



baramundi  
Connect

## Reference

*Empower your IT*

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## Revision History

Version	Author	Description
bMS 2021 R2 bConnect V1.1	MLA	- Added new value "Installation deadline" to inventoried updates
bMS 2021 R2 bConnect V1.1	MMU	- Added description of MicrosoftUpdateManagementSettings Controller
bMS 2021 R2 bConnect V1.1	TST	- Variable definitions and variables extended by scopes "NetworkDevice" and "OTDevice"
bMS 2021 R2 bConnect V1.1	MSC	- Extended Endpoint by property "WindowsModernManagementData"
bMS 2021 R2 bConnect V1.1	BRI / DK	- Extended Endpoint by properties "UpdateState" "DoNotDisturbUntil" "DoNotDisturbActive"
bMS 2021 R2 bConnect V1.1	PWE	- Extended controller <i>Endpoints</i> by adding POST/PATCH/DELETE operations for Endpoints of type NetworkEndpoint
bMS 2021 R2 bConnect V1.1	BRI	- Extended Endpoint by property "GuidMicrosoftUpdateProfile"
bMS 2021 R1 bConnect V1.1	SFO	- Added IpNetworksController
bMS 2021 R1 bConnect V1.1	BRI	- Extended Endpoint by properties "DeferredUpdatesCount" "BlockedUpdatesCount"
bMS 2021 R1 bConnect V1.1	AC	- Introduced "ModernEnrollmentController"
bMS 2021 R1 bConnect V1.1	POE	- Extended controller <i>Endpoints</i> by property "MacEnrollmentType"
bMS 2021 R1 bConnect V1.1	LST	- Extended <i>Endpoints</i> controller by properties for Microsoft Defender - Introduced <i>MicrosoftDefenderThreats</i> controller
bMS 2021 R1 bConnect V1.1	CK	- Extended controller <i>Endpoints</i> by properties "IsBitLockerStartupPinEnabled" "IsBitLockerStartupUsbKeyEnabled"
bMS 2021 R1 bConnect V1.1	BB	- Introduced MicrosoftUpdateProfiles Controller - Extended Endpoint by property "MicrosoftUpdateProfile"
bMS 2020 R2 bConnect V1.1	SFO	Extended Endpoint by property "PrimarySubnetMask"
bMS 2020 R2 bConnect V1.1	SF	- Extended EndpointEnrollment controller by optional "EmailLanguageId" property. <b>Change in default behavior: If the parameter for the email language is not specified, the English default template is used.</b> - Extended VPPUsersController by optional "EmailLanguageId" property. - Extended Endpoint by properties: "EmailLanguageId" "EmailRecipient" - Extended VPPUser by optional "EmailLanguageId" property
bMS 2020 R2 bConnect V1.1	LST	- Introduced VulnerabilityExclusions controller
bMS 2020 R2	SKL	- Extended Endpoint by property

bConnect V1.1		"DedicatedDeviceModeEnabled"
bMS 2020 R2 bConnect V1.1	ACH	Introduced <i>ComplianceViolations</i> Controller
bMS 2020 R2 bConnect V1.1	MMU	- Extended Endpoint by properties "LastUpdateInventoryDate" "UpdateInventorySource" "MissingCriticalUpdatesCount" "MissingSecurityUpdatesCount" "MissingOtherUpdatesCount" "LastSuccessfulUpdateDate" "LastSuccessfulUpdateSource"
bMS 2020 R2 bConnect V1.1	ACH	- Extended Endpoint by property "HasAppleAppUpdates"
bMS 2020 R2 bConnect V1.1	BRI	- Extended steps for windows job by step <i>MicrosoftUpdateInventory</i>
bMS 2020 R2 bConnect V1.1	MLA	- Introduced <i>MicrosoftUpdateInventories</i> Controller
bMS 2020 R2 bConnect V1.1	FK	- Extended Endpoint by properties "AppleManagementMode", "ManagedAppleId"
bMS 2020 R2 bConnect V1.1	AC	- Introduced <i>VPPUsers</i> and <i>VPPLicenseAssociations</i> Controller
bMS 2020 R2 bConnect V1.1	DK / PWE	- Introduced <i>UniversalDynamicGroups</i> Controller - Extended controller Endpoints by parameter <i>UniversalDynamicGroup</i>
bMS 2020 R1 bConnect V1.1	FHI	- Extended Endpoint by properties "VirusAndThreadProtectionStatus", "AutomaticUpdateStatus", "FirewallAndNetworkProtectionStatus", "AppAndBrowserControlStatus", "WindowsSecurityServiceStatus", "UserAccountControlStatus", "SecurityCenterUser"
bMS 2020 R1 bConnect V1.1	CB	- Description of how credentials can be passed in the URL has been removed
bMS 2020 R1 bConnect V1.1	MWA	- Introduced <i>ServerStateController</i>
bMS 2020 R1 bConnect V1.1	MWA/ DS	- Extended <i>JobInstanceController</i> by <i>TimePeriod</i> query to filter by <i>LastActionTime</i> .
bMS 2020 R1 bConnect V1.1	MLA FHI	- Introduced <i>EndpointEnrollment</i> controller - Extended controller Endpoints by <i>IndustrialData</i>
bMS 2019 R2 bConnect V1.1	FHI  ACH	- Extended controller Endpoints by property "TPMData" - Extended controller Endpoints by property "IsSecureBootEnabled" - Extended controller Endpoints by property "StorageMedium" - Introduced <i>EndpointSecrets</i> controller - Added support for "Comments" property on creating Endpoints
bMS 2019 R2 bConnect V1.1	KGR	PrimaryIP can be set for a Windows Endpoint via POST and PATCH; CustomStateText and CustomStateType can be set in a PATCH-request for a Windows Endpoint
bMS 2019 R2 bConnect V1.1	FHI	New supported <i>VariableDefinition</i> scopes "AdObject", "Bulletin" and "Component"
bMS 2019 R2 bConnect V1.1	TST	Kiosk job controller extended with request to create kiosk job with user principal name as target.
bMS 2019 R2 bConnect V1.1	AC	Updating the "Category" and "Name" properties of a <a href="#">VariableDefinition</a> object will not change the ID of that object anymore

bMS 2019 R1 bConnect V1.1	MSC/S SC/AC	As announced with version 1.0, the JSON serializer will not return default values such as 'null', 0 or false anymore.
bMS 2019 R1 bConnect V1.1	MSC/S SC/AC	The <a href="#">Jobs</a> object has been changed and extended for better usability. It is also possible to update all jobs and create windows jobs with deploy job steps.
bMS 2019 R1 bConnect V1.1	FHI / TST	New Controller for Kiosk job releases. Search controller now supports AD objects.
bMS 2020 R2 bConnect V1.1	TK	State "RunningNotLicensed" was added to the ServerState. "TargetReleaseVersion" und "UpdateDownloadMode" am Endpoint erweitert.



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# 1 Overview

baramundi Connect (abbr. bConnect) is a REST web server, that gives you the opportunity to request data objects (like endpoints, jobs, etc.) out of the baramundi Management Suite and to create new or modify data objects with the baramundi Management Suite (bMS). Only an application that is using a HTTP web client with a version 1.1 or above is needed for access.

The REST web server expects an authentication according to the *BasicAuthentication* method. The provided credentials as well as the data are transmitted securely using SSL/TLS encryption. Beside the authentication against the Active Directory (in domains) or local rights (in work groups) the credentials are also used for authorization in the baramundi Management Suite. The scope of operations supported by bConnect and the results are therefore limited to the configured rights of the specified user in the baramundi Management Suite.

JSON and XML are the two data formats supported by bConnect. They can be configured either over the URL or in the HTTP request header. If no format is specified, JSON is used as default.

Current Version of bConnect is 1.1 in baramundi Management Suite 2020.

## 2 Configuration

bConnect is listening on HTTPS standard port 443 for incoming requests. The port can be configured in the view Interfaces of module Configuration, if required. Therefore you need to switch to the edit mode by selecting the menu point Edit in the context menu or in the menu bar as shown in Figure 1. If a HTTPS port number different from the default is used, it has to be set explicitly in the request URL.

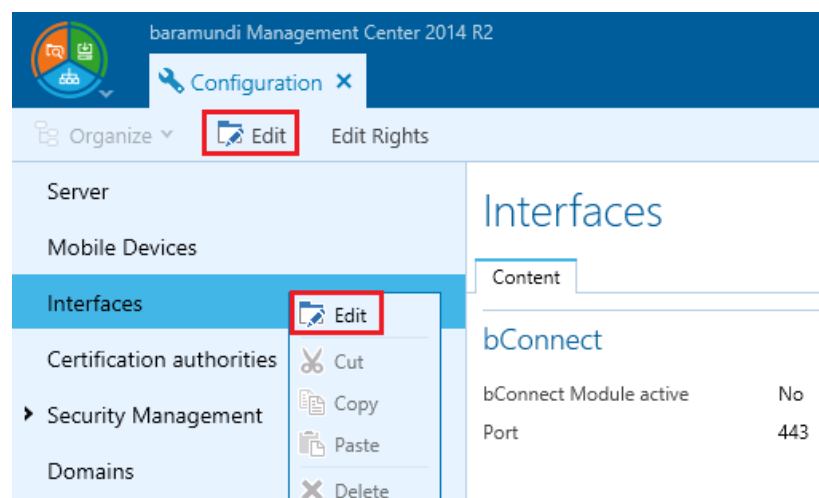


Figure 1 – Interface configuration

The same view provides the possibility to activate or deactivate the bConnect service. If Yes is configured for “bConnect Module active”, the service is listening to incoming requests. Otherwise it is deactivated. A restart of the baramundi Management Server (bServer) is necessary for changes to take effect.

As bConnect is using the HTTPS protocol by default for communication a valid server certificate needs to be bound to the configured port. By default the *baramundi Mobile Devices Module*, automatically creates a certificate for the baramundi Root Certification Authority (CA) and an appropriate server certificate – even no license for *baramundi Mobile Devices* is available. The server certificate is automatically bound to the standard HTTPS port 443. With default configuration bConnect and *baramundi Mobile Devices Module* share the same port. Since it is not possible to bind more than one certificate to a port, they also share the same server certificate. Hence no further settings are required when using default configuration.

Changing the communication port number for bConnect requires an appropriate binding of the certificate, which can be either done with Internet Information Server (IIS) or “netsh” on command line. The usage of an external server certificate, e.g. bought from public Certification Authority or self-created, requires a different port number and a new appropriate binding.

Some web clients or underlying libraries check the complete certificate chain by default. To avoid problems it is recommended to import the certificates of all CAs down to the Root CA to the Trusted Root Certification Authorities store of the machine, the web client is running on. The certificate of the baramundi Root CA used for *baramundi Mobile Devices* can be exported over the corresponding configuration site.

## 3 Calling Syntax

bConnect exposes over so called *Controller* several actions for requests. Each controller handles usually all requests concerning a specific object type. Therefore the bConnect API consist of several controllers where each of them provides specific actions according to the object type they represent.

The *Info* and *Version* controller provide general or version information of bConnect and can be requested with URLs of the following scheme:

```
https://<BMSServer>:<Port>/bConnect/<Controller>.
```

The other controller provide functionality to manage bMS objects (e.g. endpoint, job). The URL requests for this controller must include the bConnect version number:

```
https://<BMSServer>:<Port>/bConnect/v<bConnect Version>/<Controller>.
```

If the HTTPS standard port number 443 is configured for bConnect (default configuration), the port declaration is voluntary for the URL. Otherwise the port is mandatory.

bConnect supports only JSON and XML data format. If it is not possible to specify the data format in the HTTP-Header, e.g. because using a browser, it can be appended as an extension to the controller in the URL as follows:

```
https://<BMSServer>:<Port>/bConnect/<Controller>.<Format>
```

```
https://<BMSServer>/bConnect/v<bConnect Version>/<Controller>.<Format>
```

If XML format is used for POST, PUT and PATCH-Requests the elements must be sorted alphabetically and the following namespaces must be appended as attributes to the root element.

```
xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
```

```
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BConnect.DataModel"
```

Different controller actions can be requested by appropriate HTTP methods and additional parameter(s) in the URL. All parameters specified for a specific action are mandatory. A parameter is a key-value-pair connected over the "="-sign. They must be appended (without blanks) with a "?"-sign at the end of the base URL and in case of multiple they must be concatenated (without blanks) with a "&"-sign.

In case a specific resource is identifiable by its ID it can be addressed for all supported actions either by appending the ID as further segment in the URL or as parameter.

```
https://<BMSServer>:<Port>/bConnect/<Controller>.<Format>/<ID>?param1=1234
```

```
https://<BMSServer>:<Port>/bConnect/<Controller>.<Format>?id=<ID>&param2=4567
```

Further request examples (HTTP method "GET" only):

- <https://bmsserver.customer.net/bConnect/Info>
- <https://bmsserver.customer.net/bConnect/Version.xml>
- <https://bmsserver.customer.net/bConnect/v1.1/endpoints.json>
- <https://bmsserver.customer.net/bConnect/v1.1/jobinstances.xml/9d6a3f49-5c66-40c6-ae80-d6bd85fe3628> (equal to example below)
- <https://bmsserver.customer.net/bConnect/v1.1/jobinstances.xml?id=9d6a3f49-5c66-40c6-ae80-d6bd85fe3628> (equal to example above)
- <https://bmsserver.customer.net/bConnect/v1.1/jobinstances.json?endpointid=26f8284e-538d-422a-9b01-7597382bb71d&jobid=104196a1-1862-45fe-be3f-b312fcfc1ca9&startifexists=false>



## 4 Authentication & Headers

### 4.1 Authentication

To be able to use the bConnect module, it is mandatory to authenticate with each request your identity with the use of username and password. Both need to be specified in ISO-8859-1 encoding. Currently only authentication method *Basic Authentication* is supported. Therefore the credentials needs to be passed in the appropriate format in the designated HTTP request header or in the URL as mentioned above.

### 4.2 Headers

With each API call you can set specific request headers. With bMS 2016 two further headers are supported.

#### 4.2.1 Request Header

Header	Description	Since bMS
Accept-Encoding	A standard HTTP request header, which contains a list of supported (compression) encodings by the web client. The encoding type of the response data is specified in the HTTP response header "Content-Encoding". Currently the (compression) encodings "gzip" and "deflate" are supported by bConnect.	2016
Client-Request-ID	A custom HTTP request header, which contains a unique ID (in general a GUID) generated by the requester. It will be returned unchanged in the header of the corresponding response. This header helps in certain scenarios to keep track on assignment of a request and corresponding response.	2016

#### 4.2.2 Response Header

Header	Description	Since bMS
Content-Encoding	A standard HTTP response header, which contains the (compression) encoding type used on the response data. The encoding type is specified with the HTTP request header "Accept-Encoding". Currently the (compression) encodings "gzip" and "deflate" are supported by bConnect.	2016
Client-Request-ID	A custom HTTP response header, which contains a unique ID (in general a GUID) generated by the requester. It will be returned (unchanged) as received in the corresponding HTTP request header. This header helps in certain scenarios to keep track on assignment of a response and corresponding request.	2016

## 5 Controllers and actions

Each controller, like *Endpoints* or *Jobs*, is addressed with an explicit base URL. Using different HTTP methods or adding parameters to the URL requests different actions of the specified controller. Therefore different result is returned in the response. Controllers and parameters used in the URL are case insensitive.

