



Prime Home NBI

Developers Integration Guide

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1 Preface

1.1 Document Purpose

The purpose of this document is to describe in detail the Prime Home North Bound Interface (NBI) and provide the necessary knowledge to software developers who want to integrate with Prime Home using its NBI.

1.2 Terms and Abbreviations

Abbreviation	Description
CPE	Customer Premises Equipment
NBI	North Bound Interface – a set of interfaces exposed to the service provider’s head-end
CSR	Customer Service Representative
REST	Representational State Transfer

2 Integration Guidelines

2.1 Overview

Prime Home’s NBI is based on client-server communication methodology by utilizing a web-service API. In this methodology, the client (i.e. OSS/BSS) sends requests to Prime Home and waits for its responses.

Prime Home NBI is based on REST architecture (Representational State Transfer). In this architecture:

- API functions (methods) are represented by HTTP resources and identified by URLs, so when a client would like to call a particular function, it initiates a request to Prime Home by accessing a URL using a particular method (PUT, GET, POST, DELETE). Each method results in a different function being activated.
- Parameters are passed and returned either as part of the URL or, when complex objects need to be passed, as part of the HTTP body. When they are embedded in the HTTP body, they are represented in a JSON or XML format.

Each method in this document is described by its URL (resource id), HTTP method and the request / response parameter structure format that will be passed to it or returned from it.

The list of APIs included in this document is partial. A complete and dynamic list can be found in the following URL: <http://primehomedemo.cisco.com/panorama-ui/nbi/application.wadl>

The WADL file relevant to the version being used in each deployment can be accessed using the following URL:

<http://hostname:port/panorama-ui/nbi/application.wadl>

2.2 Prime Home NBI URL Syntax

Prime Home NBI REST URLs use the following convention:

{scheme}://{host}:{port}/panorama-ui/nbi/{module}/v1.1/{resource}/...

Part	Example	Description
scheme	http or https	Use https when secure communication is required.
host	ph.cisco.com	The IP address or DNS name of the Prime Home NBI Server.
port	80, 8080 or 443	HTTP (S) port number assigned to the Prime Home NBI.
module	operations	NBI operations are organized In the following modules • operations – Administrative operation for configuring Prime Home entities such as Software Modules and Services. • netmap – Operations to be performed on a CPE, or related to a CPE. • provisioning – provisioning related APIs
resource	device	The resource being addressed (device, household, group etc.)

2.3 HTTP Headers

The following headers need to be supported and sent to Prime Home NBI:

- “Content-Type” header determines the type of the input payload (json / xml).
 - To use json payload, use: “Content-Type: application/json”
 - To use xml payload, use: “Content-Type: application/xml”
- “Accept” header determines the type of the returned data (json/xml).
 - To get responses back in json format, use: “Accept: application/json”.
 - To get responses back in xml format, use: “Accept: application/xml”.

2.4 Authentication

Prime Home NBI requires that the client that wants to invoke NBI calls to authenticate against it should use HTTP–basic based authentication (username – password).

Specific access credentials will be provided during the integration phase.

2.5 Device Identification

When calling the Prime Home NBI for performing operations on individual devices, the client will identify each CPE uniquely. The id will be passed in most cases in the URL.

CPEs are identified based on parameters taken from their data model like: WAN MAC Address or Serial Number.

An example of identifying a device within the URL is as follows (e.g., for retrieving device’s “properties” resource):

<http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberGw=1234567/resource/properties>

The key(s) / aliases that can be used as device identifiers are based on data model parameters, and are configurable per deployment. They can be

- On a specific parameter, such as Gateway serial number (/SerialNumberGw=SN1234)
- In some cases, a single parameter cannot uniquely identify a device. Hence the device id is a combination of 1 to N name-value strings, each identifying a single parameter name and its value, and together uniquely identifying the device. E.g. both OUI and SerialNumber:
(/OUI=A124,SerialNumberGw=SN1234)
- A few keys that can be used separately to identify different device types. For example, for a system managing both STBs and Gateways, it is possible to define 2 different identifier, each can be used for different device type. E.g.: either SerialNumberStb and SerialNumberGw.

By default, the Prime Home product comes with the following pre-defined keys which either of them can be used:

- SerialNumberStb – maps to Device.DeviceInfo.SerialNumber

- SerialNumberGw – maps to InternetGatewayDevice.DeviceInfo.SerialNumber
- cpeld –the device’s identifier. The exact mapping of device Id to a respective data model parameter is defined in the device’s profile. By default, cpeld is mapped to the device’s Serial Number.

2.6 Return Statuses

The status of each operation is reflected in 2 ways:

The HTTP return code reflects the overall transaction status. If the transaction consists of multiple requests (E.g: add multiple devices), the return code will express the aggregated status of all requests. If successful it will be equal to OK (201 / 200). If any of them fail – a relevant error code will be returned. The **Response Status** is a complex object that includes status code (Prime Home internal enumeration field), message code and status description. In case of complex transactions as described above – a list of response statuses will be returned, each reflecting the status of a singular request in the transaction (e.g.: one addDevice operation).

Each API described in this document includes the specification of the possible statuses that might be returned by the API.

2.7 Staleness and Last Retrieved indication

This input parameter that can be provided by most of the GET function calls, dictates how up-to-date the NBI client wish the parameter values to be. If any of the parameters last retrieved from device earlier than staleness, all parameters included in the requested resource will be retrieved from device. Otherwise - they will be retrieved from the database. In case an operation might take a long time, ASYNC mode with long polling should be used.

- If parameter required by resource is missing from database because it is in black list, transient or not in white list and staleness other than "infinity", all parameters required for the resource will be retrieved from device.
- Possible values:
 - 0 (zero) means always retrieve data from device.
 - Any negative integer value means infinity, i.e. get data from database
 - Integer values interpreted as seconds
 - 1W2d1h10m5s means 1 week 2 days 1 hour 10 minutes 5 seconds
- In case the parameter is not provided as input, the the default value being used is "infinity", i.e. never go to device, get data from database.

For example, if resource last retrieved 1 week ago, and staleness 2w is passed, data from database will be returned. If staleness 1d passed, data from device will be retrieved.

2.8 Asynchronous operation / Long Polling

Many NBI methods support async operation. Internally, all portlets use ASYNC operation. It is implemented using a Long Polling mechanism.

Long polling operation is activated when passing `sync=ASYNC` to supported NBI methods. It means that the method will return immediately with data from the database, and unique string token will be returned as part of the response. This token can be used later to retrieve updated data for the resource. The overall process is as following:

1. Client sends request with low staleness and `sync=ASYNC`
2. Method returns immediately with data from database. If retrieving from device needed, unique string token will be returned in response. If token is not returned, it means that the data is "fresh" enough and retrieving is not needed.
3. If token returned, the second call with **exact** same parameters should be sent with addition of token received from the initial request.
4. If operation associated with token is not completed yet, it will block until it is finished

3 Provisioning API

Prime Home maintains a repository of households and managed devices. A household is a logical entity that encompasses all managed devices residing in the same house (even if they are not connected to each other directly, e.g. hybrid STB and GW). This entity allows Prime Home to provide easy lookup of devices related to the same subscriber as well as multi-layered monitoring and troubleshooting tools that reach beyond the individual device.

The provisioning API, described below, allows the operator to maintain this repository by adding, removing, and editing both households and device entities. In addition, this APIs allows the operator to pre-provision tags, meta-parameters and device parameters that will be associated to a device once it first connects to Prime Home.

3.1 Household Management API

3.1.1 Get Household

Operation: GET /provisioning/v1.1/households/{householdId}

Description: This operation gets household data listed in Prime Home with metadata identifiers.

URL Parameters

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

householdId	Yes	Identifier of the required household	String
-------------	-----	--------------------------------------	--------

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/provisioning/v1.1/households/{householdId} HTTP/1.1
```

Example Response

```
{
  "households": [
    {
      "householdId": "household 1",
```

```
"metadata": {
  "address": "25 Moorside Road, Manchester, 32000",
  "phone": "08-5124598"
},
"firstName": "Peter",
"lastName": "Parker",
"email": "my_email@spider.com"
},
{
  "householdId": "household 2",
  "metadata": {
    "address": "18 Moor Lane, Manchester, 32000",
    "phone": "08-5124598"
  },
  "firstName": "Steve",
  "lastName": "Rogers",
  "email": "my_email@shield.com"
}
]
```

3.1.2 Add Household

Operation: PUT /provisioning/v1.1/household/{householdId}

Description: This operation adds a household to Prime Home. A household can optionally be added with meta-data identifiers (e.g.: name, phone, account ID etc.).

URL Parameters

Parameter	Required	Description	Data Type
householdId	Yes	Identifier of the required household	String

Object Schema

Parameter	Required	Description	Data Type
Metadata	No	List of name-value strings, each represents a different meta data	List of name-value strings

		identifier that is associated to the household	
--	--	--	--

Response Messages

HTTP Code	Prime Home Code	Prime Home Message Code	Reason
200	0	msg.operation_completed_successfully	Successful completion – household added successfully.
503	14	msg.service_is_not_configured	Provisioning failed - system is not properly configured
409	15	msg.household_already_exists	Requested household already exists
500	38	msg.operation_failure	Failed to create household due to an unknown error
400 / 500	999	msg.internal_error	Failed to create household due to an Internal error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway Timeout

Example Request

```
PUT http://hostname:port/panorama-ui/nbi/provisioning/v1.1/household/1234567 HTTP/1.1
{
  "metadata": {
    "address": "12 Dizzingof st, Tel Aviv, 32000",
    "phone": "08-5124598"
  },
  "firstName": "John",
  "lastName": "Smith",
  "email": "my_email@here.com"
}
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  },
  "householdId": "JohnHousehold",
  "cpeDescriptors": [
    {
      "identityMap": {
        "SerialNumberStb": "123ABCD123"
      }
    },
    {
      "identityMap": {
        "Mac": "18:10:56:55:20:01"
      }
    }
  ]
}
```

3.1.3 Get Household Devices

Operation: GET /provisioning/v1.1/household/{householdId}/devices

Description: Returns household devices provisioning for each device associated to the given household

URL Parameters

Parameter	Required	Description	Data Type
householdId	Yes	Identifier of the required household	String

Object Schema

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

Metadata	No	List of name-value strings, each represents a different meta data identifier that is associated to the household	List of name-value strings
----------	----	--	----------------------------

Response Messages

HTTP Code	Prime Home Code	Prime Home Message Code	Reason
200	0	msg.operation_completed_successfully	Successful completion – household added successfully.
503	14	msg.service_is_not_configured	Provisioning failed - system is not properly configured
409	15	msg.household_already_exists	Requested household already exists
500	38	msg.operation_failure	Failed to create household due to an unknown error
400 / 500	999	msg.internal_error	Failed to create household due to an Internal error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway Timeout

Example Request

```
GET http://hostname:port/panorama-ui/nbi/provisioning/v1.1/household/05455555555/devices HTTP/1.1
```

Example Response

```
[
```

```

{
  "cpIdentifier": {
    "identityMap": {
      "SerialNumberGw": "456WXYZ456"
    }
  },
  "metaData": {
    "phone": "5551231212",
    "type": "high-speed",
    "speed": "1500mbps"
  },
  "parameters": [
    {
      "applyAction": 1,
      "key": "InternetGatewayDevice.ManagementServer.PeriodicInformInterval",
      "value": "86400"
    },
    {
      "applyAction": 0,
      "key": "InternetGatewayDevice.ManagementServer.X_CISCO_COM_UserPhone",
      "value": "+15551231212"
    }
  ],
  "tags": [
    "tag1",
    "tag2"
  ],
  "householdId": "05455555555",
  "crossDeviceAlertGroup": "CDA group name"
}

```

3.1.4 Get Households

Operation: GET /provisioning/v1.1/households

Description: Returns all households along with the metadata information

URL Parameters

Parameter	Required	Description	Data Type

Object Schema

Parameter	Required	Description	Data Type

Response Messages

HTTP Code	Prime Home Code	Prime Home Message Code	Reason
200	0	msg.operation_completed_successfully	Successful completion – household added successfully.
503	14	msg.service_is_not_configured	Provisioning failed - system is not properly configured
409	15	msg.household_already_exists	Requested household already exists
500	38	msg.operation_failure	Failed to create household due to an unknown error
400 / 500	999	msg.internal_error	Failed to create household due to an Internal error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway Timeout

Example Request

```
GET /provisioning/v1.1/households HTTP/1.1
```

Example Response

```
{
  "households": [
    {
```

```

"householdId": "household 1",
"metadata": {
  "address": "12 Dizzingof st, Tel Aviv, 32000",
  "phone": "08-5124598"
},
"firstName": "Peter",
"lastName": "Parker",
"email": "my_email@spider.com"
},
{
  "householdId": "household 2",
  "metadata": {
    "address": "12 Dizzingof st, Tel Aviv, 32000",
    "phone": "08-5124598"
  },
  "firstName": "Steve",
  "lastName": "Rogers",
  "email": "my_email@shield.com"
}
]
}

```

3.1.5 Delete Households

Operation: DELETE /provisioning/v1.1/household/{householdIds}?remove_devices={flag}

Description: This operation removes one or more households from Prime Home.

URL Parameters

Parameter	Required	Description	Data Type
householdIds	Y	Identifiers of the required household	String
remove_devices	N	Determine if the devices associated with the household will be removed from Prime Home. (True or False)	Boolean

Object Schema

Parameter	Req	Description	Data Type
-----------	-----	-------------	-----------

None			
------	--	--	--

Response Messages

HTTP Code	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion – household deleted
404	1	msg.household_not_found	Household does not exist
400	14	msg.service_is_not_configured	Provisioning failed - system is not properly configured (along with HTTP code 504)
500	999	msg.internal_error	Internal server error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway timeout

Example Request

```
DELETE http://hostname:port/panorama-ui/nbi/provisioning/v1.1/households/1234567,234567,345678 HTTP/1.1
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  },
  "householdId": "JohnHousehold",
  "cpeDescriptors": [
    {
      "identityMap": {
        "SerialNumberStb": "123ABCD123"
      }
    }
  ]
}
```

```

    }
  },
  {
    "identityMap": {
      "Mac": "18:10:56:55:20:01"
    }
  }
]
}

```

3.1.6 Get Household data

Operation: GET /provisioning/v1.1/household/{householdId}

Description: Get the provisioning data for a household, including the devices associated with the household – if any are.

URL Parameters

Parameter	Required	Description	Data Type
householdId	Yes	The identifier of the required household	String

Object Schema

Parameter	Required	Description	Data Type

Response Messages

HTTP Code	Prime Home Code	messageCode	Reason
404	1	msg.household_not_found	Household does not exist
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

504	N/A	N/A	Gateway timeout
-----	-----	-----	-----------------

Example Request

```
GET http://hostname:port/panorama-ui/nbi/provisioning/v1.1/household/1234567 HTTP/1.1
```

Example Response

```
{
  "metadata": {
    "address": "12 Dizzingof st, Tel Aviv, 32000",
    "phone": "08-5124598"
  },
  "devices": [
    {
      "deviceId": {
        "identityMap": {
          "SerialNumberGw": "SN425566"
        }
      },
      "metaData": {
        "phone": "5551231212",
        "type": "high-speed",
        "speed": "1500mbps"
      },
      "parameters": [
        {
          "key": "InternetGatewayDevice.ManagementServer.PeriodicInformInterval",
          "value": "86400"
        },
        {
          "applyAction": 0,
          "key": "InternetGatewayDevice.ManagementServer.X_CISCO_COM_UserPhone",
          "value": "15551231212"
        }
      ],
      "tags": [
        "tag1",
        "tag2"
      ],
      "householdId": "1234567"
    }
  ]
}
```

3.1.7 Set Household Metadata

Operation: PUT /provisioning/v1.1/household/{householdId}/provisioningData

Description: Set household metadata. Existing metadata info will be overridden.

URL Parameters

Parameter	Required	Description	Data Type
householdId	Yes	Identifier of the required household	String

Object Schema

Parameter	Required	Description	Data Type
Metadata	No	List of name-value strings, each represents a different meta data identifiers that are associated to the household	List of name-value strings

Response Messages

HTTP Code	Prime Home Code	Prime Home Message Code	Reason
200	0	msg.operation_completed_successfully	Successful completion – household added successfully.
500	38	msg.operation_failure	Failed to update household due to an unknown error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway Timeout

Example Request

```
PUT http://hostname:port/panorama-ui/nbi/provisioning/v1.1/household/1234567/provisionindData HTTP/1.1
```

```
{
  "metadata": {
    "phone": "97298927001",
    "address": "12 Dizzengoff st, Tel Aviv, 32000"
  }
}
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  },
  "householdId": "1234567",
}
```

3.1.8 Update Household Metadata

Operation: POST /provisioning/v1.1/household/{householdId}/provisioningData

Description: Update household metadata. Existing meta data will remain.

URL Parameters

Parameter	Required	Description	Data Type
householdId	Yes	Identifier of the required household	String

Object Schema

Parameter	Required	Description	Data Type
Metadata	No	List of name-value strings, each represents a different meta data	List of name-value strings

		identifiers that are associated to the household	
--	--	--	--

Response Messages

HTTP Code	Prime Home Code	Prime Home Message Code	Reason
200	0	msg.operation_completed_successfully	Successful completion – household added successfully.
500	38	msg.operation_failure	Failed to update household due to an unknown error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway Timeout

Example Request

POST http://hostname:port/panorama-ui/nbi/provisioning/v1.1/household/1234567/provisioningData HTTP/1.1

```
{
  "metadata": {
    "address": "12 Dizzingof st, Tel Aviv, 32000",
    "phone": "08-5124598"
  },
  "firstName": "John",
  "lastName": "Smith",
  "email": "my_email@here.com"
}
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

```

},
"householdId": "JohnHousehold",
"cpeDescriptors": [
  {
    "identityMap": {
      "SerialNumberStb": "123ABCD123"
    }
  },
  {
    "identityMap": {
      "Mac": "18:10:56:55:20:01"
    }
  }
]
}

```

3.1.9 Delete Household Metadata

Operation: DELETE provisioning/v1.1/household/{householdId}/metaData/{metaNames}

Description: Delete household metadata.

