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Introduction

CA Unified Infrastructure Management (UIM) has responded to rising customer demand for a RESTful (REST = Representational State Transfer) web service interface for CA UIM. This interface offers customers the functionality to access their UIM installation using REST-based web service calls.

Changelog

This section outlines important changes introduced with each new release of the interface.

<table>
<thead>
<tr>
<th>Version</th>
<th>Changes</th>
</tr>
</thead>
</table>
| V 2.14  | - Fixed an issue in which the RESTful API would return a different list of alarms from the probe utility and nas GUI  
- Fixed an issue in which a REST call would not return invisible alarms.  
- Fixed an issue in which the probe-info call on probes could result in a server error if the robot was running a probe that did not have a package name. This could happen for hub probes when they were initially installed but not upgraded (This fix requires the wasp 8.0 probe shipped with UMP 8.0). |
| V 2.13  | - Added calls for maintenance mode.  
- Added Get QoS Constraint IDs for an SLO.  
- Added calls for custom properties. |
| V 2.12  | - Corrected return codes for ACLs and Accounts (on Deletes and Updates).  
- Add and Remove Origins on accounts added.  
- Defect fixes. |
| V 2.11  | - Add support for posted content in JSON format. |
| V 2.10  | - Added calls for CI (ConfigurationItem) data retrieval. |
| V 2.01  | - Added callback2 (invokeMethod2). |
| V 2.0   | - Merged SOAP and RESTful service into one functional base. |
| V 1.7   | - Corrected a problem where ACL calls would fail if the wasp is not running on a hub machine. |
| V 1.6   | - Corrected a problem using the forward-slash in URLs (“/“). |
| V 1.5   | - Corrected a problem in the usage of the database pools. |
| V 1.4   | - Added calls to create, modify and delete ACLs |
The following defects have been fixed:

- The dates for started/restarted date in probe information requests are now correctly calculated.
- The contact password reset now works as documented i.e. that the contact id is not required in the supplied data structure but only in the url.
- The alarmfilter supplied to alarm calls can now also be filtered by alarm id.
- A call with the DELETE-method is now available to remove probe configuration keys.
- Calls to fetch all origins and the mapping between origins and accounts have been introduced.
- Calls to retrieve information about SLAs, their definitions, past compliances, current calculation jobs, their SLOs and SLO-compliances have been introduced. They are available under the resource /sla.
- Calls to retrieve information about SLOs, their definitions, compliance, the underlying QOS constraints and the constraint compliances have been introduced. They are available under the resource /slo.
- The call to retrieve hubs and to retrieve robots have been modified to support the optional GET query parameters maxrows and offset to support paging.

The following defects have been fixed:

- The Account and Contact transfer structures were modified. The Models AccountDocument, AccountDocumentList, ContactDocument and ContactDocumentList were discontinued and replaced by Account, AccountList, Contact and ContactList.
- A problem where an account could be created with the same name as an existing Account was fixed.
- A problem where the list of QoS Sources contained all available sources not limited to the supplied QoS Name was fixed.

Known Issues and Planned Enhancements

- When invoking a callback, communication errors can occur. This is because the REST call is not performing a retry if a communication error occurs in the background, for example, when a tunnel connection is unstable. This will be modified in the future.
- In rare situations, consuming the alarm list from a Java client can result in DeMarshallingExceptions due to non-UTF characters being present in the datastream. Other programming languages are not affected.
- Due to a defect in a subroutine of the QoS-Constraint call in the SLO resource, an account contact user could see qos values from other origins than the ones associated with its own account.
- Paging functionality is planned for all list structures being returned by the REST API.
Prerequisites

UIM Server

- Nimsoft Server v5.1 or later
- Infrastructure Manager v3.84.2 or later is required, and must be downloaded and installed before installing.

Unified Monitoring Portal

- Unified Monitoring Portal v2.5.1 GA or later.
Installing the Application

Deployment of the Package

To deploy the package, drag and drop the webservices_rest package from your local archive to a robot running the WASP probe.

The default configuration of the Tomcat server that serves as the platform for UMP does not allow encoded forward-slash characters ("/") in URLs. To avoid problems (for example, when requesting QoS metrics that contain a forward slash in the name), add the following key to the java startup arguments of the wasp probe:

-D org.apache.tomcat.util.buf.UEncoder.ALLOW_ENCODED_SLASH=true

Once the deployment process has completed, restart the wasp probe where you deployed the package.

Testing a Successful Deployment

Browse to the following address:

http://<your_UMP_address>/rest/version-info

If the web services are running correctly, you should see version information for the web services:

Nimsoft RESTful web services interface version x.x

Note: Some browsers (such as Google Chrome) do not directly display this text, but instead show an error message such as Empty Document. To see the text, right-click the page and select Show Page Source.
Call Reference

Note: All URLs mentioned are relative to the REST web services base URL which is:

http(s)://<your_UMP_address>:<your_UMP_port>/rest

In the sample HTTP-Requests and HTTP-Responses, certain header information (such as authentication headers) is omitted. This means that the listed requests will not work if sent directly to the interface. The purpose of those samples is to illustrate the data structure that used when invoking the calls.

WADL Description

The RESTful web services interface offers an automatically generated web application description file that specifies all exposed service calls and structures.

This file is available on your UMP at:

http://<your_UMP_address>/rest/application.wadl

General Information on Paging

Many calls to retrieve list information support paging. On those that do, it is indicated in the URL of the call within the optional parameter setting: ?maxrows=X&offset=Y

The parameter maxrows defines how many rows the result should contain in maximum (maxrows=5 returns 5 entries maximum). If the list contains a lesser number of rows, all rows are returned.

The second parameter offset can only be used if maxrows is also set. Offset defines from where to fetch the number of entries defined in maxrows. For example, if the list contains 20 entries in total, then

?maxrows=5&offset=10

returns entries numbered 10 through 15 in the list.
## Probe Related Calls

### Get Probe Information

This call returns information about a running probe.

<table>
<thead>
<tr>
<th>URL</th>
<th>/probe/ {domain}/(hub)/{robot}/(probe)/info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK &amp; XML/JSON ProbelInfo Structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Basic Management</td>
</tr>
</tbody>
</table>

**Sample Request**

GET /rest/probe/chris-dev/primaryhub/nb-1538/cdm/info HTTP/1.1
Accept: application/xml

**Sample Reply (XML)**

HTTP/1.1 200 OK
Content-Type: application/xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<probeinfo>
  <company>Nimsoft Corporation</company>
  <connections>1</connections>
  <libDate>Sep 17 2010</libDate>
  <libVersion>5.12 (64bit)</libVersion>
  <messages>1</messages>
  <name>cdm</name>
  <restarted>1970-01-01T01:00:00+01:00</restarted>
  <started>1969-12-21T19:54:36.832+01:00</started>
  <version>4.41</version>
</probeinfo>

**Sample Reply (JSON)**

HTTP/1.1 200 OK
Content-Type: application/json
{
  "company":"Nimsoft Corporation",
  "connections":"51",
  "libDate":"Sep 17 2010",
  "libVersion": "5.12 (64bit)",
  "messages": "1",
  "name": "cdm",
  "restarted": "1970-01-01T01:00:00+01:00",
  "started": "1969-12-21T19:54:36.832+01:00",
  "version": "4.41"}
**Invoke Callback**

This method allows the invocation of any callback. This method does not support nested PDSes or various Table structures. Nested PDSes and Tables are supported in callback2 (below).

**Note:** The timeout parameter is denoted in milliseconds.

<table>
<thead>
<tr>
<th>URL</th>
<th>/probe/{domain}/(hub)/(robot)/(probe)/callback/{callback}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>POST</td>
</tr>
<tr>
<td>Input</td>
<td>CallbackRequest structure</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK &amp; XML/JSON PdsDocument</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Basic Management</td>
</tr>
</tbody>
</table>

**Sample Request (XML)**

```xml
POST /rest/probe/chris-dev/primaryhub/nb-1538/controller/callback/get_info HTTP/1.1
Accept: application/xml
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<callbackrequest>
  <timeout>5000</timeout>
  <parameters>
    <name>detail</name>
    <type>int</type>
    <value>1</value>
  </parameters>
</callbackrequest>
```

**Sample Reply (XML)**

```xml
HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<pds>
  <entry name="robotname" datatype="string">
    <value>nb-1538</value>
  </entry>
  <entry name="hubname" datatype="string">
    <value>primaryhub</value>
  </entry>
  <entry name="os_description" datatype="string">
    <value>Build 7600</value>
  </entry>
  <entry name="timezone_name" datatype="string">
    <value>Mitteleuropäische Zeit</value>
  </entry>
  <entry name="access_0" datatype="int">
    <value>0</value>
  </entry>
  <entry name="workdir" datatype="string">
    <value>C:\Program Files (x86)\Nimsoft</value>
  </entry>
  <entry name="access_1" datatype="int">
    <value>1</value>
  </entry>
</pds>
```
POST /rest/probe/chris-dev/primaryhub/nb-1538/controller/callback/get_info HTTP/1.1
Accept: application/json
Content-Type: application/json

{  
  "timeout": "5000",
  "parameters": [
    {  
      "name": "detail",
      "type": "int",
      "value": "1"
    }
  ]
}

HTTP/1.1 200 OK
Content-Type: application/json

{  
  "entry": [
    {  
      "@name": "robotname",
      "@datatype": "string",
      "value": {  
        "@type": "xs:string",
        "$": "nb-1538"
      }
    },
    {  
      "@name": "hubname",
      "@datatype": "string",
      "value": {  
        "@type": "xs:string",
        "$": "primaryhub"
      }
    },
    {  
      "@name": "os_description",
      "@datatype": "string",
      "value": {  
        "@type": "xs:string",
        "$": "Service Pack 1 Build 7601"
      }
    },
    {  
      "@name": "timezone_name",
      "@datatype": "string",
      "value": {  
        "@type": "xs:string",
        "$": "Mitteleuropäische Zeit"
      }
    },
    {  
      "@name": "access_0",
      "@datatype": "int",
      "value": {  
        "@type": "xs:int",
        "$": "0"
      }
    }
  ]
}...
Invoke Callback2

This method allows the invocation of any callback. This method accepts and returns NimPds. The NimPds schema can be found at: http://docs.nimsoft.com/prodhelp/en_US/Monitor/SDK/REST/nimpds.xsd.

<table>
<thead>
<tr>
<th>URL</th>
<th>/probe/{domain}/{hub}/{robot}/{probe}/callback2/{callback}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>POST</td>
</tr>
<tr>
<td>Input</td>
<td>CallbackRequest structure</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK &amp; XML/JSON PdsDocument</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Basic Management</td>
</tr>
</tbody>
</table>

POST /rest/probe/chris-dev/primaryhub/nb-1538/controller/callback2/get_info HTTP/1.1
Accept: application/xmlContent-Type: application/xml

(The following is a prototype that shows all the different nestings and organizations possible. The nestings are not limited. Tables may only contain objects of the type of table that it is (no mixing). Also, no “key” is necessary.)

```
<nimPds>
  <nimInt key="newInt">1</nimInt>
  <nimInt key="newInt2">2</nimInt>
  <nimInt key="newInt3">3</nimInt>
  <nimString key="newString1">This is a string value 1</nimString>
  <nimString key="newString2">This is a string value 2</nimString>
  <nimIntTable key="IntTable1">
    <int index="0">1</int>
    <int index="1">2</int>
    <int index="2">3</int>
  </nimIntTable>
  <nimIntTable key="IntTable12">
    <int index="0">1</int>
    <int index="1">2</int>
    <int index="2">3</int>
  </nimIntTable>
  <nimStringTable key="StringTable1">
    <string index="0">String in a table 11</string>
    <string index="0">String in a table 12</string>
    <string index="0">String in a table 13</string>
  </nimStringTable>
  <nimPds>
    <nimInt key="newInt">1</nimInt>
    <nimInt key="newInt2">2</nimInt>
    <nimInt key="newInt3">3</nimInt>
    <nimString key="newString1">This is a string value 1</nimString>
    <nimString key="newString2">This is a string value 2</nimString>
    <nimIntTable key="IntTable1">
      <int index="0">1</int>
      <int index="1">2</int>
      <int index="2">3</int>
    </nimIntTable>
  </nimPds>
</nimPds>
```
Sample Reply (XML)

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<nimPds>
  <nimString key="connection_status">:: 1</nimString>
  <nimString key="loglevel">level%d :: 2</nimString>
  <nimString key="_command">detail%d :: 0</nimString>
  <nimString key="_debug">level%d,trunc_size%d,trunc_time%d,now%d :: 1</nimString>
  <nimString key="uptime">:: 1</nimString>
  <nimString key="disk_status">filesys,vgroup :: 1</nimString>
  <nimString key="_stop">:: 3</nimString>
  <nimString key="get_export">detail%d :: 1</nimString>
  <nimString key="memory_history">:: 1</nimString>
  <nimString key="get_info">:: 1</nimString>
  <nimString key="cpu_history">:: 1</nimString>
  <nimString key="cpu_status">id :: 1</nimString>
  <nimString key="cluster_info">:: 1</nimString>
  <nimString key="get_token">string :: 1</nimString>
  <nimString key="memory_status">:: 1</nimString>
  <nimString key="disk_history">vgroup :: 1</nimString>
  <nimString key="_status">detail%d :: 0</nimString>
  <nimString key="_restart">:: 3</nimString>
</nimPds>
```

Sample Request (JSON)

```json
POST /rest/probe/chris-dev/primaryhub/nb-1538/controller/callback/get_info HTTP/1.1
Accept: application/json
Content-Type: application/json

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "nimInt": [ 
    { 
      "@key": "ssl_mode",
      "$": "0"
    },
    { 
      "@key": "connections",
      "$": "2271"
    },
    { 
      "@key": "started",
      "$": "-16388"
    },
    { 
      "@key": "messages",
      "$": "10"
    },
    { 
      "@key": "restarted",
      "$": "0"
    }
  ],
  "nimString": [ 
    { 
      "@key": "libdate",
      "$": "Jun 30 2011"
    },
    { 
      "@key": "ssl_version",
      "$": "OpenSSL 1.0.0c 2 Dec 2010"
    },
    { 
      "@key": "company",
      "$": "Nimsoft Corp"
    },
    { 
      "@key": "name",
      "$": "hub"
    },
    { 
      "@key": "libversion",
      "$": "5.24 (64bit)"
    },
    { 
      "@key": "ssl_cipher",
      "$": "DEFAULT"
    },
    { 
      "@key": "version",
      "$": "5.60 [Jun 30 2011]"
    }]
}
### Activate / Deactivate a Probe

| URL | /probe/{domain}/{hub}/{robot}/{probe}/active|inactive |
|-----|---------------------------------|
| Method | POST |
| Input | - |
| Returns | 204 OK 401 Unauthorized 404 Not Found |
| Valid Users | UIM Users |
| Required Permissions | Web Service, Basic Management |
| Sample Request | POST /rest/probe/chris-dev/primaryhub/nb-1538/cdm/active HTTP/1.1 Accept: application/xml |
| Sample Reply | HTTP/1.1 204 No Content |

### Get Probe Configuration

<table>
<thead>
<tr>
<th>URL</th>
<th>/probe/{domain}/{hub}/{robot}/{probe}/config</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK &amp; XML/JSON PdsDocument List of Configuration Keys 401 Unauthorized 404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Basic Management</td>
</tr>
<tr>
<td>Sample Request</td>
<td>GET /rest/probe/chris-dev/primaryhub/nb-1538/cdm/config HTTP/1.1 Accept: application/xml</td>
</tr>
</tbody>
</table>
| Sample Reply (XML) | HTTP/1.1 200 OK  
```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<probe-configuration>
  <probeConfigKey>
    <key>/messages/PagefileWarning/text</key>
    <value>Average ($value_number samples) memory usage is now $value$unit, which is above the warning threshold ($value_limit$unit)</value>
  </probeConfigKey>
  <probeConfigKey>
    <key>/messages/PagefileWarning/level</key>
    <value>minor</value>
  </probeConfigKey>
</probe-configuration>
```
Sample Reply (JSON)

```json
{
    "probeConfigKey": [
        {
            "key": "/disk/alarm/fixed/Q:\/delta_error/threshold",
            "value": "10"
        },
        {
            "key": "/memory/interval",
            "value": "5 min"
        },
        {
            "key": "/memory/qos_memory_paging",
            "value": "no"
        },
        {
            "key": "/memory/qos_memory_usage",
            "value": "no"
        },
        {
            "key": "/memory/samples","value":"5"
        },
        ...
    ]
}
```

Get Single Probe Configuration Value

<table>
<thead>
<tr>
<th>URL</th>
<th>/probe/{domain}/{hub}/{robot}/{probe}/config/{section+key}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
</tbody>
</table>
| Returns | 200 OK & Configuration value as String  
401 Unauthorized  
404 Not Found |
| Valid Users | UIM Users |
| Required Permissions | Web Service, Basic Management |
| Sample Request | GET /rest/probe/chris-dev/primaryhub/nb-1538/cdm/config/setup/resttest HTTP/1.1  
Accept: application/xml |
| Sample Reply | HTTP/1.1 200 OK  
<value>ignoreme</value> |

Set single probe Configuration Value

<table>
<thead>
<tr>
<th>URL</th>
<th>/probe/{domain}/{hub}/{robot}/{probe}/config</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>PUT</td>
</tr>
<tr>
<td>Input</td>
<td>ProbeConfigKey structure</td>
</tr>
<tr>
<td>Returns</td>
<td>204 OK</td>
</tr>
</tbody>
</table>
### Delete Single Probe Configuration Value

<table>
<thead>
<tr>
<th><strong>URL</strong></th>
<th>/probe/config/{domain}/{hub}/{robot}/{probe}/{section+key}</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method</strong></td>
<td>DELETE</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Returns</strong></td>
<td>204 OK, 401 Unauthorized, 404 Not Found</td>
</tr>
<tr>
<td><strong>Valid Users</strong></td>
<td>UIM Users</td>
</tr>
<tr>
<td><strong>Required Permissions</strong></td>
<td>Web Service, Basic Management</td>
</tr>
<tr>
<td><strong>Sample Request</strong></td>
<td>DELETE /rest/probe/chris-dev/primaryhub/nb-1538/cdm/setup/resttest HTTP/1.1 Accept: application/xml</td>
</tr>
</tbody>
</table>
| **Sample Reply (XML)** | HTTP/1.1 204 No Content  
Server: Apache-Coyote/1.1  
Date: Tue, 01 Nov 2011 10:01:14 GMT |
| **Sample Request (XML)** | PUT /rest/probe/chris-dev/primaryhub/nb-1538/cdm/config HTTP/1.1  
Content-Type: application/xml  
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<config>  
<configkey>  
<key>/setup/resttest</key>  
</configkey>  
</config> |
| **Sample Reply (JSON)** | HTTP/1.1 204 No Content  
Server: Apache-Coyote/1.1  
Date: Tue, 01 Nov 2011 10:01:14 GMT |
| **Sample Request (JSON)** | PUT /rest/probe/chris-dev/primaryhub/nb-1538/cdm/config HTTP/1.1  
Content-Type: application/json  
{"configkey":[]} |
### Set Multiple Probe Configuration Values

In order to delete configuration values, supply an empty value parameter. In the future, a DELETE call for this purpose will be in place.

<table>
<thead>
<tr>
<th>URL</th>
<th><code>/probe/config/{domain}/{hub}/{robot}/{probe}/config</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>PUT</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Basic Management</td>
</tr>
<tr>
<td>Input</td>
<td><code>ProbeConfigKeys</code> structure</td>
</tr>
<tr>
<td>Returns</td>
<td>204 OK</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
</tbody>
</table>

#### Sample Request (XML)

```
PUT /rest/probe/chris-dev/primaryhub/nb-1538/cdm/config HTTP/1.1
Accept: application/xml
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<probeConfigKeys>
  <configkey>
    <key>/setup/resttest</key>
    <value>ignoreme</value>
  </configkey>
  <configkey>
    <key>/setup/resttest2</key>
    <value>ignoremetoo</value>
  </configkey>
</probeConfigKeys>
```

#### Sample Reply (XML)

```
HTTP/1.1 204 No Content
```

#### Sample Request (JSON)

```
PUT /rest/probe/chris-dev/primaryhub/nb-1538/cdm/config HTTP/1.1
Accept: application/json
Content-Type: application/json

{  
  "configkey": [
    {
      "key": "/setup/resttest",
      "value": "ignoreme"
    },
    {
      "key": "/setup/resttest2",
      "value": "ignoremetoo"
    }
  ]
}
```

#### Sample Reply (JSON)

```
HTTP/1.1 204 No Content
```
(JSON)
## Alarm Related Calls

### Create Alarm

<table>
<thead>
<tr>
<th>URL</th>
<th>/alarms/createAlarm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>POST</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
</tbody>
</table>
| Returns         | 200 OK & Alarm ID XML/JSON  
|                 | 401 Unauthorized    
|                 | 404 Not Found       |
| Valid Users     | UIM Users           |
| Required        | Web Service, Alarm Management |
| Permissions     | POST /rest/alarms/createAlarm HTTP/1.1  
|                 | Accept: application/xml  
|                 | Content-Type: application/xml |

```xml
<alarm>
  <assignedBy/>
  <assignedTo/>
  <custom1/>
  <custom2/>
  <custom3/>
  <custom4/>
  <custom5/>
  <devId/>
  <domain>w2k8r2-x64-lc_domain</domain>
  <hostname>w2k8r2-x64-lc</hostname>
  <hub>w2k8r2-x64-lc_hub</hub>
  <level>1</level>
  <message>Testmessage</message>
  <metId/>
  <nas>w2k8r2-x64-lc_hub</nas>
  <origin>w2k8r2-x64-lc_hub</origin>
  <prevLevel>0</prevLevel>
  <probe/>
  <probe/>
  <robot>w2k8r2-x64-lc</robot>
  <severity>Informational</severity>
  <source>w2k8r2-x64-lc</source>
  <subsystem>Nimsoft</subsystem>
  <subsystemId>1</subsystemId>
  <suppressionCount>0</suppressionCount>
  <suppressionKey/>
  <suppressionKey/>
</alarm>
```
## Sample Reply (XML)

HTTP/1.1 200 OK  
Content-Type: application/xml  

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<alarm>  
  <id>OU50853950-04896</id>  
</alarm>
```

## Sample Request (JSON)

POST /rest/alarms/createAlarm HTTP/1.1  
Accept: application/JSON  
Content-Type: application/JSON  

```
{
  "assignedBy":"",
  "assignedTo":"",
  "custom1":"",
  "devId":"",
  "domain":"w2k8r2-x64-lc_domain",
  "hostname":"w2k8r2-x64-lc",
  "hub":"w2k8r2-x64-lc_hub",
  "level":"1",
  "message":"Testmessage",
  "metId":"",
  "nas":"w2k8r2-x64-lc_hub",
  "origin":"w2k8r2-x64-lc_hub",
  "prevLevel":"0",
  "probe":"",
  "robot":"w2k8r2-x64-lc",
  "severity":"Informational",
  "source":"w2k8r2-x64-lc",
  "subsystem":"Nimsoft",
  "subsystemId":1,
  "suppressionCount":0,
  "suppressionKey":"",
  "userTag1":"",
  "visible":true
}
```

## Sample Reply (JSON)

HTTP/1.1 200 OK  
Content-Type: application/json  

