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EMC® RecoverPoint 4.0 REST API Programming and Reference Guide

This document describes the RecoverPoint REST (REpresentative State Transfer) API.

Topics include:

Revision history

Table 1 shows the revision history of this document.

Table 1. Revision history

Revision	Date	Description
03	June 2013	Changed parameters, URLs and other information
02	May 2013	Changed document title and cosmetic changes
01	May 2013	First release

Scope

This Programming and Reference introduces the RecoverPoint 4.0 REST (REpresentative State Transfer) API. This document is intended for developers who wish to integrate RecoverPoint with their own applications, and for those who need to write scripts that automate RecoverPoint operations.

Introduction to the REST API

The REpresentative State Transfer (REST) is an architectural style for designing networked applications. REST applications use HTTP requests to **post** and **get** data.

The RESTful architectural style allows users of an application presented with a virtual state-machine (Web pages) to select links (state transitions) that cause the next state of the application to be transferred for use.

REST API syntax

To make calls to the RecoverPoint REST API, send an HTTP request (POST or GET) to the appropriate resource (end-point, URI). GET is used to retrieve the representation of a resource. POST is used to update the state of an object, create a new object state, or to remove an object.

The general syntax for an HTTP request is:

```
http://<RecoverPoint_IP>/fapi/rest/4_0/<resource>?parameter1=<value1> &
Parameter2=<value2 …>
```

The RecoverPoint REST API supports only the GET and POST methods. The POST body (parameters that are specified outside of the URL) and GET method return codes are always in JSON format.

Example: GET request

To get the current state of a RecoverPoint consistency group, send a GET request to the following resource:

```
GET "https://<RPA_IP>/fapi/rest/4_0/state/groups/<groupID>/full"
```

where:

> <u>*<RPA_IP>*</u> is the management IP address of the desired RPA;

> *<groupID>* is the ConsistencyGroupUID, an integer that uniquely identifies the consistency group.

The server response is the actual raw data in JSON format. The server responds:

```
Response:
200 OK
{
    "groupUID": {"id": 629399737},
    "enabled": true,
    "sourceCopyUID":     {
      "groupUID": {"id": 629399737},
      "globalCopyUID":         {
         "clusterUID": {"id": 9101088047105574284},
         "copyUID": 0
      }
   },
   "groupCopiesState":     [
           {
        "copyUID":          {
           "groupUID": {"id": 629399737},
           "globalCopyUID":          {
              "clusterUID": {"id": 9101088047105574284},
```

```
            "copyUID": 0
        }
    },
    "enabled": true,
    "regulated": false,
    "suspended": false,
    "activePrimaryRPA": 1,
    "activeSecondaryRPAsList": [],
    "accessedImage": null,
    "storageAccessState": "DirectAccess",
    "splitVariant": "Standard",
    "journalState": "Locked",
    "consolidationProgress": null,
    "distributedFirstSnapshot": null,
    "tspWritesCleared": null,
    "stateUnknown": false,
    "axxanaCopyStatus": null
},
        {
    "copyUID":            {
        "groupUID": {"id": 629399737},
        "globalCopyUID":              {
            "clusterUID": {"id": 9101088047105574284},
            "copyUID": 1
        }
    },
    "enabled": true,
    "regulated": false,
    "suspended": false,
    "activePrimaryRPA": 1,
    "activeSecondaryRPAsList": [],
    "accessedImage": null,
    "storageAccessState": "NoAccess",
    "splitVariant": null,
    "journalState": "Distributing",
    "consolidationProgress": null,
    "distributedFirstSnapshot": true,
    "tspWritesCleared": null,
    "stateUnknown": false,
    "axxanaCopyStatus": null
}
],
"linksState": [    {
    "groupLinkUID":          {
        "groupUID": {"id": 629399737},
        "firstCopy":             {
            "clusterUID": {"id": 9101088047105574284},
            "copyUID": 0
        },
        "secondCopy":             {
            "clusterUID": {"id": 9101088047105574284},
            "copyUID": 1
        }
    },
    "pipeState": "Active",
    "transferErrorReason": "",
    "inSyncMode": false,
    "stateUnknown": false
}],
"runningAsDistributedGroup": false,
"stateUnknown": false
```

Example: POST request

To change the permissions of a user role, use the **editUserRole** resource. The body (parameters that are not passed through the URI) of the resource is written in JSON format. Send the following POST request:

```
POST
https://<RP_IP>//fapi/rest/4_0/settings/management/users/roles/<ROLE_NAME>/actions/edit
{
        "roleName":"<ROLE_NAME>",
        "permissions":["Monitor","Upgrade"]
}
```

where:

> *<RPA_IP>* is the management IP address of the desired RPA;

> *<ROLE_NAME>* is the role name whose permission you want to edit.

The server responds:

```
HTTP/1.1 200 OK
Server: Apache-Coyote/1.1
Content-Type: application/json
Content-Length: 0
Date: Wed, 03 Apr 2013 13:29:40 GMT
```

RecoverPoint Object Model

The RecoverPoint functional API uses the objects in Figure 1 on page 14 to represent the entities in a RecoverPoint system. These objects correspond to the objects presented by the RecoverPoint user interfaces (both the management consoles and the command line interface), which makes using the functional API simpler and more intuitive.

Figure 1:   RecoverPoint Object Model
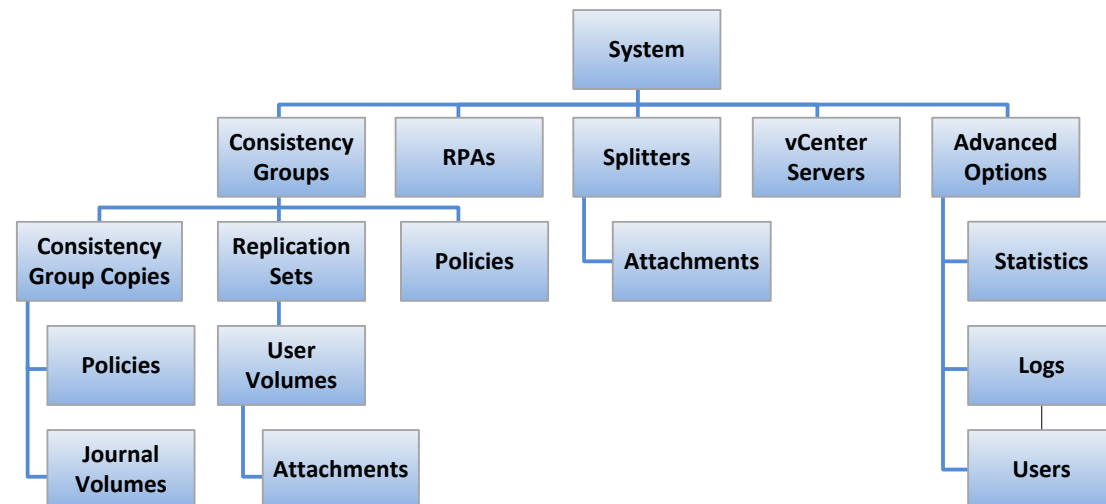
To create applications using the RecoverPoint functional API, you must understand the objects in the object model, including the relationships between objects.

The key objects in the object model are described in the following sections in this chapter.

Management

ManagementSettingsObject

For details, see Management Settings on page 53.

Consistency Group

A **consistency group** represents a collection of replication sets grouped together to ensure write order consistency across all the replication sets' volumes.

A consistency group is represented in the RecoverPoint object model by the:

- ConsistencyGroupStatistics Object on page 15
- ConsistencyGroupSettings Object on page 15
- ConsistencyGroupState Object on page 15

ConsistencyGroupStatistics Object

The ConsistencyGroupStatistics object contains all statistics relevant to a specific consistency group.

ConsistencyGroupSettings Object

The ConsistencyGroupSettings object contains the settings of a specific consistency group including group copy settings, replication set settings, link settings, and policy settings.

ConsistencyGroupState Object

The ConsistencyGroupState object contains the state of a specific consistency group, including group copies state and links state.

Consistency Group Copy

A consistency group copy must have exactly one of the following roles:

- **Production copy** is the main copy of the replicated data, where the user hosts perform writes. This copy's volumes are writable.
- **Local copy** is a copy of the production copy data at the same site as the production copy. This copy's volumes are inaccessible.
- **Remote copy** is a copy of the production copy data at a remote site. This copy's volumes are inaccessible.

Each consistency group must contain at least one production copy and one other copy, and may contain all three copy types. A consistency can contain at most five copies, of which one is the production copy and at most one local copy. A consistency group copy has its own set of policies, and a set of journal volumes, which holds a history of data changes.

A consistency group copy is represented in the RecoverPoint object model by the:

- ConsistencyGroupCopySettings Object on page 15
- ConsistencyGroupCopyState Object on page 15

ConsistencyGroupCopySettings Object

The ConsistencyGroupCopySettings object contains the settings of a specific consistency group copy, including journal settings, current image information, and policy settings.

ConsistencyGroupCopyState Object

The ConsistencyGroupCopyState object contains the state of a specific consistency group copy, including transfer state, active RPAs, and journal state.

Replication Set

 A **replication set** is a set a production volume and the matching volumes, one at each copy, to which the production volume is replicated. In order for replication to occur, each of the replication volumes in the replication set is attached to a splitter.

Each consistency group contains as many replication sets as there are volumes in the production storage to replicate. Data consistency and write-order fidelity are maintained across all volumes assigned to a consistency group, including volumes on different storage systems. Each consistency group has at least one journal volume at each copy.

The key object representing a replication set in the RecoverPoint object model is the ReplicationSetSettings object.

ReplicationSetSettings Object

The ReplicationSetSettings object contains the settings of a specific replication set, including the replication volume settings.

RPA

A **RecoverPoint Appliance** (**RPA**) is a physical or virtual appliance that manages data replication. When a splitter sends a write to an RPA, the RPA decides where to send the write for replication, and how to handle a success/failure in replicating the write. During replication, an RPA at the production cluster decides when and what data to transfer to the replica clusters. The RPA analyzes application load and resource availability so that it prevents degradation of host application performance while adhering to the specified replication policy. The RPAs at each replica cluster distribute the data to the replica storage arrays.

In a failover, the production and copy RPA roles can be reversed. Moreover, RecoverPoint supports simultaneous bi-directional replication, where the same RPA can serve as the production RPA for one consistency group and the replica RPA for another consistency group.

A group of two to eight RPAs form an RPA cluster, as set during RecoverPoint system installation. The number of RPAs in a cluster must be the same at all the clusters serving the same replication sets. These RPAs communicate with each other, handling the replication of the user data, and managing the clusters.

They key object representing an RPA in the RecoverPoint object model is the RPAState object.

RPA State

The RPAState object contains the state of a specific RPA, including RPA status, repository connectivity, NICs state, splitter connectivity, and connectivity status to other RPAs, as well as the settings of a specific RPA, including ports, IP addresses and hardware information. For details, see "RPAs State" on page 86.

Splitter

A **RecoverPoint Splitter** receives all data to be written to the production volume and "splits" it, sending one copy to production and one to an RPA.

The splitter is represented in the RecoverPoint object model by:

SplitterSettings Object

The SplitterSettings object contains the settings for a specific RecoverPoint splitter, including attached replication volumes, credentials and, paths to the RPAs to which this splitter connects. For details, see "Splitter Settings" on page .

SplitterState Object

The SplitterState object contains the state of a specific RecoverPoint splitter, including splitter status, attached volumes access state and the RPAs links state. For details, see "Splitters State" on page .

System

A **RecoverPoint System** is a group of one to five connected RecoverPoint clusters that are managed together. The system contains system-wide settings and statistics. The RecoverPoint system is represented in the RecoverPoint object model by the:

SystemSettings Object

The RecoverPoint system settings object includes the settings for each site in a RecoverPoint system, along with general system information. For details, see "System Settings" on page .

SystemStatistics Object

The SystemStatistics object holds all statistics relevant to the RecoverPoint system, including general system-wide statistics and RPAs statistics.

SystemEventLogs Object

The SystemEventLogs Holds all the system logs of all the system events.

vCenterServer

A **vCenterServer** centrally manages VMware vSphere environments. A vCenterServer is represented in the RecoverPoint object model by:

vCenterServer Object

The vCenterServer object contains information about a specific vCenterServer.

vCenterServerView Object

The vCenterServerView holds a view of a configured vCenter Server. The view displays all the ESX hosts that are configured in the vCenter inventory. For each ESX, all visible LUNs are displayed in their replication role, showing consistency group, copy, and replication set. Each displayed LUN is associated with its virtual machine and datastore. Some LUNs may not be associated with any virtual machine or datastore.

Volume

A **Volume** holds user data. The volume can be either production or a copy.

A volume is represented in the RecoverPoint object model are the:

VolumeSettings

The VolumeSettings object contains the settings of a specific volume, including type, relevant consistency group, relevant consistency group copy, UID, size, storage information, and attached splitters.

VolumeState

The VolumeState object contains the state of a specific volume including its status.

VolumeInformation

The VolumeInformation object contains information about a specific volume, which may not be configured in a consistency group, including UID, size, and storage information.

Object Unique Identifiers

Many RecoverPoint entities have a unique identifier (UID) that allows the client to refer to a specific entity. Each UID type contains all data needed to uniquely identify the referenced entity.

ConsistencyGroupUID

Description	The ConsistencyGroupUID contains the RecoverPoint consistency group UID.
Properties	**id**<int>: Integer value that identifies the consistency group.

ConsistencyGroupCopyUID

Description	The ConsistencyGroupCopyUID contains the parent group UID, the site UID, and the copy index.

Properties	**groupUID**<ConsistencyGroupUID>: Contains the RecoverPoint consistency group UID.
	    See ConsistencyGroupSettings on page 106.
	ClusterID<ClusterID>: Contains the site index.
	    See DeviceUID on page 114.
	groupCopyID<int>: Index for the group copy (0 for LEFT0, 1 for RIGHT1, and so on).

ConsistencyGroupLinkUID

Description	The ConsistencyGroupLinkUID contains the parent group UID and the UIDs of the two group copies to which it links.