URL Parameters

Parameter	Required	Description	Data Type
householdId	Yes	Identifier of the required household	String
metaNames	Yes	Names of metadata keys to be removed	String

Object Schema

Parameter	Required	Description	Data Type
Metadata	No	List of name-value strings, each represents a different meta data identifiers that are associated to the household	List of name-value strings

Response Messages

HTTP Code	Prime Home Code	Prime Home Message Code	Reason
200	0	msg.operation_completed_successfully	Successful completion – household added successfully.
500	38	msg.operation_failure	Failed to update household due to an unknown error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway Timeout

Example Request

```
DELETE http://hostname:port/panorama-ui/nbi/provisioning/household/{householdId}/metaData/{metaNames}
HTTP/1.1
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  },
  "householdId": "JohnHousehold",
  "cpeDescriptors": [
    {
      "identityMap": {
        "SerialNumberStb": "123ABCD123"
      }
    },
    {
      "identityMap": {
        "Mac": "18:10:56:55:20:01"
      }
    }
  ]
}
```

```
}
```

3.1.10 Associate devices with Household

Operation: POST /provisioning/v1.1/household/{householdId}/devices/{deviceId}/{deviceId}...

Description: Add device(s) to an existing household

URL Parameters

Parameter	Required	Description	Data Type
householdId	Yes	The ID of the household	String
deviceId	Yes	List of device (CPE) Identifiers (separated by /) to add to household	String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Code	Prime Home Code	messageCode	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	1	msg.household_not_found	Household does not exist
404	2	msg.device_not_found	Device does not exist
400	14	msg.service_not_configured	System is not properly configured

400	999	msg.internal_error	Internal server error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway timeout

Example Request

POST http://hostname:port/panorama-ui/nbi/provisioning/v1.1/household/1234567/devices/SerialNumberGw=SN452556/SerialNumberGw=SN453012 HTTP/1.1

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  },
  "householdId": "JohnHousehold",
  "cpeDescriptors": [
    {
      "identityMap": {
        "SerialNumberStb": "123ABCD123"
      }
    },
    {
      "identityMap": {
        "Mac": "18:10:56:55:20:01"
      }
    }
  ]
}
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  },
  "householdId": "1234567",
  "cpeDescriptors": [
    {
      "identityMap": {
        "SerialNumberGw": "SN452556"
      }
    }
  ]
}
```

```

    }
  },
  {
    "identityMap": {
      "SerialNumberGw": "SN453012"
    }
  }
]
}

```

3.1.11 Disassociate devices from a household

Operation: DELETE /provisioning/v1.1/household/{householdId}/devices/{deviceId}/{deviceId}

Description: Disassociate device(s) from a household

URL Parameters

Parameter	Required	Description	Data Type
householdId	Yes	The ID of the desired household	String
deviceId	Yes	List of devices to be associated with the HH, separated by /	String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Code	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion

404	1	msg.household_not_found	Household does not exist
404	2	msg.device_not_found	Device does not exist
400	999	msg.internal_error	Internal server error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
503	N/A	N/A	Service unavailable
504	N/A	N/A	Gateway timeout

Example Request

```
DELETE http://hostname:port/panorama-
ui/nbi/provisioning/v1.1/household/1234567/devices/SerialNumberGw= SN452556/SerialNumberGw=SN453012
HTTP/1.1
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  },
  "householdId": "1234567",
  "cpeDescriptors": [
    {
      "identityMap": {
        "SerialNumberGw": "SN452556"
      }
    },
    {
      "identityMap": {
        "SerialNumberGw": "SN453012"
      }
    }
  ]
}
```

3.2 Device Provisioning API

3.2.1 Provision Devices

Operation: PUT /provisioning/v1.1/devices/

Description: This method provisions one or more CPE devices to Prime Home and optionally associates them to an existing Household.

If the added device was already connected to Prime Home via the network, Prime Home will configure the device according to the provisioning configuration parameters provided via the API (if such are given), and the meta data / tags will be associated with the registered device.

If the device does not exist yet, the provisioning configuration will be kept in pre-provisioning tables and will be applied to the device once it connects to Prime Home, and the meta data / tags will be associated with the device then.

This method is synchrono

us.

URL Parameters

Parameter	Required	Description	Data Type
N/A			

Object Schema

Parameter	Required	Description	Data Type
Devices	Yes	List of devices to provision	Array of CPE Provisioning Descriptor

CPE Provisioning Descriptor

Parameter	Required	Description	Data Type
deviceId	Yes	Device unique identifier	String

metaData	No	List of meta data identifiers that can optionally be associated to a device	List of name-value pairs of strings
Parameters	No	List of parameters (aliases or full-path TR-069 name) of parameters that will be set to the device upon provisioning • Key: the parameter name / alias • Value: the expected parameter value • applyAction: when to apply the configuration in case the device is already connected to Prime Home. 0 = immediately (default, when the parameter is not passed by the client), 1 = only on the next bootstrap.	List of name-value pairs of strings
Tags	No	List of tags that can be associated to the device	comma-separated Strings
crossDeviceAlertGroup	No	The cross device alert group that the user is associated to	String

Response Messages

HTTP Status Code	Prime Home Code	messageCode	Reason
200	0	OPERATION_COMPLETED_SUCCESSFULLY	Successful completion
503	14	SERVICE_NOT_CONFIGURED	System is not properly configured
400	17	FAILED_IN_PROVISION	Failed to perform the provisioning request (internal error)
400	24	EMPTY_DEVICE_LIST	Provided device list is empty
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

403	N/A	N/A	Resource not found (invalid URL)
504	N/A	N/A	Gateway timeout

Example Request

PUT http://hostname:port/panorama-ui/nbi/provisioning/v1.1/devices HTTP/1.1

```
[
  {
    "deviceId":
      {"identityMap":{"SerialNumberGw":"SN452556"}},
      "householdId" : "1234567",
      "metaData": {
        "phone": "5551231212",
        "type": "high-speed",
        "speed": "1500mbps"},
      "parameters": [
        {
          "applyAction" : 1,
          "key": "ManagementServerPeriodicInformInterval",
          "value": "1800"
        },
        {
          "key": "InternetGatewayDevice.Firewall.Config",
          "value": "High"
        }
      ],
      "crossDeviceAlertGroup" : "region1",
      "tags":["VIP","TelAviv"]
    }
  ]
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  },
  "householdId": "1234567",
  "cpeDescriptors": [
    {
      "identityMap": {
        "SerialNumberGw": "SN452556"
      }
    }
  ]
}
```

3.2.2 Get device provisioning data

Operation: GET /provisioning/v1.1/device/{deviceId}/

Description: Get device provisioned data

URL Parameters

Parameter	Req	Description	Data Type
deviceId	Yes	Id of the device	String

Object Schema

Parameter	Req	Description	Data Type

Response Messages

HTTP Status Code	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device has not been previously provisioned
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway timeout

Example Request

```
GET http://hostname:port/panorama-ui/nbi/provisioning/v1.1/device/SerialNumberGw=1234567 HTTP/1.1
```

Example Response

```
{
  "deviceId": {
    "identityMap": {
      "SerialNumberGw": "456WXYZ456"
    }
  },
  "metaData": {
    "phone": "5551231212",
    "type": "high-speed",
    "speed": "1500mbps"
  },
  "parameters": [
    {
      "applyAction": 1,
      "key": "InternetGatewayDevice.ManagementServer.PeriodicInformInterval",
      "value": "86400"
    },
    {
      "applyAction": 0,
      "key": "InternetGatewayDevice.ManagementServer.X_CISCO_COM_UserPhone",
      "value": "+15551231212"
    }
  ],
  "tags": [
    "tag1",
    "tag2"
  ],
  "householdId": "5551231212 - John Smith",
  "crossDeviceAlertGroup": "CDA group name"
}
```

3.2.3 Un-provision (delete) Devices

Operation: DELETE /provisioning/v1.1/devices/{deviceId}/{deviceId}?remove_devices={flag}

Description: This method un-provisions devices from Prime Home. It either deletes them completely from the database or just removes the provisioning data.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	yes	One or more devices to be removed from Prime Home	List of CPE (device) Identifiers
remove_devices	No	Delete devices from prime home or just delete provisioning data. Default behavior (if parameter is dropped)- delete provisioning only Possible values – true/false	String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device has not been previously provisioned
500	999	msg.internal_error	Internal server error
400	999	msg.internal_error	Bad request (wrong request structure)
408	5	msg.operation_time_expired	Request Timeout (operation timed out)
503	14	msg.service_is_not_configured	Service not configured correctly
504	N/A	N/A	Gateway timeout

401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
-----	-----	-----	---

Example Request

```
DELETE http://hostname:port/panorama-
ui/nbi/provisioning/v1.1/devices/SerialNumberGw=SN452556?remove_devices=true HTTP/1.1
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  },
  "cpeDescriptors": [
    {
      "identityMap": {
        "SerialNumberGw": "SN452556"
      }
    }
  ]
}
```

3.2.4 Enable Analytics

Operation: PUT provisioning/v1.1/device/{deviceId}/analytics/enable

Description: Enable analytics reporting. The NBI provisions a device in Analytics Server and performs SetParameterValue operation on device to set analytics data reporting url on device. It enables device to report analytics data to Analytics Server.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	yes	Identifier of the device to be activated	CPE Identifier

Request Query Parameters

Parameter	Required	Description	Data Type
sync	Yes	synchronization type (SYNC / ASYNC) Default = SYNC	String
token	Yes	Long polling token	String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device has not been previously provisioned
500	999	msg.internal_error	Internal server error
400	999	msg.internal_error	Bad request (wrong request structure)
408	5	msg.operation_time_expired	Request Timeout (operation timed out)
503	14	msg.service_is_not_configured	Service not configured correctly
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

PUT http://hostname:port/panorama-ui/nbi/provisioning/v1.1/device/{deviceId}/analytics/enable HTTP/1.1

Example Response

```
{
  "cpelIdentifier": {
    "identityMap": {
      "SerialNumberStb": "123ABCD123"
    }
  },
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

3.2.5 Disable Analytics

Operation: PUT provisioning/v1.1/device/{deviceId}/analytics/disable

Description: This NBI disables the analytics reporting and removes the analytics data reporting url on device. It also deletes device in Analytics Server.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	yes	Identifier of the device to be deactivated	CPE Identifier

Request Query Parameters

Parameter	Required	Description	Data Type
sync	Yes	synchronization type (SYNC / ASYNC) Default = SYNC	String
token	Yes	Long polling token	String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device has not been previously provisioned
500	999	msg.internal_error	Internal server error
400	999	msg.internal_error	Bad request (wrong request structure)
408	5	msg.operation_time_expired	Request Timeout (operation timed out)
503	14	msg.service_is_not_configured	Service not configured correctly
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
PUT http://hostname:port/panorama-ui/nbi/provisioning/v1.1/device/{deviceId}/analytics/disable HTTP/1.1
```

Example Response

```
{
  "cpelIdentifier": {
    "identityMap": {
      "SerialNumberStb": "123ABCD123"
    }
  },
}
```

```

"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}

```

4 Device Management API

The following section describes some of the APIs that provide ability to perform actions and get data on a managed device. The APIs described in here is partial and include the most useful and frequently used APIs. The full list can be found in the online API documentation mentioned above.

4.1 General API

4.1.1 Get Parameters Values

Operation: GET /netmap/v1.1/device/{deviceId}/parameters/{params}?subTreeDiscovery&staleness&sync&token

Description: This method allows the client to retrieve values of specific CPE parameters. The deviceId and the parameter names are passed in the URL.

If the parameter name given does not exist, the Response Status that is included in the DeviceParameter resource will indicate that in the status code (invalid parameter name).

This method is synchronous.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Device unique identifier	List of device Identifiers (name-value strings)
Parameter Names List	Yes	Comma separated parameters list - either aliases that are defined in the Device's Profile or full TR-069 path	List of String (comma separated)
Staleness	No	Requested staleness level	String

Sync	No	Defines synchronization type (SYNC / ASYNC) Default is Sync	String (SYNCH / ASYNC)
Token	No	Long-polling token	String
subTreeDiscovery	No	if true, full sub-tree traversal will be performed for parameters that end with dot to discover parameters, names and attributes (default behavior), thus parameters removed by device will be removed. If false, GPV will be sent to device, and missing parameter's indexes will not be removed, but can be done within one roundtrip to device.	String (true / false)

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Parameters

Parameter	Required	Description	Data Type
Response	Yes	An array of the retrieved parameters and their values.	An array, each includes parameter key, name and value

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error

504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-
ui/nbi/netmap/v1.1/device/SerialNumberGw=SN1234/parameters/ManagementServerUrl,DeviceInfoManufacturer?staleness=0 HTTP/1.1
```

Example Response

```
{
  "parameters": [
    {
      "name": "ManagementServerUrl",
      "key": "InternetGatewayDevice.ManagementServer.URL",
      "value": "http://acsurl.com:8080/dps/tr069"
    },
    {
      "name": "DeviceInfoManufacturer",
      "key": "InternetGatewayDevice.DeviceInfo.Manufacturer",
      "value": "Cisco Systems"
    }
  ],
  "lastRetrieved": 1456273459878,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.1.2 Set Parameters Values

Operation: POST /netmap/v1.1/device/{deviceId}/parameters

Description: This method allows the client application to set the values of a specified parameters list.

This method is synchronous hence the client will be blocked until the request returns from the CPE.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE.	List Name-Value String

Object Schema

Parameter	Required	Description	Data Type
Parameters List	Yes	List of parameters to be set (name-value formatted)	Array of parameter name

Response Parameters

Parameter	Required	Description	Data Type
CPE Response	Yes	A complex object that includes the operation completion status and the requesting device id	Response Status

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway timeout

Example Request

```
POST http://hostname:port/panorama-  
ui/nbi/netmap/v1.1/device/SerialNumberGateway=123ABCD123/parameters HTTP/1.1  
  
{  
  "parameters": [  
    {  
      "name": "ManagementServerUrl",  
      "key": "InternetGatewayDevice.ManagementServer.URL",  
      "value": "http://acsurl.com:8080/dps/tr069"  
    },  
    {  
      "name": "DeviceInfoManufacturer",  
      "key": "InternetGatewayDevice.DeviceInfo.Manufacturer",  
      "value": "Cisco Systems"  
    }  
  ]  
}
```

Example Response

```
{  
  "deviceId": {  
    "identityMap": {  
      "SerialNumberGw": "123ABCD123"  
    }  
  },  
  "responseStatus": {  
    "code": 0,  
    "messageCode": "msg.operation_completed_successfully",  
    "message": "Operation Completed Successfully"  
  }  
}
```

4.1.3 Get Parameter Data

Operation: GET /netmap/v1.1/device/{deviceId}/parameterData?param={paramName}

Description: This method returns details on the requested parameter for the specified deviceId. the details include information like notification, type, description, writeable and more.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE	List Name-Value String
Param	Yes	The name of the parameter to be retrieved	String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-  
ui/nbi/netmap/v1.1/device/SerialNumberGw=123ABCD123/parameterData?param=InternetGatewayDevice.Devi  
ceInfo.Description HTTP/1.1
```

Example Response

```
{
  "id": 1000034,
  "name": "InternetGatewayDevice.DeviceInfo.Description",
  "value": "OpenRG Platform Phase 2.5",
  "description": "A full description of the CPE device (human readable string)",
  "writeable": false,
  "notification": "PASSIVE",
  "updated": 1462191098854,
  "type": "string(256)",
  "lastRetrieved": 1462191098854,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.1.4 Set Notification

Operation: POST /netmap/v1.1/device/{deviceId}/notification?{sync}&{token}

Description: This method allows the client application to set the notification type (passive / active) of a specified parameters.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE.	List Name-Value String
Sync	No	Defines synchronization type (SYNC / ASYNC) Default is Sync	String (SYNC / ASYNC)
Token	No	Long-polling token	String

Object Schema

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

Parameter name	Yes	Name of parameter to be updated	String
Notification type	Yes	Required notification type (PASSIVE / ACTIVE / NONE)	String

Response Parameters

Parameter	Required	Description	Data Type
CPE Response	Yes	A complex object that includes the operation completion status and the requesting device id	Response Status

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway timeout

Example Request

```
POST http://hostname:port/panorama-
ui/nbi/netmap/v1.1/device/SerialNumberGateway=123ABCD123/notification HTTP/1.1

{
  "parameter": "InternetGatewayDevice.ManagementServer.ConnectionRequestURL",
  "notification": "ACTIVE",
}
```

Example Response

```
{
  "deviceId": {
    "identityMap": {
      "SerialNumberGw": "123ABCD123"
    }
  },
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.1.5 Add Object

Operation: PUT /netmap/v1.1/device/{deviceId}/object/rootParamName

Description: This method allows the client application to create an instance of a multi instance object under the given root object.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE.	List Name-Value String
rootParamName	Yes	The name of the parent object, which under it the instance will be created	String

Object Schema

Parameter	Required	Description	Data Type
Parameter name	Yes	Name of parameter to be updated	String
Notification type	Yes	Required notification type (PASSIVE / ACTIVE / NONE)	String

Response Parameters

Parameter	Required	Description	Data Type
CPE Response	Yes	A complex object that includes the operation completion status and the requesting device id	Response Status

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway timeout

Example Request

```
PUT http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberGateway=123ABCD123/object/InternetGatewayDevice.WANDevice.2.WANConnectionDevice.1.WANIPConnection HTTP/1.1
```

```
{
  "parameters": [
    {
      "name": "ConnectionStatus",
      "value": "Disconnected"
    },
    {
      "name": "DefaultGateway",
      "value": "192.168.1.1"
    },
    {
      "name": "DNSServers",
      "value": "NATEnabled"
    },
    {
      "name": "ExternalIPAddress",
```

```
"value": "192.168.1.113"
}
]
}
```

Example Response

```
{
  "deviceId": {
    "identityMap": {
      "SerialNumberGw": "123ABCD123"
    }
  },
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.1.6 Reboot

Operation: POST /netmap/v1.1/device/{deviceId}/rpc/reboot

Description: This method allows the client application to request a reboot of the target device.

As a result of this request, Prime Home submits a reboot request to the CPE and return the status of the Reboot request submission to the caller.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE	List Name-Value String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberStb=123ABCD123/rpc/reboot
HTTP/1.1
```

Example Response

```
{
  "deviceId": {
    "identityMap": {
      "SerialNumberStb": "123ABCD123"
    }
  },
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.1.7 Reset Settings

Operation: POST /netmap/v1.1/device/{deviceId}/rpc/reset?type&token

Description: This method restores a specified CPE to its default factory settings.

As a result of this request, Prime Home submits a “reset settings” request to the CPE and return the status of the request submission to the caller.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE.	List Name-Value String
Type	No	When type=“all” → A complete reset to factory settings will be performed (default). When type=“partial” → a partial reset will be performed. Partial reset is applicable to supporting devices only	String (all / partial)
Token	No	Long polling token	String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Parameters

Parameter	Required	Description	Data Type
CPE Response	Yes	Operation completion status, including the device Id and the Response Status	Response Status

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
504	N/A	N/A	Gateway timeout

Example Request

```
POST http://hostname:port/panorama-
ui/nbi/netmap/v1.1/device/SerialNumberStb=123ABCD123/rpc/reset?type=all HTTP/1.1
```

Example Response

```
{
  "deviceId": {
    "identityMap": {
      "SerialNumberStb": "123ABCD123"
    }
  },
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.1.8 Activate a custom RPC

Operation: POST /netmap/v1.1/device/{deviceId}/customRPC/{method}?sync&token

Description: This method allows the client application to request an activation of a custom RPC on a device.