The response data format is either configured over the .JSON or .XML extension in the URL (case insensitive) or over the *Accept*-field in the HTTP header. In latter case an extension must not be specified in the URL.

The response code of each request is a standard HTTP status code, e.g. one of the following:

- 200 → OK
- 201 → Created
- 204 → No Content
- 400 → Bad Request
- 401 → Unauthorized
- 403 → Forbidden
- 404 → Not Found
- 405 → Method Not Allowed
- 411 → Length Required
- 415 → Unsupported Media Type
- 500 → Internal Server Error
- 501 → Not Implemented
- 503 → Service Unavailable

baramundi software AG reserves the right to extend bConnect by new controllers, to extend existing controllers by new actions, to extend object types by new properties and to skip transmission of properties with value *null* without notification or change of the bConnect version number.

## 5.1 Controller Version

The *Version* controller provides actions concerning the *Version* object. *Version* is a bConnect internal object type which contains the current (newest) bConnect version and an array with all still supported versions.

To request the *Version* object the URL must not contain version information and the provided user does not need configured rights in the baramundi Management Suite (bMS).

**URL:** `https://<bmsserver>:<port>/bConnect/Version`

Method	URL parameters	Description	Since bMS
GET	None	Returns an object of type <i>Version</i> .	2014

### [Properties of \*Version\*.](#)

Examples:

- GET-Request:  
`https://bmsserver.customer.net/bConnect/version.json`

Result:

```
{
  "SupportedVersions":["1.0", "1.1"],
  "CurrentVersion":"1.1"
}
```

- GET-Request:  
`https://bmsserver.customer.net/bConnect/version.xml`

Result:

```
<Version>
  <CurrentVersion>1.1</CurrentVersion>
  <SupportedVersions>
    <d2p1:string>1.0</d2p1:string>
    <d2p1:string>1.1</d2p1:string>
  </SupportedVersions>
</Version>
```

## 5.2 Controller Info

The *Info* controller provides actions concerning the *Info* object. *Info* is a bConnect internal object type which provides general information about the bConnect web server.

To request the *Info* object the URL must not contain version information and the provided user does not need configured rights in the baramundi Management Suite (bMS).

**URL:** https://<bmsserver>:<port>/bConnect/Info

Method	URL parameters	Description	Since bMS
GET	None	Returns an object of type <i>Info</i> .	2014

### [Properties of Info.](#)

Examples:

- GET-Request:  
https://bmsserver.customer.net/bConnect/info.json  
  
Result:  

```
{
  "Description": "Interface to baramundi Management Server",
  "Company": "baramundi software AG",
  "Copyright": "Copyright (c) 2019 baramundi software AG",
  "bConnectVersion": "1.1",
  "bMSVersion": "19.1.xxx.x",
  "UserContext": "user@customer.net"
}
```
- GET-Request:  
https://bmsserver.customer.net/bConnect/info.xml  
  
Result:  

```
<Info>
  <Company>baramundi software AG</Company>
  <Copyright>Copyright (c) 2019 baramundi software AG</Copyright>
  <Description>Interface to baramundi Management Server</Description>
  <UserContext>user@customer.net</UserContext/>
  <bConnectVersion>1.1</bConnectVersion>
  <bMSVersion>19.1.xxx.x</bMSVersion>
</Info>
```

## 5.3 Controller Search

The *Search* controller provides actions to search over objects of the bMS. The search results are stored in *SearchResult* objects. Currently supported objects are of type *Endpoint*, *Job*, *OrgUnit*, *DynamicGroup*, *StaticGroup*, *Application* AD object and *App*.

The *Search* controller looks for org units only in nodes "Logical groups", "Dynamic groups", "Static groups", "Jobs", "Applications" and "Apps".

To request *SearchResult* objects data the URL must contain the bConnect version information. Only those objects can be scanned, the specified user has at least configured read rights on.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/Search

Method	URL parameters	Description	Since bMS
GET	Type=<object type> & Term=<search term>	Returns a list of <i>SearchResult</i> objects. <i>Type</i> specifies the objects to search over. Types "endpoint", "job", "orgunit", "group" (for static and dynamic groups), "adobject" and "software" (for applications and apps) are supported. <i>Term</i> specifies the search string (at least two characters) to look for in the objects of the specified type. To request the whole object the ID of the <i>SearchResult</i> object can be used. Works similar to the search in the bMC.	2014 R2

### [Properties of Search.](#)

Examples:

- GET-Request:  
`https://bmsserver.customer.net/bConnect/v1.1/search.json?type=endpoint&term=test`

Result:

```
[{
  "Id": "d9d4b3d9-8265-4001-ab23-993228a18b2f",
  "Name": "TestWindows",
  "AdditionalInfo": "",
  "Type": "1",
  "Deactivated": null
}]
```

## 5.4 Controller OrgUnits

The *OrgUnits* controller provides actions concerning the *OrgUnit* objects, the organizational unit objects, of the bMS.

To request *OrgUnit* objects data the URL must contain the bConnect version information. Only those *OrgUnit* objects the specified user has at least configured read rights on will be available.

Previously, only organizational units contained in the well-known org units *LogicalGroups* and *JobManagement* could be requested. In bMS 2016 *StaticGroups* and *DynamicGroups* as well as in bMS 21016R2 *Applications* and *Apps* were added to the scope of this controller. A request for other elements than these six root org units or its children will lead to a HTTP response code *NotFound* (e.g. a request with the *ParentGuid* of one of these six root org units).

To create an *OrgUnit* object with HTTP method POST the appropriate rights (create object, modify) must be given for the specified parent org unit to the specified user. To update an *OrgUnit* object with HTTP method PATCH the user needs the appropriate rights (modify) for the specified object and if *ParentId* is specified also for the new parent org unit.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/OrgUnits

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>OrgUnit</i> objects.	2014 R2
GET	OrgUnit=<org unit id>	Returns a list of <i>OrgUnit</i> objects, contained in the specified organizational unit. Sub units are not considered.	2014 R2
GET	ID=<org unit id>	Finds an <i>OrgUnit</i> object by ID.	2014 R2
POST	None (Mandatory and optional properties must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Creates a new <i>OrgUnit</i> object according to the specified mandatory and optional data. Mandatory properties: <ul style="list-style-type: none"> <li>Name (unique in parent org unit)</li> <li>ParentId (id of a org unit)</li> </ul> Optional properties: <ul style="list-style-type: none"> <li>Comment</li> <li>Extension (for org units of node <i>Logical Groups</i> only)</li> </ul> See <a href="#">properties of OrgUnit</a> for further information.	2016
PATCH	ID=<org unit id> (The properties that are to be updated must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Updates the specified properties of the <i>OrgUnit</i> object by ID. Optional properties: <ul style="list-style-type: none"> <li>Name (unique in parent org unit)</li> <li>ParentId (id of a org unit)</li> <li>Comment</li> <li>Extension</li> </ul> See <a href="#">properties of OrgUnit</a> for further information.	2016
DELETE	ID=<id>	Deletes an <i>OrgUnit</i> object by ID.	2016



### [Properties of OrgUnit.](#)

Examples:

- GET-Request:  
`https://bmssserver.customer.net/bConnect/v1.1/orgunits.json?id=a79851ff-3c9e-4973-b828-ced7c6a39f4b`

Result:

```
{
  "Id": "a79851ff-3c9e-4973-b828-ced7c6a39f4b",
  "ParentId": "b2ef5159-d8b8-4e9e-92fe-96889cec8491",
  "Name": "MyJobs ",
  "GuidParent": "b2ef5159-d8b8-4e9e-92fe-96889cec8491",
  "Comment": "",
  "HierarchyPath": "JobManagement\\MyJobs",
  "Extension": null
}
```

## 5.5 Controller DynamicGroups

The *DynamicGroups* controller provides actions concerning the *DynamicGroup* objects. Unlike *LogicalGroups*, *DynamicGroups* act as views, combining all endpoints of type *WindowsEndpoints* matching certain conditions defined by a SQL statement. One endpoint can be in several *DynamicGroups*.

To request *DynamicGroup* data, the URL must contain the bConnect version information. Only *DynamicGroup* objects with effective read-access for the specified user will be available with GET method.

To create a *DynamicGroup* object with HTTP method POST the appropriate rights (create object, modify) must be given for the specified parent org unit to the user. If the property *ParentId* is not specified the root node for dynamic groups is used.

To update a *DynamicGroup* object with HTTP method PATCH the user needs the appropriate rights (modify) for the specified object and if *ParentId* is specified also for the new parent org unit.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/DynamicGroups

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>DynamicGroup</i> objects.	2016
GET	OrgUnit=<org unit id>	Returns a list of <i>DynamicGroup</i> objects, contained in the specified organizational unit. Sub units are not considered.	2016
GET	ID=<dynamic group id>	Finds a <i>DynamicGroup</i> object by ID.	2016
POST	None  (Mandatory and optional properties must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Creates a new <i>DynamicGroup</i> object according to the specified mandatory and optional data. Mandatory properties: <ul style="list-style-type: none"> <li>Name (unique in parent org unit)</li> <li>Statement (valid SQL)</li> </ul> Optional properties: <ul style="list-style-type: none"> <li>ParentId (id of an org unit)</li> <li>Comment</li> </ul> See <a href="#">properties of DynamicGroup</a> for further information.	2016
PATCH	ID=<dynamic group id>  (The properties that are to be updated must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Updates the specified properties of a <i>DynamicGroup</i> object by ID. Optional properties: <ul style="list-style-type: none"> <li>Name (unique in parent org unit)</li> <li>Statement (valid SQL)</li> <li>ParentId (id of an org unit)</li> <li>Comment</li> </ul> See <a href="#">properties of DynamicGroup</a> for further information.	2016
DELETE	ID=<dynamic group id>	Deletes a <i>DynamicGroup</i> object by ID.	2016

[Properties of DynamicGroup.](#)

### Examples:

- GET-Request:**  
<https://bmsserver.customer.net/bConnect/v1.1/DynamicGroups.json?id=643E6070-E31A-4DE2-8372-900965047B39>  
**Result:**  

```
{
  "Id": "643E6070-E31A-4DE2-8372-900965047B39",
  "ParentId": "BDE918DC-89C0-458A-92F7-0BB9147A2706",
  "Name": "64-bit systems",
  "Statement": " WHERE \r\n(\r\n (machine.arch =
                'x64')\r\n)\r\n",
  "Comment": ""
}
```
- POST-Request:**  
<https://bmsserver.customer.net/bConnect/v1.1/dynamicgroups.xml>  
**Body (xml format):**  

```
<DynamicGroup
xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <Comment>A group of all English systems.</Comment>
  <Name>English systems</Name>
  <ParentId>BDE918DC-89C0-458A-92F7-0BB9147A2706</ParentId>
  <Statement>WHERE ( machine.lcid = 1033 )</Statement>
</DynamicGroup>
```

**Result:**  

```
<DynamicGroup xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <Comment>A group of all English systems.</Comment>
  <Id>D32CE263-AD72-4D86-B093-5796AC7F7D3F</Id>
  <Name>English systems</Name>
  <ParentId>BDE918DC-89C0-458A-92F7-0BB9147A2706</ParentId>
  <Statement>WHERE ( machine.lcid = 1033 )</Statement>
</DynamicGroup>
```
- PATCH-Request:**  
<https://bmsserver.customer.net/bConnect/v1.1/dynamicgroups?id=D32CE263-AD72-4D86-B093-5796AC7F7D3F>  
**Body (json format):**  

```
{
  "Name": "Systems with english lcid",
  "Comment": ""
}
```

Result:

```
{
  "Id": "41068A9F-405E-49BB-891B-65FAF1107CD9",
  "ParentId": "BDE918DC-89C0-458A-92F7-0BB9147A2706",
  "Name": "Systems with englisch lcid", "Statement": "WHERE ( machine.lcid = 1033 )",
  "Comment": ""
}
```

- DELETE-Request:  
<https://bmsserver.customer.net /bConnect/v1.1/dynamicgroups.json?id=D32CE263-AD72-4D86-B093-5796AC7F7D3F>

Result: *No Content.*

## 5.6 Controller UniversalDynamicGroups

The *UniversalDynamicGroups* controller provides actions concerning the *UniversalDynamicGroup* objects. *UniversalDynamicGroups* act as views, combining endpoints of all types which match the configured conditions. One endpoint can be in several *UniversalDynamicGroups*.

To request *UniversalDynamicGroup* data, the URL must contain the bConnect version information. Only *UniversalDynamicGroup* objects with effective read-access for the specified user will be available with GET method.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/UniversalDynamicGroups

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>UniversalDynamicGroup</i> objects.	2020 R2
GET	OrgUnit=<org unit id>	Returns a list of <i>UniversalDynamicGroup</i> objects, contained in the specified organizational unit. Sub units are not considered.	2020 R2
GET	ID=<universal dynamic group id>	Finds a <i>UniversalDynamicGroup</i> object by ID.	2020 R2
	IsArgusSynced=<true / false>	<b>Optional for all GET methods:</b> If "true", only Universal Dynamic Groups synchronized with Argus Cockpit will be returned If "false", only Universal Dynamic Groups not synchronized with Argus Cockpit will be returned	2020 R2

### [Properties of UniversalDynamicGroup.](#)

Examples:

- GET-Request:  
`https://bmsserver.customer.net/bConnect/v1.1/UniversalDynamicGroups.json?id=643E6070-E31A-4DE2-8372-900965047B39`

Result:

```
{
  "Id": "643E6070-E31A-4DE2-8372-900965047B39",
  "ParentId": "BDE918DC-89C0-458A-92F7-0BB9147A2706",
  "Name": "64-bit systems",
  "DisplayName": "64-bit systems",
  "IsArgusSynced": "true",
  "Comment": "",
  "HierarchyPath": "Dynamic Groups"
}
```

## 5.7 Controller StaticGroups

The *StaticGroups* controller provides actions concerning the *StaticGroup* objects. Like *DynamicGroups*, *StaticGroups* act as views and can be used to manually group all type of endpoints outside of the logical group structure. One endpoint can be in several *StaticGroups*.

To request *StaticGroup* data, the URL must contain the bConnect version information. Only *StaticGroup* objects with effective read-access for the specified user will be available with GET method.

To create a *StaticGroup* object with HTTP method POST the appropriate rights (create object, modify) must be given for the specified parent org unit to the user. If property *ParentId* is not specified the root node for static groups is used.

