i>RW</i>	<code>mode</code>	vbd_mode	the mode the VBD should be mounted with
<i>RW</i>	<code>type</code>	vbd_type	how the VBD will appear to the guest (e.g. disk or CD)
<i>RW</i>	<code>unpluggable</code>	bool	true if this VBD will support hot-unplug
<i>RO_{run}</i>	<code>storage_lock</code>	bool	true if a storage level lock was acquired
<i>RO_{ins}</i>	<code>empty</code>	bool	if true this represents an empty drive
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration
<i>RO_{run}</i>	<code>currently_attached</code>	bool	is the device currently attached (erased on reboot)
<i>RO_{run}</i>	<code>status_code</code>	int	error/success code associated with last attach-operation (erased on reboot)
<i>RO_{run}</i>	<code>status_detail</code>	string	error/success information associated with last attach-operation status (erased on reboot)
<i>RO_{run}</i>	<code>runtime_properties</code>	(string → string) map	Device runtime properties
<i>RW</i>	<code>qos_algorithm_type</code>	string	QoS algorithm to use
<i>RW</i>	<code>qos_algorithm_params</code>	(string → string) map	parameters for chosen QoS algorithm
<i>RO_{run}</i>	<code>qos_supported_algorithms</code>	string set	supported QoS algorithms for this VBD
<i>RO_{run}</i>	<code>metrics</code>	VBD_metrics ref	metrics associated with this VBD

2.36.2 RPCs associated with class: VBD

RPC name: `eject`

Overview:

Remove the media from the device and leave it empty.

Signature:

```
void eject (session_id s, VBD ref vbd)
```

Arguments:

type	name	description
VBD ref	vbd	The vbd representing the CDROM-like device

Return Type: void**Possible Error Codes:** VBD_NOT_REMOVABLE_MEDIA, VBD_IS_EMPTY**RPC name:** insert**Overview:**

Insert new media into the device.

Signature:

```
void insert (session_id s, VBD ref vbd, VDI ref vdi)
```

Arguments:

type	name	description
VBD ref	vbd	The vbd representing the CDROM-like device
VDI ref	vdi	The new VDI to 'insert'

Return Type: void**Possible Error Codes:** VBD_NOT_REMOVABLE_MEDIA, VBD_NOT_EMPTY**RPC name:** plug**Overview:**

Hotplug the specified VBD, dynamically attaching it to the running VM.

Signature:

```
void plug (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	The VBD to hotplug

Return Type: void**RPC name:** unplug**Overview:**

Hot-unplug the specified VBD, dynamically unattaching it from the running VM.

Signature:

```
void unplug (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	The VBD to hot-unplug

Return Type: void**Possible Error Codes:** DEVICE_DETACH_REJECTED, DEVICE_ALREADY_DETACHED**RPC name:** unplug_force**Overview:**

Forcibly unplug the specified VBD.

Signature:

void unplug_force (session_id s, VBD ref self)

Arguments:

type	name	description
VBD ref	self	The VBD to forcibly unplug

Return Type: void**RPC name:** assert_attachable**Overview:**

Throws an error if this VBD could not be attached to this VM if the VM were running. Intended for debugging.

Signature:

void assert_attachable (session_id s, VBD ref self)

Arguments:

type	name	description
VBD ref	self	The VBD to query

Return Type: void**RPC name:** get_all**Overview:**

Return a list of all the VBDs known to the system.

Signature:

(VBD ref set) get_all (session_id s)

Return Type: VBD ref set

references to all objects

RPC name: `get_all_records`**Overview:**

Return a map of VBD references to VBD records for all VBDs known to the system.

Signature:

```
((VBD ref -> VBD record) map) get_all_records (session_id s)
```

Return Type: `(VBD ref → VBD record) map`

records of all objects

RPC name: `get_uuid`**Overview:**

Get the uuid field of the given VBD.

Signature:

```
string get_uuid (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_allowed_operations`**Overview:**

Get the allowed_operations field of the given VBD.

Signature:

```
(vbd_operations set) get_allowed_operations (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: `vbd_operations set`

value of the field

RPC name: `get_current_operations`**Overview:**

Get the current_operations field of the given VBD.

Signature:

```
((string -> vbd_operations) map) get_current_operations (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: (string → vbd_operations) map
value of the field

RPC name: get_VM**Overview:**

Get the VM field of the given VBD.

Signature:

```
(VM ref) get_VM (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: VM ref
value of the field

RPC name: get_VDI**Overview:**

Get the VDI field of the given VBD.

Signature:

```
(VDI ref) get_VDI (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: VDI ref
value of the field

RPC name: get_device**Overview:**

Get the device field of the given VBD.

Signature:

```
string get_device (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_userdevice

Overview:

Get the userdevice field of the given VBD.

Signature:

```
string get_userdevice (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_userdevice

Overview:

Set the userdevice field of the given VBD.

Signature:

```
void set_userdevice (session_id s, VBD ref self, string value)
```

Arguments:

type	name	description
VBD ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_bootable

Overview:

Get the bootable field of the given VBD.

Signature:

```
bool get_bootable (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: bool

value of the field

RPC name: set_bootable**Overview:**

Set the bootable field of the given VBD.

Signature:

```
void set_bootable (session_id s, VBD ref self, bool value)
```

Arguments:

type	name	description
VBD ref	self	reference to the object
bool	value	New value to set

Return Type: void**RPC name:** get_mode**Overview:**

Get the mode field of the given VBD.

Signature:

```
(vbd_mode) get_mode (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: vbd_mode

value of the field

RPC name: set_mode**Overview:**

Set the mode field of the given VBD.

Signature:

```
void set_mode (session_id s, VBD ref self, vbd_mode value)
```


Arguments:

type	name	description
VBD ref	self	reference to the object
vbd_mode	value	New value to set

Return Type: void**RPC name:** get_type**Overview:**

Get the type field of the given VBD.

Signature:

```
(vbd_type) get_type (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: vbd_type
value of the field**RPC name:** set_type**Overview:**

Set the type field of the given VBD.

Signature:

```
void set_type (session_id s, VBD ref self, vbd_type value)
```

Arguments:

type	name	description
VBD ref	self	reference to the object
vbd_type	value	New value to set

Return Type: void**RPC name:** get_unpluggable**Overview:**

Get the unpluggable field of the given VBD.

Signature:

```
bool get_unpluggable (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: bool
value of the field

RPC name: set_unpluggable**Overview:**

Set the unpluggable field of the given VBD.

Signature:

```
void set_unpluggable (session_id s, VBD ref self, bool value)
```

Arguments:

type	name	description
VBD ref	self	reference to the object
bool	value	New value to set

Return Type: void

RPC name: get_storage_lock**Overview:**

Get the storage_lock field of the given VBD.

Signature:

```
bool get_storage_lock (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_empty**Overview:**

Get the empty field of the given VBD.

Signature:

```
bool get_empty (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given VBD.

Signature:

```
((string -> string) map) get_other_config (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given VBD.

Signature:

```
void set_other_config (session_id s, VBD ref self, (string -> string) map value)
```

Arguments:

type	name	description
VBD ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given VBD.

Signature:

```
void add_to_other_config (session_id s, VBD ref self, string key, string value)
```

Arguments:

type	name	description
VBD ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** `remove_from_other_config`**Overview:**

Remove the given key and its corresponding value from the `other_config` field of the given VBD. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, VBD ref self, string key)
```

Arguments:

type	name	description
VBD ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** `get_currently_attached`**Overview:**

Get the `currently_attached` field of the given VBD.

Signature:

```
bool get_currently_attached (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: bool

value of the field

RPC name: `get_status_code`**Overview:**

Get the `status_code` field of the given VBD.

Signature:

```
int get_status_code (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: int

value of the field

RPC name: `get_status_detail`**Overview:**Get the `status_detail` field of the given VBD.**Signature:**

```
string get_status_detail (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_runtime_properties`**Overview:**Get the `runtime_properties` field of the given VBD.**Signature:**

```
((string -> string) map) get_runtime_properties (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: `(string → string) map`

value of the field

RPC name: `get_qos_algorithm_type`**Overview:**Get the `qos/algorithm_type` field of the given VBD.**Signature:**

```
string get_qos_algorithm_type (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_qos_algorithm_type**Overview:**

Set the qos/algorithm_type field of the given VBD.

Signature:

```
void set_qos_algorithm_type (session_id s, VBD ref self, string value)
```

Arguments:

type	name	description
VBD ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_qos_algorithm_params**Overview:**

Get the qos/algorithm_params field of the given VBD.

Signature:

```
((string -> string) map) get_qos_algorithm_params (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_qos_algorithm_params**Overview:**

Set the qos/algorithm_params field of the given VBD.

Signature:

```
void set_qos_algorithm_params (session_id s, VBD ref self, (string -> string) map value)
```

Arguments:

type	name	description
VBD ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_qos_algorithm_params**Overview:**

Add the given key-value pair to the qos/algorithm_params field of the given VBD.

Signature:

```
void add_to_qos_algorithm_params (session_id s, VBD ref self, string key, string value)
```

Arguments:

type	name	description
VBD ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_qos_algorithm_params**Overview:**

Remove the given key and its corresponding value from the qos/algorithm_params field of the given VBD. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_qos_algorithm_params (session_id s, VBD ref self, string key)
```

Arguments:

type	name	description
VBD ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_qos_supported_algorithms**Overview:**

Get the qos/supported_algorithms field of the given VBD.

Signature:

```
(string set) get_qos_supported_algorithms (session_id s, VBD ref self)
```

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: string set
value of the field

RPC name: `get_metrics`

Overview:

Get the metrics field of the given VBD.

Signature:

`(VBD_metrics ref) get_metrics (session_id s, VBD ref self)`

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: VBD_metrics ref
value of the field

RPC name: `create`

Overview:

Create a new VBD instance, and return its handle.

Signature:

`(VBD ref) create (session_id s, VBD record args)`

Arguments:

type	name	description
VBD record	args	All constructor arguments

Return Type: VBD ref
reference to the newly created object

RPC name: `destroy`

Overview:

Destroy the specified VBD instance.

Signature:

`void destroy (session_id s, VBD ref self)`

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: void

RPC name: `get_by_uuid`

Overview:

Get a reference to the VBD instance with the specified UUID.

Signature:

(VBD ref) `get_by_uuid (session_id s, string uuid)`

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VBD ref

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given VBD.

Signature:

(VBD record) `get_record (session_id s, VBD ref self)`

Arguments:

type	name	description
VBD ref	self	reference to the object

Return Type: VBD record

all fields from the object

2.37 Class: VBD_metrics

2.37.1 Fields for class: VBD_metrics

Name	VBD_metrics		
Description	<i>The metrics associated with a virtual block device.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	uuid	string	Unique identifier/object reference
<i>RO_run</i>	io_read_kbs	float	Read bandwidth (KiB/s)
<i>RO_run</i>	io_write_kbs	float	Write bandwidth (KiB/s)
<i>RO_run</i>	last_updated	datetime	Time at which this information was last updated
<i>RW</i>	other_config	(string → string) map	additional configuration

2.37.2 RPCs associated with class: VBD_metrics

RPC name: `get_all`

Overview:

Return a list of all the VBD_metrics instances known to the system.

Signature:

```
(VBD_metrics ref set) get_all (session_id s)
```

Return Type: VBD_metrics ref set
references to all objects

RPC name: `get_all_records`

Overview:

Return a map of VBD_metrics references to VBD_metrics records for all VBD_metrics instances known to the system.

Signature:

```
((VBD_metrics ref -> VBD_metrics record) map) get_all_records (session_id s)
```

Return Type: (VBD_metrics ref → VBD_metrics record) map
records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given VBD_metrics.

Signature:

```
string get_uuid (session_id s, VBD_metrics ref self)
```

Arguments:

type	name	description
VBD_metrics ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_io_read_kbs**Overview:**

Get the io/read_kbs field of the given VBD_metrics.

Signature:

```
float get_io_read_kbs (session_id s, VBD_metrics ref self)
```

Arguments:

type	name	description
VBD_metrics ref	self	reference to the object

Return Type: float
value of the field

RPC name: get_io_write_kbs**Overview:**

Get the io/write_kbs field of the given VBD_metrics.

Signature:

```
float get_io_write_kbs (session_id s, VBD_metrics ref self)
```

Arguments:

type	name	description
VBD_metrics ref	self	reference to the object

Return Type: float
value of the field

RPC name: get_last_updated**Overview:**

Get the last_updated field of the given VBD_metrics.

Signature:

```
datetime get_last_updated (session_id s, VBD_metrics ref self)
```

Arguments:

type	name	description
VBD_metrics ref	self	reference to the object

Return Type: datetime
value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given VBD_metrics.

Signature:

```
((string -> string) map) get_other_config (session_id s, VBD_metrics ref self)
```

Arguments:

type	name	description
VBD_metrics ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given VBD_metrics.

Signature:

```
void set_other_config (session_id s, VBD_metrics ref self, (string -> string) map value)
```

Arguments:

type	name	description
VBD_metrics ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given VBD_metrics.

Signature:

```
void add_to_other_config (session_id s, VBD_metrics ref self, string key, string value)
```

Arguments:

type	name	description
VBD_metrics ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given VBD_metrics. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, VBD_metrics ref self, string key)
```

Arguments:

type	name	description
VBD_metrics ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_by_uuid**Overview:**

Get a reference to the VBD_metrics instance with the specified UUID.

Signature:

```
(VBD_metrics ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VBD_metrics ref

reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given VBD_metrics.

Signature:

```
(VBD_metrics record) get_record (session_id s, VBD_metrics ref self)
```

Arguments:

type	name	description
VBD_metrics ref	self	reference to the object

Return Type: VBD_metrics record
all fields from the object

2.38 Class: PBD

2.38.1 Fields for class: PBD

Name	PBD		
Description	<i>The physical block devices through which hosts access SRs.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	host	host ref	physical machine on which the pbd is available
<i>RO_{ins}</i>	SR	SR ref	the storage repository that the pbd realises
<i>RO_{ins}</i>	device_config	(string → string) map	a config string to string map that is provided to the host's SR-backend-driver
<i>RO_{run}</i>	currently_attached	bool	is the SR currently attached on this host?
<i>RW</i>	other_config	(string → string) map	additional configuration

2.38.2 RPCs associated with class: PBD

RPC name: plug

Overview:

Activate the specified PBD, causing the referenced SR to be attached and scanned.

Signature:

```
void plug (session_id s, PBD ref self)
```

Arguments:

type	name	description
PBD ref	self	The PBD to activate

Return Type: void

Possible Error Codes: SR_UNKNOWN_DRIVER

RPC name: unplug

Overview:

Deactivate the specified PBD, causing the referenced SR to be detached and no longer scanned.

Signature:

```
void unplug (session_id s, PBD ref self)
```

Arguments:

type	name	description
PBD ref	self	The PBD to deactivate

Return Type: void

RPC name: `set_device_config`

Overview:

Sets the PBD's `device_config` field.

Signature:

```
void set_device_config (session_id s, PBD ref self, (string -> string) map value)
```

Arguments:

type	name	description
PBD ref	self	The PBD to modify
(string → string) map	value	The new value of the PBD's <code>device_config</code>

Return Type: `void`

RPC name: `get_all`

Overview:

Return a list of all the PBDs known to the system.

Signature:

```
(PBD ref set) get_all (session_id s)
```

Return Type: `PBD ref set`

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of PBD references to PBD records for all PBDs known to the system.

Signature:

```
((PBD ref -> PBD record) map) get_all_records (session_id s)
```

Return Type: `(PBD ref → PBD record) map`

records of all objects

RPC name: `get_uuid`

Overview:

Get the `uuid` field of the given PBD.

Signature:

```
string get_uuid (session_id s, PBD ref self)
```


Arguments:

type	name	description
PBD ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_host

Overview:

Get the host field of the given PBD.

Signature:

```
(host ref) get_host (session_id s, PBD ref self)
```

Arguments:

type	name	description
PBD ref	self	reference to the object

Return Type: host ref
value of the field

RPC name: get_SR

Overview:

Get the SR field of the given PBD.

Signature:

```
(SR ref) get_SR (session_id s, PBD ref self)
```

Arguments:

type	name	description
PBD ref	self	reference to the object

Return Type: SR ref
value of the field

RPC name: get_device_config

Overview:

Get the device_config field of the given PBD.

Signature:

```
((string -> string) map) get_device_config (session_id s, PBD ref self)
```

Arguments:

type	name	description
PBD ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: get_currently_attached**Overview:**

Get the currently_attached field of the given PBD.

Signature:

```
bool get_currently_attached (session_id s, PBD ref self)
```

Arguments:

type	name	description
PBD ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given PBD.

Signature:

```
((string -> string) map) get_other_config (session_id s, PBD ref self)
```

Arguments:

type	name	description
PBD ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given PBD.

Signature:

```
void set_other_config (session_id s, PBD ref self, (string -> string) map value)
```

Arguments:

type	name	description
PBD ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given PBD.

Signature:

```
void add_to_other_config (session_id s, PBD ref self, string key, string value)
```

Arguments:

type	name	description
PBD ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given PBD. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, PBD ref self, string key)
```

Arguments:

type	name	description
PBD ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** create**Overview:**

Create a new PBD instance, and return its handle.

Signature:

```
(PBD ref) create (session_id s, PBD record args)
```

Arguments:

type	name	description
PBD record	args	All constructor arguments

Return Type: PBD ref

reference to the newly created object

RPC name: destroy**Overview:**

Destroy the specified PBD instance.

Signature:

```
void destroy (session_id s, PBD ref self)
```

Arguments:

type	name	description
PBD ref	self	reference to the object

Return Type: void**RPC name:** get_by_uuid**Overview:**

Get a reference to the PBD instance with the specified UUID.

Signature:

```
(PBD ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: PBD ref

reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given PBD.

Signature:

```
(PBD record) get_record (session_id s, PBD ref self)
```

Arguments:

type	name	description
PBD ref	self	reference to the object

Return Type: PBD record
all fields from the object

2.39 Class: crashdump

2.39.1 Fields for class: crashdump

Name	crashdump		
Description	<i>A VM crashdump.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	VM	VM ref	the virtual machine
<i>RO_{ins}</i>	VDI	VDI ref	the virtual disk
<i>RW</i>	other_config	(string → string) map	additional configuration

2.39.2 RPCs associated with class: crashdump

RPC name: `destroy`

Overview:

Destroy the specified crashdump.

Signature:

```
void destroy (session_id s, crashdump ref self)
```

Arguments:

type	name	description
crashdump ref	self	The crashdump to destroy

Return Type: void

RPC name: `get_all`

Overview:

Return a list of all the crashdumps known to the system.

Signature:

```
(crashdump ref set) get_all (session_id s)
```

Return Type: crashdump ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of crashdump references to crashdump records for all crashdumps known to the system.

Signature:

```
((crashdump ref -> crashdump record) map) get_all_records (session_id s)
```

Return Type: (crashdump ref → crashdump record) map
records of all objects

RPC name: get_uuid

Overview:

Get the uuid field of the given crashdump.

Signature:

```
string get_uuid (session_id s, crashdump ref self)
```

Arguments:

type	name	description
crashdump ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_VM

Overview:

Get the VM field of the given crashdump.

Signature:

```
(VM ref) get_VM (session_id s, crashdump ref self)
```

Arguments:

type	name	description
crashdump ref	self	reference to the object

Return Type: VM ref

value of the field

RPC name: get_VDI

Overview:

Get the VDI field of the given crashdump.

Signature:

```
(VDI ref) get_VDI (session_id s, crashdump ref self)
```

Arguments:

type	name	description
crashdump ref	self	reference to the object

Return Type: VDI ref

value of the field

RPC name: `get_other_config`

Overview:

Get the `other_config` field of the given crashdump.

Signature:

```
((string -> string) map) get_other_config (session_id s, crashdump ref self)
```

Arguments:

type	name	description
crashdump ref	self	reference to the object

Return Type: `(string → string) map`

value of the field

RPC name: `set_other_config`

Overview:

Set the `other_config` field of the given crashdump.

Signature:

```
void set_other_config (session_id s, crashdump ref self, (string -> string) map value)
```

Arguments:

type	name	description
crashdump ref	self	reference to the object
<code>(string → string) map</code>	value	New value to set

Return Type: `void`

RPC name: `add_to_other_config`

Overview:

Add the given key-value pair to the `other_config` field of the given crashdump.

Signature:

```
void add_to_other_config (session_id s, crashdump ref self, string key, string value)
```

Arguments:

type	name	description
crashdump ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config

Overview:

Remove the given key and its corresponding value from the other_config field of the given crashdump. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, crashdump ref self, string key)
```

Arguments:

type	name	description
crashdump ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: get_by_uuid

Overview:

Get a reference to the crashdump instance with the specified UUID.

Signature:

```
(crashdump ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: crashdump ref

reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given crashdump.