```
{
  "id": "OU50853950-04945"
}
```

## Get Alarm Summary

Returns a structure containing alarm counts for the different alarm severities.

**URL**

/alarms/summary

**Method**

GET

**Input**

-  

### Returns
- 200 OK & AlarmSummary structure (XML/JSON)
- 401 Unauthorized
- 404 Not Found

### Valid Users
- UIM Users, Account Users

### Required Permissions
- Web Service, Alarm Summary

### Sample Request (XML)
```
GET /rest/alarms/summary HTTP/1.1
Accept: application/xml
```

### Sample Reply (XML)
```
HTTP/1.1 200 OK
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<alarmsummary>
<clear>0</clear>
<critical>12</critical>
<information>47</information>
<major>19</major>
<minor>9</minor>
<warning>13</warning>
</alarmsummary>
```

### Sample Request (JSON)
```
GET /rest/alarms/summary HTTP/1.1
Accept: application/json
```

### Sample Reply (JSON)
```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "clear": "0",
  "critical": "12",
  "information": "47",
  "major": "19",
  "minor": "9",
  "warning": "13"
}
```

### Get Unfiltered List of Alarms
This call returns all alarms that are visible to the user.

<table>
<thead>
<tr>
<th>URL</th>
<th>/alarms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Returns</th>
<th>200 OK &amp; AlarmListDocument XML/JSON</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Valid Users</th>
<th>UIM Users, Account Users</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Required Permissions</th>
<th>Web Service, Alarm Details</th>
</tr>
</thead>
</table>
Sample Request
GET /rest/alarms HTTP/1.1
Accept: application/xml

HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<alarm-list>
  <alarm>
    <assignedBy></assignedBy>
    <assignedTo></assignedTo>
    <custom1></custom1>
    <custom2></custom2>
    <custom3></custom3>
    <custom4></custom4>
    <custom5></custom5>
    <domain>chris-dev</domain>
    <hostname>MFC7840W</hostname>
    <hub>primaryhub</hub>
    <id>DL31165458-84280</id>
    <level>5</level>
    <message>The SNMP agent on '192.168.0.119' is NOT responding.</message>
    <nas>primaryhub</nas>
    <origin>primaryhub</origin>
    <prevLevel>0</prevLevel>
    <probe>interface_traffic</probe>
    <robot>win-exp6lt7v6g</robot>
    <severity>Critical</severity>
    <source>MFC7840W</source>
    < subsystem>Network</subsystem>
    <subsystemId>1.1.3</subsystemId>
    <suppressionCount>0</suppressionCount>
    <suppressionKey>NetTfc/state-192.168.0.119</suppressionKey>
    <timeArrival>2011-11-02T11:27:40+01:00</timeArrival>
    <timeOrigin>2011-11-02T11:27:39+01:00</timeOrigin>
    <timeReceived>2011-11-02T11:27:40+01:00</timeReceived>
    <userTag1></userTag1>
    <userTag2></userTag2>
    <visible>true</visible>
  </alarm>
  ...
</alarm-list>

Sample Reply
Sample Request (JSON)
GET /rest/alarms HTTP/1.1
Accept: application/json

HTTP/1.1 200 OK
Content-Type: application/json
Transfer-Encoding: chunked

2000
{"alarm": [
  {
    "assignedBy": "",
    "assignedTo": "",
    "custom1": "",
    "custom2": "",
    "custom3": "",
    "custom4": "",
    ...}]
Get Filtered List of Alarms

This call returns a filtered list of alarms that are visible to the user. For details on the Alarm Filter structure passed to this call, refer to "Message Structure Definition: Alarm Filter".

URL
/alarms

Method
POST

Input
AlarmFilter structure

Returns
200 OK & AlarmListDocument XML/JSON
401 Unauthorized
404 Not Found

Valid Users
UIM Users, Account Users

Required Permissions
Web Service, Alarm Details

Sample Request
POST /rest/alarms HTTP/1.1
Accept: application/xml
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?&gt;
<alarmfilter>
  <level>2,3,4,5</level>
</alarmfilter>
Sample Reply

HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?><alarm-list>
  <alarm>
    <assignedBy></assignedBy>
    <assignedTo></assignedTo>
    <custom1></custom1>
    <custom2></custom2>
    <custom3></custom3>
    <custom4></custom4>
    <custom5></custom5>
    <domain>chris-dev</domain>
    <hostname>MFC7840W</hostname>
    <hub>primaryhub</hub>
    <id>DL31165458-84280</id>
    <level>5</level>
    <message>The SNMP agent on '192.168.0.119' is NOT responding.</message>
    <nas>primaryhub</nas>
    <origin>primaryhub</origin>
    <prevLevel>0</prevLevel>
    <probe>interface_traffic</probe>
    <robot>win-cxp6lpt7v6g</robot>
    <severity>Critical</severity>
    <source>MFC7840W</source>
    <subsystem>Network</subsystem>
    <subsystemId>1.1.3</subsystemId>
    <suppressionCount>0</suppressionCount>
    <suppressionKey>NetTfc/state-192.168.0.119</suppressionKey>
    <timeArrival>2011-11-02T11:27:40+01:00</timeArrival>
    <timeOrigin>2011-11-02T11:27:39+01:00</timeOrigin>
    <timeReceived>2011-11-02T11:27:40+01:00</timeReceived>
    <userTag1></userTag1>
    <userTag2></userTag2>
    <visible>true</visible>
  </alarm>
  <alarm>
    <assignedBy></assignedBy>
    <assignedTo></assignedTo>
    <custom1></custom1>
    <custom2></custom2>
    <custom3></custom3>
    <custom4></custom4>
    <custom5></custom5>
    <domain>chris-dev</domain>
    <hostname>MFC7840W</hostname>
    <hub>primaryhub</hub>
    <id>DL31165458-84280</id>
    <level>5</level>
    <message>The SNMP agent on '192.168.0.119' is NOT responding.</message>
    <nas>primaryhub</nas>
    <origin>primaryhub</origin>
    <prevLevel>0</prevLevel>
    <probe>interface_traffic</probe>
    <robot>win-cxp6lpt7v6g</robot>
    <severity>Critical</severity>
    <source>MFC7840W</source>
    <subsystem>Network</subsystem>
    <subsystemId>1.1.3</subsystemId>
    <suppressionCount>0</suppressionCount>
    <suppressionKey>NetTfc/state-192.168.0.119</suppressionKey>
    <timeArrival>2011-11-02T11:27:40+01:00</timeArrival>
    <timeOrigin>2011-11-02T11:27:39+01:00</timeOrigin>
    <timeReceived>2011-11-02T11:27:40+01:00</timeReceived>
    <userTag1></userTag1>
    <userTag2></userTag2>
    <visible>true</visible>
  </alarm>
  ...
</alarm-list>

Sample Request
(JSON)

POST /rest/alarms HTTP/1.1
Accept: application/json
Content-Type: application/json

{
  "assigned_to":"userA",
  "custom1":"lorum",
  "custom2":"ipsum",
  "custom3":"dolor",
  "custom4":"sit",
  "custom5":"amet",
  "domain":"domainA",
  "hostname":"hostA",
  "hub":"hubB",
  "level":["2,3,4,5,6"],
  "message":"message text to search for",
  "message_count">2",
  "origin":"customerA",
  "subsystem":null,
  "subsystemId":null,
  "suppressionCount":null,
  "suppressionKey":null,
  "timeArrival":null,
  "timeOrigin":null,
  "timeReceived":null,
  "userTag1":null,
  "userTag2":null,
  "visible":false
}
"probe":"cdm",
"robot":"robotC",
"source":"maecenas",
"subsystem":"cpu",
"subsystem_id":"1.3.1",
"timeArrival":"2011-11-22T12:54:35+01:00",
"timeReceived":"2011-11-22T12:54:35+01:00",
"userTag1":"utag1",
"userTag2":"utag2",
"visible":true
"

Sample Reply
(JSON)

HTTP/1.1 200 OK
Content-Type: application/json
Transfer-Encoding: chunked

2000
{"alarm": [
{
  "assignedBy": ",",
  "assignedTo": ",",
  "custom1": ",",
  "custom2": ",",
  "custom3": ",",
  "custom4": "",
  "custom5": "",
  "domain": "chris-dev",
  "hostname": "win-cxp6lpt7v6g",
  "hub": "primaryhub",
  "id": "RH99670515-00059",
  "level": "1",
  "message": "USER32(1074 - None): The process C:\Windows\system32\winlogon.exe (WIN-CXP6LP7T7V6G) has initiated the power off of computer WIN-CXP6LP7T7V6G.",
  "nas": "primaryhub",
  "origin": "primaryhub",
  "prevLevel": "0",
  "probe": "ntevl",
  "robot": "win-cxp6lpt7v6g",
  "severity": "Informational",
  "source": "192.168.211.129",
  "subsystem": "System",
  "subsystemId": "1.1.11.1.3",
  "suppressionCount": "0",
  "suppressionKey": ",",
  "timeArrival": "2011-11-11T09:51:45+01:00",
  "timeOrigin": "2011-11-11T09:51:43+01:00",
  "timeReceived": "2011-11-11T09:51:45+01:00",
  "userTag1": ",",
  "userTag2": ",",
  "visible": true
]
}

}
Get State for all Alarms

This call returns the severity of the most critical alarm currently visible to the user.

<table>
<thead>
<tr>
<th>URL</th>
<th>/alarms/state</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td></td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK &amp; AlarmSeverity structure XML/JSON</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Alarm Summary</td>
</tr>
<tr>
<td>Sample Request (XML)</td>
<td>GET /rest/alarms/state HTTP/1.1 Accept: application/xml</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td></td>
</tr>
</tbody>
</table>
    <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
    <alarm-severity>
    <level>5</level>
    <severity>Critical</severity>
    </alarm-severity> |
| Sample Request (JSON) | GET /rest/alarms/state HTTP/1.1 Accept: application/json |
| Sample Reply (JSON) | HTTP/1.1 200 OK Content-Type: application/json |
|         | {             |
|         |   "level":"5", |
|         |   "severity":"Critical" |
|         | }             |

Get State for Filtered Alarms

This call returns the severity of the most critical alarm currently open that matches the given alarm filter. For details on the Alarm Filter structure passed to this call, refer to “Message Structure Definition: Alarm Filter”.

<table>
<thead>
<tr>
<th>URL</th>
<th>/alarms/state</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>POST</td>
</tr>
<tr>
<td>Input</td>
<td>AlarmFilter structure</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK &amp; AlarmSeverity structure XML/JSON</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Alarm Summary</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------</td>
</tr>
</tbody>
</table>
| **Sample Request (XML)** | POST /rest/alarms/state HTTP/1.1  
Accept: application/xml  
Content-Type: application/xml  

```xml  
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<alarmfilter>  
    <level>2,3,4,5,6</level>  
</alarmfilter>  
```
| Filtering by assigned person: | \(<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<alarmfilter>  
    <assigned_to>administrator</assigned_to>  
</alarmfilter>\) |
| Filtering by alarm id: | \(<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<alarmfilter>  
    <id>LC29347578-03846</id>  
</alarmfilter>\) |
| **Sample Reply (XML)** | \(<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<alarm-severity>  
    <level>5</level>  
    <severity>Critical</severity>  
</alarm-severity>\) |
| **Sample Request (JSON)** | POST /rest/alarms/state HTTP/1.1  
Accept: application/json  
Content-Type: application/json  

```json  
{  
    "assigned_to":"userA",  
    "custom1":"lorum",  
    "custom2":"ipsum",  
    "custom3":"dolor",  
    "custom4":"sit",  
    "custom5":"amet",  
    "domain":"domainA",  
    "hostname":"hostA",  
    "hub":"hubB",  
    "level":"2,3,4,5,6",  
    "message":"message text to search for",  
    "message_count":">2",  
    "origin":"customerA",  
    "probe":"cdm",  
    "robot":"robotC",  
    "source":"maecenas",  
    "subsystem":"cpu",  
    "subsystem_id":"1.3.1",  
    "timeArrival":"2011-11-22T12:54:35+01:00",  
    "timeReceived":"2011-11-22T12:54:35+01:00",  
    "userTag1":"utag1",  
    "userTag2":"utag2",  
    "visible":true  
}  
```
| **Sample Reply (JSON)** | HTTP/1.1 200 OK  
Content-Type: application/json |
### Accept an Alarm

This call assigns the alarm to the current user. It lets the user assign the alarm to itself.

<table>
<thead>
<tr>
<th>URL</th>
<th>/alarms/{alarmid}/accept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>PUT</td>
</tr>
<tr>
<td>Input</td>
<td></td>
</tr>
<tr>
<td>Returns</td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Accept</td>
</tr>
<tr>
<td>Sample Request</td>
<td>PUT /rest/alarms/DL31165458-85308/accept HTTP/1.1</td>
</tr>
<tr>
<td>Sample Reply</td>
<td>HTTP/1.1 204 No Content</td>
</tr>
</tbody>
</table>

### Acknowledge an Alarm

This call clears/closes the specified alarm.

<table>
<thead>
<tr>
<th>URL</th>
<th>/alarms/{alarmid}/ack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>PUT</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>204 No Content (= OK)</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Acknowledge</td>
</tr>
<tr>
<td>Sample Request</td>
<td>PUT /rest/alarms/DL31165458-85308/ack HTTP/1.1</td>
</tr>
<tr>
<td>Sample Reply</td>
<td>HTTP/1.1 204 No Content</td>
</tr>
</tbody>
</table>

### Assign an Alarm

<p>| URL               | /alarms/{alarmid}/assign/{assignToUsername} |</p>
<table>
<thead>
<tr>
<th><strong>Method</strong></th>
<th>PUT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Returns</strong></td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td><strong>Valid Users</strong></td>
<td>UIM User</td>
</tr>
<tr>
<td><strong>Require Permissions</strong></td>
<td>Web Service, Assign</td>
</tr>
<tr>
<td><strong>Sample Request</strong></td>
<td>PUT /rest/alarms/DL31165458-85308/assign/operatorA HTTP/1.1</td>
</tr>
<tr>
<td><strong>Sample Reply</strong></td>
<td>HTTP/1.1 204 No Content</td>
</tr>
</tbody>
</table>

### Unassign an Alarm

<table>
<thead>
<tr>
<th><strong>URL</strong></th>
<th>/alarms/{alarmid}/unassign</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method</strong></td>
<td>PUT</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Returns</strong></td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td><strong>Valid Users</strong></td>
<td>UIM User</td>
</tr>
<tr>
<td><strong>Require Permissions</strong></td>
<td>Web Service, Unassign</td>
</tr>
<tr>
<td><strong>Sample Request</strong></td>
<td>PUT /rest/alarms/DL31165458-85308/unassign HTTP/1.1</td>
</tr>
<tr>
<td><strong>Sample Reply</strong></td>
<td>HTTP/1.1 204 No Content</td>
</tr>
</tbody>
</table>
## Account Related Calls

### Get All Accounts

<table>
<thead>
<tr>
<th>URL</th>
<th>/accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK &amp; AccountList structure XML/JSON</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

#### Sample Request

GET /rest/accounts HTTP/1.1
Accept: application/xml

#### Sample Reply (XML)

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<accountlist>
  <account>
    <creationDate>2011-10-11T09:42:42+02:00</creationDate>
    <name>companyA</name>
  </account>
</accountlist>
```

#### Sample Reply (JSON)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
    "account": [ 
        {
            "accountId": "3",
            "address": "",
            "city": "",
            "country": "",
            "creationDate": "2011-10-11T09:42:42+02:00",
            "description": "",
            "fax": "",
            "name": "companyA",
            "origin": "primaryhub",
            "phone": "",
            "postalCode": "",
            "state": "",
            "website": ""
        }
    ]
}
Get an Account

**URL**
/accounts/{account_id}

**Method**
GET

**Input**
-

**Returns**
200 OK & AccountDocument XML/JSON
401 Unauthorized
404 Not Found

**Valid Users**
UIM Users, Account User

**Sample Request**
GET /rest/accounts/9 HTTP/1.1
Accept: application/xml

**Sample Reply (XML)**
HTTP/1.1 200 OK
Content-Type: application/xml

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<account>
  <address>Teststreet 42</address>
  <city>Testcity</city>
  <country>TestCountry</country>
  <creationDate>2011-11-14T18:38:26.500+01:00</creationDate>
  <description>Test Description</description>
  <fax>Test Fax no 4711</fax>
  <id>8</id>
  <name>REST Services Test Account</name>
  <origin>primaryhub</origin>
  <phone>Test phone 0815</phone>
  <postalCode>123456</postalCode>
  <state>Teststate</state>
  <website>www.testrest.com</website>
</account>
```

**Sample Reply (JSON)**
HTTP/1.1 200 OK
Content-Type: application/json

```json
{
  "accountId":"3",
  "address":"Teststreet 42",
  "city":"Testcity",
  "country":"TestCountry",
  "creationDate":"2011-11-14T18:38:26.500+01:00",
  "description":"Test Description",
  "fax":"Test Fax no 4711",
  "name":"REST Services Test Account",
  "origin":"primaryhub",
  "phone":"Test phone 0815",
  "postalCode":"123456",
  "state":"Teststate",
  "website":"www.testrest.com"
}
```
### Create a New Account

<table>
<thead>
<tr>
<th>URL</th>
<th>/accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>POST</td>
</tr>
<tr>
<td>Input</td>
<td>AccountDocument</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK &amp; AccountDocument XML/JSON</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td></td>
<td>409 Resource Conflict (if the Account already exists)</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

#### Sample Request (XML)
```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<account>
  <address>Teststreet 42</address>
  <city>Testcity</city>
  <country>TestCountry</country>
  <description>Test Description</description>
  <fax>Test Fax no 4711</fax>
  <name>REST Services Test Account</name>
  <origin>primaryhub</origin>
  <phone>Test phone 0815</phone>
  <postalCode>123456</postalCode>
  <state>Teststate</state>
  <webSite>www.testrest.com</webSite>
</account>
```

#### Sample Reply (XML)
```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<account>
  <accountId>8</accountId>
  <address>Teststreet 42</address>
  <city>Testcity</city>
  <country>TestCountry</country>
</account>
```
Sample Request (JSON)

POST /rest/accounts HTTP/1.1
Accept: application/json
Content-Type: application/json

{
    "accountId" : "0",
    "address" : "Teststreet 42",
    "city" : "Testcity",
    "country" : "TestCountry",
    "description" : "Test Description",
    "fax" : "Test Fax no 4711",
    "name" : "REST Services Test Account",
    "origin" : "primaryhub",
    "phone" : "Test phone 0815",
    "postalCode" : "123456",
    "state" : "Teststate",
    "webSite" : "www.testrest.com"
}

Sample Reply (JSON)

HTTP/1.1 200 OK
Content-Type: application/json

{
    "accountId" : "36",
    "address" : "Teststreet 42",
    "city" : "Testcity",
    "country" : "TestCountry",
    "creationDate" : "2011-11-22T13:23:05.870+01:00",
    "description" : "Test Description",
    "fax" : "Test Fax no 4711",
    "name" : "REST Services Test Account",
    "origin" : "primaryhub",
    "phone" : "Test phone 0815",
    "postalCode" : "123456",
    "state" : "Teststate",
    "webSite" : "www.testrest.com"
}

Update an Existing Account

URL
/accounts/{account_id}

Method
PUT

Input
AccountDocument

Returns
204 No Content (=OK)
401 Unauthorized
404 Not Found
<table>
<thead>
<tr>
<th>Valid Users</th>
<th>UIM Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>
| Sample Request (XML)        | PUT /rest/accounts/8 HTTP/1.1  
Content-Type: application/xml  
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<account>  
   <accountId>8</accountId>  
   <address>Teststreet 42</address>  
   <city>Testcity</city>  
   <country>TestCountry</country>  
   <description>Test Description</description>  
   <fax>Test Fax no 4711</fax>  
   <name>REST Services Test Account</name>  
   <origins>primaryhub</origins>  
   <phone>Test phone 0815</phone>  
   <postalCode>123456</postalCode>  
   <state>Teststate</state>  
   <website>www.testrest.com</website>  
</account> | PUT /rest/accounts/8 HTTP/1.1  
Content-Type: application/xml  
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<account>  
   <accountId>8</accountId>  
   <address>Teststreet 42</address>  
   <city>Testcity</city>  
   <country>TestCountry</country>  
   <description>Test Description</description>  
   <fax>Test Fax no 4711</fax>  
   <name>REST Services Test Account</name>  
   <origins>primaryhub</origins>  
   <phone>Test phone 0815</phone>  
   <postalCode>123456</postalCode>  
   <state>Teststate</state>  
   <website>www.testrest.com</website>  
</account> |
| Sample Request (XML)        | **Sample Reply**  
HTTP/1.1 204 No Content  
**Sample Reply**  
HTTP/1.1 204 No Content | PUT /rest/accounts/8 HTTP/1.1  
Content-Type: application/json  
{
   "accountId":"8",
   "address":"Teststreet 42",
   "city":"Testcity",
   "country":"TestCountry",
   "description":"Test Description",
   "fax":"Test Fax no 4711",
   "name":"REST Services Test Account",
   "origin":"primaryhub",
   "phone":"Test phone 0815",
   "postalCode":"123456",
   "state":"Teststate",
   "website":"www.testrest.com"
} |
| Sample Request (JSON)       | **Sample Reply**  
HTTP/1.1 204 No Content  
**Sample Reply**  
HTTP/1.1 204 No Content | PUT /rest/accounts/8 HTTP/1.1  
Content-Type: application/json  
{
   "accountId":"8",
   "address":"Teststreet 42",
   "city":"Testcity",
   "country":"TestCountry",
   "description":"Test Description",
   "fax":"Test Fax no 4711",
   "name":"REST Services Test Account",
   "origin":"primaryhub",
   "phone":"Test phone 0815",
   "postalCode":"123456",
   "state":"Teststate",
   "website":"www.testrest.com"
} |
| Sample Request (JSON)       | **Sample Reply**  
HTTP/1.1 204 No Content  
**Sample Reply**  
HTTP/1.1 204 No Content | PUT /rest/accounts/8 HTTP/1.1  
Content-Type: application/json  
{
   "accountId":"8",
   "address":"Teststreet 42",
   "city":"Testcity",
   "country":"TestCountry",
   "description":"Test Description",
   "fax":"Test Fax no 4711",
   "name":"REST Services Test Account",
   "origin":"primaryhub",
   "phone":"Test phone 0815",
   "postalCode":"123456",
   "state":"Teststate",
   "website":"www.testrest.com"
} |
<p>| Delete an Account           | <strong>Delete an Account</strong>      |
| URL                         | /accounts/{account_id}     |
| Method                      | DELETE                     |
| Input                       | -                          |
| Returns                     | 204 No Content (=OK)       |
|                            | 401 Unauthorized           |
|                            | 404 Not Found              |</p>
<table>
<thead>
<tr>
<th>Valid Users</th>
<th>UIM Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
<tr>
<td>Sample Request</td>
<td>DELETE /rest/accounts/14 HTTP/1.1</td>
</tr>
<tr>
<td>Sample Reply</td>
<td>HTTP/1.1 204 No Content</td>
</tr>
</tbody>
</table>

**Get Account Contacts**

This call can be used to retrieve the contacts associated with the Account. In order to create/delete contacts, please see the Contact-related calls.

<table>
<thead>
<tr>
<th>URL</th>
<th>/accounts/{account_id}/contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – ContactList structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
<tr>
<td>Sample Request</td>
<td>GET /rest/accounts/3/contacts HTTP/1.1 Accept: application/xml</td>
</tr>
</tbody>
</table>
| Sample Reply (XML) | HTTP/1.1 200 OK Content-Type: application/xml  
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<contactlist>  
  <contact>  
    <accountId>3</accountId>  
    <acl>Guest</acl>  
    <contactId>4</contactId>  
    <creationDate>2011-10-28T16:45:18+02:00</creationDate>  
    <department></department>  
    <description></description>  
    <email></email>  
    <firstName></firstName>  
    <lastName></lastName>  
    <loginName>contact</loginName>  
    <mobile></mobile>  
    <password>a9Ki6Vu+O6S56vAZHtK95Q==</password>  
    <phone></phone>  
    <title></title>  
  </contact>  
  <contact>  
    <accountId>3</accountId>  
    <acl>Administrator</acl>  
  </contact>  
</contactlist>
<contactId>5</contactId>  
<creationDate>2011-10-28T16:45:18+02:00</creationDate>  
<department></department>  
<description></description>  
<email></email>  
<firstName></firstName>  
<lastName></lastName>  
<loginName>contactadmin</loginName>  
<mobile></mobile>  
<password>a9Ki6Vu+bO6S56vAZXH9S==</password>  
<phone></phone>  
<title></title>  
</contact>  
</contactlist>  

Sample Reply (JSON)  

HTTP/1.1 200 OK  
Content-Type: application/json  