To update a *StaticGroup* object with HTTP method PATCH the user needs the appropriate rights (modify) for the specified object and if *ParentId* is specified also for the new parent org unit.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/StaticGroups

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>StaticGroup</i> objects.	2016
GET	OrgUnit=<org unit id>	Returns a list of <i>StaticGroup</i> objects, contained in the specified organizational unit. Sub units are not considered.	2016
GET	ID=<static group id>	Finds a <i>StaticGroup</i> object by ID.	2016
POST	None  (Mandatory and optional properties must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Creates a new <i>StaticGroup</i> object according to the specified mandatory and optional data. Mandatory properties for <i>StaticGroups</i> : <ul style="list-style-type: none"> <li>Name (unique in parent org unit)</li> </ul> Optional properties: <ul style="list-style-type: none"> <li>ParentId (id of an org unit)</li> <li>EndpointIds</li> <li>Comment</li> </ul> See <a href="#">properties of StaticGroup</a> for further information.	2016
PATCH	ID=<static group id>  (The properties that are to be updated must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Updates specified properties of a <i>StaticGroup</i> object by ID. Optional properties: <ul style="list-style-type: none"> <li>Name (unique in parent org unit)</li> <li>ParentId (id of an org unit)</li> <li>EndpointIds</li> <li>Comment</li> </ul> See <a href="#">properties of StaticGroup</a> for further information.	2016
DELETE	ID=<static group id>	Deletes a <i>StaticGroup</i> object by ID.	2016

[Properties of StaticGroup.](#)



## Examples:

- GET-Request:  
<https://bmsserver.customer.net/bConnect/v1.1/StaticGroups.json?id=41F24185-71DB-47F0-B036-05C5C2616479>

Result:

```
{
  "Id": "41F24185-71DB-47F0-B036-05C5C2616479",
  "ParentId": "5020494B-04D3-4654-A256-80731E953746",
  "Name": "Server Group A",
  "Comment": "",
  "EndpointIds": [
    "4B3C0BBE-C7BC-4CF8-9598-0CD86DB3639A",
    "CC14E396-3919-4EDE-B302-D2FAD35B0986",
    "D13F5074-E773-4445-93F1-ACE372B54A21"
  ]
}
```
- POST-Request:  
<https://bmsserver.customer.net/bConnect/v1.1/staticgroups>

Body (xml format):

```
<StaticGroup xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <Comment>A group of servers.</Comment>
  <EndpointIds xmlns:d3p1="http://schemas.microsoft.com/2003/10/
    Serialization/Arrays">
    <d3p1:string>CC28388A-5156-4BDE-A411-C2A5AD42EA9E</d3p1:string>
    <d3p1:string>37762ED0-9A20-4E44-8EA4-A97FF4625439</d3p1:string>
  </EndpointIds>
  <Name>Server Group B</Name>
  <ParentId>5020494B-04D3-4654-A256-80731E953746</ParentId>
</StaticGroup>
```

Result:

```
<StaticGroup xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <Comment>A group of servers.</Comment>
  <EndpointIds xmlns:d3p1="http://schemas.microsoft.com/2003/10/
    Serialization/Arrays">
    <d3p1:string>CC28388A-5156-4BDE-A411-C2A5AD42EA9E</d3p1:string>
    <d3p1:string>37762ED0-9A20-4E44-8EA4-A97FF4625439</d3p1:string>
  </EndpointIds>
  <Id>1B3B05B0-2DDD-4847-89CF-2E726BB918AE</Id>
  <Name>Server Group B</Name>
  <ParentId>5020494B-04D3-4654-A256-80731E953746</ParentId>
</StaticGroup>
```

- PATCH-Request:

<https://bmsserver.customer.net /bConnect/v1.1/staticgroups?id=1B3B05B0-2DDD-4847-89CF-2E726BB918AE>

Body (xml format):

```
<StaticGroup xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <Comment>Updated the name of this group.</Comment>
  <Name>Server Group NEW</Name>
</StaticGroup>
```

Result:

```
<StaticGroup xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <Comment>Updated the name of this group.</Comment>
  <EndpointIds xmlns:d3p1="http://schemas.microsoft.com/2003/10/
    Serialization/Arrays">
    <d3p1:string>CC28388A-5156-4BDE-A411-C2A5AD42EA9E</d3p1:string>
    <d3p1:string>37762ED0-9A20-4E44-8EA4-A97FF4625439</d3p1:string>
  </EndpointIds>
  <Id>1B3B05B0-2DDD-4847-89CF-2E726BB918AE</Id>
  <Name>Server Group NEW</Name>
  <ParentId>5020494B-04D3-4654-A256-80731E953746</ParentId>
</StaticGroup>
```

- DELETE-Request:

<https://bmsserver.customer.net /bConnect/v1.1/staticgroups.json?id=1B3B05B0-2DDD-4847-89CF-2E726BB918AE>

Result: *No Content.*

## 5.8 Controller Endpoints

The *Endpoints* controller provides actions concerning the *Endpoint* objects, the managed clients, of the bMS. All endpoint types, like *Windows*, *Network*, *Android*, *WindowsPhone*, *iOS* and *Mac* are supported. *Android*, *WindowsPhone*, *iOS* and *Mac* endpoints are of type *BmsNetEndpoint*.

To request *Endpoint* object data the URL must contain the bConnect version information. Only those *Endpoint* objects, the specified user has at least configured read rights on, will be available.

To create an *Endpoint* object with HTTP method POST in the specified organizational unit (OrgUnit) the appropriate rights (create object) must be given for the specified parent org unit to the user. To update an *Endpoint* object with HTTP method PATCH the user needs the appropriate rights (modify) for the specified object and if *ParentId* is specified also for the new parent org unit.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/Endpoints

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>Endpoint</i> objects.	2014
GET	OrgUnit=<org unit id>	Returns a list of <i>Endpoint</i> objects, contained in the specified organizational unit. Sub units are not considered.	2014 R2
GET	UniversalDynamicGroup=<universal dynamic group id>	Returns a list of <i>Endpoint</i> objects, contained in the specified universal dynamic group.	2020 R2
GET	DynamicGroup=<dynamic group id>	Returns a list of <i>Endpoint</i> objects, contained in the specified dynamic group.	2016
GET	StaticGroup=<static group id>	Returns a list of <i>Endpoint</i> objects, contained in the specified static group.	2016
GET	ID=<endpoint id>	Finds an <i>Endpoint</i> object by ID.	2014
GET	User=<user_principal_name>	Returns a list of <i>Endpoint</i> objects filtered by the specified "Registered User"	2018 R2
	PubKey=<true / false>	<b>Optional for all GET methods:</b> If "true", the returned objects will contain also the appropriate public key of the endpoint certificate (if stored for the client). Applies to endpoints of type <i>Windows</i> only.	2016
	InstalledSoftware=<true / false>	<b>Optional for all GET methods:</b> If "true", the returned endpoint objects will contain a list of the installed software with the bMS	2016 R2
	SnmpData=<true / false>	<b>Optional for all GET methods:</b> If "true", the returned endpoint objects will contain the appropriate SNMP data (if SNMP data are available)	2017R1
POST	None	Creates a new <i>Endpoint</i> object according to the specified mandatory and optional data. Mandatory properties for all endpoint types:	2014 R2

	<p>(Mandatory and optional properties must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)</p>	<ul style="list-style-type: none"> <li>Type,</li> <li>DisplayName</li> </ul> <p>Optional properties for all endpoint types:</p> <ul style="list-style-type: none"> <li>GuidOrgUnit (id of parent org unit)</li> <li>Comments</li> </ul> <p>Additional mandatory for <i>WindowsPhoneEndpoint</i>:</p> <ul style="list-style-type: none"> <li>PrimaryUser (users email-Address or Down-Level Logon name (e.g. domain\user))</li> </ul> <p>Optional for <i>WindowsEndpoint</i>:</p> <ul style="list-style-type: none"> <li>HostName(15 chars, IETF RFC 952) (DisplayName by default)</li> <li>Options (Format: decimal; When creating an endpoint, the settings for Automatic Usage Tracking (0x00000100) and Energy Management (0x00000200) cannot be set manually. The default settings from the database will be taken. Depending on their values, the default value for Options is one of 50, 306, 562 or 818.)</li> <li>PrimaryMAC (M = one hex digit, Format: MM:MM:MM:MM:MM:MM)</li> <li>Domain</li> <li>GuidBootEnvironment</li> <li>GuidHardwareProfile</li> <li>Mode</li> <li>ExtendedInternetMode</li> <li>PrimaryUser (Principal or Down-Level Logon name (e.g. domain\user))</li> <li>PrimaryIP (primary IP-address of an endpoint)</li> <li>PrimarySubnetMask</li> <li>MicrosoftUpdateProfile</li> <li>GuidMicrosoftUpdateProfile</li> </ul> <p>Optional for <i>MacEndpoint</i>:</p> <ul style="list-style-type: none"> <li>HostName (is set after enrollment if empty)</li> </ul> <p>Optional for <i>BmsNetEndpoint</i>:</p> <ul style="list-style-type: none"> <li>PrimaryUser (except WindowsPhone; users email-Address or Down-Level Logon name (e.g. domain\user))</li> <li>Owner (default 0)</li> <li>ComplianceCheckCategory (default 0)</li> <li>AndroidEnterpriseProfileType (only valid for type Android)</li> <li>AppleManagementMode (only valid for type ios)</li> </ul>	
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

		<ul style="list-style-type: none"> <li>ManagedAppleId (only valid for ios and when AppleManagementMode is set to UserEnrollment)</li> </ul> <p>Additional mandatory for <i>IndustrialEndpoint</i></p> <ul style="list-style-type: none"> <li>IndustrialData</li> <li>EmailLanguageId</li> <li>EmailRecipient</li> </ul> <p>Additional mandatory for <i>NetworkEndpoint</i>:</p> <ul style="list-style-type: none"> <li>PrimaryIP</li> <li>PrimaryMAC</li> </ul> <p>See <a href="#">properties of Endpoint</a> for further information. The returned object is of type <a href="#">NewEndpoint</a>.</p>	
PATCH	ID=<endpoint id>  (The properties that are to be updated must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Updates the specified properties of the <i>Endpoint</i> object by ID. Optional properties for all endpoint types: <ul style="list-style-type: none"> <li>DisplayName,</li> <li>GuidOrgUnit (id of parent org unit)</li> <li>Comments</li> </ul> Optional for <i>WindowsEndpoint</i> : <ul style="list-style-type: none"> <li>HostName (15 chars, IETF RFC 952)</li> <li>Options (Format: decimal)</li> <li>PrimaryMAC (Format see POST)</li> <li>Domain</li> <li>GuidBootEnvironment</li> <li>GuidHardwareProfile</li> <li>PublicKey (without spaces)</li> <li>Mode</li> <li>ExtendedInternetMode</li> <li>PrimaryUser (Principal or Down-Level Logon name (e.g. domain\user))</li> <li>PrimaryIP (primary IP-address of an endpoint)</li> <li>PrimarySubnetMask</li> <li>CustomStateText (a user defined string; prefixed and suffixed whitespaces are not supported)</li> <li>CustomStateType (a user defined integer value)</li> <li>MicrosoftUpdateProfile</li> <li>GuidMicrosoftUpdateProfile</li> </ul> Optional for <i>MacEndpoint</i> : <ul style="list-style-type: none"> <li>HostName</li> </ul> Optional for <i>BmsNetEndpoint</i> : <ul style="list-style-type: none"> <li>PrimaryUser (users email-Address or Down-Level Logon name (e.g. domain\user))</li> <li>Owner (default 0)</li> <li>ComplianceCheckCategory (default 0)</li> <li>SerialNumber</li> </ul> Optional for <i>IndustrialEndpoint</i> <ul style="list-style-type: none"> <li>IndustrialData</li> </ul>	2016

		Optional for <i>NetworkEndpoint</i> : <ul style="list-style-type: none"> <li>PrimaryIP</li> <li>PrimaryMAC</li> </ul> See <a href="#">properties of Endpoint</a> for further information. The returned object is of type <i>Endpoint</i>	
DELETE	ID=<endpoint id>	Deletes the <i>Endpoint</i> object by ID.	

### [Properties of Endpoint.](#)

#### Examples:

- GET-Request:  
`https://bmsserver.customer.net /bConnect/v1.1/endpoints.json?id=bd4a57c1-efe2-45bb-bf4a-58a5f4164d52`

Result:

```
{
  "Id":"bd4a57c1-efe2-45bb-bf4a-58a5f4164d52",
  "GuidGroup":"b2ef5159-d8b8-4e9e-92fe-96889cec8491",
  "DisplayName":"vm-cb-ws2008R2",
  "HostName":"vm-cb-ws2008R2",
  ...
}
```

- POST-Request:  
`https://bmsserver.customer.net /bConnect/v1.1/endpoints.xml`

Body (xml format):

```
<Endpoint
xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <DisplayName>DeviceDisplayName</DisplayName>
  <GuidGroup>b2ef5159-d8b8-4e9e-92fe-96889cec8491</GuidGroup>
  <HostName>DeviceHostName</HostName>
  <Options>563</Options>
  <PrimaryMAC>12:34:56:78:90:12</PrimaryMAC>
  <Type>1</Type>
</Endpoint>
```

Result:

```
<NewEndpoint xmlns:i="..." xmlns="...">
  <Endpoint>
    <Activity i:nil="true"/>
    <DisplayName>DeviceDisplayName</DisplayName>
    ...
    <GuidGroup>B2EF5159-D8B8-4E9E-92FE-96889CEC8491</GuidGroup>
    <HostName>DeviceHostName</HostName>
    <Options>563</Options>
    <PrimaryMAC>12:34:56:78:90:12</PrimaryMAC>
    ...
    <Type>1</Type>
    ...
  </Endpoint>
```



```
<EnrollmentToken i:nil="true" />  
<TokenValidUntil i:nil="true" />  
</NewEndpoint>
```

- DELETE-Request:

*<https://bmsserver.customer.net /bConnect/v1.1/endpoints.json?id=bd4a57c1-efe2-45bb-bf4a-58a5f4164d52>*

Result: *No Content.*

## 5.9 Controller Jobs

The *Jobs* controller provides actions concerning Jobs for all platforms. Job objects can be of type *Windows*, *MobileAndMac* or *Universal* depending on the platform they are created for. Jobs of type *WindowsJob* are for endpoints of type *WindowsEndpoint*, Jobs of type *MobileAndMac* are for endpoints of type *AndroidEndpoint*, *WindowsPhoneEndpoint*, *iOSEndpoint* or *MacEndpoint* and *Universal* jobs are for *Industrial* endpoints.