As a result of this request, Prime Home will send the custom RPC request to the CPE and return the status of the request submission to the caller.

The request payload should include the payload data that is to be sent to the device as part of the RPC activation.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE	List Name-Value String
Method	Yes	The custom RPC method name	String
Token	No	Long polling token	String
Sync	No	Defines synchronization type (SYNC / ASYNC) Default is Sync	String (sync/async)

Object Schema

Parameter	Required	Description	Data Type
Data	No	The custom RPC payload	String

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberStb=123ABCD123/customRPC/X_CISCO_COM_UserSync HTTP/1.1
```

```
{
  "remoteUsers": [
    {
      "userAccountID": "501098",
      "name": "RemoteUser"
    }
  ]
}
```

Example Response

```
{
  "requestResponse": [
    {
      "request": "example command",
      "response": "example response"
    }
  ],
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.1.9 Get All Device Alerts

Operation: GET /netmap/v1.1/device/{deviceId}/alerts?sync&token

Description: This method enables client applications to retrieve current device alerts. Alerts are patterns that represent possible fault conditions. For example, a large number of reboot events within a certain window of time.

This method is synchronous and will return control to the caller once all alerts calculation has been completed.

Note: When calculating alerts, the values of the parameters that are part of the alert rules calculation will be retrieved always on demand from the CPE and the alerts will always be calculated based on fresh values. Therefore – staleness level is not applicable in this case.

URL Parameters

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

deviceId	Yes	Unique identifier of the CPE.	List Name-Value String
Token	No	Long-polling token	String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Parameters

Parameter	Required	Description	Data Type
Device Alerts	Yes	Include the list of calculated alerts for the requested device	Device Alerts (list of device alert objects)

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberStb=SN1244/alerts HTTP/1.1
```

Example Response

```
{
  "alerts": [
    {
      "name": "Parameter changed in the last 24H",
      "description": "A parameter has been changed by a user in the last 24H",
      "type": "settings.parameter_changed",
      "category": "Settings",
      "categoryKey": "settings",
      "time": 1462691844779,
      "severity": "INFO",
      "url": "/group/guest/stb/device-home",
      "attributes": {}
    },
    {
      "name": "High Reallocated Sectors",
      "description": "Suspected HDD fault due to reallocated sectors above threshold",
      "type": "hdderror_reallocated",
      "category": "Hard Disk",
      "categoryKey": "hdd",
      "time": 1462691844890,
      "severity": "MAJOR",
      "url": "/group/guest/stb/device-home",
      "attributes": {}
    },
    {
      "name": "High Read Error Count",
      "description": "Suspected HDD fault due to read errors above threshold",
      "type": "hdderror_read",
      "category": "Hard Disk",
      "categoryKey": "hdd",
      "time": 1462691844890,
      "severity": "MAJOR",
      "url": "/group/guest/stb/device-home",
      "attributes": {}
    },
    {
      "name": "Low signal quality",
      "description": "Tuner signal issue",
      "type": "rf.quality",
      "category": "RF Signal",
      "categoryKey": "rf",
      "time": 1462691844891,
      "severity": "MAJOR",
      "url": "/group/guest/stb/device-home",
      "attributes": {
        "rfTuners": [
          2
        ]
      }
    }
  ]
}
```

```

{
  "name": "High signal strength",
  "description": "Tuner signal issue",
  "type": "rf.strength.high",
  "category": "RF Signal",
  "categoryKey": "rf",
  "time": 1462691844892,
  "severity": "MAJOR",
  "url": "/group/guest/stb/device-home",
  "attributes": {
    "rfTuners": [
      1,
      2
    ]
  }
},
{
  "lastRetrieved": 0,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation completed successfully"
  }
}
}

```

4.1.10 Get Device Alerts by Category

Operation: GET /netmap/v1.1/device/{deviceId}/alerts/{categories}&token

Description: This method enables client applications to retrieve current device alerts, filtered by given category code(s).

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE.	List Name-Value String
Categories	Yes	List of alert category keys to filter the list of alerts Possible categories: For example: all (for all alerts), rf, av, hdd, dvr, wireless, firewall, systemhealth, managementConnectivity etc.	Comma separated list of strings
Token	No	Long-polling token	String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Parameters

Parameter	Required	Description	Data Type
Device Alerts	Yes	Include the list of calculated alerts for the requested device	Device Alerts

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberStb=SN1244/alerts/rf,settings
HTTP/1.1
```

Example Response

```
{
  "alerts": [
    {
```

```

    "name": "Parameter changed in the last 24H",
    "description": "A parameter has been changed by a user in the last 24H",
    "type": "settings.parameter_changed",
    "category": "Settings",
    "categoryKey": "settings",
    "time": 1462691844779,
    "severity": "INFO",
    "url": "/group/guest/stb/device-home",
    "attributes": {}
  },
  {
    "name": "High Reallocated Sectors",
    "description": "Suspected HDD fault due to reallocated sectors above threshold",
    "type": "hdderror_reallocated",
    "category": "Hard Disk",
    "categoryKey": "hdd",
    "time": 1462691844890,
    "severity": "MAJOR",
    "url": "/group/guest/stb/device-home",
    "attributes": {}
  },
  {
    "name": "High Read Error Count",
    "description": "Suspected HDD fault due to read errors above threshold",
    "type": "hdderror_read",
    "category": "Hard Disk",
    "categoryKey": "hdd",
    "time": 1462691844890,
    "severity": "MAJOR",
    "url": "/group/guest/stb/device-home",
    "attributes": {}
  },
  {
    "name": "Low signal quality",
    "description": "Tuner signal issue",
    "type": "rf.quality",
    "category": "RF Signal",
    "categoryKey": "rf",
    "time": 1462691844891,
    "severity": "MAJOR",
    "url": "/group/guest/stb/device-home",
    "attributes": {
      "rfTuners": [
        2
      ]
    }
  },
  {
    "name": "High signal strength",
    "description": "Tuner signal issue",
    "type": "rf.strength.high",
    "category": "RF Signal",
    "categoryKey": "rf",

```

```

    "time": 1462691844892,
    "severity": "MAJOR",
    "url": "/group/guest/stb/device-home",
    "attributes": {
      "rfTuners": [
        1,
        2
      ]
    }
  },
  "lastRetrieved": 0,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation completed successfully"
  }
}

```

4.1.11 Get Resource

Operation: GET /netmap/v1.1/device/{deviceId}/resource/{resource}?staleness&{sync}&{token}

Description: Retrieve a specified resource by its name.

Resource is a predefined collection of device parameters defined by their aliases at the Device Profile level

The staleness input parameter determines how “fresh” the parameters will be (in seconds), to indicate to Prime Home whether these parameters should be retrieved from the device or from the database.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE.	List Name-Value String
Resource	Yes	Required resource name, as defined in the device’s profile. Example for resources: properties, system, wireless_settings, landev, homenet etc.	String
Staleness	No	Requested staleness level	String
Sync	No	Defines synchronization type (SYNC / ASYNC)	String (SYNC / ASYNC)

		Default is Sync	
Token	No	Long-polling token	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type
Parameter names and values	Yes	List of parameter names and values, with the parameters included in the required resource	List Name-Value String

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberStb=SN12345
/resource/properties?staleness=0 HTTP/1.1
```

Example Response

```
{
  "parameters": [
    {
      "name": "DeviceInfoLastSWDLStatus",
      "key": "Device.DeviceInfo.X_CISCO-COM_LastSWDLStatus",
      "value": "None",
      "prevUpdated": 1462664256279
    },
    {
      "name": "DeviceInfoManufacturerOUI",
      "key": "Device.DeviceInfo.ManufacturerOUI",
      "value": "0002DE",
      "prevUpdated": 1462664256279
    },
    {
      "name": "DeviceInfoSerialNumber",
      "key": "Device.DeviceInfo.SerialNumber",
      "value": "lion-stb-509",
      "prevUpdated": 1462664256279
    },
    {
      "name": "DeviceInfoISP",
      "key": "Device.DeviceInfo.X_CISCO-COM_ISP",
      "value": "false",
      "prevUpdated": 1462664256279
    },
    {
      "name": "DeviceInfoModelName",
      "key": "Device.DeviceInfo.ModelName",
      "value": "VGW10-DEV",
      "prevUpdated": 1462664256279
    },
    {
      "name": "DeviceInfoSoftwareVersion",
      "key": "Device.DeviceInfo.SoftwareVersion",
      "value": "2.0.8.0",
      "prevUpdated": 1462664256360
    },
    {
      "name": "DeviceInfoManufacturer",
      "key": "Device.DeviceInfo.Manufacturer",
      "value": "Cisco",
      "prevUpdated": 1462664256279
    },
    {
      "name": "DeviceInfoLastSWDLTime",
      "key": "Device.DeviceInfo.X_CISCO-COM_LastSWDLTime",
      "value": "2016-01-12T02:35:51Z",
      "prevUpdated": 1462664256279
    }
  ]
}
```

```

{
  "name": "DeviceInfoHardwareVersion",
  "key": "Device.DeviceInfo.HardwareVersion",
  "value": "1.1",
  "prevUpdated": 1462664256360
},
],
"lastRetrieved": 1144013,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation completed successfully"
}
}

```

4.1.12 File Upload

Operation: POST /netmap/v1.1/device/{deviceId}/fileUpload?sync&token

Description: Instruct the device to upload a file of a specified type to a specified given location (URL). User name and password to the target upload server can be optionally provided

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE	List Name-Value String
Token	No	Long polling token	String
Sync	No	Defines synchronization type (SYNC / ASYNC) Default is Sync	String (sync/async)

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberGw=123ABCD123/fileUpload
HTTP/1.1
```

```
{
  "url": "http://uploadServer/uploadedFile.tar.gz",
  "fileType": "1 Firmware Upgrade Image",
  "serverUsername": "username",
  "serverPassword": "password"
}
```

Example Response

```
{
  "url": "http://uploadServer/uploadedFile.tar.gz",
  "lastRetrieved": 1462191098706,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.1.13 File Download

Operation: PUT netmap/v1.1device/{deviceId}/fileDownload/{fileName}

Description: Sends a file download command to the given device with the given file

URL Parameters

Parameter	Required	Description	Data Type
fileName	Yes	Name of file to be downloaded	String
deviceId	Yes	Unique identifier of the CPE	List Name-Value String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
PUT http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/ netmap/{deviceId}/fileDownload/{fileName}
HTTP/1.1
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.1.14 Is Connected

Operation: GET /netmap/v1.1/device/{deviceId}/isConnected?sync&token

Description: Check if the device has a valid connection to Prime Home by sending a connection request to it. Returns “true” in case the device is connected and “false” in case it is not.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE	List Name-Value String
Token	No	Long polling token	String
Sync	No	Defines synchronization type (SYNC / ASYNC) Default is Sync	String (sync/async)

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberGw=123ABCD123/isConnected
HTTP/1.1
```

Example Response

```
{
  "result": true,
  "lastRetrieved": 0,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.1.15 Add Device Tags

Operation: PUT /netmap/v1.1/device/{deviceId}/tags/{tags}

Description: Add tags to the specified device. If a tag does not exist, it will be created.

URL Parameters

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

deviceId	Yes	Unique identifier of the CPE	List Name-Value String
Tags	Yes	Comman separated list of required tags	Comma separated list of strings

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
PUT http://hostname:port/panorama-
ui/nbi/netmap/v1.1/device/SerialNumberGw=123ABCD123/tags/TagA,TagB HTTP/1.1
```

Example Response

```
{
  "lastRetrieved": 1234365664,
  "responseStatus": {
    "code": 0,
```

```

"messageCode": "msg.operation_completed_successfully",
"message": "Operation Completed Successfully"
}
}

```

4.1.16 Set Device Tags

Operation: POST /netmap/v1.1/device/{deviceId}/tags/{tags}

Description: Set tags to the specified device and replace the current ones (if any). If a tag does not exist, it will be created.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE	List Name-Value String
Tags	Yes	Comman separated list of required tags	Comma separated list of strings

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error

504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
PUT http://hostname:port/panorama-
ui/nbi/netmap/v1.1/device/SerialNumberGw=123ABCD123/tags/TagA,TagB HTTP/1.1
```

Example Response

```
{
  "lastRetrieved": 1234365664,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.1.17 Delete Device Tags

Operation: DELETE /netmap/v1.1/device/{deviceId}/tags/{tags}

Description: Disassociate the provided tags from the given device.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE	List Name-Value String
Tags	Yes	Comman separated list of required tags	Comma separated list of strings

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
DELETE http://hostname:port/panorama-
ui/nbi/netmap/v1.1/device/SerialNumberGw=123ABCD123/tags/TagA,TagB HTTP/1.1
```

Example Response

```
{
  "lastRetrieved": 1234365664,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.1.18 Get All Device Tags

Operation: GET /netmap/v1.1/device/{deviceId}/tags

Description: Return all the tags associated with a device.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE	List Name-Value String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberGw=123ABCD123/tags HTTP/1.
```

Example Response

```

{
  "tags": [
    {
      "id": 1010001,
      "value": "A",
      "description": "",
      "createdBy": "john.doe@cisco.com",
      "createdDate": 1418205555,
      "color": "#69e3ff",
      "enabled": 1,
      "type": "USER_TAG",
      "visibility": 1
    },
    {
      "id": 1,
      "value": "OFFLINE_UNPROVISIONED",
      "description": "Devices that were unprovisioned while offline, and thus failed to complete SPV as part of unprovisioning",
      "createdBy": "System",
      "createdDate": 1418205122,
      "color": "#006132",
      "enabled": 1,
      "type": "SYSTEM_TAG",
      "visibility": 1
    }
  ]
}

```

4.2 Set-Top Box Management API

This section describes some of the APIs the API provided by Prime Home to manage Set-Top Box.

This API enables the NBI client to work directly with concrete objects supported by the STB instead of querying each parameter in the device's data model separately by using the generic Set Parameter Values / Get Parameter Values.

The APIs are relevant only to supporting set-top-box types.

4.2.1 Get OSD (Error Messages)

Operation: GET /netmap/v1.1/device/{deviceId}/osd?staleness&sync&token&lang&daysBack

Description: This method retrieves the values of OSD messages as displayed on STB to the home user. The method is synchronous and blocks the client until the retrieval request completes.

The returned response will include an array of OSD objects, including: code, event timestamp, message text, root cause and recommendation.

The daysBack parameter is an optional parameter, allowing the client to limit the amount of days for the OSD historical records retrieval.

The staleness input parameter determines how “fresh” the parameters will be (in seconds), to signal to Prime Home whether these parameters should be retrieved from the device or from the database.

URL Parameters

Parameter	Required	Description	Data Type
Staleness	Yes	Required staleness level	String
daysBack	Yes	Time frame, in which the OSD event will fall into. When given, the API will return records within this time frame only.	Integer
Lang	Yes	The code of the OSD error message strings (test, root cause, recommendation) language. The supported languages are English (lang=en) German (lang=de)	String
deviceId	Yes	Unique identifier of the CPE.	List Name-Value Strings
Sync	No	API activation method (sync / asynch)	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type
OSD	Yes	A resource holding the OSD records, including: - Supported Languages: the language code of the languages that are supported by the API for translating the Message Text field. - Default Language: in case the “lang” parameter is not passed to the API – holds the default language for the Message Text Messages: list of Error Messages, each includes: code, message text, root cause, resolution recommendation and OSD timestamp	OSDMessages

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-
```

ui/nbi/netmap/v1.1/deviceSerialNumberStb=STB12345/osd?staleness=1d&daysBack=10&lang=heb HTTP/1.1

Example Response

```
{
  "messages": [
    {
      "code": "8140",
      "timestamp": 1406055435000,
      "messageText": "There is a communication problem with the server, please try again later.",
      "rootCause": "RTSP session setup error - Bad product ID",
      "recommendation": "Notification to the user"
    },
    {
      "code": "3010",
      "timestamp": 1606055435000,
      "messageText": "It is not allowed to record this program",
      "rootCause": "Recording not allowed due to DRM restrictions when booking a single event",
      "recommendation": "None"
    }
  ],
  "daysBackReturned": 1,
  "lastRetrieved": 1457483074153,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.2.2 Get Hard Disk

Operation: GET /netmap/v1.1/device/{deviceId}/hdd?staleness&sync&token&daysBack&scope

Description: This method retrieves the values of hard disk data for the required device. The method is synchronous and blocks the client until the retrieval request completes.

The returned response will include:

- Current hard disk data, per Hard Disk (according to the number of disks installed in the STB), and for each HDD – the relevant information as described in the resource.
- History data: list of historical data, including hdd id, sampling timestamp, temperature and status at the time then the sample was taken,

The scope parameter will determine the scope of the returned data:

- CURRENT – will return current hdd data only.
- ALL – will return both current data + history.

The daysBack parameter is an optional parameter, allowing the client to limit the amount of days for the hard disk historical records retrieval.

The staleness input parameter determines how “fresh” the parameters will be (in seconds), to indicate to Prime Home whether these parameters should be retrieved from the device or from the database.

URL Parameters

Parameter	Required	Description	Data Type
Staleness	Yes	The maximum staleness (in seconds) of the desired parameter(s) values. 0d (default value) – indicates to Prime Home to retrieve the parameter value from the CPE. If not passed in the URL – the value of 0 will be assumed.	String
scope	No	scope=CURRENT → the API will return only current hard disk data scope=ALL → the API will return history + current (default)	String
daysBack	Yes	Time frame, in which the hard disk sampling will fall into. When given, the API will return records within this time frame only. Applicable only when scope=all / history	Integer
deviceId	Yes	Unique identifier of the CPE.	List Name-Value String

Sync	No	API activation method (sync / async). Default = sync	String
------	----	--	--------

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Parameters

Parameter	Required	Description	Data Type
Hard Disk		A resource holding the Hard disk data, including current & historical data	hardDisk

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-
ui/nbi/netmap/v1.1/device/SerialNumberStb=STB123455/hdd?staleness=1d&scope=ALL&daysBack=10 HTTP/1.1
```

