vCloud API Specification

vCloud API Version 1.0

Terms and Conditions

Browsing

A vCloud API client can use HTTP GET requests to browse containers such as organizations, catalogs, and vDCs. Responses to these requests include metadata about the container itself and references to the objects it contains. These references are provided in `Link` elements, which have `href` attributes whose values the client can use in requests to get more information about the objects themselves. This hierarchical structure of containers lends itself to graphical representation as a folder hierarchy or tree view of vCloud objects, and enables clients to use the same set of objects and operations to implement a breadth-first or depth-first approach to browsing.

Table 1 summarizes browsing requests supported in Version 1.0 of the vCloud API. The table uses the following conventions:

- *API-URL* is a URL of the form http://vcloud.example.com/api/v1.0
- *id* is an integer

Table 1. Summary of Browsing Requests

Operation	Request	Request Body	Response
Show Login URL and List Supported API Versions	GET http://*hostname*/api/versions	None	SupportedVersions
Log in	POST *API-URL*/login	None	OrgList

Table 1. Summary of Browsing Requests (Continued)

Operation	Request	Request Body	Response
Log out	POST *API-URL*/logout	None	200 OK
List the Organizations in a vCloud	GET *API-URL*/org	None	OrgList
List the Contents of an Organization	GET *API-URL*/org/*id*	None	Org
Get Information About a Network	GET *API-URL*/network/*id*	None	OrgNetwork
List the Contents of a Catalog	GET *API-URL*/catalog/*id*	None	Catalog
Get Information About a CatalogItem	GET *API-URL*/catalogItem/*id*	None	CatalogItem
List the Contents of a vDC	GET *API-URL*/vdc/*id*	None	Vdc
Get Information About a Media Image	GET *API-URL*/media/*id*	None	Media
Get Information About a vAppTemplate	GET *API-URL*/vAppTemplate/vappTemplate-*id*	None	VAppTemplate
Get Information About a vApp or Virtual Machine	GET *API-URL*/vApp/vapp-*id*	None	VApp

Provisioning

The vCloud API supports upload and download of OVF packages, and upload of media images. Transfer operations are characterized as uploads when the operation transfers content from the local host to a remote one, and as downloads when the local host requests the transfer of content from a remote host. Uploads are typically initiated by a POST request, and downloads by a GET request. Uploads and downloads are facilitated by the vCloud transfer service, which provides temporary storage for files.

The vCloud API also supports a clone operation that copies vApp templates or media images that have been uploaded to a vDC. The clone operation also allows you to specify that the source object be deleted after the operation completes, which effectively moves or renames the source object.

Table 2 summarizes provisioning requests supported in Version 1.0 of the vCloud API. The table uses the following conventions:

- *API-URL* is a URL of the form http://vcloud.example.com/api/v1.0.
- *id* is an integer.

Table 2. Summary of Provisioning Requests

Operation	Request	Request Body	Response
Upload OVF to Create a vApp Template	POST *API-URL*/vdc/*id*/action/uploadVAppTemplate	UploadVAppTemplateParams	VAppTemplate
Download a vApp Template as OVF	GET *download-URL*	None	Depends on file type
Enable a vApp Template for Download	POST *API-URL*/vAppTemplate/vAppTemplate-*id*/action/enableDownload	None	Task
Disable a vApp Template for Download	POST *API-URL*/vAppTemplate/vAppTemplate-*id*/action/disableDownload	None	204 No Content
Upload a Media Image	POST *API-URL*/vdc/*id*/media	Media	Media
Copy or Move a Media Image	POST *API-URL*/vdc/*id*/action/cloneMedia	CloneMediaParams	Media
Copy or Move a vApp Template	POST *API-URL*/vdc/*id*/action/cloneVAppTemplate	CloneVAppTemplateParams	VAppTemplate
Copy or Move a vApp	POST *API-URL*/vdc/*id*/action/cloneVApp	CloneVAppParams	VApp
Change the Name or Description of a vAppTemplate	PUT *API-URL*/vAppTemplate/vappTemplate-*id*	VAppTemplate	Task

Table 2. Summary of Provisioning Requests (Continued)

Operation	Request	Request Body	Response
Change the Name or Description of a vApp	PUT *API-URL*/vApp/vapp-*id*	VApp	Task
Change the Name or Description of a Media Image	PUT *API-URL*/media/*id*	Media	Task
Delete a vAppTemplate, vApp, or Media Image	DELETE *object-URL*	None	Task
Add an Item to a Catalog	POST *API-URL*/catalog/*id*/catalogItems	CatalogItem	CatalogItem
Remove an Item from a Catalog	DELETE *API-URL*/ catalog/*id*/catalogItem/*id*	None	204 No content
Control Access to Catalogs	POST *API-URL*/catalog/*id*/action/ controlAccess	ControlAccessParams	ControlAccess Params