The following URL allows you to request *Job* objects. You will only be able to retrieve Jobs which you are allowed to read according to your bMS security configuration.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/Jobs

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>Job</i> objects.	2014
GET	OrgUnit=<org unit id>	Returns a list of all available <i>Job</i> objects, contained in the specified organizational unit. Sub units are not considered.	2014
GET	ID=<job id>	Finds a <i>Job</i> object by ID.	2014
GET	User=<user_principal_name>	Returns a list of all released <i>Job</i> objects for the specified user	2018 R2
	Steps = <true / false>	<b>Optional for all GET methods:</b> If "true", the returned job objects will also contain the steps.	2016 R2
POST	None	Creates a new <i>Job</i> and returns it, including its <i>Job</i> steps Mandatory properties for Job: <ul style="list-style-type: none"> <li>• Name</li> <li>• Type</li> <li>• List of <a href="#">Steps</a></li> </ul>	2019
PATCH	ID=<job id>	Updates a set of properties of the <i>Job</i> with the specified ID. If the <i>Job</i> is assigned already, bConnect will return an error (BadRequest) as updating assigned <i>Jobs</i> may lead to inconsistencies.	2019
	ignoreAssignments=<true/false>	<b>Optional for PATCH:</b> If this parameter is set to true, bConnect will update the specified <i>Job</i> without error, even if it is assigned already.	2019
DELETE	ID=<job id>	Deletes the <i>Job</i> object by ID.	2019

[Properties of Job.](#)

### Examples:

#### GET-Request:

*<https://bmsserver.customer.net/bConnect/v1.1/jobs.json?id=104196a1-1862-45fe-be3f-b312fcfc1ca9>*

#### Result:

```
{
  "Id": "104196a1-1862-45fe-be3f-b312fcfc1ca9",
  "ParentId": "C6567FDB-74B4-40C1-846D-12011A163B4A",
  "Type": "MobileAndMac",
  "Name": "Hallo",
  "Initiator": "initiator@test.net",
  "MobileAndMacProperties": {
    "CanRunOnMobileDevice": true,
    "CanRunOnMac": true,
    "RequiredComplianceLevel": "Unknown",
    "Repetition": 31449600
  }
}
```

#### PATCH-Request:

*<https://bmsserver.customer.net/bConnect/v1.1/jobs.json?id=104196a1-1862-45fe-be3f-b312fcfc1ca9>*

#### Request:

```
{
  "AbortOnError": true,
}
```

#### Result:

```
{
  "Id": "104196a1-1862-45fe-be3f-b312fcfc1ca9",
  "ParentId": "C6567FDB-74B4-40C1-846D-12011A163B4A",
  "Type": "MobileAndMac",
  "Initiator": "initiator@test.net",
  "Name": "Hallo",
  "AbortOnError": true,
  "MobileAndMacProperties": {
    "CanRunOnMobileDevice": true,
    "CanRunOnMac": true,
    "RequiredComplianceLevel": "Unknown",
    "Repetition": 31449600
  }
}
```

POST-Request:

<https://bmsserver.customer.net/bConnect/v1.1/jobs.json>

Request:

```
{
  "Id": "C745C8DB-642B-44D4-BED7-C5731BF2BD6D",
  "ParentId": "C6567FDB-74B4-40C1-846D-12011A163B4A",
  "Type": "Windows",
  "Name": "Install something",
  "DisplayName": "Install something",
  "AbortOnError": true,
  "Steps": [
    {
      "Applications": [
        {
          "Id": "503FE0F5-B631-48A5-9C73-D44ED43D3049"
        }
      ],
      "Type": "Deploy"
    }
  ]
}
```

Result:

```
{
  "Id": "C745C8DB-642B-44D4-BED7-C5731BF2BD6D",
  "ParentId": "C6567FDB-74B4-40C1-846D-12011A163B4A",
  "Type": "Windows",
  "Name": "Install something",
  "DisplayName": "Install something",
  "Initiator": "initiator@test.net",
  "AbortOnError": true,
  "Steps": [
    {
      "Applications": [
        {
          "Id": "503FE0F5-B631-48A5-9C73-D44ED43D3049",
          "Name": "AWDAWD AWDAWD"
        }
      ],
      "Sequence": 1,
      "Type": "Deploy"
    }
  ],
}
```

```
"WindowsProperties": {  
  "JobCount": -1,  
  "Priority": 500,  
  "Unlocksequence": "6355",  
  "MinBandwidth": 100000000,  
  "Options": {  
    "IgnoreBandwidth": true  
  },  
  "UserActionType": "CanNotInfluence",  
  "KeyMouseLockType": "DetermineAutomatically",  
  "PrePostInstallType": "ExecutePreAndPostInstallSteps",  
  "JobStartType": "Active",  
  "AtEndOfJobAction": "NoAdditionalAction",  
  "InfoWindowType": "DetermineAutomatically",  
  "MaxDelayMinutes": 90  
}  
}
```

DELETE-Request:

<https://bmsserver.customer.net/bConnect/v1.1/jobs.json?id=104196a1-1862-45fe-be3f-b312fcfc1ca9>

Result: No-Content

## 5.10 Controller JobInstances

The *JobInstances* controller provides actions concerning the *JobInstance* objects, formerly the job targets, of the bMS. Job instances for all endpoint types are supported.

To request *JobInstance* object data the URL must contain the bConnect version information. Only those *JobInstance* objects, the specified user has at least configured read rights on their *Endpoint*, will be available.

To create a *JobInstance* the specified user needs read rights for the specific *Endpoint* and *Job* objects in the bMS. Furthermore the user needs the right to assign the *Endpoint* object a job and the right to assign the specific *Job* object.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/JobInstances

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>JobInstance</i> objects.	2014
GET	EndpointID=<endpoint id>	Returns a list of all <i>JobInstance</i> objects of the specified endpoint.	2014 R2
GET	JobId=<job id>	Returns a list of all <i>JobInstance</i> objects of the specified job.	2015
GET	ID=<job instance id>	Finds a <i>JobInstance</i> object by ID.	2014
GET	EndpointID=<endpoint id> & JobID=<job id> & StartIfExists=<false/true>  <b>DEPRECATED</b> (use POST instead)	Assigns the specified endpoint the specified job by creating a new <i>JobInstance</i> object, which is configured to be started as soon as possible. If this <i>JobInstance</i> object exists already it is returned and the parameter "StartIfExists" specifies with the value "true" to start it if it is not running yet.  Not supported on <i>Endpoints</i> of type Industrial	2014
	Initiator=<name>	<b>Optional for assignment:</b> Sets assignment initiator to "<name> via <bConnectUser>"  <b>Example:</b> MyThirdPartyTool via admin@domain.com	
GET	EndpointID=<endpoint id> & User=<user_principal_name>	Returns a list of all <i>JobInstance</i> objects of <i>Jobs</i> released for the specified user. User must be the <i>registered user</i> of the specified <i>Endpoint</i> .	2018R2
GET	TimePeriod=<seconds>	Returns a list of all <i>JobInstance</i> objects whose <i>TimeLastAction</i> is at most <i>TimePeriod</i> seconds ago.	2020
	Steps = <true / false>	<b>Optional for all above GET methods:</b> If <i>true</i> , the returned job objects will also contain the steps.	2016 R2
	IncludeJobDefinition= <true/false>	<b>Optional for all above GET methods:</b> If true, the returned <i>JobInstance</i> object	2020

		will also contain the according <i>JobDefinition</i> object	
GET	ID=<job instance id> & cmd=<start/stop/resume>	<p>Starts, resumes or stops the specified <i>JobInstance</i> object, according to the specified command.</p> <p>To “start” a <i>JobInstance</i> object successfully, it must not have the state “Running”.</p> <p>To “stop” a <i>JobInstance</i> object successfully, it must not have the state “Finished” with success.</p> <p>Resuming a <i>JobInstance</i> object applies for endpoints of type <i>WindowsEndpoints</i> only.</p> <p>To “resume” a <i>JobInstance</i> object successfully, it must have one of the following states:</p> <ul style="list-style-type: none"> <li>- Not “Running” and flag “Resume”</li> <li>- “Finished” and flag “Warning” or “Error”</li> <li>- Flags “Rescheduled” and “Error”</li> </ul> <p>For endpoints of type <i>WindowsEndpoint</i> the commands “start” and “resume” will be effectively only if the baramundi Management Server is running.</p>	2015
POST	None	<p>Creates a new <i>JobInstance</i> object using the mandatory data. Mandatory properties are:</p> <ul style="list-style-type: none"> <li>• EndpointId</li> <li>• JobDefinitionId</li> </ul>	2020
	StartIfExists=<false/true>	<p><b>Optional for POST:</b></p> <p>If a <i>JobInstance</i> for the specified <i>Endpoint</i> and <i>Job</i> already exists and this parameter is set to true, the <i>JobInstance</i> will be started again.</p>	2020
DELETE	ID=<job instance id>	<p>Deletes a <i>JobInstance</i> object specified by ID.</p> <p>For endpoints of type <i>WindowsEndpoint</i> the <i>JobInstance</i> object must not have the state “Running”.</p> <p>For endpoints of type <i>BmsNetEndpoints</i> a running <i>JobInstance</i> object is canceled first and afterwards deleted.</p>	2015

### [Properties of \*JobInstance\*.](#)

#### Examples:

- GET-Request (start job instance):  
<https://bmsserver.customer.net/bConnect/v1.1/jobinstances?Id=EB6A02C3-BDCF-49EA-BD71-C12BB5C3561D&cmd=start>

Result: No data.

- POST-Request:

<https://bmsserver.customer.net/bConnect/v1.1/jobinstances>

Request:

```
{
  "EndpointId": "AAFF8188-A10A-436C-9AEB-92D88BB31CCA",
  "JobDefinitionId": "E4B87F22-F0D8-4F13-92AD-485044743329"
}
```

Result:

```
{
  "Id": "8DBF2A27-FE91-46C6-0000-0000000086A9C",
  "EndpointId": "AAFF8188-A10A-436C-9AEB-92D88BB31CCA",
  "EndpointName": "bConnect-Device",
  "JobDefinitionId": "E4B87F22-F0D8-4F13-92AD-485044743329",
  "JobDefinitionName": "Inventur",
  "TimeStart": "2020-02-24T09:48:12.8463917Z",
  "TimeLastAction": "2020-02-24T09:48:12.8463917Z",
  "StateText": "Job assigned",
  "Properties": {},
  "Initiator": "user@domain.net",
  "EndpointCategory": 7,
  "JobDefinitionDisplayName": ""
}
```

- DELETE-Request:

<https://bmsserver.customer.net/bConnect/v1.1/jobinstances?Id=EB6A02C3-BDCF-49EA-BD71-C12BB5C3561D>

Result: *No data.*



## 5.11 Controller HardwareProfiles

The *HardwareProfiles* controller provides actions concerning the available *HardwareProfile* objects defined in the bMS.

To request *HardwareProfile* objects the URL must contain the bConnect version information. Only those *HardwareProfile* objects can be read, the specified user has at least configured read rights on.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/HardwareProfiles

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>HardwareProfile</i> objects.	2016
GET	ID=<hardware profile id>	Finds a <i>HardwareProfile</i> object by ID.	2016

[Properties of \*HardwareProfile\*.](#)

## 5.12 Controller BootEnvironment

The *BootEnvironment* controller provides actions concerning the Boot Environments objects of the bMS.

To request *BootEnvironment* object data the URL must contain the bConnect version information. Only those *BootEnvironment* objects, the specified user has at least configured read rights on, will be available.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/BootEnvironment

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>Boot Environment</i> objects.	2016R2
GET	ID=<id>	Returns a single <i>Boot Environment</i> object with the specified ID.	2016R2

[Properties of \*BootEnvironment\*](#)

## 5.13 Controller Variables

The *Variables* controller provides actions concerning the *Variable* objects of all bMS objects that support variables. These *ObjectVariables* are certain instances of corresponding [VariableDefinition](#) objects which can be managed with the [controller VariableDefinitions](#).

To request *Variable* object data the URL must contain the bConnect version information. Only those *Variable* objects can be read, the specified user has at least configured read rights on the corresponding object in the bMS. To set a new value for a *Variable* object, the specified user needs modify rights on the corresponding object in the bMS.

With bMS 2015 job objects of type *WindowsJob*, org units in node *Logical Groups* and all endpoint objects supported reading and modification of their variables over bConnect. Since Version 2016R2 it is also possible to read and modify variables for *Software* (Windows Application only) and *HardwareProfile* objects.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/Variables

Method	URL parameters	Description	Since bMS
GET	Scope=<scope>	Returns a list of <i>ObjectVariables</i> of corresponding objects specified by <i>Scope</i> . One <i>ObjectVariables</i> object contains all variables of the specific bMS object.  Currently supported scopes are "Device", "MobileDevice", "OrgUnit", "Job", "Software", "HardwareProfile" and "NetworkDevice" and "ICDevice".  (Check properties of <a href="#">ObjectVariables</a> for more information)	2015
GET	Scope=<scope> & Category=<var category>	Returns a list of <i>ObjectVariables</i> of corresponding objects specified by <i>Scope</i> . Only the variables of the specified <i>Category</i> are supplied in the <i>ObjectVariables</i> objects.	2015
GET	Scope=<scope> & Category=<var category> & Name=<var name>	Returns a list of <i>ObjectVariables</i> of corresponding objects specified by <i>Scope</i> . Only the variables of the specified <i>Category</i> and <i>Name</i> are supplied in the <i>ObjectVariables</i> objects.	2015
GET	Scope=<scope> & ObjectId=<object id>	Returns an <i>ObjectVariables</i> object with the variables of the object specified by <i>ObjectId</i> . (e.g. ID of a WindowsEndpoint) The specified object must match with the specified scope for a successful result.	2015
GET	Scope=<scope> & ObjectId=<object id> & Category=<var category>	Returns an <i>ObjectVariables</i> object specified by <i>ObjectId</i> . (e.g. ID of a WindowsEndpoint) The specified object must match with the specified scope. Only variables with the specified <i>Category</i> will be returned.	2015

GET	Scope=<scope> & ObjectId=<object id> & Category=<var category> & Name=<var name>	Returns an <i>ObjectVariables</i> object specified by <i>ObjectId</i> . (e.g. the ID of a WindowsEndpoint) The specified object must match with the specified scope. Only variables with the specified <i>Category</i> and <i>Name</i> will be returned.	2015
PUT	None	Updates the specific Variable objects, specified by object id, category and name with the specified values. The specified parameters need to be passed in the body of the HTTP-Request. The data needs to be in the same format as returned by a HTTP-Request with Method GET. See properties of <a href="#">ObjectVariables</a> for further information. The returned object is of type <i>ObjectVariables</i> containing all the variables of the specified object. The Property <i>UseDefault</i> is considered for endpoints of type <i>BmsNetEndpoint</i> , <i>ICDevice</i> and <i>NetworkDevice</i> only and is <i>false</i> by default.	2015

### [Properties of ObjectVariables.](#)

Examples:

- GET-Request:  
`https://bmsserver.customer.net/bConnect/v1.1/variables.xml?scope=device&objectid=AA61A522-6EE6-4623-A47C-7A35D270F0DF`

Result:

```
<ObjectVariables xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <ObjectId>AA60A522-6EE6-4623-A47C-7A35D270F0DF</ObjectId>
  <Scope>Device</Scope>
  <Variables>
    <Variable>
      <Category>Location</Category>
      <Name>Building</Name>
      <UseDefault>>false</UseDefault>
      <Value>Building1</Value>
      <Type>String</Type>
    </Variable>
    ...
    <Variable>
      <Category> Location </Category>
      <Name>Room</Name>
      <UseDefault>>false</UseDefault>
      <Value>Laboratory</Value>
```

```
</Variable>
    </Variables>
</ObjectVariables>

<Type>String</Type>
```

- PUT-Request:

*https://bmsserver.customer.net/bConnect/v1.1/variables.xml*

Body (xml format):

```
<ObjectVariables xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <ObjectId>AA60A522-6EE6-4623-A47C-7A35D270F0DF</ObjectId>
  <Scope>Device</Scope>
  <Variables>
    <Variable>
      <Category>Location</Category>
      <Name>Building</Name>
      <UseDefault>>false</UseDefault>
      <Value>OtherBuilding</Value>
    </Variable>
  </Variables>
</ObjectVariables>
```

Result:

```
<ObjectVariables xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <ObjectId>AA60A522-6EE6-4623-A47C-7A35D270F0DF</ObjectId>
  <Scope>Device</Scope>
  <Variables>
    <Variable>
      <Category>Location</Category>
      <Name>Building</Name>
      <UseDefault>>false</UseDefault>
      <Value>OtherBuilding</Value>
    </Variable>
    ...
    <Variable>
      <Category> Location </Category>
      <Name>Room</Name>
      <UseDefault>>false</UseDefault>
      <Value>Laboratory</Value>
    </Variable>
  </Variables>
</ObjectVariables>
```

## 5.14 Controller Apps

The *Apps* controller provides actions concerning the *App* objects, of the bMS. All sorts of apps for endpoints of type *BmsNetEndpoint* are supported.