Example Response

```
{
  "hardDiskCurrent": {
    "hardDisks": {
      "1": {
        "serialNumber": "9VV99X7T",
        "manufacturer": "Seagate",
        "modelName": "ST3500414CS",
        "status": "Spinning",
        "temperature": 35,
        "freeUserQuota": 391547,
        "userQuotaSize": 421032
      }
    }
  },
  "hardDiskHistory": [
    {
      "hardDiskId": 1,
      "timestamp": 1406055435000,
      "status": "ERROR",
      "temperature": 30
    },
    {
      "hardDiskId": 2,
      "timestamp": 1406055435000,
      "status": "SPINNING",
      "temperature": 35
    }
  ],
  "daysBackReturned": 1,
  "lastRetrieved": 1457569477422,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.2.3 Get RF Tuners

Operation: GET /netmap/v1.1/device/{deviceId}/rftuners?staleness&sync&token&daysBack&scope

Description: This method retrieves the values of RF Tuners data for the required device. The method is synchronous and blocks the client until the retrieval request completes.

The returned response will include:

- Current RF Tuners data, per Tuner Id (according to the number of tuners supported by the STB). For each tuner – the relevant information as described in the resource.
- History data: list of historical data, including tuner id, sampling timestamp and RF taken in each sample (signal strength, quality, status etc.).

The scope parameter will determine the scope of the returned data: CURRENT or ALL (current + history).

The daysBack parameter is an optional parameter, allowing the client to limit the amount of days for the RF historical records retrieval.

The staleness input parameter determines how “fresh” the parameters will be (in seconds), to indicate to Prime Home whether these parameters should be retrieved from the device or from the database.

URL Parameters

Parameter	Required	Description	Data Type
Staleness	Yes	required staleness level	String
scope	No	scope=CURRENT → the API will return only current hard disk data scope=ALL → the API will return history + current (default when not passed)	String
daysBack	Yes	Time frame, in which the hard disk sampling will fall into. When given, the API will return records within this time frame only. Applicable only when scope=all / history	Integer
deviceld	Yes	Unique identifier of the CPE.	List Name-Value String

Object Schema

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

N/A			
-----	--	--	--

Response Parameters

Parameter	Required	Description	Data Type
RF Tuners		A resource holding the requested RF tuners data	RFTuners

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/
SerialNumberStb=STB123456/rftuners?staleness=1d&scope=ALL&daysBack=10 HTTP/1.1
```

Example Response

```
{
  "rFTunerHistory": [
    {
      "frequency": "3434",
      "signalQuality": 0,
      "signalQualityPercent": 100,
      "signalStrength": -48,
      "signalStrengthPercent": 52,
```

```

    "tsid": "0"
  }
],
"daysBackReturned": 1,
"lastRetrieved": 1457569477391,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}
}

```

4.2.4 Get DVR

Operation: GET /netmap/v1.1/device/{deviceId}/dvr?staleness&sync&token&daysBack&scope

Description: This method retrieves the values of DVR recordings data for the required STB device. The method is synchronous and blocks the client until the retrieval request completes.

The returned response will include historical data regarding successful recorded events, failed recording events and partially failed recording events with their respective data.

The daysBack parameter is an optional parameter, allowing the client to limit the amount of days for the DVR historical records retrieval.

The staleness input parameter determines how “fresh” the parameters will be (in seconds), to indicate to Prime Home whether these parameters should be retrieved from the device or from the database.

URL Parameters

Parameter	Required	Description	Data Type
Staleness	Yes	required staleness level	String
daysBack	Yes	Time frame, in which the hard disk sampling will fall into. When given, the API will return records within this time frame only. Applicable only when scope=all / history	Integer
deviceId	Yes	Unique identifier of the CPE.	List Name-Value String

scope		scope=CURRENT → the API will return only current hard disk data scope=ALL→ the API will return history + current (default)	String
-------	--	---	--------

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Parameters

Parameter	Required	Description	Data Type
DVR		A resource holding the requested DVR recordings	Dvr

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-
```

ui/nbi/netmap/v1.1/device/SerialNumberStb=STB123456/dvr?staleness1d&daysBack=10&scope=ALL HTTP/1.1

Example Response

```
{
  "resources": {
    "partialRecording": {
      "partialRecordings": []
    },
    "failedRecording": {
      "failedRecordings": [
        {
          "timestamp": 1462693203000,
          "channelName": "\"guy's channel\"",
          "channelNumber": "72",
          "eventType": "\"man\"",
          "eventName": "\"apartment 1303 3d\"",
          "scheduledStartTime": 1462693203000,
          "actualStartTime": 1462691403000,
          "duration": 6051,
          "fileSize": 1718,
          "reason": "\"no_tuner_available\""
        },
        {
          "timestamp": 1462635603000,
          "channelName": "\"movies channel\"",
          "channelNumber": "59",
          "eventType": "\"man\"",
          "eventName": "\"area q\"",
          "scheduledStartTime": 1462635603000,
          "actualStartTime": 1462633803000,
          "duration": 4154,
          "fileSize": 1179,
          "reason": "\"no_tuner_available\""
        },
        {
          "timestamp": 1462606803000,
          "channelName": "\"jnlp\"",
          "channelNumber": "81",
          "eventType": "\"man\"",
          "eventName": "\"after the storm (1928 film)\"",
          "scheduledStartTime": 1462606803000,
          "actualStartTime": 1462605003000,
          "duration": 2649,
          "fileSize": 752,
          "reason": "\"no_tuner_available\""
        }
      ]
    },
    "recordedEvents": {
```

```

    "recordedEvents": []
  },
  "lastRetrieved": 1,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation completed successfully"
  }
}

```

4.3 Gateway Management API

This section describes the API provided by Prime Home to manage (Set / Get) Internet Gateway device data model.

This API enables the NBI client to work directly with concrete objects supported by the Gateway instead of querying each parameter in the device's data model separately by using the generic Set Parameter Values / Get Parameter Values

4.3.1 Get Wireless Devices

Operation: GET /netmap/v1.1/device/{deviceId}/wlan?staleness={staleness}&sync={sync}&token={token}

Description: This method retrieves the list of wireless networks supported by the Gateway. The returned resource represents a list of wireless devices (aka: Access Point or Radio), and for each radio –a list of wireless networks (SSIDs) that are configured on the particular access point.

The method is synchronous and blocks the client until the retrieval request completes.

The staleness input parameter determines how “fresh” the parameters will be (in seconds), to indicate to Prime Home whether these parameters should be retrieved from the device or from the database.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE.	List Name-Value String
Sync	No	API activation method (sync / async)	String
Token	No	Long polling token	String

Staleness	Yes	Required staleness level	String
-----------	-----	--------------------------	--------

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Parameters

Parameter	Required	Description	Data Type
Wireless Devices		A resource holding the list of wireless devices supported by the gateway.	Wireless Devices

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-
ui/nbi/netmap/v1.1/device/SerialNumberGw=GW123456/wlan?staleness=1d HTTP/1.1
```

Example Response

```
{
  "wirelessDevices": [
    {
      "frequencyBand": "BAND_2_4GHZ",
      "wirelessStandards": [
        "IEEE802_11_G",
        "IEEE802_11_B"
      ],
      "channel": 1,
      "possibleChannels": [
        1,
        2,
        3,
        4,
        5,
        6,
        7
      ],
      "autoChannelEnable": true,
      "enable": true,
      "adminDisable": true,
      "autoChannelRescan": false,
      "wirelessNetworks": [
        {
          "lanIndex": 1,
          "wlanIndexes": [
            5,
            105
          ],
          "name": "myname",
          "ssidAdvertisementEnabled": true,
          "networkType": "HOME",
          "wepKey": "12341234",
          "wpaPassphrase": "blablapassword",
          "securityType": "WPA2",
          "encryptionMode": "TKIP_AND_AES",
          "interClientPrivacy": true,
          "basicAuthenticationMode": "PSK",
          "wpaAuthenticationMode": "EAP_PSK",
          "wpa2AuthenticationMode": "PSK",
          "basicEncryptionMode": "AES",
          "wpaEncryptionMode": "TKIP",
          "wpa2EncryptionMode": "TKIP",
          "siteSurveyState": "NONE"
        }
      ],
      "macAddressControl": {
        "mode": "Allow",
        "macAddressList": "18:10:56:55:20:11"
      }
    }
  ],
}
```

```

    "status": "On",
    "totalAssociations": "5",
    "TotalBytesSent": "534535",
    "TotalBytesReceived": "2351235",
    "TotalPacketsSent": "3243",
    "TotalPacketsReceived": "214214"
  }
],
"lastRetrieved": 1457569477388,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}

```

4.3.2 Set Wireless Devices

Operation: POST /netmap/v1.1/device/{deviceId}/wlan

Description: This method receives a Wireless Devices resource as part of the http body and updates the values of the parameters passed as part of the resource.

When using this API, it is important to pass the exact “index” parameters that were returned in a prior “get Wireless Devices” request.

The method is synchronous and blocks the client until the Set request completes.

The NBI client will pass only parameters that it wants to change and that have a R/W access.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE.	List Name-Value String

Object Schema

Parameter	Required	Description	Data Type
Wireless Networks	Yes	Wireless Devices resource with the parameters that are required to be changed. The API will change the values of all parameters included in the	WirelessNetworks

		resources with the requested values. Only parameters that are R/W are allowed to be passed as part of the resource..	
--	--	---	--

Response Parameters

Parameter	Required	Description	Data Type
Response		Operation completion status, including the device Id and the Response Status.	CPE Response

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberGw=123ABCD123/wlan
HTTP/1.1
```

```
{
  "wirelessDevices": [
    {
      "channel": 1,
      "autoChannelEnable": true,
      "enable": true,
```

```

"adminDisable": true,
"autoChannelRescan": false,
"wirelessNetworks": [
  {
    "lanIndex": 1,
    "wlanIndexes": [
      5,
      105
    ],
    "name": "myname",
    "ssidAdvertisementEnabled": true,
    "networkType": "HOME",
    "wepKey": "12341234",
    "wpaPassphrase": "blablapassword",
    "securityType": "WPA2",
    "encryptionMode": "TKIP_AND_AES",
    "interClientPrivacy": true,
    "basicAuthenticationMode": "PSKAuthentication",
    "wpaAuthenticationMode": "EAPandPSKAuthentication",
    "wpa2AuthenticationMode": "PSKAuthentication",
    "basicEncryptionMode": "AES",
    "wpaEncryptionMode": "TKIP",
    "wpa2EncryptionMode": "TKIP",
    "siteSurveyState": "NONE"
  }
],
"macAddressControl": {
  "mode": "Allow",
  "macAddressList": "18:10:56:55:20:11"
},
}
],
"lastRetrieved": 1462191098655,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}

```

Example Response

```

{
  "deviceId": {
    "identityMap": {
      "SerialNumberStb": "123ABCD123"
    }
  },
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
  }
}

```

```
"message": "Operation Completed Successfully"
}
}
```

4.3.3 Get WAN Connections

Operation: GET /netmap/v1.1/device/{deviceId}/wancons?staleness&sync&token

Description: This method retrieves the list of WAN IP / PPP connections currently in use on the gateway.

The method is synchronous and blocks the client until the retrieval request completes.

The staleness input parameter determines how “fresh” the parameters will be (in seconds), to indicate to Prime Home whether these parameters should be retrieved from the device or from the database.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE.	List Name-Value String
Sync	No	API activation method (sync / async)	String
Stalness	No	Required staleness level	String
Token	No	Long polling token	String

Object Schema

Parameter	Required	Description	Data Type
No			

Response Parameters

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

WAN IP Connections		A resource holding the list of WAN IP connections configured on the gateway	wanIPConnections
--------------------	--	---	------------------

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-
ui/nbi/netmap/v1.1/device/SerialNumberGw=123ABCD123/wancons?staleness=1d HTTP/1.1
```

Example Response

```
{
  "connections": [
    {
      "ipConnectionIndex": 3,
      "addressingType": "DHCP",
      "IPAddress": "4.4.4.4",
      "lastConnectionError": "ERROR",
      "MACAddress": "01:2C:11:11:22:22",
      "maxMTUSize": 1500,
      "subnetMask": "255.255.255.254",
      "lanIPAddress": "6.6.6.6",
      "deviceIndex": 3,
      "connectionIndex": 3,
      "connectionStatus": "CONNECTED",
      "dnsEnabled": true,
      "dnsOverrideAllowed": true,
      "dnsServers": [
        "2.3.4.5",
```

```

    "7.8.6.8",
    "5.7.3.2"
  ],
  "defaultGateway": "4.4.4.5",
  "enable": true,
  "name": "eth-1",
  "uptime": 7000
}
],
"lastRetrieved": 1457828674753,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}

```

4.3.4 Set WAN Connections

Operation: POST /netmap/v1.1/device/{deviceId}/wancons

Description: This method receives a WAN IP Connections resource as part of the http body and updates the values of the parameters passed as part of the resource.

When using this API, it is important to pass the exact “index” parameters (e.g.: devielIndex, connectionIndex, ipConnectionIndex) that were returned in a prior “get WAN Connections” request.

The method is synchronous and blocks the client until the Set request completes.

The NBI client will pass only parameters that it wants to change and that have a R/W access.

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Unique identifier of the CPE.	List Name-Value String

Object Schema

Parameter	Required	Description	Data Type
WAN Connections	Yes	An object describes the WAN connection parameters that required to be changed.	Object

		The object can include only those parameter that are required to be changed	
--	--	---	--

Response Parameters

Parameter	Required	Description	Data Type
Response		Operation completion status, including the device ID and the Response Status.	CPE Response

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberGw=123ABCD123/wancons
HTTP/1.1
```

```
{
  "connections": [
    {
      "ipConnectionIndex": 3,
      "addressingType": "DHCP",
      "IPAddress": "4.4.4.4",
      "maxMTUSize": 1500,
      "deviceIndex": 3,
      "connectionIndex": 3,
      "dnsEnabled": true,
```

```
"dnsOverrideAllowed": true,
"dnsServers": [
  "2.3.4.5",
  "7.8.6.8",
  "5.7.3.2"
],
"enable": true,
"uptime": 7000
}
]
```

Example Response

```
{
  "deviceId": {
    "identityMap": {
      "SerialNumberGw": "123ABCD123"
    }
  },
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

4.3.5 Get Port Mapping

Operation: GET /netmap/v1.1/device/{deviceId}/portmapping?staleness&sync&token

Description: This method retrieves the list of port forwarding (port mapping) rules configured on the Gateway WAN interface.

All port forwarding rules that are associated with the same service will be aggregated under the same portMaps instance.

The staleness input parameter determines how “fresh” the parameters will be (in seconds), to indicate to Prime Home whether these parameters should be retrieved from the device or from the database.

URL Parameters

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

Staleness	No	required staleness level	Integer
deviceId	Yes	Device unique identifier	String
Sync	No	Synchronization mode (sync / async)	String
Token	No	Long polling token	String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Parameters

Parameter	Required	Description	Data Type
Port Mapping		A resource holding the list of WAN IP connections configured on the gateway, and on each IP connection – the relevant port Mapping definitions.	wanIPConnections

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-  
ui/nbi/netmap/v1.1/device/SerialNumberGw=GW12345/portmapping?staleness=1d HTTP/1.1
```

Example Response

```
{  
  "connections": [  
    {  
      "ipConnectionIndex": 1,  
      "portMaps": [  
        {  
          "name": "FTP",  
          "mappings": [  
            {  
              "index": 1,  
              "externalPortStart": 0,  
              "externalPortEnd": 21,  
              "internalPort": 0,  
              "enabled": true,  
              "protocol": "TCP"  
            }  
          ],  
          "ruleOwner": "ACS"  
        }  
      ],  
      "deviceIndex": 1,  
      "connectionIndex": 1  
    }  
  ],  
  "lastRetrieved": 1457828674813,  
  "responseStatus": {  
    "code": 0,  
    "messageCode": "msg.operation_completed_successfully",  
    "message": "Operation Completed Successfully"  
  }  
}
```

4.3.6 Set Port Mapping

Operation: POST /netmap/v1.1/device/{deviceId}/portmapping

Description: This method receives a WAN IP Connections resource as part of the http body, and updates the values of the parameters passed as part of the resource.

When using this API, it is important to pass the exact “index” parameters (e.g.: devielIndex, connectionIndex, ipConnectionIndex, index) that were returned in a prior “get Port Mapping” request.

When setting the Port Mapping configuration, the HTTP payload will include the changed resource entry (i.e. the added / updated / deleted service) only, with changed values and “Action” field according to the action performed.

- When “portMapping” entry is updated, the Action should be set to: “UPDATE”
- When “portMapping” entry is removed, the Action should be set to: “DELETE”
- When “portMapping” entry is added, the Action should be set to: “ADD”
- Default value of “Action” (in case no change has been made to it) should be = “NONE”

The method is synchronous and blocks the client until the Set request completes.

The NBI client will pass only parameters that it wants to change and that have a R/W access.

URL Parameters

Parameter	Required	Description	Data Type
deviceld		Unique identifier of the CPE.	List Name-Value String

Object Schema

Parameter	Required	Description	Data Type
Port Mapping		WAN IP Connections resource with the Port Mapping settings that need to be changed. The API will change the values of all parameters included in the resources with the requested values. Only parameters that are R/W are allowed to be passed as part of the resource.	wanIPConnections

Response Parameters

Parameter	Required	Description	Data Type
Response		Operation completion status, including the device Id and the Response Status.	CPE Response

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

POST http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberGw=123ABCD123/portmapping
HTTP/1.1