```json  
{  
  "contact": [  
    {  
      "accountId":"3",  
      "acl":"AccountOp",  
      "contactId":"2",  
      "creationDate":"2011-10-11T09:42:42+02:00",  
      "department":"",  
      "description":"",  
      "email":"chris@lala.com",  
      "firstName":"",  
      "lastName":"",  
      "loginName":"chris",  
      "mobile":"",  
      "password":"osfPlF9dQcjKj66Hml8pg==",  
      "phone":"",  
      "title":""  
    },  
    {  
      "accountId":"3",  
      "acl":"AccountOp",  
      "contactId":"3",  
      "creationDate":"2011-10-11T09:51:38+02:00",  
      "department":"",  
      "description":"",  
      "email":"",  
      "firstName":"",  
      "lastName":"",  
      "loginName":"remko",  
      "mobile":"",  
      "password":"MNL1sYsagL8G9FjJkPw==",  
      "phone":"",  
      "title":""  
    },  
    ...  
  ]  
}  
```

Get Account Configuration Items  

**URL**  
/accounts/{account_id}/configuration_items  

**Method**  
GET
**Add Account Configuration Items**

*Note:* If you get a foreign key constraint error on "FK_CM_CONFIGURATION_ITEM_OWNERHIPS_CI" it is likely that the configuration item id supplied is not a valid input. One way of finding a valid ci id is by using the "get CI Metric" call.

**URL**
/accounts/{account_id}/configuration_items

**Method**
POST

**Input**
ConfigurationItemList structure containing ConfigurationItemIds

**Returns**
204 No Content (=OK)
401 Unauthorized
404 Not Found

**Valid Users**
UIM Users

**Required Permissions**
Web Service, Account Administration

**Sample Request (XML)**
```
POST /rest/accounts/32/configuration_items HTTP/1.1
Content-Type: application/xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ci-list>
  <ci>C0869202F0CCE4AFD41EE074E9AAF4D25</ci>
</ci-list>
```
### Sample Reply (XML)
HTTP/1.1 204 No Content

### Sample Request (JSON)
```json
POST /rest/accounts/39/configuration_items HTTP/1.1
Accept: application/json
Content-Type: application/json
{
    "ci":"C0869202F0CCE4AFD41EE074E9AAF4D25"
}
```

### Sample Reply (JSON)
HTTP/1.1 204 No Content

---

### Remove Account Configuration Items

<table>
<thead>
<tr>
<th>URL</th>
<th>/accounts/{account_id}/configuration_items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>DELETE</td>
</tr>
<tr>
<td>Input</td>
<td>ConfigurationItemList structure</td>
</tr>
<tr>
<td>Returns</td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

| Sample Request (XML) | DELETE /rest/accounts/32/configuration_items HTTP/1.1
Content-Type: application/xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ci-list>
    <ci>C0869202F0CCE4AFD41EE074E9AAF4D25</ci>
</ci-list> |
| Sample Reply (XML) | HTTP/1.1 204 No Content |

| Sample Request (JSON) | DELETE /rest/accounts/39/configuration_items HTTP/1.1
Content-Type: application/json
{
    "ci":"C0869202F0CCE4AFD41EE074E9AAF4D25"
} |
| Sample Reply (JSON) | HTTP/1.1 204 No Content |

---

### Get Account Computer Systems

<table>
<thead>
<tr>
<th>URL</th>
<th>/accounts/{account_id}/computer_systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
</tbody>
</table>
### Add Account Computer Systems

<table>
<thead>
<tr>
<th><strong>URL</strong></th>
<th>/accounts/{account_id}/computer_systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method</strong></td>
<td>POST</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>ComputerSystemList structure containing Computer System IDs</td>
</tr>
<tr>
<td><strong>Returns</strong></td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td><strong>Valid Users</strong></td>
<td>UIM Users</td>
</tr>
<tr>
<td><strong>Required Permissions</strong></td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>
| **Sample Request (XML)** | POST /rest/accounts/32/computer_systems HTTP/1.1 Content-Type: application/xml  
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<cs-list>  
<cs>9</cs>  
<cs>10</cs>  
</cs-list> |
| **Sample Reply (XML)** | HTTP/1.1 204 No Content  
|
| **Sample Request (JSON)** | POST /rest/accounts/32/computer_systems HTTP/1.1 Content-Type: application/json  
{  
"cs-list":  
[  
"cs" : ["9", "10"]  
]  
}  
| **Sample Reply (JSON)** | HTTP/1.1 204 No Content  
|
## Remove Account Computer Systems

<table>
<thead>
<tr>
<th>URL</th>
<th>POST /rest/accounts/39/computer_systems HTTP/1.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>DELETE</td>
</tr>
<tr>
<td>Input</td>
<td>ComputerSystemList structure containing Computer System IDs</td>
</tr>
<tr>
<td>Returns</td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

### Sample Request (XML)

```xml
<cs-list>
  <cs>9</cs>
  <cs>10</cs>
</cs-list>
```

### Sample Reply (XML)

HTTP/1.1 204 No Content

### Sample Request (JSON)

```json
{
  "cs": ["9","10"]
}
```

### Sample Reply (JSON)

HTTP/1.1 204 No Content

## Add Origin to an Account

<table>
<thead>
<tr>
<th>URL</th>
<th>POST /rest/accounts/39/computer_systems HTTP/1.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>DELETE</td>
</tr>
<tr>
<td>Input</td>
<td>ComputerSystemList structure containing Computer System IDs</td>
</tr>
<tr>
<td>Returns</td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

### Sample Request (XML)

```xml
<cs-list>
  <cs>9</cs>
  <cs>10</cs>
</cs-list>
```

### Sample Reply (XML)

HTTP/1.1 204 No Content

### Sample Request (JSON)

```json
{
  "cs": ["9","10"]
}
```

### Sample Reply (JSON)

HTTP/1.1 204 No Content
<table>
<thead>
<tr>
<th>Method</th>
<th>POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>Origins to be added</td>
</tr>
<tr>
<td>Returns</td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

**Sample Request (XML)**
```xml
POST /rest/accounts/54/origins HTTP/1.1
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<origins>
  <origin>Origin1</origin>
  <origin>Origin2</origin>
</origins>
```

**Sample Reply (XML)**
HTTP/1.1 204 No Content

**Sample Request (JSON)**
```json
DELETE /rest/accounts/54/origin/Origin1 HTTP/1.1
Content-Type: application/json

{
  "origin": ["Origin1", "Origin2"]
}
```

**Sample Reply (JSON)**
HTTP/1.1 204 No Content

---

**Remove Origin from Account**

<table>
<thead>
<tr>
<th>URL</th>
<th>/accounts/{account_id}/origin/{origin name}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>DELETE</td>
</tr>
<tr>
<td>Input</td>
<td>None</td>
</tr>
<tr>
<td>Returns</td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

**Sample Request (XML)**
```xml
DELETE /rest/accounts/54/origin/Origin1 HTTP/1.1
```

**Sample Reply**
HTTP/1.1 204 No Content
<table>
<thead>
<tr>
<th>(XML)</th>
<th>Sample Request (JSON)</th>
<th>Sample Reply (JSON)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>POST /rest/accounts/54/origin/Origin1 HTTP/1.1</td>
<td>HTTP/1.1 204 No Content</td>
</tr>
</tbody>
</table>
### Contact related calls

#### Get a Contact

<table>
<thead>
<tr>
<th>URL</th>
<th>/contacts/{contact_id}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – Contact structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

**Sample Request**

GET /rest/contacts/5 HTTP/1.1  
Accept: application/xml

**Sample Reply (XML)**

```
HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<contact>
  <accountId>3</accountId>
  <acl>Administrator</acl>
  <contactId>5</contactId>
  <creationDate>2011-10-28T16:45:18+02:00</creationDate>
  <department></department>
  <description></description>
  <email></email>
  <firstName></firstName>
  <lastName></lastName>
  <loginName>contactadmin</loginName>
  <mobile></mobile>
  <password>a9Ki6Vu+O6S56vAZHKK95Q==</password>
  <phone></phone>
  <title></title>
</contact>
```

**Sample Reply (JSON)**

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "accountId": "3",
  "acl": "Administrator",
  "contactId": "5",
  "creationDate": "2011-10-28T16:45:18+02:00",
  "department": "",
  "description": "",
  "email": "",
  "firstName": "",
  "lastName": "",
  "loginName": "contactadmin",
  "mobile": "",
  "password": "a9Ki6Vu+O6S56vAZHKK95Q==",
  "phone": ""
}
```
Create a New Contact

Please note that the accountId specified in the request xml/JSON must be the id of a valid account. If it is not, you will get a foreign key constraint error.

<table>
<thead>
<tr>
<th>URL</th>
<th>/contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>POST</td>
</tr>
<tr>
<td>Input</td>
<td>Contact structure</td>
</tr>
<tr>
<td>Returns</td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

Sample Request (XML)

POST /rest/contacts HTTP/1.1
Accept: application/xml
Content-Type: application/xml

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<contact>
  <accountId>21</accountId>
  <contactId>0</contactId>
  <firstName>Testfirstname</firstName>
  <lastName>Testlastname</lastName>
  <loginName>testcontact</loginName>
  <password>lalala</password>
</contact>
```

Sample Reply (XML)

HTTP/1.1 200 OK
Content-Type: application/xml

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<contact>
  <accountId>21</accountId>
  <contactId>8</contactId>
  <creationDate>2011-11-03T15:47:29.703+01:00</creationDate>
  <firstName>Testfirstname</firstName>
  <lastName>Testlastname</lastName>
  <loginName>testcontact</loginName>
  <password>osfPf9dQcjkJ66Hml8pg==</password>
</contact>
```

Sample Request (JSON)

POST /rest/contacts HTTP/1.1
Accept: application/json
Content-Type: application/json

```json
{
  "accountId": "41",
  "contactId": "0",
  "firstName": "Testfirstname",
  "lastName": "Testlastname",
  "loginName": "testcontact",
```
## Update an Existing Contact

**URL**
/contacts/{contact_id}

**Method**
PUT

**Input**
ContactDocument

**Returns**
- 204 No Content (=OK)
- 401 Unauthorized
- 404 Not Found

**Valid Users**
- UIM Users

**Required Permissions**
- Web Service, Account Administration

**Sample Request (XML)**
```xml
PUT /rest/contacts/13 HTTP/1.1
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<contact>
  <accountId>26</accountId>
  <contactId>13</contactId>
  <creationDate>2011-11-03T16:28:48.860+01:00</creationDate>
  <firstName>Testfirstname</firstName>
  <lastName>Testmodifiedlastname</lastName>
  <loginName>testcontact</loginName>
</contact>
```

**Sample Reply (XML)**
```xml
HTTP/1.1 204 No Content
```

**Sample Request (JSON)**
```json
PUT /rest/contacts/18 HTTP/1.1
Content-Type: application/json

{  
  "accountId":"41",
  "contactId":"18",
  "creationDate":"2011-11-22T13:51:41.840+01:00",
  "firstName":"Testfirstname",
  "lastName":"Testmodifiedlastname",
  "loginName":"testcontact",
  "password":"osfPf9dQcjk66HMl8pg=="
}
```
### Update an Existing Contacts Password

<table>
<thead>
<tr>
<th>URL</th>
<th>/contacts/{contact_id}/password</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>PUT</td>
</tr>
<tr>
<td>Input</td>
<td>ContactDocument with new clear text password</td>
</tr>
<tr>
<td>Returns</td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account User</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, [Account Administration only required for UIM Users and Account users not equal to the modified contact]</td>
</tr>
</tbody>
</table>

**Sample Request**

```xml
PUT /rest/contacts/13/password HTTP/1.1
Content-Type: application/xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<contact>
  <password >newpassword</password>
</contact>
```

**Sample Reply**

HTTP/1.1 204 No Content

### Delete an Existing Contact

<table>
<thead>
<tr>
<th>URL</th>
<th>/contacts/{contact_id}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>DELETE</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

**Sample Request**

```http
DELETE /rest/contacts/8 HTTP/1.1
```

**Sample Reply**

HTTP/1.1 204 No Content
# UIM Infrastructure Related Calls

## Get List of Hubs

<table>
<thead>
<tr>
<th>URL</th>
<th>/hubs (optional query parameters: ?maxrows=2&amp;offset=5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – HubList structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required</td>
<td>Web Service</td>
</tr>
<tr>
<td>Permissions</td>
<td></td>
</tr>
</tbody>
</table>

**Sample Request**

GET /rest/hubs HTTP/1.1
Accept: application/xml

**Sample Reply (XML)**

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?
<hublist>
  <hub>
    <address>/chris-dev/primaryhub/win-cxp6lpt7v6g</address>
    <ip>192.168.211.129</ip>
    <name>primaryhub</name>
    <port>48002</port>
    <robotName>win-cxp6lpt7v6g</robotName>
    <status>0</status>
    <version>5.44 [Apr 26 2011]</version>
  </hub>
</hublist>
```

**Sample Reply (JSON)**

```json
{   "hub": {       "address": "/chris-dev/primaryhub/win-cxp6lpt7v6g",       "ip": "192.168.211.129",       "name": "primaryhub",       "port": "48002",       "robotName": "win-cxp6lpt7v6g",       "status": "0",       "version": "5.44 [Apr 26 2011]"   }
}
## Get List of Robots

<table>
<thead>
<tr>
<th>URL</th>
<th>/hubs/{domain}/{hubname}/{hubrobotname}/robots (optional query parameters: ?maxrows=2&amp;offset=5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
</tbody>
</table>
| Returns | 200 OK – RobotList structure  
401 Unauthorized  
404 Not Found                                                                 |
| Valid Users | UIM Users, Account Users  
Required Permissions | Web Service |

### Sample Request

GET /rest/hubs/chris-dev/primaryhub/win-cxp6lpt7v6g HTTP/1.1  
Accept: application/xml

### Sample Reply (XML)

```
HTTP/1.1 200 OK  
Content-Type: application/xml  

<robotlist>  
  <robot>  
    <address>/chris-dev/primaryhub/nb-1538</address>  
    <ip>192.168.211.1</ip>  
    <name>nb-1538</name>  
    <status>0</status>  
    <version>5.32 Mar 21 2011</version>  
  </robot>  
  <robot>  
    <address>/chris-dev/primaryhub/win-cxp6lpt7v6g</address>  
    <ip>192.168.211.129</ip>  
    <name>win-cxp6lpt7v6g</name>  
    <status>0</status>  
    <version>5.32 Apr 26 2011</version>  
  </robot>  
</robotlist>
```

### Sample Reply (JSON)

```
HTTP/1.1 200 OK  
Content-Type: application/json  

{
  "robot": [  
    {  
      "address": "/chris-dev/primaryhub/win-cxp6lpt7v6g",
      "ip": "192.168.211.129",
      "name": "win-cxp6lpt7v6g",
      "status": "0",
      "version": "5.32 Apr 26 2011"
    },  
    {  
      "address": "/chris-dev/primaryhub/nb-1538",
      "ip": "192.168.211.1",
      "name": "nb-1538",
      "status": "0",
      "version": "5.32 Mar 21 2011"
    }
  ]
}
## Get Robot Details

<table>
<thead>
<tr>
<th><strong>URL</strong></th>
<th>/hubs/{domain}/{hub}/{robot}</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method</strong></td>
<td>GET</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Returns</strong></td>
<td>200 OK – Robot structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td><strong>Valid Users</strong></td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td><strong>Required Permissions</strong></td>
<td>Web Service</td>
</tr>
<tr>
<td><strong>Sample Request</strong></td>
<td>GET /rest/hubs/chris-dev/primaryhub/win-cxp6lpt7v6g HTTP/1.1 Accept: application/xml</td>
</tr>
</tbody>
</table>

### Sample Reply (XML)

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<robot>
    <address>/chris-dev/primaryhub/win-cxp6lpt7v6g</address>
    <ip>192.168.211.129</ip>
    <name>win-cxp6lpt7v6g</name>
    <status>0</status>
    <version>5.32 Apr 26 2011</version>
    <probes>
        <active>true</active>
        <address>/chris-dev/primaryhub/win-cxp6lpt7v6g/controller</address>
        <command>controller.exe</command>
        <config>robot.cfg</config>
        <description>Robot process and port controller</description>
        <group>Infrastructure</group>
        <ip>192.168.211.129</ip>
        <logfile>controller.log</logfile>
        <name>controller</name>
        <packageName>robot_update</packageName>
        <packageVersion>5.32</packageVersion>
        <pid>1620</pid>
        <port>48000</port>
        <timesActivated>0</timesActivated>
        <timesStarted>1</timesStarted>
        <timespec></timespec>
        <type>0</type>
        <workdir>robot</workdir>
    </probes>
    <probes>
        <active>true</active>
        <address>/chris-dev/primaryhub/win-cxp6lpt7v6g/hub</address>
        <arguments></arguments>
        <command>hub.exe</command>
        <config>hub.cfg</config>
    </probes>
</robot>
```
HTTP/1.1 200 OK
Content-Type: application/json

```json
{
    "address": "/chris-dev/primaryhub/win-cxp6lpt7v6g",
    "ip": "192.168.211.129",
    "name": "win-cxp6lpt7v6g",
    "probes": [
        {
            "active": "true",
            "address": "/chris-dev/primaryhub/win-cxp6lpt7v6g/controller",
            "command": "controller.exe",
            "config": "robot.cfg",
            "description": "Robot process and port controller",
            "group": "Infrastructure",
            "ip": "192.168.211.129",
            "logfile": "controller.log",
            "name": "controller",
            "packageName": "robot_update",
            "packageVersion": "5.32",
            "pid": "1680",
            "port": "48000",
            "timesActivated": "0",
            "timesStarted": "1",
            "timespec": "",
            "type": "",
            "workdir": "robot"
        },
        {
            "active": "true",
            "address": "/chris-dev/primaryhub/win-cxp6lpt7v6g/hub",
            "arguments": "",
            ...
        }
    ],
    "status": "0",
    "version": "5.32 Apr 26 2011"
}
```

### Get List of Archive Packages

<table>
<thead>
<tr>
<th>URL</th>
<th>/archive/list</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
</tbody>
</table>
| Returns | 200 OK – ArchiveList structure  
401 Unauthorized  
404 Not Found |
| Valid Users | UIM Users, Account Users |
| Required Permissions | Web Service, Archive Management |
Sample Request

GET /rest/archive/list HTTP/1.1
Accept: application/xml

HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<archive-items>
  <archive-item>
    <build>1</build>
    <contains>0</contains>
    <date>26.04.2011</date>
    <description>Automatic Configuration Engine</description>
    <fileName>ace.zip</fileName>
    <group>Service</group>
    <name>ace</name>
    <version>2.18</version>
  </archive-item>
  <archive-item>
    <build>14</build>
    <contains>0</contains>
    <date>13.10.2010</date>
    <description>Alarm augmentation and routing component</description>
    <fileName>alarm_augmentation_3.11.zip</fileName>
    <group>Application</group>
    <name>alarm_augmentation</name>
    <version>3.11</version>
  </archive-item>
  [...]
</archive-items>

Sample Reply (XML)

HTTP/1.1 200 OK
Content-Type: application/json

{
  "archive-item": [
    {
      "build": "1",
      "contains": "0",
      "date": "26.04.2011",
      "description": "Automatic Configuration Engine",
      "fileName": "ace.zip",
      "group": "Service",
      "name": "ace",
      "version": "2.18"
    },
    {
      "build": "14",
      "contains": "0",
      "date": "13.10.2010",
      "description": "Alarm augmentation and routing component",
      "fileName": "alarm_augmentation_3.11.zip",
      "group": "Application",
      "name": "alarm_augmentation",
      "version": "3.11"
    },
    ...
  ]
}
Dashboard Related Calls

Note: These calls allow you to retrieve the deprecated Enterprise Console-type dashboards and do not cover the Custom Dashboards from UMP.

Get Dashboards

<table>
<thead>
<tr>
<th>URL</th>
<th>/dashboards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
</tbody>
</table>
| Returns   | 200 OK – DashboardList structure  
401 Unauthorized  
404 Not Found |
| Valid Users | UIM Users, Account Users |
| Required Permissions | Web Service |

Sample Request

GET /dashboards HTTP/1.1
Accept: application/xml

Sample Reply (XML)

HTTP/1.1 200 OK
Content-Type: application/xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<dashboards>
<dashboard>Example</dashboard>
<dashboard>MSP-ISP</dashboard>
</dashboards>

Sample Reply (JSON)

HTTP/1.1 200 OK
Content-Type: application/xml
{
  "dashboard": [ 
    "Example", 
    "MSP-ISP"
  ]
}

Get Dashboard State

<table>
<thead>
<tr>
<th>URL</th>
<th>/dashboards/{dashboard-name}/state</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
</tbody>
</table>
| Returns   | 200 OK – AlarmSeverity structure  
401 Unauthorized  
404 Not Found |
<table>
<thead>
<tr>
<th>Valid Users</th>
<th>UIM Users, Account Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
<tr>
<td>Sample Request</td>
<td>GET /rest/dashboards/Example/state HTTP/1.1 Accept: application/xml</td>
</tr>
<tr>
<td>Sample Reply</td>
<td>HTTP/1.1 200 OK</td>
</tr>
<tr>
<td></td>
<td>Content-Type: application/xml</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>
## ConfigurationItem (CI) Data Retrieval Calls

### Get CI Definitions

This call returns a list of all CI definitions. This call is not limited to definitions delivered by components belonging to the account of an account user.