To request *App* object data the URL must contain the bConnect version information. Only those *App* objects, the specified user has at least configured read rights on, will be available.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/Apps

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>App</i> objects.	2016R2
GET	OrgUnit=<org unit id>	Returns a list of <i>App</i> objects, contained in the specified organizational unit. Sub units are not considered.	2016R2
GET	EndpointID=<id>	Returns a list of <i>App</i> objects that are installed on the specified endpoint.	2016R2
GET	ID=<id>	Returns a single <i>App</i> objects by ID.	2016R2

[Properties of Apps.](#)

## 5.15 Controller Icons

The *Icons* controller provides actions concerning the icons of the available apps in the bMS. This means the apps to install on devices as well as the inventoried ones.

To request *Icons* object data the URL must contain the bConnect version information. Only those *Icon* objects, the specified user has at least configured read rights on the appropriate *App* or *InventoryApp* object, will be available.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/Icons

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>Icon</i> objects.	2016R2
GET	Scope=<scope>	Returns a list of all <i>Icon</i> objects depending on the chosen scope. If scope is "App", a list of <i>Icon</i> objects of all available and installable <i>App</i> objects will be returned. If scope is "Inventory", a list of <i>Icon</i> objects of inventoried app objects will be returned.	2016R2
GET	AppID=<app id>	Returns a single <i>Icon</i> object specified by an App ID.	2016R2

[Properties of Icons.](#)

## 5.16 Controller Applications

The *Applications* controller provides actions concerning the *Application* objects, of the bMS. These are the software products, including Managed Software products that are installed on endpoints of the type *WindowsEndpoint*.

To request *Application* object data the URL must contain the bConnect version information. Only those *Application* objects, the specified user has at least configured read rights on, will be available.

To create an *Application* object with HTTP method POST in the specified organizational unit (OrgUnit) the appropriate rights (create object) must be given for the specified parent org unit to the user. To update an *Application* object with HTTP method PATCH the user needs the appropriate rights (modify) for the specified object and if *ParentId* is specified also for the new parent org unit.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/Applications

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>Application</i> objects.	2016R2
GET	OrgUnit=<org unit id>	Returns a list of <i>Application</i> objects, contained in the specified organizational unit. Sub units are not considered.	2016R2
GET	EndpointID=<endpoint id>	Returns a list of <i>Application</i> objects that are installed with the bMS on the specified endpoint.	2016R2
GET	ID=<id>	Returns an <i>Application</i> object by ID.	2016R2
POST	None  (Mandatory and optional properties must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Creates a new <i>Application</i> object according to the specified mandatory and optional data. Mandatory properties: <ul style="list-style-type: none"> <li>• Name</li> <li>• Vendor</li> <li>• ValidForOS</li> </ul> See <a href="#">properties of Applications</a> for further information.	2017
PATCH	ID=<application id>  (The properties that are to be updated must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Updates the specified properties of the <i>Application</i> object by ID. Optional properties for all Application types: <ul style="list-style-type: none"> <li>• Name</li> <li>• Comment</li> <li>• Vendor</li> <li>• Category</li> <li>• ParentId</li> <li>• Version</li> <li>• ValidForOS</li> <li>• EnableAUT</li> <li>• Installation</li> <li>• Uninstallation</li> <li>• ConsistencyChecks</li> </ul>	2017



		<ul style="list-style-type: none"> <li>• Cost</li> <li>• Files</li> <li>• SecurityContext</li> <li>• Licenses</li> <li>• AUT</li> <li>• SoftwareDependencies</li> <li>• SoftwareLicenseActions</li> <li>• Parameters</li> </ul> <p>See <a href="#">properties of Applications</a> for further information. The returned object is of type Application</p>	
DELETE	ID=<application id>	Deletes the <i>Application</i> object by ID.	2017

### Properties of Applications.

Examples:

- POST-Request:  
*https://bmsserver.customer.net /bConnect/v1.1/applications.json*

Body (json format):

```
{
  "Name": "Office Application",
  "Comment": "Alternative Office App",
  "Vendor": "fsf",
  "Category": "basic set",
  "ParentId": "C36331A7-259C-4544-BC0F-804BEE3C3D67",
  "Version": "1.2.3.4",
  "ValidForOS": [
    "WindowsXP_x64",
    "WindowsServer2003_x64",
    "WindowsVista_x64",
    "WindowsServer2008_x64",
    "Windows7_x64",
    "Windows8",
    "WindowsServer2012_x64",
    "Windows10_x64"
  ],
  "Installation": {
    "Command": "InstallCommand.exe",
    "Parameter": "/s",
    "Engine": "baramundi Deploy Script",
    "EngineFile": "{DIP}\\Scripts\\BDS\\ Office_App.bds ",
    "Options": {
      "AllowReinstall": false,
      "UsebBT": true,
      "VisibleExecution": "NeedsDesktop",
      "CopyLocally": false,
      "DisableInputDevices": true,
      "DontSetAsInstalled": true,
      "MapShare": false,
      "Target": "C:\\",
      "RebootBehaviour": "DeferrableReboot"
    }
  },
  "UserSettings": {
```

```
    "ExecuteAtEveryLogin": false,
    "baramundiDeployScript": "{DIP}\\Scripts\\BDS\\Office_App_Ubds.bds",
    "ValidForInstallUser": false,
    "RunbDSVisible": false,
    "CopyScriptToClient": false
  }
},
"SoftwareDependencies": [
  {
    "DependencyId": "B9E90391-AECC-44D5-8FF6-3AFCD4F0683E",
    "DependencyType": "InstallBeforeIfNotInstalled",
    "ValidForOS": [
      "Windows7_x64",
      "WindowsServer2008R2_x64",
      "Windows8_x64",
      "WindowsServer2012_x64",
      "Windows10_x64",
      "WindowsServer2016_x64"
    ]
  }
],
"SecurityContext": "LocalInstallUser",
"Parameters": [
  {
    "Name": "MaxParralelUsers",
    "Type": "Number",
    "Value": "2",
    "DefaultValue": "3"
  }
]
}
```

## 5.17 Controller InventoryDataRegistryScans

The *InventoryDataRegistryScans* controller provides actions concerning *Inventory* objects with data of a registry scan. This data is gathered in the bMS with a Software scan.

To request *Inventory* objects with registry scan data the URL must contain the bConnect version information. Only those *Inventory* objects can be read, the specified user has at least configured read rights on the node *Inventoried Files* and the corresponding endpoint in the bMS. To delete *Inventory* objects the specified user needs read rights on the node *Inventoried Files* as well as read and modify rights on the endpoint. Inventory Registry scan data can be managed for endpoints of type *WindowsEndpoint* only.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/InventoryDataRegistryScans

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>Inventory</i> objects with the registry scan data.	2015
GET	EndpointID=<endpoint id>	Returns the <i>Inventory</i> object with the registry scan data of the endpoint with the specified ID.	2015
DELETE	EndpointID=<endpoint id>	Deletes all registry scan data of the endpoint with the specified ID.	2015

[Properties of \*Inventory\*.](#)

[Properties of \*DataRegistry\*.](#)

## 5.18 Controller InventoryDataFileScans

The *InventoryDataFileScans* controller provides actions concerning *Inventory* objects with data of a file scan. This data is gathered in the bMS with a software scan.

To request *Inventory* objects with file scan data the URL must contain the bConnect version information. Only those *Inventory* objects can be read, the specified user has at least configured read rights on the node *Inventoried Files* and the corresponding endpoint in the bMS. To delete *Inventory* objects the specified user needs read rights on the node *Inventoried Files* as well as read and modify rights on the endpoint. Inventory file scan data can be managed for endpoints of type *WindowsEndpoint* only.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/InventoryDataFileScans

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>Inventory</i> objects with the file scan data.	2015
GET	EndpointID=<endpoint id>	Returns the <i>Inventory</i> object with the file scan data of the endpoint with the specified ID.	2015
DELETE	EndpointID=<endpoint id>	Deletes all file scan data of the endpoint with the specified ID.	2015

[Properties of \*Inventory\*.](#)

[Properties of \*DataFile\*.](#)

## 5.19 Controller InventoryDataWMIScans

The *InventoryDataWMIScans* controller provides actions concerning *Inventory* objects with data of a WMI scan.

To request *Inventory* objects with WMI scan data the URL must contain the bConnect version information. Only those *Inventory* objects can be read, the specified user has at least configured read rights on the corresponding endpoint. Inventory WMI scan data can be read for endpoints of type *WindowsEndpoint* only.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/InventoryDataWMIScans

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>Inventory</i> objects with WMI scan data.	2015
GET	TemplateName=<name of the WMI scan template>	Returns a list of all available <i>Inventory</i> objects with WMI scan data of scans executed with the specified inventory template.	2015
GET	TemplateName=<name of the WMI scan template> & Scan=<scan term>	Returns a list of all available <i>Inventory</i> objects with WMI scan data of the latest scan executed with the specified inventory template. As scan term only "Latest" is supported at the moment.	2015
GET	EndpointID=<endpoint id>	Returns an <i>Inventory</i> object with WMI scan data of the endpoint with the specified ID.	2015
GET	EndpointID=<endpoint id> & TemplateName=<name of the scan template>	Returns the <i>Inventory</i> object with WMI scan data, gathered with the specified inventory template only, of the endpoint of the specified ID.	2015
GET	EndpointID=<endpoint id> & TemplateName=<name of the scan template> & Scan=<scan term / time>	Returns the <i>Inventory</i> object with WMI scan data, gathered with the specified inventory template at the specified time or the latest scan only, of the endpoint of the specified ID. As scan term only "Latest" is supported at the moment. The scan time must be specified as UTC time in the format "yyyy-MM-ddThh:mm:ssZ" (y=year, M=month, d=day, h=hours, m=minutes, s=seconds). The scan time of the scans can be obtained over the <a href="#">InventoryOverviews</a> controller.	2015

[Properties of Inventory.](#)

[Properties of DataWMI.](#)

## 5.20 Controller InventoryDataCustomScans

The *InventoryDataCustomScans* controller provides actions concerning *Inventory* objects with data of a Custom scan.

To request *Inventory* objects with custom scan data the URL must contain the bConnect version information. Only those *Inventory* objects can be read, the specified user has at least configured read rights on the corresponding endpoint. Inventory Custom scan data can be read for endpoints of type *WindowsEndpoint* only.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/InventoryDataCustomScans

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>Inventory</i> objects with Custom scan data.	2015
GET	TemplateName=<name of the used scan template>	Returns a list of all available <i>Inventory</i> objects with Custom scan data of scans executed with the specified inventory template.	2015
GET	TemplateName=<name of the scan template> & Scan=<scan term>	Returns a list of all available <i>Inventory</i> objects with Custom scan data of the latest scan executed with the specified inventory template. As scan term only "Latest" is supported at the moment.	2015
GET	EndpointID=<endpoint id>	Returns an <i>Inventory</i> object with Custom scan data of the endpoint with the specified ID.	2015
GET	EndpointID=<endpoint id> & TemplateName=<name of the scan template>	Returns the <i>Inventory</i> object with Custom scan data, gathered with the specified inventory template only, of the endpoint of the specified ID.	2015
GET	EndpointID=<endpoint id> & TemplateName=<name of the scan template> & Scan=<scan term / time>	Returns the <i>Inventory</i> object with Custom scan data, gathered with the specified inventory template at the specified time or the latest scan only, of the endpoint of the specified ID. As scan term only "Latest" is supported at the moment. The scan time must be specified as UTC time in the format "yyyy-MM-ddThh:mm:ssZ" (y=year, M=month, d=day, h=hours, m=minutes, s=seconds). The scan time of the scans can be obtained over the <a href="#">InventoryOverviews</a> controller.	2015

[Properties of Inventory.](#)

[Properties of DataCustom.](#)

## 5.21 Controller InventoryDataHardwareScans

The *InventoryDataHardwareScans* controller provides actions concerning *Inventory* objects with data of a hardware scan.

To request *Inventory* objects with hardware scan data the URL must contain the bConnect version information. Only those *Inventory* objects can be read, the specified user has at least configured read rights on the corresponding endpoint. Inventory hardware scan data can be requested for the following types of endpoints (Windows, iOS, Android, WindowsPhone and Mac).

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/InventoryDataHardwareScans

Method	URL parameters	Description	Since bMS
GET	EndpointID=<endpoint id>	Returns an <i>Inventory</i> object with hardware scan data of the endpoint with the specified ID.	2017
GET	EndpointID=<endpoint id> & TemplateName=<name of the scan template>	Returns the <i>Inventory</i> object with hardware scan data, gathered with the specified inventory template only, of the endpoint of the specified ID. If endpoint is not of type <i>WindowsEndpoint</i> the parameter "TemplateName" is ignored.	2017
GET	EndpointID=<endpoint id> & TemplateName=<name of the scan template> & Scan=<scan term / time>	Returns the <i>Inventory</i> object with Custom scan data, gathered with the specified inventory template at the specified time or the latest scan only, of the endpoint of the specified ID. As scan term only "Latest" is supported at the moment. The scan time must be specified as UTC time in the format "yyyy-MM-ddThh:mm:ssZ" (y=year, M=month, d=day, h=hours, m=minutes, s=seconds). For endpoints of type <i>WindowsEndpoint</i> the scan time of the scans can be obtained over the <a href="#">InventoryOverviews</a> controller. If endpoint is not of type <i>WindowsEndpoint</i> the parameter "TemplateName" and "Scan" are ignored.	2017

[Properties of Inventory.](#)

[Properties of DataHardware.](#)

## 5.22 Controller InventoryDataSnmpScans

The *InventoryDataSnmpScans* controller provides actions concerning *Inventory* objects with data of a SNMP scan. This data is gathered in the bMS with a SNMP job.

To request *Inventory* objects with SNMP scan data the URL must contain the bConnect version information. Only those *Inventory* objects can be read, the specified user has at least configured read rights on the node *Inventoried Files* and the corresponding endpoint in the bMS.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/InventoryDataSnmpScans

Method	URL parameters	Description	Since bMS
GET	EndpointID=<endpoint id>	Returns the <i>Inventory</i> object with the SNMP scan data of the endpoint with the specified ID.	2017

[Properties of \*Inventory\*.](#)

[Properties of \*DataSnmp\*.](#)

## 5.23 Controller InventoryOverviews

The *InventoryOverviews* controller provides actions concerning *InventoryOverview* objects. It contains overview data of Custom, WMI and Hardware scans executed on a specific client.