```
{
  "connections": [
    {
      "deviceIndex": 3,
      "connectionIndex": 3,
      "ipConnectionIndex": 3,
      "portMaps": [
        {
          "name": "AIM / AOL ICQ",
          "ruleOwner": "ACS",
          "internalClient": "192.168.1.10",
          "mappings": [
            {
              "index": 0,
              "action": "ADD",
              "externalPortStart": "5190",
              "externalPortEnd": "5190",
              "internalPort": 0,
              "enabled": true,
              "protocol": "TCP",

```

```

        "remoteHost": ""
      },
      {
        "index": 0,
        "action": "ADD",
        "externalPortStart": "5190",
        "externalPortEnd": "5190",
        "internalPort": 0,
        "enabled": true,
        "protocol": "UDP",
        "remoteHost": ""
      }
    ]
  }
}

```

Example Response

```

{
  "deviceId": {
    "identityMap": {
      "SerialNumberStb": "123ABCD123"
    }
  },
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}

```

4.3.7 Get LAN Hosts

Operation: GET /netmap/v1.1/device/{deviceId}/lanhosts?staleness={staleness}&sync={sync}&token={token}

Description: This method retrieves the list hosts connected to the router in the home network.

The staleness input parameter determines how “fresh” the parameters will be (in seconds) to indicate to Prime Home whether these parameters should be retrieved from the device or from the database.

URL Parameters

Parameter	Required	Description	Data Type
Staleness	No	required staleness level	Integer
deviceId	Yes	Device unique identifier	String
Sync	No	Synchronization mode (sync / async)	String
Token	No	Long polling token	String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Parameters

Parameter	Required	Description	Data Type
LAN Hosts		A resource holding the list of LAN Hosts connected to the gateway.	LANHosts

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-  
ui/nbi/netmap/v1.1/device/SerialNumberGw=GW123456/lanhosts?staleness=1d HTTP/1.1
```

Example Response

```
{  
  "lanHosts": [  
    {  
      "hostName": "Guy iPhone",  
      "hostType": "iPhone",  
      "connType": "WIRELESS",  
      "SignalStrength": "WL_SIGNAL_GOOD",  
      "IPAddress": "1.2.3.4",  
      "isManaged": false,  
      "deviceId": 1000001,  
      "frequencyBand": "BAND_2_4GHZ",  
      "networkType": "HOME"  
    }  
  ],  
  "hasQos": false,  
  "lastRetrieved": 1457915075790,  
  "responseStatus": {  
    "code": 0,  
    "messageCode": "msg.operation_completed_successfully",  
    "message": "Operation Completed Successfully"  
  }  
}
```

4.3.8 Get LAN Connections

Operation: GET /netmap/v1.1/device/{deviceId}/lancons?staleness={staleness}&sync={sync}&token={token}

Description: This method retrieves the list of the gateway's LAN Connection interfaces and respective LAN settings. The LAN Connections resource includes: List of active IP connections and DHCP settings on each LAN interface.

The method is synchronous and blocks the client until the retrieval request completes.

The staleness input parameter determines how "fresh" the parameters will be (in seconds) to indicate to Prime Home whether these parameters should be retrieved from the device or from the database.

URL Parameters

Parameter	Required	Description	Data Type
deviceld		Unique identifier of the CPE.	List Name-Value String
Staleness	No	required staleness level	Integer
Sync	No	Synchronization mode (sync / async)	String
Token	No	Long polling token	String

Object Schema

Parameter	Required	Description	Data Type
N/A			

Response Parameters

Parameter	Required	Description	Data Type
LAN Connections		A resource holding the list of LAN connections configured on the gateway.	LANConnections

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-  
ui/nbi/netmap/v1.1/device/SerialNumberGw=GW123456/lancons?staleness=1d HTTP/1.1
```

Example Response

```
{  
  "lanConnections": [  
    {  
      "index": 1,  
      "dhcpServer": {  
        "enable": true,  
        "leaseRange": {  
          "startIPAddress": "100.100.100.1",  
          "endIPAddress": "100.100.100.254"  
        },  
        "subnetMask": "255.255.255.0",  
        "leaseTime": 3600,  
        "domainName": "home",  
        "lanMAC": "08:89:45:27:75:06"  
      },  
      "ipInterfaces": [  
        {  
          "index": 1,  
          "IPAddress": "192.168.100.1",  
          "subnetMask": "255.255.255.0"  
        },  
        {}  
      ],  
      "networkType": "HOME",  
      "name": "NAME",  
      "readOnly": false  
    },  
    {}  
  ],  
  "lastRetrieved": 1458001450598,  
  "responseStatus": {  
    "code": 0,  
    "messageCode": "msg.operation_completed_successfully",  
    "message": "Operation Completed Successfully"  
  }  
}
```

4.3.9 Set LAN Connections

Operation: POST /netmap/v1.1/device/{deviceId}/lancons

Description: This method receives a LAN Connections resource as part of the http body, and updates the values of the parameters passed as part of the resource.

When using this API, it is important to pass the exact “index” parameters that were returned in a prior “get Port Mapping” request.

When setting the LAN address reservation (DHCP) Settings, the HTTP payload will include the changed resource entry (i.e. the added / updated / deleted service) only, with changed values and “Action” field according to the action performed.

- When “Address Reservation” entry is updated, the StaticLease.Action should be set to: “UPDATE”
- When “Address Reservation” entry is removed, the StaticLease.Action should be set to: “DELETE”
- When “Address Reservation” entry is added, the StaticLease.Action should be set to: “ADD”
- Default value of “Action” (in case no change has been made to it) should be = “NONE”

The method is synchronous and blocks the client until the Set request completes.

The NBI client will pass only parameters that it wants to change and that have a R/W access.

URL Parameters

Parameter	Required	Description	Data Type
deviceId		Unique identifier of the CPE.	List Name-Value String

Object Schema

Parameter	Required	Description	Data Type
LAN Connections		LAN Connections resource with the LAN settings that are required to be changed. The API will change the values of all parameters included in the resources with the requested values.	LANConnections

		Only parameters that are R/W are allowed to be passed as part of the resource.	
--	--	--	--

Response Parameters

Parameter	Required	Description	Data Type
Response		Operation completion status, including the device Id and the Response Status.	CPE Response

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
404	2	msg.device_not_found	Device is not known to Prime Home
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberGw=GW123456/lancons
HTTP/1.1
```

```
{
  "lanConnections": [
    {
      "index": 1,
      "dhcpServer": {
        "enable": true,
        "leaseRange": {
          "startIPAddress": "192.168.1.2",
          "endIPAddress": "192.168.1.128"
        }
      }
    }
  ]
}
```

```

    },
    "subnetMask": "255.255.255.0",
    "staticLeases": [],
    "leaseTime": "604800",
    "domainName": "home",
    "lanMAC": "00:82:82:99:61:01"
  },
  "ipInterfaces": [
    {
      "index": 1,
      "IPAddress": "192.168.1.2",
      "subnetMask": "255.255.248.0"
    }
  ],
  "name": "IP_BR_LAN",
  "readOnly": false
}
],
}
}

```

Example Response

```

{
  "deviceId": {
    "identityMap": {
      "SerialNumberStb": "123ABCD123"
    }
  },
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}

```

5 Operations APIs

This section describes the API provided by Prime Home to perform actions related to the system as a whole and to group of devices, such as: group APIs, batch operations related APIs, configuration sets APIs etc

5.1 Groups Management APIs

5.1.1 Create a Group

Operation: PUT /operations/v1.1/group/{name}

Description: Create new device group.

If group type is DYNAMIC Advanced Search query should be specified.

If group type is STATIC_GENERATE_FROM_DYNAMIC Advanced Search query should be specified. This query will be executed immediately and static group will be created.

URL Parameters

Parameter	Required	Description	Data Type
Name	Yes	Group name	String

Object Schema

Parameter	Required	Description	Data Type
Group Data	Yes	Group parameters (query, description, type)	Object

Response Parameters

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

--	--	--	--

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

PUT http://hostname:port/panorama-ui/nbi/operations/v1.1/group/MyGroup HTTP/1.1

```
{
  "groupName": "MyGroup",
  "groupDescription": "This is sample dynamic group description",
  "queryString": "Manufacturer=Cisco AND IMEI=351612050314183",
  "type": "DYNAMIC"
}
```

Example Response

```
{
  "groupId": 100478,
  "groupName": "Sample dynamic name",
  "enable": true,
  "visibility": "READ_WRITE",
  "type": "USER_GROUP",
  "queryString": "Manufacturer=Cisco AND IMEI=351612050314183",
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.1.2 Update Group

Operation: POST /operations/v1.1/group/{name}

Description: Update existing device group - update name and description

If existent group is Advanced Search based dynamic groups, Advanced Search query can be specified.

Otherwise, only name and description will be updated.

URL Parameters

Parameter	Required	Description	Data Type
Name	Yes	Group Name	String

Object Schema

Parameter	Required	Description	Data Type
Group Data	Yes	Group info to be updated	Object

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout

401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
-----	-----	-----	---

Example Request

POST http://hostname:port/panorama-ui/nbi/operations/v1.1/group/{name} HTTP/1.1

```
{
  "groupName": "Sample dynamic name",
  "groupDescription": "This is sample dynamic group description",
  "queryString": "Manufacturer=Cisco AND IMEI=351612050314183"
}
```

Example Response

```
{
  "groupId": 100478,
  "groupName": "Sample dynamic name",
  "enable": true,
  "visibility": "READ_WRITE",
  "type": "USER_GROUP",
  "queryString": "Manufacturer=Cisco AND IMEI=351612050314183",
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.1.3 Get Group

Operation: GET /operations/v1.1/group/{name}

Description: Get group by name.

URL Parameters

Parameter	Required	Description	Data Type
Name	Yes	Get group by name	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/operations/v1.1/group/{name} HTTP/1.1
```

Example Response

```
{
  "groupId": 100478,
  "groupName": "Sample dynamic name",
  "enable": true,
  "visibility": "READ_WRITE",
  "type": "USER_GROUP",
  "queryString": "Manufacturer=Cisco AND IMEI=351612050314183",
  "responseStatus": {
```

```
"code": 0,  
"messageCode": "msg.operation_completed_successfully",  
"message": "Operation Completed Successfully"  
}  
}
```

5.1.4 Get all Groups

Operation: GET /operations/v1.1/groups?visibleOnly&enabledOnly

Description: Get all groups

URL Parameters

Parameter	Required	Description	Data Type
Visibleonly	Yes	If set to true, then returns only visible groups (default = true)	Boolean
Enabledonly	Yes	If set to true, then returns enabled groups only (default = true)	Boolean

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/operations/v1.1/groups?visibleOnly=true&enabledOnly=false
HTTP/1.1
```

Example Response

```
{
  "data": [
    {
      "groupId": 100473,
      "groupName": "All",
      "enable": true,
      "visibility": "READ_ONLY",
      "type": "SYSTEM_GROUP",
      "queryString": "Manufacturer=Cisco AND IMEI=351612050314183"
    },
    {
      "groupId": 100474,
      "groupName": "Gateways",
      "enable": true,
      "visibility": "READ_ONLY",
      "type": "SYSTEM_GROUP",
      "queryString": "Manufacturer=Cisco AND IMEI=351612050314183"
    },
    {
      "groupId": 100475,
      "groupName": "Pending discovery",
      "enable": true,
      "visibility": "READ_WRITE",
      "type": "SYSTEM_GROUP",
      "queryString": "Manufacturer=Cisco AND IMEI=351612050314183"
    },
    {

```

```

    "groupId": 100476,
    "groupName": "Update device CSC98A v1.45.01b",
    "enable": true,
    "visibility": "READ_WRITE",
    "type": "USER_GROUP",
    "queryString": "Manufacturer=Cisco AND IMEI=351612050314183"
  },
  {
    "groupId": 100477,
    "groupName": "Tmp group - deleteme",
    "enable": false,
    "visibility": "INVISIBLE",
    "type": "USER_GROUP",
    "queryString": "Manufacturer=Cisco AND IMEI=351612050314183"
  }
],
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}

```

5.1.5 Delete Group

Operation: DELETE /operations/v1.1/group/{name}

Description: Delete group.

Group can be deleted only if it not used in any batch job, configuration set, etc.

URL Parameters

Parameter	Required	Description	Data Type
name	Yes	Name of the group to be deleted	String

Object Schema

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

--	--	--	--

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
DELETE http://hostname:port/panorama-ui/nbi/operations/v1.1/group/myGroup HTTP/1.1
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.2 Configuration Sets APIs

5.2.1 Create configuration set

Operation: PUT /operations/v1.1/configurationSet/{name}

Description: Create new configuration set and get all the configuration sets in the system.

URL Parameters

Parameter	Required	Description	Data Type
Name	Yes	Name of configuration set	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

PUT http://hostname:port/panorama-ui/nbi/operations/v1.1/configurationSet/NY HTTP/1.1

```
{
  "name": "NY",
  "description": "desc",
  "parentConfigName": "rootCsetName",
  "active": false,
  "actions": [
    {
      "aliasParameter": "PortTriggerEnable",
      "actionType": "setValue",
      "value": "true",
      "remove": false,
      "separate": false
    }
  ],
  "firmwareImages": [
    {
      "remove": false,
      "minVersion": "1.2.3",
      "name": "file1"
    }
  ],
  "softwareServices": [
    {
      "remove": false,
      "commandType": "INSTALL",
      "name": "Service1"
    }
  ],
  "listOfGroupsBaskets": [
    {
      "groupsList": [
        {
          "groupName": "GroupA"
        },
        {
          "groupName": "GroupB"
        }
      ]
    },
    {
      "groupsList": [
        {
          "groupName": "GroupC"
        },
        {

```

```

    "groupName": "GroupD"
  }
]
}
]
}

```

Example Response

```

{
  "id": 1000001,
  "name": "NY",
  "description": "desc",
  "priority": 1,
  "updatedBy": "Lizi",
  "updatedAt": 1459034721981,
  "actions": [
    {
      "id": 1001,
      "aliasParameter": "PortTriggerEnable",
      "actionType": "setValue",
      "value": "true",
      "remove": false,
      "separate": true
    }
  ],
  "firmwareImages": [
    {
      "id": 10001,
      "remove": false,
      "minVersion": "1.2.3",
      "fileId": 10,
      "name": "file1",
      "fileType": 1,
      "softwareVersion": "1.1.2"
    }
  ],
  "softwareServices": [],
  "listOfGroupsBaskets": [
    {
      "basketId": 1,
      "groupsList": [
        {
          "groupId": 5,
          "groupName": "STB FR2/FR3",
          "groupBasketId": 100001
        },
        {
          "groupId": 2,
          "groupName": "STB",
          "groupBasketId": 100002
        }
      ]
    }
  ]
}

```

```

    }
  ]
},
{
  "basketId": 2,
  "groupsList": [
    {
      "groupId": 16,
      "groupName": "OpenRG Phase 4",
      "groupBasketId": 100003
    },
    {
      "groupId": 3,
      "groupName": "Gateway",
      "groupBasketId": 100004
    }
  ]
}
],
"lastRetrieved": 1459034721981,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}

```

5.2.2 Update configuration set

Operation: POST /operations/v1.1/configurationSet/{name}

Description: Update configuration set and get all the configuration sets in the system after the update.

URL Parameters

Parameter	Required	Description	Data Type
Name	Yes	Name of configuration set	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

POST http://hostname:port/panorama-ui/nbi/operations/v1.1/configurationSet/NY HTTP/1.1

```
{
  "id": 1000005,
  "name": "NY",
  "description": "config set description",
  "parentConfigId": 100002,
  "actions": [
    {
      "aliasParameter": "PortTriggerEnable",
      "actionType": "setValue",
      "value": "true",
      "remove": false,
      "separate": false
    },
    {
      "id": 1000001,
```

```

    "aliasParameter": "SSID",
    "actionType": "setNotification",
    "value": "PASSIVE",
    "remove": false,
    "separate": false
  }
],
"firmwareImages": [
  {
    "remove": false,
    "minVersion": "1.2.3",
    "fileId": 10
  }
],
"softwareServices": [],
"listOfGroupsBaskets": [
  {
    "basketId": 1,
    "groupsList": [
      {
        "groupId": 2,
        "groupBasketId": 1
      },
      {
        "groupId": 6,
        "groupBasketId": 2
      }
    ]
  },
  {
    "basketId": 2,
    "groupsList": [
      {
        "groupId": 26,
        "groupBasketId": 3
      },
      {
        "groupId": 3,
        "groupBasketId": 5
      }
    ]
  }
]
}
}

```

Example Response

```

{
  "id": 1000005,
  "name": "NY",
  "description": "config set description",

```

```

"parentConfigId": 100002,
"updatedBy": "Lizi",
"updatedAt": 1459034721981,
"actions": [
  {
    "id": 1000002,
    "aliasParameter": "PortTriggerEnable",
    "actionType": "setValue",
    "value": "true",
    "remove": false,
    "separate": true
  },
  {
    "id": 1000001,
    "aliasParameter": "SSID",
    "actionType": "setNotification",
    "value": "PASSIVE",
    "remove": false,
    "separate": false
  }
],
"firmwareImages": [
  {
    "remove": false,
    "minVersion": "1.2.3",
    "fileId": 10,
    "name": "file1",
    "fileType": 1,
    "softwareVersion": "1.1.2"
  }
],
"softwareServices": [],
"listOfGroupsBaskets": [
  {
    "basketId": 1,
    "groupsList": [
      {
        "groupId": 2,
        "groupName": "STB",
        "groupBasketId": 1
      },
      {
        "groupId": 6,
        "groupName": "iSTB FR2",
        "groupBasketId": 2
      }
    ]
  },
  {
    "basketId": 2,
    "groupsList": [
      {
        "groupId": 26,

```

```

    "groupName": "D-Link 820L WiFi Extenders",
    "groupBasketId": 3
  },
  {
    "groupId": 3,
    "groupName": "Gateway",
    "groupBasketId": 5
  }
]
},
"lastRetrieved": 1459034721981,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}

```

5.2.3 Get a configuration set's details

Operation: GET /operations/v1.1/configurationSet/{name}

Description: Get configuration set hierarchy according to config set name

URL Parameters

Parameter	Required	Description	Data Type
Name	Yes	Name of configuration set	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/operations/v1.1/configurationSet/NY HTTP/1.1
```

Example Response