Signature:

```
(crashdump record) get_record (session_id s, crashdump ref self)
```

Arguments:

type	name	description
crashdump ref	self	reference to the object

Return Type: crashdump record

all fields from the object

2.40 Class: VTPM

2.40.1 Fields for class: VTPM

Name	VTPM		
Description	<i>A virtual TPM device.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	VM	VM ref	the virtual machine
<i>RO_{ins}</i>	backend	VM ref	the domain where the backend is located

2.40.2 RPCs associated with class: VTPM

RPC name: `get_uuid`

Overview:

Get the uuid field of the given VTPM.

Signature:

```
string get_uuid (session_id s, VTPM ref self)
```

Arguments:

type	name	description
VTPM ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_VM`

Overview:

Get the VM field of the given VTPM.

Signature:

```
(VM ref) get_VM (session_id s, VTPM ref self)
```

Arguments:

type	name	description
VTPM ref	self	reference to the object

Return Type: VM ref

value of the field

RPC name: `get_backend`

Overview:

Get the backend field of the given VTPM.

Signature:

(VM ref) get_backend (session_id s, VTPM ref self)

Arguments:

type	name	description
VTPM ref	self	reference to the object

Return Type: VM ref
value of the field

RPC name: create

Overview:

Create a new VTPM instance, and return its handle.

Signature:

(VTPM ref) create (session_id s, VTPM record args)

Arguments:

type	name	description
VTPM record	args	All constructor arguments

Return Type: VTPM ref
reference to the newly created object

RPC name: destroy

Overview:

Destroy the specified VTPM instance.

Signature:

void destroy (session_id s, VTPM ref self)

Arguments:

type	name	description
VTPM ref	self	reference to the object

Return Type: void

RPC name: get_by_uuid

Overview:

Get a reference to the VTPM instance with the specified UUID.

Signature:

(VTPM ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VTPM ref
reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given VTPM.

Signature:

(VTPM record) get_record (session_id s, VTPM ref self)

Arguments:

type	name	description
VTPM ref	self	reference to the object

Return Type: VTPM record
all fields from the object

2.41 Class: console

2.41.1 Fields for class: console

Name	console		
Description	<i>A console.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_{run}</i>	<code>protocol</code>	console_protocol	the protocol used by this console
<i>RO_{run}</i>	<code>location</code>	string	URI for the console service
<i>RO_{run}</i>	<code>VM</code>	VM ref	VM to which this console is attached
<i>RW</i>	<code>other_config</code>	(string → string) map	additional configuration

2.41.2 RPCs associated with class: console

RPC name: `get_all`

Overview:

Return a list of all the consoles known to the system.

Signature:

```
(console ref set) get_all (session_id s)
```

Return Type: console ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of console references to console records for all consoles known to the system.

Signature:

```
((console ref -> console record) map) get_all_records (session_id s)
```

Return Type: (console ref → console record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given console.

Signature:

```
string get_uuid (session_id s, console ref self)
```

Arguments:

type	name	description
console ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_protocol

Overview:

Get the protocol field of the given console.

Signature:

```
(console_protocol) get_protocol (session_id s, console ref self)
```

Arguments:

type	name	description
console ref	self	reference to the object

Return Type: console_protocol
value of the field

RPC name: get_location

Overview:

Get the location field of the given console.

Signature:

```
string get_location (session_id s, console ref self)
```

Arguments:

type	name	description
console ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_VM

Overview:

Get the VM field of the given console.

Signature:

```
(VM ref) get_VM (session_id s, console ref self)
```

Arguments:

type	name	description
console ref	self	reference to the object

Return Type: VM ref

value of the field

RPC name: `get_other_config`

Overview:

Get the `other_config` field of the given console.

Signature:

```
((string -> string) map) get_other_config (session_id s, console ref self)
```

Arguments:

type	name	description
console ref	self	reference to the object

Return Type: `(string → string) map`

value of the field

RPC name: `set_other_config`

Overview:

Set the `other_config` field of the given console.

Signature:

```
void set_other_config (session_id s, console ref self, (string -> string) map value)
```

Arguments:

type	name	description
console ref	self	reference to the object
<code>(string → string) map</code>	value	New value to set

Return Type: `void`

RPC name: `add_to_other_config`

Overview:

Add the given key-value pair to the `other_config` field of the given console.

Signature:

```
void add_to_other_config (session_id s, console ref self, string key, string value)
```

Arguments:

type	name	description
console ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: `remove_from_other_config`

Overview:

Remove the given key and its corresponding value from the `other_config` field of the given console. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, console ref self, string key)
```

Arguments:

type	name	description
console ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: `create`

Overview:

Create a new console instance, and return its handle.

Signature:

```
(console ref) create (session_id s, console record args)
```

Arguments:

type	name	description
console record	args	All constructor arguments

Return Type: console ref

reference to the newly created object

RPC name: `destroy`

Overview:

Destroy the specified console instance.

Signature:

```
void destroy (session_id s, console ref self)
```

Arguments:

type	name	description
console ref	self	reference to the object

Return Type: void

RPC name: `get_by_uuid`

Overview:

Get a reference to the console instance with the specified UUID.

Signature:

```
(console ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: `console ref`

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given console.

Signature:

```
(console record) get_record (session_id s, console ref self)
```

Arguments:

type	name	description
console ref	self	reference to the object

Return Type: `console record`

all fields from the object

2.42 Class: user

2.42.1 Fields for class: user

Name	user		
Description	<i>A user of the system.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	short_name	string	short name (e.g. userid)
<i>RW</i>	fullname	string	full name
<i>RW</i>	other_config	(string → string) map	additional configuration

2.42.2 RPCs associated with class: user

RPC name: `get_uuid`

Overview:

Get the `uuid` field of the given user.

Signature:

```
string get_uuid (session_id s, user ref self)
```

Arguments:

type	name	description
user ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_short_name`

Overview:

Get the `short_name` field of the given user.

Signature:

```
string get_short_name (session_id s, user ref self)
```

Arguments:

type	name	description
user ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_fullname`

Overview:

Get the fullname field of the given user.

Signature:

```
string get_fullname (session_id s, user ref self)
```

Arguments:

type	name	description
user ref	self	reference to the object

Return Type: string

value of the field

RPC name: `set_fullname`

Overview:

Set the fullname field of the given user.

Signature:

```
void set_fullname (session_id s, user ref self, string value)
```

Arguments:

type	name	description
user ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: `get_other_config`

Overview:

Get the other_config field of the given user.

Signature:

```
((string -> string) map) get_other_config (session_id s, user ref self)
```

Arguments:

type	name	description
user ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given user.

Signature:

```
void set_other_config (session_id s, user ref self, (string -> string) map value)
```

Arguments:

type	name	description
user ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given user.

Signature:

```
void add_to_other_config (session_id s, user ref self, string key, string value)
```

Arguments:

type	name	description
user ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given user. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, user ref self, string key)
```

Arguments:

type	name	description
user ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: create

Overview: **This message is deprecated** Create a new user instance, and return its handle.

Signature:

```
(user ref) create (session_id s, user record args)
```

Arguments:

type	name	description
user record	args	All constructor arguments

Return Type: user ref

reference to the newly created object

RPC name: destroy

Overview: **This message is deprecated** Destroy the specified user instance.

Signature:

```
void destroy (session_id s, user ref self)
```

Arguments:

type	name	description
user ref	self	reference to the object

Return Type: void

RPC name: get_by_uuid

Overview: **This message is deprecated** Get a reference to the user instance with the specified UUID.

Signature:

```
(user ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: user ref

reference to the object

RPC name: get_record

Overview: **This message is deprecated** Get a record containing the current state of the given user.

Signature:

```
(user record) get_record (session_id s, user ref self)
```

Arguments:

type	name	description
user ref	self	reference to the object

Return Type: user record
all fields from the object

2.43 Class: data_source

2.43.1 Fields for class: data_source

Name	data_source		
Description	<i>Data sources for logging in RRDs.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	name_label	string	a human-readable name
<i>RO_run</i>	name_description	string	a notes field containing human-readable description
<i>RO_run</i>	enabled	bool	true if the data source is being logged
<i>RO_run</i>	standard	bool	true if the data source is enabled by default. Non-default data sources cannot be disabled
<i>RO_run</i>	units	string	the units of the value
<i>RO_run</i>	min	float	the minimum value of the data source
<i>RO_run</i>	max	float	the maximum value of the data source
<i>RO_run</i>	value	float	current value of the data source

2.43.2 RPCs associated with class: data_source

Class `data_source` has no additional RPCs associated with it.

2.44 Class: blob

2.44.1 Fields for class: blob

Name	blob		
Description	<i>A placeholder for a binary blob.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RW</i>	<code>name_label</code>	string	a human-readable name
<i>RW</i>	<code>name_description</code>	string	a notes field containing human-readable description
<i>RO_{run}</i>	<code>size</code>	int	Size of the binary data, in bytes
<i>RW</i>	<code>public</code>	bool	True if the blob is publicly accessible
<i>RO_{ins}</i>	<code>last_updated</code>	datetime	Time at which the data in the blob was last updated
<i>RO_{ins}</i>	<code>mime_type</code>	string	The mime type associated with this object. Defaults to 'application/octet-stream' if the empty string is supplied

2.44.2 RPCs associated with class: blob

RPC name: `create`

Overview:

Create a placeholder for a binary blob.

Signature:

```
(blob ref) create (session_id s, string mime_type, bool public)
```

Arguments:

type	name	description
string	<code>mime_type</code>	The mime-type of the blob. Defaults to 'application/octet-stream' if the empty string is supplied
bool	<code>public</code>	True if the blob should be publicly available

Return Type: blob ref

The reference to the created blob

RPC name: `destroy`

Overview:

Signature:

```
void destroy (session_id s, blob ref self)
```

Arguments:

type	name	description
blob ref	<code>self</code>	The reference of the blob to destroy

Return Type: void

RPC name: get_all

Overview:

Return a list of all the blobs known to the system.

Signature:

```
(blob ref set) get_all (session_id s)
```

Return Type: blob ref set

references to all objects

RPC name: get_all_records

Overview:

Return a map of blob references to blob records for all blobs known to the system.

Signature:

```
((blob ref -> blob record) map) get_all_records (session_id s)
```

Return Type: (blob ref → blob record) map

records of all objects

RPC name: get_uuid

Overview:

Get the uuid field of the given blob.

Signature:

```
string get_uuid (session_id s, blob ref self)
```

Arguments:

type	name	description
blob ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_name_label`

Overview:

Get the name/label field of the given blob.

Signature:

```
string get_name_label (session_id s, blob ref self)
```

Arguments:

type	name	description
blob ref	self	reference to the object

Return Type: string

value of the field

RPC name: `set_name_label`

Overview:

Set the name/label field of the given blob.

Signature:

```
void set_name_label (session_id s, blob ref self, string value)
```

Arguments:

type	name	description
blob ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: `get_name_description`

Overview:

Get the name/description field of the given blob.

Signature:

```
string get_name_description (session_id s, blob ref self)
```

Arguments:

type	name	description
blob ref	self	reference to the object

Return Type: string

value of the field

RPC name: `set_name_description`

Overview:

Set the name/description field of the given blob.

Signature:

```
void set_name_description (session_id s, blob ref self, string value)
```

Arguments:

type	name	description
blob ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: `get_size`

Overview:

Get the size field of the given blob.

Signature:

```
int get_size (session_id s, blob ref self)
```

Arguments:

type	name	description
blob ref	self	reference to the object

Return Type: int

value of the field

RPC name: `get_public`

Overview:

Get the public field of the given blob.

Signature:

```
bool get_public (session_id s, blob ref self)
```

Arguments:

type	name	description
blob ref	self	reference to the object

Return Type: bool

value of the field

RPC name: `set_public`

Overview:

Set the public field of the given blob.

Signature:

```
void set_public (session_id s, blob ref self, bool value)
```

Arguments:

type	name	description
blob ref	self	reference to the object
bool	value	New value to set

Return Type: void

RPC name: `get_last_updated`

Overview:

Get the last_updated field of the given blob.

Signature:

```
datetime get_last_updated (session_id s, blob ref self)
```

Arguments:

type	name	description
blob ref	self	reference to the object

Return Type: datetime
value of the field

RPC name: `get_mime_type`

Overview:

Get the mime_type field of the given blob.

Signature:

```
string get_mime_type (session_id s, blob ref self)
```

Arguments:

type	name	description
blob ref	self	reference to the object

Return Type: string
value of the field

RPC name: `get_by_uuid`

Overview:

Get a reference to the blob instance with the specified UUID.

Signature:

```
(blob ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: `blob ref`

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given blob.

Signature:

```
(blob record) get_record (session_id s, blob ref self)
```

Arguments:

type	name	description
blob ref	self	reference to the object

Return Type: `blob record`

all fields from the object

RPC name: `get_by_name_label`

Overview:

Get all the blob instances with the given label.

Signature:

```
(blob ref set) get_by_name_label (session_id s, string label)
```

Arguments:

type	name	description
string	label	label of object to return

Return Type: `blob ref set`

references to objects with matching names

2.45 Class: message

2.45.1 Fields for class: message

Name	message		
Description	<i>An message for the attention of the administrator.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	uuid	string	Unique identifier/object reference
<i>RO_run</i>	name	string	The name of the message
<i>RO_run</i>	priority	int	The message priority, 0 being low priority
<i>RO_run</i>	cls	cls	The class of the object this message is associated with
<i>RO_run</i>	obj_uuid	string	The uuid of the object this message is associated with
<i>RO_run</i>	timestamp	datetime	The time at which the message was created
<i>RO_run</i>	body	string	The body of the message

2.45.2 RPCs associated with class: message

RPC name: create

Overview:

.

Signature:

```
(message ref) create (session_id s, string name, int priority, cls cls, string obj_uuid, string body)
```

Arguments:

type	name	description
string	name	The name of the message
int	priority	The priority of the message
cls	cls	The class of object this message is associated with
string	obj_uuid	The uuid of the object this message is associated with
string	body	The body of the message

Return Type: message ref

The reference of the created message

RPC name: destroy

Overview:

.

Signature:

```
void destroy (session_id s, message ref self)
```

Arguments:

type	name	description
message ref	self	The reference of the message to destroy

Return Type: void

RPC name: get

Overview:

.

Signature:

```
((message ref -> message record) map) get (session_id s, cls cls, string obj_uuid, datetime since)
```

Arguments:

type	name	description
cls	cls	The class of object
string	obj_uuid	The uuid of the object
datetime	since	The cutoff time

Return Type: (message ref → message record) map

The relevant messages

RPC name: get_all

Overview:

.

Signature:

```
(message ref set) get_all (session_id s)
```

Return Type: message ref set

The references to the messages

RPC name: get_since

Overview:

.

Signature:

```
((message ref -> message record) map) get_since (session_id s, datetime since)
```

Arguments:

type	name	description
datetime	since	The cutoff time

Return Type: (message ref → message record) map

The relevant messages

RPC name: `get_record`

Overview:

.

Signature:

`(message record) get_record (session_id s, message ref self)`

Arguments:

type	name	description
message ref	self	The reference to the message

Return Type: `message record`

The message record

RPC name: `get_by_uuid`

Overview:

.

Signature:

`(message ref) get_by_uuid (session_id s, string uuid)`

Arguments:

type	name	description
string	uuid	The uuid of the message

Return Type: `message ref`

The message reference

RPC name: `get_all_records`

Overview:

.

Signature:

`((message ref -> message record) map) get_all_records (session_id s)`

Return Type: `(message ref → message record) map`

The messages

RPC name: `get_all_records_where`

Overview:

Signature:

`((message ref -> message record) map) get_all_records_where (session_id s, string expr)`

Arguments:

type	name	description
string	expr	The expression to match (not currently used)

Return Type: `(message ref → message record) map`

The messages

2.46 Class: secret

2.46.1 Fields for class: secret

Name	secret		
Description	<i>A secret.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RW</i>	value	string	the secret
<i>RW</i>	other_config	(string → string) map	other_config

2.46.2 RPCs associated with class: secret

RPC name: `get_all`

Overview:

Return a list of all the secrets known to the system.

Signature:

```
(secret ref set) get_all (session_id s)
```

Return Type: `secret ref set`

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of secret references to secret records for all secrets known to the system.

Signature:

```
((secret ref -> secret record) map) get_all_records (session_id s)
```

Return Type: `(secret ref → secret record) map`

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given secret.

Signature:

```
string get_uuid (session_id s, secret ref self)
```

Arguments:

type	name	description
secret ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_value`

Overview:

Get the value field of the given secret.

Signature:

```
string get_value (session_id s, secret ref self)
```

Arguments:

type	name	description
secret ref	self	reference to the object

Return Type: string

value of the field

RPC name: `set_value`

Overview:

Set the value field of the given secret.

Signature:

```
void set_value (session_id s, secret ref self, string value)
```

Arguments:

type	name	description
secret ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: `get_other_config`

Overview:

Get the other_config field of the given secret.

Signature:

```
((string -> string) map) get_other_config (session_id s, secret ref self)
```

Arguments:

type	name	description
secret ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given secret.

Signature:

```
void set_other_config (session_id s, secret ref self, (string -> string) map value)
```

Arguments:

type	name	description
secret ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given secret.

Signature:

```
void add_to_other_config (session_id s, secret ref self, string key, string value)
```

Arguments:

type	name	description
secret ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given secret. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, secret ref self, string key)
```

Arguments:

type	name	description
secret ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: create

Overview:

Create a new secret instance, and return its handle.

Signature:

```
(secret ref) create (session_id s, secret record args)
```

Arguments:

type	name	description
secret record	args	All constructor arguments

Return Type: secret ref

reference to the newly created object

RPC name: destroy

Overview:

Destroy the specified secret instance.

Signature:

```
void destroy (session_id s, secret ref self)
```

Arguments:

type	name	description
secret ref	self	reference to the object

Return Type: void

RPC name: get_by_uuid

Overview:

Get a reference to the secret instance with the specified UUID.

Signature:

```
(secret ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: secret ref

reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given secret.

Signature:

(secret record) get_record (session_id s, secret ref self)

Arguments:

type	name	description
secret ref	self	reference to the object

Return Type: secret record

all fields from the object

2.47 Class: tunnel

2.47.1 Fields for class: tunnel

Name	tunnel		
Description	<i>A tunnel for network traffic.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	access_PIF	PIF ref	The interface through which the tunnel is accessed
<i>RO_{ins}</i>	transport_PIF	PIF ref	The interface used by the tunnel
<i>RW</i>	status	(string → string) map	Status information about the tunnel
<i>RW</i>	other_config	(string → string) map	Additional configuration

2.47.2 RPCs associated with class: tunnel

RPC name: create

Overview:

Create a tunnel.

Signature:

```
(tunnel ref) create (session_id s, PIF ref transport_PIF, network ref network)
```

Arguments:

type	name	description
PIF ref	transport_PIF	PIF which receives the tagged traffic
network ref	network	Network to receive the tunnelled traffic

Return Type: tunnel ref

The reference of the created tunnel object

Possible Error Codes: OPENVSWITCH_NOT_ACTIVE, TRANSPORT_PIF_NOT_CONFIGURED, IS_TUNNEL_ACCESS_PIF

RPC name: destroy

Overview:

Destroy a tunnel.

Signature:

```
void destroy (session_id s, tunnel ref self)
```

Arguments:

type	name	description
tunnel ref	self	tunnel to destroy

Return Type: void

RPC name: `get_all`

Overview:

Return a list of all the tunnels known to the system.

Signature:

```
(tunnel ref set) get_all (session_id s)
```

Return Type: `tunnel ref set`

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of tunnel references to tunnel records for all tunnels known to the system.

Signature:

```
((tunnel ref -> tunnel record) map) get_all_records (session_id s)
```

Return Type: `(tunnel ref → tunnel record) map`

records of all objects

RPC name: `get_uuid`

Overview:

Get the `uuid` field of the given tunnel.

Signature:

```
string get_uuid (session_id s, tunnel ref self)
```

Arguments:

type	name	description
tunnel ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_access_PIF`

Overview:

Get the `access_PIF` field of the given tunnel.

Signature:

```
(PIF ref) get_access_PIF (session_id s, tunnel ref self)
```

Arguments:

type	name	description
tunnel ref	self	reference to the object

Return Type: PIF ref

value of the field

RPC name: get_transport_PIF**Overview:**

Get the transport_PIF field of the given tunnel.

Signature:

```
(PIF ref) get_transport_PIF (session_id s, tunnel ref self)
```

Arguments:

type	name	description
tunnel ref	self	reference to the object

Return Type: PIF ref

value of the field

RPC name: get_status**Overview:**

Get the status field of the given tunnel.

Signature:

```
((string -> string) map) get_status (session_id s, tunnel ref self)
```

Arguments:

type	name	description
tunnel ref	self	reference to the object

Return Type: (string → string) map

value of the field

RPC name: set_status**Overview:**

Set the status field of the given tunnel.

Signature:

```
void set_status (session_id s, tunnel ref self, (string -> string) map value)
```

Arguments:

type	name	description
tunnel ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void**RPC name:** add_to_status**Overview:**

Add the given key-value pair to the status field of the given tunnel.

Signature:

```
void add_to_status (session_id s, tunnel ref self, string key, string value)
```

Arguments:

type	name	description
tunnel ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_status**Overview:**

Remove the given key and its corresponding value from the status field of the given tunnel. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_status (session_id s, tunnel ref self, string key)
```

Arguments:

type	name	description
tunnel ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_other_config**Overview:**

Get the other_config field of the given tunnel.