To request *InventoryOverview* objects the URL must contain the bConnect version information. Only those *InventoryOverview* objects can be read, the specified user has at least configured read rights on the corresponding endpoint. *InventoryOverview* objects can be read for endpoints of type *WindowsEndpoint* only.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/InventoryOverviews

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>InventoryOverview</i> objects.	2015
GET	EndpointID=<endpoint id>	Returns the <i>InventoryOverview</i> object of the endpoint with the specified ID.	2015

[Properties of \*InventoryOverview\*](#)



## 5.24 Controller InventoryAppScans

The *InventoryAppScans* controller provides actions concerning *Inventory* objects with data of a mobile device app scan.

To request *Inventory* objects with app scan data the URL must contain the bConnect version information. Only those *Inventory* objects can be read, the specified user has at least configured read rights on the corresponding endpoints of type *Android*, *iOS* and *WindowsPhone* only.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/InventoryAppScans

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>Inventory</i> objects with app scan data.	2016R2
GET	EndpointID=<endpoint id>	Returns a list of all available <i>Inventory</i> objects with app scan data of scans executed on an endpoint specified by ID.	2016R2

[Properties of \*Inventory\*.](#)

[Properties of \*InventoryApp\*.](#)

## 5.25 Controller SoftwareScanRules

The *SoftwareScanRules* controller provides actions concerning the *SoftwareScanRule* objects that are created as result of the client software inventory, of the bMS. *SoftwareScanRule* objects are available for endpoints of type *WindowsEndpoint* only.

To request *SoftwareScanRule* object data the URL must contain the bConnect version information and the specified user needs at least configured read rights on the node "Software scan rules" in the module *Inventory*.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/SoftwareScanRules

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>SoftwareScanRule</i> objects.	2014

### [Properties of SoftwareScanRule.](#)

Examples:

- GET-Request:  
*https://bmsserver.customer.net/bConnect/v1.1/softwarescanrules.xml*

Result:

```
<ArrayOfSoftwareScanRule>
  <SoftwareScanRule>
    <Category>ManagedSoftware</Category>
    <Comment/>
    <Id>006548b4-d65b-4e6a-870e-a9f1eb8542f5</Id>
    <IsMswRule>true</IsMswRule>
    <Protected>true</Protected>
    <Rules>chlcdfkeanhekcakeigla...hlniifpakf</Rules>
    <SoftwareManufacturer>VideoLan</SoftwareManufacturer>
    <SoftwareName>VLC</SoftwareName>
    <SoftwareVersion>2.1.1-x64</SoftwareVersion>
  </SoftwareScanRule>
  <SoftwareScanRule>
    <Category/>
    <Comment/>
    ...
    <SoftwareVersion>5.0.0.16964</SoftwareVersion>
  </SoftwareScanRule>
  ...
  ...
</ArrayOfSoftwareScanRule>
```

## 5.26 Controller SoftwareScanRuleCounts

The *SoftwareScanRuleCounts* controller provides actions to get *SoftwareScanRuleCount* objects that provide the endpoints which match the software scan rule along with a count. *SoftwareScanRuleCount* objects are available for endpoints of type *WindowsEndpoint* only.

To request *SoftwareScanRuleCount* object data the URL must contain the bConnect version information and the specified user needs at least configured read rights on the node “*Licenses*” in the module *Licenses*.

**URL:** https://<bmsserver>:<port>/bConnect/v1.1/SoftwareScanRuleCounts

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>SoftwareScanRuleCount</i> objects.	2018 R2

### [Properties of SoftwareScanRuleCount.](#)

Examples:

- GET-Request:  
*https://bmsserver.customer.net/bConnect/v1.1/softwarescanrulecounts.xml*

Result:

```
<ArrayOfSoftwareScanRuleCount>
  <SoftwareScanRuleCount>
    <InstalledCount>50</InstalledCount>
    <InstalledEndpoints>
      <EndpointInfo>
        <Id>17B65E8A-DBF3-456C-B5A5-38E596F01C20</Id>
        <Name>WIN10-ENT</Name>
      </EndpointInfo>
    </InstalledEndpoints>
    <SoftwareScanRule>
      <Category>ManagedSoftware</Category>
      <Comment/>
      <Id>006548b4-d65b-4e6a-870e-a9f1eb8542f5</Id>
      <IsMswRule>true</IsMswRule>
      <Protected>false</Protected>
      <Rules>chlcdfkeanhekdakeigla...hlniifpakf</Rules>
      <SoftwareManufacturer>Oracle</SoftwareManufacturer>
      <SoftwareName>Java JRE</SoftwareName>
      <SoftwareVersion>8.0.111.14-x64</SoftwareVersion>
    </SoftwareScanRule>
  </SoftwareScanRuleCount>
</ArrayOfSoftwareScanRuleCount>
```

## 5.27 Controller EndpointInvSoftware

The *EndpointInvSoftware* controller provides actions concerning the *EndpointInvSoftware* objects, which contain the link between endpoints and inventoried software, of the bMS. *EndpointInvSoftware* objects are available for endpoints of type *WindowsEndpoint* only.

To request *EndpointInvSoftware* object data the URL must contain the bConnect version information and the specified user needs at least configured read rights for the corresponding *Endpoint* objects and the node "Software scan rules" in the module *Inventory*.

**URL:** https://<bmsserver>:<port>/bConnect/V1.1/EndpointInvSoftware

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all available <i>EndpointInvSoftware</i> objects.	2014

### [Properties of EndpointInvSoftware.](#)

Examples:

- GET-Request:

*https://bmsserver.customer.net/bConnect/v1.1/endpointinvsoftware.xml*

Result:

```
<ArrayOfEndpointInvSoftware>
  <EndpointInvSoftware>
    <ConflictedRules>0</ConflictedRules>
    <GuidEndpoint>26c2712a-7f5e-4307-b675-8139accf4b4d</GuidEndpoint>
    <GuidRule>04b2928e-645b-4a99-8a2c-746fdc2c122d</GuidRule>
    <InventoryPath>$Registry$</InventoryPath>
    <InventoryVersion>8.8.9.237</InventoryVersion>
    <LastSeen>2013-05-22T09:30:56+02:00</LastSeen>
  </EndpointInvSoftware>
  <EndpointInvSoftware>
    <ConflictedRules>0</ConflictedRules>
    <GuidEndpoint>26c2712a-7f5e-4307-b675-8139accf4b4d</GuidEndpoint>
    <GuidRule>0574135c-901d-4b70-8f4c-f18d911068f5</GuidRule>
    <InventoryPath>$Registry$</InventoryPath>
    <InventoryVersion>6.2 SP0 x64-EN</InventoryVersion>
    <LastSeen>2013-05-22T09:30:56+02:00</LastSeen>
  </EndpointInvSoftware>
  ...
</ArrayOfEndpointInvSoftware>
```

## 5.28 Controller Images

The *Images* controller provides actions concerning the *Image* objects. Image objects are supported on [Jobs](#).

To request *Images* object data the URL must contain the bConnect version information.

**URL:** https://<bmsserver>:<port>/bConnect/V1.1/Images

Method	URL parameters	Description	Since bMS
GET	Id	Returns an <a href="#">Image</a> .	2018 R2

### [Properties of Image.](#)

Examples:

- GET-Request:  
`https://bmsserver.customer.net/bConnect/v1.1/images.xml?Id=B227BAACC41C9D51BD03B823E785A084`

Result:

```
<Image>
  <Id>B227BAACC41C9D51BD03B823E785A084</Id>
  <MimeType>image/jpeg</MimeType>
  <Data>...</Data>
</Image>
```

## 5.29 Controller VariableDefinitions

The VariableDefinitions controller provides functionality to read, create, update and delete custom variables. These custom variables are available as [ObjectVariables](#) for the corresponding bMS objects, which do support variables.

Note: The deletion of a VariableDefinition object will also delete all its corresponding ObjectVariable instances.

To request *VariableDefinition* object data the URL must contain the bConnect version information.

**URL:** https://<bmsserver>:<port>/bConnect/V1.1/VariableDefinitions

Method	URL parameters	Description	Since bMS
GET	None	Returns all custom variables as a list of <i>VariableDefinition</i> objects. (Check properties of <a href="#">VariableDefinition</a> for more information)	2019
GET	ID=<vardef id>	Returns a single <i>VariableDefinition</i> object with the specified ID	2019
GET	Scope=<vardef scope>	Returns custom variables with the given Scope as a list of <i>VariableDefinition</i> objects.  Currently supported scopes are "Device", "MobileDevice", "OrgUnit", "Job", "Software", "HardwareProfile", "AdObject", "Bulletin", "Component", "NetworkDevice" and "ICDevice".  The scopes "NetworkDevice" and "ICDevice" can be combined as a comma separated list and are applicable for variable types "String", "Number", "Date" and "Password" only.	2019
GET	Scope=<vardef scope> & Category=<vardef category>	Returns custom variables with the given Scope and Category as a list of <i>VariableDefinition</i> objects	2019
GET	Scope=<vardef scope> & Category=<vardef category> & Name=<vardef name>	Returns a single <i>VariableDefinition</i> object with the given Scope, Category and Name	2019
POST	None  (Mandatory and optional properties must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Creates a new <i>VariableDefinition</i> object according to the specified mandatory and optional data. Mandatory properties: <ul style="list-style-type: none"> <li>• Scope</li> <li>• Category</li> <li>• Name</li> <li>• Type</li> </ul>	2019

PATCH	ID=<vardef id>  (The properties that are to be updated must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Updates the specified properties of the <i>VariableDefinition</i> object by ID. Optional properties: <ul style="list-style-type: none"> <li>• Category</li> <li>• Name</li> <li>• Value</li> <li>• Comments</li> <li>• Scope (only possible for scopes "NetworkDevice" and "ICDevice")</li> </ul>	2019
DELETE	ID=< vardef id >	Deletes a <i>VariableDefinition</i> object by ID.	2019

#### Examples:

- GET-Request:

<https://bmsserver.customer.net/bConnect/v1.1/variabledefinitions>

#### Result:

```
<ArrayOfVariableDefinition>
  <VariableDefinition>
    <Category>Location</Category>
    <Comments></Comments>
    <Id>07311C36-668C-4794-BD60-C79DD4A3D191</Id>
    <Name>Cost center</Name>
    <Scope>Device</Scope>
    <Type>Checkbox</Type>
    <Value>1</Value>
  </VariableDefinition>
  <VariableDefinition>
    <Category>Location</Category>
    <Comments/>
    <Id>292F4106-6CBD-410D-8527-FB2B979A828F</Id>
    <Name>Building</Name>
    <Scope>Device</Scope>
    <Type>String</Type>
    <Value></Value>
  </VariableDefinition>
  <VariableDefinition>
    <Category>Warranty data</Category>
    <Comments/>
    <Id>95371B4C-3F14-4ADA-9F8D-C13ED7F2878E</Id>
    <Name>Inventory id</Name>
    <Scope>Device</Scope>
    <Type>String</Type>
    <Value></Value>
  </VariableDefinition>
  ...

```

```
</ArrayOfVariableDefinition>
```

- PATCH-Request:

*<https://localhost:443/bconnect/v1.1/variabledefinitions.xml?id=0E3D4C92-96F3-4260-BBFD-6D5218FDB087>*

Body (xml format):

```
<VariableDefinition xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <Comments>default value updated</Comments>
  <Value>new default value</Value>
</VariableDefinition>
```

Result:

```
<VariableDefinition>
  <Category>Location</Category>
  <Comments>default value updated</Comments>
  <Id>0E3D4C92-96F3-4260-BBFD-6D5218FDB087</Id>
  <Name>Building</Name>
  <Scope>Device</Scope>
  <Type>String</Type>
  <Value>new default value</Value>
</VariableDefinition>
```



## 5.30 Controller KioskJobs

The KioskJobs controller provides functionality to read, create and delete job releases. They are available as [KioskJob](#) objects.

**URL:** `https://<bmsserver>:<port>/bConnect/V1.1/KioskJobs`

Method	URL parameters	Description	Since bMS
GET	User=<user_principal_name>	Returns a list of all released <i>KioskJob</i> objects for the specified user	2019
GET	EndpointId=<endpoint id>	Returns a list of all released <i>KioskJob</i> objects for the specified endpoint. Result also includes all inherited releases.	2019
GET	GroupId=<group id>	Returns a list of all released <i>KioskJob</i> objects for the specified group. Result also includes all inherited releases	2019
GET	JobDefinitionId =<job id>	Returns a list of all released <i>KioskJob</i> objects for the specified job definition.	2019
POST	JobDefinitionId=<job id> & TargetId=<endpoint id / group id / user id>	Release a job for endpoint, group or user.	2019
POST	JobDefinitionId=<job id> & User=<user_principal_name>	Release a job for user.	2019 R2
DELETE	KioskJobId=<kiosk job id>	Delete <i>KioskJob</i>	2019

Examples:

- GET-Request:

`https://bmsserver.customer.net/bConnect/v1.1/KioskJobs?endpointId=E4D6F70F-290C-4B0E-B9A9-D823171FF5E3`

Result:

```
[{
  "Id": "4",
  "AssignedObjectId": "E4D6F70F-290C-4B0E-B9A9-D823171FF5E3",
  "AssignedObjectName": "Windows PC",
  "AssignedObjectType": "WindowsEndpoint",
  "JobDefinitionId": "A57D8D92-D088-4FBF-BDE3-38FE3102297D",
  "JobDefinitionName": "Windows-Scan",
  "JobDefinitionDisplayName": "Windows-Scan",
  "JobDefinitionCategory": "",
  "JobDefinitionSupportedPlatforms": [
    "Windows"
  ]
}]
```

## 5.31 Controller EndpointSecrets

The EndpointSecrets controller provides functionality to read and update disk encryption information. They are available as [EndpointSecrets](#) objects.

**URL:** `https://<bmsserver>:<port>/bConnect/V1.1/EndpointSecrets`

Method	URL parameters	Description	Since bMS
GET	EndpointId=<endpoint id>	Returns the BitLocker unlock pin and volume secret information	2019 R2
PATCH	EndpointID=< endpoint id >	Optional properties: <ul style="list-style-type: none"> <li>Pin</li> </ul>	2019 R2

Examples:

- GET-Request:  
`https://bmsserver.customer.net/bConnect/v1.1/EndpointSecrets?endpointId=E4D6F70F-290C-4B0E-B9A9-D823171FF5E3`

Result:

```
{
  "EndpointId": "E4D6F70F-290C-4B0E-B9A9-D823171FF5E3",
  "Pin": "123456",
  "VolumeSecretEntries": [
    {
      "VolumeId": "\\?\\Volume{1bc10a7f-b18c-3591-c322-075836942588}\\",
      "VolumeName": "System (C:)",
      "IsSystemVolume": true,
      "GeneratedRecoveryKey": "123456-789012-345678-901234-567890-123456-789012",
      "InventoryRecoveryKey": "123456-789012-345678-901234-567890-123456-789012",
      "InventoryTimestamp": "2019-10-10T09:14:33Z"
    }
  ]
}
```

## 5.32 Controller EndpointEnrollment

The EndpointEnrollment controller provides functionality to trigger enrollment state of a **Windows** endpoint. This means the endpoint will be set to Internet mode, the public key (if existing) is deleted and the enrollment data is generated / overwritten. By specifying an e-mail recipient, you can also have a corresponding e-mail with the enrollment information sent automatically.