```
{
  "configSets": [
    {
      "id": 1,
      "name": "NY",
      "description": "desc",
      "priority": 0,
      "updatedBy": "Lizi",
      "updatedAt": 1459034721976,
      "active": true,
      "actions": [
        {
          "id": 1,
          "aliasParameter": "PortTriggerEnable",
          "actionType": "setValue",
          "value": "true",
          "remove": false,
```

```

    "separate": true
  }
],
"firmwareImages": [
  {
    "id": 1,
    "remove": false,
    "minVersion": "1.2.4",
    "fileId": 10,
    "name": "file1",
    "fileType": 1,
    "softwareVersion": "1.1.2"
  }
],
"softwareServices": [],
"childConfigSets": [
  {
    "id": 2,
    "name": "NYC",
    "description": "desc2",
    "parentConfigId": 1,
    "updatedBy": "Lizi",
    "updatedAt": 1459034721979,
    "actions": [
      {
        "id": 5,
        "aliasParameter": "DynDNSHostRoot",
        "actionType": "setNotification",
        "value": "PASSIVE",
        "remove": false,
        "separate": false
      }
    ]
  },
  {
    "id": 3,
    "name": "New jersey",
    "description": "desc3",
    "parentConfigId": 2,
    "updatedBy": "Lizi",
    "updatedAt": 1459034721979,
    "actions": [
      {
        "id": 5,
        "aliasParameter": "DynDNSHostRoot",
        "actionType": "setNotification",
        "value": "PASSIVE",
        "remove": false,
        "separate": false
      }
    ]
  }
],

```

```

        "firmwareImages": [],
        "softwareServices": [],
        "listOfGroupsBaskets": []
    }
},
    "listOfGroupsBaskets": []
}
],
"listOfGroupsBaskets": [
    {
        "basketId": 1,
        "groupsList": [
            {
                "groupId": 2,
                "groupName": "STB"
            },
            {
                "groupId": 7,
                "groupName": "Devices marked for backup"
            }
        ]
    },
    {
        "basketId": 2,
        "groupsList": [
            {
                "groupId": 9,
                "groupName": "Restricted devices"
            },
            {
                "groupId": 8,
                "groupName": "Not connected devices"
            },
            {
                "groupId": 3,
                "groupName": "Gateway"
            }
        ]
    }
]
}
],
"lastRetrieved": 1459034721979,
"responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
}
}

```

5.2.4 Get configuration set's associated groups

Operation: GET /operations/v1.1/configurationSet/{name}/groups

Description: Get configuration set associated groups according to the given configuration set name

URL Parameters

Parameter	Required	Description	Data Type
Name	Yes	Name of configuration set	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout

401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
-----	-----	-----	---

Example Request

```
GET http://hostname:port/panorama-ui/nbi/operations/v1.1/configurationSet/NY/groups HTTP/1.1
```

Example Response

```
{
  "configSetGroups": [
    {
      "basketId": 10001,
      "groupsList": [
        {
          "groupId": 6,
          "groupName": "iSTB FR2",
          "groupBasketId": 100
        },
        {
          "groupId": 2,
          "groupName": "STB",
          "groupBasketId": 101
        }
      ]
    },
    {
      "basketId": 10002,
      "groupsList": [
        {
          "groupId": 5,
          "groupName": "STB FR2/FR3",
          "groupBasketId": 100
        }
      ]
    }
  ],
  "lastRetrieved": 1459034721979,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.2.5 Delete configuration set

Operation: DELETE /operations/v1.1/configurationSet/{name}

Description: Delete configuration set and get all the configuration sets in the system after the delete.

URL Parameters

Parameter	Required	Description	Data Type
Name	Yes	Name of configuration set	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout

401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
-----	-----	-----	---

Example Request

```
DELETE http://hostname:port/panorama-ui/nbi/operations/v1.1/configurationSet/NY HTTP/1.1
```

Example Response

```
{
  "lastRetrieved": 1459034722150,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.2.6 Get all configuration sets

Operation: GET /operations/v1.1/configurationSets/

Description: Get all configuration sets in the system in a hierarchical structure.

URL Parameters

Parameter	Required	Description	Data Type

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/operations/v1.1/configurationSets/ HTTP/1.1
```

Example Response

```
{
  "configSets": [
    {
      "id": 1,
      "name": "NY",
      "description": "desc",
      "priority": 0,
      "updatedBy": "Lizi",
      "updatedAt": 1459293888887,
      "active": true,
      "actions": [
        {
          "id": 1,
          "aliasParameter": "PortTriggerEnable",
          "actionType": "setValue",
```

```

    "value": "true",
    "remove": false,
    "separate": true
  }
],
"firmwareImages": [
  {
    "id": 1,
    "remove": false,
    "minVersion": "1.2.4",
    "fileId": 10,
    "name": "file1",
    "fileType": 1,
    "softwareVersion": "1.1.2"
  }
],
"softwareServices": [],
"childConfigSets": [
  {
    "id": 2,
    "name": "NYC",
    "description": "desc2",
    "parentConfigId": 1,
    "updatedBy": "Lizi",
    "updatedAt": 1459293888891,
    "actions": [
      {
        "id": 5,
        "aliasParameter": "DynDNSHostRoot",
        "actionType": "setNotification",
        "value": "PASSIVE",
        "remove": false,
        "separate": false
      }
    ]
  },
  {
    "id": 3,
    "name": "New jersey",
    "description": "desc3",
    "parentConfigId": 2,
    "updatedBy": "Lizi",
    "updatedAt": 1459293888891,
    "actions": [
      {
        "id": 5,
        "aliasParameter": "DynDNSHostRoot",
        "actionType": "setNotification",
        "value": "PASSIVE",
        "remove": false,
        "separate": false
      }
    ]
  }
]

```

```

    }
  ],
  "firmwareImages": [],
  "softwareServices": [],
  "listOfGroupsBaskets": []
}
],
"listOfGroupsBaskets": []
}
],
"listOfGroupsBaskets": [
{
  "basketId": 1,
  "groupsList": [
    {
      "groupId": 2,
      "groupName": "STB"
    },
    {
      "groupId": 7,
      "groupName": "Devices marked for backup"
    }
  ]
},
{
  "basketId": 2,
  "groupsList": [
    {
      "groupId": 9,
      "groupName": "Restricted devices"
    },
    {
      "groupId": 8,
      "groupName": "Not connected devices"
    },
    {
      "groupId": 3,
      "groupName": "Gateway"
    }
  ]
}
]
}
],
"lastRetrieved": 1459293888891,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}

```

5.3 File Management APIs

5.3.1 Create a file type

Operation: PUT /operations/v1.1/fileType/{name}

Description: Create a file type

URL Parameters

Parameter	Required	Description	Data Type
Name	Yes	Name of file type	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion

500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
PUT http://hostname:port/panorama-ui/nbi/operations/v1.1/fileType/myFileType HTTP/1.1
```

```
{
  "name": "Firmware Image - changed name",
  "Firmware upgrade Image for the CPE - changed description"
}
```

Example Response

```
{
  "lastRetrieved": 1459293889088,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.3.2 Update a file type

Operation: POST /operations/v1.1/filetype/{fileName}

Description: Update name and description of a file type.

URL Parameters

Parameter	Required	Description	Data Type
fileName	Yes	File Type name to be updated	String

--	--	--	--

Object Schema

Parameter	Required	Description	Data Type
name	Yes	Unique name representing the file.	String
fileName	Yes	The TR-069 name representing the file's type. Example value: "Firmware Image"	String
version	Yes	The version of the file.	String
downloadPath	Yes	The download path used by the device to retrieve the file.	String
recommended	Yes	Whether this file should be treated as a performed version.	Boolean
productClass	No	The product class that this file is relevant for.	String
targetName	No	The name of the file to be used on the target file system.	String
fileSize	No	The size of the file in bytes. This is meant as a hint to the device.	Unsigned Int
delay	No	For unicast download, the number of seconds the device should delay before making the download request. For multicast download, the number of seconds available for initiating, performing, and applying the download.	Unsigned Int
downloadUsername	No	Username to be used by the device to authenticate with the file server.	String
downloadPassword	No	Password to be used by the device to authenticate with the file server.	String

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/operations/v1.1/fileType/FirmwareImage HTTP/1.1
```

```
{
  "delay": 60,
  "fileSize": 12345,
  "fileName": "Firmware Image",
  "name": "New MyFile Test 2",
  "productClass": "DEFAULT",
  "recommended": false,
  "version": "1.2.4",
  "targetName": "test.file",
  "downloadPath": "http://fileserversw.com.cisco.example.ExTest7-0.1.7.jar",
  "downloadUsername": "testuser",
  "downloadPassword": "testpass"
}
```

Example Response

```
{
  "lastRetrieved": 1459293889088,
  "responseStatus": {
    "code": 0,
```

```
"messageCode": "msg.operation_completed_successfully",
"message": "Operation Completed Successfully"
}
}
```

5.3.3 Delete a file type

Operation: DELETE /operations/v1.1/fileType/{name}

Description: Deletes a file type according to file type name.

URL Parameters

Parameter	Required	Description	Data Type
Name	Yes	File Type name	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion

500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
DELETE http://hostname:port/panorama-ui/nbi/operations/v1.1/fileType/MyFileType HTTP/1.1
```

Example Response

```
{
  "lastRetrieved": 1459639485858,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.3.4 Create a file

Operation: PUT /operations/v1.1/fileManagement/

Description: Create a new device file.

URL Parameters

Parameter	Required	Description	Data Type

Object Schema

Parameter	Required	Description	Data Type
name	Yes	Unique name representing the file.	String
fileName	Yes	The TR-069 name representing the file's type. Example value: "Firmware Image"	String
version	Yes	The version of the file.	String
downloadPath	Yes	The download path used by the device to retrieve the file.	String
recommended	Yes	Whether this file should be treated as a performed version.	Boolean
productClass	No	The product class that this file is relevant for.	String
targetName	No	The name of the file to be used on the target file system.	String
fileSize	No	The size of the file in bytes. This is meant as a hint to the device.	Unsigned Int
delay	No	For unicast download, the number of seconds the device should delay before making the download request. For multicast download, the number of seconds available for initiating, performing, and applying the download.	Unsigned Int
downloadUsername	No	Username to be used by the device to authenticate with the file server.	String
downloadPassword	No	Password to be used by the device to authenticate with the file server.	String

Response Parameters

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

--	--	--	--

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
PUT http://hostname:port/panorama-ui/nbi/operations/v1.1/fileManagement/ HTTP/1.1
```

```
{
  "name": "file 1",
  "fileName": "Firmware Image",
  "softwareVersion": "1.2.3",
  "url": "http://google.com",
  "productClass": "fast5260",
  "recommended": true
}
```

Example Response

```
{
  "fileId": 1000001,
  "name": "file 1",
  "fileType": 1,
  "fileName": "Firmware Image",
  "softwareVersion": "1.2.3",
  "isMinVersionSupport": false,
  "coreUpdated": 1459639485689,
  "url": "http://google.com",
  "updated": 1459639485689,
  "productClass": "fast5260",
  "recommended": true,
  "lastRetrieved": 1459639485689,
  "responseStatus": {
```

```
"code": 0,
"messageCode": "msg.operation_completed_successfully",
"message": "Operation Completed Successfully"
}
}
```

5.3.5 Update a file

Operation: POST /operations/v1.1/fileManagement/{fileName}

Description: Update device file

URL Parameters

Parameter	Required	Description	Data Type
fileName	Yes	Device File name	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion

500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

POST http://hostname:port/panorama-ui/nbi/operations/v1.1/fileManagement/File2 HTTP/1.1

```
{
  "name": "File2",
  "fileName": "Firmware Image",
  "softwareVersion": "1.2",
  "url": "http://walla.com",
  "productClass": "WNDR3400"
}
```

Example Response

```
{
  "fileId": 1002,
  "name": "File 2",
  "fileType": 108,
  "fileName": "Firmware Image",
  "softwareVersion": "1.2",
  "isMinVersionSupport": true,
  "coreUpdated": 1459639485689,
  "url": "http://walla.com",
  "updated": 1459639485689,
  "productClass": "WNDR3400",
  "lastRetrieved": 1459639485689,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.3.6 Delete a file

Operation: DELETE /operations/v1.1/fileManagement/{fileName}

Description: Delete device file.

URL Parameters

Parameter	Required	Description	Data Type
fileName	Yes	Device File ID	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

DELETE http://hostname:port/panorama-ui/nbi/operations/v1.1/fileManagement/FirmwareImage HTTP/1.1

Example Response

```
{
  "lastRetrieved": 1459639485858,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.3.7 Get device files

Operation: GET /operations/v1.1/fileManagement/

Description: Get all the device files in the system.

URL Parameters

Parameter	Required	Description	Data Type

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

--	--	--	--

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/operations/v1.1/fileManagement/
```

Example Response

```
{
  "deviceFileList": [
    {
      "fileId": 1001,
      "name": "File 1",
      "fileType": 1,
      "fileName": "Firmware Image",
      "softwareVersion": "1.2.3",
      "isMinVersionSupport": true,
      "coreUpdated": 1464390797654,
      "targetName": "target name",
      "url": "http://google.com",
      "password": "1234",
      "delay": 12,
      "updated": 1464390797654,
      "productClass": "fast5260",
      "recommended": true
    },
    {
      "fileId": 1002,
      "name": "File 2",
      "fileType": 108,
```

```

    "fileName": "DLC Firmware",
    "softwareVersion": "1.2",
    "isMinVersionSupport": true,
    "coreUpdated": 1464390797654,
    "url": "http://walla.com",
    "updated": 1464390797654,
    "productClass": "WNDR3400",
    "recommended": true
  }
],
"lastRetrieved": 1464390797654,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}

```

5.4 Firmware upgrade batch processing APIs

5.4.1 Create firmware upgrade batch

Operation: PUT /operations/v1.1/firmwareUpgradeBatch/{batchName}

Description: Creates a schedule firmware upgrade batch in the Prime Home Inventory

URL Parameters

Parameter	Required	Description	Data Type
batchName	Yes	Firmware upgrade batch name	String

Object Schema

Parameter	Required	Description	Data Type
batchName	Yes	Batch name to create	

groupName	Yes	The name of the group that the batch will run on. The group should exist in the system	
fileName	Yes	File name for the firmware upgrade action. The file should exist in the system.	
description	No	Description of the batch	
startTimeFilter	No	The batch will run only in this time frame that starts in the given hour. format: hh:mm	
endTimeFilter	No	The batch will run only at this time frame that ends in the given hour. format: hh:mm	
rate	No	Batch rate: the amount of devices that will execute the batch every hour.	
startDate	This field is Optional only if 'isImmediate' field is TRUE	The start date of the batch.	
isImmediate	Optional	True to start the batch in the current time. False, in order to start the batch according to the 'startDate' field.	
submitBatch	Optional	True in order to submit the batch, False, the batch will be in draft state.	

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

PUT http://hostname:port/panorama-ui/nbi/operations/v1.1/ firmwareUpgradeBatch/myBatchName HTTP/1.1

```
{
  "batchName": "batchName",
  "groupName": "groupName",
  "fileName": "fileName",
  "description": "Desc",
  "startTimeFilter": "04:30",
  "endTimeFilter": "11:55",
  "rate": 3,
  "startDate": "11/20/2015 18:04:00",
  "isImmediate": false,
  "submitBatch": true
}
```

Example Response

```
{
  "lastRetrieved": 1459725870647,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.4.2 Get a firmware upgrade batch

Operation: GET /operations/v1.1/firmwareUpgradeBatch/{batchName}

Description: Get firmware upgrade batch according to the given batch name

URL Parameters

Parameter	Required	Description	Data Type
batchName	Yes	Firmware upgrade batch name	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

GET http://hostname:port/panorama-ui/nbi/operations/v1.1/firmwareUpgradeBatch/batchName HTTP/1.1

Example Response

```
{
  "batchName": "myBatchName",
  "groupName": "groupName",
  "fileName": "fileName",
  "description": "Desc",
  "startTimeFilter": "04:30",
  "endTimeFilter": "11:55",
  "rate": 3,
  "startDate": "11/20/2015 18:04:00",
  "isImmediate": false,
  "batchState": "Pending",
  "lastRetrieved": 1459725870729,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.4.3 Submit / Pause / Resume / Cancel a firmware upgrade batch

Operation:

POST /operations/v1.1/firmwareUpgradeBatch/{batchName}/submit

POST /operations/v1.1/firmwareUpgradeBatch/{batchName}/pause

POST /operations/v1.1/firmwareUpgradeBatch/{batchName}/resume

POST /operations/v1.1/firmwareUpgradeBatch/{batchName}/cancel

Description:

Submits the job (i.e. the job's status will be changed to pending or running depends on the job's trigger information) if the job is scheduled this api will scheduled it

Pauses the job's execution and sets its status to PAUSE

Resumes a PAUSED job to be RUNNING or PENDING depends on the trigger

Cancels the batch: stops the job's execution and sets its status to canceled

URL Parameters

Parameter	Required	Description	Data Type
batchName	Yes	Given job name	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/operations/v1.1/ firmwareUpgradeBatch/batchName/pause
HTTP/1.1
```

Example Request

```
POST http://hostname:port/panorama-ui/nbi/operations/v1.1/ firmwareUpgradeBatch/batchName/resume
HTTP/1.1
```

Example Request

```
POST http://hostname:port/panorama-ui/nbi/operations/v1.1/ firmwareUpgradeBatch/batchName/batch
HTTP/1.1
```

Example Request

```
POST http://hostname:port/panorama-ui/nbi/operations/v1.1/ firmwareUpgradeBatch/batchName/ cancel
HTTP/1.1
```

Example Response

```
{
  "lastRetrieved": 1459812337803,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.5 Tag management APIs

5.5.1 Create a tag

Operation: PUT /operations/v1.1/tags/{name}?color={colorCode}&visibility={vis}&categoryId={id}

Description: Creates a tag.

URL Parameters

Parameter	Required	Description	Data Type
name	Yes	Name of tag	String

Request Parameters

Parameter	Required	Description	Data Type
color	No	Color in HEX format. Default is no color.	String
visibility	No	0 = invisible (default), 1 = visible	Integer
categoryId	No	category id. if null, use default.	Integer

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout

401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
-----	-----	-----	---

Example Request

```
PUT http://hostname:port/panorama-ui/nbi/operations/v1.1/tags/{name}?visibility=1 HTTP/1.1
```

Example Response

```
{
  "lastRetrieved": 1459812337803,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.5.2 Update a tag

Operation:

POST/operations/v1.1/tags/{name}?color={colorCode}&newName={newName}&visibility={vis}&categoryId={id}

Description: Update tag.