Properties	**groupUID**<ConsistencyGroupUID>: Contains the RecoverPoint consistency group UID.
	    See ConsistencyGroupSettings on page 106.
	firstCopyUID<ConsistencyGroupCopyUID>
	    See "ConsistencyGroupCopyUID" on page 19.
	secondCopyUID<ConsistencyGroupCopyUID>
	    See "ConsistencyGroupCopyUID" on page 19.

ConsistencyGroupSetUID

Description	The ConsistencyGroupLinkUID contains the RecoverPoint group set UID.
Properties	**id**<int>: Integer value that identifies the consistency group set.

DeviceUID

Description	The DeviceUID contains an integer value that identifies the regular volume GUID.
Properties	**id**<int>: Site index.

ReplicationSetUID

Description	The ReplicationSetUID contains the parent group UID and RecoverPoint replication set UID.
Properties	**groupUID**<ConsistencyGroupUID>: Contains the RecoverPoint consistency group UID. See ConsistencyGroupSettings on page 106. **id**<int>: Replication set UID.

RpaUID

Description	The RpaUID contains an identifier and the ClusterID.
Properties	**ClusterID**<ClusterID>: Contains the site index. **id**<int>: Site index. **rpaNumber**<int>: Identifier for this RPA.

SiteUID

Description	The ClusterID contains the site index.
Properties	**id**<long>: Signed numeric value between -(2^63) and (2^63) -1 that identifies the regular volume GUID.

SplitterUID

Description	The SplitterUID contains the relevant site UID, the RecoverPoint splitter UID (host UID), and the splitter type.
Properties	**ClusterID**<ClusterID>: Contains the site index. **id**<int>: Site index. **id**<long>: Long value that identifies the splitter. **splitterType**<SplitterType>: Splitter type.

SystemEventUID

Description	The SystemEventUID contains an identifier for the system event.
Properties	**uniqueId**<long>: System event identifier.

SystemEventLogsFilterUID

Description	The SystemEventLogsFilterUID contains an identifier for the log filter.
Properties	**id**<long>: Identifier for the system event logs filter.

VCenterServerUID

Description	The VCenterServerUID holds the relevant site UID and the vCenter Server IP address.
Properties	**ClusterID**<ClusterID>: Contains the site index. **id**<int>: Site index. **ip**<string>: vCenter Server IP address.

RecoverPoint REST API

Setting Resources

settings/full

Description	Returns all RecoverPoint settings.
Method	GET
Parameters	
Return values	**FullRecoverPointSettings**: Contains settings for an entire RecoverPoint installation.

systemSettings`<SystemSettings>`: Holds RecoverPoint system settings, including the settings of each of the sites and some general system information.

    sitesSettings (Set of `<SiteSettings>`)

    systemMaintenanceMode`<SystemMaintenanceMode>`: Indicates the type of system maintenance being performed on an RPA.

        None: RPA is not in maintenance mode.

        MinorUpgrade: RPA is undergoing a minor upgrade.

        MajorUpgrade: RPA is undergoing a major upgrade.

        HWReplacement: RPA is having its hardware replaced.

        ClusterUpgrade: RPA cluster is being upgraded.

        RepositoryChange: Repository volume is being changed.

        RPSEConversion: RPA is undergoing conversion to RecoverPoint to RecoverPoint/SE.

        Unknown: Maintenance mode cannot be determined.

        UserInitiatedMaintenanceMode: RPA is undergoing user-initiated maintenance mode.

        SystemModification: RPA is undergoing system modifications.

splittersSettings (Set of `<SiteSplittersSettings>`):

    ClusterID`<ClusterID>`: Contains the site index.

        id`<int>`: Site index.

    splitterSettings (Set of `<SplitterSettings>`): Splitter settings.

globalPolicy`<SystemGlobalPolicy>`:

    allowLargeLag`<boolean>`

    numberOfCommunicationStreams`<int>`: Number of communication streams.

    advancedActionRegulationEnabled`<boolean>`

    shouldCollectLongTermStatistics`<boolean>`

groupsSettings (Set of `<ConsistencyGroupSettings>`):

    See "ConsistencyGroupSettings" on page 27.

groupsSetsSettings (Set of `<ConsistencyGroupSetSettings>`):

    siteUID`<ConsistencyGroupSetUID>`: Contains the RecoverPoint

<table>
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group set UID.

    See "ConsistencyGroupSetUID" on page 19.

name<string>: Consistency group set name.

groupsUIDs (Set of <ConsistencyGroupUID>): Contains the RecoverPoint consistency group UID.

    id<int>: Integer value that identifies the consistency group.

bookmarkFrequency<long>: Indicates how often the consistency group set is bookmarked.

accountSettings<AccountSettings>: Contains information, including licensing information, about a RecoverPoint customer account.

    accountInformation<AccountInformation>: Contains information about a RecoverPoint customer account.

        See "Account Settings" on page 24.

    License<LicenseInfo>: Describes the system capabilities enabled by a RecoverPoint license.

        See "LicenseInfo" on page 126.

    installationID<string>: Installation ID

    licenseInstalled<boolean>: Whether or not the RecoverPoint license is installed.

    licenseActivated<boolean>: Whether or not the RecoverPoint license has been activated.

    licenseValid<boolean>: Whether or not the RecoverPoint license is valid.

managementSettings<ManagementSettings>: Contains comprehensive settings for a RecoverPoint system.

    See "Management Settings" on page 53.

settingsConflict<boolean>: Indicates whether there is a settings conflict.

</td></tr>
</table>

settings/actions/clear

Description	Removes all splitters, volumes, replication sets, and groups from the RecoverPoint system.
Method	POST
Parameters	
Return values	

settings/actions/finish_rpa_maintenance

Description	Resume RPA normal operations after maintenance mode.
Method	POST
Parameters	**rpa**<RpaUID>
Return values	

Account Settings

settings/account

Description	Returns the current account settings, primarily to assist users when contacting vendor personnel with technical support issues.
Method	GET
Parameters	
Return values	**AccountSettings.** Contains information, including licensing information, about a RecoverPoint customer account: **accountInformation** (AccountInformation) **license** (LicenseInf **installationID** (String) **licenseInstalled** (Boolean) **licenseActivated** (boolean) **licenseValid** (Boolean)

Default Settings

settings/defaults/group_copy_policy

Description	Returns the default consistency group copy policy.
Method	GET
Parameters	
Return values	**ConsistencyGroupCopyPolicy** See ConsistencyGroupSettings on page 106.

settings/defaults/group_link_policy

Description	Returns the default consistency group link policy
Method	GET
Parameters	boolean isLocalLink
Return values	**isLocalLink**<Boolean>: Whether or not the default consistency group link policy is optimized for the local link

settings/defaults/group_policy

Description	Returns the default consistency group policy.
Method	GET
Parameters	
Return values	**ConsistencyGroupPolicy**: Contains the replication policy settings for a consistency group. See ConsistencyGroupSettings on page 106.

settings/defaults/roles_names

Description	Returns the names of the default roles in the system.
Method	GET
Parameters	
Return values	**Set of** <String>: Names of the default roles in the system.

settings/defaults/system_global_policy

Description	Returns the default system global policy.
Method	GET
Parameters	
Return values	**SystemGlobalPolicy:** Contains system-wide policy settings for a RecoverPoint system. **allowLargeLag**<boolean> **numberOfCommunicationStreams**<int>: Number of communication streams. **advancedActionRegulationEnabled**<boolean> **shouldCollectLongTermStatistics**<boolean>

settings/defaults/user_event_logs_filters

Description	Returns the default user filter for event logs.
Method	GET
Parameters	
Return values	UserEventLogsFilter

settings/defaults/users_names

Description	Returns the names of the default users in the system.
Method	GET
Parameters	
Return values	**Set of** <String>: Names of the default users in the system.

System Global Policy

settings/global_policy/full

Description	Gets the system global policy.
Method	GET
Parameters	None
Return values	**SystemGlobalPolicy:** Contains system-wide policy settings for a RecoverPoint system. `allowLargeLag`<boolean> `numberOfCommunicationStreams`<int>: Number of communication streams. `advancedActionRegulationEnabled`<boolean> `shouldCollectLongTermStatistics`<boolean>

settings/global_policy/actions/set_global_policy

Description	
Method	POST
Parameters	SystemGlobalPolicy<policy>
Return values	

Group Settings

settings/groups/all

Description	Returns the current settings for all groups in the RecoverPoint system.
Method	GET
Parameters	
Return values	**Set of** `<ConsistencyGroupSettings>` **siteUID**`<ConsistencyGroupSetUID>`: Contains the RecoverPoint group set UID. **name**`<string>`: Consistency group set name. **groupsUIDs** (Set of `<ConsistencyGroupUID>`): Contains the RecoverPoint consistency group UID. **bookmarkFrequency**`<long>`: Indicates how often the consistency group set is bookmarked.

settings/groups/all_uids

Description	Returns a list of the groups in the RecoverPoint system.
Method	GET
Parameters	
Return values	**Set of** `<ConsistencyGroupUID>`: Contains the RecoverPoint consistency group UID: **id**`<integer>`: Integer value that identifies the consistency group.

settings/groups/actions/add_group

Description	Adds the specified consistency group to the system and associates it with the given policy.
Method	POST
Parameters	**AddConsistencyGroupParams:** **groupName**`<string>`: Consistency group name **policy**`<ConsistencyGroupPolicy>`: Specifies the consistency group policy. See ConsistencyGroupPolicy on page 106.
Return values	

settings/groups/actions/add_default_group

Description	Adds the specified consistency group to the system and associates it with a preferred primary RPA.
Method	POST

Parameters	**AddConsistencyGroupWithDefaultPolicyParams:**
	    groupName`<string>`
	    primaryRPA`<RpaUID>`

Return values	

settings/groups/actions/create_bookmark

Description	Creates a snapshot of a specific point-in-time at the active site for the specified groups, simultaneously with the specified consolidation policy.
Method	POST

Parameters	**CreateBookmarkParams:**
	    groups (Set of `<ConsistencyGroupUID>`)
	    bookmarkName`<string>`
	    consolidationPolicy`<BookmarkConsolidationPolicy>`
	    consistencyType`<SnapshotConsistencyType>`

Return values	

settings/groups/<groupID>/name

Description	Returns the name of the specified consistency group.
Method	GET
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	
Return values	String

settings/groups/<groupID>/snapshots

Description	Returns information about all the snapshots of the specified consistency group.
Method	GET
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.

Return values	**ConsistencyGroupSnapshots:** Identifies the snapshots associated with a consistency group.
	
	    groupUID`<ConsistencyGroupUID>`: Contains the RecoverPoint consistency group UID.
	        See ConsistencyGroupSettings on page 106.
	    copiesSnapshots (Set of `<ConsistencyGroupCopySnapshots>`):
	        copyUID`<ConsistencyGroupCopyUID>`: Contains the consistency group UID, site UID, and the group copy ID.
	            See "ConsistencyGroupCopyUID" on page 19.
	        Snapshots (LinkedList`<Snapshot>`): List of snapshots.
	        earliest`<RecoverPointTimeStamp>`:
	        timeInMicros`<long>`
	        latest`<RecoverPointTimeStamp>`:
	            timeInMicros`<long>`
	        averageCompression`<Double>`: Level of compression applied to the journal at the copy.
	        protectionWindows`<ProtectionWindowsInfo>`: The required protection window, that is, how far in time the replica image can be rolled back.
	        actualJournalCapacity`<Double>`: The maximum size in GB for the journal on each side of a consistency group.
	        journalUsage`<Long>`

settings/groups/<groupID>/full

Description	Returns the current settings of the specified group.
Method	GET
URL Parameters	**groupID** (integer). Integer that uniquely identifies the consistency group.
Return values	**ConsistencyGroupSettings:** Contains the settings of a specific consistency group including group copies settings, replication sets settings, links settings, and policies settings. See ConsistencyGroupSettings on page 27.

settings/groups/<groupID>/policy

Description	Returns the full policy settings of the specified consistency group.
Method	GET
URL Parameters	**groupID**`<ConsistencyGroupUID>`: Integer that uniquely identifies the consistency group.
Return values	**FullConsistencyGroupPolicy:** See ConsistencyGroupPolicy on page 105.

settings/groups/<groupID>/snapshots_for_time_and_name

Description	Returns information about all the snapshots of the specified consistency group according to the specified time frame and bookmark name.
Method	GET
URL Parameters	**groupID** (integer). Integer that uniquely identifies the consistency group.
Query Parameters	**startTime**`<long>`: Start time **endTime**`<long>`: End time **name**`<string>`: Snapshot name
Return values	Void

settings/groups/<groupID>/actions/add_copy

Description	Adds a new copy to the specified group and cluster.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.

Parameters	**copySettingsParam** (ConsistencyGroupCopySettingsParam).
	groupCopy`<ConsistencyGroupCopyUID>`: Contains the consistency group UID, site UID, and the group copy ID.
	        See "ConsistencyGroupCopyUID" on 19.
	copyName`<string>`: Copy name
	isProductionCopy`<boolean>`: Indicates whether this is a production copy.
	policy`<ConsistencyGroupCopyPolicy>`: Settings for the consistency group copy policy.
	        See ConsistencyGroupSettings on page 106.

Return values	

settings/groups/<groupID>/actions/add_group_and_copies

Description	Adds the specified consistency group and associates it with the given policy.
Method	POST
Parameters	**fullGroupPolicy**<FullConsistencyGroupPolicy>: Refer to Object Unique Identifiers on page 105.
Return values	

settings/groups/<groupID>/actions/add_link

Description	
Method	POST
URL Parameters	**groupID**<ConsistencyGroupUID>: Integer that uniquely identifies the consistency group.