Signature:

```
((string -> string) map) get_other_config (session_id s, tunnel ref self)
```

Arguments:

type	name	description
tunnel ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given tunnel.

Signature:

```
void set_other_config (session_id s, tunnel ref self, (string -> string) map value)
```

Arguments:

type	name	description
tunnel ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given tunnel.

Signature:

```
void add_to_other_config (session_id s, tunnel ref self, string key, string value)
```

Arguments:

type	name	description
tunnel ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given tunnel. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, tunnel ref self, string key)
```

Arguments:

type	name	description
tunnel ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: get_by_uuid**Overview:**

Get a reference to the tunnel instance with the specified UUID.

Signature:

(tunnel ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: tunnel ref
reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given tunnel.

Signature:

(tunnel record) get_record (session_id s, tunnel ref self)

Arguments:

type	name	description
tunnel ref	self	reference to the object

Return Type: tunnel record
all fields from the object

2.48 Class: PCI

2.48.1 Fields for class: PCI

Name	PCI		
Description	A PCI device.		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_{ins}</i>	<code>class_name</code>	string	PCI class name
<i>RO_{ins}</i>	<code>vendor_name</code>	string	Vendor name
<i>RO_{ins}</i>	<code>device_name</code>	string	Device name
<i>RO_{ins}</i>	<code>host</code>	host ref	Physical machine that owns the PCI device
<i>RO_{ins}</i>	<code>pci_id</code>	string	PCI ID of the physical device
<i>RO_{run}</i>	<code>dependencies</code>	PCI ref set	List of dependent PCI devices
<i>RW</i>	<code>other_config</code>	(string → string) map	Additional configuration
<i>RO_{ins}</i>	<code>subsystem_vendor_name</code>	string	Subsystem vendor name
<i>RO_{ins}</i>	<code>subsystem_device_name</code>	string	Subsystem device name

2.48.2 RPCs associated with class: PCI

RPC name: `get_all`

Overview:

Return a list of all the PCIs known to the system.

Signature:

```
(PCI ref set) get_all (session_id s)
```

Return Type: PCI ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of PCI references to PCI records for all PCIs known to the system.

Signature:

```
((PCI ref -> PCI record) map) get_all_records (session_id s)
```

Return Type: (PCI ref → PCI record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given PCI.

Signature:

```
string get_uuid (session_id s, PCI ref self)
```

Arguments:

type	name	description
PCI ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_class_name**Overview:**

Get the class_name field of the given PCI.

Signature:

```
string get_class_name (session_id s, PCI ref self)
```

Arguments:

type	name	description
PCI ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_vendor_name**Overview:**

Get the vendor_name field of the given PCI.

Signature:

```
string get_vendor_name (session_id s, PCI ref self)
```

Arguments:

type	name	description
PCI ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_device_name**Overview:**

Get the device_name field of the given PCI.

Signature:

```
string get_device_name (session_id s, PCI ref self)
```

Arguments:

type	name	description
PCI ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_host

Overview:

Get the host field of the given PCI.

Signature:

```
(host ref) get_host (session_id s, PCI ref self)
```

Arguments:

type	name	description
PCI ref	self	reference to the object

Return Type: host ref
value of the field

RPC name: get_pci_id

Overview:

Get the pci_id field of the given PCI.

Signature:

```
string get_pci_id (session_id s, PCI ref self)
```

Arguments:

type	name	description
PCI ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_dependencies

Overview:

Get the dependencies field of the given PCI.

Signature:

```
(PCI ref set) get_dependencies (session_id s, PCI ref self)
```


Arguments:

type	name	description
PCI ref	self	reference to the object

Return Type: PCI ref set
value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given PCI.

Signature:

```
((string -> string) map) get_other_config (session_id s, PCI ref self)
```

Arguments:

type	name	description
PCI ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given PCI.

Signature:

```
void set_other_config (session_id s, PCI ref self, (string -> string) map value)
```

Arguments:

type	name	description
PCI ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given PCI.

Signature:

```
void add_to_other_config (session_id s, PCI ref self, string key, string value)
```

Arguments:

type	name	description
PCI ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void**RPC name:** remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given PCI. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, PCI ref self, string key)
```

Arguments:

type	name	description
PCI ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** get_subsystem_vendor_name**Overview:**

Get the subsystem_vendor_name field of the given PCI.

Signature:

```
string get_subsystem_vendor_name (session_id s, PCI ref self)
```

Arguments:

type	name	description
PCI ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_subsystem_device_name**Overview:**

Get the subsystem_device_name field of the given PCI.

Signature:

```
string get_subsystem_device_name (session_id s, PCI ref self)
```

Arguments:

type	name	description
PCI ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_by_uuid

Overview:

Get a reference to the PCI instance with the specified UUID.

Signature:

(PCI ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: PCI ref
reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given PCI.

Signature:

(PCI record) get_record (session_id s, PCI ref self)

Arguments:

type	name	description
PCI ref	self	reference to the object

Return Type: PCI record
all fields from the object

2.49 Class: PGPU

2.49.1 Fields for class: PGPU

Name	PGPU		
Description	<i>A physical GPU (pGPU).</i>		
Quals	Field	Type	Description
<i>RO_run</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_ins</i>	<code>PCI</code>	PCI ref	Link to underlying PCI device
<i>RO_ins</i>	<code>GPU_group</code>	GPU_group ref	GPU group the pGPU is contained in
<i>RO_run</i>	<code>host</code>	host ref	Host that own the GPU
<i>RW</i>	<code>other_config</code>	(string → string) map	Additional configuration
<i>RO_run</i>	<code>supported_VGPU_types</code>	VGPU_type ref set	List of VGPU types supported by the underlying hardware
<i>RO_run</i>	<code>enabled_VGPU_types</code>	VGPU_type ref set	List of VGPU types which have been enabled for this PGPU
<i>RO_run</i>	<code>resident_VGPUs</code>	VGPU ref set	List of VGPUs running on this PGPU
<i>RO_run</i>	<code>supported_VGPU_max_capacities</code>	(VGPU_type ref → int) map	A map relating each VGPU type supported on this GPU to the maximum number of VGPUs of that type which can run simultaneously on this GPU
<i>RO_run</i>	<code>dom0_access</code>	<code>pgpu_dom0_access</code>	The accessibility of this device from dom0
<i>RO_run</i>	<code>is_system_display_device</code>	bool	Is this device the system display device

2.49.2 RPCs associated with class: PGPU

RPC name: `add_enabled_VGPU_types`

Overview:

Signature:

```
void add_enabled_VGPU_types (session_id s, PGPU ref self, VGPU_type ref value)
```

Arguments:

type	name	description
PGPU ref	self	The PGPU to which we are adding an enabled VGPU type
VGPU_type ref	value	The VGPU type to enable

Return Type: void

RPC name: `remove_enabled_VGPU_types`

Overview:

Signature:

```
void remove_enabled_VGPU_types (session_id s, PGPU ref self, VGPU_type ref value)
```

Arguments:

type	name	description
PGPU ref	self	The PGPU from which we are removing an enabled VGPU type
VGPU_type ref	value	The VGPU type to disable

Return Type: void**RPC name:** set_enabled_VGPU_types**Overview:**

.

Signature:

```
void set_enabled_VGPU_types (session_id s, PGPU ref self, VGPU_type ref set value)
```

Arguments:

type	name	description
PGPU ref	self	The PGPU on which we are enabling a set of VGPU types
VGPU_type ref set	value	The VGPU types to enable

Return Type: void**RPC name:** set_GPU_group**Overview:**

.

Signature:

```
void set_GPU_group (session_id s, PGPU ref self, GPU_group ref value)
```

Arguments:

type	name	description
PGPU ref	self	The PGPU to move to a new group
GPU_group ref	value	The group to which the PGPU will be moved

Return Type: void**RPC name:** get_remaining_capacity**Overview:**

.

Signature:

```
int get_remaining_capacity (session_id s, PGPU ref self, VGPU_type ref vgpu_type)
```

Arguments:

type	name	description
PGPU ref	self	The PGPU to query
VGPU_type ref	vgpu_type	The VGPU type for which we want to find the number of VGPU's which can still be started on this PGPU

Return Type: int

The number of VGPU's of the specified type which can still be started on this PGPU

RPC name: enable_dom0_access**Overview:****Signature:**

```
(pgpu_dom0_access) enable_dom0_access (session_id s, PGPU ref self)
```

Arguments:

type	name	description
PGPU ref	self	The PGPU to which dom0 will be granted access

Return Type: pgpu_dom0_access

The accessibility of this PGPU from dom0

RPC name: disable_dom0_access**Overview:****Signature:**

```
(pgpu_dom0_access) disable_dom0_access (session_id s, PGPU ref self)
```

Arguments:

type	name	description
PGPU ref	self	The PGPU to which dom0 will be denied access

Return Type: pgpu_dom0_access

The accessibility of this PGPU from dom0

RPC name: `get_all`**Overview:**

Return a list of all the PGPUs known to the system.

Signature:

```
(PGPU ref set) get_all (session_id s)
```

Return Type: `PGPU ref set`

references to all objects

RPC name: `get_all_records`**Overview:**

Return a map of PGPU references to PGPU records for all PGPUs known to the system.

Signature:

```
((PGPU ref -> PGPU record) map) get_all_records (session_id s)
```

Return Type: `(PGPU ref → PGPU record) map`

records of all objects

RPC name: `get_uuid`**Overview:**

Get the uuid field of the given PGPU.

Signature:

```
string get_uuid (session_id s, PGPU ref self)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object

Return Type: `string`

value of the field

RPC name: `get_PCI`**Overview:**

Get the PCI field of the given PGPU.

Signature:

```
(PCI ref) get_PCI (session_id s, PGPU ref self)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object

Return Type: PCI ref
value of the field

RPC name: get_GPU_group**Overview:**

Get the GPU_group field of the given PGPU.

Signature:

```
(GPU_group ref) get_GPU_group (session_id s, PGPU ref self)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object

Return Type: GPU_group ref
value of the field

RPC name: get_host**Overview:**

Get the host field of the given PGPU.

Signature:

```
(host ref) get_host (session_id s, PGPU ref self)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object

Return Type: host ref
value of the field

RPC name: get_other_config**Overview:**

Get the other_config field of the given PGPU.

Signature:

```
((string -> string) map) get_other_config (session_id s, PGPU ref self)
```


Arguments:

type	name	description
PGPU ref	self	reference to the object

Return Type: (string → string) map
value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given PGPU.

Signature:

```
void set_other_config (session_id s, PGPU ref self, (string -> string) map value)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given PGPU.

Signature:

```
void add_to_other_config (session_id s, PGPU ref self, string key, string value)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given PGPU. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, PGPU ref self, string key)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object
string	key	Key to remove

Return Type: void**RPC name:** `get_supported_VGPU_types`**Overview:**Get the `supported_VGPU_types` field of the given PGPU.**Signature:**

```
(VGPU_type ref set) get_supported_VGPU_types (session_id s, PGPU ref self)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object

Return Type: VGPU_type ref set
value of the field**RPC name:** `get_enabled_VGPU_types`**Overview:**Get the `enabled_VGPU_types` field of the given PGPU.**Signature:**

```
(VGPU_type ref set) get_enabled_VGPU_types (session_id s, PGPU ref self)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object

Return Type: VGPU_type ref set
value of the field**RPC name:** `get_resident_VGPUs`**Overview:**Get the `resident_VGPUs` field of the given PGPU.**Signature:**

```
(VGPU ref set) get_resident_VGPUs (session_id s, PGPU ref self)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object

Return Type: VGPU ref set

value of the field

RPC name: get_supported_VGPU_max_capacities**Overview:**

Get the supported_VGPU_max_capacities field of the given PGPU.

Signature:

```
((VGPU_type ref -> int) map) get_supported_VGPU_max_capacities (session_id s, PGPU ref self)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object

Return Type: (VGPU_type ref → int) map

value of the field

RPC name: get_dom0_access**Overview:**

Get the dom0_access field of the given PGPU.

Signature:

```
(pgpu_dom0_access) get_dom0_access (session_id s, PGPU ref self)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object

Return Type: pgpu_dom0_access

value of the field

RPC name: get_is_system_display_device**Overview:**

Get the is_system_display_device field of the given PGPU.

Signature:

```
bool get_is_system_display_device (session_id s, PGPU ref self)
```

Arguments:

type	name	description
PGPU ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_by_uuid

Overview:

Get a reference to the PGPU instance with the specified UUID.

Signature:

(PGPU ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: PGPU ref
reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given PGPU.

Signature:

(PGPU record) get_record (session_id s, PGPU ref self)

Arguments:

type	name	description
PGPU ref	self	reference to the object

Return Type: PGPU record
all fields from the object

2.50 Class: GPU_group

2.50.1 Fields for class: GPU_group

Name	GPU_group		
Description	<i>A group of compatible GPUs across the resource pool.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RW</i>	<code>name_label</code>	string	a human-readable name
<i>RW</i>	<code>name_description</code>	string	a notes field containing human-readable description
<i>RO_run</i>	<code>PGPUs</code>	PGPU ref set	List of pGPUs in the group
<i>RO_run</i>	<code>VGPUs</code>	VGPU ref set	List of vGPUs using the group
<i>RO_run</i>	<code>GPU_types</code>	string set	List of GPU types (vendor+device ID) that can be in this group
<i>RW</i>	<code>other_config</code>	(string → string) map	Additional configuration
<i>RW</i>	<code>allocation_algorithm</code>	allocation_algorithm	Current allocation of vGPUs to pGPUs for this group
<i>RO_run</i>	<code>supported_VGPU_types</code>	VGPU_type ref set	vGPU types supported on at least one of the pGPUs in this group
<i>RO_run</i>	<code>enabled_VGPU_types</code>	VGPU_type ref set	vGPU types supported on at least one of the pGPUs in this group

2.50.2 RPCs associated with class: GPU_group

RPC name: create

Overview:

.

Signature:

```
(GPU_group ref) create (session_id s, string name_label, string name_description, (string -> string) map
```

Arguments:

type	name	description
string	name_label	
string	name_description	
(string → string) map	other_config	

Return Type: GPU_group ref

RPC name: destroy

Overview:

.

Signature:

```
void destroy (session_id s, GPU_group ref self)
```

Arguments:

type	name	description
GPU_group ref	self	The vGPU to destroy

Return Type: void

RPC name: get_remaining_capacity

Overview:**Signature:**

```
int get_remaining_capacity (session_id s, GPU_group ref self, VGPU_type ref vgpu_type)
```

Arguments:

type	name	description
GPU_group ref	self	The GPU group to query
VGPU_type ref	vgpu_type	The VGPU_type for which the remaining capacity will be calculated

Return Type: int

The number of VGPU's of the given type which can still be started on the PGPU's in the group

RPC name: get_all

Overview:

Return a list of all the GPU_groups known to the system.

Signature:

```
((GPU_group ref set) get_all (session_id s)
```

Return Type: GPU_group ref set

references to all objects

RPC name: get_all_records

Overview:

Return a map of GPU_group references to GPU_group records for all GPU_groups known to the system.

Signature:

```
((GPU_group ref -> GPU_group record) map) get_all_records (session_id s)
```

Return Type: (GPU_group ref → GPU_group record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given GPU_group.

Signature:

```
string get_uuid (session_id s, GPU_group ref self)
```

Arguments:

type	name	description
GPU_group ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_name_label`

Overview:

Get the name/label field of the given GPU_group.

Signature:

```
string get_name_label (session_id s, GPU_group ref self)
```

Arguments:

type	name	description
GPU_group ref	self	reference to the object

Return Type: string

value of the field

RPC name: `set_name_label`

Overview:

Set the name/label field of the given GPU_group.

Signature:

```
void set_name_label (session_id s, GPU_group ref self, string value)
```

Arguments:

type	name	description
GPU_group ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: `get_name_description`

Overview:

Get the name/description field of the given GPU_group.

Signature:

```
string get_name_description (session_id s, GPU_group ref self)
```

Arguments:

type	name	description
GPU_group ref	self	reference to the object

Return Type: string

value of the field

RPC name: `set_name_description`

Overview:

Set the name/description field of the given GPU_group.

Signature:

```
void set_name_description (session_id s, GPU_group ref self, string value)
```

Arguments:

type	name	description
GPU_group ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: `get_PGPUs`

Overview:

Get the PGPUs field of the given GPU_group.

Signature:

```
(PGPU ref set) get_PGPUs (session_id s, GPU_group ref self)
```

Arguments:

type	name	description
GPU_group ref	self	reference to the object

Return Type: PGPU ref set

value of the field

RPC name: `get_VGPUs`

Overview:

Get the `VGPUs` field of the given `GPU_group`.

Signature:

```
(VGPU ref set) get_VGPUs (session_id s, GPU_group ref self)
```

Arguments:

type	name	description
<code>GPU_group ref</code>	<code>self</code>	reference to the object

Return Type: `VGPU ref set`

value of the field

RPC name: `get_GPU_types`

Overview:

Get the `GPU_types` field of the given `GPU_group`.

Signature:

```
(string set) get_GPU_types (session_id s, GPU_group ref self)
```

Arguments:

type	name	description
<code>GPU_group ref</code>	<code>self</code>	reference to the object

Return Type: `string set`

value of the field

RPC name: `get_other_config`

Overview:

Get the `other_config` field of the given `GPU_group`.

Signature:

```
((string -> string) map) get_other_config (session_id s, GPU_group ref self)
```

Arguments:

type	name	description
<code>GPU_group ref</code>	<code>self</code>	reference to the object

Return Type: `(string → string) map`

value of the field

RPC name: set_other_config**Overview:**

Set the other_config field of the given GPU_group.

Signature:

```
void set_other_config (session_id s, GPU_group ref self, (string -> string) map value)
```

Arguments:

type	name	description
GPU_group ref	self	reference to the object
(string → string) map	value	New value to set

Return Type: void

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given GPU_group.

Signature:

```
void add_to_other_config (session_id s, GPU_group ref self, string key, string value)
```

Arguments:

type	name	description
GPU_group ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given GPU_group. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, GPU_group ref self, string key)
```

Arguments:

type	name	description
GPU_group ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: get_allocation_algorithm**Overview:**

Get the allocation_algorithm field of the given GPU_group.

Signature:

```
(allocation_algorithm) get_allocation_algorithm (session_id s, GPU_group ref self)
```

Arguments:

type	name	description
GPU_group ref	self	reference to the object

Return Type: allocation_algorithm

value of the field

RPC name: set_allocation_algorithm**Overview:**

Set the allocation_algorithm field of the given GPU_group.

Signature:

```
void set_allocation_algorithm (session_id s, GPU_group ref self, allocation_algorithm value)
```

Arguments:

type	name	description
GPU_group ref	self	reference to the object
allocation_algorithm	value	New value to set

Return Type: void**RPC name: get_supported_VGPU_types****Overview:**

Get the supported_VGPU_types field of the given GPU_group.

Signature:

```
(VGPU_type ref set) get_supported_VGPU_types (session_id s, GPU_group ref self)
```

Arguments:

type	name	description
GPU_group ref	self	reference to the object

Return Type: VGPU_type ref set

value of the field

RPC name: `get_enabled_VGPU_types`

Overview:

Get the `enabled_VGPU_types` field of the given `GPU_group`.

Signature:

`(VGPU_type ref set) get_enabled_VGPU_types (session_id s, GPU_group ref self)`

Arguments:

type	name	description
<code>GPU_group ref</code>	<code>self</code>	reference to the object

Return Type: `VGPU_type ref set`

value of the field

RPC name: `get_by_uuid`

Overview:

Get a reference to the `GPU_group` instance with the specified UUID.

Signature:

`(GPU_group ref) get_by_uuid (session_id s, string uuid)`

Arguments:

type	name	description
<code>string</code>	<code>uuid</code>	UUID of object to return

Return Type: `GPU_group ref`

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given `GPU_group`.

Signature:

`(GPU_group record) get_record (session_id s, GPU_group ref self)`

Arguments:

type	name	description
<code>GPU_group ref</code>	<code>self</code>	reference to the object

Return Type: `GPU_group record`

all fields from the object

RPC name: `get_by_name_label`

Overview:

Get all the GPU_group instances with the given label.