URL Parameters

Parameter	Required	Description	Data Type
name	Yes	Name of tag	String

Request Parameters

Parameter	Required	Description	Data Type
newName	Yes	New name for updated tag	
color	Yes	New color for tag	String
visibility	Yes	New visibility for tag	Integer
categoryId	Yes	.ID of category for tag	Integer

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

POST http://hostname:port/panorama-

ui/nbi/operations/v1.1/tags/tagName?newName=newTagName&color=FFF&visibility=1 HTTP/1.1

Example Response

```
{
  "lastRetrieved": 1459812337803,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.5.3 Delete a tag

Operation: DELETE /operations/v1.1/tags/{name}

Description: Delete a tag from the system

URL Parameters

Parameter	Required	Description	Data Type
name	Yes	Name of tag to be deleted	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

--	--	--	--

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
DELETE http://hostname:port/panorama-ui/nbi/operations/v1.1/tags/myTag HTTP/1.1
```

Example Response

```
{
  "lastRetrieved": 1459899040673,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

5.5.4 Get all tags

Operation: GET /operations/v1.1/tags?loadSystemOnly={value}

Description: Get all tags

URL Parameters

Parameter	Required	Description	Data Type
loadSystemOnly	Yes	If set to true, the call will return only system-tags. Default is false.	Boolean

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

GET http://hostname:port/panorama-ui/nbi/operations/v1.1/tags?loadSystemOnly=false HTTP/1.1

Example Response

```
{
  "tags": [
    {
      "id": 1010001,
      "value": "NY",
      "createdBy": "jdoe@somewhere.org",
      "createdDate": 1428855684000,
      "color": "#66cd00",
      "enabled": 1,
      "type": "USER_TAG",
      "category": {
        "id": 1000,
        "name": "Market Area"
      },
      "visibility": 0
    },
    {
      "id": 1,
      "value": "OFFLINE_UNPROVISIONED",
      "description": "Devices that were unprovisioned while offline, and thus failed to complete SPV as part of unprovisioning",
      "createdBy": "System",
      "createdDate": 1428851787000,
      "color": "#999999",
      "enabled": 1,
      "type": "SYSTEM_TAG",
      "category": {
        "id": 0,
        "name": "DEFAULT"
      },
      "visibility": 0
    }
  ],
  "categories": [
    {
      "id": 0,
      "name": "DEFAULT"
    },
    {
      "id": 1000,
      "name": "Market Area"
    }
  ],
  "lastRetrieved": 1459899040679,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
  }
}
```



```
"message": "Operation Completed Successfully"
}
```

5.5.5 Assign tags to a device

Refer to 4.1.15 and 4.1.16

5.5.6 Remove tags from a device

Refer to 4.1.17

6 Software Service APIs

This section describes the API provided by Prime Home to perform actions related to software services and software modules management.

6.1 Inventory Management APIs

6.1.1 Add Software Module by name + vendor

Operation: PUT /operations/v1.1/softwareModule/{vendor}/{name}

Description: Add a software module to the inventory. This operation inserts a representation of a software module into the Prime Home Inventory. A software module is uniquely identified by the combination of its vendor and name. Multiple versions of the same module can be added to the inventory. Those versions can be added in this request or in separate requests as versions are made available.

URL Parameters

Parameter	Required	Description	Data Type
name	Yes	Name of software module	String
vendor	Yes	Vendor of software module	String

Object Schema

Parameter	Required	Description	Data Type
friendlyName	No	A short alias that is used to display this module. If omitted, the system will generate a unique friendlyName one based on the module name	
description	No	Description of software module	
versions	No	An array of Versions whose entries are the specific software module artifacts that can be downloaded	

version	Yes (if versions is included)	Name of version	
downloadPath	Yes (if versions is included)	The URL used by the device to retrieve the software module from a download service.	
downloadUsername	Yes (if versions is included)	The username to be used by the device for authenticating with the download service.	
downloadPassword	Yes (if versions is included)	The password associated with the username that the device should use to authenticate with the download service. Note, this password is sent as clear text so it is strongly recommended that HTTPS be used to secure and protect the contents.	
preferred	Yes (if versions is included)	If true - marks this version as the preferred version of the module. Each module must have exactly one preferred version	

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout

401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)
-----	-----	-----	---

Example Request

PUT http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareModule/Cisco/module1 HTTP/1.1

```
{
  "name": "module1",
  "friendlyName": "module 1",
  "description": "a module that does X",
  "vendor": "Cisco",
  "versions": [
    {
      "version": "v1",
      "downloadPath": "http://someurl.com/path/v1/module1.jar",
      "downloadUsername": "john.doe",
      "downloadPassword": "12345678",
      "preferred": false
    },
    {
      "version": "v1.2",
      "downloadPath": "http://someurl.com/path/v1.2/module1.jar",
      "downloadUsername": "john.doe",
      "downloadPassword": "12345678",
      "preferred": true
    }
  ]
}
```

Example Response

```
{
  "uuid": "c699d2e8-c289-3753-a9f2-e439923bb21d",
  "name": "module1",
  "friendlyName": "module 1",
  "description": "a module that does X",
  "vendor": "Cisco",
  "versions": [
    {
      "version": "v1",
      "downloadPath": "http://someurl.com/path/v1/module1.jar",
      "downloadUsername": "john.doe",
      "downloadPassword": "12345678",
      "preferred": false
    },
    {
      "version": "v1.2",
```

```

    "downloadPath": "http://someurl.com/path/v1.2/module1.jar",
    "downloadUsername": "john.doe",
    "downloadPassword": "12345678",
    "preferred": true
  },
  "lastRetrieved": 1459899040749,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}

```

6.1.2 Get a software module by name + vendor

Operation: GET /operations/v1.1/softwareModule/{vendor}/{name}

Description: Get a software module

URL Parameters

Parameter	Required	Description	Data Type
name	Yes	Name of software module	String
vendor	Yes	Vendor of software module	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareModule/Cisco/module1 HTTP/1.1
```

Example Response

```
{
  "uuid": "c699d2e8-c289-3753-a9f2-e439923bb21d",
  "name": "module1",
  "friendlyName": "module 1",
  "description": "a module that does X",
  "vendor": "Cisco",
  "versions": [
    {
      "version": "v1",
      "downloadPath": "http://someurl.com/path/v1/module1.jar",
      "downloadUsername": "john.doe",
      "downloadPassword": "12345678",
      "preferred": false
    },
    {
      "version": "v1.2",
      "downloadPath": "http://someurl.com/path/v1.2/module1.jar",
      "downloadUsername": "john.doe",
      "downloadPassword": "12345678",
      "preferred": true
    }
  ],
  "lastRetrieved": 1459985467014,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
  }
}
```

```
"message": "Operation Completed Successfully"
}
}
```

6.1.3 Get a software module by UUID

Operation: GET /operations/v1.1/softwareModule/{uuid}

Description: Returns a single software module from the inventory identified by its TR-069 UUID

URL Parameters

Parameter	Required	Description	Data Type
uuid	Yes	UUID of module	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason

200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareModule/c699d2e8-c289-3753-a9f2-e439923bb21d HTTP/1.1
```

Example Response

```
{
  "uuid": "c699d2e8-c289-3753-a9f2-e439923bb21d",
  "name": "module1",
  "friendlyName": "module 1",
  "description": "a module that does X",
  "vendor": "Cisco",
  "versions": [
    {
      "version": "v1",
      "downloadPath": "http://someurl.com/path/v1/module1.jar",
      "downloadUsername": "john.doe",
      "downloadPassword": "12345678",
      "preferred": false
    },
    {
      "version": "v1.2",
      "downloadPath": "http://someurl.com/path/v1.2/module1.jar",
      "downloadUsername": "john.doe",
      "downloadPassword": "12345678",
      "preferred": true
    }
  ],
  "lastRetrieved": 1459985467014,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

6.1.4 Delete a module by name + vendor

Operation: DELETE /operations/v1.1/softwareModule/{vendor}/{name}

Description: Delete a single software module from the inventory.

URL Parameters

Parameter	Required	Description	Data Type
name	Yes	Name of software module	String
vendor	Yes	Vendor of software module	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error

504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
DELETE http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareModule/Cisco/module1 HTTP/1.1
```

Example Response

```
{
  "lastRetrieved": 1459985466951,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

6.1.5 Delete a module by UUID

Operation: DELETE /operations/v1.1/softwareModule/{uuid}

Description: Delete a single software module from the inventory.

URL Parameters

Parameter	Required	Description	Data Type
uuid	Yes	Uuid of module	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
DELETE http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareModule/c699d2e8-c289-3753-a9f2-e439923bb21d HTTP/1.1
```

Example Response

```
{
  "lastRetrieved": 1460271102948,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

6.1.6 Update a module by name

Operation: POST /operations/v1.1/softwareModule/{vendor}/{name}

Description: Updates a software module

URL Parameters

Parameter	Required	Description	Data Type
name	Yes	Name of software module	String
vendor	Yes	Name of vendor	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error

504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareModule/Cisco/module1 HTTP/1.1
{
  "name": "module1",
  "friendlyName": "module 1",
  "description": "a module that does X",
  "vendor": "Cisco"
}
```

Example Response

```
{
  "uuid": "c699d2e8-c289-3753-a9f2-e439923bb21d",
  "name": "module1",
  "friendlyName": "module 1",
  "description": "a module that does X",
  "vendor": "Cisco",
  "versions": [
    {
      "version": "v1",
      "downloadPath": "http://someurl.com/path/v1/module1.jar",
      "downloadUsername": "john.doe",
      "downloadPassword": "12345678",
      "preferred": false
    },
    {
      "version": "v1.2",
      "downloadPath": "http://someurl.com/path/v1.2/module1.jar",
      "downloadUsername": "john.doe",
      "downloadPassword": "12345678",
      "preferred": true
    }
  ],
  "lastRetrieved": 1460271103025,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

6.1.7 Update a module by UUID

Operation: POST /operations/v1.1/softwareModule/{uuid}

Description: Update a software module

URL Parameters

Parameter	Required	Description	Data Type
uuid	Yes	Uuid of the module	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error

504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareModule/c699d2e8-c289-3753-a9f2-e439923bb21d HTTP/1.1
```

Example Response

```
{
  "uuid": "c699d2e8-c289-3753-a9f2-e439923bb21d",
  "name": "module1",
  "friendlyName": "module 1",
  "description": "a module that does X",
  "vendor": "Cisco",
  "versions": [
    {
      "version": "v1",
      "downloadPath": "http://someurl.com/path/v1/module1.jar",
      "downloadUsername": "john.doe",
      "downloadPassword": "12345678",
      "preferred": false
    },
    {
      "version": "v1.2",
      "downloadPath": "http://someurl.com/path/v1.2/module1.jar",
      "downloadUsername": "john.doe",
      "downloadPassword": "12345678",
      "preferred": true
    }
  ],
  "lastRetrieved": 1460271103025,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

6.1.8 Add software module version

Operation: PUT /operations/v1.1/softwareModule/{vendor}/{name}/{version}

Description: Add a software module version.

URL Parameters

Parameter	Required	Description	Data Type
Vendor	Yes	Vendor name	String
Name	Yes	Name of software module	String
Version	Yes	Version of software module	String

Object Schema

Parameter	Required	Description	Data Type
downloadPath	Yes	The URL used by the device to retrieve the software module from a download service.	
downloadUsername	No	The username to be used by the device for authenticating with the download service.	
downloadPassword	No	The password associated with the username that the device should use to authenticate with the download service. Note, this password is sent as clear text so it is strongly recommended that HTTPS be used to secure and protect the contents.	
preferred	No	Whether this version should be marked as the preferred version of the module. Default is false.	

Response Parameters

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

--	--	--	--

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

PUT http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareModule/Cisco/module1/v1 HTTP/1.1

```
{
  "downloadPath": "http://someurl.com/path/v1/module1.jar",
  "downloadUsername": "john.doe",
  "downloadPassword": "12345678",
  "preferred": false
}
```

Example Response

```
{
  "version": "v1",
  "downloadPath": "http://someurl.com/path/v1/module1.jar",
  "downloadUsername": "john.doe",
  "downloadPassword": "12345678",
  "preferred": false,
  "lastRetrieved": 1460271103025,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

6.1.9 Update software module version

Operation: POST /operations/v1.1/softwareModule/{vendor}/{name}/{version}

Description: Update software module version

URL Parameters

Parameter	Required	Description	Data Type
Vendor	Yes	Vendor name	String
Name	Yes	Name of software module	String
Version	Yes	Version of software module	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error

504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

POST http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareModule/Cisco/module1/v1 HTTP/1.1

```
{
  "version": "v1",
  "downloadPath": "http://someurl.com/path/v1/module1.jar",
  "downloadUsername": "john.doe",
  "downloadPassword": "12345678",
  "preferred": false
}
```

Example Response

```
{
  "version": "v1",
  "downloadPath": "http://someurl.com/path/v1/module1.jar",
  "downloadUsername": "john.doe",
  "downloadPassword": "12345678",
  "preferred": false,
  "lastRetrieved": 1460271103025,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

6.1.10 Delete software module version

Operation: DELETE /operations/v1.1/softwareModule/{vendor}/{name}/{version}

Description: Delete software module version

URL Parameters

Parameter	Required	Description	Data Type
Vendor	Yes	Vendor name	String
Name	Yes	Name of software module	String
Version	Yes	Version of software module	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

DELETE http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareModule/Cisco/module1/v1 HTTP/1.1

Example Response

```
{
  "lastRetrieved": 1460271102948,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

6.1.11 Add a software service

Operation: PUT /operations/v1.1/softwareService/{name}

Description: This operation creates a Software Service in the Prime Home Inventory. It can also optionally associate pre-created software modules when the service is created.

URL Parameters

Parameter	Required	Description	Data Type
Name	Yes	Name of software service	String

Object Schema

Parameter	Required	Description	Data Type
description	No	Description of software service	
version	Yes	Version of software service	
softwareModules	No	An array of software modules to add to this service. Each module in this array must be	

		pre-created - you cannot create a software-module using this operation	
vendor	No	Vendor of module to include. Required if module is specified by vendor+name	
name	No	Name of module to include. Required if module is specified by vendor+name	
uuid	No	UUID of module to include. Required if module is specified by UUID. If both uuid, name and vendor are specified - module is searched by UUID	
version	No	Version of module to add to service. If omitted, preferred version will be used each time the service is installed	
version	Yes	Name of version to add to service	

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

PUT http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareService/service-a HTTP/1.1

```
{
  "description": "service with 2 modules",
  "version": "1.0",
  "softwareModules": [
    {
      "name": "module2",
      "vendor": "Cisco",
      "version": {
        "version": "4.2"
      }
    },
    {
      "name": "module3",
      "vendor": "Cisco",
      "version": {
        "version": "2.4.2.5"
      }
    },
    {
      "name": "module1",
      "vendor": "Cisco",
      "version": {
        "version": "1.4"
      }
    }
  ]
}
```

Example Response

```
{
  "name": "service a",
  "description": "service with 2 modules",
  "version": "1.0",
  "softwareModules": [
    {
      "uuid": "1624612a-4eab-3410-b1d2-2315c9dcbaa0",
      "name": "module2",
      "description": "a module that does Y",
      "vendor": "Cisco",
      "version": {
        "version": "4.2",
        "downloadPath": "http://someurl.com/path/module2.jar",
        "downloadUsername": "admin",
        "downloadPassword": "admin",
        "autostartEnabled": false,
        "preferred": true
      }
    },
  ],
}
```

```

{
  "uuid": "26e6124b-4eab-3420-11d2-0415c9f3d41c",
  "name": "module3",
  "description": "a module that does Z",
  "vendor": "Cisco",
  "version": {
    "version": "2.4.2.5",
    "downloadPath": "http://someurl.com/path/module3.jar",
    "downloadUsername": "admin",
    "downloadPassword": "admin",
    "autostartEnabled": true,
    "preferred": true
  }
},
{
  "uuid": "36e4374c-4eab-3420-f1d2-3315c92dd11b",
  "name": "module1",
  "description": "a module that does X+",
  "vendor": "Cisco",
  "version": {
    "version": "1.4",
    "downloadPath": "http://someurl.com/path/module1-v1.4.jar",
    "downloadUsername": "admin",
    "downloadPassword": "admin",
    "autostartEnabled": true,
    "preferred": true
  }
}
],
"batches": [
  "batch 1",
  "batch 2"
],
"configSets": [
  "config set 2",
  "config set 1"
],
"lastRetrieved": 1460330722574,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}

```

6.1.12 Update a service

Operation: POST /operations/v1.1/softwareService/{name}

Description: Update software service

URL Parameters

Parameter	Required	Description	Data Type
name	Yes	Name of software service	

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

POST http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareService/service-a HTTP/1.1

Example Response

```
{
  "name": "service-a",
  "description": "service with 2 modules",
  "version": "1.0",
  "softwareModules": [
    {
      "uuid": "1624612a-4eab-3410-b1d2-2315c9dcbaa0",
      "name": "module2",
      "description": "a module that does Y",
      "vendor": "Cisco",
      "version": {
        "version": "4.2",
        "downloadPath": "http://someurl.com/path/module2.jar",
        "downloadUsername": "admin",
        "downloadPassword": "admin",
        "autostartEnabled": false,
        "preferred": true
      }
    },
    {
      "uuid": "26e6124b-4eab-3420-11d2-0415c9f3d41c",
      "name": "module3",
      "description": "a module that does Z",
      "vendor": "Cisco",
      "version": {
        "version": "2.4.2.5",
        "downloadPath": "http://someurl.com/path/module3.jar",
        "downloadUsername": "admin",
        "downloadPassword": "admin",
        "autostartEnabled": true,
        "preferred": true
      }
    },
    {
      "uuid": "36e4374c-4eab-3420-f1d2-3315c92dd11b",
      "name": "module1",
      "description": "a module that does X+",
      "vendor": "Cisco",
      "version": {
        "version": "1.4",
        "downloadPath": "http://someurl.com/path/module1-v1.4.jar",
        "downloadUsername": "admin",
        "downloadPassword": "admin",
        "autostartEnabled": true,
        "preferred": true
      }
    }
  ]
}
```