Parameters	**AddConsistencyGroupLinkParams:**
	     firstCopy<GlobalCopyUID>
	     secondCopy<GlobalCopyUID>
	     policy<ConsistencyGroupLinkPolicy>

Return values	

settings/groups/<groupID>/actions/disable

Description	Disables RecoverPoint activity of the specified consistency group.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Return values	

settings/groups/<groupID>/actions/mark_volumes_as_clean

Description	Clears markers from the journal volume for all copies of the specified consistency group.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	
Return values	

settings/groups/<groupID>/actions/mark_volumes_as_dirty

Description	Creates markers in the journal volume, for the specified replication sets in all the copies of the specified consistency group.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	**MarkGroupVolumesAsDirtyParams:** **replicationSets** (Set of `<ReplicationSetUID>`): Contains the parent group UID and RecoverPoint replication set UID.
Return values	

settings/groups/<groupID>/actions/rename

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	**newName**`<string>`
Return values	

settings/groups/<groupID>/actions/set_settings

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	**ConsistencyGroupSettings: ChangesParam**`<settingsParam>`
Return values	

settings/groups/<groupID>/actions/set_policy

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	`ConsistencyGroupPolicy<newPolicy>`
Return values	

settings/groups/<groupID>/actions/set_full_policy

Description	
Method	POST
URL Parameters	`groupID<ConsistencyGroupUID>`: Integer that uniquely identifies the consistency group.
Parameters	`FullConsistencyGroupPolicy<newPolicy>` Refer to Object Unique Identifiers on page 105.
Return values	

settings/groups/<groupID>/actions/set_link_policy

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.

Parameters	**SetConsistencyGroupLinkPolicyParams:**
	    `firstCopy<GlobalCopyUID>`
	    `secondCopy<GlobalCopyUID>`
	    `policy<ConsistencyGroupLinkPolicy>`

Return values	

settings/groups/<groupID>/actions/enable

Description	Enables RecoverPoint activity for the specified consistency group.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Query Parameter	`startTransfer<boolean>`
Return values	

settings/groups/<groupID>/actions/start_transfer

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	
Return values	

settings/groups/<groupID>/actions/pause_transfer

Description	Pauses data transfer of the specified group.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	
Return values	

settings/groups/<groupID>/actions/resume

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	
Return values	

settings/groups/<groupID>/actions/resume_production

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Query Parameter	**startTransfer**`<boolean>`
Return values	

settings/groups/<groupID>/actions/delete

Description	Removes the specified consistency group from the system.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	
Return values	

settings/groups/<groupID>/actions/remove_passive_link

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.

Parameters	**RemovePassiveConsistencyGroupLinkParams:**
	    firstCopy`<GlobalCopyUID>`
	    secondCopy`<GlobalCopyUID>`

Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/add_journal_volume

Description	Adds the specified volume as a journal in the specified group copy
Method	POST
URL Parameters	**groupID**<ConsistencyGroupUID>: Integer that uniquely identifies the consistency group. **clusterID**<integer>: Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID**<integer>
Parameters	**volumeID**<DeviceID>
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/add_user_volume

Description	Adds a new volume to the specified replication set.
Method	POST
URL Parameters	**groupID**<ConsistencyGroupUID>: Integer that uniquely identifies the consistency group. **clusterID**<integer> **copyID**<integer>

Parameters	**AddUserVolumeParams:**
	    volumeID<DeviceUID>
	    replicationSet<ReplicationSetUID>: Contains the parent group UID and RecoverPoint replication set UID.

Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ consolidate_snapshot

Description	Consolidates the RecoverPoint snapshots of the specified group copy, between the specified snapshots.
Method	POST
URL Parameters	`groupID`<ConsistencyGroupUID>: Integer that uniquely identifies the consistency group. `clusterID`<integer> `copyID`<integer>

Parameters	**ConsolidateSnapshotsParams:**
	    `start`<Snapshot>
	    `end`<Snapshot>

Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ disable_image_access

Description	Disables access to the replica image for which access is currently enabled in the specified group copy.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer) **copyID** (integer)
Query Parameters	`startTransfer`<boolean>
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ enable_direct_access

Description	Enables direct access to the image the specified group copy is currently accessing.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer) **copyID** (integer)
Parameters	None
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ enable_image_access

Description	Enables access to the specified image of the specified copy.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer) **copyID** (integer)

Parameters	**EnableImageAccessParams:**
	     snapshot<Snapshot>
	     mode<ImageAccessMode>
	     scenarion<ImageAccessScenario>

Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ enable_image_access_with_params

Description	Enables access to the specified image of the specified copy.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer) **copyID** (integer)

Parameters	**EnableImageAccessWithParams:**
	    params<ImageAccessParameters>
	    scenario<ImageAccessScenario>

Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ failover

Description	Defines the specified copy as the new data source of the specified consistency group.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)
Query Parameter	**startTransfer**<boolean>
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/name
getGroupCopyName

Description	Returns the name of the specified consistency group copy.
Method	GET
URL Parameters	**groupID** (integer). Integer that uniquely identifies the consistency group. **clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)
Parameters	None
Return values	**String**

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/snapshots

Description	Returns information about all snapshots for the specified group copy.
Method	GET
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)
Parameters	None

Return values	**ConsistencyGroupCopySnapshots**: Provides information about the snapshots associated with a consistency group copy.
	
	    copyUID<ConsistencyGroupCopyUID>: Contains the consistency group UID, site UID, and the group copy ID.
	        See "ConsistencyGroupCopyUID" on page 19.
	    Snapshots (LinkedList<Snapshot>): List of snapshots.
	    earliest<RecoverPointTimeStamp>:
	        timeInMicros<long>
	    latest<RecoverPointTimeStamp>:
	        timeInMicros<long>
	    averageCompression<Double>: Level of compression applied to the journal at the copy.
	    protectionWindows<ProtectionWindowsInfo>: The required protection window, that is, how far in time the replica image can be rolled back.
	    actualJournalCapacity<Double>: The maximum size in GB for the journal on each side of a consistency group.
	    journalUsage<Long>

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/snapshots_for_time_and_name

Description	Returns information about all the snapshots of the specified group copy according to the specified time frame and bookmark name.
Method	GET
URL Parameters	**groupID**`<integer>`: Integer that uniquely identifies the consistency group. **clusterID**`<integer>`: Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID**`<integer>`
Query Parameters	**startTime**`<long>`: Start time **endTime**`<long>`: End time **name**`<string>`: Snapshot name

Return values	**ConsistencyGroupCopySnapshots:** Provides information about the snapshots associated with a consistency group copy.
	
	    copyUID`<ConsistencyGroupCopyUID>`: Contains the consistency group UID, site UID, and the group copy ID.
	        See "ConsistencyGroupCopyUID" on page 19.
	    Snapshots (LinkedList`<Snapshot>`): List of snapshots.
	    earliest`<RecoverPointTimeStamp>`:
	        timeInMicros`<long>`
	    latest`<RecoverPointTimeStamp>`:
	        timeInMicros`<long>`
	    averageCompression`<Double>`: Level of compression applied to the journal at the copy.
	    protectionWindows`<ProtectionWindowsInfo>`: The required protection window, that is, how far in time the replica image can be rolled back.
	    actualJournalCapacity`<Double>`: The maximum size in GB for the journal on each side of a consistency group.
	    journalUsage`<Long>`

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/mark_v olumes_as_clean

Description	Clears markers from the journal volume, for the specified consistency group copy.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)
Parameters	
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ mark_volumes_as_dirty

Description	Creates markers in the journal volume for the specified replication sets in the specified copy.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)
Parameters	**MarkGroupCopyVolumesAsDirtyParams:** `replicationSets` (Set of `<ReplicationSetUID>`): Contains the parent group UID and RecoverPoint replication set UID.
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ disable

Description	Disables RecoverPoint activity of the specified consistency group copy.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer) **copyID** (integer)
Parameters	
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ enable

Description	Enables RecoverPoint activity for the specified consistency group copy.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer) **copyID** (integer)
Query Parameters	`startTransfer`<boolean>
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ delete

Description	Removes the specified consistency group copy from the system.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)
Parameters	
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ rename

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)
Query Parameter	**newName**<string>
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ set_policy

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	**newPolicy**< ConsistencyGroupCopyPolicy>
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ start_transfer

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)
Parameters	
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ pause_transfer

Description	Pauses data transfer to the specified copy.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)
Parameters	
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ undo_writes

Description	
Method	POST
URL Parameters	`groupID`<ConsistencyGroupUID>: Integer that uniquely identifies the consistency group. `id`<int>: Integer value that identifies the consistency group. `clusterID`<integer>: Cluster index, which uniquely identifies the RecoverPoint cluster. `copyID`<integer>
Parameters	
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ force_long_initialization

Description	Forces long initialization for the specified copy.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)
Parameters	
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ roll_to_image

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
	clusterID (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
	copyID (integer)
Parameters	
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ set_production_copy

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
	clusterID (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
	copyID (integer)
Query Parameter	`startTransfer`<boolean>
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ move_to_image

Description	Moves the specified consistency group copy from the current accessed image to the specified image.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)

Parameters	**MoveToImageParams:**
	     accessType`<SpecificImageAccessType>`: Indicates the method used to select a specific image.
	     imageType`<SearchImageType>`
	     scenario`<ImageAccessScenario>`

Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ recover_production

Description	Restores the production copy data from the accessed image in the specified copy, without deleting the copy's journal.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)
Parameters	**startTransfer**`<boolean>`: Indicates whether or not data transfer should start when the consistency group is enabled.
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ remove_journal_volume

Description	Returns the volume information for the specified journal volume.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
	clusterID (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
	copyID (integer)
Parameters	`volumeID<DeviceUID>`: Signed numeric value that identifies the regular volume GUID. Value will be between $-(2^{63})$ and $(2^{63})-1$.
Return values	

settings/groups/<groupID>/copies/<ClusterID>/<copyID>/actions/ remove_user_volume

Description	Removes the specified replication volume from the system settings.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
	clusterID (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
	copyID (integer)
Parameters	**RemoveUserVolumeParams:**
	`volumeID`<DeviceUID>
	`replicationSet`<ReplicationSetUID>: Contains the parent group UID and RecoverPoint replication set UID.
Return values	

settings/groups/<groupID>/replication_sets/actions/add_replication _set

Description	Adds a new replication set with the specified settings.
Method	POST
URL Parameters	**groupID**`<ConsistencyGroupUID>`: Integer that uniquely identifies the consistency group.
Query Parameters	**replicationSetName**`<string>`
Return values	

settings/groups/<groupID>/replication_sets/<replicationSetID>/na me

Description	Returns the name of the given replication set.
Method	GET
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **replicationSetID** (integer)
Parameters	
Return values	String.

settings/groups/<groupID>/replication_sets/<replicationSetID>/act ions/delete

Description	Removes the specified replication set.
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **replicationSetID** (integer)
Parameters	
Return values	

settings/groups/<groupID>/replication_sets/<replicationSetID>/actions/rename

Description	
Method	POST
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group. **replicationSetID** (integer)
Query Parameter	**newName**<string>
Return values	

Group Sets Settings

settings/group_sets/all

Description	Returns the group sets defined in the RecoverPoint system.
Method	GET
Parameters	
Return values	**Set of** <ConsistencyGroupSetSettings>: Contains the state of a specific consistency group, including group copies state and links state.

settings/group_sets/actions/add_group_set

Description	Defines the set of groups for which to simultaneously create a snapshot of a specific point-in-time, according to the specified settings.
Method	POST
Parameters	**groupSetSettings** (ConsistencyGroupSetSettings)
Return values	

settings/group_sets/<groupSetID>/name

Description	Returns the name of the specified consistency group set.
Method	GET
URL Parameters	**groupSetID** (integer). Integer that uniquely identifies the consistency group set.
Parameters	
Return values	String.

settings/group_sets/<groupSetID>/actions/delete

Description	Removes the specified group set from the system.
Method	POST
URL Parameters	**groupSetID** (integer). Integer that uniquely identifies the replication set.
Parameters	
Return values	

settings/group_sets/<groupSetID>/actions/set_bookmark_frequency

Description	
Method	POST
URL Parameters	**groupSetID**<integer>: Integer that uniquely identifies a group set.
Query Parameter	**frequencyInMicroSeconds**<long>
Return values	

settings/group_sets/<groupSetID>/actions/set_settings

Description	
Method	POST
URL Parameters	**groupSetID** (integer). Integer that uniquely identifies a group set.
Parameters	ConsistencyGroupSetSettings groupSetSettings
Return values	

Management Settings

Description	Contains comprehensive settings for a RecoverPoint system.

Properties	**usersSettings**`<UsersSettings>`: Contains user settings, including roles and LDAP settings.
	
	    usersRoles (Set of `<UserRole>`): List of user roles associated with the users.
	
	        roleName`<string>`: Name of the user role.
	
	        permissions (Set of `<permission>`): List of permissions associated with that role.
	
	    users (Set of `<RecoverPointUser>`): List of users.
	
	    userType`<RecoverPointUserType>`
	        name`<String>`
	        password`<byte>`
	        roleName`<String>`
	        groups (Set of `<ConsistencyGroupUID>`)
	        logsFilter`<UserEventLogsFilter>`
	
	            timeframe`<TimeFrame>`: Defines a start and end time
	
	                startTime`<RecoverPointTimeStamp>`: Start time
	
	                endTime`<RecoverPointTimeStamp>`: End time
	
	             topics (Set of `<EventLogTopic>`): Events included in the display. Possible values are **management**, **site**, **RPA**, **consistency group**, and **splitter**.
	