**URL:** https://<bmsserver>:<port>/bConnect/V1.1/EndpointEnrollment

Method	URL parameters	Description	Since bMS
POST	<p>sync=&lt;true / false&gt;</p> <p>(Mandatory and optional properties must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)</p>	<p>Sets mode of the endpoint to <i>Internet</i>, deletes its stored public key (if existing) and generates / overwrites the enrollment data of this endpoint.</p> <p>By specifying an e-mail recipient, you can also have a corresponding e-mail with the enrollment information sent automatically. The optional EmailLanguageId parameter sets which e-mail template is used for the enrollment message. Default available mail templates are "de-DE" and "en-US". If the email language is not specified, the English template ("en-US") will be used.</p> <p>The optional URL parameter "sync" specifies whether to wait until the email has been successfully sent to the configured SMTP server (default: sync = false).</p> <p>Returns an <a href="#">EnrollmentData</a> object.</p> <p>Mandatory Properties:</p> <ul style="list-style-type: none"> <li>EndpointId</li> </ul> <p>Optional Properties:</p> <ul style="list-style-type: none"> <li>EmailRecipient</li> <li>EmailLanguageId</li> </ul>	2020 R1

Example:

- POST-Request:  
<https://bmsserver.customer.net/bConnect/v1.1/EndpointEnrollment.json>

Request body:

```
{
  "EndpointId" : " E4D6F70F-290C-4B0E-B9A9-D823171FF5E3",
  "EmailRecipient" : "user@customer.com",
  "EmailLanguageId": "de-DE"
}
```

Result:

```
{
  "EndpointId": " E4D6F70F-290C-4B0E-B9A9-D823171FF5E3",
  "InstallCommand":
    "ManagementAgent_setup.exe /Q OPTIONS=655667 INTERNET_MODE=1
    INTERNET_SERVER=172.16.5.55 INTERNET_SERVERPORT=443
    INTERNET_SERVERKEY=\"308201223...\" SERVERKEY=\"308201223...\"
    ENROLLMENT_TOKEN_DATA=\"ChF5dX...\",
  "ValidUntil": "\"2019-12-19T14:41:18.717792500Z\""}
}
```

### 5.33 Controller ServerState

The ServerState controller provides functionality to read the current state of the baramundi server and its sub services.

**URL:** https://<bmsserver>:<port>/bConnect/V1.1/ServerState

Method	URL parameters	Description	Since bMS
GET	None	Returns a <a href="#">ServerState</a> object, which represents the current state of the baramundi server and its sub services	2020 R1

Example:

- GET-Request:  
<https://bmsserver.customer.net/bConnect/v1.1/ServerState.json>

Result:

```
{
  "Name": "bmsserver.customer.net ",
  "ExecutionState": "Running",
  "Services": [
    {
      "Name": "Active Directory Connector",
      "ExecutionState": "Running",
      "StateText": []
    },
    ...
    {
      "Name": "Windows Software Inventory",
      "ExecutionState": "Running",
      "StateText": [
        "Idle"
      ]
    }
  ]
}
```



## 5.34 Controller VPPUsers

The VPPUsers controller provides functionality to read, create and delete (retire) Apple VPP users.

Note: In order to use the VPPUsers controller a valid VPP token must be imported.

To request *VPPUser* object data the URL must contain the bConnect version information.

**URL:** https://<bmsserver>:<port>/bConnect/V1.1/VPPUsers

Method	URL parameters	Description	Since bMS
GET	None	Returns VPP users as a list of <i>VPPUser</i> objects. (Check properties of <a href="#">VPPUser</a> for more information)	2020 R2
GET	ID=<vpp user id>	Returns a single <i>VPPUser</i> object by ID.	2020 R2
GET	Email=<VPP user email>	Returns the VPP users as a list of <i>VPPUser</i> objects, where the email address matches with the given parameter	2020 R2
GET	ManagedAppleId=<VPP user managed Apple Id>	Returns the VPP users as a list of <i>VPPUser</i> objects, where the managed Apple Id matches with the given parameter	2020 R2
GET	UserId=<VPP user UserId>	Returns the VPP users as a list of <i>VPPUser</i> objects, where the userId (assigned by Apple) matches with the given parameter	2020 R2
GET	ItunesStoreHash=<VPP user Itunes store hash>	Returns the VPP users as a list of <i>VPPUser</i> objects, where the Itunes store hash matches with the given parameter	2020 R2
POST	<p>sendInvitationMail=&lt;<i>True</i>, if an invitation mail should be sent to the given Email address, otherwise <i>False</i>&gt;</p> <p>An email will only be sent in case of a non-managed Apple-Id. If the email language is not specified, the English template ("en-US") will be used.</p> <p>(Mandatory and optional properties must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)</p>	<p>Creates a new <i>VPPUser</i> object according to the specified data.</p> <p>Mandatory properties:</p> <ul style="list-style-type: none"> <li>IsManagedAppleId</li> <li>Email (if 'IsManagedAppleId' is <i>False</i>)</li> <li>ManagedAppleId (if 'IsManagedAppleId' is <i>True</i>)</li> </ul> <p>Optional properties:</p> <ul style="list-style-type: none"> <li>EmailLanguageId (default available Values are "de-DE" and "en-US")</li> </ul>	2020 R2
DELETE	ID=<vpp user id>	Deletes/retires a <i>VPPUser</i> object by ID.	2020 R2
PATCH	ID=<vpp user id>	Updates a set of properties of the <i>Job</i> with the specified ID.	2020R2

Examples:

- POST-Request:  
`https://localhost:443/bconnect/v1.1/vppusers.json?sendInvitationMail=true`  
  
Body (json format):  

```
{
  "Email": "Jones.Dow@myprivatemail.com",
  "IsManagedAppleId": false
}
```

  
Result:  

```
{
  "Id": "BF945C04-1A13-4F44-BCE6-FC998AE819FB",
  "Email": "Jones.Dow@myprivatemail.com ",
  "ManagedAppleId": null,
  "ItunesStoreHash": "",
  "InviteUrl":
    "https://buy.itunes.apple.com/WebObjects/MZFinance.woa/wa/associateVPPUserWithITSAccount?cc=de&l=en&inviteCode=fdbf5fb69b4feba7222edfb6&mt=8",
  "Status": "Registered",
  "UserId": "94675313",
  "IsManagedAppleId": false
}
```

## 5.35 Controller VPPLicenseAssociations

The VPPLicenseAssociations controller provides functionality to read, create and delete VPP license associations.

Note: In order to use the VPPLicenseAssociations controller a valid VPP token must be imported.

To request *VPPLicenseAssociation* object data the URL must contain the bConnect version information.

**URL:** `https://<bmsserver>:<port>/bConnect/V1.1/VPPLicenseAssociations`

Method	URL parameters	Description	Since bMS
GET	None	Returns VPP license associations as a list of <i>VPPLicenseAssociation</i> objects. (Check properties of <a href="#">VPPLicenseAssociation</a> for more information)	2020 R2
GET	ID=<vpp license association id>	Returns a single <i>VPPLicenseAssociation</i> object by ID.	2020 R2
GET	EndpointId=<endpoint id>	Returns the VPP license associations as a list of <i>VPPLicenseAssociation</i> objects, where the endpoint id matches with the given parameter	2020 R2
GET	UserId=<VPP user UserId>	Returns the VPP license associations as a list of <i>VPPLicenseAssociation</i> objects, where the user id matches with the given parameter	2020 R2

POST	None  (Mandatory and optional properties must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Creates new <i>VPPLicenseAssociation</i> objects according to the specified data.  Mandatory properties: <ul style="list-style-type: none"> <li>BundleId</li> <li>ClientUserIdStr</li> </ul>	2020 R2
DELETE	ID=<vpp license association id>	Deletes a <i>VPPLicenseAssociation</i> object by ID. This call will disassociate the VPP license of the given bundle identifier from the VPP user.	2020 R2
DELETE	UserId=<VPP user UserId>	Deletes all <i>VPPLicenseAssociation</i> objects of the given VPP user. This call will disassociate all VPP licenses of the VPP user.	2020 R2

#### Examples:

- POST-Request:

<https://localhost:443/bconnect/v1.1/vpplicenseassociations.xml>

Body (xml format):

```
<VPPLicenseAssociation xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <BundleId>com.baramundi.bmdenroll</BundleId>
  <ClientUserIdStr>2E97E7C1-CEF9-4611-A8BB-3E90ADFFE8A8</ClientUserIdStr>
</VPPLicenseAssociation>
```

Result:

```
<VPPLicenseAssociation xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <AdamId>593959012</AdamId>
  <BmsNetEndpoint i:nil="true" />
  <BundleId>com.baramundi.bmdenroll</BundleId>
  <ClientUserIdStr>2E97E7C1-CEF9-4611-A8BB-3E90ADFFE8A8</ClientUserIdStr>
  <Id>D04ABB35-16B2-499C-AF3B-440A1A07C3BE</Id>
  <LicenseIdStr>561967974</LicenseIdStr>
  <SerialNumber i:nil="true" />
  <ShouldBeDisassociated>false</ShouldBeDisassociated>
</VPPLicenseAssociation>
```



## 5.36 Controller MicrosoftUpdateInventories

The MicrosoftUpdateInventories controller provides the functionality to read the Microsoft Update Inventory data of the Windows endpoints. This includes the missing and installed updates found with the last Microsoft Update Inventory job.

To request *MicrosoftUpdateInventories* object data the URL must contain the bConnect version information.

**URL:** <https://<bmsserver>:<port>/bConnect/V1.1/MicrosoftUpdateInventories>

Method	URL parameters	Description	Since bMS
GET	None	Returns installed and missing updates as a list of <i>MicrosoftUpdateInventories</i> objects for all Windows endpoints. (Check properties of <a href="#">MicrosoftUpdateInventories</a> for more information).	2020 R2
GET	EndpointId=<endpoint id>	Returns installed and missing updates as a list of <i>MicrosoftUpdateInventories</i> objects for the specified Windows endpoint.	2020 R2
GET	GroupId=<group id>	Returns installed and missing updates as a list of <i>MicrosoftUpdateInventories</i> objects for all windows endpoints within the specified group. By default, only endpoints that are directly in this group are returned. For the inclusion of subgroup endpoints, see below.	2020 R2
	ExtendedInformation=<true/false>	Optional for all GET methods: If "true", the returned objects also contain the corresponding Description=<Description> and MoreInfoUrls=<MoreInfoUrls> properties.	2020 R2
	Recursive=<true/false>	Optional for GET method with GroupID parameter: If "true", installed and missing updates are returned as a list of <i>MicrosoftUpdateInventories</i> objects for all windows endpoints within the corresponding group and their subgroups. If not specified this parameter is taken as "false" by default.	2020 R2

## Examples:

- GET-Request:

<https://<bmsserver>:<port>/bConnect/V1.1/MicrosoftUpdateInventories?GroupID=036D9C03-4F3E-47E9-8123-2E8B0456C4C7&Recursive=true>

## Result:

```
{
  "Endpoints": [
    {
      "EndpointID": "A61C9A21-DB8D-498C-9F9C-7B28E9DF9B9B",
      "UpdateInformation": [
        {
          "IsInstalled": False,
          "UpdateId": "C2A8FCE2-B93A-4FC0-95EA-16B783F341F4",
          "RevisionNumber": "200",
          "Classification": "Security Updates",
          "Products": [
            "Windows 10"
          ],
          "Title": "2020-02 Security Update for Adobe Flash Player for Windows 10 (KB4537759)",
          "Type": "Software",
          "SupportURL": "https://support.microsoft.com/help/4537759",
          "LastDeploymentChangeTime": "2019-01-15T00:00:00Z",
          "MsSrcSeverity": "Critical",
          ...
        }
      ]
    }
  ]
}
```

## 5.37 Controller ComplianceViolations

The ComplianceViolations controller provides the functionality to read the compliance violations of all endpoint types.

To request *ComplianceViolations* object data the URL must contain the bConnect version information.

**URL:** <https://<bmsserver>:<port>/bConnect/V1.1/ComplianceViolations>

Method	URL parameters	Description	Since bMS
GET	None	Returns compliance violations as a list of ComplianceViolations. (Check properties of <a href="#">ComplianceViolation</a> for more information).	2020 R2
GET	EndpointId=<endpoint id>	Returns compliance violations of the specific endpoint	2020 R2

Examples:

- GET-Request:  
<https://<bmsserver>:<port>/bConnect/V1.1/ComplianceViolations?EndpointId=036D9C03-4F3E-47E9-8123-2E8B0456C4C7>

Result:

```
{
  "CveId": "337B9D1A-744C-45FC-B670-8AAF50B80427"
  "EndpointId": "A61C9A21-DB8D-498C-9F9C-7B28E9DF9B9B",
  "Endpoint": "PC01 (domain.net)",
  "Name": "CVE-2015-0004"
  "Products": "Mozilla Firefox, Mozilla SeaMonkey",
  "CvssScore": 7.5,
  "Severity": "High",
  "Description": "...",
  "ComplianceType": "Windows",
  "State": "Active"
}
```

## 5.38 Controller VulnerabilityExclusions

The VulnerabilityExclusions controller provides the functionality to read the exclusions for vulnerabilities of industrial endpoints.

To request *VulnerabilityExclusions* object data the URL must contain the bConnect version information.

**URL:** <https://<bmsserver>:<port>/bConnect/V1.1/VulnerabilityExclusions>

Method	URL parameters	Description	Since bMS
GET	None	Returns vulnerability exclusions as a list of VulnerabilityExclusions. (Check properties of <a href="#">VulnerabilityExclusion</a> for more information).	2020 R2
GET	ObjectId=<object id>	Returns vulnerability exclusions of the specific <i>ObjectId</i> (logical group or endpoint). Sub units are not considered.	2020 R2
	includeSubfolders =<true/false>	Optional: If "true", the returned objects also contain vulnerability exclusions from sub units. If not specified, this parameter is taken as "false" by default.	2020 R2

Examples:

- GET-Request:  
<https://<bmsserver>:<port>/bConnect/V1.1/VulnerabilityExclusions?objectId=A872D345-FE5F-4B0A-854C-6904B502E8DB&includeSubfolders=true>

Result:

```
{
  "CveName": "CVE-2016-8673",
  "CveId": "BE7DC137-A765-4F1D-8693-946D940CEF81",
  "OriginName": "Controlling Germany",
  "OriginId": "A872D345-FE5F-4B0A-854C-6904B502E8DB",
  "Initiator": "initiator@test.net",
  "Added": "2020-08-24T06:52:33.9423879Z",
  "Reason": "Update does not exist yet",
  "Status": "Exclusion"
}
```

## 5.39 Controller MicrosoftUpdateProfiles

The MicrosoftUpdateProfiles controller provides the functionality to read, create and modify Microsoft Update Profiles that provide an easy way to configure staging when deploying Microsoft updates.