<table>
<thead>
<tr>
<th>URL</th>
<th>/ci/definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – CIDefinitionList structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
<tr>
<td>Sample Request</td>
<td>GET /rest/ci/definitions HTTP/1.1 Accept: application/xml</td>
</tr>
</tbody>
</table>

### Sample Reply (XML)

```
HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ci_definition_list>
  <ci_definition>
    <type>1</type>
    <description>System</description>
    <parent xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:nil="true"/>
    <children_list>
      <ci_definition>
        <type>1.1</type>
        <description>System.Disk</description>
        <parent>1</parent>
        <children_list/>
      </ci_definition>
      <ci_definition>
        <type>1.1.1</type>
        <description>System.Disk.Filesystem</description>
        <parent>1.1</parent>
        <children_list/>
      </ci_definition>
      <ci_definition>
        <type>1.1.2</type>
        <description>System.Disk.Partition</description>
        <parent>1.1</parent>
        <children_list/>
      </ci_definition>
    </children_list>
  </ci_definition>
  <ci_definition>
    <type>1.10</type>
    <description>System.File</description>
    <parent>1</parent>
  </ci_definition>
</ci_definition_list>
```
<children_list>
  <ci_definition>
    <type>1.10.1</type>
    <description>System.File.XML</description>
    <parent>1.10</parent>
    <children_list />
  </ci_definition>
</children_list>

HTTP/1.1 200 OK
Content-Type: application/json

{
  "ci_definition": [
    {
      "type": "1",
      "description": "System",
      "parent": {
        "@nil": "true"
      },
      "children_list": [
        "ci_definition": [
          {
            "type": "1.1",
            "description": "System.Disk",
            "parent": "1",
            "children_list": [
              "ci_definition": [
                {
                  "type": "1.1.1",
                  "description": "System.Disk.Filesystem",
                  "parent": "1.1",
                  "children_list": null
                },
                {
                  "type": "1.1.2",
                  "description": "System.Disk.Partition",
                  "parent": "1.1",
                  "children_list": null
                }
              ]
            ]
          },
          {
            "type": "1.10",
            "description": "System.File",
            "parent": "1",
            "children_list": [
              "ci_definition": [
                {
                  "type": "1.10.1",
                  "description": "System.File.XML",
                  "parent": "1.10",
                  "children_list": null
                }
              ]
            ]
          }
        ]
      }
    }
  ]
}

Sample Reply
(JSON)
**Get CI Definition**

This call returns an individual CI definition for a given ci_type. This call is not limited to definitions delivered by components belonging to the account of an account user. The ci_type can be determined by retrieving all definitions and looking for the correct match.

<table>
<thead>
<tr>
<th>URL</th>
<th>/ci/definition/{ci_type}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – CIDefinition structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
<tr>
<td>Sample Request</td>
<td>GET /rest/ci/definitions/3.24 HTTP/1.1</td>
</tr>
<tr>
<td></td>
<td>Accept: application/xml</td>
</tr>
</tbody>
</table>

**Sample Reply (XML)**

```
HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<ci_definition>
  <type>3.24</type>
  <description>Application.OCS</description>
  <parent>3</parent>
  <children_list>
    <ci_definition>
      <type>3.24.1</type>
      <description>Application.OCS.EventLogs</description>
      <parent>3.24</parent>
      <children_list />
    </ci_definition>
    <ci_definition>
      <type>3.24.2</type>
      <description>Application.OCS.Files</description>
      <parent>3.24</parent>
      <children_list />
    </ci_definition>
    <ci_definition>
      <type>3.24.3</type>
      <description>Application.OCS.Filesystem</description>
      <parent>3.24</parent>
      <children_list />
    </ci_definition>
    <ci_definition>
      <type>3.24.4</type>
      <description>Application.OCS.PerformanceCounters</description>
      <parent>3.24</parent>
      <children_list>
        <ci_definition>
          <type>3.24.4.1</type>
          <description>Application.OCS.PerformanceCounters.DynamicCounters</description>
        </ci_definition>
      </children_list>
    </ci_definition>
  </children_list>
</ci_definition>
```
Sample Reply
(JSON)

HTTP/1.1 200 OK
Content-Type: application/json

{
    "type": "3.24",
    "description": "Application.OCS",
    "parent": "3",
    "children_list": {
        "ci_definition": {
            "type": "3.24.1",
            "description": "Application.OCS.EventLogs",
            "parent": "3.24",
            "children_list": null
        },
        {
            "type": "3.24.2",
            "description": "Application.OCS.Files",
            "parent": "3.24",
            "children_list": null
        },
        {
            "type": "3.24.3",
            "description": "Application.OCS.Filesystem",
            "parent": "3.24",
            "children_list": null
        },
        {
            "type": "3.24.4",
            "description": "Application.OCS.WMI.DynamicCounters",
            "parent": "3.24.7",
            "children_list": null
        }
    }
}
Get CI Metric Definitions

This call returns all CI metric definitions. This call is not limited to definitions delivered by components belonging to the account of an account user.

<table>
<thead>
<tr>
<th>URL</th>
<th>/ci/metricdefinitions/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – CIMetricDefinitionList structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
</tbody>
</table>
**Get CI Metric Definition**

This call returns an individual CI metric definition for a given metric_type. This call is not limited to definitions delivered by components belonging to the account of an account user. A metric_type can be determined by listing all metric definitions and searching for the one of interest.

<table>
<thead>
<tr>
<th><strong>URL</strong></th>
<th>/ci/metricdefinitions/{metric_type}</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method</strong></td>
<td>GET</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Returns</strong></td>
<td>200 OK – CIMetricDefinition structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td><strong>Valid Users</strong></td>
<td>UIM Users, Account Users</td>
</tr>
</tbody>
</table>
## Get CI Metric

This call returns an individual CI metric for a given metric_id. This call is not limited to definitions delivered by components belonging to the account of an account user.

<table>
<thead>
<tr>
<th>URL</th>
<th>/ci/metrics/{metric_id}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – CIMetric structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
</tbody>
</table>

### Sample Request

GET /rest/ci/metrics/M031B035E62A457DA2F674DD723D926F3 HTTP/1.1
Accept: application/xml

### Sample Reply (XML)

```xml
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<ci_metric>
  <metric_id>M031B035E62A457DA2F674DD723D926F3</metric_id>
  <ci_id>C4FDD4CE43A2F891815F7129E195ACBC1</ci_id>
  <metric_type>1.5:1</metric_type>
</ci_metric>
```

### Example

**Required Permissions**

Web Service

**Sample Request**

GET /rest/ci/metricdefinitions/1.10:21 HTTP/1.1
Accept: application/xml

**Sample Reply (XML)**

HTTP/1.1 200 OK
Content-Type: application/xml

```xml
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<ci_metric_definition>
  <metric_type>1.10:21</metric_type>
  <description>File Size In GB</description>
  <unit_type>GB</unit_type>
  <ci_type>1.10</ci_type>
</ci_metric_definition>
```

**Sample Reply (JSON)**

HTTP/1.1 200 OK
Content-Type: application/json

```json
{
  "metric_type":"1.10:21",
  "description":"File Size In GB",
  "unit_type":"GB",
  "ci_type":"1.10"
}
```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "metric_id": "M031B035E62A457DA2F674DD723D926F3",
  "ci_id": "C4FDD4CE43A2F891815F7129E195ACBC1",
  "metric_type": "1.5:1"
}
### QoS Data Retrieval Calls

#### Get QoS Definitions

This call returns a list of all QoS definitions. This call is not limited to definitions delivered by components belonging to the account of an account user.

<table>
<thead>
<tr>
<th>URL</th>
<th>/qos/definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – QoSDefinitionList structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
</tbody>
</table>

**Sample Request**

GET /rest/qos/definitions HTTP/1.1
Accept: application/xml

**Sample Reply (XML)**

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<qos-definitions>
  <qos-definition>
    <bool>false</bool>
    <description>CPU Usage</description>
    <hasMax>true</hasMax>
    <name>QOS_CPU_USAGE</name>
    <qosDefId>14</qosDefId>
    <qosGroup>QOS_MACHINE</qosGroup>
    <type>0</type>
    <unit>Percent</unit>
    <unitShort>%</unitShort>
  </qos-definition>
  <qos-definition>
    <bool>false</bool>
    <description>Disk Usage</description>
    <hasMax>true</hasMax>
    <name>QOS_DISK_USAGE</name>
    <qosDefId>12</qosDefId>
    <qosGroup>QOS_MACHINE</qosGroup>
    <type>0</type>
    <unit>Megabytes</unit>
    <unitShort>MB</unitShort>
  </qos-definition>
</qos-definitions>
```

**Sample Reply (JSON)**

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "qos-definition": [
    {
    ...
    }
  ]
```

Get a QoS Definition by Name

This call returns a QoS definition for a given QoS name. With the QoS-Definition, all source/target combinations are returned. For Account users, only source/target combinations of the matching origin are displayed.

**URL**

/qos/definitions/{qos-name}

**Method**

GET

**Input**

-

**Returns**

200 OK – QoSDefinition structure

401 Unauthorized

404 Not Found

**Valid Users**

UIM Users, Account Users

**Required Permissions**

Web Service

**Sample Request**

GET /rest/qos/definitions/QOS_CPU_USAGE HTTP/1.1

Accept: application/xml

**Sample Reply (XML)**

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<qos-definition>
  <bool>false</bool>
  <description>CPU Usage</description>
  <hasMax>true</hasMax>
  <name>QOS_CPU_USAGE</name>
  <qosDefId>14</qosDefId>
</qos-definition>
```
<qosGroup>QOS_MACHINE</qosGroup>
<type>0</type>
<unit>Percent</unit>
<unitShort>%</unitShort>
<sourceTargets>
<origin>primaryhub</origin>
<source>WIN-CXP6LPT7V6G</source>
<target>WIN-CXP6LPT7V6G</target>
</sourceTargets>
<sourceTargets>
<origin>primaryhub</origin>
<source>WIN-CXP6LPT7V6G</source>
<target>User</target>
</sourceTargets>
<sourceTargets>
<origin>primaryhub</origin>
<source>WIN-CXP6LPT7V6G</source>
<target>System</target>
</sourceTargets>
<sourceTargets>
<origin>primaryhub</origin>
<source>WIN-CXP6LPT7V6G</source>
<target>Wait</target>
</sourceTargets>
</qos-definition>

HTTP/1.1 200 OK
Content-Type: application/json

{
  "bool":"false",
  "description":"CPU Usage",
  "hasMax":"true",
  "name":"QOS_CPU_USAGE",
  "qosDefId":"14",
  "qosGroup":"QOS_MACHINE",
  "type":"0",
  "unit":"Percent",
  "unitShort":"%",
  "sourceTargets":[
    {
      "origin":"primaryhub",
      "source":"WIN-CXP6LPT7V6G",
      "target":"WIN-CXP6LPT7V6G"
    },
    {
      "origin":"primaryhub",
      "source":"WIN-CXP6LPT7V6G",
      "target":"User"
    },
    {
      "origin":"primaryhub",
      "source":"WIN-CXP6LPT7V6G",
      "target":"System"
    },
    {
      "origin":"primaryhub",
      "source":"WIN-CXP6LPT7V6G",
      "target":"Wait"
    },
    {
      "origin":"primaryhub",
      "source":"WIN-CXP6LPT7V6G",
      "target":"Idle"
    }
  ]
}
### Get Sources for QoS-Name

<table>
<thead>
<tr>
<th>URL</th>
<th>/qos/sources/{qos-name}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – QoS Source List</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required</td>
<td>Web Service</td>
</tr>
<tr>
<td>Permissions</td>
<td></td>
</tr>
</tbody>
</table>

**Sample Request**

GET /rest/qos/sources/QOS_CPU_USAGE HTTP/1.1
Accept: application/xml

**Sample Reply (XML)**

```
HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<qos-sources>
  <qos-source>
    <origin>primaryhub</origin>
    <source>192.168.0.1</source>
  </qos-source>
  <qos-source>
    <origin>primaryhub</origin>
    <source>192.168.0.120</source>
  </qos-source>
  <qos-source>
    <origin>primaryhub</origin>
    <source>WIN-CXP6LPT7V6G</source>
  </qos-source>
</qos-sources>
```

**Sample Reply (JSON)**

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "qos-source":{
    "origin":"primaryhub",
    "source":"WIN-CXP6LPT7V6G"
  }
}
```

### Get Targets for QoS-Name and Source

Returns a list of all targets for this combination of QoS-Name and Source.

<table>
<thead>
<tr>
<th>URL</th>
<th>/qos/targets/{qos-name}/{source-name}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – QoS Target List</td>
</tr>
</tbody>
</table>
### 401 Unauthorized
### 404 Not Found

**Valid Users**: UIM Users, Account Users

**Required Permissions**: Web Service

**Sample Request**

```
GET /rest/qos/targets/QOS_CPU_USAGE/WIN-CXP6LPT7V6G HTTP/1.1
Accept: application/xml
```

**Sample Reply (XML)**

```
HTTP/1.1 200 OK
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<targets>
  <target>Idle</target>
  <target>System</target>
  <target>User</target>
  <target>Wait</target>
  <target>WIN-CXP6LPT7V6G</target>
</targets>
```

**Sample Reply (JSON)**

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "target": ["Idle", "System", "User", "Wait", "WIN-CXP6LPT7V6G"]
}
```

---

**Get Targets for QoS-Name and Source for a Given Origin**

**URL**

```
/qos/targets/{qos-name}/{source-name}/{origin}
```

**Method**

GET

**Input**

-

**Returns**

- 200 OK – QoS Target List
- 401 Unauthorized
- 404 Not Found

**Valid Users**: UIM Users, Account Users

**Required Permissions**: Web Service

**Sample Request**

```
GET /rest/qos/targets/QOS_CPU_USAGE/WIN-CXP6LPT7V6G/primaryhub HTTP/1.1
Accept: application/xml
```

**Sample Reply (XML)**

```
HTTP/1.1 200 OK
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<targets>
```

---
Get Raw QoS Data

This call returns “raw” QoS data. In UIM, “raw” data will return all data points that are stored for that combination of QoS Name, source and target. The alternative is “historical” = aggregated data. To retrieve aggregated data, see the call “Get historical QoS Data” (or simply append a “/historical” to this call).

**URL**

```
/qos/data /name/{qosname}/{source}/{target}/{from}/{to}/{maxrows}
```

Parameter explanation:
- “qosname” is the name of a QoS definition, e.g. “QOS_CPU_USAGE”.
- “source” is the name of a valid QoS source for that QoS definition.
- “target” is a valid target-value for the combination of QoS Name and Source.
- “from” should be a date in the format yyyyddMMHHmm (e.g. 201107131200) or one of the following keywords: lasthour, lastday, lastweek, lastmonth.
- “to” should be a date in the format yyyyddMMHHmm (e.g. 201111090000) or the keyword “now” which will be resolved to the current date and time on the server.
- “maxrows” indicates the maximum number of datapoints to return (0 = unlimited).

**Method**

GET

**Input**

- Returns

200 OK – QoS Data List

401 Unauthorized

404 Not Found

**Valid Users**

UIM Users, Account Users

**Required Permissions**

Web Service

**Sample Request**

GET /rest/qos/data/name/QOS_CPU_USAGE/WIN-CXP6LPT7V6G/WIN-CXP6LPT7V6G/201101010000/201111090000/20 HTTP/1.1
Accept: application/xml

**Sample Reply (XML)**

```
<target>Idle</target>  
<target>System</target>  
<target>User</target>  
<target>Wait</target>  
<target>WIN-CXP6LPT7V6G</target>  
</targets>

HTTP/1.1 200 OK  
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
```
<qos-data>
    <data>
      <sampletime>2011-11-11T00:00:00+01:00</sampletime>
      <samplevalue>30.09</samplevalue>
      <tableid>1</tableid>
      <tz_offset>-3600</tz_offset>
    </data>
    <data>
      <sampletime>2011-11-11T00:00:00+01:00</sampletime>
      <samplevalue>62.2</samplevalue>
      <tableid>1</tableid>
      <tz_offset>-3600</tz_offset>
    </data>
    <data>
      <sampletime>2011-11-11T00:00:00+01:00</sampletime>
      <samplevalue>71.04</samplevalue>
      <tableid>1</tableid>
      <tz_offset>-3600</tz_offset>
    </data>
    <data>
      <sampletime>2011-11-11T00:00:00+01:00</sampletime>
      <samplevalue>53.72</samplevalue>
      <tableid>1</tableid>
      <tz_offset>-3600</tz_offset>
    </data>
  </qos-data>

HTTP/1.1 200 OK
Content-Type: application/json

{
  "data": [
    {
      "sampletime": "2011-11-17T00:00:00+01:00",
      "samplevalue": "54.65",
      "tableid": "1",
      "tz_offset": "-3600"
    },
    {
      "sampletime": "2011-11-17T00:00:00+01:00",
      "samplevalue": "75.13",
      "tableid": "1",
      "tz_offset": "-3600"
    },
    {
      "sampletime": "2011-11-17T00:00:00+01:00",
      "samplevalue": "92.49",
      "tableid": "1",
      "tz_offset": "-3600"
    },
    {
      "sampletime": "2011-11-17T00:00:00+01:00",
      "samplevalue": "85.23",
      "tableid": "1",
      "tz_offset": "-3600"
    }
  ]
}
## Get QoS Data Using MetricId

<table>
<thead>
<tr>
<th>URL</th>
<th><code>/qos/data /metricid/[ci_metric_id]/[from]/[to]/[maxrows]</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter explanation:</td>
<td></td>
</tr>
<tr>
<td>- “ci_metric_id” – a valid Configuration Item Metric Id. This ID can be retrieved from alarms.</td>
<td></td>
</tr>
<tr>
<td>“from” should be a date in the format <code>yyyyddMMHHmm</code> (e.g. <code>201107131200</code>) or one of the following keywords: lasthour, lastday, lastweek, lastmonth.</td>
<td></td>
</tr>
<tr>
<td>“to” should be a date in the format <code>yyyyddMMHHmm</code> (e.g. <code>201111100938</code>) or the keyword “now” which will be resolved to the current date and time on the server.</td>
<td></td>
</tr>
<tr>
<td>“maxrows” indicates the maximum number of datapoints to return (0 = unlimited).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method</th>
<th>GET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Returns</th>
<th>200 OK – QoS Data List</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Valid Users</th>
<th>UIM Users, Account Users</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Required Permissions</th>
<th>Web Service</th>
</tr>
</thead>
</table>

| Sample Request | GET `/rest/qos/data/metricid/MDF2DD98996F2EB3FCF3C60B4AC9A5F5S/201101010000/201111111257/20 HTTP/1.1 Accept: application/xml |

<table>
<thead>
<tr>
<th>Sample Reply (XML)</th>
<th>HTTP/1.1 200 OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;!--xml version=&quot;1.0&quot; encoding=&quot;UTF-8&quot; standalone=&quot;yes&quot;--&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;qos-data&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;data&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;sampletime&gt;2011-11-11T00:00:00+01:00&lt;/sampletime&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;samplevalue&gt;30.09&lt;/samplevalue&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;tableid&gt;1&lt;/tableid&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;tz_offset&gt;-3600&lt;/tz_offset&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;/data&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;data&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;sampletime&gt;2011-11-11T00:00:00+01:00&lt;/sampletime&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;samplevalue&gt;62.2&lt;/samplevalue&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;tableid&gt;1&lt;/tableid&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;tz_offset&gt;-3600&lt;/tz_offset&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;/data&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;data&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;sampletime&gt;2011-11-11T00:00:00+01:00&lt;/sampletime&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;samplevalue&gt;71.04&lt;/samplevalue&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;tableid&gt;1&lt;/tableid&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;tz_offset&gt;-3600&lt;/tz_offset&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;/data&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;data&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;sampletime&gt;2011-11-11T00:00:00+01:00&lt;/sampletime&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;samplevalue&gt;53.72&lt;/samplevalue&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;tableid&gt;1&lt;/tableid&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;tz_offset&gt;-3600&lt;/tz_offset&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;/data&gt;</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>&lt;/qos-data&gt;</td>
</tr>
</tbody>
</table>
**Sample Reply (JSON)**

```
HTTP/1.1 200 OK
Content-Type: application/json

{
    "data": [
        {
            "sampletime": "2011-11-17T00:00:00+01:00",
            "samplevalue": "54.65",
            "tableid": "1",
            "tz_offset": "-3600"
        },
        {
            "sampletime": "2011-11-17T00:00:00+01:00",
            "samplevalue": "75.13",
            "tableid": "1",
            "tz_offset": "-3600"
        },
        {
            "sampletime": "2011-11-17T00:00:00+01:00",
            "samplevalue": "85.23",
            "tableid": "1",
            "tz_offset": "-3600"
        }
    ]
}
```

**Get QoS Data Using TableId**

URL

```
/qos/data/tableid/{table_id}/(from)/(to)/(maxrows)
```

Parameter explanation:

- **“table_id”** – The table_id identifying this QoS data series.
- “from” should be a date in the format yyyyddMMHHmm (e.g. 201107131200) or one of the following keywords: lasthour, lastday, lastweek, lastmonth.
- “to” should be a date in the format yyyyddMMHHmm (e.g. 201111100938) or the keyword “now” which will be resolved to the current date and time on the server.
- “maxrows” indicates the maximum number of datapoints to return (0 = unlimited).

Method

GET

Input