	            TextFilter`<TextFilter>`: Words in the description text that filter displayed events.
	
	    ldapSettings`<LDAPSettings>`: Contains the LDAP settings.
	
	        enabled`<boolean>`: Whether or not activation of RecoverPoint authentication and authorization using an LDAP server is enabled.
	        protocol`<LDAPProtocol>`
	        primaryServer`<LDAPServer>`
	        secondaryServer`<LDAPServer>`
	
	        baseDistinguishedName`<string>`: Root of the LDAP directory tree.
	
	        distinguishedNameSearch`<string>`: Root of the LDAP user search tree.
	        binding`<LDAPBinding>`
	        advancedSettings`<LDAPAdvancedSettings>`
	
	alertsSettings`<SystemAlertsSettings>`: Contains the system alert settings.
	    enabled`<boolean>`
	    emailFilters (Set of `<EmailFilterData>`)
	    smtpServerAddress`<string>`
	    senderEmailAddress`<string>`
	    sendDailyInfoToEMCSupport`<boolean>`
	
	reportSettings`<SystemReportSettings>`: Contains the system report settings.
	    includeSystemReports`<boolean>`

       includeSystemAlerts`<boolean>`

       usingCompression`<boolean>`

       usingEncryption`<boolean>`

       transferMethod`<SystemReportTransferMethod>`

       smtpServerAddress`<string>`

       esrsGatewayAddress`<string>`

snmpSettings`<SNMPSettings>`: Contains the SNMP settings.

       agentEnabled`<boolean>`

       shouldSendEventTraps`<boolean>`

       sendEventFilters (Set of `<SystemEventLogsFilterUID>`): Indicates the severity of a logged event.

       traps (Set of `<SNMPTrapDestination>`)

       snmpCommunity`<string>`

       users (Set of `<SNMPUser>`)

       secureTransportsOnly`<boolean>`

miscSettings`<SystemMiscellaneousSettings>`: Contains system settings, including whether to use automatic splitter information collection, the security level, and RPA multipath monitoring.

       useAutomaticSplitterInfoCollection`<boolean>`

       securityLevel`<SystemSecurityLevel>`

       rpasMultipathMonitoring (Set of `<SiteRPAMultipathMonitoring>`)

syslogSettings`<SyslogSettings>`: Contains the syslog settings.

       enabled`<boolean>`

       facility`<SyslogFacility>`

       sendEventFilters (Set of `<SystemEventLogsFilterUID>`): Indicates the severity of a logged event.

       sitesHosts (Set of `<SiteSyslogHost>`)

showFirstTimeWizard`<boolean>`: Indicates whether the First Time Wizard should be displayed the next time that a user logs on to RecoverPoint.

callHomeEventSettings`<CallHomeEvents>`: Contains the call home event settings.

       callHomeEvents (Set of `<CallHomeEvent>`)

           id`<CallHomeEventUID>`:

               id`<long>`: Call home event

           name`<string>`: Name of the call home event.

           description`<string>`: Description of the call home event.

           systemDefined`<Boolean>`: Whether or not the call home event is system-defined.

           disabledUntil`<RecoverPointTimeStamp>`

               timeInMicros`<long>`

           script`<string>`: Logic contained in the event script.

systemEventLogsFilters (Set of `<SystemEventLogFilter>`)

timeSettings`<TimeSettings>`

       useSitesTimeZones`<boolean>`: Whether or not to use the site time zones.

vCenterServersViewSettings`<VCenterServersViewSettings>`	
VCenterServersFiltersEnabled`<Boolean>`: Whether or not vCenter Server filters are enabled. **userDefinedProperties**`<UserDefinedProperties>`	

settings/management/full

Description	Returns the management settings for the system
Method	GET
Parameters	None
Return values	**ManagementSettings:** Contains comprehensive settings for a RecoverPoint system. See ManagementSettings on page 127.

settings/management/system_misc/actions/set_system_misc_settings

Description	
Method	POST
Parameters	SystemMiscellaneousSettings settings
Return values	

settings/management/system_alerts/full

Description	Returns the current system alerts settings.
Method	GET
Parameters	None
Return values	**SystemAlertsSettings:** Contains the system alert settings. See "SystemAlertsSettings" on page 113.

settings/management/system_alerts/actions/enable

Description	Enables the system alerts mechanism.
Method	POST
Parameters	
Return values	

settings/management/system_alerts/actions/set_system_alerts_settings

Description	
Method	POST
Parameters	**SystemAlertsSettings**<settings>
Return values	

settings/management/call_home/full

Description	Gets the configured call home events.
Method	GET
Parameters	None

Return values	**CallHomeEvents** (Set of <CallHomeEvent>):
	      Id<CallHomeEventUID>:
	           id<long>: Call home event
	      Name<String>: Name of the call home event
	      Description<String>: Description of the call home event

settings/management/call_home/actions/set_events

Description	
Method	POST
Parameters	CallHomeEvents callHomeEvents
Return values	

settings/management/event_logs_filters/all

Description	Returns all the logs filters in the system.
Method	GET
Parameters	
Return values	**Set of** \<SystemEventLogsFilter>: System event logs filters.

settings/management/event_logs_filters/actions/set_event_logs_filters

Description	
Method	POST
Parameters	**filters** (Set of \<SystemEventLogsFilter>)
Return values	

settings/management/event_logs_filters/actions/add_event_logs_filters

Description	Adds a log filter to the system.
Method	POST
Parameters	**Filter**\<SystemEventLogsFilter>
Return values	

settings/management/event_logs_filters/\<filterID>/actions/rename

Description	
Method	POST
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **copyID** (integer)
Query Parameter	**newName**\<string>
Return values	

settings/management/users/full

Description	Returns the users settings.
Method	GET
Parameters	None

Return values	**usersSettings**<UsersSettings>: Contains user settings, including roles and LDAP settings.
	
	    usersRoles (Set of <UserRole>): List of user roles associated with the users.
	
	        roleName<string>: Name of the user role.
	
	        permissions (Set of <permission>): List of permissions associated with that role.
	
	    users (Set of <RecoverPointUser>): List of users.
	
	    userType<RecoverPointUserType>
	    name<String>
	    password<byte>
	    roleName<String>
	    groups (Set of <ConsistencyGroupUID>)
	    logsFilter<UserEventLogsFilter>
	
	        timeframe<TimeFrame>: Defines a start and end time
	
	            startTime<RecoverPointTimeStamp>: Start time
	
	            endTime<RecoverPointTimeStamp>: End time
	
	        topics (Set of <EventLogTopic>): Events included in the display. Possible values are **management**, **site**, **RPA**, **consistency group**, and **splitter**.
	
	        TextFilter<TextFilter>: Words in the description text that filter displayed events.

settings/management/users/actions/set_users_settings

Description	
Method	POST
Parameters	**settings**<UsersSettings>

Return values	**usersSettings**<UsersSettings>: Contains user settings, including roles and LDAP settings.
	
	    usersRoles (Set of <UserRole>): List of user roles associated with the users.
	
	        roleName<string>: Name of the user role.
	
	        permissions (Set of <permission>): List of permissions associated with that role.
	
	    users (Set of <RecoverPointUser>): List of users.
	
	    userType<RecoverPointUserType>
	
	    name<String>
	
	    password<byte>
	
	    roleName<String>
	
	    groups (Set of <ConsistencyGroupUID>)
	
	    logsFilter<UserEventLogsFilter>
	
	        timeframe<TimeFrame>: Defines a start and end time
	
	            startTime<RecoverPointTimeStamp>: Start time
	
	            endTime<RecoverPointTimeStamp>: End time
	
	        topics (Set of <EventLogTopic>): Events included in the display. Possible values are **management**, **site**, **RPA**, **consistency group**, and **splitter**.
	
	        TextFilter<TextFilter>: Words in the description text that filter displayed events.

settings/management/users/rp_users/all

Description	Returns the list of all management users and their permissions, as defined in the system.
Method	GET
Parameters	None

Return values	**Set of** `<RecoverPointUser>`:
	
	    userType`<RecoverPointUserType>`
	    name`<String>`
	    password`<byte>`
	    roleName`<String>`
	    groups (Set of `<ConsistencyGroupUID>`)
	    logsFilter`<UserEventLogsFilter>`
	
	        timeframe`<TimeFrame>`: Defines a start and end time
	
	            startTime`<RecoverPointTimeStamp>`: Start time
	
	            endTime`<RecoverPointTimeStamp>`: End time
	
	        topics (Set of `<EventLogTopic>`): Events included in the display. Possible values are **management**, **site**, **RPA**, **consistency group**, and **splitter**.
	
	        TextFilter`<TextFilter>`: Words in the description text that filter displayed events.

settings/management/users/rp_users/actions/add_rp_user

Description	Defines a new management user in the system, and sets the permissions and password for that user.
Method	POST
Parameters	**user**`<RecoverPointUser>`
Return values	

settings/management/users/ldap/full

Description	Returns the LDAP settings.
Method	GET
Parameters	None

Return values	**LDAPSettings:** Contains the LDAP settings.
	
	    enabled`<boolean>`: Whether or not activation of RecoverPoint authentication and authorization using an LDAP server is enabled.
	    protocol`<LDAPProtocol>`
	    primaryServer`<LDAPServer>`
	    secondaryServer`<LDAPServer>`
	    baseDistinguishedName`<string>`: Root of the LDAP directory tree.
	    distinguishedNameSearch`<string>`: Root of the LDAP user search tree.
	    binding`<LDAPBinding>`
	    advancedSettings`<LDAPAdvancedSettings>`

settings/management/users/ldap/server_info

Description	Returns the information from the configured LDAP server (users and groups names).
Method	GET
Parameters	None
Return values	**LDAPServerInfo:** Contains the LDAP server information. See LicenseInfo on page 111.

settings/management/users/ldap/actions/set_settings

Description	
Method	POST
Parameters	**LDAPSettings**`<settings>`
Return values	

settings/management/users/ldap/actions/clear

Description	Clears the current LDAP settings.
Method	POST
Parameters	
Return values	

settings/management/users/ldap/actions/enable

Description	Enables LDAP authentication.
Method	POST
Parameters	
Return values	

settings/management/users/ldap/actions/disable

Description	Disables LDAP authentication.
Method	POST
Parameters	Done
Return values	Void

settings/management/users/roles/all

Description	Returns the list of all management roles and their permissions, as defined in the system.
Method	GET
Parameters	None
Return values	**Set of** `<UserRole>`: Contains settings for a specific user role, including the permissions associated with that role. **roleName**`<string>`: Name of the user role. **permissions** (Set of `<permission>`): List of permissions associated with that role.

settings/management/users/roles/actions/add_user_role

Description	Defines a new management role in the system, and sets the permissions for that role.
Method	POST
Parameters	**role**\<UserRole\>
Return values	

settings/management/users/roles/\<roleName\>/actions/edit

Description	
Method	POST
URL Parameters	**roleName** ().
Parameters	**newRole**\<UserRole\>
Return values	

settings/management/users/roles/\<roleName\>/actions/delete

Description	Removes a management role from the system.
Method	POST
URL Parameters	**roleName** (integer)
Parameters	
Return values	

settings/management/users/rp_users/\<userName\>/actions/delete

Description	Removes a management user from the system.
Method	POST
URL Parameters	**userName** (integer)
Parameters	
Return values	

settings/management/snmp/full

Description	Returns the performance statistics of the specified RecoverPoint cluster.
Method	GET
Parameters	None
Return values	**SNMPSettings:** Contains the SNMP settings. 　　`agentEnabled`<boolean> 　　`shouldSendEventTraps`<boolean> 　　`sendEventFilters` (Set of <SystemEventLogsFilterUID>): Indicates the severity of a logged event. 　　`traps` (Set of <SNMPTrapDestination>) 　　`snmpCommunity`<string> 　　`users` (Set of <SNMPUser>) 　　`secureTransportsOnly`<boolean>

settings/management/snmp/actions/add_snmp_user

Description	Authorizes the specified user to perform SNMPv3 "get" requests.
Method	POST
Parameters	`User`<SNMPUser>
Return values	

settings/management/snmp/actions/enable

Description	Enables the SNMP agent.
Method	POST
Parameters	
Return values	

settings/management/snmp/actions/disable

Description	Disables the SNMP agent.
Method	POST
Parameters	None
Return values	Void

settings/management/snmp/actions/set_snmp_settings

Description	
Method	POST
Parameters	**SNMPSettings**`<settings>`
Return values	

settings/management/snmp/users/<userName>/actions/delete

Description	Removes an SNMPv3 user.
Method	POST
URL Parameters	**userName** (integer)
Parameters	None
Return values	

settings/management/syslog/full

Description	Returns the syslog settings. Returns the current state of the specified splitter.
Method	GET
Parameters	None
Return values	**SyslogSettings:**

SyslogSettings:

splitterUID`<SplitterUID>`: Contains the relevant site UID, the RecoverPoint splitter UID (host UID), and the splitter type.
See SplitterUID on page 20.

splitterStatus`<SplitterStatus>`: Splitter status.

numberOfAttachedRPAClusters`<int>`: Number of RPA clusters attached to this splitter.

rpasConnectivityStatus (Set of `<RPAConnectivityStatus>`): RPA connectivity status.

volumesAccessState (Set of `<AttachedUserVolumeAccessState>`): Access state of attached user volume.

osAndVersionInfo (Set of `<SplitterOSAndVersionInfo>`)

rpasPaths (Set of `<SplitterRPAPath>`): Splitter path to RPA.

settings/management/syslog/actions/enable

Description	Enables the syslog mechanism.
Method	POST
Parameters	
Return values	

settings/management/syslog/actions/disable

Description	Disables the syslog mechanism.
Method	POST
Parameters	None
Return values	Void

settings/management/syslog/actions/set_syslog_settings

Description	
Method	POST
Parameters	SyslogSettings settings
Return values	

settings/management/system_alerts/actions/disable

Description	Disables the system alerts mechanism.
Method	POST
Parameters	
Return values	

settings/management/system_misc/full

Description	Returns the system miscellaneous settings.
Method	GET
Parameters	None
Return values	**settings**<SystemMiscellaneousSettings>: Contains system settings, including whether to use automatic splitter information collection, the security level, and RPA multipath monitoring. See SystemMiscellaneousSettings on page 131.

settings/management/system_report/full

Description	Returns the system report mechanism settings.
Method	GET
Parameters	None
Return values	**SystemReportSettings:** Contains the system report settings. See SystemReportSettings on page 140.