```
}
],
"batches": [
  "batch 1",
  "batch 2"
],
"configSets": [
  "config set 2",
  "config set 1"
],
"lastRetrieved": 1460330722574,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}
```

6.1.13 Delete a service

Operation: DELETE /operations/v1.1/softwareService/{name}

Description: Delete a software service

URL Parameters

Parameter	Required	Description	Data Type
name	Yes	Name of software service	String

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
DELETE http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareService/service-a HTTP/1.1
```

Example Response

```
{
  "lastRetrieved": 1460330722511,
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

6.1.14 Get a software service

Operation: GET /operations/v1.1/softwareService/{name}?getBatches={value}&getConfigSets={value}

Description: Get a software service

URL Parameters

Parameter	Required	Description	Data Type
name	Yes	Name of software service	String

Object Schema

Parameter	Required	Description	Data Type

Request Parameters

Parameter	Required	Description	Data Type
getBatches		If true, include list of all batch names associated with each service (Default = false)	Boolean
getConfigSets		If true, include list of all configuration-set names associated with each service	Boolean

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareService/service-a?getBatches=true&getConfigSets=true HTTP/1.1
```

Example Response

```
{
  "name": "service a",
  "description": "Service with 2 modules",
  "version": "1.0",
  "softwareModules": [
    {
      "uuid": "1624612a-4eab-3410-b1d2-2315c9dcbaa0",
      "name": "module2",
      "description": "a module that does Y",
      "vendor": "Cisco",
      "version": {
        "version": "4.2",
        "downloadPath": "http://someurl.com/path/module2.jar",
        "downloadUsername": "admin",
        "downloadPassword": "admin",
        "autostartEnabled": false,
        "preferred": true
      }
    },
    {
      "uuid": "26e6124b-4eab-3420-11d2-0415c9f3d41c",
      "name": "module3",
      "description": "a module that does Z",
      "vendor": "Cisco",
      "version": {
        "version": "2.4.2.5",
        "downloadPath": "http://someurl.com/path/module3.jar",

```

```

    "downloadUsername": "admin",
    "downloadPassword": "admin",
    "autostartEnabled": true,
    "preferred": true
  }
},
{
  "uuid": "36e4374c-4eab-3420-f1d2-3315c92dd11b",
  "name": "module1",
  "description": "a module that does X+",
  "vendor": "Cisco",
  "version": {
    "version": "1.4",
    "downloadPath": "http://someurl.com/path/module1-v1.4.jar",
    "downloadUsername": "admin",
    "downloadPassword": "admin",
    "autostartEnabled": true,
    "preferred": true
  }
}
],
"batches": [
  "batch 1",
  "batch 2"
],
"configSets": [
  "config set 2",
  "config set 1"
],
"lastRetrieved": 1460330722574,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
}

```

6.1.15 Get all software services

Operation: GET /operations/v1.1/softwareServices

Description: This operation returns all defined software services in the inventory.

URL Parameters

Parameter	Required	Description	Data Type

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/operations/v1.1/softwareServices HTTP/1.1
```

Example Response

```

{
  "services": [
    {
      "name": "service a",
      "description": "service with 2 modules",
      "version": "1.0",
      "softwareModules": [
        {
          "uuid": "1624612a-4eab-3410-b1d2-2315c9dcbaa0",
          "name": "module2",
          "description": "a module that does Y",
          "vendor": "Cisco",
          "version": {
            "version": "4.2",
            "downloadPath": "http://someurl.com/path/module2.jar",
            "downloadUsername": "admin",
            "downloadPassword": "admin",
            "autostartEnabled": false,
            "preferred": true
          }
        },
        {
          "uuid": "26e6124b-4eab-3420-11d2-0415c9f3d41c",
          "name": "module3",
          "description": "a module that does Z",
          "vendor": "Cisco",
          "version": {
            "version": "2.4.2.5",
            "downloadPath": "http://someurl.com/path/module3.jar",
            "downloadUsername": "admin",
            "downloadPassword": "admin",
            "autostartEnabled": true,
            "preferred": true
          }
        },
        {
          "uuid": "36e4374c-4eab-3420-f1d2-3315c92dd11b",
          "name": "module1",
          "description": "a module that does X+",
          "vendor": "Cisco",
          "version": {
            "version": "1.4",
            "downloadPath": "http://someurl.com/path/module1-v1.4.jar",
            "downloadUsername": "admin",
            "downloadPassword": "admin",
            "autostartEnabled": true,
            "preferred": true
          }
        }
      ]
    },
    {
      "batches": [
        "batch 1",
        "batch 2"
      ]
    }
  ]
}

```

```

],
"configSets": [
  "config set 2",
  "config set 1"
],
"lastRetrieved": 1460330722574,
"responseStatus": {
  "code": 0,
  "messageCode": "msg.operation_completed_successfully",
  "message": "Operation Completed Successfully"
}
},
{
  "name": "service b",
  "description": "service with 3 modules",
  "version": "1.0",
  "softwareModules": [
    {
      "uuid": "1624612a-4eab-3410-b1d2-2315c9dcbaa0",
      "name": "module2",
      "description": "a module that does Y",
      "vendor": "Cisco",
      "version": {
        "version": "4.2",
        "downloadPath": "http://someurl.com/path/module2.jar",
        "downloadUsername": "admin",
        "downloadPassword": "admin",
        "autostartEnabled": false,
        "preferred": true
      }
    },
    {
      "uuid": "26e6124b-4eab-3420-11d2-0415c9f3d41c",
      "name": "module3",
      "description": "a module that does Z",
      "vendor": "Cisco",
      "version": {
        "version": "2.4.2.5",
        "downloadPath": "http://someurl.com/path/module3.jar",
        "downloadUsername": "admin",
        "downloadPassword": "admin",
        "autostartEnabled": true,
        "preferred": true
      }
    },
    {
      "uuid": "36e4374c-4eab-3420-f1d2-3315c92dd11b",
      "name": "module1",
      "description": "a module that does X+",
      "vendor": "Cisco",
      "version": {
        "version": "1.4",
        "downloadPath": "http://someurl.com/path/module1-v1.4.jar",

```

```

        "downloadUsername": "admin",
        "downloadPassword": "admin",
        "autostartEnabled": true,
        "preferred": true
    }
}
],
{
    "name": "service c",
    "description": "service with 1 module",
    "version": "1.0",
    "softwareModules": [
        {
            "uuid": "1624612a-4eab-3410-b1d2-2315c9dcbaa0",
            "name": "module2",
            "description": "a module that does Y",
            "vendor": "Cisco",
            "version": {
                "version": "4.2",
                "downloadPath": "http://someurl.com/path/module2.jar",
                "downloadUsername": "admin",
                "downloadPassword": "admin",
                "autostartEnabled": false,
                "preferred": true
            }
        }
    ]
}
],
"lastRetrieved": 1460330722574,
"responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
}
}

```

6.2 Software Services / Modules deployment APIs

6.2.1 Install / uninstall a software module

Operation: POST /netmap/v1.1/device/{deviceId}/softwareModule?sync={sync}&token={token}

Description: Perform operations to manage modular software (deployment units) and execution environments on a CPE. Capabilities provided include the ability to request install and uninstall software modules.

A module can be identified either by uuid, uuid+version, vendor+name, or vendor+name+version.

If version is not specified -

If INSTALL - preferred version is chosen

If UNINSTALL - version installed on device is chosen, but only if it is the only version of specified module

URL Parameters

Parameter	Required	Description	Data Type
deviceid	Yes	Device Identifier	String

Object Schema

Parameter	Required	Description	Data Type

Request Query Parameters

Parameter	Required	Description	Data Type
sync	Yes	synchronization type (SYNC / ASYNC) Default = SYNC	String
token	Yes	Long polling token	String

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/netmap/v1.1/device/SerialNumberGw=SN12355/softwareModule
HTTP/1.1
```

```
{
  "modules": [
    {
      "uuid": "1624612a-4eab-3410-b1d2-2315c9dcbaa0",
      "version": {
        "version": "4.2"
      },
      "installCommand": "INSTALL"
    },
    {
      "name": "com.cisco.module_3",
      "vendor": "Cisco",
      "version": {
        "version": "2.4.2.5"
      },
      "installCommand": "UNINSTALL"
    }
  ]
}
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
```

```
"messageCode": "msg.operation_completed_successfully",  
  
"message": "Operation Completed Successfully"  
  
}  
  
}
```

6.2.2 Get the state of a software module

Operation: GET /netmap/v1.1/device/{deviceId}/softwareModule?sync&token

Description: Get states of modules that are installed on device, or are planned to be installed on device via configuration set or previous request

URL Parameters

Parameter	Required	Description	Data Type
deviceId	Yes	Device Identifier	String

Object Schema

Parameter	Required	Description	Data Type

Request Query Parameters

Parameter	Required	Description	Data Type
Staleness	Yes	This input parameter that can be provided by most of the GET function calls, dictates how up-to-date the NBI client wish the parameter values to be If any of the parameters last retrieved from device earlier that staleness, all	String

		parameters included in the requested resource will be retrieved from device.	
Sync	Yes	Defines operation mode of the method. SYNC means that the method will return will block until operation is completed. It can take long time. ASYNC means that the invoked method will return immediately with data from database and long-polling should be used to get updated data. Default = sync	String
token	No	Used in log polling	

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-ui/nbi/ netmap/v1.1/device/{deviceId}/softwareModule HTTP/1.1
```

Example Response

```

{
  "modules": [
    {
      "uuid": "1624612a-4eab-3410-b1d2-2315c9dcbaa0",
      "name": "com.cisco.module_2",
      "friendlyName": "module 2",
      "vendor": "Cisco",
      "version": {
        "version": "4.2",
        "preferred": false
      },
      "installState": "INSTALLING",
      "executionState": "IDLE",
      "progressState": "SENT_TO_DEVICE"
    },
    {
      "uuid": "26e6124b-4eab-3420-11d2-0415c9f3d41c",
      "name": "com.cisco.module_3",
      "friendlyName": "module 3",
      "vendor": "Cisco",
      "version": {
        "version": "2.4.2.5",
        "preferred": true
      },
      "installState": "UNINSTALLING",
      "executionState": "IDLE",
      "progressState": "SUCCESS"
    },
    {
      "uuid": "2632454b-4256-3234-11d2-04112112111c",
      "name": "com.cisco.module_4",
      "friendlyName": "module 4",
      "vendor": "Cisco",
      "version": {
        "version": "5",
        "preferred": true
      },
      "installState": "UPDATING",
      "executionState": "IDLE",
      "progressState": "AWAITING_DEVICE"
    }
  ]
}

```

6.2.3 Start a software module

Operation: POST

/netmap/v1.1/device/{deviceId}/softwareModule/{uuid}/start?version={var}&sync={sync}&token={token}

Description: Starts a Software-Module on a device. Module must be already installed on device.

URL Parameters

Parameter	Required	Description	Data Type
deviceid	Yes	Device identifier	
uuid	Yes	uuid	

Object Schema

Parameter	Required	Description	Data Type

Request Query Parameters

Parameter	Required	Description	Data Type
Version	Yes	Version of module	
Sync	Yes	Defines operation mode of the method. SYNC means that the method will return will block until operation is completed. It can take long time. ASYNC means that the invoked method will return immediately with data from database and long-polling should be used to get updated data. Default = sync	
token	No	Used in long polling	

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/
netmap/v1.1/device/SerialNumberGw=SN12345/softwareModule/1231241-121323-123123-
1231323/start?version=v1 HTTP/1.1
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

6.2.4 Stop a software module

Operation: POST

/netmap/v1.1/device/{deviceId}/softwareModule/{uuid}/stop?version={ver}&sync={sync}&token={token}

Description: Stops a Software-Module on a device. Module must be already installed on device.

URL Parameters

Parameter	Required	Description	Data Type
Deviceid	Yes	Device Identifier	
uuid	Yes	uuid	

Object Schema

Parameter	Required	Description	Data Type

Request Query Parameters

Parameter	Required	Description	Data Type
Version	Yes	Version of module	
Sync	Yes	Defines operation mode of the method. SYNC means that the method will return will block until operation is completed. It can take long time. ASYNC means that the invoked method will return immediately with data from database and long-polling should be used to get updated data. Default = sync	
token	No	Used in long polling	

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-
ui/nbi/netmap/v1.1/device/SerialNumberGw=SN12345/softwareModule/123456-123456-123455-
1234555/stop?version=v1 HTTP/1.1
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

6.2.5 Install / uninstall a software service

Operation: POST

/netmap/v1.1/device/{deviceId}/softwareService?postponeOperations={val}&sync={sync}&token={token}

Description: Perform service operations - Install or uninstall software-services. This operation returns when the request has been submitted for delivery to the device. The return status does not reflect device interaction.

URL Parameters

Parameter	Required	Description	Data Type
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deviceid	Yes	Device Identifier	String

Object Schema

Parameter	Required	Description	Data Type

Request Query Parameters

Parameter	Required	Description	Data Type
postponeOperations	Yes	If true, operation will be performed on the next event from device. If false - operation will be performed immediately. Default = false	Boolean
Sync	Yes	Defines operation mode of the method. SYNC means that the method will return will block until operation is completed. It can take long time. ASYNC means that the invoked method will return immediately with data from database and long-polling should be used to get updated data. Default = sync	String
token	No	Used in long polling	String

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/
netmap/v1.1/device/SerialNumberGw=SN12345/softwareService?postponeOperations=true HTTP/1.1
```

```
{
  "serviceOperations": [
    {
      "name": "service 1",
      "configuredCommand": "INSTALL"
    },
    {
      "name": "service 2",
      "configuredCommand": "UNINSTALL"
    }
  ]
}
```

Example Response

```
{
  "responseStatus": {
    "code": 0,
    "messageCode": "msg.operation_completed_successfully",
    "message": "Operation Completed Successfully"
  }
}
```

7 Administrative APIs

This section describes the APIs provided by Prime Home to perform actions related to administrative aspect of the system, such as: configuration management, backup and restore etc.

7.1 Export tags

Operation: POST operations/v1.1/tags/export/?tagsNamesList

Description: Export tags to Json file

URL Parameters

Parameter	Required	Description	Data Type

Object Schema

Parameter	Required	Description	Data Type

Request Query Parameters

Parameter	Required	Description	Data Type
tagsNamesList	Yes	Names of tags separated by comma	

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/operations/v1.1/tags/export/?tagsNamesList HTTP/1.1
```

Example Response

7.2 Import tags

Operation: POST /operations/v1.1/tags/import

Description: Import tags from files with json

URL Parameters

Parameter	Required	Description	Data Type

Object Schema

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/operations/v1.1/tags/import HTTP/1.1
```

Example Response

7.3 Export device profiles

Operation: GET /operations/v1.1/deviceProfiles/export/?parentDeviceProfileIdentity={id}

Description: Export Device Profiles to JSon file

URL Parameters

Parameter	Required	Description	Data Type
parentDeviceProfileIdentity	Yes	Identity of the exported Device Profile	String

Object Schema

Parameter	Required	Description	Data Type

Request Query Parameters

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason

200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-
ui/nbi/operations/v1.1/deviceProfiles/export/?parentDeviceProfileIdentity=DefaultGateway HTTP/1.1
```

Example Response

7.4 Import device profiles

Operation: POST /operations/v1.1/deviceProfiles/import

Description: Import device profiles

URL Parameters

Parameter	Required	Description	Data Type
N/A			

Object Schema

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

Profiles to import	Yes	A json file that describes the profile(s) that are required to be imported	File
--------------------	-----	--	------

Response Parameters

Parameter	Required	Description	Data Type
N/A	Yes	A json file that describes the ex	

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/operations/v1.1/deviceProfiles/import HTTP/1.1
```

Example Response

7.5 Export configuration sets

Operation: GET /operations/v1.1/configurationSets/export/?parentConfigSetName={csetName}

Description: Export configuration set

URL Parameters

Parameter	Required	Description	Data Type
parentConfigSetName	Yes	Name of configuration set	String

Object Schema

Parameter	Required	Description	Data Type

Request Query Parameters

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error

504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
GET http://hostname:port/panorama-
ui/nbi/operations/v1.1/configurationSets/export?parentConfigSetName=myCset HTTP/1.1
```

Example Response

7.6 Import configuration sets

Operation: POST /operations/v1.1/configurationSets/import?parentConfigSetName&replaceAllCsets

Description: Import configuration sets from uploadedInputStream under configSetId, or replace all Config sets

URL Parameters

Parameter	Required	Description	Data Type
parentConfigSetName	Yes	Name of configuration set	Boolean
replaceAllCsets	Yes	Set to true to replace all existing configuration sets in the system with imported configuration sets, false if we only want to add importing	String

Object Schema

Parameter	Required	Description	Data Type

Request Query Parameters

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-
ui/nbi/operations/v1.1/configurationSets/import?parentConfigSetName=cSet&replaceAllCsets=true HTTP/1.1
```

Example Response

7.7 Export workflow templates

Operation: POST /operations/v1.1/wfTemplates/export/?wfTemplatesNamesList

Description: Export workflow templates

URL Parameters

Parameter	Required	Description	Data Type
wfTemplatesNamesList	Yes	names of workflow templates separated by comma	String

Object Schema

Parameter	Required	Description	Data Type

Request Query Parameters

Parameter	Required	Description	Data Type

Response Parameters

Parameter	Required	Description	Data Type

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Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-
ui/nbi/operations/v1.1/wfTemplates/export/?wfTemplatesNamesList=wf1,wf2,wf3 HTTP/1.1
```

Example Response

7.8 Import workflow templates

Operation: POST /operations/v1.1/wfTemplates/import

Description: Import workflow templates

URL Parameters

Parameter	Required	Description	Data Type
-----------	----------	-------------	-----------

Object Schema

Parameter	Required	Description	Data Type
WF import	Yes	A json file that contains the imported workflow templates	

Response Parameters

Parameter	Required	Description	Data Type

Response Messages

HTTP Status Codes	Prime Home Code	Message	Reason
200	0	msg.operation_completed_successfully	Successful completion
500	999	msg.internal_error	Internal server error
504	N/A	N/A	Gateway timeout
401	N/A	N/A	Unauthorized – no permission to access the resource (bad NBI user/password)

Example Request

```
POST http://hostname:port/panorama-ui/nbi/operations/v1.1/wfTemplates/import HTTP/1.1
```

Example Response