```
```

Returns

200 OK – QoS Data List
401 Unauthorized
404 Not Found

Valid Users

UIM Users, Account Users

Required Permissions

Web Service

Sample Request

GET /rest/qos/data/tableid/1/201101010000/20111111257/20 HTTP/1.1
Accept: application/xml

Sample Reply

HTTP/1.1 200 OK
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<qos-data>
    <data>
        <sampletime>2011-11-11T00:00:00+01:00</sampletime>
        <samplevalue>30.09</samplevalue>
        <tableid>1</tableid>
        <tz_offset>-3600</tz_offset>
    </data>
    <data>
        <sampletime>2011-11-11T00:00:00+01:00</sampletime>
        <samplevalue>62.2</samplevalue>
        <tableid>1</tableid>
        <tz_offset>-3600</tz_offset>
    </data>
    <data>
        <sampletime>2011-11-11T00:00:00+01:00</sampletime>
        <samplevalue>71.04</samplevalue>
        <tableid>1</tableid>
        <tz_offset>-3600</tz_offset>
    </data>
    <data>
        <sampletime>2011-11-11T00:00:00+01:00</sampletime>
        <samplevalue>53.72</samplevalue>
        <tableid>1</tableid>
        <tz_offset>-3600</tz_offset>
    </data>
</qos-data>

Sample Reply (JSON)

HTTP/1.1 200 OK
Content-Type: application/json

{   "data": [   
    {   "sampletime":"2011-11-17T00:00:00+01:00",
        "samplevalue":"54.65",
        "tableid":"1",
        "tz_offset":"-3600"
    },   
    {   "sampletime":"2011-11-17T00:00:00+01:00",
        "samplevalue":"75.13",
        "tableid":"1",
        "tz_offset":"-3600"
    },   
    {   "sampletime":"2011-11-17T00:00:00+01:00",
        "samplevalue":"92.49",
        "tableid":"1",
        "tz_offset":"-3600"
    },   
    {   "sampletime":"2011-11-17T00:00:00+01:00",
        "samplevalue":"85.23",
        "tableid":"1",
        "tz_offset":"-3600"
    }   ]
}
Get Data Using QoS ConstraintId

URL
/qos/data/constraint/{constraint_id}/{from}/{to}/{maxrows}

Parameter explanation:
- “constraint_id” – A valid QoS constraint ID. Can be retrieved via the SLA/SLO calls.
- “from” should be a date in the format yyyyddMMHHmm (e.g. 201107131200) or one of the following keywords: lasthour, lastday, lastweek, lastmonth.
- “to” should be a date in the format yyyyddMMHHmm (e.g. 201111100938) or the keyword “now” which will be resolved to the current date and time on the server.
- “maxrows” indicates the maximum number of datapoints to return (0 = unlimited).

Method
GET

Input
-

Returns
200 OK – QoS Data List
401 Unauthorized
404 Not Found

Valid Users
UIM Users, Account Users

Required Permissions
Web Service

Sample Request
GET /rest/qos/data/constraint/14/201101010000/201111111257/20 HTTP/1.1
Accept: application/xml

Sample Reply
HTTP/1.1 200 OK
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<qos-data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>30.09</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>62.2</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>71.04</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>53.72</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
</qos-data>

Sample Reply
HTTP/1.1 200 OK
Get Historical (aggregated) QoS Data

This call returns “historical” QoS data. “Historical” data is aggregated data while “raw” data will return all data points that are stored for that combination of QoS Name, source and target.

URL

/qos/data /name/{qosname}/{source}/{target}/{from}/{to}/{maxrows}/historical

Parameter explanation:
- “qosname” is the name of a QoS definition, e.g. “QOS_CPU_USAGE”.
- “source” is the name of a valid QoS source for that QoS definition.
- “target” is a valid target-value for the combination of QoS Name and Source.
- “from” should be a date in the format yyyyddMMHHmm (e.g. 201107131200) or one of the following keywords: lasthour, lastday, lastweek, lastmonth.
- “to” should be a date in the format yyyyddMMHHmm (e.g. 201111100938) or the keyword “now” which will be resolved to the current date and time on the server.
- “maxrows” indicates the maximum number of datapoints to return (0 = unlimited).

Method
GET

Input

Returns
200 OK – QoS Data List
401 Unauthorized
404 Not Found

Valid Users
UIM Users, Account Users

Required Permissions
Web Service
### Sample Request

GET /rest/qos/data/name/QOS_CPU_USAGE/WIN-CXP6LPT7V6G/WIN-CXP6LPT7V6G/201101010000/20111111257/20/historical HTTP/1.1
Accept: application/xml

### Sample Reply (XML)

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<qos-data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>30.09</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>62.2</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>71.04</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>53.72</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
</qos-data>
```

### Sample Reply (JSON)

```json
HTTP/1.1 200 OK
Content-Type: application/json

{   "data": [
    { "sampletime":"2011-11-17T00:00:00+01:00",
        "samplevalue":"54.65",
        "tableid":"1",
        "tz_offset":"-3600"
    },
    { "sampletime":"2011-11-17T00:00:00+01:00",
        "samplevalue":"75.13",
        "tableid":"1",
        "tz_offset":"-3600"
    },
    { "sampletime":"2011-11-17T00:00:00+01:00",
        "samplevalue":"92.49",
        "tableid":"1",
        "tz_offset":"-3600"
    },
    { "sampletime":"2011-11-17T00:00:00+01:00",
        "samplevalue":"85.23",
        "tableid":"1",
        "tz_offset":"-3600"
    }
] }
```
Get Historical QoS Data Using MetricId

URL
/qos/data /metricid/[ci_metric_id]/[from]/[to]/[maxrows]/historical

Parameter explanation:
- “ci_metric_id” – a valid Configuration Item Metric Id. This ID can be retrieved from alarms.
- “from” should be a date in the format yyyyddMMHHmm (e.g. 201107131200) or one of the following keywords: lasthour, lastday, lastweek, lastmonth.
- “to” should be a date in the format yyyyddMMHHmm (e.g. 201111090938) or the keyword “now” which will be resolved to the current date and time on the server.
- “maxrows” indicates the maximum number of datapoints to return (0 = unlimited).

Method
GET

Input
-

Returns
200 OK – QoS Data List
401 Unauthorized
404 Not Found

Valid Users
UIM Users, Account Users

Required Permissions
Web Service

Sample Request
GET /rest/qos/data/metricid/MDF2DD98996F2EB3FCF3C60B4AC9A5FES/201110100000/20111111257/20/historical
Accept: application/xml

Sample Reply (XML)
HTTP/1.1 200 OK
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<qos-data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>30.09</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>62.2</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>71.04</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>53.72</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
</qos-data>
### Get Historical QoS Data Using TableId

**URL**

```
/qos/data /tableid/{table_id}/(from)/(to)/(maxrows)/historical
```

**Parameter explanation:**

- **“table_id”** – The table_id identifying this QoS data series.
  - “from” should be a date in the format yyyyddMMHHmm (e.g. 201107131200) or one of the following keywords: lasthour, lastday, lastweek, lastmonth.
  - “to” should be a date in the format yyyyddMMHHmm (e.g. 201111100938) or the keyword “now” which will be resolved to the current date and time on the server.
  - “maxrows” indicates the maximum number of datapoints to return (0 = unlimited).

**Method**

GET

**Input**

```
```

**Returns**

- 200 OK – QoS Data List
- 401 Unauthorized
- 404 Not Found

**Valid Users**

- UIM Users, Account Users

**Required Permissions**

Web Service

**Sample Request**

```
GET /rest/qos/data/tableid/1/201101010000/20111111257/20/historical HTTP/1.1
Accept: application/xml
```

**Sample Reply**

```
HTTP/1.1 200 OK
Content-Type: application/json

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<qos-data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>30.09</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>62.2</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>71.04</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
  <data>
    <sampletime>2011-11-11T00:00:00+01:00</sampletime>
    <samplevalue>53.72</samplevalue>
    <tableid>1</tableid>
    <tz_offset>-3600</tz_offset>
  </data>
</qos-data>

HTTP/1.1 200 OK
Content-Type: application/json

{
    "data": [
        {
            "sampletime": "2011-11-17T00:00:00+01:00",
            "samplevalue": "54.65",
            "tableid": "1",
            "tz_offset": "-3600"
        },
        {
            "sampletime": "2011-11-17T00:00:00+01:00",
            "samplevalue": "75.13",
            "tableid": "1",
            "tz_offset": "-3600"
        },
        {
            "sampletime": "2011-11-17T00:00:00+01:00",
            "samplevalue": "92.49",
            "tableid": "1",
            "tz_offset": "-3600"
        },
        {
            "sampletime": "2011-11-17T00:00:00+01:00",
            "samplevalue": "85.23",
            "tableid": "1",
            "tz_offset": "-3600"
        }
    ]
}
### Get Historical Data Using a QoS ConstraintId

<table>
<thead>
<tr>
<th>URL</th>
<th>( /qos/data/constraintid/(constraint_id)/(from)/(to)/(maxrows)/historical )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter explanation:</td>
<td></td>
</tr>
<tr>
<td>- “constraint_id” – A valid QoS constraint ID. Can be retrieved via the SLA/SLO calls.</td>
<td></td>
</tr>
<tr>
<td>- “from” should be a date in the format yyyyddMMHHmm (e.g. 201107131200) or one of the following keywords: lasthour, lastday, lastweek, lastmonth.</td>
<td></td>
</tr>
<tr>
<td>- “to” should be a date in the format yyyyddMMHHmm (e.g. 201111100938) or the keyword “now” which will be resolved to the current date and time on the server.</td>
<td></td>
</tr>
<tr>
<td>- “maxrows” indicates the maximum number of datapoints to return (0 = unlimited).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method</th>
<th>GET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – QoS Data List</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
</tbody>
</table>

| Sample Request | GET /rest/qos/data/constraintid/14/201101010000/201111111257/20/historical HTTP/1.1 Accept: application/xml |

<table>
<thead>
<tr>
<th>Sample Reply (XML)</th>
<th>HTTP/1.1 200 OK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;?xml version=&quot;1.0&quot; encoding=&quot;UTF-8&quot; standalone=&quot;yes&quot;?&gt; &lt;qos-data&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;data&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;sampletime&gt;2011-11-11T00:00:00+01:00&lt;/sampletime&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;samplevalue&gt;30.09&lt;/samplevalue&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;tableid&gt;1&lt;/tableid&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;tz_offset&gt;-3600&lt;/tz_offset&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/data&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;data&gt;</td>
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<td>&lt;sampletime&gt;2011-11-11T00:00:00+01:00&lt;/sampletime&gt;</td>
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<tr>
<td></td>
<td>&lt;samplevalue&gt;62.2&lt;/samplevalue&gt;</td>
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</tr>
<tr>
<td></td>
<td>&lt;sampletime&gt;2011-11-11T00:00:00+01:00&lt;/sampletime&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;samplevalue&gt;71.04&lt;/samplevalue&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;tableid&gt;1&lt;/tableid&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;tz_offset&gt;-3600&lt;/tz_offset&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/data&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;data&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;sampletime&gt;2011-11-11T00:00:00+01:00&lt;/sampletime&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;samplevalue&gt;53.72&lt;/samplevalue&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;tableid&gt;1&lt;/tableid&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;tz_offset&gt;-3600&lt;/tz_offset&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/data&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/qos-data&gt;</td>
</tr>
</tbody>
</table>

| Sample Reply | HTTP/1.1 200 OK |
Content-Type: application/json

{
    "data": [
        {
            "sampletime": "2011-11-17T00:00:00+01:00",
            "samplevalue": "54.65",
            "tableid": "1",
            "tz_offset": "-3600"
        },
        {
            "sampletime": "2011-11-17T00:00:00+01:00",
            "samplevalue": "75.13",
            "tableid": "1",
            "tz_offset": "-3600"
        },
        {
            "sampletime": "2011-11-17T00:00:00+01:00",
            "samplevalue": "92.49",
            "tableid": "1",
            "tz_offset": "-3600"
        },
        {
            "sampletime": "2011-11-17T00:00:00+01:00",
            "samplevalue": "85.23",
            "tableid": "1",
            "tz_offset": "-3600"
        }
    ]
}
SLA Related Calls

Get All SLADefinitions

This call returns a list of all defined SLAs visible to the user invoking the call.

<table>
<thead>
<tr>
<th>URL</th>
<th>/sla/definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – SLA List</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
</tbody>
</table>

Sample Request

GET /rest/sla/definitions HTTP/1.1
Accept: application/xml

Sample Reply (XML)

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<slas>
  <sla>
    <complianceAlarm>false</complianceAlarm>
    <compliancePercentage>100</compliancePercentage>
    <complianceWarning>false</complianceWarning>
    <complianceWarningLevel>100</complianceWarningLevel>
    <description/>
    <name>TestSLA</name>
    <slaId>1</slaId>
    <periodBegin>2011-12-01T00:00:00+01:00</periodBegin>
    <periodCode>m</periodCode>
    <periodEnd>2012-01-01T00:00:00+01:00</periodEnd>
    <periodNumber>1</periodNumber>
    <periodStart>2011-11-01T00:00:00+01:00</periodStart>
  </sla>
  <sla>
    <complianceAlarm>false</complianceAlarm>
    <compliancePercentage>100</compliancePercentage>
    <complianceWarning>false</complianceWarning>
    <complianceWarningLevel>100</complianceWarningLevel>
    <description/>
    <name>AccountSLA</name>
    <slaId>2</slaId>
    <periodBegin>2011-12-01T00:00:00+01:00</periodBegin>
    <periodCode>m</periodCode>
    <periodEnd>2012-01-01T00:00:00+01:00</periodEnd>
    <periodNumber>1</periodNumber>
    <periodStart>2011-11-01T00:00:00+01:00</periodStart>
  </sla>
</slas>
```
**Get SLA Definition**

<table>
<thead>
<tr>
<th><strong>URL</strong></th>
<th>/sla/[sla-id]/definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method</strong></td>
<td>GET</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Returns</strong></td>
<td>200 OK – SLA</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td><strong>Valid Users</strong></td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td><strong>Required Permissions</strong></td>
<td>Web Service</td>
</tr>
<tr>
<td><strong>Sample Request</strong></td>
<td>GET /rest/sla/1/definition HTTP/1.1 Accept: application/xml</td>
</tr>
<tr>
<td><strong>Sample Reply (XML)</strong></td>
<td>HTTP/1.1 200 OK Content-Type: application/xml  &lt;xml version=&quot;1.0&quot; encoding=&quot;UTF-8&quot; standalone=&quot;yes&quot;&gt;  &lt;sla&gt;  &lt;complianceAlarm&gt;false&lt;/complianceAlarm&gt;  &lt;compliancePercentage&gt;100&lt;/compliancePercentage&gt;  &lt;/sla&gt;  &lt;/xml&gt;</td>
</tr>
</tbody>
</table>
### Get Configured Calculations

This call returns a list of all existing calculation methods. Custom calculation methods can be configured in the Service Level Manager.

<table>
<thead>
<tr>
<th><strong>URL</strong></th>
<th>/sla/calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method</strong></td>
<td>GET</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>-</td>
</tr>
</tbody>
</table>
| **Returns** | 200 OK – Calculation List  
401 Unauthorized  
404 Not Found |
| **Valid Users** | UIM Users, Account Users |
| **Required Permissions** | Web Service |
| **Sample Request** | GET /rest/sla/calculations HTTP/1.1  
Accept: application/xml |
| **Sample Reply (JSON)** | HTTP/1.1 200 OK  
Content-Type: application/json  
{}

  "complianceAlarm":"false",  
"compliancePercentage":"100",  
"complianceWarning":"false",  
"complianceWarningLevel":"100",  
"description":"",  
"name":"TestSLA",  
"slaId":"1",  
"periodBegin":"2011-12-01T00:00:00+01:00",  
"periodCode":"m",  
"periodEnd":"2012-01-01T00:00:00+01:00",  
"periodNumber":"1",  
"periodStart":"2011-09-01T00:00:00+02:00" |

| **Sample Reply (XML)** | HTTP/1.1 200 OK  
Content-Type: application/xml  
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<calculations>  
<calculation>  
<calcId="1"></calcId>  
</calculation>  
</calculations> |

---

Sample Reply (JSON)

```json
{
  "complianceWarning":false,
  "complianceWarningLevel":100,
  "description":null,
  "name":null,
  "slaId":null,
  "periodBegin":null,
  "periodCode":null,
  "periodEnd":null,
  "periodNumber":null,
  "periodStart":null
}
```
HTTP/1.1 200 OK
Content-Type: application/json

{ "calculation": [
  {
    "calcId": "1",
    "description": "Average",
    "query": "SELECT AVG(percentage) AS pct FROM D_SLO_COMPLIANCE WHERE job_id=@job_id AND sla_id=@sla_id",
    "type": "0"
  },
  {
    "calcId": "2",
    "description": "Weight",
    "query": "SELECT SUM((percentage * slo_weight) /100) AS pct FROM D_SLO_COMPLIANCE WHERE job_id=@job_id AND sla_id=@sla_id",
    "type": "1"
  },
  {
    "calcId": "3",
    "description": "Worst",
    "query": "SELECT MIN(percentage) AS pct FROM D_SLO_COMPLIANCE WHERE job_id=@job_id AND sla_id=@sla_id",
    "type": "0"
  },
  {
    "calcId": "4",
    "description": "Best",
    "query": "SELECT MAX(percentage) AS pct FROM D_SLO_COMPLIANCE WHERE job_id=@job_id AND sla_id=@sla_id",
    "type": "0"
  },
  {
    "calcId": "5",
    "description": "Sequential",
    "query": "SELECT 100 - CASE WHEN SUM(100 - percentage) >= 100 THEN 100 ELSE SUM(100 - percentage) END AS pct FROM D_SLO_COMPLIANCE WHERE job_id=@job_id AND sla_id=@sla_id",
    "type": "0"
  }
]
GET Calculation Jobs for a SLA

<table>
<thead>
<tr>
<th>URL</th>
<th>/sla/{sla-id}/jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td></td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – QoS Source List</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
</tbody>
</table>

Sample Request

GET /rest/sla/1/jobs HTTP/1.1
Accept: application/xml

Sample Reply (XML)

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<sla-jobs>
    <sla-job>
        <createDate>2011-12-12T11:17:00+01:00</createDate>
        <description>Automatic</description>
        <executeDate>2011-12-12T11:17:00+01:00</executeDate>
        <expireDate>2011-12-15T11:18:00+01:00</expireDate>
        <history>false</history>
        <jobId>42</jobId>
        <jobState>2</jobState>
        <owner>SYSTEM</owner>
        <periodBegin>2011-12-01T00:00:00+01:00</periodBegin>
        <periodEnd>2012-01-01T00:00:00+01:00</periodEnd>
        <report>false</report>
    </sla-job>

    <sla-job>
        <createDate>2011-12-12T11:17:00+01:00</createDate>
        <description>Automatic</description>
        <executeDate>2011-12-12T11:17:00+01:00</executeDate>
        <expireDate>2011-12-15T11:18:00+01:00</expireDate>
        <history>false</history>
        <jobId>42</jobId>
        <jobState>2</jobState>
        <owner>SYSTEM</owner>
        <periodBegin>2011-12-01T00:00:00+01:00</periodBegin>
        <periodEnd>2012-01-01T00:00:00+01:00</periodEnd>
        <report>false</report>
    </sla-job>
</sla-jobs>
```
### Get Compliance for All SLAs

<table>
<thead>
<tr>
<th>URL</th>
<th>/sla/compliances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td></td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – SLACompliance List</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
</tbody>
</table>

#### Sample Request
GET /rest/sla/compliances HTTP/1.1
Accept: application/xml

#### Sample Reply (XML)

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<sla-compliances>
    <sla-compliance>
        "createDate":"2011-12-12T11:17:00+01:00",
        "description":"Automatic",
        "executeDate":"2011-12-12T11:17:00+01:00",
        "expireDate":"2011-12-15T11:18:00+01:00",
        "history":false,
        "jobId":"42",
        "jobState":"2",
        "owner":"SYSTEM",
        "periodBegin":"2011-12-01T00:00:00+01:00",
        "periodEnd":"2012-01-01T00:00:00+01:00",
        "report":false
    },
    { "createDate":"2011-12-14T00:05:00+01:00",
        "description":"Automatic",
        "executeDate":"2011-12-14T00:05:00+01:00",
        "expireDate":"2011-12-15T00:05:00+01:00",
        "history":false,
        "jobId":"48",
        "jobState":"2",
        "owner":"SYSTEM",
        "periodBegin":"2011-12-01T00:00:00+01:00",
        "periodEnd":"2012-01-01T00:00:00+01:00",
        "report":false
    }
</sla-compliances>
```
Sample Reply (JSON)

HTTP/1.1 200 OK
Content-Type: application/json

{"sla-compliance": [
   {
"created": "2011-12-12T11:17:00+01:00",
"jobId": "42",
"percentage": "99.04",
"periodBegin": "2011-12-01T00:00:00+01:00",
"periodEnd": "2012-01-01T00:00:00+01:00",
"slaId": "1",
"breachDate": "2011-12-01T00:00:00+01:00",
"breachValue": "100.0",
"compliancePercentage": "100"
   },
   {
"created": "2011-12-12T11:18:00+01:00",
"jobId": "43",
"percentage": "81.11",
"periodBegin": "2011-12-01T00:00:00+01:00",
"periodEnd": "2012-01-01T00:00:00+01:00",
"slaId": "2",
"breachDate": "2011-12-01T00:00:00+01:00",
"breachValue": "100.0",
"compliancePercentage": "100"
   },
   {
"created": "2011-12-14T00:05:00+01:00",
"jobId": "48",
"percentage": "99.13",
"periodBegin": "2011-12-01T00:00:00+01:00",
"periodEnd": "2012-01-01T00:00:00+01:00",
"slaId": "1",
"breachDate": "2011-12-01T00:00:00+01:00",
"breachValue": "100.0",
"compliancePercentage": "100"
   },
   {
"created": "2011-12-14T00:05:00+01:00",
"jobId": "49",
"percentage": "78.09",
"periodBegin": "2011-12-01T00:00:00+01:00",
"periodEnd": "2012-01-01T00:00:00+01:00",
"slaId": "2",
"breachDate": "2011-12-01T00:00:00+01:00",
"breachValue": "100.0",
"compliancePercentage": "100"
   }
]};
## Get SLA Compliance

<table>
<thead>
<tr>
<th>URL</th>
<th>/sla/{sla-id}/compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method</strong></td>
<td>GET</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Returns</strong></td>
<td>200 OK – SLACompliance</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td><strong>Valid Users</strong></td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td><strong>Required Permissions</strong></td>
<td>Web Service</td>
</tr>
<tr>
<td><strong>Sample Request</strong></td>
<td>GET /rest/sla/1/compliance HTTP/1.1</td>
</tr>
<tr>
<td></td>
<td>Accept: application/xml</td>
</tr>
<tr>
<td><strong>Sample Reply (XML)</strong></td>
<td>HTTP/1.1 200 OK</td>
</tr>
<tr>
<td></td>
<td>Content-Type: application/xml</td>
</tr>
</tbody>
</table>
|                      | <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
|                      | <sla-compliance>
|                      |   <created>2011-12-12T00:00:00+01:00</created>
|                      |   <jobId>48</jobId><percentage>99.13</percentage>
|                      |   <periodBegin>2011-12-01T00:00:00+01:00</periodBegin>
|                      |   <periodEnd>2012-01-01T00:00:00+01:00</periodEnd>
|                      |   <slaId>1</slaId>
|                      |   <breachDate>2011-12-01T00:00:00+01:00</breachDate>
|                      |   <breachValue>100.0</breachValue>
|                      |   <compliancePercentage>100</compliancePercentage>
|                      | </sla-compliance>        |
| **Sample Reply (JSON)** | HTTP/1.1 200 OK |
|                      | Content-Type: application/json |
|                      | {                          |
|                      |   "created":"2011-12-12T11:17:00+01:00",
|                      |   "jobId":"42",
|                      |   "percentage":"99.04",
|                      |   "periodBegin":"2011-12-01T00:00:00+01:00",
|                      |   "periodEnd":"2012-01-01T00:00:00+01:00",
|                      |   "slaId":"1",
|                      |   "breachDate":"2011-12-01T00:00:00+01:00",
|                      |   "breachValue":"100.0",
|                      |   "compliancePercentage":"100"
|                      | }                         |
## Get SLO Definitions for a SLA