Signature:

`(GPU_group ref set) get_by_name_label (session_id s, string label)`

Arguments:

type	name	description
string	label	label of object to return

Return Type: GPU_group ref set

references to objects with matching names

2.51 Class: VGPU

2.51.1 Fields for class: VGPU

Name	VGPU		
Description	<i>A virtual GPU (vGPU).</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_{run}</i>	<code>VM</code>	VM ref	VM that owns the vGPU
<i>RO_{run}</i>	<code>GPU_group</code>	GPU_group ref	GPU group used by the vGPU
<i>RO_{run}</i>	<code>device</code>	string	Order in which the devices are plugged into the VM
<i>RO_{run}</i>	<code>currently_attached</code>	bool	Reflects whether the virtual device is currently connected to a physical device
<i>RW</i>	<code>other_config</code>	(string → string) map	Additional configuration
<i>RO_{run}</i>	<code>type</code>	VGPU_type ref	Preset type for this VGPU
<i>RO_{run}</i>	<code>resident_on</code>	PGPU ref	The PGPU on which this VGPU is running

2.51.2 RPCs associated with class: VGPU

RPC name: `create`

Overview:

Signature:

(VGPU ref) `create` (session_id s, VM ref VM, GPU_group ref GPU_group, string device, (string → string) map)

Arguments:

type	name	description
VM ref	VM	
GPU_group ref	GPU_group	
string	device	
(string → string) map	other_config	
VGPU_type ref	type	

Return Type: VGPU ref

reference to the newly created object

RPC name: `destroy`

Overview:

Signature:

void `destroy` (session_id s, VGPU ref self)

Arguments:

type	name	description
VGPU ref	self	The vGPU to destroy

Return Type: void

RPC name: get_all

Overview:

Return a list of all the VGPU known to the system.

Signature:

```
(VGPU ref set) get_all (session_id s)
```

Return Type: VGPU ref set

references to all objects

RPC name: get_all_records

Overview:

Return a map of VGPU references to VGPU records for all VGPU known to the system.

Signature:

```
((VGPU ref -> VGPU record) map) get_all_records (session_id s)
```

Return Type: (VGPU ref → VGPU record) map

records of all objects

RPC name: get_uuid

Overview:

Get the uuid field of the given VGPU.

Signature:

```
string get_uuid (session_id s, VGPU ref self)
```

Arguments:

type	name	description
VGPU ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_VM`

Overview:

Get the VM field of the given VGPU.

Signature:

```
(VM ref) get_VM (session_id s, VGPU ref self)
```

Arguments:

type	name	description
VGPU ref	self	reference to the object

Return Type: VM ref

value of the field

RPC name: `get_GPU_group`

Overview:

Get the GPU_group field of the given VGPU.

Signature:

```
(GPU_group ref) get_GPU_group (session_id s, VGPU ref self)
```

Arguments:

type	name	description
VGPU ref	self	reference to the object

Return Type: GPU_group ref

value of the field

RPC name: `get_device`

Overview:

Get the device field of the given VGPU.

Signature:

```
string get_device (session_id s, VGPU ref self)
```

Arguments:

type	name	description
VGPU ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_currently_attached`

Overview:

Get the `currently_attached` field of the given VGPU.

Signature:

```
bool get_currently_attached (session_id s, VGPU ref self)
```

Arguments:

type	name	description
VGPU ref	self	reference to the object

Return Type: `bool`

value of the field

RPC name: `get_other_config`

Overview:

Get the `other_config` field of the given VGPU.

Signature:

```
((string -> string) map) get_other_config (session_id s, VGPU ref self)
```

Arguments:

type	name	description
VGPU ref	self	reference to the object

Return Type: `(string → string) map`

value of the field

RPC name: `set_other_config`

Overview:

Set the `other_config` field of the given VGPU.

Signature:

```
void set_other_config (session_id s, VGPU ref self, (string -> string) map value)
```

Arguments:

type	name	description
VGPU ref	self	reference to the object
<code>(string → string) map</code>	value	New value to set

Return Type: `void`

RPC name: add_to_other_config**Overview:**

Add the given key-value pair to the other_config field of the given VGPU.

Signature:

```
void add_to_other_config (session_id s, VGPU ref self, string key, string value)
```

Arguments:

type	name	description
VGPU ref	self	reference to the object
string	key	Key to add
string	value	Value to add

Return Type: void

RPC name: remove_from_other_config**Overview:**

Remove the given key and its corresponding value from the other_config field of the given VGPU. If the key is not in that Map, then do nothing.

Signature:

```
void remove_from_other_config (session_id s, VGPU ref self, string key)
```

Arguments:

type	name	description
VGPU ref	self	reference to the object
string	key	Key to remove

Return Type: void

RPC name: get_type**Overview:**

Get the type field of the given VGPU.

Signature:

```
(VGPU_type ref) get_type (session_id s, VGPU ref self)
```

Arguments:

type	name	description
VGPU ref	self	reference to the object

Return Type: VGPU_type ref

value of the field

RPC name: `get_resident_on`

Overview:

Get the `resident_on` field of the given VGPU.

Signature:

`(PGPU ref) get_resident_on (session_id s, VGPU ref self)`

Arguments:

type	name	description
VGPU ref	self	reference to the object

Return Type: PGPU ref

value of the field

RPC name: `get_by_uuid`

Overview:

Get a reference to the VGPU instance with the specified UUID.

Signature:

`(VGPU ref) get_by_uuid (session_id s, string uuid)`

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VGPU ref

reference to the object

RPC name: `get_record`

Overview:

Get a record containing the current state of the given VGPU.

Signature:

`(VGPU record) get_record (session_id s, VGPU ref self)`

Arguments:

type	name	description
VGPU ref	self	reference to the object

Return Type: VGPU record

all fields from the object

2.52 Class: VGPU_type

2.52.1 Fields for class: VGPU_type

Name	VGPU_type		
Description	<i>A type of virtual GPU.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_ins</i>	<code>vendor_name</code>	string	Name of VGPU vendor
<i>RO_ins</i>	<code>model_name</code>	string	Model name associated with the VGPU type
<i>RO_ins</i>	<code>framebuffer_size</code>	int	Framebuffer size of the VGPU type, in bytes
<i>RO_ins</i>	<code>max_heads</code>	int	Maximum number of displays supported by the VGPU type
<i>RO_ins</i>	<code>max_resolution_x</code>	int	Maximum resolution (width) supported by the VGPU type
<i>RO_ins</i>	<code>max_resolution_y</code>	int	Maximum resolution (height) supported by the VGPU type
<i>RO_run</i>	<code>supported_on_PGPUs</code>	PGPU ref set	List of PGPUs that support this VGPU type
<i>RO_run</i>	<code>enabled_on_PGPUs</code>	PGPU ref set	List of PGPUs that have this VGPU type enabled
<i>RO_run</i>	<code>VGPUs</code>	VGPU ref set	List of VGPUs of this type
<i>RO_run</i>	<code>supported_on_GPU_groups</code>	GPU_group ref set	List of GPU groups in which at least one PGPU supports this VGPU type
<i>RO_run</i>	<code>enabled_on_GPU_groups</code>	GPU_group ref set	List of GPU groups in which at least one have this VGPU type enabled
<i>RO_ins</i>	<code>implementation</code>	vgpu_type_implementation	The internal implementation of this VGPU type
<i>RO_ins</i>	<code>identifier</code>	string	Key used to identify VGPU types and avoid creating duplicates - this field is used internally and not intended for interpretation by API clients
<i>RO_ins</i>	<code>experimental</code>	bool	Indicates whether VGPUs of this type should be considered experimental

2.52.2 RPCs associated with class: VGPU_type

RPC name: `get_all`

Overview:

Return a list of all the VGPU_types known to the system.

Signature:

(VGPU_type ref set) `get_all` (session_id s)

Return Type: VGPU_type ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of VGPU_type references to VGPU_type records for all VGPU_types known to the system.

Signature:

```
((VGPU_type ref -> VGPU_type record) map) get_all_records (session_id s)
```

Return Type: (VGPU_type ref → VGPU_type record) map
records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given VGPU_type.

Signature:

```
string get_uuid (session_id s, VGPU_type ref self)
```

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: string
value of the field

RPC name: `get_vendor_name`

Overview:

Get the vendor_name field of the given VGPU_type.

Signature:

```
string get_vendor_name (session_id s, VGPU_type ref self)
```

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: string
value of the field

RPC name: `get_model_name`

Overview:

Get the model_name field of the given VGPU_type.

Signature:

```
string get_model_name (session_id s, VGPU_type ref self)
```

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: string
value of the field

RPC name: `get_framebuffer_size`

Overview:

Get the `framebuffer_size` field of the given `VGPU_type`.

Signature:

```
int get_framebuffer_size (session_id s, VGPU_type ref self)
```

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: int
value of the field

RPC name: `get_max_heads`

Overview:

Get the `max_heads` field of the given `VGPU_type`.

Signature:

```
int get_max_heads (session_id s, VGPU_type ref self)
```

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: int
value of the field

RPC name: `get_max_resolution_x`

Overview:

Get the `max_resolution_x` field of the given `VGPU_type`.

Signature:

```
int get_max_resolution_x (session_id s, VGPU_type ref self)
```

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_max_resolution_y

Overview:

Get the max_resolution_y field of the given VGPU_type.

Signature:

```
int get_max_resolution_y (session_id s, VGPU_type ref self)
```

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_supported_on_PGPUs

Overview:

Get the supported_on_PGPUs field of the given VGPU_type.

Signature:

```
(PGPU ref set) get_supported_on_PGPUs (session_id s, VGPU_type ref self)
```

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: PGPU ref set
value of the field

RPC name: get_enabled_on_PGPUs

Overview:

Get the enabled_on_PGPUs field of the given VGPU_type.

Signature:

```
(PGPU ref set) get_enabled_on_PGPUs (session_id s, VGPU_type ref self)
```

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: PGPU ref set
value of the field

RPC name: get_VGPUs**Overview:**

Get the VGPUs field of the given VGPU_type.

Signature:

(VGPU ref set) get_VGPUs (session_id s, VGPU_type ref self)

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: VGPU ref set
value of the field

RPC name: get_supported_on_GPU_groups**Overview:**

Get the supported_on_GPU_groups field of the given VGPU_type.

Signature:

(GPU_group ref set) get_supported_on_GPU_groups (session_id s, VGPU_type ref self)

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: GPU_group ref set
value of the field

RPC name: get_enabled_on_GPU_groups**Overview:**

Get the enabled_on_GPU_groups field of the given VGPU_type.

Signature:

(GPU_group ref set) get_enabled_on_GPU_groups (session_id s, VGPU_type ref self)

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: GPU_group ref set
value of the field

RPC name: get_implementation**Overview:**

Get the implementation field of the given VGPU_type.

Signature:

```
(vgpu_type_implementation) get_implementation (session_id s, VGPU_type ref self)
```

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: vgpu_type_implementation
value of the field

RPC name: get_identifier**Overview:**

Get the identifier field of the given VGPU_type.

Signature:

```
string get_identifier (session_id s, VGPU_type ref self)
```

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_experimental**Overview:**

Get the experimental field of the given VGPU_type.

Signature:

```
bool get_experimental (session_id s, VGPU_type ref self)
```

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_by_uuid

Overview:

Get a reference to the VGPU_type instance with the specified UUID.

Signature:

(VGPU_type ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: VGPU_type ref
reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given VGPU_type.

Signature:

(VGPU_type record) get_record (session_id s, VGPU_type ref self)

Arguments:

type	name	description
VGPU_type ref	self	reference to the object

Return Type: VGPU_type record
all fields from the object

2.53 Class: PVS_site

2.53.1 Fields for class: PVS_site

Name	PVS_site		
Description	<i>machines serving blocks of data for provisioning VMs.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	uuid	string	Unique identifier/object reference
<i>RW</i>	name_label	string	a human-readable name
<i>RW</i>	name_description	string	a notes field containing human-readable description
<i>RO_ins</i>	PVS_uuid	string	Unique identifier of the PVS site, as configured in PVS
<i>RO_run</i>	cache_storage	PVS_cache_storage ref set	The SR used by PVS proxy for the cache
<i>RO_run</i>	servers	PVS_server ref set	The set of PVS servers in the site
<i>RO_run</i>	proxies	PVS_proxy ref set	The set of proxies associated with the site

2.53.2 RPCs associated with class: PVS_site

RPC name: introduce

Overview:

Introduce new PVS site.

Signature:

(PVS_site ref) introduce (session_id s, string name_label, string name_description, string PVS_uuid)

Arguments:

type	name	description
string	name_label	name of the PVS site
string	name_description	description of the PVS site
string	PVS_uuid	unique identifier of the PVS site

Return Type: PVS_site ref

the new PVS site

RPC name: forget

Overview:

Remove a site's meta data.

Signature:

void forget (session_id s, PVS_site ref self)

Arguments:

type	name	description
PVS_site ref	self	this PVS site

Return Type: void

Possible Error Codes: PVS_SITE_CONTAINS_RUNNING_PROXIES, PVS_SITE_CONTAINS_SERVERS

RPC name: set_PVS_uuid

Overview:

Update the PVS UUID of the PVS site.

Signature:

```
void set_PVS_uuid (session_id s, PVS_site ref self, string value)
```

Arguments:

type	name	description
PVS_site ref	self	this PVS site
string	value	PVS UUID to be used

Return Type: void

RPC name: get_all

Overview:

Return a list of all the PVS_sites known to the system.

Signature:

```
(PVS_site ref set) get_all (session_id s)
```

Return Type: PVS_site ref set

references to all objects

RPC name: get_all_records

Overview:

Return a map of PVS_site references to PVS_site records for all PVS_sites known to the system.

Signature:

```
((PVS_site ref -> PVS_site record) map) get_all_records (session_id s)
```

Return Type: (PVS_site ref → PVS_site record) map

records of all objects

RPC name: get_uuid

Overview:

Get the uuid field of the given PVS_site.

Signature:

```
string get_uuid (session_id s, PVS_site ref self)
```

Arguments:

type	name	description
PVS_site ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_name_label

Overview:

Get the name/label field of the given PVS_site.

Signature:

```
string get_name_label (session_id s, PVS_site ref self)
```

Arguments:

type	name	description
PVS_site ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_name_label

Overview:

Set the name/label field of the given PVS_site.

Signature:

```
void set_name_label (session_id s, PVS_site ref self, string value)
```

Arguments:

type	name	description
PVS_site ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_name_description

Overview:

Get the name/description field of the given PVS_site.

Signature:

```
string get_name_description (session_id s, PVS_site ref self)
```

Arguments:

type	name	description
PVS_site ref	self	reference to the object

Return Type: string
value of the field

RPC name: set_name_description**Overview:**

Set the name/description field of the given PVS_site.

Signature:

```
void set_name_description (session_id s, PVS_site ref self, string value)
```

Arguments:

type	name	description
PVS_site ref	self	reference to the object
string	value	New value to set

Return Type: void

RPC name: get_PVS_uuid**Overview:**

Get the PVS_uuid field of the given PVS_site.

Signature:

```
string get_PVS_uuid (session_id s, PVS_site ref self)
```

Arguments:

type	name	description
PVS_site ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_cache_storage**Overview:**

Get the cache_storage field of the given PVS_site.

Signature:

```
(PVS_cache_storage ref set) get_cache_storage (session_id s, PVS_site ref self)
```

Arguments:

type	name	description
PVS_site ref	self	reference to the object

Return Type: PVS_cache_storage ref set
value of the field

RPC name: get_servers

Overview:

Get the servers field of the given PVS_site.

Signature:

(PVS_server ref set) get_servers (session_id s, PVS_site ref self)

Arguments:

type	name	description
PVS_site ref	self	reference to the object

Return Type: PVS_server ref set
value of the field

RPC name: get_proxies

Overview:

Get the proxies field of the given PVS_site.

Signature:

(PVS_proxy ref set) get_proxies (session_id s, PVS_site ref self)

Arguments:

type	name	description
PVS_site ref	self	reference to the object

Return Type: PVS_proxy ref set
value of the field

RPC name: get_by_uuid

Overview:

Get a reference to the PVS_site instance with the specified UUID.

Signature:

(PVS_site ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: PVS_site ref
reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given PVS_site.

Signature:

(PVS_site record) get_record (session_id s, PVS_site ref self)

Arguments:

type	name	description
PVS_site ref	self	reference to the object

Return Type: PVS_site record
all fields from the object

RPC name: get_by_name_label**Overview:**

Get all the PVS_site instances with the given label.

Signature:

(PVS_site ref set) get_by_name_label (session_id s, string label)

Arguments:

type	name	description
string	label	label of object to return

Return Type: PVS_site ref set
references to objects with matching names

2.54 Class: PVS_server

2.54.1 Fields for class: PVS_server

Name	PVS_server		
Description	<i>individual machine serving provisioning (block) data.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	addresses	string set	IPv4 addresses of this server
<i>RO_{ins}</i>	first_port	int	First UDP port accepted by this server
<i>RO_{ins}</i>	last_port	int	Last UDP port accepted by this server
<i>RO_{ins}</i>	site	PVS_site ref	PVS site this server is part of

2.54.2 RPCs associated with class: PVS_server

RPC name: introduce

Overview:

introduce new PVS server.

Signature:

(PVS_server ref) introduce (session_id s, string set addresses, int first_port, int last_port, PVS_site r

Arguments:

type	name	description
string set	addresses	IPv4 addresses of the server
int	first_port	first UDP port accepted by this server
int	last_port	last UDP port accepted by this server
PVS_site ref	site	PVS site this server is a part of

Return Type: PVS_server ref

the new PVS server

RPC name: forget

Overview:

forget a PVS server.

Signature:

void forget (session_id s, PVS_server ref self)

Arguments:

type	name	description
PVS_server ref	self	this PVS server

Return Type: void

RPC name: `get_all`

Overview:

Return a list of all the PVS_servers known to the system.

Signature:

```
(PVS_server ref set) get_all (session_id s)
```

Return Type: PVS_server ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of PVS_server references to PVS_server records for all PVS_servers known to the system.

Signature:

```
((PVS_server ref -> PVS_server record) map) get_all_records (session_id s)
```

Return Type: (PVS_server ref → PVS_server record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given PVS_server.

Signature:

```
string get_uuid (session_id s, PVS_server ref self)
```

Arguments:

type	name	description
PVS_server ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_addresses`

Overview:

Get the addresses field of the given PVS_server.

Signature:

```
(string set) get_addresses (session_id s, PVS_server ref self)
```

Arguments:

type	name	description
PVS_server ref	self	reference to the object

Return Type: string set
value of the field

RPC name: get_first_port**Overview:**

Get the first_port field of the given PVS_server.

Signature:

```
int get_first_port (session_id s, PVS_server ref self)
```

Arguments:

type	name	description
PVS_server ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_last_port**Overview:**

Get the last_port field of the given PVS_server.

Signature:

```
int get_last_port (session_id s, PVS_server ref self)
```

Arguments:

type	name	description
PVS_server ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_site**Overview:**

Get the site field of the given PVS_server.

Signature:

```
(PVS_site ref) get_site (session_id s, PVS_server ref self)
```

Arguments:

type	name	description
PVS_server ref	self	reference to the object

Return Type: PVS_site ref
value of the field

RPC name: get_by_uuid

Overview:

Get a reference to the PVS_server instance with the specified UUID.

Signature:

(PVS_server ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: PVS_server ref
reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given PVS_server.

Signature:

(PVS_server record) get_record (session_id s, PVS_server ref self)

Arguments:

type	name	description
PVS_server ref	self	reference to the object

Return Type: PVS_server record
all fields from the object

2.55 Class: PVS_proxy

2.55.1 Fields for class: PVS_proxy

Name	PVS_proxy		
Description	<i>a proxy connects a VM/VIF with a PVS site.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	site	PVS_site ref	PVS site this proxy is part of
<i>RO_{ins}</i>	VIF	VIF ref	VIF of the VM using the proxy
<i>RO_{run}</i>	currently_attached	bool	true = VM is currently proxied
<i>RO_{run}</i>	status	pvs.proxy_status	The run-time status of the proxy

2.55.2 RPCs associated with class: PVS_proxy

RPC name: create

Overview:

Configure a VM/VIF to use a PVS proxy.

Signature:

```
(PVS_proxy ref) create (session_id s, PVS_site ref site, VIF ref VIF)
```

Arguments:

type	name	description
PVS_site ref	site	PVS site that we proxy for
VIF ref	VIF	VIF for the VM that needs to be proxied

Return Type: PVS_proxy ref

the new PVS proxy

RPC name: destroy

Overview:

remove (or switch off) a PVS proxy for this VM.

Signature:

```
void destroy (session_id s, PVS_proxy ref self)
```

Arguments:

type	name	description
PVS_proxy ref	self	this PVS proxy

Return Type: void

RPC name: `get_all`**Overview:**

Return a list of all the PVS_proxys known to the system.

Signature:

```
(PVS_proxy ref set) get_all (session_id s)
```

Return Type: PVS_proxy ref set

references to all objects

RPC name: `get_all_records`**Overview:**

Return a map of PVS_proxy references to PVS_proxy records for all PVS_proxys known to the system.

Signature:

```
((PVS_proxy ref -> PVS_proxy record) map) get_all_records (session_id s)
```

Return Type: (PVS_proxy ref → PVS_proxy record) map

records of all objects

RPC name: `get_uuid`**Overview:**

Get the uuid field of the given PVS_proxy.

Signature:

```
string get_uuid (session_id s, PVS_proxy ref self)
```

Arguments:

type	name	description
PVS_proxy ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_site`**Overview:**

Get the site field of the given PVS_proxy.

Signature:

```
(PVS_site ref) get_site (session_id s, PVS_proxy ref self)
```

Arguments:

type	name	description
PVS_proxy ref	self	reference to the object

Return Type: PVS_site ref
value of the field

RPC name: get_VIF**Overview:**

Get the VIF field of the given PVS_proxy.