Datacenter Operations

The vCloud API supports programmatic access to a wide range of self-service datacenter operations, including:

- Instantiation, which creates a vApp from a vApp template
- Creating new vApps through composition or cloning
- Reconfiguration of vApps to change their network connections, lease settings, startup parameters, and virtual hardware configurations.
- Deployment, operation, and undeployment of vApps or virtual machines.
- Accessing the console of a virtual machine
- Controlling access to a vApp

Table 3 summarizes datacenter operations requests supported in Version 1.0 of the vCloud API. The table uses the following conventions:

- *API-URL* is a URL of the form http://vcloud.example.com/api/v1.0
- *id* is an integer
- *vApp-or-Vm-URL* is a URL of the form *API-URL*/vApp/vapp-*id* (for a vApp object) or *API-URL*/vApp/vm-*id* (for a Vm object)

Table 3. Summary of Datacenter Operations Requests

Operation	Request	Request Body	Response
Instantiate a vApp Template	POST *API-URL*/vdc/*id*/action/ instantiateVAppTemplate	InstantiateVAppTemplateParams	VApp
Retrieve vApp Template CustomizationSection	GET *API-URL*/vAppTemplate/ vappTemplate-*id*/ customizationSection	None	CustomizationSection
Modify vApp Template CustomizationSection	PUT *API-URL*/vAppTemplate/ vappTemplate-*id*/ customizationSection	CustomizationSection	Task
Compose a vApp	POST *API-URL*/vdc/*id*/action/ composeVApp	ComposeVAppParams	vApp
Recompose a vApp to Add or Remove Virtual Machines	POST *API-URL*/vApp/vapp-*id*/action/ recomposeVApp	RecomposeVAppParams	vApp

Table 3. Summary of Datacenter Operations Requests (Continued)

Operation	Request	Request Body	Response
Capture a vApp to Create a vApp Template	POST *API-URL*/vdc/*id*/action/captureVApp	CaptureVAppParams	VAppTemplate
Deploy a vApp or Virtual Machine	POST *vApp-or-Vm-URL*/action/deploy	DeployVAppParams	Task
Undeploy a vApp or Virtual Machine	POST *vApp-or-Vm-URL*/action/undeploy	UndeployVAppParams	Task
Power On a vApp or Virtual Machine	POST *vApp-or-Vm-URL*/power/action/powerOn	None	Task
Power Off a vApp or Virtual Machine	POST *vApp-or-Vm-URL*/power/action/powerOff	None	Task
Reset a vApp or Virtual Machine	POST *vApp-or-Vm-URL*/power/action/reset	None	Task
Suspend a vApp or Virtual Machine	POST *vApp-or-Vm-URL*/power/action/suspend	None	Task
Discard the Suspended State of a vApp or Virtual Machine	POST *vApp-or-Vm-URL*/action/discardSuspendedState	None	Task
Shut Down a vApp or Virtual Machine	POST *vApp-or-Vm-URL*/power/action/shutdown	None	204 No Content
Reboot a vApp or Virtual Machine	POST *vApp-or-Vm-URL*/power/action/reboot	None	204 No Content
Insert Media Into a Virtual Machine	POST *API-URL*/vApp/vm-*id*/media/action/insertMedia	MediaInsertOrEjectParams	Task
Eject Media From a Virtual Machine	POST *API-URL*/vApp/vm-*id*/media/action/ejectMedia	MediaInsertOrEjectParams	Task
List Media Devices of a Virtual Machine	GET *API-URL*/vApp/vm-*id*/virtualHardwareSection/media	None	RasdItemsList
Get a Request for User Input	GET *API-URL*/vApp/vm-*id*/question	None	VmPendingQuestion
Provide Requested User Input	POST *API-URL*/vApp/vm-*id*/question/action/answer	VmQuestionAnswer	204 No Content
Get a Screen Thumbnail for a Virtual Machine	GET *API-URL*/vApp/vm-*id*/screen	None	screen thumbnail (Content-type: image/png)
Get a Screen Ticket for a Virtual Machine	POST *API-URL*/vApp/vm-*id*/screen/action/acquireTicket	None	ScreenTicket
Control Access to vApps	POST *API-URL*/vApp/vapp-*id*/action/controlAccess	ControlAccessParams	ControlAccessParams
Retrieve a Task	GET *API-URL*/task/*id*	None	Task

Reconfigure a vApp

Table 4 summarizes vApp reconfiguration requests supported in Version 1.0 of the vCloud API. The table uses the following conventions:

- *API-URL* is a URL of the form http://vcloud.example.com/api/v1.0
- *id* is an integer

Table 4. Summary of vApp Reconfiguration Requests

Operation	Request	Request Body	Response
Retrieve vApp Lease Settings	GET *API-URL*/vApp/vapp-*id*/leaseSettingsSection	None	LeaseSettingsSection
Modify vApp Lease Settings	PUT *API-URL*/vApp/vapp-*id*/leaseSettingsSection	LeaseSettingsSection	Task
Retrieve vApp Startup Section	GET *API-URL*/vApp/vapp-*id*/startupSection	None	StartupSection
Modify vApp Startup Section	PUT *API-URL*/vApp/vapp-*id*/startupSection	StartupSection	Task
Retrieve vApp Network Section	GET *API-URL*/vApp/vapp-*id*/networkSection	None	ovf:NetworkSection
Retrieve vApp Network Configuration	GET *API-URL*/vApp/vapp-*id*/networkConfigSection	None	NetworkConfigSection
Modify vApp Network Configuration	PUT *API-URL*/vApp/vapp-*id*/networkConfigSection	NetworkConfigSection	Task

Reconfigure a Virtual Machine

Table 5 summarizes virtual machine reconfiguration requests supported in Version 1.0 of the vCloud API. The table uses the following conventions:

- *API-URL* is a URL of the form http://vcloud.example.com/api/v1.0
- *id* is an integer

Table 5. Summary of Virtual Machine Reconfiguration Requests

Operation	Request	Request Body	Response
Retrieve the Network Connection Section of a Virtual Machine	GET *API-URL*/vApp/vm-*id*/networkConnectionSection	None	NetworkConnectionSection
Modify the Network Connection Section of a Virtual Machine	PUT *API-URL*/vApp/vm-*id*/networkConnectionSection	NetworkConnectionSection	Task
Retrieve the Guest Customization Section of a Virtual Machine	GET *API-URL*/vApp/vm-*id*/guestCustomizationSection	None	GuestCustomizationSection
Modify the Guest Customization Section of a Virtual Machine	PUT *API-URL*/vApp/vm-*id*/guestCustomizationSection	GuestCustomizationSection	Task
Retrieve the Operating System Section of a Virtual Machine	GET *API-URL*/vApp/vm-*id*/operatingSystemSection	None	OperatingSystemSection
Modify the Operating System Section of a Virtual Machine	PUT *API-URL*/vApp/vm-*id*/operatingSystemSection	OperatingSystemSection	Task
Retrieve the Virtual Hardware Section of a Virtual Machine	GET *API-URL*/vApp/vm-*id*/virtualHardwareSection	None	VirtualHardwareSection
Modify the Virtual Hardware Section of a Virtual Machine	PUT *API-URL*/vApp/vm-*id*/virtualHardwareSection	VirtualHardwareSection	Task

Table 5. Summary of Virtual Machine Reconfiguration Requests (Continued)

Operation	Request	Request Body	Response
Retrieve the CPU Configuration of a Virtual Machine	GET *API-URL*/vApp/vm-*id*/ virtualHardwareSection/cpu	None	ovf:Item
Modify the CPU Configuration of a Virtual Machine	PUT *API-URL*/vApp/vm-*id*/ virtualHardwareSection/cpu	ovf:Item	Task
Retrieve the Memory Item from the Virtual Hardware Section of a Virtual Machine	GET *API-URL*/vApp/vm-*id*/ virtualHardwareSection/memory	None	ovf:Item
Modify the Memory Item of the Virtual Hardware Section of a Virtual Machine	PUT *API-URL*/vApp/vm-*id*/ virtualHardwareSection/memory	ovf:Item	Task
Retrieve Virtual Disk Items from the Virtual Hardware Section of a Virtual Machine	GET *API-URL*/vApp/vm-*id*/ virtualHardwareSection/disks/	None	RasdItemsList
Modify Virtual Disk Items of the Virtual Hardware Section of a Virtual Machine	PUT *API-URL*/vApp/vm-*id*/ virtualHardwareSection/disks/	RasdItemsList	Task
Retrieve Network Card Items from the Virtual Hardware Section of a Virtual Machine	GET *API-URL*/vApp/vm-*id*/ virtualHardwareSection/ networkCards/	None	RasdItemsList
Modify Network Card Items of the Virtual Hardware Section of a Virtual Machine	PUT *API-URL*/vApp/vm-*id*/ virtualHardwareSection/ networkCards/	RasdItemsList	Task
Retrieve Removable Media Drive Items from the Virtual Hardware Section of a Virtual Machine	GET *API-URL*/vApp/vm-*id*/ virtualHardwareSection/media/	None	RasdItemsList