<table>
<thead>
<tr>
<th>URL</th>
<th>/sla/{sla-id}/slo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td></td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – SLO List</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
<tr>
<td>Sample Request</td>
<td>GET/rest/sla/1/slo HTTP/1.1 Accept: application/xml</td>
</tr>
</tbody>
</table>

**Sample Reply (XML)**

```
HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<slos>
  <slo>
    <complianceAlarm>false</complianceAlarm>
    <compliancePercentage>100</compliancePercentage>
    <complianceWarning>false</complianceWarning>
    <complianceWarningLevel>100</complianceWarningLevel>
    <description></description>
    <name>SLO1</name>
    <slaId>1</slaId>
    <sloId>1</sloId>
    <weight>0</weight>
  </slo>
</slos>
```

**Sample Reply (JSON)**

```
HTTP/1.1 200 OK
Content-Type: application/json

{"slo":
  {
    "complianceAlarm":"false",
    "compliancePercentage":"100",
    "complianceWarning":"false",
    "complianceWarningLevel":"100",
    "description":"
    "name":"SLO1",
    "slaId":"1",
    "sloId":"1",
    "weight":0
  }
}
```

## Get Compliance of SLOs of a SLA

<table>
<thead>
<tr>
<th>URL</th>
<th>/sla/{sla-id}/slo-compliance</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Method</th>
<th>GET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>-</td>
</tr>
</tbody>
</table>
| Returns| 200 OK – SLOCompliance List  
401 Unauthorized  
404 Not Found |
| Valid Users | UIM Users, Account Users |
| Required Permissions | Web Service |
| Sample Request | GET `/rest/sla/1/slo-compliance` HTTP/1.1  
Accept: application/xml |
| Sample Reply (XML) | HTTP/1.1 200 OK  
Content-Type: application/xml  
```xml  
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<slo-compliances>  
  <slo-compliance>  
    <created>2011-12-12T11:00+01:00</created>  
    <jobId>42</jobId>  
    <percentage>99.04</percentage>  
    <periodBegin>2011-12-01T00:00+01:00</periodBegin>  
    <periodEnd>2012-01-01T00:00+01:00</periodEnd>  
    <slaId>1</slaId>  
    <compliancePercentage>0</compliancePercentage>  
    <slaPercentage>99</slaPercentage>  
    <sloId>1</sloId>  
    <sloWeight>0</sloWeight>  
  </slo-compliance>  
  <slo-compliance>  
    <created>2011-12-14T00:00+01:00</created>  
    <jobId>48</jobId>  
    <percentage>99.13</percentage>  
    <periodBegin>2011-12-01T00:00+01:00</periodBegin>  
    <periodEnd>2012-01-01T00:00+01:00</periodEnd>  
    <slaId>1</slaId>  
    <compliancePercentage>0</compliancePercentage>  
    <slaPercentage>99</slaPercentage>  
    <sloId>1</sloId>  
    <sloWeight>0</sloWeight>  
  </slo-compliance>  
</slo-compliances>  
``` |
| Sample Reply (JSON) | HTTP/1.1 200 OK  
Content-Type: application/json  
```json  
{"slo-compliance":[]}  
``` |

---

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"sloWeight": "0"
}
"created": "2011-12-14T00:05:01+01:00",
"jobId": "48",
"percentage": "99.13",
"periodBegin": "2011-12-01T00:00:00+01:00",
"periodEnd": "2012-01-01T00:00:00+01:00",
"slaId": "1",
"compliancePercentage": "0",
"slaPercentage": "99",
"sloId": "1",
"sloWeight": "0"
SLO Related Calls

Get SLO Definition

<table>
<thead>
<tr>
<th>URL</th>
<th>/slo/{sloid}/definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – SLODefinition</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required</td>
<td>Web Service</td>
</tr>
<tr>
<td>Permissions</td>
<td></td>
</tr>
</tbody>
</table>

Sample Request

GET /rest/slo/1/definition HTTP/1.1
Accept: application/json

Sample Reply (XML)

HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<slo>
  <complianceAlarm>false</complianceAlarm>
  <compliancePercentage>100</compliancePercentage>
  <complianceWarning>false</complianceWarning>
  <complianceWarningLevel>100</complianceWarningLevel>
  <description/>
  <name>SLO1</name>
  <slaId>1</slaId>
  <sloId>1</sloId>
  <weight>0</weight>
</slo>

Sample Reply (JSON)

HTTP/1.1 200 OK
Content-Type: application/json

{
  "complianceAlarm":"false",
  "compliancePercentage":"100",
  "complianceWarning":"false",
  "complianceWarningLevel":100,
  "description":null,
  "name":"SLO1",
  "slaId":1,
  "sloId":1,
  "weight":0
}

Get QOS Constraints for a SLO

Returns a list of all qos-constraints that this SLO is based on.

<table>
<thead>
<tr>
<th>URL</th>
<th>/slo/{sloid}/constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
</tbody>
</table>
| Returns | 200 OK – QoSConstraint List  
401 Unauthorized  
404 Not Found |
| Valid Users | UIM Users, Account Users |
| Required Permissions | Web Service |

**Sample Request**

```
GET /rest/slo/1/constraints HTTP/1.1
Accept: application/json
```

**Sample Reply (XML)**

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?><qos-constraints><qos-constraint>
  <calcId>0</calcId>
  <dirty>true</dirty>
  <expectedAccuracy>0.00</expectedAccuracy>
  <operId>0</operId>
  <operator>&lt;=</operator>
  <qosConstId>1</qosConstId>
  <qosDefinition>
    <bool>false</bool>
    <description>CPU Usage</description>
    <hasMax>true</hasMax>
    <name>QOS_CPU_USAGE</name>
    <qosDefId>14</qosDefId>
    <qosGroup>QOS_MACHINE</qosGroup>
    <sourceTargets>
      <origin>primaryhub</origin>
      <source>WIN-CXP6LPT7V6G</source>
      <target>WIN-CXP6LPT7V6G</target>
    </sourceTargets>
    <sourceTargets>
      <origin>primaryhub</origin>
      <source>WIN-CXP6LPT7V6G</source>
      <target>User</target>
    </sourceTargets>
    <sourceTargets>
      <origin>primaryhub</origin>
      <source>WIN-CXP6LPT7V6G</source>
      <target>System</target>
    </sourceTargets>
    <sourceTargets>
      <origin>primaryhub</origin>
      <source>WIN-CXP6LPT7V6G</source>
      <target>Wait</target>
    </sourceTargets>
    <sourceTargets>
      <origin>primaryhub</origin>
      <source>WIN-CXP6LPT7V6G</source>
      <target>Idle</target>
    </sourceTargets>
  </qosDefinition>
</qos-constraint>
</qos-constraints>
```
Sample Reply (JSON)

HTTP/1.1 200 OK
Content-Type: application/json

{"qos-constraint":
{
 "calcId": "0",
 "dirty": "true",
 "expectedAccuracy": "0.00",
 "operId": "0",
 "operator": "<",
 "qosConstId": "1",
 "qosDefinition": {
 "bool": "false",
 "description": "CPU Usage",
 "hasMax": "true",
 "name": "QOS_CPU_USAGE",
 "qosDefId": "14",
 "qosGroup": "QOS_MACHINE",
 "sourceTargets": [
 { "origin": "primaryhub",
 "source": "WIN-CXP6LPT7V6G",
 "target": "WIN-CXP6LPT7V6G",
 },
 { "origin": "primaryhub",
 "source": "WIN-CXP6LPT7V6G",
 "target": "User"
 },
 { "origin": "primaryhub",
 "source": "WIN-CXP6LPT7V6G",
 "target": "System"
 },
 { "origin": "primaryhub",
 "source": "WIN-CXP6LPT7V6G",
 "target": "Wait"
 },
 { "origin": "primaryhub",
 "source": "WIN-CXP6LPT7V6G",
 "target": "Idle"
 ]
 },
 "type": "0",
 "unit": "pct",
 "unitShort": "%"
}
**Get QOS Constraint**

Returns one qos-constraint of a SLO by QoS-Constraint-Id. Fetch the ID by querying the constraints for the SLO.

<table>
<thead>
<tr>
<th>URL</th>
<th>/slo/constraint/{qosconstid}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – QOSConstraint</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
</tbody>
</table>
| Sample Request    | GET /rest/slo/constraint/1 HTTP/1.1
|                   | Accept: application/json     |
| Sample Reply (XML)| HTTP/1.1 200 OK
|                   | Content-Type: application/xml|
|                   | <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
|                   | <qos-constraint>
|                   |   <calcId>0</calcId>
|                   |   <dirty>true</dirty>
|                   |   <expectedAccuracy>0.00</expectedAccuracy>
|                   |   <operId>0</operId>
|                   |   <operator>&lt;=</operator>
|                   |   <qosConstId>1</qosConstId>
|                   |   <qosDefinition>
|                   |     <bool>false</bool>
|                   |     <description>CPU Usage</description>
|                   |     <hasMax>true</hasMax>
|                   |     <name>QOS_CPU_USAGE</name>
|                   |     <qosDefId>14</qosDefId>
|                   |     <qosGroup>QOS_MACHINE</qosGroup>
|                   |     <sourceTargets>
|                   |       <origin>primaryhub</origin>
|                   |       <source>WIN-CXP6LPT7V6G</source>
|                   |       <target>WIN-CXP6LPT7V6G</target>
|                   |     </sourceTargets>
|                   |     <sourceTargets>
|                   |       <origin>primaryhub</origin>
|                   |       <source>WIN-CXP6LPT7V6G</source>
|                   |       <target>User</target>
|                   |     </sourceTargets>
|                   |   </qosDefinition>
|                   | </qos-constraint> |
Sample Reply (JSON)

HTTP/1.1 200 OK
Content-Type: application/json

```json
{
    "calcId":"0",
    "dirty":"true",
    "expectedAccuracy":"0.00",
    "operId":"0",
    "operator":">=",
    "qosConstId":"1",
    "qosDefinition":{
        "bool":"false",
        "description":"CPU Usage",
        "hasMax":"true",
        "name":"QOS_CPU_USAGE",
        "qosDefId":"14",
        "qosGroup":"QOS_MACHINE",
        "sourceTargets":[
            {
                "origin":"primaryhub",
                "source":"WIN-CXP6LPT7V6G",
                "target":null
            },
            {
                "origin":"primaryhub",
                "source":"WIN-CXP6LPT7V6G",
                "target":"User"
            },
            {
                "origin":"primaryhub",
                "source":"WIN-CXP6LPT7V6G",
                "target":"System"
            },
            {
                "origin":"primaryhub",
                "source":"WIN-CXP6LPT7V6G",
                "target":null
            }
        ]
    }
}
```
Get Compliance Values for All QoS Constraints of a SLO

This call returns the compliance of all qos-constraints for the given SLO. This is helpful for drilling down from the SLO to find the root of the service degradation.

<table>
<thead>
<tr>
<th>URL</th>
<th>/slo/{sloid}/qos-compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – QoSCompliance List</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
<tr>
<td>Sample Request</td>
<td>GET /rest/slo/qos-compliance/1 HTTP/1.1</td>
</tr>
<tr>
<td></td>
<td>Accept: application/json</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>XML response details provided in XML format</td>
</tr>
</tbody>
</table>

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<qos-compliances>
    <qos-compliance>
        <created>2011-12-12T11:17:00+01:00</created>
        <jobId>42</jobId>
        <percentage>99.04</percentage>
        <periodBegin>2011-12-01T00:00:00+01:00</periodBegin>
        <periodEnd>2012-01-01T00:00:00+01:00</periodEnd>
        <slaId>1</slaId>
        <accuracy>22.69</accuracy>
        <ok>3712</ok>
        <qosConstId>1</qosConstId>
        <sloId>1</sloId>
        <threshold>80</threshold>
        <total>3748</total>
    </qos-compliance>
</qos-compliances>
```
HTTP/1.1 200 OK
Content-Type: application/json
{"qos-compliance":[
{
 "created":"2011-12-12T11:17:00+01:00",
 "jobId":"42",
 "percentage":"99.04",
 "periodBegin":"2011-12-01T00:00:00+01:00",
 "periodEnd":"2012-01-01T00:00:00+01:00",
 "slaId":"1",
 "accuracy":"22.69",
 "ok":"3712",
 "qosConstId":"1",
 "sloId":"1",
 "threshold":"80",
 "total":"3748",
 "weight":"0"
},
{
 "created":"2011-12-15T00:05:00+01:00",
 "jobId":"50",
 "percentage":"99.22",
 "periodBegin":"2011-12-01T00:00:00+01:00",
 "periodEnd":"2012-01-01T00:00:00+01:00",
 "slaId":"1",
 "accuracy":"20.99",
 "ok":"4199",
 "qosConstId":"1",
 "sloId":"1",
 "threshold":"80",
 "total":"4232",
 "weight":"0"
}
]}

Get Compliance for a QoS Constraint by IDs

<table>
<thead>
<tr>
<th>URL</th>
<th>/slo/qos-compliance/{qosconstid}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
</tbody>
</table>
## Get QoS Constraint IDs for an SLO

Returns a list of IDs for all qos-constraints that this SLO is based on.

<table>
<thead>
<tr>
<th>URL</th>
<th>/slo/{sloid}/constraint_ids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
</tbody>
</table>

| Input    | -                           |

<table>
<thead>
<tr>
<th>Returns</th>
<th>200 OK – QoSCompliance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Valid Users</th>
<th>UIM Users, Account Users</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Required Permissions</th>
<th>Web Service</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Sample Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>GET /rest/slo/qos-compliance/1 HTTP/1.1</td>
</tr>
<tr>
<td>Accept: application/json</td>
</tr>
</tbody>
</table>

### Sample Reply (XML)

```
HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<qos-compliance>
    <created>2011-12-12T11:17:00+01:00</created>
    <jobId>42</jobId>
    <percentage>99.04</percentage>
    <periodBegin>2011-12-01T00:00:00+01:00</periodBegin>
    <periodEnd>2012-01-01T00:00:00+01:00</periodEnd>
    <slaId>1</slaId>
    <accuracy>22.69</accuracy>
    <ok>3712</ok>
    <qosConstId>1</qosConstId>
    <sloId>1</sloId>
    <threshold>80</threshold>
    <total>3748</total>
    <weight>0</weight>
</qos-compliance>
```

### Sample Reply (JSON)

```
HTTP/1.1 200 OK
Content-Type: application/json

{
    "created":"2011-12-12T11:17:00+01:00",
    "jobId":"42",
    "percentage":"99.04",
    "periodBegin":"2011-12-01T00:00:00+01:00",
    "periodEnd":"2012-01-01T00:00:00+01:00",
    "slaId":"1",
    "accuracy":"22.69",
    "ok":"3712",
    "qosConstId":"1",
    "sloId":"1",
    "threshold":80,
    "total":3748,
    "weight":0
}
```
<table>
<thead>
<tr>
<th>Returns</th>
<th>200 OK – QoSConstraint ID List</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Account Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
<tr>
<td>Sample Request</td>
<td>GET /rest/slo/1/constraint_ids HTTP/1.1</td>
</tr>
<tr>
<td></td>
<td>Accept: application/json</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>HTTP/1.1 200 OK</td>
</tr>
<tr>
<td></td>
<td>Content-Type: application/xml</td>
</tr>
<tr>
<td></td>
<td>&lt;?xml version=&quot;1.0&quot; encoding=&quot;UTF-8&quot; standalone=&quot;yes&quot;?&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;qos_constraint_ids&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;/qos_constraint_ids&gt;</td>
</tr>
<tr>
<td>Sample Reply (JSON)</td>
<td>HTTP/1.1 200 OK</td>
</tr>
<tr>
<td></td>
<td>Content-Type: application/json</td>
</tr>
<tr>
<td></td>
<td>{</td>
</tr>
<tr>
<td></td>
<td>&quot;qos_constraint_id&quot;:[&quot;1&quot;,&quot;2&quot;]</td>
</tr>
<tr>
<td></td>
<td>}</td>
</tr>
</tbody>
</table>
### ACL Related Calls

#### The ACL Data Structure
- **Name** – the name of the ACL
- **ldapGroupName (optional)** – The name of the LDAP group to link this ACL to. Only if using LDAP authentication.
- **Permission** – String-array of Permissions to assign to the ACL. The necessary Strings can be found in Infrastructure manager.
- **Permission_level (read-only)** – The permission level assigned to this ACL.

#### Get a List of all ACLs

<table>
<thead>
<tr>
<th>URL</th>
<th>/acls (optional query parameters: ?maxrows=&lt;int&gt;&amp;offset=&lt;int&gt;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK – ACLList structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
</tbody>
</table>

**Sample Request**

GET /rest/acls HTTP/1.1
Accept: application/xml

**Sample Reply (XML)**

HTTP/1.1 200 OK
Content-Type: application/xml

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?><acls><acl><name>AccountOp</name></acl><acl><name>Operator</name></acl><acl><name>Guest</name></acl><acl><name>Superuser</name></acl><acl><name>Administrator</name></acl><acl><name>Dashboard Designer</name></acl></acls>
```

**Sample Reply (JSON)**

HTTP/1.1 200 OK
Content-Type: application/json

```json
{
    "acl": [
        {"name": "Operator"},
        {"name": "AccountOp"},
        {"name": "Guest"},
        {"name": "Superuser"},
        {"name": "Administrator"},
        {"name": "Dashboard Designer"}
    ]
}
```
### Get ACL of Current User

Returns the ACL of the user invoking the callback.

<table>
<thead>
<tr>
<th>URL</th>
<th>/acls/current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td></td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK - ACL structure 401 Unauthorized 404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users, Contacts</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service</td>
</tr>
</tbody>
</table>

**Sample Request**

```
GET /rest/acls/current HTTP/1.1
Accept: application/xml
```

**Sample Reply (XML)**

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<acl>
    <name>Superuser</name>
    <accountLink>23</accountLink>
    <permission>Accept</permission>
    <permission>Account Administration</permission>
    <permission>Acknowledge</permission>
    <permission>Alarm Details</permission>
    <permission>Alarm History</permission>
    <permission>Alarm Management</permission>
    <permission>Alarm Summary</permission>
    <permission>Archive Management</permission>
    <permission>Assign</permission>
    <permission>Basic Management</permission>
    <permission>Change Password</permission>
    <permission>Custom Dashboards</permission>
    <permission>Custom Reports</permission>
    <permission>Dashboard Design</permission>
    <permission>Dashboard Designer</permission>
    <permission>Dashboard Download</permission>
    <permission>Dashboard Publish</permission>
    <permission>Dashboard Upload</permission>
    <permission>Default Customization</permission>
    <permission>Discovery</permission>
    <permission>Discovery Management</permission>
    <permission>Discovery Pie</permission>
    <permission>Distribution</permission>
    <permission>Dynamic Views</permission>
    <permission>Dynamic Views Dashboards</permission>
    <permission>Dynamic Views Reports</permission>
    <permission>Dynamic Views States</permission>
    <permission>Execution Level 1</permission>
    <permission>Execution Level 2</permission>
</acl>
```
<permission>Execution Level 3</permission>
<permission>Extended Security</permission>
<permission>Invisible Alarms</permission>
<permission>License Management</permission>
<permission>Manage ACL</permission>
<permission>Manage Profiles</permission>
<permission>Management Tools</permission>
<permission>Modify Profiles</permission>
<permission>Program Options</permission>
<permission>Reassign</permission>
<permission>Report Designer</permission>
<permission>SDP</permission>
<permission>SLM Admin</permission>
<permission>SLM View</permission>
<permission>Unassign</permission>
<permission>Unified Reports</permission>
<permission>User Administration</permission>
<permission>User Customization</permission>
<permission>User Monitoring</permission>
<permission>Web Publish</permission>
<permission>Web Service</permission>

Sample Reply (JSON)
HTTP/1.1 200 OK
Content-Type: application/json
{
    "name": "Superuser",
}

Get a ACL by Name

<table>
<thead>
<tr>
<th>URL</th>
<th>/acls/{acl-name}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>Acl-name: the name of the ACL.</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK - ACL structure</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Manage ACL</td>
</tr>
</tbody>
</table>

Sample Request
GET /rest/acls/guest
HTTP/1.1
Accept: application/xml

Sample Reply
HTTP/1.1 200 OK
### Sample Request (XML)

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<acl>
  <name>restTestACL</name>
  <accountLink>23</accountLink>
  <permission>Assign</permission>
  <permission>Alarm Summary</permission>
</acl>
```

### Sample Reply (XML)

```xml
HTTP/1.1 204 No Content
```

### Create a New ACL

<table>
<thead>
<tr>
<th>URL</th>
<th>/acls/{acl-name}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>POST</td>
</tr>
<tr>
<td>Input</td>
<td>ACL structure</td>
</tr>
<tr>
<td>Returns</td>
<td>202 No Content = OK</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td></td>
<td>409 Resource Conflict (if the ACL already exists)</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Manage ACL</td>
</tr>
</tbody>
</table>

**Sample Request (XML)**

```xml
POST /rest/acls/restTestACL HTTP/1.1
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<acl>
  <name>restTestACL</name>
  <accountLink>23</accountLink>
  <permission>Assign</permission>
  <permission>Alarm Summary</permission>
</acl>
```

**Sample Reply (XML)**

```xml
HTTP/1.1 204 No Content
```

**Sample**

POST /rest/acls/restTestACL HTTP/1.1
<table>
<thead>
<tr>
<th>Request (JSON)</th>
<th>Content-Type: application/json</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>{</td>
</tr>
<tr>
<td></td>
<td>&quot;name&quot;:&quot;restTestACL&quot;,</td>
</tr>
<tr>
<td></td>
<td>&quot;permission&quot;:[&quot;Assign&quot;,&quot;Alarm Summary&quot;]</td>
</tr>
<tr>
<td>Sample Reply (JSON)</td>
<td>HTTP/1.1 204 No Content</td>
</tr>
</tbody>
</table>

**Create a New ACL by Copying an Existing ACL**

**URL**

/acls/{acl-name}/from/{template-acl-name}

**Method**

POST

**Input**

- Acl-name: the name of the ACL to be created
- Template-acl-name: the name of the ACL to be copied from
- Optionally: ACL structure containing ldap-group-name to match the new acl to

**Returns**

- 204 No Content = OK
- 400
- 401 Unauthorized
- 404 Not Found
- 409 Resource Conflict (if the ACL already exists)
- 400 Bad Request (if the template does not exist)

**Valid Users**

UIM Users

**Required Permissions**

Web Service, Manage ACL

**Sample Request (XML)**

POST /rest/acls/myCopiedGuestAcl/from/Guest HTTP/1.1
Content-Type: application/xml

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<acl>
  <name>myCopiedGuestAcl</name>
</acl>
```

**Sample Request (JSON)**

POST /rest/acls/myCopiedGuestAcl/from/Guest HTTP/1.1
Content-Type: application/json

```json
{ "name":"myCopiedGuestAcl" }
```

**Sample Reply**

HTTP/1.1 204 No Content

**Modify an Existing ACL**

**URL**

/acls/{acl-name}

**Method**

PUT

**Input**

ACL structure containing the modified ACL.