Signature:

(VIF ref) get_VIF (session_id s, PVS_proxy ref self)

Arguments:

type	name	description
PVS_proxy ref	self	reference to the object

Return Type: VIF ref
value of the field

RPC name: get_currently_attached**Overview:**

Get the currently_attached field of the given PVS_proxy.

Signature:

bool get_currently_attached (session_id s, PVS_proxy ref self)

Arguments:

type	name	description
PVS_proxy ref	self	reference to the object

Return Type: bool
value of the field

RPC name: get_status**Overview:**

Get the status field of the given PVS_proxy.

Signature:

(pvs_proxy_status) get_status (session_id s, PVS_proxy ref self)

Arguments:

type	name	description
PVS_proxy ref	self	reference to the object

Return Type: pvs_proxy_status
value of the field

RPC name: get_by_uuid**Overview:**

Get a reference to the PVS_proxy instance with the specified UUID.

Signature:

(PVS_proxy ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: PVS_proxy ref
reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given PVS_proxy.

Signature:

(PVS_proxy record) get_record (session_id s, PVS_proxy ref self)

Arguments:

type	name	description
PVS_proxy ref	self	reference to the object

Return Type: PVS_proxy record
all fields from the object

2.56 Class: PVS_cache_storage

2.56.1 Fields for class: PVS_cache_storage

Name	PVS_cache_storage		
Description	<i>Describes the storage that is available to a PVS site for caching purposes.</i>		
Quals	Field	Type	Description
<i>RO_run</i>	uuid	string	Unique identifier/object reference
<i>RO_ins</i>	host	host ref	The host on which this object defines PVS cache storage
<i>RO_ins</i>	SR	SR ref	SR providing storage for the PVS cache
<i>RO_ins</i>	site	PVS_site ref	The PVS_site for which this object defines the storage
<i>RO_ins</i>	size	int	The size of the cache VDI (in bytes)
<i>RO_run</i>	VDI	VDI ref	The VDI used for caching

2.56.2 RPCs associated with class: PVS_cache_storage

RPC name: `get_all`

Overview:

Return a list of all the PVS_cache_storages known to the system.

Signature:

```
(PVS_cache_storage ref set) get_all (session_id s)
```

Return Type: PVS_cache_storage ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of PVS_cache_storage references to PVS_cache_storage records for all PVS_cache_storages known to the system.

Signature:

```
((PVS_cache_storage ref -> PVS_cache_storage record) map) get_all_records (session_id s)
```

Return Type: (PVS_cache_storage ref → PVS_cache_storage record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given PVS_cache_storage.

Signature:

```
string get_uuid (session_id s, PVS_cache_storage ref self)
```

Arguments:

type	name	description
PVS_cache_storage ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_host

Overview:

Get the host field of the given PVS_cache_storage.

Signature:

(host ref) get_host (session_id s, PVS_cache_storage ref self)

Arguments:

type	name	description
PVS_cache_storage ref	self	reference to the object

Return Type: host ref
value of the field

RPC name: get_SR

Overview:

Get the SR field of the given PVS_cache_storage.

Signature:

(SR ref) get_SR (session_id s, PVS_cache_storage ref self)

Arguments:

type	name	description
PVS_cache_storage ref	self	reference to the object

Return Type: SR ref
value of the field

RPC name: get_site

Overview:

Get the site field of the given PVS_cache_storage.

Signature:

(PVS_site ref) get_site (session_id s, PVS_cache_storage ref self)

Arguments:

type	name	description
PVS_cache_storage ref	self	reference to the object

Return Type: PVS_site ref
value of the field

RPC name: get_size

Overview:

Get the size field of the given PVS_cache_storage.

Signature:

```
int get_size (session_id s, PVS_cache_storage ref self)
```

Arguments:

type	name	description
PVS_cache_storage ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_VDI

Overview:

Get the VDI field of the given PVS_cache_storage.

Signature:

```
(VDI ref) get_VDI (session_id s, PVS_cache_storage ref self)
```

Arguments:

type	name	description
PVS_cache_storage ref	self	reference to the object

Return Type: VDI ref
value of the field

RPC name: create

Overview:

Create a new PVS_cache_storage instance, and return its handle.

Signature:

```
(PVS_cache_storage ref) create (session_id s, PVS_cache_storage record args)
```

Arguments:

type	name	description
PVS_cache_storage record	args	All constructor arguments

Return Type: PVS_cache_storage ref
reference to the newly created object

RPC name: destroy**Overview:**

Destroy the specified PVS_cache_storage instance.

Signature:

```
void destroy (session_id s, PVS_cache_storage ref self)
```

Arguments:

type	name	description
PVS_cache_storage ref	self	reference to the object

Return Type: void

RPC name: get_by_uuid**Overview:**

Get a reference to the PVS_cache_storage instance with the specified UUID.

Signature:

```
(PVS_cache_storage ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: PVS_cache_storage ref
reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given PVS_cache_storage.

Signature:

```
(PVS_cache_storage record) get_record (session_id s, PVS_cache_storage ref self)
```

Arguments:

type	name	description
PVS_cache_storage ref	self	reference to the object

Return Type: PVS_cache_storage record
all fields from the object

2.57 Class: Feature

2.57.1 Fields for class: Feature

Name	Feature		
Description	<i>A new piece of functionality.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	<code>uuid</code>	string	Unique identifier/object reference
<i>RO_{ins}</i>	<code>name_label</code>	string	a human-readable name
<i>RO_{ins}</i>	<code>name_description</code>	string	a notes field containing human-readable description
<i>RO_{run}</i>	<code>enabled</code>	bool	Indicates whether the feature is enabled
<i>RO_{ins}</i>	<code>experimental</code>	bool	Indicates whether the feature is experimental (as opposed to stable and fully supported)
<i>RO_{ins}</i>	<code>version</code>	string	The version of this feature
<i>RO_{run}</i>	<code>host</code>	host ref	The host where this feature is available

2.57.2 RPCs associated with class: Feature

RPC name: `get_all`

Overview:

Return a list of all the Features known to the system.

Signature:

```
(Feature ref set) get_all (session_id s)
```

Return Type: Feature ref set
references to all objects

RPC name: `get_all_records`

Overview:

Return a map of Feature references to Feature records for all Features known to the system.

Signature:

```
((Feature ref -> Feature record) map) get_all_records (session_id s)
```

Return Type: (Feature ref → Feature record) map
records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given Feature.

Signature:

```
string get_uuid (session_id s, Feature ref self)
```

Arguments:

type	name	description
Feature ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_name_label

Overview:

Get the name/label field of the given Feature.

Signature:

```
string get_name_label (session_id s, Feature ref self)
```

Arguments:

type	name	description
Feature ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_name_description

Overview:

Get the name/description field of the given Feature.

Signature:

```
string get_name_description (session_id s, Feature ref self)
```

Arguments:

type	name	description
Feature ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_enabled

Overview:

Get the enabled field of the given Feature.

Signature:

```
bool get_enabled (session_id s, Feature ref self)
```

Arguments:

type	name	description
Feature ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_experimental**Overview:**

Get the experimental field of the given Feature.

Signature:

```
bool get_experimental (session_id s, Feature ref self)
```

Arguments:

type	name	description
Feature ref	self	reference to the object

Return Type: bool

value of the field

RPC name: get_version**Overview:**

Get the version field of the given Feature.

Signature:

```
string get_version (session_id s, Feature ref self)
```

Arguments:

type	name	description
Feature ref	self	reference to the object

Return Type: string

value of the field

RPC name: get_host**Overview:**

Get the host field of the given Feature.

Signature:

```
(host ref) get_host (session_id s, Feature ref self)
```


Arguments:

type	name	description
Feature ref	self	reference to the object

Return Type: host ref
value of the field

RPC name: get_by_uuid**Overview:**

Get a reference to the Feature instance with the specified UUID.

Signature:

(Feature ref) get_by_uuid (session_id s, string uuid)

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: Feature ref
reference to the object

RPC name: get_record**Overview:**

Get a record containing the current state of the given Feature.

Signature:

(Feature record) get_record (session_id s, Feature ref self)

Arguments:

type	name	description
Feature ref	self	reference to the object

Return Type: Feature record
all fields from the object

RPC name: get_by_name_label**Overview:**

Get all the Feature instances with the given label.

Signature:

(Feature ref set) get_by_name_label (session_id s, string label)

Arguments:

type	name	description
string	label	label of object to return

Return Type: Feature ref set

references to objects with matching names

2.58 Class: SDN_controller

2.58.1 Fields for class: SDN_controller

Name	SDN_controller		
Description	<i>Describes the SDN controller that is to connect with the pool.</i>		
Quals	Field	Type	Description
<i>RO_{run}</i>	uuid	string	Unique identifier/object reference
<i>RO_{ins}</i>	protocol	sdn_controller_protocol	Protocol to connect with SDN controller
<i>RO_{ins}</i>	address	string	IP address of the controller
<i>RO_{ins}</i>	port	int	TCP port of the controller

2.58.2 RPCs associated with class: SDN_controller

RPC name: **introduce**

Overview:

Introduce an SDN controller to the pool.

Signature:

```
(SDN_controller ref) introduce (session_id s, sdn_controller_protocol protocol, string address, int port)
```

Arguments:

type	name	description
sdn_controller_protocol	protocol	Protocol to connect with the controller.
string	address	IP address of the controller.
int	port	TCP port of the controller.

Return Type: SDN_controller ref
the introduced SDN controller

RPC name: **forget**

Overview:

Remove the OVS manager of the pool and destroy the db record.

Signature:

```
void forget (session_id s, SDN_controller ref self)
```

Arguments:

type	name	description
SDN_controller ref	self	this SDN controller

Return Type: void

RPC name: `get_all`

Overview:

Return a list of all the SDN_controllers known to the system.

Signature:

```
(SDN_controller ref set) get_all (session_id s)
```

Return Type: SDN_controller ref set

references to all objects

RPC name: `get_all_records`

Overview:

Return a map of SDN_controller references to SDN_controller records for all SDN_controllers known to the system.

Signature:

```
((SDN_controller ref -> SDN_controller record) map) get_all_records (session_id s)
```

Return Type: (SDN_controller ref → SDN_controller record) map

records of all objects

RPC name: `get_uuid`

Overview:

Get the uuid field of the given SDN_controller.

Signature:

```
string get_uuid (session_id s, SDN_controller ref self)
```

Arguments:

type	name	description
SDN_controller ref	self	reference to the object

Return Type: string

value of the field

RPC name: `get_protocol`

Overview:

Get the protocol field of the given SDN_controller.

Signature:

```
(sdn_controller_protocol) get_protocol (session_id s, SDN_controller ref self)
```

Arguments:

type	name	description
SDN_controller ref	self	reference to the object

Return Type: sdn_controller_protocol
value of the field

RPC name: get_address**Overview:**

Get the address field of the given SDN_controller.

Signature:

```
string get_address (session_id s, SDN_controller ref self)
```

Arguments:

type	name	description
SDN_controller ref	self	reference to the object

Return Type: string
value of the field

RPC name: get_port**Overview:**

Get the port field of the given SDN_controller.

Signature:

```
int get_port (session_id s, SDN_controller ref self)
```

Arguments:

type	name	description
SDN_controller ref	self	reference to the object

Return Type: int
value of the field

RPC name: get_by_uuid**Overview:**

Get a reference to the SDN_controller instance with the specified UUID.

Signature:

```
(SDN_controller ref) get_by_uuid (session_id s, string uuid)
```

Arguments:

type	name	description
string	uuid	UUID of object to return

Return Type: SDN_controller ref
reference to the object

RPC name: get_record

Overview:

Get a record containing the current state of the given SDN_controller.

Signature:

(SDN_controller record) get_record (session_id s, SDN_controller ref self)

Arguments:

type	name	description
SDN_controller ref	self	reference to the object

Return Type: SDN_controller record
all fields from the object

2.59 Error Handling

When a low-level transport error occurs, or a request is malformed at the HTTP or XML-RPC level, the server may send an XML-RPC Fault response, or the client may simulate the same. The client must be prepared to handle these errors, though they may be treated as fatal. On the wire, these are transmitted in a form similar to this:

```
<methodResponse>
  <fault>
    <value>
      <struct>
        <member>
          <name>faultCode</name>
          <value><int>-1</int></value>
        </member>
        <member>
          <name>faultString</name>
          <value><string>Malformed request</string></value>
        </member>
      </struct>
    </value>
  </fault>
</methodResponse>
```

All other failures are reported with a more structured error response, to allow better automatic response to failures, proper internationalisation of any error message, and easier debugging. On the wire, these are transmitted like this:

```
<struct>
  <member>
    <name>Status</name>
    <value>Failure</value>
  </member>
  <member>
    <name>ErrorDescription</name>
    <value>
      <array>
        <data>
          <value>MAP_DUPLICATE_KEY</value>
          <value>Customer</value>
          <value>eSpeil Inc.</value>
          <value>eSpeil Incorporated</value>
        </data>
      </array>
    </value>
  </member>
</struct>
```

Note that `ErrorDescription` value is an array of string values. The first element of the array is an error code; the remainder of the array are strings representing error parameters relating to that code. In this case, the client has attempted to add the mapping `Customer` → `eSpeil Incorporated` to a Map, but it already contains the mapping `Customer` → `eSpeil Inc.`, and so the request has failed. Each possible error code is documented in the following section.

2.59.1 Error Codes

ACTIVATION_WHILE_NOT_FREE

An activation key can only be applied when the edition is set to 'free'.

No parameters.

ADDRESS_VIOLATES_LOCKING_CONSTRAINT

The specified IP address violates the VIF locking configuration.

Signature:

`ADDRESS_VIOLATES_LOCKING_CONSTRAINT(address)`

AUTH_ALREADY_ENABLED

External authentication for this host is already enabled.

Signature:

`AUTH_ALREADY_ENABLED(current auth_type, current service_name)`

AUTH_DISABLE_FAILED

The host failed to disable external authentication.

Signature:

`AUTH_DISABLE_FAILED(message)`

AUTH_DISABLE_FAILED_PERMISSION_DENIED

The host failed to disable external authentication.

Signature:

`AUTH_DISABLE_FAILED_PERMISSION_DENIED(message)`

AUTH_DISABLE_FAILED_WRONG_CREDENTIALS

The host failed to disable external authentication.

Signature:

`AUTH_DISABLE_FAILED_WRONG_CREDENTIALS(message)`

AUTH_ENABLE_FAILED

The host failed to enable external authentication.

Signature:

AUTH_ENABLE_FAILED(message)

AUTH_ENABLE_FAILED_DOMAIN_LOOKUP_FAILED

The host failed to enable external authentication.

Signature:

AUTH_ENABLE_FAILED_DOMAIN_LOOKUP_FAILED(message)

AUTH_ENABLE_FAILED_PERMISSION_DENIED

The host failed to enable external authentication.

Signature:

AUTH_ENABLE_FAILED_PERMISSION_DENIED(message)

AUTH_ENABLE_FAILED_UNAVAILABLE

The host failed to enable external authentication.

Signature:

AUTH_ENABLE_FAILED_UNAVAILABLE(message)

AUTH_ENABLE_FAILED_WRONG_CREDENTIALS

The host failed to enable external authentication.

Signature:

AUTH_ENABLE_FAILED_WRONG_CREDENTIALS(message)

AUTH_IS_DISABLED

External authentication is disabled, unable to resolve subject name.

No parameters.

AUTH_SERVICE_ERROR

Error querying the external directory service.

Signature:

AUTH_SERVICE_ERROR(message)

AUTH_UNKNOWN_TYPE

Unknown type of external authentication.

Signature:

AUTH_UNKNOWN_TYPE(type)

BACKUP_SCRIPT_FAILED

The backup could not be performed because the backup script failed.

Signature:

BACKUP_SCRIPT_FAILED(log)

BOOTLOADER_FAILED

The bootloader returned an error

Signature:

BOOTLOADER_FAILED(vm, msg)

BRIDGE_NAME_EXISTS

The specified bridge already exists.

Signature:

BRIDGE_NAME_EXISTS(bridge)

BRIDGE_NOT_AVAILABLE

Could not find bridge required by VM.

Signature:

BRIDGE_NOT_AVAILABLE(bridge)

CANNOT_ADD_TUNNEL_TO_BOND_SLAVE

This PIF is a bond slave and cannot have a tunnel on it.

Signature:

CANNOT_ADD_TUNNEL_TO_BOND_SLAVE(PIF)

CANNOT_ADD_VLAN_TO_BOND_SLAVE

This PIF is a bond slave and cannot have a VLAN on it.

Signature:

CANNOT_ADD_VLAN_TO_BOND_SLAVE(PIF)

CANNOT_CHANGE_PIF_PROPERTIES

This properties of this PIF cannot be changed. Only the properties of non-bonded physical PIFs, or bond masters can be changed.

Signature:

CANNOT_CHANGE_PIF_PROPERTIES(PIF)

CANNOT_CONTACT_HOST

Cannot forward messages because the host cannot be contacted. The host may be switched off or there may be network connectivity problems.

Signature:

CANNOT_CONTACT_HOST(host)

CANNOT_CREATE_STATE_FILE

An HA statefile could not be created, perhaps because no SR with the appropriate capability was found.

No parameters.

CANNOT_DESTROY_DISASTER_RECOVERY_TASK

The disaster recovery task could not be cleanly destroyed.

Signature:

CANNOT_DESTROY_DISASTER_RECOVERY_TASK(reason)

CANNOT_DESTROY_SYSTEM_NETWORK

You tried to destroy a system network: these cannot be destroyed.

Signature:

`CANNOT_DESTROY_SYSTEM_NETWORK(network)`

CANNOT_ENABLE_REDO_LOG

Could not enable redo log.

Signature:

`CANNOT_ENABLE_REDO_LOG(reason)`

CANNOT_EVACUATE_HOST

This host cannot be evacuated.

Signature:

`CANNOT_EVACUATE_HOST(errors)`

CANNOT_FETCH_PATCH

The requested update could to be obtained from the master.

Signature:

`CANNOT_FETCH_PATCH(uuid)`

CANNOT_FIND_OEM_BACKUP_PARTITION

The backup partition to stream the updat to cannot be found

No parameters.

CANNOT_FIND_PATCH

The requested update could not be found. This can occur when you designate a new master or xe patch-clean. Please upload the update again

No parameters.

CANNOT_FIND_STATE_PARTITION

This operation could not be performed because the state partition could not be found

No parameters.

CANNOT_FIND_UPDATE

The requested update could not be found. Please upload the update again. This can occur when you run `xe update-pool-clean` before `xe update-apply`.

No parameters.

CANNOT_PLUG_BOND_SLAVE

This PIF is a bond slave and cannot be plugged.

Signature:

`CANNOT_PLUG_BOND_SLAVE(PIF)`

CANNOT_PLUG_VIF

Cannot plug VIF

Signature:

`CANNOT_PLUG_VIF(VIF)`

CANNOT_RESET_CONTROL_DOMAIN

The power-state of a control domain cannot be reset.

Signature:

`CANNOT_RESET_CONTROL_DOMAIN(vm)`

CERTIFICATE_ALREADY_EXISTS

A certificate already exists with the specified name.

Signature:

`CERTIFICATE_ALREADY_EXISTS(name)`

CERTIFICATE_CORRUPT

The specified certificate is corrupt or unreadable.

Signature:

CERTIFICATE_CORRUPT(name)

CERTIFICATE_DOES_NOT_EXIST

The specified certificate does not exist.

Signature:

CERTIFICATE_DOES_NOT_EXIST(name)

CERTIFICATE_LIBRARY_CORRUPT

The certificate library is corrupt or unreadable.

No parameters.

CERTIFICATE_NAME_INVALID

The specified certificate name is invalid.

Signature:

CERTIFICATE_NAME_INVALID(name)

CHANGE_PASSWORD_REJECTED

The system rejected the password change request; perhaps the new password was too short?

Signature:

CHANGE_PASSWORD_REJECTED(msg)

CLUSTERED_SR_DEGRADED

An SR is using clustered local storage. It is not safe to reboot a host at the moment.

Signature:

CLUSTERED_SR_DEGRADED(sr)

COULD_NOT_FIND_NETWORK_INTERFACE_WITH_SPECIFIED_DEVICE_NAME_AND_MAC_ADDRESS

Could not find a network interface with the specified device name and MAC address.

Signature:

COULD_NOT_FIND_NETWORK_INTERFACE_WITH_SPECIFIED_DEVICE_NAME_AND_MAC_ADDRESS(device, mac)

COULD_NOT_IMPORT_DATABASE

An error occurred while attempting to import a database from a metadata VDI

Signature:

COULD_NOT_IMPORT_DATABASE(reason)

CPU_FEATURE_MASKING_NOT_SUPPORTED

The CPU does not support masking of features.

Signature:

CPU_FEATURE_MASKING_NOT_SUPPORTED(details)

CRL_ALREADY_EXISTS

A CRL already exists with the specified name.

Signature:

CRL_ALREADY_EXISTS(name)

CRL_CORRUPT

The specified CRL is corrupt or unreadable.

Signature:

CRL_CORRUPT(name)

CRL_DOES_NOT_EXIST

The specified CRL does not exist.

Signature:

CRL_DOES_NOT_EXIST(name)

CRL_NAME_INVALID

The specified CRL name is invalid.

Signature:

CRL_NAME_INVALID(name)

DB_UNIQUENESS_CONSTRAINT_VIOLATION

You attempted an operation which would have resulted in duplicate keys in the database.

Signature:

DB_UNIQUENESS_CONSTRAINT_VIOLATION(table, field, value)

DEFAULT_SR_NOT_FOUND

The default SR reference does not point to a valid SR

Signature:

DEFAULT_SR_NOT_FOUND(sr)

DEVICE_ALREADY_ATTACHED

The device is already attached to a VM

Signature:

DEVICE_ALREADY_ATTACHED(device)

DEVICE_ALREADY_DETACHED

The device is not currently attached

Signature:

DEVICE_ALREADY_DETACHED(device)

DEVICE_ALREADY_EXISTS

A device with the name given already exists on the selected VM

Signature:

DEVICE_ALREADY_EXISTS(device)

DEVICE_ATTACH_TIMEOUT

A timeout happened while attempting to attach a device to a VM.

Signature:

DEVICE_ATTACH_TIMEOUT(*type*, *ref*)

DEVICE_DETACH_REJECTED

The VM rejected the attempt to detach the device.

Signature:

DEVICE_DETACH_REJECTED(*type*, *ref*, *msg*)

DEVICE_DETACH_TIMEOUT

A timeout happened while attempting to detach a device from a VM.

Signature:

DEVICE_DETACH_TIMEOUT(*type*, *ref*)

DEVICE_NOT_ATTACHED

The operation could not be performed because the VBD was not connected to the VM.

Signature:

DEVICE_NOT_ATTACHED(*VBD*)

DISK_VBD_MUST_BE_READWRITE_FOR_HVM

All VBDs of type 'disk' must be read/write for HVM guests

Signature:

DISK_VBD_MUST_BE_READWRITE_FOR_HVM(*vbd*)

DOMAIN_BUILDER_ERROR

An internal error generated by the domain builder.

Signature:

DOMAIN_BUILDER_ERROR(*function*, *code*, *message*)

DOMAIN_EXISTS

The operation could not be performed because a domain still exists for the specified VM.

Signature:

DOMAIN_EXISTS(vm, domid)

DUPLICATE_MAC_SEED

This MAC seed is already in use by a VM in the pool

Signature:

DUPLICATE_MAC_SEED(seed)

DUPLICATE_PIF_DEVICE_NAME

A PIF with this specified device name already exists.

Signature:

DUPLICATE_PIF_DEVICE_NAME(device)

DUPLICATE_VM

Cannot restore this VM because it would create a duplicate

Signature:

DUPLICATE_VM(vm)

EVENTS_LOST

Some events have been lost from the queue and cannot be retrieved.

No parameters.

EVENT_FROM_TOKEN_PARSE_FAILURE

The event.from token could not be parsed. Valid values include: ", and a value returned from a previous event.from call.

Signature:

EVENT_FROM_TOKEN_PARSE_FAILURE(token)

EVENT_SUBSCRIPTION_PARSE_FAILURE

The server failed to parse your event subscription. Valid values include: *, class-name, class-name/object-reference.

Signature:

EVENT_SUBSCRIPTION_PARSE_FAILURE(subscription)

FAILED_TO_START_EMULATOR

An emulator required to run this VM failed to start

Signature:

FAILED_TO_START_EMULATOR(vm, name, msg)

FEATURE_REQUIRES_HVM

The VM is set up to use a feature that requires it to boot as HVM.

Signature:

FEATURE_REQUIRES_HVM(details)

FEATURE_RESTRICTED

The use of this feature is restricted.

No parameters.

FIELD_TYPE_ERROR

The value specified is of the wrong type

Signature:

FIELD_TYPE_ERROR(field)

GPU_GROUP_CONTAINS_NO_PGPUS

The GPU group does not contain any PGPUs.

Signature:

GPU_GROUP_CONTAINS_NO_PGPUS(gpu_group)

GPU_GROUP_CONTAINS_PGPU

The GPU group contains active PGPUs and cannot be deleted.

Signature:

GPU_GROUP_CONTAINS_PGPU(*pgpus*)

GPU_GROUP_CONTAINS_VGPU

The GPU group contains active VGPUs and cannot be deleted.

Signature:

GPU_GROUP_CONTAINS_VGPU(*vgpus*)

HANDLE_INVALID

You gave an invalid object reference. The object may have recently been deleted. The class parameter gives the type of reference given, and the handle parameter echoes the bad value given.

Signature:

HANDLE_INVALID(*class*, *handle*)

HA_ABORT_NEW_MASTER

This host cannot accept the proposed new master setting at this time.

Signature:

HA_ABORT_NEW_MASTER(*reason*)

HA_CANNOT_CHANGE_BOND_STATUS_OF_MGMT_IFACE

This operation cannot be performed because creating or deleting a bond involving the management interface is not allowed while HA is on. In order to do that, disable HA, create or delete the bond then re-enable HA.

No parameters.

HA_CONSTRAINT_VIOLATION_NETWORK_NOT_SHARED

This operation cannot be performed because the referenced network is not properly shared. The network must either be entirely virtual or must be physically present via a currently_attached PIF on every host.

Signature:

HA_CONSTRAINT_VIOLATION_NETWORK_NOT_SHARED(*network*)

HA_CONSTRAINT_VIOLATION_SR_NOT_SHARED

This operation cannot be performed because the referenced SR is not properly shared. The SR must both be marked as shared and a currently_attached PBD must exist for each host.

Signature:

HA_CONSTRAINT_VIOLATION_SR_NOT_SHARED(SR)

HA_DISABLE_IN_PROGRESS

The operation could not be performed because HA disable is in progress

No parameters.

HA_ENABLE_IN_PROGRESS

The operation could not be performed because HA enable is in progress

No parameters.

HA_FAILED_TO_FORM_LIVESET

HA could not be enabled on the Pool because a liveset could not be formed: check storage and network heartbeat paths.

No parameters.

HA_HEARTBEAT_DAEMON_STARTUP_FAILED

The host could not join the liveset because the HA daemon failed to start.

No parameters.

HA_HOST_CANNOT_ACCESS_STATEFILE

The host could not join the liveset because the HA daemon could not access the heartbeat disk.

No parameters.

HA_HOST_CANNOT_SEE_PEERS

The operation failed because the HA software on the specified host could not see a subset of other hosts. Check your network connectivity.

Signature:

HA_HOST_CANNOT_SEE_PEERS(host, all, subset)

HA_HOST_IS_ARMED

The operation could not be performed while the host is still armed; it must be disarmed first

Signature:

HA_HOST_IS_ARMED(host)

HA_IS_ENABLED

The operation could not be performed because HA is enabled on the Pool

No parameters.

HA_LOST_STATEFILE

This host lost access to the HA statefile.

No parameters.

HA_NOT_ENABLED

The operation could not be performed because HA is not enabled on the Pool

No parameters.

HA_NOT_INSTALLED

The operation could not be performed because the HA software is not installed on this host.

Signature:

HA_NOT_INSTALLED(host)

HA_NO_PLAN

Cannot find a plan for placement of VMs as there are no other hosts available.

No parameters.

HA_OPERATION_WOULD_BREAK_FAILOVER_PLAN

This operation cannot be performed because it would invalidate VM failover planning such that the system would be unable to guarantee to restart protected VMs after a Host failure.

No parameters.

HA_POOL_IS_ENABLED_BUT_HOST_IS_DISABLED

This host cannot join the pool because the pool has HA enabled but this host has HA disabled.

No parameters.

HA_SHOULD_BE_FENCED

Host cannot rejoin pool because it should have fenced (it is not in the master's partition)

Signature:

`HA_SHOULD_BE_FENCED(host)`

HA_TOO_FEW_HOSTS

HA can only be enabled for 2 hosts or more. Note that 2 hosts requires a pre-configured quorum tiebreak script.

No parameters.

HOSTS_NOT_COMPATIBLE

The hosts in this pool are not compatible.

No parameters.

HOSTS_NOT_HOMOGENEOUS

The hosts in this pool are not homogeneous.

Signature:

`HOSTS_NOT_HOMOGENEOUS(reason)`

HOST_BROKEN

This host failed in the middle of an automatic failover operation and needs to retry the failover action

No parameters.

HOST_CANNOT_ATTACH_NETWORK

Host cannot attach network (in the case of NIC bonding, this may be because attaching the network on this host would require other networks [that are currently active] to be taken down).

Signature:

`HOST_CANNOT_ATTACH_NETWORK(host, network)`

HOST_CANNOT_DESTROY_SELF

The pool master host cannot be removed.

Signature:

`HOST_CANNOT_DESTROY_SELF(host)`

HOST_CANNOT_READ_METRICS

The metrics of this host could not be read.

No parameters.

HOST_CD_DRIVE_EMPTY

The host CDROM drive does not contain a valid CD

No parameters.

HOST_DISABLED

The specified host is disabled.

Signature:

`HOST_DISABLED(host)`

HOST_DISABLED_UNTIL_REBOOT

The specified host is disabled and cannot be re-enabled until after it has rebooted.

Signature:

HOST_DISABLED_UNTIL_REBOOT(host)

HOST_EVACUATE_IN_PROGRESS

This host is being evacuated.

Signature:

HOST_EVACUATE_IN_PROGRESS(host)

HOST_HAS_NO_MANAGEMENT_IP

The host failed to acquire an IP address on its management interface and therefore cannot contact the master.

No parameters.

HOST_HAS_RESIDENT_VMS

This host can not be forgotten because there are some user VMs still running

Signature:

HOST_HAS_RESIDENT_VMS(host)

HOST_IN_EMERGENCY_MODE

Cannot perform operation as the host is running in emergency mode.

No parameters.

HOST_IN_USE

This operation cannot be completed as the host is in use by (at least) the object of type and ref echoed below.

Signature:

HOST_IN_USE(host, type, ref)

HOST_IS_LIVE

This operation cannot be completed as the host is still live.

Signature:

HOST_IS_LIVE(host)

HOST_IS_SLAVE

You cannot make regular API calls directly on a slave. Please pass API calls via the master host.

Signature:

HOST_IS_SLAVE(Master IP address)

HOST_ITS_OWN_SLAVE

The host is its own slave. Please use pool-emergency-transition-to-master or pool-emergency-reset-master.

No parameters.

HOST_MASTER_CANNOT_TALK_BACK

The master reports that it cannot talk back to the slave on the supplied management IP address.

Signature:

HOST_MASTER_CANNOT_TALK_BACK(ip)

HOST_NAME_INVALID

The host name is invalid.

Signature:

HOST_NAME_INVALID(reason)

HOST_NOT_DISABLED

This operation cannot be performed because the host is not disabled. Please disable the host and then try again.

No parameters.

HOST_NOT_ENOUGH_FREE_MEMORY

Not enough host memory is available to perform this operation

Signature:

HOST_NOT_ENOUGH_FREE_MEMORY(needed, available)

HOST_NOT_LIVE

This operation cannot be completed as the host is not live.

No parameters.

HOST_OFFLINE

You attempted an operation which involves a host which could not be contacted.

Signature:

HOST_OFFLINE(host)

HOST_POWER_ON_MODE_DISABLED

This operation cannot be completed as the host power on mode is disabled.

No parameters.

HOST_STILL_BOOTING

The host toolstack is still initialising. Please wait.

No parameters.

HOST_UNKNOWN_TO_MASTER

The master says the host is not known to it. Perhaps the Host was deleted from the master's database? Perhaps the slave is pointing to the wrong master?

Signature:

HOST_UNKNOWN_TO_MASTER(host)

ILLEGAL_VBD_DEVICE

The specified VBD device is not recognized: please use a non-negative integer

Signature:

ILLEGAL_VBD_DEVICE(vbd, device)

IMPORT_ERROR

The VM could not be imported.

Signature:

IMPORT_ERROR(msg)

IMPORT_ERROR_ATTACHED_DISKS_NOT_FOUND

The VM could not be imported because attached disks could not be found.

No parameters.

IMPORT_ERROR_CANNOT_HANDLE_CHUNKED

Cannot import VM using chunked encoding.

No parameters.

IMPORT_ERROR_FAILED_TO_FIND_OBJECT

The VM could not be imported because a required object could not be found.

Signature:

IMPORT_ERROR_FAILED_TO_FIND_OBJECT(id)

IMPORT_ERROR_PREMATURE_EOF

The VM could not be imported; the end of the file was reached prematurely.

No parameters.

IMPORT_ERROR_SOME_CHECKSUMS_FAILED

Some data checksums were incorrect; the VM may be corrupt.

No parameters.

IMPORT_ERROR_UNEXPECTED_FILE

The VM could not be imported because the XVA file is invalid: an unexpected file was encountered.

Signature:

`IMPORT_ERROR_UNEXPECTED_FILE(filename_expected, filename_found)`

IMPORT_INCOMPATIBLE_VERSION

The import failed because this export has been created by a different (incompatible) product version

No parameters.

INCOMPATIBLE_CLUSTER_STACK_ACTIVE

This operation cannot be performed, because it is incompatible with the currently active HA cluster stack.

Signature:

`INCOMPATIBLE_CLUSTER_STACK_ACTIVE(cluster_stack)`

INCOMPATIBLE_PIF_PROPERTIES

These PIFs can not be bonded, because their properties are different.

No parameters.

INCOMPATIBLE_STATEFILE_SR

The specified SR is incompatible with the selected HA cluster stack.

Signature:

`INCOMPATIBLE_STATEFILE_SR(SR type)`

INTERFACE_HAS_NO_IP

The specified interface cannot be used because it has no IP address

Signature:

INTERFACE_HAS_NO_IP(*interface*)

INTERNAL_ERROR

The server failed to handle your request, due to an internal error. The given message may give details useful for debugging the problem.

Signature:

INTERNAL_ERROR(*message*)

INVALID_CIDR_ADDRESS_SPECIFIED

A required parameter contained an invalid CIDR address (*{addr_i}/iprefix length_i*)

Signature:

INVALID_CIDR_ADDRESS_SPECIFIED(*parameter*)

INVALID_DEVICE

The device name is invalid

Signature:

INVALID_DEVICE(*device*)

INVALID_EDITION

The edition you supplied is invalid.

Signature:

INVALID_EDITION(*edition*)

INVALID_FEATURE_STRING

The given feature string is not valid.

Signature:

INVALID_FEATURE_STRING(*details*)

INVALID_IP_ADDRESS_SPECIFIED

A required parameter contained an invalid IP address

Signature:

INVALID_IP_ADDRESS_SPECIFIED(parameter)

INVALID_PATCH

The uploaded patch file is invalid