settings/management/system_report/actions/enable

Description	Enables the system report mechanism.
Method	POST
Parameters	
Return values	

settings/management/system_report/actions/disable

Description	Disables the system report mechanism.
Method	POST
Parameters	
Return values	

settings/management/system_report/actions/set_system_report_settings

Description	
Method	POST
Parameters	SystemReportSettings settings
Return values	

settings/management/user_properties/full

Description	Returns the user-defined properties.
Method	GET
Parameters	None
Return values	**UserDefinedProperties** **properties** (Set of `<Property>`)

settings/management/user_properties/actions/set_properties

Description	
Method	POST
Parameters	UserDefinedProperties userDefinedProperties
Return values	

settings/management/time/full

Description	Returns the time settings of the system.
Method	GET
Parameters	
Return values	**TimeSettings** **useSitesTimeZones**`<boolean>`: Whether or not to use the site time zones.

settings/management/time/actions/set_settings

Description	
Method	POST
Parameters	TimeSettings settings
Return values	

settings/management/vcenter_servers/full

Description	Returns the view settings for vCenter Servers in the system.
Method	GET
Parameters	None
Return values	**VCenterServersViewSettings** **VCenterServersFiltersEnabled**<boolean>: Whether or not vCenter Server filters are enabled.

settings/management/vcenter_servers/actions/set_vcenter_settings

Description	
Method	POST
Parameters	VCenterServersViewSettings settings
Return values	

Splitter Settings

settings/splitters/all

Description	Returns the settings for all splitters, in all RecoverPoint clusters.
Method	GET
Parameters	None

Return values	**Set of** <SiteSplittersSettings>
	
	    ClusterID<ClusterID>: Contains the site index.
	
	        id<int>: Site index.
	
	    splitterSettings (Set of <SplitterSettings>): Splitter settings.

settings/splitters/available

Description	Returns the splitters available to be added in all sites.
Method	GET
Parameters	None

Return values	**Set of** `<SiteAvailableSplitters>`:
	
	  ClusterID`<ClusterID>`:
	
	    id`<int>`: Site index
	
	  availableSplitters (`Set of <SplitterInfo>`): List of available spiltters at this site.

settings/splitters/<ClusterID>/available

Description	Returns the splitters available to be added at the specified site.
Method	GET
URL Parameters	**clusterID** (integer): Cluster index, which uniquely identifies the RecoverPoint cluster.
Parameters	**site**`<ClusterID>`: Contains the site index. **id**`<int>`: Site index

Return values	**SiteAvailableSplitters**
	
	  ClusterID`<ClusterID>`: Contains the site index
	
	    id`<int>`: Site index
	
	  availableSplitters (Set of`<SplitterInfo>`): List of available spiltters at this site

settings/splitters/<ClusterID>/full

Description	Returns the settings for all splitters at the specified RecoverPoint cluster.
Method	GET
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
Parameters	None

Return values	**SiteSplittersSettings**
	
	  ClusterID`<ClusterID>`: Contains the site index.
	
	    id`<int>`: Site index.
	
	  splitterSettings (Set of `<SplitterSettings>`): Splitter settings.

settings/splitters/<ClusterID>/<splitterID>/name

Description	Returns the name of the specified splitter.
Method	GET
URL Parameters	**splitterID**<splitterUID>: Contains cluster ID, splitter ID, and splitter Type.
Parameters	None
Return values	**<string>**

settings/splitters/<ClusterID>/<splitterID>/available_volumes

Description	Returns all the volumes that are available to be attached to the specified splitter.
Method	GET
URL Parameters	**splitterID** (splitterUID). Contains cluster ID, splitter ID, and splitter Type.
Query Parameter	**filterUnseenVolumes**<boolean>: Whether or not to filter unseen volumes
Return values	**Set of** <DeviceUID>: Contains the device UID **id**<long>: Signed numeric value that identifies the regular volume GUID. Value will be between -(2^63) and (2^63) -1

settings/splitters/<ClusterID>/<splitterID>/actions/set_attached_volumes

Description	
Method	POST
URL Parameters	**splitterID** (splitterUID). Contains cluster ID, splitter ID, and splitter Type.
Parameters	**SetAttachedVolumesForSplitterParams:** **volumes** (java.util.HashSet<SetVolumeParam>)
Return values	

settings/splitters/<ClusterID>/<splitterID>/actions/set_credentials

Description	
Method	POST
URL Parameters	**splitterID** (splitterUID). Contains cluster ID, splitter ID, and splitter Type.

Parameters	**SetSplitterCredentialsParams:**
	    credentials`<BaseSplitterCredentials>`
	    password`<ArrayOfBytes>`

Return values	

settings/splitters/<ClusterID>/<splitterID>/actions/delete

Description	Removes the specified splitter from the RecoverPoint system.
Method	POST
URL Parameters	**splitterID** (splitterUID). Contains cluster ID, splitter ID, and splitter Type.
Parameters	
Return values	

settings/splitters/<ClusterID>/<splitterID>/full

Description	Returns the settings for the specified splitter.
Method	GET
URL Parameters	**splitterID**`<splitterUID>`: Contains cluster ID, splitter ID, and splitter Type.
Parameters	None

Return values	**SplitterSettings:**
	    splitterUID`<SplitterUID>`: Contains the relevant site UID, the RecoverPoint splitter UID (host UID), and the splitter type.
	        See SplitterUID on page 20.
	    splitterName`<String>`: Splitter name.
	    attachedUserVolumes (Set of `<AttachedUserVolumeInfo>`): User volumes attached to the splitter.

settings/splitters/<ClusterID>/actions/add_splitter

Description	Adds a new splitter with the specified information.
Method	POST
URL Parameters	**clusterID**<integer>: Integer that uniquely identifies the RecoverPoint cluster.
Parameters	**splitterInfo**<SplitterInfo>
Return values	

settings/splitters/<ClusterID>/<splitterID>/actions/attach_volume

Description	Attaches the specified volume to the specified splitter.
Method	POST
URL Parameters	**splitterID**<splitterUID>: Contains cluster ID, splitter ID, and splitter Type.
Parameters	**volumeParam**<SetVolumeParam>
Return values	

settings/splitters/<ClusterID>/<splitterID>/actions/clear_credentials

Description	Deletes the login credentials for the specified splitter.
Method	POST
URL Parameters	**splitterID** (splitterUID). Contains cluster ID, splitter ID, and splitter Type.
Parameters	
Return values	

settings/splitters/<ClusterID>/<splitterID>/actions/detach_volume

Description	Detaches the specified volume from the specified splitter.
Method	POST
URL Parameters	**splitterID** (splitterUID). Contains cluster ID, splitter ID, and splitter Type.
Parameters	**volumeID** (DeviceUID)
Return values	

System Settings

settings/system/full

Description	Returns cluster-specific settings for all RecoverPoint clusters.
Method	GET
Parameters	None

Return values	**SystemSettings:** Holds RecoverPoint system settings, including the settings of each of the sites and some general system information.
	
	    `sitesSettings` (Set of `<SiteSettings>`)
	
	    `systemMaintenanceMode``<SystemMaintenanceMode>`: Indicates the type of system maintenance being performed on an RPA.
	
	        None: RPA is not in maintenance mode.
	        MinorUpgrade: RPA is undergoing a minor upgrade.
	        MajorUpgrade: RPA is undergoing a major upgrade.
	        HWReplacement: RPA is having its hardware replaced.
	        ClusterUpgrade: RPA cluster is being upgraded.
	        RepositoryChange: Repository volume is being changed.
	        RPSEConversion: RPA is undergoing conversion to RecoverPoint to RecoverPoint/SE.

settings/system/<ClusterID>/vcenter_servers/all

Description	Returns basic information about all the vCenter Servers that are registered with RecoverPoint in the specified RecoverPoint cluster.
Method	GET
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
Parameters	None

Return values	**Set of** <VCenterServerFilters>
	  filters (Set of <VCenterServerFilter>)
	    filterType<VCenterServerFilterType>
	    filteredEntityName<String>
	  filterUnknownLuns<boolean>: Whether or not to filter unknown LUNs.
	  vCenterServer<VCenterServerUID>
	    ClusterID<ClusterID>: Contains the site index.
	      id<int>: Site index.
	    ip<String>: vCenter Server IP address.

settings/system/<ClusterID>/vcenter_servers/<serverIP>/FULL

Description	Returns basic information about the specified vCenter Servers that is registered with RecoverPoint.
Method	GET
URL Parameters	**clusterID**<integer>: Cluster index, which uniquely identifies the RecoverPoint cluster. **serverIP**<integer>: vCenterServer IP address.
Parameters	None

Return values	**VCenterServer**
	  vCenterServerUID<VCenterServerUID>: Holds the relevant site UID and the vCenter Server IP address.
	    See "VCenterServerUID" on page 21.
	  username<string>: User account user to access this VCenterServer.
	  port<int>: Port used to connect to this VCenterServer.
	  certificateConfigured<boolean>: Indicates whether this VCenterServer has a configured certificate.

settings/system/<ClusterID>/vcenter_servers/<serverIP>/actions/set_credentials

Description	
Method	POST
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **serverIP** (integer)
Parameters	`VCenterServerCredentials`<vCenterServerCredentials>
Return values	

settings/system/<ClusterID>/vcenter_servers/actions/add_vcenter_server

Description	Adds the specified vCenter Server to the system.
Method	POST
URL Parameters	`clusterID`<integer>
Parameters	`vCenterServerCredentials`<VCenterServerCredentials>
Return values	

settings/system/<ClusterID>/vcenter_servers/<serverIP>/actions/add_vcenter_server_filter

Description	Adds the specified vCenter filter of the specified vCenter Server to the system.
Method	POST
URL Parameters	`clusterID`<integer> `serverIP`<IP address>

Parameters	`Filter`<VCenterServerFilter>
	    `clusterID`<integer>: Cluster index, which uniquely identifies the RecoverPoint cluster.
	    `ip`<string>: vCenter Server IP address.

Return values	

settings/system/<ClusterID>/vcenter_servers/<serverIP>/actions/remove_all_filters

Description	Removes all the vCenter filters from the system.
Method	POST
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **serverIP** (integer)
Parameters	**vCenterServer** (VCenterServerUID): **ip** (String). vCenter Server IP address.
Return values	

settings/system/<ClusterID>/vcenter_servers/<serverIP>/actions/delete

Description	Removes the connection between RecoverPoint and the specified vCenter Server.
Method	POST
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **serverIP** (integer). vCenterServer IP address.
Parameters	
Return values	

settings/system/<ClusterID>/vcenter_servers/<serverIP>/actions/remove_vcenter_server_filter

Description	Removes the specified vCenter filter of the specified vCenter Server from the system.
Method	POST
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **serverIP** (VCenterServerUID). vCenterServer IP address.
Parameters	None
Return values	

settings/system/<ClusterID>/vcenter_servers/<serverIP>/actions/set_filters_for_unknown_luns

Description	
Method	POST
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **serverIP** (integer)
Query Parameters	`shouldFilterUnknownLuns`<boolean>
Return values	

settings/system/<ClusterID>/vcenter_servers/<serverIP>/actions/set_filters

Description	
Method	POST
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **serverIP** (integer)
Parameters	`Filters`<VCenterServerFilters>: 　　`clusterID`<integer>: Cluster index, which uniquely identifies the RecoverPoint cluster. 　　`ip`<string>: vCenter Server IP address.
Return values	

settings/system/<ClusterID>/vcenter_servers_filters/all

Description	Returns the set of filters for all the configured vCenter Servers in the specified RecoverPoint cluster.
Method	GET
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
Parameters	None

Return values	**Set of** `<VCenterServerFilters>`
	
	    `filters` (Set of `<VCenterServerFilter>`)
	        `filterType`<VCenterServerFilterType>
	        `filteredEntityName`<String>
	    `filterUnknownLuns`<boolean>: Whether or not to filter unknown LUNs.
	    `vCenterServer`<VCenterServerUID>
	        `ClusterID`<ClusterID>: Contains the site index.
	            `id`<int>: Site index.
	        `ip`<String>: vCenter Server IP address.

settings/system/<ClusterID>/vcenter_servers_filters/<serverIP>/full

Description	Returns all the vCenter filters in the system.
Method	GET
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **serverID** (integer)**.** vCenterServer IP address.

Parameters	`vCenterServer`<VCenterServerUID>: Holds the relevant site UID and the vCenter Server IP address.
	    `ClusterID`<ClusterID>: Contains the site index.
	        `id`<int>: Site index.
	    `ip`<string>: vCenter Server IP address.

Return values	**VCenterServerFilters**
	
	    `Filters` (Set of `<VCenterServerFilter>`)
	        `filterType`<VCenterServerFilterType>
	        `filteredEntityName`<String>
	    `filterUnknownLuns`<boolean>: Whether or not to filter unknown LUNs.
	    `vCenterServer`<VCenterServerUID>
	        See "VCenterServerUID" on page 19.

State Resources

state/full

Description	Returns all Recover Point states.
Method	GET
Parameters	

Return values	**FullRecoverPointState**: Describes the state of all entities in a RecoverPoint installation.
	
	deduplicationSupported`<boolean>`: Whether or not deduplication is supported.
	
	groupsState (Set of `<ConsistencyGroupState>`): States for all groups in the RecoverPoint installation.
	
	groupsVolumesState (Set of `<ConsistencyGroupVolumesState>`): States for all volumes in all groups in the RecoverPoint installation.
	
	monitoredParametersStatus`<MonitoredParametersStatus>`:
	
	    parameters (Set of `<MonitoredParameter>`)
	
	splittersState (Set of `<SiteSplittersState>`): State of the all splitters in the RecoverPoint installation.
	
	rpasState (set of `<SiteRPAsState>`): State of the RPAs
	
	accountState`<AccountState>`: Indicates when RecoverPoint was installed, and number of days remaining in the grace period.
	
	    daysSinceInstallation`<integer>`: Number of days that have passed since RecoverPoint was installed.
	
	    gracePeriodDaysLeft`<integer>`: Number of days remaining in the grace period.
	
	repositoriesState (Set of `<RepositoryVolumeState>`): State of the repositories.
	
	internalConfigParamsConflict`<boolean>`: Indicates whether there are conflicting internal configuration parameters.
	
	sitesPhoenixClustersState (Set of `<PhoenixClusterState>`):
	
	    site`<ClusterID>`
	    clusterName`<string>`
	    diskCapacity`<long>`
	    availableDisk`<long>`
	    status`<PhoenixClusterStatus>`
	
	systemVersionState`<SystemVersionState>`

Account State

state/account

Description	Returns the current account state.
Method	GET
Parameters	
Return values	`accountState`<AccountState>: Indicates when RecoverPoint was installed, and number of days remaining in the grace period. 　　`daysSinceInstallation`<integer>: Number of days that have passed since RecoverPoint was installed. 　　`gracePeriodDaysLeft`<integer>: Number of days remaining in the grace period.