**Returns**

204 No Content = OK
<table>
<thead>
<tr>
<th>Status Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>401 Unauthorized</td>
</tr>
<tr>
<td>404 Not Found</td>
</tr>
<tr>
<td>409 Resource Conflict (if name in the url and in the structure don’t match)</td>
</tr>
</tbody>
</table>

**Valid Users**

UIM Users

**Required Permissions**

Web Service, Manage ACL

**Sample Request (XML)**

```xml
PUT /rest/acls/restTestACL HTTP/1.1
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<acl>
  <name>restTestACL</name>
  <permission>Assign</permission>
  <permission>Alarm Summary</permission>
</acl>
```

**Sample Request (JSON)**

```json
PUT /rest/acls/restTestACL HTTP/1.1
Content-Type: application/json

{
  "name":"restTestACL",
  "permission":["Assign","Alarm Summary"]
}
```

**Sample Reply**

HTTP/1.1 204 No Content

---

**Delete an ACL**

**URL**

/acls/{acl-name}

**Method**

DELETE

**Input**

Acl-name: the name of the acl to be deleted.

**Returns**

204 No Content = OK

401 Unauthorized

404 Not Found

**Valid Users**

UIM Users

**Required Permissions**

Web Service, Manage ACL

**Sample Request**

DELETE /rest/acls/restTestACL HTTP/1.1

**Sample Reply**

HTTP/1.1 204 No Content
# Origin Related Calls

## Get All Origins

<table>
<thead>
<tr>
<th>URL</th>
<th>/origins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK - OriginList structure</td>
</tr>
<tr>
<td>Valid Users</td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

### Sample Request
```
GET /rest/origins HTTP/1.1
Accept: application/xml
```

### Sample Reply (XML)
```
HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<origins>
  <origin>customerA</origin>
  <origin>customerB</origin>
  <origin>primaryhub</origin>
</origins>
```

### Sample Reply (JSON)
```
HTTP/1.1 200 OK
Content-Type: application/xml

{"origin":"["customerA","customerB","primaryhub"]}
```

## Get All Origins and Related Accounts

This call returns a list of all origins and a list of account ids that are associated with this origin.

<table>
<thead>
<tr>
<th>URL</th>
<th>/origins/mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK - OriginList structure</td>
</tr>
<tr>
<td>Valid Users</td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

### Sample Request
```
GET /rest/origins/mapping HTTP/1.1
Accept: application/xml
```

### Sample Reply
```
HTTP/1.1 200 OK
```
### Sample Reply

**HTTP/1.1 200 OK**

Content-Type: application/xml

```json
{
    "originmapping": [
        {
            "account": "0",
            "name": "customerA"
        },
        {
            "account": "3",
            "name": "customerB"
        },
        {
            "account": "3",
            "name": "primaryhub"
        }
    ]
}
```
## Variable Related Calls

### Get Defined Variables

| URL | /variables/{type} (valid types: QoS, SLO, NimBUS Request, Alarm Filter, |
| Method | GET |
| Input | - |
| Returns | 200 OK - VariableList structure |
| Valid Users | UIM Users |
| Required Permissions | Web Service |
| Sample Request | GET /rest/variables/QoS HTTP/1.1 Accept: application/xml |
| Sample Reply | HTTP/1.1 200 OK Content-Type: application/xml |
| | <?xml version="1.0" encoding="UTF-8" standalone="yes"?> |
| | <variable-list> |
| | <variable> |
| | <name>QoS1</name> |
| | <status>0</status> |
| | <type>QoS</type> |
| | <value>0.00</value> |
| | </variable> |
| | </variable-list> |

### Get a Variable

| URL | /variables/{variable-name}/{type} (valid types: QoS, SLO, NimBUS Request, Alarm Filter, |
| Method | GET |
| Input | - |
| Returns | 200 OK - Variable structure |
| Valid Users | UIM Users |
| Required Permissions | Web Service |
| Sample Request | GET /rest/variables/QoS1/QoS HTTP/1.1 Accept: application/xml |
Sample Reply

HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<variable>
  <name>QoS1</name>
  <status>0</status>
  <type>QoS</type>
  <value>0.00</value>
</variable>
## Message Structure Definitions

### Alarm Filter

The Alarm Filter object that can be passed to various alarm related calls can contain any combination of the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Id</td>
<td>The alarm id (nimid) of the alarm.</td>
</tr>
<tr>
<td>level</td>
<td>A comma-separated list of all levels that should be returned, where: 1 = Information, 2 = Warning, 3 = Minor, 4 = Major, 5 = Critical</td>
</tr>
<tr>
<td>hostname</td>
<td>The hostname. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>source</td>
<td>The alarm source. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>domain</td>
<td>The domain of the alarm. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>hub</td>
<td>The hub of the alarm. This contains the first hub that received the alarm. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>robot</td>
<td>The robot name that raised the alarm. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>probe</td>
<td>The name of the probe that raised the alarm. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>subsystem_id</td>
<td>The subsystem_id of the alarm. See the subsystem-tree in the alarm server (nas). This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>subsystem</td>
<td>The subsystem name of the alarm. See the subsystem-tree in the alarm server (nas). This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>origin</td>
<td>The origin of the alarm. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>messageCount</td>
<td>The amount of times that this alarm has recurred. The value should be an operator and an integer value. Valid operators: “=”, “&lt;”, “&lt;”, “&lt;”, “&gt;” &lt;= “&lt;=”, “&lt;&gt;”, “&lt;&gt;”, “!”e.g. “&gt;2” will only return alarms that recurred more than twice.</td>
</tr>
<tr>
<td>message</td>
<td>The message text of the alarm. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>userTag1</td>
<td>The value of the user tag 1. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>userTag2</td>
<td>The value of the user tag 2. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>custom1</td>
<td>The value of the custom field 1. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>custom2</td>
<td>The value of the custom field 2. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>custom3</td>
<td>The value of the custom field 3. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>custom4</td>
<td>The value of the custom field 4. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>custom5</td>
<td>The value of the custom field 5. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>assignedTo</td>
<td>The name of the user the alarm is currently assigned to. This value can use perl regular expression syntax.</td>
</tr>
<tr>
<td>timeArrival</td>
<td>A date time value (format: 2011-12-15T01:35:55.524+01:00) specifying the start of the filter time. Only alarms that arrived at the alarm server after this date will be returned.</td>
</tr>
<tr>
<td>timeReceived</td>
<td>A date time value (format: 2011-12-15T01:35:55.524+01:00) specifying the start of the filter time. Only alarms that were received by the web service alarm listener after this date will be returned.</td>
</tr>
<tr>
<td>visible</td>
<td>This is a Boolean. Valid values are:</td>
</tr>
<tr>
<td></td>
<td>• False</td>
</tr>
<tr>
<td></td>
<td>• True</td>
</tr>
<tr>
<td></td>
<td>If set to true, only visible alarms are returned. If set to false, only invisible alarms are returned.</td>
</tr>
</tbody>
</table>

Please note that all fields are evaluated on each alarm using the Boolean **AND**. That means that only alarms that match **ALL** of your filter criteria are returned.
# Maintenance Mode Related Calls

## Add a Schedule

**Note:** Please see appendix A for definition of the inputs to add_schedule.

<table>
<thead>
<tr>
<th>URL</th>
<th>/maintenance_mode/{domain}/{hub}/{robot}/add_schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>POST</td>
</tr>
<tr>
<td>Inputs</td>
<td>Schedule Structure</td>
</tr>
<tr>
<td>Returns</td>
<td>200 OK &amp; Schedule Id XML/JSON</td>
</tr>
<tr>
<td>Error Message</td>
<td>401 Unauthorized, 404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Basic Management</td>
</tr>
</tbody>
</table>

### Sample Request (XML)

```xml
POST /rest/maintenance_mode/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/add_schedule HTTP/1.1
Accept: application/xml
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<schedule>
  <name>Test Sched A</name>
  <description>Test schedule for Maintenance Mode REST API.</description>
  <start_date_time>
    <month>2</month>
    <day>14</day>
    <year>2014</year>
    <timestamp>
      <hours>15</hours>
      <minutes>30</minutes>
      <seconds>22</seconds>
    </timestamp>
  </start_date_time>
  <end_time>
    <type>duration</type>
    <end_date_time>
      <month></month>
      <day></day>
      <year></year>
      <timestamp>
        <hours></hours>
        <minutes></minutes>
        <seconds></seconds>
      </timestamp>
    </end_date_time>
  </end_time>
</schedule>
```
<account_id>2</account_id>
<recurrence_pattern>Monthly</recurrence_pattern>
<recurrence_period>1</recurrence_period>
<recurrence_days_of_the_week/>
<recurrence_day_of_the_month>15</recurrence_day_of_the_month>
<recurrence_instance/>
<recurrence_end_date_time>
  <month>2</month>
  <day>14</day>
  <year>2015</year>
  <timestamp>
    <hours>16</hours>
    <minutes>30</minutes>
    <seconds>22</seconds>
  </timestamp>
</recurrence_end_date_time>
<timezone>Australia/Lindeman</timezone>
</schedule>

Sample Reply (XML)
HTTP/1.1 200 OK
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<schedule>
  <scheduleId>8</scheduleId>
</schedule>

Sample Request (JSON)
POST /rest/maintenance_mode/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/add_schedule HTTP/1.1
Content-Type: application/json
Accept: application/json

{
  "name": "Test Sched A",
  "description": "Test schedule for Maintenance Mode REST API."
  "start_date_time": {
    "month": "2",
    "day": "28",
    "year": "2014",
    "timestamp": {
      "hours": "15",
      "minutes": "30",
      "seconds": "22"
    }
  },
  "end_time": {
    "type": "duration",
    "end_date_time": {
      "month": ",",
      "day": ",",
      "year": ",",
      "timestamp": {
        "hours": ",",
        "minutes": ",",
        "seconds": ","
      }
    },
    "duration": {
      "hours": "24",
      "minutes": ",",
      "seconds": ","
    }
  },
  "account_id": "2",
  "recurrence_pattern": "3",
### Add Computer Systems to a Schedule

**URL**
/maintenance_mode/{domain}/{hub}/{robot}/add_computer_systems_to_schedule/{schedule_id}

**Method**
POST

**Inputs**
ComputerSystemList structure containing ComputerSystemIds

**Returns**
204 No Content (=OK)

Error Message
401 Unauthorized
404 Not Found

**Valid Users**
UIM Users

**Required Permissions**
Web Service, Basic Management

**Sample Request (XML)**
```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<cs-list>
  <cs>1</cs>
  <cs>2</cs>
  <cs>3</cs>
</cs-list>
```

**Sample Reply (XML)**
HTTP/1.1 200 OK
Content-Type: application/xml

```xml
{
  "schedule_id": "68"
}
```

**Sample Request (JSON)**
```json
POST /rest/maintenance_mode/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/add_computer_systems_to_schedule/8 HTTP/1.1
Content-Type: application/json
```

**Sample Reply (JSON)**
HTTP/1.1 200 OK
Content-Type: application/json

```json
{
}
```

**Sample Reply (JSON)**
HTTP/1.1 204 No Content

```json
{}
```
### Remove Computer Systems from a Schedule

<table>
<thead>
<tr>
<th><strong>URL</strong></th>
<th>/maintenance_mode/{domain}/{hub}/{robot}/remove_computer_systems_from_schedule/{schedule_id}</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method</strong></td>
<td>POST</td>
</tr>
<tr>
<td><strong>Inputs</strong></td>
<td>ComputerSystemList structure containing Computer System IDs</td>
</tr>
<tr>
<td><strong>Returns</strong></td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td></td>
<td>Error Message</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td><strong>Valid Users</strong></td>
<td>UIM Users</td>
</tr>
<tr>
<td><strong>Required Permissions</strong></td>
<td>Web Service, Basic Management</td>
</tr>
</tbody>
</table>

**Sample Request (XML)**

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<cs-list>
  <cs>1</cs>
  <cs>2</cs>
  <cs>3</cs>
</cs-list>
```

**Sample Reply**

HTTP/1.1 204 No Content

**Sample Request (JSON)**

```json
{
  "cs":["1","2","3"]
}
```

### Modify a Schedule

<table>
<thead>
<tr>
<th><strong>URL</strong></th>
<th>/maintenance_mode/{domain}/{hub}/{robot}/modify_schedule/{schedule_id}</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method</strong></td>
<td>PUT</td>
</tr>
<tr>
<td><strong>Inputs</strong></td>
<td>Schedule Structure</td>
</tr>
<tr>
<td><strong>Returns</strong></td>
<td>200 OK &amp; Schedule Id XML/JSON</td>
</tr>
<tr>
<td></td>
<td>Error Message</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Required Permissions</td>
<td></td>
</tr>
</tbody>
</table>

| Web Service, Basic Management                   |           |

**Sample Request (XML)**

```xml
PUT /rest/maintenance_mode/w2k8r2-x64-lic_domain/w2k8r2-x64-lic_hub/w2k8r2-x64-licmodify_schedule/8
HTTP/1.1
Content-Type: application/xml
Accept: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<schedule>
  <name>Test Sched A</name>
  <description>Test schedule for Maintenance Mode REST API.</description>
  <start_date_time>
    <month>2</month>
    <day>14</day>
    <year>2014</year>
    <timestamp>
      <hours>15</hours>
      <minutes>30</minutes>
      <seconds>22</seconds>
    </timestamp>
  </start_date_time>
  <end_time>
    <type>duration</type>
    <end_date_time>
      <month></month>
      <day></day>
      <year></year>
      <timestamp>
        <hours></hours>
        <minutes></minutes>
        <seconds></seconds>
      </timestamp>
    </end_date_time>
    <duration>
      <hours>24</hours>
      <minutes></minutes>
      <seconds></seconds>
    </duration>
  </end_time>
  <account_id>2</account_id>
  <recurrence_pattern>Monthly</recurrence_pattern>
  <recurrence_period>1</recurrence_period>
  <recurrence_days_of_the_week>Tuesday</recurrence_days_of_the_week>
  <recurrence_day_of_the_month>15</recurrence_day_of_the_month>
  <recurrence_instance>2</recurrence_instance>
  <recurrence_end_date_time>
    <month>2</month>
    <day>14</day>
    <year>2014</year>
    <timestamp>
      <hours>16</hours>
      <minutes>30</minutes>
      <seconds>22</seconds>
    </timestamp>
  </recurrence_end_date_time>
  <timezone>Australia/Lindeman</timezone>
</schedule>
```
| Sample Reply (XML) | HTTP/1.1 200 OK  
|--------------------|-----------------|
|                    | Content-Type: application/xml  
|                    | `<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
|                    | <schedule>
|                    |  <scheduleid>8</scheduleid>  
|                    | </schedule>`  
| Sample Request (JSON) | **PUT** /rest/maintenance_mode/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/add_schedule  
|                      | HTTP/1.1  
|                      | Content-Type: application/json  
|                      | Accept: application/json  
|                      | `{  
|                      |   "name": "Test Sched A",  
|                      |   "description": "Test schedule for Maintenance Mode REST API.",  
|                      |   "start_date_time": {  
|                      |     "month": "2",  
|                      |     "day": "28",  
|                      |     "year": "2014",  
|                      |     "timestamp": {  
|                      |       "hours": "15",  
|                      |       "minutes": "30",  
|                      |       "seconds": "22"  
|                      |   }  
|                      |   },  
|                      |   "end_time": {  
|                      |     "type": "duration",  
|                      |     "end_date_time": {  
|                      |       "month": "",  
|                      |       "day": "",  
|                      |       "year": "",  
|                      |       "timestamp": {  
|                      |         "hours": "",  
|                      |         "minutes": "",  
|                      |         "seconds": ""  
|                      |     }  
|                      |   },  
|                      |   "duration": {  
|                      |     "hours": "24",  
|                      |     "minutes": "",  
|                      |     "seconds": ""  
|                      |   },  
|                      |   "account_id": "2",  
|                      |   "recurrence_pattern": "Monthly",  
|                      |   "recurrence_period": "1",  
|                      |   "recurrence_days_of_the_week": "",  
|                      |   "recurrence_day_of_the_month": "15",  
|                      |   "recurrence_instance": "",  
|                      |   "recurrence_end_date_time": {  
|                      |     "month": "2",  
|                      |     "day": "14",  
|                      |     "year": "2015",  
|                      |     "timestamp": {  
|                      |       "hours": "16",  
|                      |       "minutes": "30",  
|                      |       "seconds": "22"  
|                      |   }  
|                      | },  
|                      |   "timezone": "Australia/Lindeman"  
|                      | }  
| Sample Reply | HTTP/1.1 200 OK  
|              | Content-Type: application/xml  
|              | `<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
|              | <schedule>
|              |  <scheduleid>8</scheduleid>  
|              | </schedule>`
### Delete a Schedule

**URL**  
/maintenance_mode/{domain}/{hub}/{robot}/delete_schedule/{schedule_id}

**Method**  
DELETE

**Inputs**  
- 

**Returns**  
- 204 No Content (=OK)
- 401 Unauthorized
- 404 Not Found

**Valid Users**  
UIM Users

**Required Permissions**  
Web Service, Basic Management

**Sample Request**  
DELETE rest/maintenance_mode/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/delete_schedule/6 HTTP/1.1

**Sample Reply**  
HTTP/1.1 204 No Content

### Add Computer Systems to an Active Window

**URL**  
/maintenance_mode/{domain}/{hub}/{robot}/add_systems_to_active_window/{schedule_id}

**Method**  
POST

**Inputs**  
ComputerSystemList structure containing Computer System IDs

**Returns**  
- 204 No Content (=OK)
- Error Message
- 401 Unauthorized
- 404 Not Found

**Valid Users**  
UIM Users

**Required Permissions**  
Web Service, Basic Management

**Sample Request (XML)**  
POST rest/maintenance_mode/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/add_computer_systems_to_active_window/7 HTTP/1.1

Content-Type: application/xml

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<cs-list>
  <cs>7</cs>
  <cs>12</cs>
</cs-list>
```
Sample Reply

HTTP/1.1 204 No Content

Sample Request (JSON)

POST rest/maintenance_mode/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/add_computer_systems_to_active_window/7 HTTP/1.1
Content-Type: application/json

```json
{
  "cs": ["1","2","3"]
}
```

Get Historical Maintenance Windows

URL

/maintenance_mode/{domain}/{hub}/{robot}/
get_historical_maintenance_windows/{from}/{to}/{device_id}/{timezone}

Parameter explanation:
- “from” should be a date in the format yyyyddMMHHmm (year, day, month, hours, minutes. e.g. 201114071200 is 2011, 14, 07, 12, 00 or July 14, 2011 12pm)
- “to” should be a date in the format yyyyddMMHHmm (e.g. 201111100938)
- “device_id” the device id (eg. D387491CA4847AA722EBF4DA4A4B3C222) or “null”. If “null” is given to indicate no device id, all historical maintenance windows from the start to the end are returned.
- “timezone” the timezone the maintenance window start and end date-times will be displayed in. A list of valid timezones is provided in Appendix A.

Method

GET

Inputs

-

Returns

204 No Content (=OK)
401 Unauthorized
Error Message
404 Not Found

Valid Users

UIM Users

Required Permissions

Web Service, Basic Management

Sample Request (XML)

GET /rest/maintenance_mode/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/get_historical_maintenance_windows/201414020000/201428020000/D387491CA4847AA722EBF4DA4A4B3C222/Asia/Tokyo HTTP/1.1
Accept: application/xml

Sample Reply (XML)

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<maintenance_window_list>
  <maintenance_window>
    <deviceId>DC34DFE247E1244E79D5B7F189760ED62</deviceId>
    <start_date_time>02/21/2014 11:30:26</start_date_time>
    <end_date_time>02/21/2014 11:30:26</end_date_time>
  </maintenance_window>
</maintenance_window_list>
```

Sample Request (XML)

GET /rest/maintenance_mode/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/get_historical_maintenance_windows/201414020000/201428020000/D387491CA4847AA722EBF4DA4A4B3C222/Asia/Tokyo HTTP/1.1
Accept: application/xml

Sample Reply (XML)

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<maintenance_window_list>
  <maintenance_window>
    <deviceId>DC34DFE247E1244E79D5B7F189760ED62</deviceId>
    <start_date_time>02/21/2014 11:30:26</start_date_time>
    <end_date_time>02/21/2014 11:30:26</end_date_time>
  </maintenance_window>
</maintenance_window_list>
```
### Sample Reply (JSON)

```
Content-Type: application/json

{
  "maintenance_window": [
    {
      "start_date_time": "02/25/2014 09:32:45",
      "end_date_time": "02/27/2014 09:32:45"
    },
    {
      "start_date_time": "02/25/2014 09:32:46",
      "end_date_time": "02/25/2014 17:30:00"
    },
    {
      "start_date_time": "02/25/2014 09:32:46",
      "end_date_time": "02/25/2014 16:30:00"
    },
    {
      "start_date_time": "02/26/2014 10:30:00",
      "end_date_time": "02/26/2014 11:00:00"
    }
  ]
}
```

### Get the Next Fire Time for Schedules

**Note:** “utc_next_fire_time” is the date representation of the millisecond offset from the Unix epoch inserted into the database.