No parameters.

INVALID_PATCH_WITH_LOG

The uploaded patch file is invalid. See attached log for more details.

Signature:

INVALID_PATCH_WITH_LOG(log)

INVALID_UPDATE

The uploaded update package is invalid.

Signature:

INVALID_UPDATE(info)

INVALID_VALUE

The value given is invalid

Signature:

INVALID_VALUE(field, value)

IS_TUNNEL_ACCESS_PIF

You tried to create a VLAN or tunnel on top of a tunnel access PIF - use the underlying transport PIF instead.

Signature:

IS_TUNNEL_ACCESS_PIF(PIF)

JOINING_HOST_CANNOT_BE_MASTER_OF_OTHER_HOSTS

The host joining the pool cannot already be a master of another pool.

No parameters.

JOINING_HOST_CANNOT_CONTAIN_SHARED_SRS

The host joining the pool cannot contain any shared storage.

No parameters.

JOINING_HOST_CANNOT_HAVE_RUNNING_OR_SUSPENDED_VMS

The host joining the pool cannot have any running or suspended VMs.

No parameters.

JOINING_HOST_CANNOT_HAVE_RUNNING_VMS

The host joining the pool cannot have any running VMs.

No parameters.

JOINING_HOST_CANNOT_HAVE_VMS_WITH_CURRENT_OPERATIONS

The host joining the pool cannot have any VMs with active tasks.

No parameters.

JOINING_HOST_CONNECTION_FAILED

There was an error connecting to the host while joining it in the pool.

No parameters.

JOINING_HOST_SERVICE_FAILED

There was an error connecting to the host. the service contacted didn't reply properly.

No parameters.

LICENCE_RESTRICTION

This operation is not allowed because your license lacks a needed feature. Please contact your support representative.

Signature:

LICENCE_RESTRICTION(feature)

LICENSE_CANNOT_DOWNGRADE_WHILE_IN_POOL

Cannot downgrade license while in pool. Please disband the pool first, then downgrade licenses on hosts separately.

No parameters.

LICENSE_CHECKOUT_ERROR

The license for the edition you requested is not available.

Signature:

LICENSE_CHECKOUT_ERROR(reason)

LICENSE_DOES_NOT_SUPPORT_POOLING

This host cannot join a pool because its license does not support pooling.

No parameters.

LICENSE_DOES_NOT_SUPPORT_XHA

XHA cannot be enabled because this host's license does not allow it.

No parameters.

LICENSE_EXPIRED

Your license has expired. Please contact your support representative.

No parameters.

LICENSE_FILE_DEPRECATED

This license file is no longer accepted. Please upgrade to the new licensing system.

No parameters.

LICENSE_HOST_POOL_MISMATCH

Host and pool have incompatible licenses (editions).

No parameters.

LICENSE_PROCESSING_ERROR

There was an error processing your license. Please contact your support representative.

No parameters.

LOCATION_NOT_UNIQUE

A VDI with the specified location already exists within the SR

Signature:

LOCATION_NOT_UNIQUE(SR, location)

MAC_DOES_NOT_EXIST

The MAC address specified doesn't exist on this host.

Signature:

MAC_DOES_NOT_EXIST(MAC)

MAC_INVALID

The MAC address specified is not valid.

Signature:

MAC_INVALID(MAC)

MAC_STILL_EXISTS

The MAC address specified still exists on this host.

Signature:

MAC_STILL_EXISTS(MAC)

MAP_DUPLICATE_KEY

You tried to add a key-value pair to a map, but that key is already there.

Signature:

MAP_DUPLICATE_KEY(type, param_name, uuid, key)

MEMORY_CONSTRAINT_VIOLATION

The dynamic memory range does not satisfy the following constraint.

Signature:

MEMORY_CONSTRAINT_VIOLATION(constraint)

MESSAGE_DEPRECATED

This message has been deprecated.

No parameters.

MESSAGE_METHOD_UNKNOWN

You tried to call a method that does not exist. The method name that you used is echoed.

Signature:

MESSAGE_METHOD_UNKNOWN(method)

MESSAGE_PARAMETER_COUNT_MISMATCH

You tried to call a method with the incorrect number of parameters. The fully-qualified method name that you used, and the number of received and expected parameters are returned.

Signature:

MESSAGE_PARAMETER_COUNT_MISMATCH(method, expected, received)

MESSAGE_REMOVED

This function is no longer available.

No parameters.

MIRROR_FAILED

The VDI mirroring cannot be performed

Signature:

MIRROR_FAILED(vdi)

MISSING_CONNECTION_DETAILS

The license-server connection details (address or port) were missing or incomplete.

No parameters.

NETWORK_ALREADY_CONNECTED

You tried to create a PIF, but the network you tried to attach it to is already attached to some other PIF, and so the creation failed.

Signature:

NETWORK_ALREADY_CONNECTED(network, connected PIF)

NETWORK_CONTAINS_PIF

The network contains active PIFs and cannot be deleted.

Signature:

NETWORK_CONTAINS_PIF(pifs)

NETWORK_CONTAINS_VIF

The network contains active VIFs and cannot be deleted.

Signature:

NETWORK_CONTAINS_VIF(vifs)

NETWORK_UNMANAGED

The network is not managed by xapi.

Signature:

NETWORK_UNMANAGED(network)

NOT_ALLOWED_ON_OEM_EDITION

This command is not allowed on the OEM edition.

Signature:

NOT_ALLOWED_ON_OEM_EDITION(command)

NOT_IMPLEMENTED

The function is not implemented

Signature:

NOT_IMPLEMENTED(function)

NOT_IN_EMERGENCY_MODE

This pool is not in emergency mode.

No parameters.

NOT_SUPPORTED_DURING_UPGRADE

This operation is not supported during an upgrade.

No parameters.

NOT_SYSTEM_DOMAIN

The given VM is not registered as a system domain. This operation can only be performed on a registered system domain.

Signature:

NOT_SYSTEM_DOMAIN(vm)

NO_HOSTS_AVAILABLE

There were no hosts available to complete the specified operation.

No parameters.

NO_MORE_REDO_LOGS_ALLOWED

The upper limit of active redo log instances was reached.

No parameters.

OBJECT_NO_LONGER_EXISTS

The specified object no longer exists.

No parameters.

ONLY_ALLOWED_ON_OEM_EDITION

This command is only allowed on the OEM edition.

Signature:

ONLY_ALLOWED_ON_OEM_EDITION(command)

OPENVSWITCH_NOT_ACTIVE

This operation needs the OpenVSwitch networking backend to be enabled on all hosts in the pool.

No parameters.

OPERATION_BLOCKED

You attempted an operation that was explicitly blocked (see the blocked_operations field of the given object).

Signature:

OPERATION_BLOCKED(ref, code)

OPERATION_NOT_ALLOWED

You attempted an operation that was not allowed.

Signature:

OPERATION_NOT_ALLOWED(reason)

OPERATION_PARTIALLY_FAILED

Some VMs belonging to the appliance threw an exception while carrying out the specified operation

Signature:

OPERATION_PARTIALLY_FAILED(operation)

OTHER_OPERATION_IN_PROGRESS

Another operation involving the object is currently in progress

Signature:

OTHER_OPERATION_IN_PROGRESS(class, object)

OUT_OF_SPACE

There is not enough space to upload the update

Signature:

OUT_OF_SPACE(location)

PATCH_ALREADY_APPLIED

This patch has already been applied

Signature:

PATCH_ALREADY_APPLIED(patch)

PATCH_ALREADY_EXISTS

The uploaded patch file already exists

Signature:

PATCH_ALREADY_EXISTS(uuid)

PATCH_APPLY_FAILED

The patch apply failed. Please see attached output.

Signature:

PATCH_APPLY_FAILED(output)

PATCH_APPLY_FAILED_BACKUP_FILES_EXIST

The patch apply failed: there are backup files created while applying patch. Please remove these backup files before applying patch again.

Signature:

PATCH_APPLY_FAILED_BACKUP_FILES_EXIST(output)

PATCH_IS_APPLIED

The specified patch is applied and cannot be destroyed.

No parameters.

PATCH_PRECHECK_FAILED_ISO_MOUNTED

Tools ISO must be ejected from all running VMs.

Signature:

PATCH_PRECHECK_FAILED_ISO_MOUNTED(patch)

PATCH_PRECHECK_FAILED_OUT_OF_SPACE

The patch precheck stage failed: the server does not have enough space.

Signature:

PATCH_PRECHECK_FAILED_OUT_OF_SPACE(patch, found_space, required_required)

PATCH_PRECHECK_FAILED_PREREQUISITE_MISSING

The patch precheck stage failed: prerequisite patches are missing.

Signature:

PATCH_PRECHECK_FAILED_PREREQUISITE_MISSING(patch, prerequisite_patch_uid_list)

PATCH_PRECHECK_FAILED_UNKNOWN_ERROR

The patch precheck stage failed with an unknown error. See attached info for more details.

Signature:

PATCH_PRECHECK_FAILED_UNKNOWN_ERROR(patch, info)

PATCH_PRECHECK_FAILED_VM_RUNNING

The patch precheck stage failed: there are one or more VMs still running on the server. All VMs must be suspended before the patch can be applied.

Signature:

PATCH_PRECHECK_FAILED_VM_RUNNING(patch)

PATCH_PRECHECK_FAILED_WRONG_SERVER_BUILD

The patch precheck stage failed: the server is of an incorrect build.

Signature:

PATCH_PRECHECK_FAILED_WRONG_SERVER_BUILD(patch, found_build, required_build)

PATCH_PRECHECK_FAILED_WRONG_SERVER_VERSION

The patch precheck stage failed: the server is of an incorrect version.

Signature:

PATCH_PRECHECK_FAILED_WRONG_SERVER_VERSION(patch, found_version, required_version)

PBD_EXISTS

A PBD already exists connecting the SR to the host

Signature:

PBD_EXISTS(sr, host, pbd)

PERMISSION_DENIED

Caller not allowed to perform this operation.

Signature:

PERMISSION_DENIED(message)

PGPU_INSUFFICIENT_CAPACITY_FOR_VGPU

There is insufficient capacity on this PGPU to run the VGPU.

Signature:

PGPU_INSUFFICIENT_CAPACITY_FOR_VGPU(pgpu, vgpu_type)

PGPU_IN_USE_BY_VM

This PGPU is currently in use by running VMs.

Signature:

PGPU_IN_USE_BY_VM(VMs)

PGPU_NOT_COMPATIBLE_WITH_GPU_GROUP

PGPU type not compatible with destination group.

Signature:

PGPU_NOT_COMPATIBLE_WITH_GPU_GROUP(type, group_types)

PIF_ALREADY_BONDED

This operation cannot be performed because the pif is bonded.

Signature:

PIF_ALREADY_BONDED(PIF)

PIF_BOND_MORE_THAN_ONE_IP

Only one PIF on a bond is allowed to have an IP configuration.

No parameters.

PIF_BOND_NEEDS_MORE_MEMBERS

A bond must consist of at least two member interfaces

No parameters.

PIF_CANNOT_BOND_CROSS_HOST

You cannot bond interfaces across different hosts.

No parameters.

PIF_CONFIGURATION_ERROR

An unknown error occurred while attempting to configure an interface.

Signature:

PIF_CONFIGURATION_ERROR(PIF, msg)

PIF_DEVICE_NOT_FOUND

The specified device was not found.

No parameters.

PIF_DOES_NOT_ALLOW_UNPLUG

The operation you requested cannot be performed because the specified PIF does not allow unplug.

Signature:

PIF_DOES_NOT_ALLOW_UNPLUG(PIF)

PIF_HAS_NO_NETWORK_CONFIGURATION

PIF has no IP configuration (mode currently set to 'none')

No parameters.

PIF_HAS_NO_V6_NETWORK_CONFIGURATION

PIF has no IPv6 configuration (mode currently set to 'none')

No parameters.

PIF_INCOMPATIBLE_PRIMARY_ADDRESS_TYPE

The primary address types are not compatible

No parameters.

PIF_IS_MANAGEMENT_INTERFACE

The operation you requested cannot be performed because the specified PIF is the management interface.

Signature:

PIF_IS_MANAGEMENT_INTERFACE(PIF)

PIF_IS_PHYSICAL

You tried to destroy a PIF, but it represents an aspect of the physical host configuration, and so cannot be destroyed. The parameter echoes the PIF handle you gave.

Signature:

PIF_IS_PHYSICAL(PIF)

PIF_IS_VLAN

You tried to create a VLAN on top of another VLAN - use the underlying physical PIF/bond instead

Signature:

PIF_IS_VLAN(PIF)

PIF_TUNNEL_STILL_EXISTS

Operation cannot proceed while a tunnel exists on this interface.

Signature:

PIF_TUNNEL_STILL_EXISTS(PIF)

PIF_UNMANAGED

The operation you requested cannot be performed because the specified PIF is not managed by xapi.

Signature:

PIF_UNMANAGED(PIF)

PIF_VLAN_EXISTS

You tried to create a PIF, but it already exists.

Signature:

PIF_VLAN_EXISTS(PIF)

PIF_VLAN_STILL_EXISTS

Operation cannot proceed while a VLAN exists on this interface.

Signature:

PIF_VLAN_STILL_EXISTS(PIF)

POOL_AUTH_ALREADY_ENABLED

External authentication in this pool is already enabled for at least one host.

Signature:

POOL_AUTH_ALREADY_ENABLED(host)

POOL_AUTH_DISABLE_FAILED

The pool failed to disable the external authentication of at least one host.

Signature:

POOL_AUTH_DISABLE_FAILED(host, message)

POOL_AUTH_DISABLE_FAILED_PERMISSION_DENIED

The pool failed to disable the external authentication of at least one host.

Signature:

POOL_AUTH_DISABLE_FAILED_PERMISSION_DENIED(host, message)

POOL_AUTH_DISABLE_FAILED_WRONG_CREDENTIALS

The pool failed to disable the external authentication of at least one host.

Signature:

POOL_AUTH_DISABLE_FAILED_WRONG_CREDENTIALS(host, message)

POOL_AUTH_ENABLE_FAILED

The pool failed to enable external authentication.

Signature:

POOL_AUTH_ENABLE_FAILED(host, message)

POOL_AUTH_ENABLE_FAILED_DOMAIN_LOOKUP_FAILED

The pool failed to enable external authentication.

Signature:

POOL_AUTH_ENABLE_FAILED_DOMAIN_LOOKUP_FAILED(host, message)

POOL_AUTH_ENABLE_FAILED_DUPLICATE_HOSTNAME

The pool failed to enable external authentication.

Signature:

POOL_AUTH_ENABLE_FAILED_DUPLICATE_HOSTNAME(host, message)

POOL_AUTH_ENABLE_FAILED_INVALID_OU

The pool failed to enable external authentication.

Signature:

POOL_AUTH_ENABLE_FAILED_INVALID_OU(host, message)

POOL_AUTH_ENABLE_FAILED_PERMISSION_DENIED

The pool failed to enable external authentication.

Signature:

POOL_AUTH_ENABLE_FAILED_PERMISSION_DENIED(host, message)

POOL_AUTH_ENABLE_FAILED_WRONG_CREDENTIALS

The pool failed to enable external authentication.

Signature:

POOL_AUTH_ENABLE_FAILED_WRONG_CREDENTIALS(host, message)

POOL_JOINING_EXTERNAL_AUTH_MISMATCH

Cannot join pool whose external authentication configuration is different.

No parameters.

POOL_JOINING_HOST_MUST_HAVE_PHYSICAL_MANAGEMENT_NIC

The host joining the pool must have a physical management NIC (i.e. the management NIC must not be on a VLAN or bonded PIF).

No parameters.

POOL_JOINING_HOST_MUST_HAVE_SAME_API_VERSION

The host joining the pool must have the same API version as the pool master.

Signature:

`POOL_JOINING_HOST_MUST_HAVE_SAME_API_VERSION(host_api_version, master_api_version)`

POOL_JOINING_HOST_MUST_HAVE_SAME_DB_SCHEMA

The host joining the pool must have the same database schema as the pool master.

Signature:

`POOL_JOINING_HOST_MUST_HAVE_SAME_DB_SCHEMA(host_db_schema, master_db_schema)`

POOL_JOINING_HOST_MUST_HAVE_SAME_PRODUCT_VERSION

The host joining the pool must have the same product version as the pool master.

No parameters.

POOL_JOINING_HOST_MUST_ONLY_HAVE_PHYSICAL_PIFS

The host joining the pool must not have any bonds, VLANs or tunnels.

No parameters.

PROVISION_FAILED_OUT_OF_SPACE

The provision call failed because it ran out of space.

No parameters.

PROVISION_ONLY_ALLOWED_ON_TEMPLATE

The provision call can only be invoked on templates, not regular VMs.

No parameters.

PVS_CACHE_STORAGE_ALREADY_PRESENT

The PVS site already has cache storage configured for the host.

Signature:

`PVS_CACHE_STORAGE_ALREADY_PRESENT(site, host)`

PVS_CACHE_STORAGE_IS_IN_USE

The PVS cache storage is in use by the site and cannot be removed.

Signature:

PVS_CACHE_STORAGE_IS_IN_USE(PVS_cache_storage)

PVS_PROXY_ALREADY_PRESENT

The VIF is already associated with a PVS proxy

Signature:

PVS_PROXY_ALREADY_PRESENT(proxyes)

PVS_SERVER_ADDRESS_IN_USE

The address specified is already in use by an existing PVS_server object

Signature:

PVS_SERVER_ADDRESS_IN_USE(address)

PVS_SITE_CONTAINS_RUNNING_PROXIES

The PVS site contains running proxies.

Signature:

PVS_SITE_CONTAINS_RUNNING_PROXIES(proxyes)

PVS_SITE_CONTAINS_SERVERS

The PVS site contains servers and cannot be forgotten.

Signature:

PVS_SITE_CONTAINS_SERVERS(servers)

RBAC_PERMISSION_DENIED

RBAC permission denied.

Signature:

RBAC_PERMISSION_DENIED(permission, message)

REDO_LOG_IS_ENABLED

The operation could not be performed because a redo log is enabled on the Pool.

No parameters.

RESTORE_INCOMPATIBLE_VERSION

The restore could not be performed because this backup has been created by a different (incompatible) product version

No parameters.

RESTORE_SCRIPT_FAILED

The restore could not be performed because the restore script failed. Is the file corrupt?

Signature:

RESTORE_SCRIPT_FAILED(log)

RESTORE_TARGET_MGMT_IF_NOT_IN_BACKUP

The restore could not be performed because the host's current management interface is not in the backup. The interfaces mentioned in the backup are:

No parameters.

RESTORE_TARGET_MISSING_DEVICE

The restore could not be performed because a network interface is missing

Signature:

RESTORE_TARGET_MISSING_DEVICE(device)

ROLE_ALREADY_EXISTS

Role already exists.

No parameters.

ROLE_NOT_FOUND

Role cannot be found.

No parameters.

SESSION_AUTHENTICATION_FAILED

The credentials given by the user are incorrect, so access has been denied, and you have not been issued a session handle.

No parameters.

SESSION_INVALID

You gave an invalid session reference. It may have been invalidated by a server restart, or timed out. You should get a new session handle, using one of the `session.login_` calls. This error does not invalidate the current connection. The handle parameter echoes the bad value given.

Signature:

`SESSION_INVALID(handle)`

SESSION_NOT_REGISTERED

This session is not registered to receive events. You must call `event.register` before `event.next`. The session handle you are using is echoed.

Signature:

`SESSION_NOT_REGISTERED(handle)`

SLAVE_REQUIRES_MANAGEMENT_INTERFACE

The management interface on a slave cannot be disabled because the slave would enter emergency mode.

No parameters.

SM_PLUGIN_COMMUNICATION_FAILURE

The SM plugin did not respond to a query.

Signature:

`SM_PLUGIN_COMMUNICATION_FAILURE(sm)`

SR_ATTACH_FAILED

Attaching this SR failed.

Signature:

SR_ATTACH_FAILED(sr)

SR_BACKEND_FAILURE

There was an SR backend failure.

Signature:

SR_BACKEND_FAILURE(status, stdout, stderr)

SR_DEVICE_IN_USE

The SR operation cannot be performed because a device underlying the SR is in use by the host.

No parameters.

SR_DOES_NOT_SUPPORT_MIGRATION

You attempted to migrate a VDI to or from an SR which doesn't support migration

Signature:

SR_DOES_NOT_SUPPORT_MIGRATION(sr)

SR_FULL

The SR is full. Requested new size exceeds the maximum size

Signature:

SR_FULL(requested, maximum)

SR_HAS_MULTIPLE_PBDS

The SR.shared flag cannot be set to false while the SR remains connected to multiple hosts

Signature:

SR_HAS_MULTIPLE_PBDS(PBD)

SR_HAS_NO_PBDS

The SR has no attached PBDs

Signature:

SR_HAS_NO_PBDS(sr)

SR_HAS_PBD

The SR is still connected to a host via a PBD. It cannot be destroyed or forgotten.

Signature:

SR_HAS_PBD(sr)

SR_INDESTRUCTIBLE

The SR could not be destroyed, as the 'indestructible' flag was set on it.

Signature:

SR_INDESTRUCTIBLE(sr)

SR_IS_CACHE_SR

The SR is currently being used as a local cache SR.

Signature:

SR_IS_CACHE_SR(host)

SR_NOT_ATTACHED

The SR is not attached.

Signature:

SR_NOT_ATTACHED(sr)

SR_NOT_EMPTY

The SR operation cannot be performed because the SR is not empty.

No parameters.

SR_NOT_SHARABLE

The PBD could not be plugged because the SR is in use by another host and is not marked as sharable.

Signature:

SR_NOT_SHARABLE(sr, host)

SR_OPERATION_NOT_SUPPORTED

The SR backend does not support the operation (check the SR's allowed operations)

Signature:

SR_OPERATION_NOT_SUPPORTED(sr)

SR_REQUIRES_UPGRADE

The operation cannot be performed until the SR has been upgraded

Signature:

SR_REQUIRES_UPGRADE(SR)

SR_UNKNOWN_DRIVER

The SR could not be connected because the driver was not recognised.

Signature:

SR_UNKNOWN_DRIVER(driver)

SR_UUID_EXISTS

An SR with that uuid already exists.

Signature:

SR_UUID_EXISTS(uuid)

SR_VDI_LOCKING_FAILED

The operation could not proceed because necessary VDIs were already locked at the storage level.

No parameters.

SSL_VERIFY_ERROR

The remote system's SSL certificate failed to verify against our certificate library.

Signature:

SSL_VERIFY_ERROR(reason)

SUBJECT_ALREADY_EXISTS

Subject already exists.

No parameters.

SUBJECT_CANNOT_BE_RESOLVED

Subject cannot be resolved by the external directory service.

No parameters.

SUSPEND_IMAGE_NOT_ACCESSIBLE

The suspend image of a checkpoint is not accessible from the host on which the VM is running

Signature:

SUSPEND_IMAGE_NOT_ACCESSIBLE(vdi)

SYSTEM_STATUS_MUST_USE_TAR_ON_OEM

You must use tar output to retrieve system status from an OEM host.

No parameters.

SYSTEM_STATUS_RETRIEVAL_FAILED

Retrieving system status from the host failed. A diagnostic reason suitable for support organisations is also returned.

Signature:

SYSTEM_STATUS_RETRIEVAL_FAILED(reason)

TASK_CANCELLED

The request was asynchronously cancelled.

Signature:

TASK_CANCELLED(task)

TOO_BUSY

The request was rejected because the server is too busy.

No parameters.