Global Link State

state/global_links

Description	[NOT FOUND]
Method	GET
Parameters	
Return values	

Group State

state/groups/all

Description	Returns the current state of all consistency groups in the RecoverPoint system.
Method	GET
Parameters	

Return values	**Set of** `<ConsistencyGroupState>`. Contains the state of a specific consistency group, including group copies state and links state:
	
	groupUID (ConsistencyGroupUID). **Contains the RecoverPoint consistency group UID.**
	
	Enabled`<boolean>`: Indicates whether the consistency group is enabled.
	
	sourceCopyUID`<ConsistencyGroupCopyUID>`: Contains the consistency group UID, site UID, and the group copy ID.
	
	groupCopiesState (Set of `<ConsistencyGroupCopyState>`):
	
	    copyUID`<ConsistencyGroupCopyUID>`: Contains the consistency group UID, site UID, and the group copy ID.
	
	    enabled`<boolean>`: Whether or not the consistency group copy is enabled.
	
	    regulated`<boolean>`: Whether or not the consistency group copy is regulated.
	
	    suspended`<boolean>`: Whether or not the consistency group copy is suspended.
	
	    activePrimaryRPA`<integer>`: The RPA that handles replication for the consistency group, at either site.
	
	activeSecondaryRPAsList (LinkedList`<Integer>`): List of secondary RPAs that handle replication for the consistency group, at either site.
	
	accessedImage`<snapshot>`: The accessed image in the specified copy.
	
	storageAccessState`<StorageAccessState>`: The storage access state.
	
	splitVariant`<SplitVariant>`
	
	journalState`<JournalState>`: State of the journal.
	
	consolidationProgress`<ConsolidationProgress>`: Progress of consolidation.
	
	distributedFirstSnapshot`<boolean>`: Whether or not the first snapshot has been distributed to the replica storage.
	
	tspWritesCleared`<boolean>`: Whether or not the target-side processing writes have been cleared.
	
	stateUnknown`<boolean>`: Whether or not the state is unknown.
	
	linksState (Set of `<ConsistencyGroupLinkState>`):
	
	    groupLinkUID`<ConsistencyGroupLinkUID>`: Contains the parent group UID and the UIDs of the two group copies to which it links.
	
	    linkPolicy`<ConsistencyGroupLinkPolicy>`: Contains policy

	settings for a consistency group link.
	localLink`<boolean>`: Whether or not the link is local.
	transferEnabled`<boolean>`: Indicates whether transfer is enabled for the consistency group link.
	runningAsDistributedGroup`<boolean>`: Whether or not the consistency group is running as a distributed consistency group.

state/groups/<groupID>

Description	Returns the current state of the specified consistency group.
Method	GET
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	**group**`<ConsistencyGroupUID>`: Contains the RecoverPoint consistency group UID. **id**`<int>`: Integer value that identifies the consistency group.
Return values	**ConsistencyGroupState:** Contains the state of a specific consistency group, including group copies state and links state.

Groups Volumes State

state/groups_volumes/all

Description	Returns the state of all volumes of all groups in the system.
Method	GET
Parameters	None

Return values	**Set Of**`<ConsistencyGroupVolumesState>`: State of volumes in the consistency group:
	
	    groupUID`<ConsistencyGroupUID>`: RecoverPoint consistency group UID:
	
	        id`<integer>`: Integer value that identifies the consistency group.
	
	    copiesVolumesState (`Set of <ConsistencyGroupCopyVolumesState>`): *[object content missing]*
	        [content missing]
	
	    replicationSetsVolumesState (`Set of <ReplicationSetVolumesState>`): The replication sets volume state.

state/groups_volumes/<groupID>

Description	Returns the state of all volumes of the specified consistency group.
Method	GET
URL Parameters	**groupID** (ConsistencyGroupUID). Integer that uniquely identifies the consistency group.
Parameters	None
Return values	**ConsistencyGroupVolumesState:** Indicates the state of the volumes in the consistency group. **groupUID**`<ConsistencyGroupUID>`: RecoverPoint consistency group UID: **id**`<integer>`: Integer value that identifies the consistency group. **copiesVolumesState** `(Set of <ConsistencyGroupCopyVolumesState>)`: *[object content missing]* *[content missing]* **replicationSetsVolumesState** `(Set of <ReplicationSetVolumesState>)`: The replication sets volume state.

Monitored Parameters State

state/monitored_parameters

Description	Returns the status of the monitored parameters.
Method	GET
Parameters	None
Return values	**MonitoredParametersStatus:** Current state of each monitored parameter.

Phoenix Cluster State

state/phoenix_clusters/all

Description	Returns the Phoenix cluster state for all the sites in the system.
Method	GET
Parameters	None

Return values	**MonitoredParametersStatus**. Current state of each monitored parameter. Set of `<PhoenixClusterState>`:
	    site`<ClusterID>`
	    clusterName`<string>`
	    diskCapacity`<long>`
	    availableDisk`<long>`
	    status`<PhoenixClusterStatus>`

state/phoenix_clusters/<ClusterID>

Description	Returns the Phoenix cluster state for the specified RecoverPoint cluster.
Method	GET
URL Parameters	**clusterID**`<integer>`: Cluster index, which uniquely identifies the RecoverPoint cluster.
Parameters	None

Return values	**PhoenixClusterState:**
	    site`<ClusterID>`
	    clusterName`<string>`
	    diskCapacity`<long>`
	    availableDisk`<long>`
	    status`<PhoenixClusterStatus>`

Repository State

RepositoryVolumeState

Extends	VolumeState
Description	Describes the state of a specific repository volume.
Properties	None

state/repository/all

Description	Returns the repository state of all sites.
Method	GET
Parameters	None
Return values	**Set of `<RepositoryVolumeState>`**: Describes the state of a specific repository volume. See "RepositoryVolumeState" on page 85.

state/repository/<ClusterID>

Description	Returns the state of the repository volume of the specified RecoverPoint cluster.
Method	GET
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
Parameters	None
Return values	**RepositoryVolumeState:** Describes the state of a specific repository volume. See "RepositoryVolumeState" on page 85.

RPAs State

state/rpas/all

Description	Displays the state of communication between the RPA cluster at all sites and other system components.
Method	GET
Parameters	None

Return values	**Set of `<SiteRPAsState>`:** Contains the state of the RPAS at a specific RecoverPoint site.
	      ClusterID`<ClusterID>`
	      rpasState (LinkedList`<RPAState>`)

state/rpas/<ClusterID>/full

Description	Displays the state of communication between the RPA cluster at the specified site and other components of the system.
Method	GET
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
Parameters	None

Return values	**SiteRPAsState**
	    ClusterID`<ClusterID>`
	    rpasState (LinkedList`<RPAState>`)

state/rpas/<ClusterID>/<rpaID>

Description	Displays the state of communication between the specified RPA and other system components.
Method	GET
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **rpaID** (integer)
Parameters	None
Return values	**RPAState:** Contains the state of a specific RPA including RPA status, repository connectivity, NICs state, splitters connectivity and connectivity status to other RPAs. See RPAState on page 111.

Splitters State

state/splitters/all

Description	Returns the current state of splitters in all RecoverPoint clusters.
Method	GET
Parameters	None
Return values	**Set of** `<SiteSplittersState>` See "SiteSplittersState" on page 84.

state/splitters/<ClusterID>/FULL

Description	Returns the current state of splitters in the specified RecoverPoint cluster.
Method	GET
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
Parameters	None
Return values	**Set of** `<SplitterUID>` See "SplitterUID" on page 33.

state/splitters/<ClusterID>/<splitterID>

Description	Returns the current state of the specified splitter.
Method	GET
URL Parameters	**splitterID** (splitterUID). Contains cluster ID, splitter ID, and splitter Type.
Parameters	
Return values	**SplitterState** **splitterUID**`<SplitterUID>`: Contains the relevant site UID, the RecoverPoint splitter UID (host UID), and the splitter type. See SplitterUID on page 20. **splitterStatus**`<SplitterStatus>`: Splitter status. **numberOfAttachedRPAClusters**`<int>`: Number of RPA clusters attached to this splitter. **rpasConnectivityStatus** (Set of `<RPAConnectivityStatus>`): RPA connectivity status. **volumesAccessState** (Set of `<AttachedUserVolumeAccessState>`): Access state of attached user volume. **osAndVersionInfo** (Set of `<SplitterOSAndVersionInfo>`) **rpasPaths** (Set of `<SplitterRPAPath>`): Splitter path to RPA.

System Status

state/system_status

Description	Returns the full list of the current problems in the RecoverPoint system.
Method	GET
Parameters	None
Return values	**SystemStatus:** Indicates problems with the site, the WAN, and the RecoverPoint system. **sitesProblems** (Set of <SiteProblems>): Current site problems. **wanProblems** (LinkedList <ProblemDescription>): Current WAN problems. **systemProblems** (LinkedList <ProblemDescription>): Current RecoverPoint system problems.

Version State

state/version

Description	Returns the system version state.
Method	GET
Parameters	None
Return values	**SystemVersionState** **sitesVersionState** (Set of <SiteVersionState>) **supportedFeatures**<Features>: Supported features of the site version.

Event Recources

events/all

Description	Returns the event logs with a UID value larger than the given one. Same as getAllEventLogs
Method	GET
Query Parameters	**minEvent**<long>: All events with larger UID (optional).
Return values	**SystemEventLogs**<List>: Holds all the system logs of all the system events.

events/actions/remove_events_by_filter

Description	Removes the specified logs filter from the system.
Method	POST
Parameters	**filter**<SystemEventLogsFilterUID> **id**<long>: Identifier for the system event logs filter.
Return values	

Statistic Sesources

statistics/system

Description	Returns the performance statistics of the system.
Method	GET
Parameters	None
Return values	**SystemStatistics.** Holds all statistics relevant to the RecoverPoint system, including general system-wide statistics and RPAs statistics.

statistics/all_statistics_categories

Description	Returns the set of all possible statistics categories.
Method	GET
Parameters	None
Return values	**Set of** <String>: Set of all possible statistics categories.

statistics/rpas/all

Description	Returns the statistics of all RPAs.
Method	GET
Parameters	

Return values	**Set of** <RPAStatistics>: Contains statistics relevant to a specific RPA
	    rpaUID<RpaUID>: Uniquely identifies the RPA
	        ClusterID<ClusterID>: Contains the site index
	            id<int>: Site index
	        rpaNumber<int>: Identifier for this RPA
	    cpuUsage<double>: RPA CPU usage
	    Traffic<TrafficStatistics>: RPA traffic statistics

statistics/<ClusterID>

Description	Returns the performance statistics of the specified RecoverPoint cluster.
Method	GET
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
Parameters	**site**<ClusterID>: Contains the site index. **id**<int>: Site index.

Return values	**SiteStatistics:** Contains the traffic statistics for a specific RecoverPoint site.
	    ClusterID<ClusterID>: Contains the site index
	        id<int>: Site index
	    traffic<TrafficStatistics>: Site traffic statistics.

statistics/actions/clear_long_term_statistics

Description	Clears long term statistics.
Method	POST
Parameters	
Return values	

statistics/groups/all

Description	Returns current performance statistics for all groups in the RecoverPoint system.
Method	GET
Parameters	
Return values	**Set of** `<ConsistencyGroupStatistics>`: Contains all statistics relevant to a specific consistency group. **ConsistencyGroupCopySettings:** Contains the settings of a specific consistency group copy, including journals settings, current image information, and policies settings: **copyUID**`<ConsistencyGroupCopyUID>`: Contains the consistency group UID, site UID, and the group copy ID. **name**`<string>`: Consistency group name. **enabled**`<boolean>`: Indicates whether the consistency group copy is enabled. **policy**`<ConsistencyGroupCopyPolicy>`: Settings for the consistency group copy policy. **hasPhoenixDevices**`<boolean>`: Whether or not the consistency group copy has Phoenix System RP clusters. **roleInfo** (`ConsistencyGroupCopyRoleInfo<role>`): Permissions of the group copy. **imageAccessInformation**`<ImageAccessInformation>` **journal**`<ConsistencyGroupCopyJournal>`: Consistency group copy journal. **ConsistencyGroupCopyState**: Contains the state of a specific consistency group copy, including transfer state, active RPAs, and journal state: **copyUID**`<ConsistencyGroupCopyUID>`: Contains the consistency group UID, site UID, and the group copy ID. **enabled**`<boolean>`: Whether or not the consistency group copy is enabled. **regulated**`<boolean>`: Whether or not the consistency group copy is regulated. **suspended**`<boolean>`: Whether or not the consistency group copy is suspended. **activePrimaryRPA**`<integer>`: The RPA that handles replication for the consistency group, at either site. **activeSecondaryRPAsList** (`LinkedList<integer>`): List of secondary RPAs that handle replication for the consistency group, at either site. **accessedImage**`<snapshot>`: The accessed image in the specified copy. **storageAccessState**`<StorageAccessState>`: The storage access state. **splitVariant**`<SplitVariant>` **journalState**`<JournalState>`: State of the journal.

	consolidationProgress<consolidationProgress>: Progress of consolidation. distributedFirstSnapshot<boolean>: Whether or not the first snapshot has been distributed to the replica storage. tspWritesCleared<boolean>: Whether or not the target-side processing writes have been cleared. stateUnknown<boolean>: Whether or not the state is unknown.

statistics/groups/<groupID>

Description	Returns the current performance statistics of the specified consistency group.
Method	GET
URL Parameters	groupID<ConsistencyGroupUID>: Integer that uniquely identifies the consistency group.
Parameters	.
Return values	**ConsistencyGroupStatistics:** Contains all statistics relevant to a specific consistency group.

vCenter View Resources

vcenter_view/all

Description	Returns the RecoverPoint view of all vCenter Servers discovered at all RecoverPoint clusters.
Method	GET
Query Parameter	shouldRescan<boolean>: Whether or not RecoverPoint should rescan and extract data from all the vCenter Servers at all sites.