<table>
<thead>
<tr>
<th>URL</th>
<th>/maintenance_mode/{domain}/{hub}/{robot}/get_next_fire_time_for_schedules?timezone=America/Denver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter explanation:</td>
<td>- You can specify a timezone to display schedule next fire times in. If no timezone is specified, the timezone of the server on which the wasp probe is running will be used. A list of valid timezones is provided in Appendix A.</td>
</tr>
<tr>
<td>Method</td>
<td>GET</td>
</tr>
<tr>
<td>Inputs</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Basic Management</td>
</tr>
</tbody>
</table>
### Sample Request (XML)

GET /rest/maintenance_mode/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/get_next_fire_time_for_schedules?timezone=Australia/Lindeman

HTTP/1.1
Accept: application/xml

### Sample Reply (XML)

Content-Type: application/xml

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<schedule_fire_times>
<fire_time>
    <schedule_id>50</schedule_id>
    <next_fire_time>03/05/2014 03:30:00</next_fire_time>
</fire_time>
<fire_time>
    <schedule_id>53</schedule_id>
    <next_fire_time>03/16/2014 03:00:00</next_fire_time>
</fire_time>
</schedule_fire_times>
```

### Sample Reply (JSON)

Content-Type: application/json

```json
{
    "fire_time": [
        {
            "schedule_id": "45",
            "next_fire_time": "03/04/2014 14:00:10",
        },
        {
            "schedule_id": "49",
            "next_fire_time": "03/06/2014 10:30:00",
        },
        {
            "schedule_id": "122",
            "next_fire_time": "03/14/2014 16:30:22",
        }
    ]
}
```

### New Duration for an Active Window

**URL**
/maintenance_mode/{domain}/{hub}/{robot}/new_duration_for_active_window/{schedule_id}/{duration_in_minutes}

**Method**
PUT

**Inputs**
- String schedule_id
- String duration

**Returns**
- 204 No Content (=OK)
- 401 Unauthorized
- Error Message
- 404 Not Found

**Valid Users**
UIM Users

**Required**
Web Service, Basic Management
<table>
<thead>
<tr>
<th>Permissions</th>
<th>PUT /rest/maintenance_mode/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/new_duration_for_active_window/7/30 HTTP/1.1</th>
</tr>
</thead>
</table>

**Stop Maintenance**

<table>
<thead>
<tr>
<th>URL</th>
<th>/maintenance_mode/{domain}/{hub}/{robot}/stop_maintenance/{schedule_id}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>PUT</td>
</tr>
<tr>
<td>Inputs</td>
<td>ComputerSystemList structure containing ComputerSystemIds</td>
</tr>
<tr>
<td>Returns</td>
<td>204 No Content (=OK)</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Basic Management</td>
</tr>
</tbody>
</table>

Sample Request (XML)

```xml
PUT /rest/probe/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/maintenance_mode/delete_schedule/6 HTTP/1.1
Content-Type: application/xml

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<cs-list>
  <cs>7</cs>
  <cs>12</cs>
</cs-list>
```

Sample Reply

HTTP/1.1 204 No Content

Sample Request (JSON)

```json
POST /rest/probe/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/maintenance_mode/delete_schedule/6 HTTP/1.1
Content-Type: application/json

{  
  "cs": ["7", "12"]
}
```
### Custom Property related calls

**Note:** The only supported custom property at this time is Origin. Origin is the property_key.

#### Replace custom properties

This call adds custom properties to the specified computer system, replacing any existing properties.

<table>
<thead>
<tr>
<th>URL</th>
<th>custom_properties/{domain}/{hub}/{robot}/replace/{cs_id}/{property_key}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>POST</td>
</tr>
<tr>
<td>Input</td>
<td>List of property values</td>
</tr>
<tr>
<td>Returns</td>
<td>204 - No Content</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
</tbody>
</table>

**Sample Request**

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<values_list>
  <value>CustomerA</value>
  <value>CustomerB</value>
  <value>CustomerC</value>
</values_list>
```

**Sample Reply (XML)**

HTTP/1.1 204 No Content

**Sample Request (JSON)**

```json
{"value":["CustomerA","CustomerB","CustomerC"]}
```

#### Add custom properties

This call adds custom properties to the specified computer system.

<table>
<thead>
<tr>
<th>URL</th>
<th>custom_properties/{domain}/{hub}/{robot}/add/{cs_id}/{property_key}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>POST</td>
</tr>
<tr>
<td>Input</td>
<td>List of property values</td>
</tr>
<tr>
<td>Returns</td>
<td>204 - No Content</td>
</tr>
</tbody>
</table>

401 Unauthorized

404 Not Found
## Get custom properties

This call returns the values for the specified custom property.

<table>
<thead>
<tr>
<th>URL Method</th>
<th>custom_properties/{domain}/{hub}/{robot}/get/{cs_id}/{property_key}</th>
</tr>
</thead>
<tbody>
<tr>
<td>GET</td>
<td></td>
</tr>
</tbody>
</table>

| Input | - |

| Returns | 200 - OK, Property List |
|         | 401 Unauthorized |
|         | 404 Not Found |

### Valid Users

- UIM Users

### Required Permissions

- Web Service, Account Administration

### Sample Request

**XML**

```xml
POST /rest/custom_properties/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/add/2/Origin HTTP/1.1
Content-Type: application/xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<values_list>
    <value>CustomerA</value>
    <value>CustomerB</value>
    <value>CustomerC</value>
</values_list>
```

### Sample Reply (XML)

- HTTP/1.1 204 No Content

### Sample Request (JSON)

```json
POST /rest/custom_properties/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/add/2/Origin HTTP/1.1
Content-Type: application/json
{"value":"["CustomerA","CustomerB","CustomerC"]}"
```

### Sample Reply (JSON)

- HTTP/1.1 200 OK

```json
{"value": ["CustomerA", "CustomerB", "CustomerC"]}
```
**Remove custom properties**

This call removes the specified values from the specified custom property. If the specified value is the only value, the property is removed. Otherwise, other values remain.

<table>
<thead>
<tr>
<th>URL</th>
<th>custom_properties/{domain}/{hub}/{robot}/remove/{cs_id}/{property_key}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>PUT</td>
</tr>
<tr>
<td>Input</td>
<td>List of property values</td>
</tr>
<tr>
<td>Returns</td>
<td>204 - No Content</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
<tr>
<td>Sample Request (XML)</td>
<td>PUT /rest/custom_properties/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/remove/2/Origin HTTP/1.1</td>
</tr>
<tr>
<td></td>
<td>Content-Type: application/xml</td>
</tr>
<tr>
<td></td>
<td>&lt;?xml version=&quot;1.0&quot; encoding=&quot;UTF-8&quot; standalone=&quot;yes&quot;?&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;values_list&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;value&gt;CustomerA&lt;/value&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;value&gt;CustomerB&lt;/value&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;value&gt;CustomerC&lt;/value&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;/values_list&gt;</td>
</tr>
<tr>
<td>Sample Request (JSON)</td>
<td>PUT /rest/custom_properties/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/remove/2/Origin HTTP/1.1</td>
</tr>
<tr>
<td></td>
<td>Content-Type: application/json</td>
</tr>
<tr>
<td></td>
<td>{&quot;value&quot;:[&quot;CustomerA&quot;,&quot;CustomerB&quot;,&quot;CustomerC&quot;]}</td>
</tr>
<tr>
<td>Sample Reply (XML)</td>
<td>HTTP/1.1 204 No Content</td>
</tr>
</tbody>
</table>

**Clear custom properties**

This call clears/removes the property and all of its values from the specified computer system.

<table>
<thead>
<tr>
<th>URL</th>
<th>custom_properties/{domain}/{hub}/{robot}/clear/{cs_id}/{property_key}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>DELETE</td>
</tr>
<tr>
<td>Input</td>
<td>-</td>
</tr>
<tr>
<td>Returns</td>
<td>204 - No Content</td>
</tr>
<tr>
<td></td>
<td>401 Unauthorized</td>
</tr>
<tr>
<td></td>
<td>404 Not Found</td>
</tr>
<tr>
<td>Valid Users</td>
<td>UIM Users</td>
</tr>
<tr>
<td>Required Permissions</td>
<td>Web Service, Account Administration</td>
</tr>
<tr>
<td>Sample</td>
<td>DELETE /rest/custom_properties/w2k8r2-x64-lc_domain/w2k8r2-x64-lc_hub/w2k8r2-x64-lc/clear/2/Origin HTTP/1.1</td>
</tr>
<tr>
<td>Request</td>
<td>Sample Reply (XML)</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------</td>
</tr>
<tr>
<td></td>
<td>HTTP/1.1 204 No Content</td>
</tr>
</tbody>
</table>
Appendix A – Definition of Inputs for the add_schedule Call

The minimum required inputs to add a schedule for maintenance mode are the schedule start date/time and end date/time or duration.

The add_schedule inputs are as follows:

**name** – A name to help identify the schedule.

**description** – A description to help identify the purpose of the schedule.

**start_date_time** – The day and time the maintenance period will start. Start date time must be greater than the current time. Enter integer values for month, day, and year. Optionally enter hours, minutes, and seconds.

For example, the following start_date_time represents February 14, 2014 at 12:00:00 am.

```xml
<start_date_time>
  <month>2</month>
  <day>14</day>
  <year>2014</year>
  <timestamp>
    <hours></hours>
    <minutes></minutes>
    <seconds></seconds>
  </timestamp>
  <timezone></timezone>
</start_date_time>
```

The following start_date_time represents February 14, 2014 at 3:30:22 pm.

```xml
<start_date_time>
  <month>2</month>
  <day>14</day>
  <year>2014</year>
  <timestamp>
    <hours>15</hours>
    <minutes>30</minutes>
    <seconds>22</seconds>
  </timestamp>
  <timezone></timezone>
</start_date_time>
```

**end_time** – The time the maintenance period will end. End time can be specified as a duration or as an end_date_time.

**duration** – The amount of time in minutes the maintenance period will last. Enter duration in the type field. Enter integer values for hours, minutes, or seconds and the system will convert the duration to minutes. Seconds are rounded to the nearest minute. For example,

```xml
<end_time>
  <type>end_date_time</type>
  <end_date_time>
    <month></month>
    <day></day>
  </end_date_time>
</end_time>
```
<year></year>
<timestamp>
<hours></hours>
<minutes></minutes>
<seconds></seconds>
</timestamp>
<timezone></timezone>
</end_date_time>
<duration>
<hours>24</hours>
<minutes>32</minutes>
<seconds>56</seconds>
</duration>
</end_time>

end_date_time – The date and time the maintenance period will end. Enter datetime in the type field. Enter integer values for month, day, and year. Optionally enter hours, minutes, and seconds. For example,
<end_time>
<type>datetime</type>
<end_date_time>
<month>2</month>
<day>21</day>
<year>2014</year>
<timestamp>
<hours>15</hours>
<minutes>30</minutes>
<seconds>22</seconds>
</timestamp>
<timezone></timezone>
</end_date_time>
<duration>
<hours></hours>
<minutes></minutes>
<seconds></seconds>
</duration>
</end_time>

account_id – The integer id of an account.

recurrence_pattern – Leave blank for no recurrence. Enter daily, weekly, or monthly recurrence.

recurrence_period – Integer that indicates how often the recurrence pattern will occur. For example, for recurrence_patterns of daily, weekly, or monthly; recurrence_period = 3 is every 3 days, 3 weeks, or 3 months respectively; recurrence_period = 1 is daily, weekly, monthly respectively. Required if recurrence_instance is entered.

recurrence_days_of_the_week – Day of the week when recurrence will occur. If the schedule is weekly this can be a comma separated list for multiple days of the week. For example, “Tuesday,Thursday”.

recurrence_day_of_the_month – Integer day of the month when recurrence will occur. For example, day 2 of every month.
**recurrence_instance** – Only applicable for monthly recurrences. Valid values are 1, 2, 3, 4 or 5 (1st, 2nd, 3rd, or last). If this is used, recurrence_days_of_the_week should be specified as a single integer.

For example, the following specifies a maintenance period on the 4th Sunday of every month.

```xml
<recurrence_pattern>Monthly</recurrence_pattern>
<recurrence_period>1</recurrence_period>
<recurrence_days_of_the_week>Sunday</recurrence_days_of_the_week>
<recurrence_day_of_the_month></recurrence_day_of_the_month>
<recurrence_instance>4</recurrence_instance>
```

**recurrence_end_date_time** – The date and time when recurrence will end.

**Timezone** – The timezone for the schedule. Timezone must be one of the following:

- Etc/GMT+12
- Etc/GMT+11
- Pacific/Midway
- Pacific/Niue
- Pacific/Pago_Pago
- Pacific/Samoa
- US/Samoa
- America/Adak
- America/Atka
- Etc/GMT+10
- HST
- Pacific/Honolulu
- Pacific/Johnston
- Pacific/Rarotonga
- Pacific/Tahiti
- SystemV/HST10
- US/Aleutian
- US/Hawaii
- Pacific/Marquesas
- AST
- America/Anchorage
- America/Juneau
- America/Nome
- America/Sitka
- America/Yakutat
- Etc/GMT+9
- Pacific/Gambier
- SystemV/YST9
- SystemV/YST9YDT
- US/Alaska
- America/Dawson
- America/Ensenada
- America/Los_Angeles
- America/Metlakatla
- America/Santa_Isabel
- America/Tijuana
• America/Vancouver
• America/Whitehorse
• Canada/Pacific
• Canada/Yukon
• Etc/GMT+8
• Mexico/BajaNorte
• PST
• PST8PDT
• Pacific/Pitcairn
• SystemV/PST8
• SystemV/PST8PDT
• US/Pacific
• US/Pacific-New
• America/Boise
• America/Cambridge_Bay
• America/Chihuahua
• America/Creston
• America/Dawson_Creek
• America/Denver
• America/Edmonton
• America/Hermosillo
• America/Inuvik
• America/Mazatlan
• America/Ojinaga
• America/Phoenix
• America/Shiprock
• America/Yellowknife
• Canada/Mountain
• Etc/GMT+7
• MST
• MST7MDT
• Mexico/BajaSur
• Navajo
• PNT
• SystemV/MST7
• SystemV/MST7MDT
• US/Arizona
• US/Mountain
• America/Bahia_Banderas
• America/Belize
• America/Cancun
• America/Chicago
• America/Costa_Rica
• America/El_Salvador
• America/Guatemala
• America/Indiana/Knox
• America/Indiana/Tell_City
• America/Knox_IN
- America/Managua
- America/Matamoros
- America/Menominee
- America/Merida
- America/Mexico_City
- America/Monterrey
- America/North_Dakota/Beulah
- America/North_Dakota/Center
- America/North_Dakota/New_Salem
- America/Rainy_River
- America/Regina
- America/Resolute
- America/Swift_Current
- America/Tegucigalpa
- America/Winnipeg
- CST
- CST6CDT
- Canada/Central
- Canada/East-Saskatchewan
- Canada/Saskatchewan
- Chile/EasterIsland
- Etc/GMT+6
- Mexico/General
- Pacific/Easter
- Pacific/Galapagos
- SystemV/CST6
- SystemV/CST6CDT
- US/Central
- US/Indiana-Starke
- America/Atikokan
- America/Bogota
- America/Cayman
- America/Coral_Harbour
- America/Detroit
- America/Fort_Wayne
- America/Grand_Turk
- America/Guayaquil
- America/Havana
- America/Indiana/Indianapolis
- America/Indiana/Marengo
- America/Indiana/Petersburg
- America/Indiana/Vevay
- America/Indiana/Vincennes
- America/Indiana/Winamac
- America/Indianapolis
- America/Iqaluit
- America/Jamaica
• America/Kentucky/Louisville
• America/Kentucky/Monticello
• America/Lima
• America/Louisville
• America/Montreal
• America/Nassau
• America/New_York
• America/Nipigon
• America/Panama
• America/Pangnirtung
• America/Port-au-Prince
• America/Thunder_Bay
• America/Toronto
• Canada/Eastern
• Cuba
• EST
• EST5EDT
• Etc/GMT+5
• IET
• Jamaica
• SystemV/EST5
• SystemV/EST5EDT
• US/East-Indiana
• US/Eastern
• US/Michigan
• America/Caracas
• America/Anguilla
• America/Antigua
• America/Argentina/San_Luis
• America/Aruba
• America/Asuncion
• America/Barbados
• America/Blanc-Sablon
• America/Boa_Vista
• America/Campo_Grande
• America/Cuiaba
• America/Curacao
• America/Dominica
• America/Eirunepe
• America/Glace_Bay
• America/Goose_Bay
• America/Grenada
• America/Guadeloupe
• America/Guyana
• America/Halifax
• America/Kralendijk
• America/La_Paz
• America/Lower_Princes
- America/Manaus
- America/Marigot
- America/Martinique
- America/Moncton
- America/Montserrat
- America/Port_of_Spain
- America/Porto_Acre
- America/Porto_Velho
- America/Puerto_Rico
- America/Rio_Branco
- America/Santiago
- America/Santo_Domingo
- America/St_Barthelemy
- America/St_Kitts
- America/St_Lucia
- America/St_Thomas
- America/St_Vincent
- America/Thule
- America/Tortola
- America/Virgin
- Antarctica/Palmer
- Atlantic/Bermuda
- Brazil/Acre
- Brazil/West
- Canada/Atlantic
- Chile/Continental
- Etc/GMT+4
- PRT
- SystemV/AST4
- SystemV/AST4ADT
- America/St_Johns
- CNT
- Canada/Newfoundland
- AGT
- America/Araguaina
- America/Argentina/Buenos_Aires
- America/Argentina/Catamarca
- America/Argentina/ComodRivadavia
- America/Argentina/Cordoba
- America/Argentina/Jujuy
- America/Argentina/La_Rioja
- America/Argentina/Mendoza
- America/Argentina/Rio_Gallegos
- America/Argentina/Salta
- America/Argentina/San_Juan
- America/Argentina/Tucuman
- America/Argentina/Ushuaia
- America/Bahia
- America/Belem
- America/Buenos_Aires
- America/Catamarca
- America/Cayenne
- America/Cordoba
- America/Fortaleza
- America/Godthab
- America/Jujuy
- America/Maceio
- America/Mendoza
- America/Miquelon
- America/Montevideo
- America/Paramaribo
- America/Recife
- America/Rosario
- America/Santarem
- America/Sao_Paulo
- Antarctica/Rothera
- Atlantic/Stanley
- BET
- Brazil/East
- Etc/GMT+3
- America/Noronha
- Atlantic/South_Georgia
- Brazil/DeNoronha
- Etc/GMT+2
- America/Scoresbysund
- Atlantic/Azores
- Atlantic/Cape_Verde
- Etc/GMT+1
- Africa/Abidjan
- Africa/Accra
- Africa/Bamako
- Africa/Banjul
- Africa/Bissau
- Africa/Casablanca
- Africa/Conakry
- Africa/Dakar
- Africa/El_Aaiun
- Africa/Freetown
- Africa/Lome
- Africa/Monrovia
- Africa/Nouakchott
- Africa/Ouagadougou
- Africa/Sao_Tome
- Africa/Timbuktu
- America/Danmarkshavn
- Atlantic/Canary
• Atlantic/Faeroe
• Atlantic/Faroe
• Atlantic/Madeira
• Atlantic/Reykjavik
• Atlantic/St_Helena
• Eire
• Etc/GMT
• Etc/GMT+0
• Etc/GMT-0
• Etc/GMT0
• Etc/Greenwich
• Etc/UCT
• Etc/UTC
• Etc/Universal
• Etc/Zulu
• Europe/Belfast
• Europe/Dublin
• Europe/Guernsey
• Europe/Isle_of_Man
• Europe/Jersey
• Europe/Lisbon
• Europe/London
• GB
• GB-Eire
• GMT
• GMT0
• Greenwich
• Iceland
• Portugal
• UCT
• UTC
• Universal
• WET
• Zulu
• Africa/Algiers
• Africa/Bangui
• Africa/Brazzaville
• Africa/Ceuta
• Africa/Douala
• Africa/Kinshasa
• Africa/Lagos
• Africa/Libreville
• Africa/Luanda
• Africa/Malabo
• Africa/Ndjamena
• Africa/Niamey
• Africa/Porto-Novu
• Africa/Tunis
- Africa/Maputo
- Africa/Maseru
- Africa/Mbabane
- Africa/Tripoli
- Asia/Amman
- Asia/Beirut
- Asia/Damascus
- Asia/Gaza
- Asia/Hebron
- Asia/Istanbul
- Asia/Jerusalem
- Asia/Nicosia
- Asia/Tel_Aviv
- CAT
- EET
- Egypt
- Etc/GMT-2
- Europe/Athens
- Europe/Bucharest
- Europe/Chisinau
- Europe/Helsinki
- Europe/Istanbul
- Europe/Kiev
- Europe/Mariehamn
- Europe/Nicosia
- Europe/Riga
- Europe/Simferopol
- Europe/Sofia
- Europe/Tallinn
- Europe/Tiraspol
- Europe/Uzhgorod
- Europe/Vilnius
- Europe/Zaporozhye
- Israel
- Libya
- Turkey
- Africa/Addis_Ababa
- Africa/Asmara
- Africa/Asmera
- Africa/Dar_es_Salaam
- Africa/Djibouti
- Africa/Juba
- Africa/Kampala
- Africa/Khartoum
- Africa/Mogadishu
- Africa/Nairobi
- Antarctica/Syowa
- Asia/Aden
• Asia/Baghdad
• Asia/Bahrain
• Asia/Kuwait
• Asia/Qatar
• Asia/Riyadh
• EAT
• Etc/GMT-3
• Europe/Kaliningrad
• Europe/Minsk
• Indian/Antananarivo
• Indian/Comoro
• Indian/Mayotte
• Asia/Riyadh87
• Asia/Riyadh88
• Asia/Riyadh89
• Mideast/Riyadh87
• Mideast/Riyadh88
• Mideast/Riyadh89
• Asia/Tehran
• Iran
• Asia/Baku
• Asia/Dubai
• Asia/Muscat
• Asia/Tbilisi
• Asia/Yerevan
• Etc/GMT-4
• Europe/Moscow
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• Asia/Ashgabat
• Asia/Ashkhabad
• Asia/Dushanbe
• Asia/Karachi
• Asia/Oral
• Asia/Samarkand
• Asia/Tashkent
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• Indian/Kerguelen
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- Asia/Calcutta
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- Asia/Yekaterinburg
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Asia/Ulan_Bator
Asia/Urumqi
Australia/Perth
Australia/West
CTT
Etc/GMT-8
Hongkong
PRC
Singapore
Australia/Eucla
Asia/Dili
Asia/Irkutsk
Asia/Jayapura
Asia/Pyongyang
Asia/Seoul
Asia/Tokyo
Etc/GMT-9
JST
Japan
Pacific/Palau
ROK
ACT
Australia/Adelaide
Australia/Broken_Hill
Australia/Darwin
Australia/North
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Asia/Yakutsk
Australia/ACT
Australia/Brisbane
Australia/Canberra
Australia/Currie
Australia/Hobart
Australia/Lindeman
Australia/Melbourne
Australia/NSW
Australia/Queensland
- Australia/Sydney
- Australia/Tasmania
- Australia/Victoria
- Etc/GMT-10
- Pacific/Chuuk
- Pacific/Guam
- Pacific/Port_Moresby
- Pacific/Saipan
- Pacific/Truk
- Pacific/Yap
- Australia/LHI
- Australia/Lord_Howe
- Antarctica/Macquarie
- Asia/Sakhalin
- Asia/Vladivostok
- Etc/GMT-11
- Pacific/Efate
- Pacific/Guadalcanal
- Pacific/Kosrae
- Pacific/Noumea
- Pacific/Pohnpei
- Pacific/Ponape
- SST
- Pacific/Norfolk
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- Asia/Magadan
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- Kwajalein
- NST
- NZ
- Pacific/Auckland
- Pacific/Fiji
- Pacific/Funafuti
- Pacific/Kwajalein
- Pacific/Majuro
- Pacific/Nauru
- Pacific/Tarawa
- Pacific/Wake
- Pacific/Wallis
- NZ-CHAT
- Pacific/Chatham
- Etc/GMT-13
- MIT
- Pacific/Apia
- Pacific/Enderbury
- Pacific/Fakaofa
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