TOO_MANY_PENDING_TASKS

The request was rejected because there are too many pending tasks on the server.

No parameters.

TOO_MANY_STORAGE_MIGRATES

You reached the maximal number of concurrently migrating VMs.

Signature:

TOO_MANY_STORAGE_MIGRATES(number)

TRANSPORT_PIF_NOT_CONFIGURED

The tunnel transport PIF has no IP configuration set.

Signature:

TRANSPORT_PIF_NOT_CONFIGURED(PIF)

UNIMPLEMENTED_IN_SM_BACKEND

You have attempted a function which is not implemented

Signature:

UNIMPLEMENTED_IN_SM_BACKEND(message)

UNKNOWN_BOOTLOADER

The requested bootloader is unknown

Signature:

UNKNOWN_BOOTLOADER(vm, bootloader)

UPDATE_ALREADY_APPLIED

This update has already been applied.

Signature:

UPDATE_ALREADY_APPLIED(update)

UPDATE_ALREADY_APPLIED_IN_POOL

This update has already been applied to all hosts in the pool.

Signature:

UPDATE_ALREADY_APPLIED_IN_POOL(update)

UPDATE_ALREADY_EXISTS

The uploaded update already exists

Signature:

UPDATE_ALREADY_EXISTS(uuid)

UPDATE_APPLY_FAILED

The update failed to apply. Please see attached output.

Signature:

UPDATE_APPLY_FAILED(output)

UPDATE_IS_APPLIED

The specified update has been applied and cannot be destroyed.

No parameters.

UPDATE_POOL_APPLY_FAILED

The update cannot be applied for the following host(s).

Signature:

UPDATE_POOL_APPLY_FAILED(hosts)

UPDATE_PRECHECK_FAILED_CONFLICT_PRESENT

The update precheck stage failed: conflicting update(s) are present.

Signature:

UPDATE_PRECHECK_FAILED_CONFLICT_PRESENT(update, conflict_update)

UPDATE_PRECHECK_FAILED_GPGKEY_NOT_IMPORTED

The update precheck stage failed: RPM package validation requires a GPG key that is not present on the host.

Signature:

UPDATE_PRECHECK_FAILED_GPGKEY_NOT_IMPORTED(update)

UPDATE_PRECHECK_FAILED_OUT_OF_SPACE

The update precheck stage failed: the server does not have enough space.

Signature:

UPDATE_PRECHECK_FAILED_OUT_OF_SPACE(update, available_space, required_space)

UPDATE_PRECHECK_FAILED_PREREQUISITE_MISSING

The update precheck stage failed: prerequisite update(s) are missing.

Signature:

UPDATE_PRECHECK_FAILED_PREREQUISITE_MISSING(update, prerequisite_update)

UPDATE_PRECHECK_FAILED_UNKNOWN_ERROR

The update precheck stage failed with an unknown error.

Signature:

UPDATE_PRECHECK_FAILED_UNKNOWN_ERROR(update, info)

UPDATE_PRECHECK_FAILED_WRONG_SERVER_VERSION

The update precheck stage failed: the server is of an incorrect version.

Signature:

UPDATE_PRECHECK_FAILED_WRONG_SERVER_VERSION(update, installed_version, required_version)

USER_IS_NOT_LOCAL_SUPERUSER

Only the local superuser can execute this operation

Signature:

USER_IS_NOT_LOCAL_SUPERUSER(msg)

UUID_INVALID

The uuid you supplied was invalid.

Signature:

UUID_INVALID(type, uuid)

V6D_FAILURE

There was a problem with the license daemon (v6d).

No parameters.

VALUE_NOT_SUPPORTED

You attempted to set a value that is not supported by this implementation. The fully-qualified field name and the value that you tried to set are returned. Also returned is a developer-only diagnostic reason.

Signature:

VALUE_NOT_SUPPORTED(field, value, reason)

VBD_CDS_MUST_BE_READONLY

Read/write CDs are not supported

No parameters.

VBD_IS_EMPTY

Operation could not be performed because the drive is empty

Signature:

VBD_IS_EMPTY(vbd)

VBD_NOT_EMPTY

Operation could not be performed because the drive is not empty

Signature:

VBD_NOT_EMPTY(vbd)

VBD_NOT_REMOVABLE_MEDIA

Media could not be ejected because it is not removable

Signature:

VBD_NOT_REMOVABLE_MEDIA(vbd)

VBD_NOT_UNPLUGGABLE

Drive could not be hot-unplugged because it is not marked as unpluggable

Signature:

VBD_NOT_UNPLUGGABLE(vbd)

VBD_TRAY_LOCKED

This VM has locked the DVD drive tray, so the disk cannot be ejected

Signature:

VBD_TRAY_LOCKED(vbd)

VDI_CONTAINS_METADATA_OF_THIS_POOL

The VDI could not be opened for metadata recovery as it contains the current pool's metadata.

Signature:

VDI_CONTAINS_METADATA_OF_THIS_POOL(vdi, pool)

VDI_COPY_FAILED

The VDI copy action has failed

No parameters.

VDI_HAS_RRDS

The operation cannot be performed because this VDI has rrd stats

Signature:

VDI_HAS_RRDS(vdi)

VDI_INCOMPATIBLE_TYPE

This operation cannot be performed because the specified VDI is of an incompatible type (eg: an HA statefile cannot be attached to a guest)

Signature:

VDI_INCOMPATIBLE_TYPE(vdi, type)

VDI_IN_USE

This operation cannot be performed because this VDI is in use by some other operation

Signature:

VDI_IN_USE(vdi, operation)

VDLIS_A_PHYSICAL_DEVICE

The operation cannot be performed on physical device

Signature:

VDI_IS_A_PHYSICAL_DEVICE(vdi)

VDLIS_NOT_ISO

This operation can only be performed on CD VDIs (iso files or CDROM drives)

Signature:

VDI_IS_NOT_ISO(vdi, type)

VDI_LOCATION_MISSING

This operation cannot be performed because the specified VDI could not be found in the specified SR

Signature:

VDI_LOCATION_MISSING(sr, location)

VDI_MISSING

This operation cannot be performed because the specified VDI could not be found on the storage substrate

Signature:

VDI_MISSING(sr, vdi)

VDI_NEEDS_VM_FOR_MIGRATE

You attempted to migrate a VDI which is not attached to a running VM.

Signature:

VDI_NEEDS_VM_FOR_MIGRATE(vdi)

VDI_NOT_AVAILABLE

This operation cannot be performed because this VDI could not be properly attached to the VM.

Signature:

VDI_NOT_AVAILABLE(vdi)

VDI_NOT_IN_MAP

This VDI was not mapped to a destination SR in VM.migrate_send operation

Signature:

VDI_NOT_IN_MAP(vdi)

VDI_NOT_MANAGED

This operation cannot be performed because the system does not manage this VDI

Signature:

VDI_NOT_MANAGED(vdi)

VDI_NOT_SPARSE

The VDI is not stored using a sparse format. It is not possible to query and manipulate only the changed blocks (or 'block differences' or 'disk deltas') between two VDIs. Please select a VDI which uses a sparse-aware technology such as VHD.

Signature:

VDI_NOT_SPARSE(vdi)

VDI_ON_BOOT_MODE_INCOMPATIBLE_WITH_OPERATION

This operation is not permitted on VMs containing VDIs in the 'on-boot=reset' mode

No parameters.

VDI_READONLY

The operation required write access but this VDI is read-only

Signature:

VDI_READONLY(vdi)

VDI_TOO_SMALL

The VDI is too small. Please resize it to at least the minimum size.

Signature:

VDI_TOO_SMALL(vdi, minimum size)

VGPU_TYPE_NOT_COMPATIBLE_WITH_RUNNING_TYPE

VGPU type is not compatible with one or more of the VGPU types currently running on this PGPU

Signature:

VGPU_TYPE_NOT_COMPATIBLE_WITH_RUNNING_TYPE(pgpu, type, running_type)

VGPU_TYPE_NOT_ENABLED

VGPU type is not one of the PGPU's enabled types.

Signature:

VGPU_TYPE_NOT_ENABLED(type, enabled_types)

VGPU_TYPE_NOT_SUPPORTED

VGPU type is not one of the PGPU's supported types.

Signature:

VGPU_TYPE_NOT_SUPPORTED(*type*, *supported_types*)

VIF_IN_USE

Network has active VIFs

Signature:

VIF_IN_USE(*network*, *VIF*)

VIF_NOT_IN_MAP

This VIF was not mapped to a destination Network in VM.migrate_send operation

Signature:

VIF_NOT_IN_MAP(*vif*)

VLAN_IN_USE

Operation cannot be performed because this VLAN is already in use. Please check your network configuration.

Signature:

VLAN_IN_USE(*device*, *vlan*)

VLAN_TAG_INVALID

You tried to create a VLAN, but the tag you gave was invalid – it must be between 0 and 4094. The parameter echoes the VLAN tag you gave.

Signature:

VLAN_TAG_INVALID(*VLAN*)

VMPP_ARCHIVE_MORE_FREQUENT_THAN_BACKUP

Archive more frequent than backup.

No parameters.

VMPP_HAS_VM

There is at least one VM assigned to this protection policy.

No parameters.

VMSS_HAS_VM

There is at least one VM assigned to snapshot schedule.

No parameters.

VMS_FAILED_TO_COOPERATE

The given VMs failed to release memory when instructed to do so

No parameters.

VM_ASSIGNED_TO_PROTECTION_POLICY

This VM is assigned to a protection policy.

Signature:

`VM_ASSIGNED_TO_PROTECTION_POLICY(vm, vmpp)`

VM_ASSIGNED_TO_SNAPSHOT_SCHEDULE

This VM is assigned to a snapshot schedule.

Signature:

`VM_ASSIGNED_TO_SNAPSHOT_SCHEDULE(vm, vmss)`

VM_ATTACHED_TO_MORE_THAN_ONE_VDI_WITH_TIMEOFFSET_MARKED_AS_RESET_ON_BOOT

You attempted to start a VM that's attached to more than one VDI with a timeoffset marked as reset-on-boot.

Signature:

`VM_ATTACHED_TO_MORE_THAN_ONE_VDI_WITH_TIMEOFFSET_MARKED_AS_RESET_ON_BOOT(vm)`

VM_BAD_POWER_STATE

You attempted an operation on a VM that was not in an appropriate power state at the time; for example, you attempted to start a VM that was already running. The parameters returned are the VM's handle, and the expected and actual VM state at the time of the call.

Signature:

VM_BAD_POWER_STATE(vm, expected, actual)

VM_BIOS_STRINGS_ALREADY_SET

The BIOS strings for this VM have already been set and cannot be changed anymore.

No parameters.

VM_CALL_PLUGIN_RATE_LIMIT

There is a minimal interval required between consecutive plugin calls made on the same VM, please wait before retry.

Signature:

VM_CALL_PLUGIN_RATE_LIMIT(VM, interval, wait)

VM_CANNOT_DELETE_DEFAULT_TEMPLATE

You cannot delete the specified default template.

Signature:

VM_CANNOT_DELETE_DEFAULT_TEMPLATE(vm)

VM_CHECKPOINT_RESUME_FAILED

An error occurred while restoring the memory image of the specified virtual machine

Signature:

VM_CHECKPOINT_RESUME_FAILED(vm)

VM_CHECKPOINT_SUSPEND_FAILED

An error occurred while saving the memory image of the specified virtual machine

Signature:

VM_CHECKPOINT_SUSPEND_FAILED(vm)

VM_CRASHED

The VM crashed

Signature:

VM_CRASHED(vm)

VM_DUPLICATE_VBD_DEVICE

The specified VM has a duplicate VBD device and cannot be started.

Signature:

VM_DUPLICATE_VBD_DEVICE(vm, vbd, device)

VM_FAILED_SHUTDOWN_ACKNOWLEDGMENT

VM didn't acknowledge the need to shutdown.

No parameters.

VM_HALTED

The VM unexpectedly halted

Signature:

VM_HALTED(vm)

VM_HAS_CHECKPOINT

You attempted to migrate a VM which has a checkpoint.

Signature:

VM_HAS_CHECKPOINT(vm)

VM_HAS_PCI_ATTACHED

This operation could not be performed, because the VM has one or more PCI devices passed through.

Signature:

VM_HAS_PCI_ATTACHED(vm)

VM_HAS_TOO_MANY_SNAPSHOTS

You attempted to migrate a VM with more than one snapshot.

Signature:

VM_HAS_TOO_MANY_SNAPSHOTS(vm)

VM_HAS_VGPU

This operation could not be performed, because the VM has one or more virtual GPUs.

Signature:

VM_HAS_VGPU(vm)

VM_HOST_INCOMPATIBLE_VERSION

This VM operation cannot be performed on an older-versioned host during an upgrade.

Signature:

VM_HOST_INCOMPATIBLE_VERSION(host, vm)

VM_HOST_INCOMPATIBLE_VERSION_MIGRATE

You attempted to migrate a VM to a destination host running a version of XenServer older than the source host.

Signature:

VM_HOST_INCOMPATIBLE_VERSION_MIGRATE(host, vm)

VM_HOST_INCOMPATIBLE_VIRTUAL_HARDWARE_PLATFORM_VERSION

You attempted to run a VM on a host that cannot provide the VM's required Virtual Hardware Platform version.

Signature:

VM_HOST_INCOMPATIBLE_VIRTUAL_HARDWARE_PLATFORM_VERSION(host, host_versions, vm, vm_version)

VM_HVM_REQUIRED

HVM is required for this operation

Signature:

VM_HVM_REQUIRED(vm)

VM_INCOMPATIBLE_WITH_THIS_HOST

The VM is incompatible with the CPU features of this host.

Signature:

VM_INCOMPATIBLE_WITH_THIS_HOST(vm, host, reason)

VM_IS_IMMOBILE

The VM is configured in a way that prevents it from being mobile.

Signature:

VM_IS_IMMOBILE(VM)

VM_IS_PART_OF_AN_APPLIANCE

This operation is not allowed as the VM is part of an appliance.

Signature:

VM_IS_PART_OF_AN_APPLIANCE(vm, appliance)

VM_IS_PROTECTED

This operation cannot be performed because the specified VM is protected by xHA

Signature:

VM_IS_PROTECTED(vm)

VM_IS_TEMPLATE

The operation attempted is not valid for a template VM

Signature:

VM_IS_TEMPLATE(vm)

VM_IS_USING_NESTED_VIRT

This operation is illegal because the VM is using nested virtualisation.

Signature:

VM_IS_USING_NESTED_VIRT(VM)

VM_LACKS_FEATURE

You attempted an operation on a VM which lacks the feature.

Signature:

VM_LACKS_FEATURE(vm)

VM_LACKS_FEATURE_SHUTDOWN

You attempted an operation which needs the cooperative shutdown feature on a VM which lacks it.

Signature:

VM_LACKS_FEATURE_SHUTDOWN(vm)

VM_LACKS_FEATURE_STATIC_IP_SETTING

You attempted an operation which needs the VM static-ip-setting feature on a VM which lacks it.

Signature:

VM_LACKS_FEATURE_STATIC_IP_SETTING(vm)

VM_LACKS_FEATURE_SUSPEND

You attempted an operation which needs the VM cooperative suspend feature on a VM which lacks it.

Signature:

VM_LACKS_FEATURE_SUSPEND(vm)

VM_LACKS_FEATURE_VCPU_HOTPLUG

You attempted an operation which needs the VM hotplug-vcpu feature on a VM which lacks it.

Signature:

VM_LACKS_FEATURE_VCPU_HOTPLUG(vm)

VM_MEMORY_SIZE_TOO_LOW

The specified VM has too little memory to be started.

Signature:

VM_MEMORY_SIZE_TOO_LOW(vm)

VM_MIGRATE_FAILED

An error occurred during the migration process.

Signature:

VM_MIGRATE_FAILED(vm, source, destination, msg)

VM_MISSING_PV_DRIVERS

You attempted an operation on a VM which requires PV drivers to be installed but the drivers were not detected.

Signature:

VM_MISSING_PV_DRIVERS(vm)

VM_NOT_RESIDENT_HERE

The specified VM is not currently resident on the specified host.

Signature:

VM_NOT_RESIDENT_HERE(vm, host)

VM_NO_CRASHDUMP_SR

This VM does not have a crashdump SR specified.

Signature:

VM_NO_CRASHDUMP_SR(vm)

VM_NO_EMPTY_CD_VBD

The VM has no empty CD drive (VBD).

Signature:

VM_NO_EMPTY_CD_VBD(vm)

VM_NO_SUSPEND_SR

This VM does not have a suspend SR specified.

Signature:

VM_NO_SUSPEND_SR(vm)

VM_NO_VCPUS

You need at least 1 VCPU to start a VM

Signature:

VM_NO_VCPUS(vm)

VM_OLD_PV_DRIVERS

You attempted an operation on a VM which requires a more recent version of the PV drivers. Please upgrade your PV drivers.

Signature:

VM_OLD_PV_DRIVERS(vm, major, minor)

VM_PV_DRIVERS_IN_USE

VM PV drivers still in use

Signature:

VM_PV_DRIVERS_IN_USE(vm)

VM_REBOOTED

The VM unexpectedly rebooted

Signature:

VM_REBOOTED(vm)

VM_REQUIRES_GPU

You attempted to run a VM on a host which doesn't have a pGPU available in the GPU group needed by the VM. The VM has a vGPU attached to this GPU group.

Signature:

VM_REQUIRES_GPU(vm, GPU_group)

VM_REQUIRES_IOMMU

You attempted to run a VM on a host which doesn't have I/O virtualization (IOMMU/VT-d) enabled, which is needed by the VM.

Signature:

`VM_REQUIRES_IOMMU(host)`

VM_REQUIRES_NETWORK

You attempted to run a VM on a host which doesn't have a PIF on a Network needed by the VM. The VM has at least one VIF attached to the Network.

Signature:

`VM_REQUIRES_NETWORK(vm, network)`

VM_REQUIRES_SR

You attempted to run a VM on a host which doesn't have access to an SR needed by the VM. The VM has at least one VBD attached to a VDI in the SR.

Signature:

`VM_REQUIRES_SR(vm, sr)`

VM_REQUIRES_VDI

VM cannot be started because it requires a VDI which cannot be attached

Signature:

`VM_REQUIRES_VDI(vm, vdi)`

VM_REQUIRES_VGPU

You attempted to run a VM on a host on which the vGPU required by the VM cannot be allocated on any pGPUs in the GPU_group needed by the VM.

Signature:

`VM_REQUIRES_VGPU(vm, GPU_group, vGPU_type)`

VM_REVERT_FAILED

An error occurred while reverting the specified virtual machine to the specified snapshot

Signature:

VM_REVERT_FAILED(vm, snapshot)

VM_SHUTDOWN_TIMEOUT

VM failed to shutdown before the timeout expired

Signature:

VM_SHUTDOWN_TIMEOUT(vm, timeout)

VM_SNAPSHOT_WITH QUIESCE_FAILED

The quiesced-snapshot operation failed for an unexpected reason

Signature:

VM_SNAPSHOT_WITH QUIESCE_FAILED(vm)

VM_SNAPSHOT_WITH QUIESCE_NOT_SUPPORTED

The VSS plug-in is not installed on this virtual machine

Signature:

VM_SNAPSHOT_WITH QUIESCE_NOT_SUPPORTED(vm, error)

VM_SNAPSHOT_WITH QUIESCE_PLUGIN_DEOS_NOT_RESPOND

The VSS plug-in cannot be contacted

Signature:

VM_SNAPSHOT_WITH QUIESCE_PLUGIN_DEOS_NOT_RESPOND(vm)

VM_SNAPSHOT_WITH QUIESCE_TIMEOUT

The VSS plug-in has timed out

Signature:

VM_SNAPSHOT_WITH QUIESCE_TIMEOUT(vm)

VM_TOO_MANY_VCPUS

Too many VCPUs to start this VM

Signature:

VM_TOO_MANY_VCPUS(vm)

VM_TO_IMPORT_IS_NOT_NEWER_VERSION

The VM cannot be imported unforced because it is either the same version or an older version of an existing VM.

Signature:

VM_TO_IMPORT_IS_NOT_NEWER_VERSION(vm, existing_version, version_to_import)

VM_UNSAFE_BOOT

You attempted an operation on a VM that was judged to be unsafe by the server. This can happen if the VM would run on a CPU that has a potentially incompatible set of feature flags to those the VM requires. If you want to override this warning then use the 'force' option.

Signature:

VM_UNSAFE_BOOT(vm)

WLB_AUTHENTICATION_FAILED

WLB rejected our configured authentication details.

No parameters.

WLB_CONNECTION_REFUSED

WLB refused a connection to the server.

No parameters.

WLB_CONNECTION_RESET

The connection to the WLB server was reset.

No parameters.

WLB_DISABLED

This pool has wlb-enabled set to false.

No parameters.

WLB_INTERNAL_ERROR

WLB reported an internal error.

No parameters.

WLB_MALFORMED_REQUEST

WLB rejected the server's request as malformed.

No parameters.

WLB_MALFORMED_RESPONSE

WLB said something that the server wasn't expecting or didn't understand. The method called on WLB, a diagnostic reason, and the response from WLB are returned.

Signature:

WLB_MALFORMED_RESPONSE(method, reason, response)

WLB_NOT_INITIALIZED

No WLB connection is configured.

No parameters.

WLB_TIMEOUT

The communication with the WLB server timed out.

Signature:

WLB_TIMEOUT(configured_timeout)

WLB_UNKNOWN_HOST

The configured WLB server name failed to resolve in DNS.

No parameters.

WLB_URL_INVALID

The WLB URL is invalid. Ensure it is in format: `ipaddress[:port]`. The configured/given URL is returned.

Signature:

`WLB_URL_INVALID(ur1)`

WLB_XENSERVICES_AUTHENTICATION_FAILED

WLB reported that the server rejected its configured authentication details.

No parameters.

WLB_XENSERVICES_CONNECTION_REFUSED

WLB reported that the server refused it a connection (even though we're connecting perfectly fine in the other direction).

No parameters.

WLB_XENSERVICES_MALFORMED_RESPONSE

WLB reported that the server said something to it that WLB wasn't expecting or didn't understand.

No parameters.

WLB_XENSERVICES_TIMEOUT

WLB reported that communication with the server timed out.

No parameters.

WLB_XENSERVICES_UNKNOWN_HOST

WLB reported that its configured server name for this server instance failed to resolve in DNS.

No parameters.

XAPI_HOOK_FAILED

3rd party xapi hook failed

Signature:

`XAPI_HOOK_FAILED(hook_name, reason, stdout, exit_code)`

XENAPI_MISSING_PLUGIN

The requested plugin could not be found.

Signature:

XENAPI_MISSING_PLUGIN(name)

XENAPI_PLUGIN_FAILURE

There was a failure communicating with the plugin.

Signature:

XENAPI_PLUGIN_FAILURE(status, stdout, stderr)

XEN_VSS_REQ_ERROR_ADDING_VOLUME_TO_SNAPSHOT_FAILED

Some volumes to be snapshot could not be added to the VSS snapshot set

Signature:

XEN_VSS_REQ_ERROR_ADDING_VOLUME_TO_SNAPSHOT_FAILED(vm, error_code)

XEN_VSS_REQ_ERROR_CREATING_SNAPSHOT

An attempt to create the snapshots failed

Signature:

XEN_VSS_REQ_ERROR_CREATING_SNAPSHOT(vm, error_code)

XEN_VSS_REQ_ERROR_CREATING_SNAPSHOT_XML_STRING

Could not create the XML string generated by the transportable snapshot

Signature:

XEN_VSS_REQ_ERROR_CREATING_SNAPSHOT_XML_STRING(vm, error_code)

XEN_VSS_REQ_ERROR_INIT_FAILED

Initialization of the VSS requester failed

Signature:

XEN_VSS_REQ_ERROR_INIT_FAILED(vm, error_code)

XEN_VSS_REQ_ERROR_NO_VOLUMES_SUPPORTED

Could not find any volumes supported by the Vss Provider

Signature:

XEN_VSS_REQ_ERROR_NO_VOLUMES_SUPPORTED(vm, error_code)

XEN_VSS_REQ_ERROR_PREPARING_WRITERS

An attempt to prepare VSS writers for the snapshot failed

Signature:

XEN_VSS_REQ_ERROR_PREPARING_WRITERS(vm, error_code)

XEN_VSS_REQ_ERROR_PROV_NOT_LOADED

The Vss Provider is not loaded

Signature:

XEN_VSS_REQ_ERROR_PROV_NOT_LOADED(vm, error_code)

XEN_VSS_REQ_ERROR_START_SNAPSHOT_SET_FAILED

An attempt to start a new VSS snapshot failed

Signature:

XEN_VSS_REQ_ERROR_START_SNAPSHOT_SET_FAILED(vm, error_code)

XMLRPC_UNMARSHAL_FAILURE

The server failed to unmarshal the XMLRPC message; it was expecting one element and received something else.

Signature:

XMLRPC_UNMARSHAL_FAILURE(expected, received)