Return values	**Set of** <SiteVCenterServerView>
	
	    ClusterID<ClusterID>: Contains the site index.
	
	        id<int>: Site index.
	
	    vCentersView (Set of <VCenterServerView>)
	
	        See "VCenterServerView" on page 113.

vcenter_view/<ClusterID>/full

Description	Returns the RecoverPoint view of all vCenter Servers discovered at the specified RecoverPoint cluster.
Method	GET
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
Query Parameters	`ClusterID`<ClusterID>: Contains the site index, a number that uniquely defines the RPA cluster. `shouldRescan`<boolean>: Whether or not RecoverPoint should rescan and extract data from all the vCenter Servers at all sites.
Return values	**Set of** <SiteVCenterServerView> See "VCenterServerView" on page 113.

vcenter_view/<ClusterID>/<serverIP>

Description	Returns the RecoverPoint view of the specified vCenter Server.
Method	GET
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster. **serverIP** (integer)
Query Parameters	`vCenterServer`<VCenterServerUID>: vCenterServer IP address. See "VCenterServerUID" on page 21. `shouldRescan`<Boolean>: Whether or not RecoverPoint should rescan and extract data from all the vCenter Servers at all sites.
Return values	**VCenterServerView** See "VCenterServerView" on page 113.

Context Resources

contexts/full

Description	Returns the context for the entire RecoverPoint system.
Method	GET
URL	contexts/full
Parameters	

Return values	**FullRecoverPointContext:**
	fullSettingsContext<FullRecoverPointSettingsContext>: Exposed context object to indicate if there was a change in the RecoverPoint system settings.
	fullStateContext<FullRecoverPointStateContext>: Exposed context object to indicate if there was a change in the RecoverPoint system state.
	systemStatusContext<SystemStatusContext>: Exposed context object to indicate if there was a change in the system status.
	sitesSANVolumesContexts (Set of <SiteSANVolumesContext>): Contains the site index.
	    id<int>: Site index
	sitesClariionVolumesContexts (Set of <ClariionVolumesContext>):
	    site<ClusterID>: Contains the site index.
	        id<int>: Site index
	sitesVCentersServersContexts (Set of <VCenterServerViewContext>):
	    site<ClusterID>: Contains the site index.
	        id<int>: Site index

contexts/system_status

Description	Returns the system status context.
Method	GET
Parameters	None
Return values	**SystemStatusContext** See System Status on page 111.

contexts/clariion_volumes/<clusterId>

Description	Returns the VNX/CLARiiON volumes context for the specified site.
Method	GET
URL Parameter	**site**<ClusterID>: Contains the site index, a number that uniquely defines the RPA cluster. **id**<int>: Site index

Return values	**ClariionVolumesContext**:
	    site<ClusterID>: Contains the site index
	        id<int>: Site index

contexts/vcenter_servers/<clusterId>

Description	Returns the vCenter Servers view context for the specified RecoverPoint cluster.
Method	GET
URL Parameter	**site**<ClusterID>: Contains the site index, a number that uniquely defines the RPA cluster. **id**<int>: Site index.

Return values	**VCenterServerViewContext**
	    site<ClusterID>: Contains the site index.
	        id<int>: Site index.

contexts/settings

Description	Returns the full system settings context.
Method	GET
Parameters	
Return values	**FullRecoverPointSettingsContext**: Exposed context object to indicate if there was a change in the RecoverPoint system settings. **globalContext**<long>: Used to get the context value and to check if a change in the system occurred.

contexts/state

Description	Returns the full system state context.
Method	GET
Parameters	
Return values	**FullRecoverPointStateContext**: Exposed context object to indicate if there was a change in the RecoverPoint system state.

contexts/san_volumes/<clusterId>

Description	Returns the RPAs SAN (volumes) view context for the specified RecoverPoint cluster.
Method	GET
URL Parameter	**site**<ClusterID>: Contains the site index, a number that uniquely defines the RPA cluster. **id**<int>: Site index.
Return values	**SiteSANVolumesContext** **id**<int>: Site index

SAN Volume Resources

san_volumes/<ClusterID>/all

Description	Returns information regarding the volumes detected at the SAN of the specified RecoverPoint cluster.
Method	GET
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
Query Parameters	`site`<ClusterID>: Contains the site index. `id`<int>: Site index. `refreshView`<boolean>: Indicates whether or not RecoverPoint should refresh its volume view before returning the list of available volumes. `Vendor`<string>: Optional `Product`<string>: Optional

Return values	**SiteSANVolumes:** Identifies the SAN volumes visible to a site.
	    `ClusterID`<ClusterID>:
	        `id`<int>: Site index
	    volumesInformation (Set of <VolumeInformation>):
	        `rawUid` (LinkedList <Byte>): Unique identifier for the storage volume
	        `volumeID`<DeviceUID>: Contains the device UID
	            `Id`<long>: Signed numeric value that identifies the regular volume GUID. Value is between -(2^63) and (2^63) -1
	        `vendorName`<String>: Volume vendor name
	        `productName`<String>: Volume product name
	        `modelName`<String>: Volume model name
	        `sizeInBytes`<Long>: Volume size, in bytes
	        `vendorSpecificInformation`<String>: Volume vendor specific information
	        `volumeName`<String>: Name for the storage volume assigned by the vendor
	        `paths` (Set of <VolumePath>): Volume path
	        `serialNumber`<String>: Volume serial number
	        `onArrayWithRepository`<Boolean>: Whether or not the specific volume is on the array with the repository volume
	        `volumeStorageType`<VolumeStorageType>:
	            `Symmetrix`: Symmetrix storage system
	            `Unknown`: Unknown storage system
	            `VPLEX`: VPLEX storage virtualization platform
	            `ClariionOrVNX`: CLARiiON or VNX storage system
	    `Other`: Other storage system

san_volumes/<ClusterID>/available

Description	Returns the available volumes in the specified site.
Method	GET
URL Parameters	`clusterID`<integer>: Cluster index, which uniquely identifies the RecoverPoint cluster.
Query Parameters	`site`<ClusterID>: Contains the site index `id`<int>: Site index `refreshView`<boolean>: Indicates whether or not RecoverPoint should refresh its volume view before returning the list of available volumes.

Return values	**SiteSANVolumes**:
	    `ClusterID`<ClusterID>:
	        `id`<int>: Site index
	    volumesInformation (Set of <VolumeInformation>):
	        `rawUid` (LinkedList <Byte>): Unique identifier for the storage volume
	        `volumeID`<DeviceUID>: Contains the device UID
	            `Id`<long>: Signed numeric value that identifies the regular volume GUID. Value is between $-(2^{63})$ and $(2^{63}) -1$
	        `vendorName`<String>: Volume vendor name
	        `productName`<String>: Volume product name
	        `modelName`<String>: Volume model name
	        `sizeInBytes`<Long>: Volume size, in bytes
	        `vendorSpecificInformation`<String>: Volume vendor specific information
	        `volumeName`<String>: Name for the storage volume assigned by the vendor
	        `paths` (Set of <VolumePath>): Volume path
	        `serialNumber`<String>: Volume serial number
	        `onArrayWithRepository`<Boolean>: Whether or not the specific volume is on the array with the repository volume
	        `volumeStorageType`<VolumeStorageType>:
	            `Symmetrix`: Symmetrix storage system
	            `Unknown`: Unknown storage system
	            `VPLEX`: VPLEX storage virtualization platform
	            `ClariionOrVNX`: CLARiiON or VNX storage system
	            `Other`: Other storage system

san_volumes/<ClusterID>/available_clariion

Description	Returns the visible VNX/CLARiiON volumes at the specified site that are available (not already in the settings).
Method	GET
URL Parameters	**clusterID**<integer>: Cluster index, which uniquely identifies the RecoverPoint cluster.
Query Parameters	**ClusterID**<ClusterID>: Contains the site index, a number that uniquely defines the RPA cluster. **refreshView**<boolean>: Indicates whether or not RecoverPoint should refresh its volume view before returning the list of available volumes.
Return values	**SiteClariionVolumes:** List of VNX/CLARiiON volumes at the specified site.

san_volumes/<ClusterID>/clariion

Description	Returns the visible VNX/CLARiiON volumes at the specified RecoverPoint cluster.
Method	GET
URL Parameters	**clusterID**<integer>: Cluster index, which uniquely identifies the RecoverPoint cluster.
Query Parameter	**site**<ClusterID>: Contains the site index. **id**<int>: Site index. **refreshView**<boolean>: Indicates whether or not RecoverPoint should refresh its volume view before returning the list of available volumes.
Return values	**SiteClariionVolumes:** List of VNX/CLARiiON volumes at the specified site.

san_volumes/<ClusterID>/actions/rescan

Description	
Method	POST
URL Parameters	**clusterID** (integer). Cluster index, which uniquely identifies the RecoverPoint cluster.
Query Parameters	**ClusterID**<ClusterID>: Contains the site index, a number that uniquely defines the RPA cluster. **checkExistingVolumesAsWell**<boolean>
Return values	

san_volumes/actions/rescan_all

Description	
Method	POST
Query Parameter	**checkExistingVolumesAsWell**`<boolean>`
Return values	

Miscelaneous Resources

misc/connection_info

Description	Returns the connection information.
Method	GET
Parameters	None

Return values	**ConnectionInfo**:
	    Status`<ConnectionStatus>`
	    Message`<String>`

misc/local_site

Description	Returns the local cluster ID.
Method	GET
Parameters	
Return values	**ClusterID**`<ClusterID>`: Contains the site index, a number that uniquely defines the RPA cluster. **id**`<int>`: Site index.

misc/current_rpa

Description	Returns the current RPA that is running the server.
Method	GET
Parameters	

Return values	**RpaUID:** Uniquely identifies the RPA:
	
	    `ClusterID`<ClusterID>: Contains the site index, a number that uniquely defines the RPA cluster.
	
	    `rpaNumber`<integer>: Identifier for this RPA.

misc/current_time

Description	Returns the current RPA time.
Method	GET
Parameters	
Return values	**RecoverPointTimeStamp**: `timeInMicros`<long>

misc/internal_config_params

Description	Returns some internal tweak values.
Method	GET
Parameters	None

Return values	**SystemInternalConfigParams:** Contains internal system configuration parameters.
	
	    `description`<String>
	    `closingTimeStamp`<RecoverPointTimeStamp>
	    `relevantEvent`<EventLog>
	    `sizeInBytes`<long>
	    `uncompressedSizeInBytes`<long>
	    `consolidationInfo`<SnapshotConsolidationInfo>
	    `userSnapshot`<boolean>
	    `snapshotUID`<SnapshotUID>

misc/server_charset_name

Description	Returns the Charset used by the server to manipulate between strings and byte arrays.
Method	GET
Parameters	
Return values	`<string>`: Character set name.

misc/version

Description	Prints RecoverPoint version information
Method	GET
Parameters	None

Return values	**RecoverPointVersion:** Identifies the RecoverPoint version.
	    version`<string>`
	    versionInformation`<RecoverPointVersionInformation>`

misc/current_user/information

Description	Gets the current user information.
Method	GET
Parameters	
Return values	**UserInformation**

misc/current_user/event_logs_filters

Description	Returns the current user filter for event logs.
Method	GET
Parameters	

Return values	**UserEventLogsFilter:**
	    timeframe<TimeFrame>: Defines a start and end time.
	        startTime<RecoverPointTimeStamp>: Start time
	        endTime<RecoverPointTimeStamp>: End time
	    topics (Set of <EventLogTopic>): Which events to include in the display. Possible values are management, site, RPA, consistency group, and splitter.
	    textFilter<TextFilter>: Words in the description text that filter displayed events

misc/current_user/actions/set_event_logs_filters

Description	
Method	POST
Parameters	UserEventLogsFilter filter
Return values	

misc/actions/set_password

Description	
Method	POST
Parameters	java.lang.String username byte[] currentPassword byte[] newPassword
Return values	

Object Unique Identifiers

Many RecoverPoint entities have a unique identifier (UID) that allows the client to refer to a specific entity. Each UID type contains all data needed to uniquely identify the referenced entity.

ConsistencyGroupSettings

Description	Contains the settings of a specific consistency group including group copies settings, replication sets settings, links settings, and policies setting.

Properties	**groupUID**`<ConsistencyGroupUID>`: Contains the RecoverPoint consistency group UID.
	
	    id`<int>`: Integer value that identifies the consistency group set.
	
	name`<string>`: Consistency group name.
	
	enabled`<boolean>`: Indicates whether the consistency group is enabled.
	
	productionCopyUID`<ConsistencyGroupCopyUID>`: Contains the consistency group UID, site UID, and the group copy ID.
	
	    groupUID`<ConsistencyGroupUID>`: Contains the RecoverPoint consistency group UID.
	
	        id`<int>`: Integer value that identifies the consistency group set.
	
	    ClusterID`<ClusterID>`: Contains the site index.
	
	        id`<int>`: Site index.
	
	    groupCopyID`<int>`: Index for the group copy (0 for LEFT0, 1 for RIGHT1, and so on).
	
	latestSourceCopyUID`<ConsistencyGroupCopyUID>`: Contains the consistency group UID, site UID, and the group copy ID.
	
	    groupUID`<ConsistencyGroupUID>`: Contains the RecoverPoint consistency group UID.
	
	        id`<int>`: Integer value that identifies the consistency group set.
	
	    ClusterID`<ClusterID>`: Contains the site index.
	
	        id`<int>`: Site index.
	
	    groupCopyID`<int>`: Index for the group copy (0 for LEFT0, 1 for RIGHT1, and so on).
	
	groupCopiesSettings (Set of `<ConsistencyGroupCopySettings>`):
	
	    copyUID`<ConsistencyGroupCopyUID>`: Contains the consistency group UID, site UID, and the group copy ID.
	
	    groupUID`<ConsistencyGroupUID>`: Contains the RecoverPoint consistency group UID.
	
	        id`<int>`: Integer value that identifies the consistency group set.
	
	    ClusterID`<ClusterID>`: Contains the site index.
	
	        id`<int>`: Site index.
	
	    groupCopyID`<int>`: Index for the group copy (0 for LEFT0, 1 for RIGHT1, and so on).
	
	    name`<string>`: Consistency group name.
	
	    enabled`<boolean>`: Indicates whether the consistency group copy is enabled.
	
	    policy`<ConsistencyGroupCopyPolicy>`: Settings for the consistency group copy policy.
	
	        See ConsistencyGroupCopyPolicy on page 106.
	
	    hasPhoenixDevices`<boolean>`: Whether or not the consistency group copy has Phoenix System RP clusters.
	
	    roleInfo`<ConsistencyGroupCopyRoleInfo>`: Role (permissions) of

the group copy.

imageAccessInformation`<ImageAccessInformation>`

See "SystemAlertsSettings" on page .

journal`<ConsistencyGroupCopyJournal>`: Consistency group copy journal.

copyUID`<ConsistencyGroupCopyUID>`: Contains the consistency group UID, site UID, and the group copy ID.

name`<string>`: Consistency group name.

enabled`<boolean>`: Indicates whether the consistency group copy is enabled.

policy`<ConsistencyGroupCopyPolicy>`: Settings for the consistency group copy policy.

hasPhoenixDevices`<boolean>`: Whether or not the consistency group copy has Phoenix System RP clusters.

roleInfo (`ConsistencyGroupCopyRoleInfo<role>`): Permissions of the group copy.

imageAccessInformation`<ImageAccessInformation>`

journal`<ConsistencyGroupCopyJournal>`: Consistency group copy journal.

replicationSetsSettings (Set of `<ReplicationSetSettings>`):

replicationSetUID`<ReplicationSetUID>`: Contains the parent group UID and RecoverPoint replication set UID.
See
ReplicationSetUID" on page .

replicationSetName`<String>`: Replication set name.

sizeInBytes`<long>`: The size, in bytes, of the replication set.

Volumes (Set of `<UserVolumeSettings>`)

groupCopyUID`<ConsistencyGroupCopyUID>`: Contains the consistency group UID, site UID, and the group copy ID.
See "ConsistencyGroupCopyUID" on page .

replicationSetUID`<ReplicationSetUID>`: Contains the parent group UID and RecoverPoint replication set UID.
See "
ReplicationSetUID" on page .

attachedSplitters (Set of `<SplitterUID>`): List of splitters to which this volume is attached.

policy`<ConsistencyGroupPolicy>`: Contains the replication policy settings for a consistency group.
See ConsistencyGroupPolicy on page

linksSettings (Set of `<ConsistencyGroupLinkSettings>`):

groupLinkUID`<ConsistencyGroupLinkUID>`: Contains the parent group UID and the UIDs of the two group copies to which it links.
See "ConsistencyGroupLinkUID" on page .

linkPolicy`<ConsistencyGroupLinkPolicy>`: Contains policy settings for a consistency group link.

protectionPolicy`<LinkProtectionPolicy>`

protectionType`<ProtectionMode>`: Type of link whose protection settings to optimize.

		syncReplicationLatencyThresholds`<SyncReplicationTh reshold>`
		syncReplicationThroughputThresholds`<SyncReplicatio nThreshold>`
		rpoPolicy`<RPOPolicy>`
		replicatingOverWAN`<boolean>`
		compression`<WanCompression>`
		bandwidthPriority`<Priority>`
		bandwidthLimit`<double>`
		measureLagToTargetRPA`<boolean>`
		deduplication`<boolean>`
	advancedPolicy`<LinkAdvancedPolicy>`	
	localLink`<boolean>`: Whether or not the link is local.	
	transferEnabled`<boolean>`: Indicates whether transfer is enabled for the consistency group link.	

ConsistencyGroupPolicy

Description	Contains the replication policy settings for a consistency group.
Properties	**distributedGroup**`<boolean>`: Whether or not this group is defined as a distributed consistency group. **primaryRPANumber**`<int>`: Indicates the primary RPA for this consistency group. **secondaryRPAsNumbers** (`LinkedList<Integer>`): List of secondary RPAs for this consistency group. **managementMode**`<ManagementMode>` See "Management Settings" on page 53. **reservationSupported**`<boolean>`: Indicates whether reservation handling is supported. **canTransferOnNonPreferredRPA**`<boolean>`: Indicates whether data can be replicated over a non-preferred RPA. **hostsDelayExpiryTimeoutInSeconds**`<integer>`

ConsistencyGroupCopyPolicy

Description	Settings for the consistency group copy policy.
Properties	`journalCompressionLevel`<JournalCompressionLevel> `requiredProtectionWindowInSeconds`<long>: The required protection window in microseconds, or in other words, how far in time the replica image can be rolled back. If you configure this value using a FAPI client other than the RecoverPoint UI, you should enter the value in microseconds, not seconds. Entering a value in seconds may issue a warning that the protection window is very small. `automaticSnapshotConsolidationPolicy` <AutomaticSnapshotConsolidationPolicy> `RTO`<quantity> `loggedAccessAllocationProportion`<double> `journalSizeLimitInBytes`<long>: Journal size limit in bytes, per consistency group, per side. `hostsOS`<HostOS> `allowDistributionOfLargeSnapshots`<boolean>: Instructs the system how to proceed in the case that a snapshot is too large to be completely contained in the journal. `reservationsPolicy`<ReservationsPolicy> `failallVariant`<FailallVariant> `allowSymmetrixWithOneRPA`<boolean>: Whether or not to allow Symmetrix array with one RPA. `fastForwardBound`<RecoverPointTimeStamp> `phoenixClusterProtectionPolicy` <PhoenixClusterProtectionPolicy>

FullConsistencyGroupPolicy

Description	

Properties	**groupUID**`<ConsistencyGroupUID>`:
	
	    id`<int>`: Integer value that identifies the consistency group.
	
	groupPolicy`<ConsistencyGroupPolicy>`:
	
	    See ConsistencyGroupPolicy on page 106.
	
	groupName`<string>`: Consistency group name.
	
	productionCopy`<ConsistencyGroupCopyPolicy>`
	
	    See ConsistencyGroupCopyPolicy on page 106.
	
	copiesPolicies (Set of `<FullConsistencyGroupCopyPolicy>`):
	
	    copyUID`<ConsistencyGroupCopyUID>`:
	
	        groupUID`<ConsistencyGroupUID>`: Contains the RecoverPoint consistency group UID.
	
	            id`<int>`: Integer value that identifies the consistency group.
	
	        ClusterID`<ClusterID>`: Contains the site index.
	
	            id`<int>`: Site index.
	
	        groupCopyID`<int>`: Index for the group copy (0 for LEFT0, 1 for RIGHT1, and so on).
	
	    copyPolicy`<ConsistencyGroupCopyPolicy>`:
	
	        See ConsistencyGroupSettings on page 106.
	
	    copyName`<string>`: Consistency group copy name.
	
	linksPolicies (Set of `<FullConsistencyGroupLinkPolicy>`):
	
	    linkUID`<ConsistencyGroupLinkUID>`
	
	        See "ConsistencyGroupLinkUID" on page 19.
	
	    linkPolicy`<ConsistencyGroupLinkPolicy>`
	
	        protectionPolicy`<LinkProtectionPolicy>`
	
	            protectionType`<ProtectionMode>`: Type of link whose protection settings to optimize.
	
	            syncReplicationLatencyThresholds`<SyncReplicationThreshold>`
	
	            syncReplicationThroughputThresholds`<SyncReplicationThreshold>`
	
	            rpoPolicy`<RPOPolicy>`
	
	            replicatingOverWAN`<boolean>`
	
	            compression`<WanCompression>`
	
	            bandwidthPriority`<Priority>`
	
	            bandwidthLimit`<double>`
	
	            measureLagToTargetRPA`<boolean>`
	
	            deduplication`<boolean>`
	
	        advancedPolicy`<LinkAdvancedPolicy>`

LicenseInfo

Description	Describes the system capabilities enabled by a RecoverPoint license.
Properties	`key`<LicenseKey>

<div>

Properties (continued)

`key`<LicenseKey>

    `key`<String>: The number provided by the vendor, and used to install the RecoverPoint license for the current account ID.

    `activationCode`<String>: The code provided by the vendor, and used to activate the license.

`localReplicationSize`<long>: Total capacity of local replication volumes that belong to sets that are attached to enabled consistency groups.

`remoteReplicationSize`<long>: Total capacity of remote replication volumes that belong to sets that are attached to enabled consistency groups.

`compressionSupported`<boolean>: Whether or not there is support for compression.

`clusterSize`<int>: Number of RPAs installed at a single site.

`Expiration`<long>: Day on which license is to expire, in number of days after activation, or 'none' for unlimited.

`heterogenousStorageSupport`<String>: Whether or not there is support for heterogenous storage.

`arraysNumber`<int>: Number of storage arrays supported per side.

`journalSizeLimit`<long>: Journal size limit, per consistency group, per side.

`journalCompressionSupported`<boolean>: Whether or not there is support for journal compression.

`syncReplicationSupported`<boolean>: Whether or not there is support for synchronous replication.

`distributedGroupSupported`<boolean>: Whether or not there is support for distributed consistencv groups.

`instantRecoverySupported`<boolean>: Whether or not there is support for instant recovery

`requiresActivation`<boolean>

`accountID`<int>

`supportedArraysSerialNumbers` (Set of <String>)

</div>

RPAState

Description	The RpaUID contains an identifier and the ClusterID.

Properties	**rpaUID**`<RpaUID>`: Uniquely identifies the RPA.
	
	    ClusterID`<ClusterID>`: Contains the site index.
	
	        id`<int>`: Site index.
	
	        rpaNumber`<int>`: Identifier for this RPA.
	
	status`<RPAStatus>`: RPA status.
	
	repositoryConnectivityStatus`<VolumeStatus>`: Repository connectivity status.
	
	dataLinkStatus`<GeneralStatus>`: Data link status.
	
	runningSiteControl`<boolean>`: Whether or not the RPA is running site control.
	
	remoteRPAsConnectivityStatus (Set of `<RPAConnectivityStatus>`): Indicates the connectivity status between this RPA and the RPAs at the remote site.
	
	localRPAsFiberConnectivityStatus (Set of `<RPAConnectivityStatus>`): Indicates the connectivity status between this RPA and the other RPAs at the local site.
	
	volumesConnectivityStatus (Set of `<VolumeConnectivityStatus>`): Status of the connectivity between this RPA and the volumes to which it is replicating.
	
	interfacesStatus (Set of `<RPAInterfaceStatus>`): RPA interface status.
	
	splittersConnectivityStatus (Set of `<SplitterConnectivityStatus>`): Splitter connectivity status.
	
	version`<RecoverPointVersion>`: Identifies the RecoverPoint version. See Version State on page 89.
	
	hardwareSerialID`<string>`: RPA serial ID.
	
	wanIP`<string>`: IP address assigned to the WAN interface to define the management.
	
	managementIPv4`<string>`: IP v4 address assigned to the LAN interface to define the management interface network.
	
	managementIPv6`<string>`: IP v6 address assigned to the LAN interface to define the management interface network.
	
	portState (LinkedList `<RPAPortState>`): Port settings for the RPA.
	
	vendor`<string>`: RPA vendor.
	
	hardwarePlatform`<string>`: RPA hardware platform.
	
	hbaType`<long>`: HBA type.

SystemAlertsSettings

Description	A RecoverPoint mechanism that allows RPAs to send system events about system components, in real-time, to a specified email or to the EMC System Reports database, through a designated SMTP server.
Properties	`enabled`<`boolean`> `emailFilters` (Set of <`EmailFilterData`>) `smtpServerAddress`<`String`> `senderEmailAddress`<`String`> `sendDailyInfoToEMCSupport`<`boolean`>

SystemStatusContext

Extends	**FunctionalAPIContext:** See FunctionalAPIContext on page 114.
Description	Exposed context object to indicate if there was a change in the system status.
Properties	None

VCenterServerView

Description	Displays the RecoverPoint view of vCenter Servers.
Properties	`vcServerUID`<`VCenterServerUID`>: Holds the relevant site UID and the vCenter Server IP address. See "VCenterServerUID" on page 21. `connectionStatus`<`VCenterServerConnectionStatus`>: Describes the state of the connection between a VCenter Server and RecoverPoint. `esxsView` (Set of <`ESXView`>): Detailed information about the virtual machines running on that ESX server, and their volumes and raw devicemappings.

VolumeState

Description	Describes the state of a specific volume, including its status.

Properties	`volumeType`<`VolumeType`>: Type of volume.
	`ClusterID`<`ClusterID`>: Contains the site index.
	     `id`<`int`>: Site index.
	`volumeID`<`DeviceUID`>: Contains the device UID.
	     `id`<`int`>: Site index.
	`rpasAccessStatus` (Set of <`VolumeRPAAccessStatus`>): Volume RPA access status.

FunctionalAPIContext

Description	
Properties	`globalContext`<long>: Used to get the context value and to check if a change in the system occurred.

Comments and getting help

Getting help

EMC support, product, and licensing information can be obtained as follows.

Product information. For documentation and release notes, or for information about EMC products, licensing, and service, go to the EMC Online Support website (registration required) at:

https://support.emc.com/

Technical support. For technical support, go to the EMC Online Support web site. To open a service request, you must have a valid support agreement. Please contact your EMC sales representative for details about obtaining a valid support agreement or to answer any questions about your account.

Your comments

Please include the title, part number, and revision of the document.

If you have issues, comments, or questions about specific information or procedures, include the relevant page numbers and any other information that will help us locate the information you are addressing.

SSG_Documentation@EMC.com