To request *MicrosoftUpdateProfiles* object data the URL must contain the bConnect version information.

**URL:** <https://<bmsserver>:<port>/bConnect/V1.1/MicrosoftUpdateProfiles>

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of existing Microsoft Update Profiles (Check properties of <a href="#">MicrosoftUpdateProfile</a> for more information).	2021 R1
GET	Id=<id>	Returns the MicrosoftUpdateProfile that matches the provided ID.	2021 R1
GET	Name=<name>	Returns the MicrosoftUpdateProfile that matches the provided name.	2021 R1
POST	None  (Mandatory and optional properties must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Creates new MicrosoftUpdateProfile objects according to the specified data.  Mandatory properties: <ul style="list-style-type: none"> <li>Name</li> </ul> Optional properties: <ul style="list-style-type: none"> <li>Comment</li> <li>UpdateDeferralPeriodInDays</li> <li>BlockedUpdates</li> <li>BlockedClassifications</li> <li>BlockedProducts</li> </ul> If no property named UpdateDeferralPeriodInDays is specified, then a 0 is stored as the default value.  If the property BlockedClassifications is not specified explicitly, the values ["Upgrades", "Drivers"] (in JSON, similarly in XML) are used as default.  If the property BlockedClassifications is specified, the value ["Upgrades"] must be included.	2021 R1
PUT	Id=<id>	Updates the MicrosoftUpdateProfile identified by the given ID with the properties provided in the body of the request. Omitted properties are considered null or default for the respective property. For default values see also property descriptions.  If the property BlockedClassifications is specified, the value ["Upgrades"] must be included.	2021 R1
PATCH	Id=<id>	Updates the MicrosoftUpdateProfile identified by the given ID with the properties provided in the body of the request. Omitted properties will be considered unchanged.	2021 R1

		If the property BlockedClassifications is specified, the value ["Upgrades"] must be included.	
DELETE	Id=<id>	Deletes a MicrosoftUpdateProfile object by the given ID. The request will fail if the MicrosoftUpdateProfile is still assigned to at least one endpoint and the force parameter has not been set.	2021 R1
	Force=<true/false>	Optional for DELETE method with Id parameter: If "true", the MicrosoftUpdateProfile will be deleted even if it is still assigned to at least one endpoint. If not specified this parameter is taken as "false" by default.	2021 R1

#### Examples:

- GET-Request:  
<https://<bmsserver>:<port>/bConnect/V1.1/MicrosoftUpdateProfiles?ID=A330F59A-F756-4D30-87D5-34D54A45E0DC>

#### Result:

```
{
  "Id": "A330F59A-F756-4D30-87D5-34D54A45E0DC",
  "Name": "A meaningful name",
  "Comment": "This comment can help explain the reasoning behind the group's settings",
  "UpdateDeferralPeriodInDays": 13,
  "BlockedUpdates": [
    "17A8E018-C67E-4635-902E-B747CEC562D1",
    "CA3BB521-A8EA-4E26-A563-2AD6E3108B9A"
  ],
  "BlockedClassifications": [
    "Feature Packs",
    "Tools",
    "Upgrades",
  ],
  "BlockedProducts": [
    "Silverlight"
  ]
}
```

- DELETE-Request:  
<https://<bmsserver>:<port>/v1.0/MicrosoftUpdateProfiles?id=CF0216FD-974B-4736-8413-3B5B1B229F68>

Result: No Content

## 5.40 Controller MicrosoftUpdateManagementSettings

The MicrosoftUpdateManagementSettings controller provides functionality to read and modify the Microsoft Update Management module settings.

**URL:** <https://<bmsserver>:<port>/bConnect/V1.1/MicrosoftUpdateManagementSettings>

Method	URL parameters	Description	Since bMS
GET	None	Returns all <a href="#">Microsoft update management settings</a> with the corresponding values	2021 R1
GET	Key=<key>	Returns the setting that matches the provided key	2021 R1
PUT	None	Modifies the setting, that was provided in body	2021 R1

Examples:

- PUT-Request:

<https://localhost:443/bconnect/v1.1/MicrosoftUpdateManagementSettings.xml>

Body (xml format):

```
<MicrosoftUpdateManagementSetting xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BConnect.DataModel">
  <Key>InventoryValidityPeriod</Key>
  <Value>90</Value>
</MicrosoftUpdateManagementSetting>
```

Result:

```
<MicrosoftUpdateManagementSetting xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BConnect.DataModel">
  <Key>InventoryValidityPeriod</Key>
  <Value>90</Value>
</MicrosoftUpdateManagementSetting>
```

## 5.41 Controller MicrosoftDefenderThreats

The MicrosoftDefenderThreats controller provides the functionality to read threats which were detected by Microsoft Defender Antivirus on Windows endpoints.

To request *MicrosoftDefenderThreats* object data the URL must contain the bConnect version information.

**URL:** <https://<bmsserver>:<port>/bConnect/V1.1/MicrosoftDefenderThreats>

Method	URL parameters	Description	Since bMS
GET	None	Returns a list of all existing Microsoft Defender Threats (Check properties of <a href="#">MicrosoftDefenderThreats</a> for more information).	2021 R1
GET	Id=<id>	Returns the Microsoft Defender Threat that matches the provided ID.	2021 R1
GET	EndpointId=<endpoint id>	Returns the Microsoft Defender Threats of the specific endpoint.	2021 R1
GET	GroupId=<group id>	Returns the Microsoft Defender Threats of the specific logical group.	2021 R1
	IncludeSubfolders=<true/false>	Optional for GET method with GroupId parameter: If "true", threats are returned for all windows devices within the corresponding group and their subgroups. If not specified this parameter is taken as "false" by default.	2021 R1

Examples:

- GET-Request:  
<https://<bmsserver>:<port>/bConnect/V1.1/MicrosoftDefenderThreats?ID=AAFF8188-A10A-436C-9AEB-92D88BB31CCA>

Result:

```
{
  "Id": "2803FF79-48E4-4EE5-ADAB-A3630E242C36",
  "Name": "Virus:DOS/Test_File",
  "IsActive": false,
  "Severity": "Severe",
  "Category": "Virus",
  "ThreatType": "KnownGood",
  "DomainUser": "TESTDOMAIN\\user1",
  "ProcessName": "C:\\Windows\\System32\\test.exe",
  "FileNames": "file:_C:\\temp\\test.txt",
  "ActionSuccess": true,
  "ExecutionStatus": "AllowedExecutionStatus",
  "ThreatStatus": "Quarantined",
  "DetectionSource": "RealTime",
  "CleaningAction": "Quarantine",
  "AdditionalActions": "28",
  "DetectionTime": "2020-11-30T12:59:28.376Z",
```



```

"RemediationTime": "2020-11-30T12:59:36.294Z",
"LastStatusChangedTime": "2020-11-30T12:59:36.294Z",
"EndpointId": "F52D21F0-89F0-4295-B902-64230B593967",
"EndpointName": "DeviceName"
}

```

## 5.42 Controller ModernEnrollment

The ModernEnrollment controller provides the functionality to activate Mac endpoints for native enrollment. This can only be performed on Mac endpoints whose ManagementState is either 'unmanaged' or 'managed' with the MacEnrollmentType 'SSH'.

**URL:** <https://<bmsserver>:<port>/bConnect/V1.1/ModernEnrollment>

Method	URL parameters	Description	Since bMS
POST	None	<p>Enables the endpoint (currently Mac endpoints only) with the given Id for native enrollment.</p> <p>Mandatory properties:</p> <ul style="list-style-type: none"> <li>EndpointId</li> </ul> <p>Optional properties:</p> <ul style="list-style-type: none"> <li>SendEnrollmentMail</li> <li>EnrollmentMailAddress</li> <li>EmailLanguageId</li> </ul> <p>If there is no email address given with the 'EnrollmentMailAddress' property and 'SendEnrollmentMail' is set to <i>true</i>, the email address of the linked ActiveDirectory user of the endpoint will be used.</p> <p>The EmailLanguageId holds the identifier of the email template, which will be used for the email enrollment message sent to the recipient. By default "de-DE" and "en-US" are available. If this property is not set, the Email template with the Id "en-US" will be used.</p> <p>Returns an <a href="#">ModernEnrollmentActivationResult</a> object.</p>	2021 R1

Examples:

- POST-Request:  
<https://localhost:443/bconnect/v1.1/ModernEnrollment.xml>

Body (xml format):

```
<ModernEnrollmentSettings xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <EmailLanguageId>en-US</EmailLanguageId>
  <EnrollmentMailAddress>john.doe@bartoso.com</EnrollmentMailAddress>
  <EndpointId>499F69F4-11C8-49DB-91D8-F6148B70FE9C</EndpointId>
  <SendEnrollmentMail>true</SendEnrollmentMail>
</ModernEnrollmentSettings>
```

Result:

```
<ModernEnrollmentActivationResult xmlns:i="http://www.w3.org/2001/XMLSchema-
instance"
xmlns="http://schemas.datacontract.org/2004/07/Baramundi.Bms.Server.Connector.Rest.BC
onnect.DataModel">
  <EnrollmentTokenValidUntilUTC>31.01.2021 13:43:29</EnrollmentTokenValidUntilUTC>
  <EnrollmentUrl>https://localhost:443/ios-mdm/enroll/rfcdvkhikndbz</EnrollmentUrl>
  <ErrorSendingEmail>>false</ErrorSendingEmail>
  <EndpointId>499F69F4-11C8-49DB-91D8-F6148B70FE9C</EndpointId>
</ModernEnrollmentActivationResult>
```

## 5.43 Controller IpNetworks

The IpNetworks controller provides the functionality to read, update and delete Ip Networks.

**URL:** <https://<bmsserver>:<port>/bConnect/V1.1/IpNetworks>

Method	URL parameters	Description	Since bMS
GET	None	Returns all existing Ip Networks as a list of <i>IpNetwork</i> objects. (Check properties of <i>IpNetworks</i> for more information).	2021 R1
GET	Id=<id>	Returns the IpNetwork that matches the provided ID.	2021 R1
GET	Name=<name>	Returns the IpNetwork that matches the provided name.	2021 R1
POST	None  (Mandatory and optional properties must be specified in the appropriate format in the HTTP body. In case of XML, the elements must be sorted alphabetically and the appropriate namespaces must be appended as attributes to the root element.)	Creates new IpNetwork objects according to the specified data.  Mandatory properties: <ul style="list-style-type: none"> <li>Name</li> <li>Scopes</li> </ul> Optional properties: <ul style="list-style-type: none"> <li>BandwidthMode</li> <li>Dips</li> <li>WolRelay</li> <li>MaxBandwidthKbits</li> <li>DuplicateWolToThisNetwork</li> </ul> The parameter <i>BandWithMode</i> can be specified either by an integer or by a string value. Possible vales are: <ul style="list-style-type: none"> <li>"AllowAll" / 0</li> <li>"DenyAll" / 1</li> </ul>	2021 R1

		<ul style="list-style-type: none"> <li>• "UseBandwidth" / 2</li> </ul>	
PATCH	Id=<id>	Updates the IpNetwork identified by the given ID with the properties provided in the body of the request. Omitted properties will be considered unchanged.	2021 R1
DELTE	Id=<id>	Deletes an IpNetwork object by the given ID.	2021 R1

#### Examples:

- POST-Request:  
*https://localhost:443/bconnect/v1.0/IpNetworks.json*

Body (json format):

```
{
  "Name": "name",
  "Dips": "dip",
  "DuplicateWolToThisNetwork": "False",
  "BandwidthMode": "AllowAll",
  "MaxBandwidthKbits": "100000000",
  "WolRelay": "wol",
  "Scopes": "10.10.10.0/255.255.255.0"
}
```

Result:

```
{
  "Id": "FC092C22-02AD-493C-AECB-45BDBECA992B",
  "Name": "name",
  "Dips": "dip",
  "WolRelay": "wol",
  "MaxBandwidthKbits": 100000000,
  "BandwidthMode": "AllowAll",
  "DuplicateWolToThisNetwork": "False",
  "Scopes": [
    {
      "NetworkAddress": "10.10.10.0",
      "SubnetMask": "255.255.255.0"
    }
  ]
}
```

## 6 Simple integration samples

### 6.1 Windows PowerShell

Simple PowerShell script to request available bMS org units over bConnect.

For this sample the Windows PowerShell version 4.0 is required.

```
# Simple script to request available bMS org units over bConnect
# ! Windows PowerShell 4.0 required !

# credentials
$username = "<domain>\<user>"
$password = "<password>" | ConvertTo-SecureString -asPlainText -Force
$creds = New-Object System.Management.Automation.PSCredential($username,$password)

# configuration
$server      = "<baramundi server>" # baramundi Management Server as specified in the
bound certificate
$version     = "v1.1"              # current version of bConnect
$outputformat = "json"             # request the data in json format
$controller  = "orgunits"          # an existing controller
$attributes  = ""                  # starting with '?'

$url = "https://" + $server + "/bConnect/" + $version + "/" + $controller + "." +
$outputformat + $attributes

# request
$response = Invoke-WebRequest -Uri $url -Credential $creds

# HTTP status codes: 200=OK; 400=bad request; 403=unauthorized; 500=internal server error;
$stat = $response.statuscode;
write-host "Status:" $stat "$([char]10)"

# de-serialize response data and evaluate and output data
$jsonobjects = $response.Content | ConvertFrom-Json
foreach($line in $jsonobjects)
{
    write-host "Id:" $line.Id
    write-host "Name:" $line.Name
    write-host "GuidParent:" $line.GuidParent "$([char]10)"
}
```

## 6.2 Visual Basic Script (VBS)

Simple Visual Basic script to request available bMS org units over bConnect.

```
Dim httpObj
Set httpObj = CreateObject("MSXML2.ServerXMLHTTP")

'credentials
user      = "<user>"          'user authorized in baramundi Management Suite
password  = "<password>"      'password for the user above
'configuration
server    = "<baramundi server>" 'baramundi Management Server as specified in the bound
certificate
version   = "v1.1"            'current version of bConnect
outputformat = "xml"          'request the data in xml or json format
controller = "orgunits"       'an existing controller
attributes = ""               'starting with '?'

url = "https://" & server & "/bConnect/" & version & "/" & controller & "." & outputformat & attributes

'request
httpObj.Open "GET", url, False, user, password
httpObj.setOption 2, 13056 'suppress cert warning
httpObj.SetRequestHeader "pragma", "no-cache" 'avoid caching
httpObj.SetRequestHeader "Cache-Control", "no-cache, no-store" 'avoid caching
httpObj.send

'HTTP status codes: 200=OK; 400=bad request; 403=unauthorized; 500=internal server error;
plot = "HTTPS response status code: " & httpObj.Status & vbCrLf & vbCrLf

'check response data only if request was successful
If 200 = httpObj.Status then
    'de-serialize response data to xml object
    Dim objXML
    set objXML = CreateObject("Microsoft.XMLDOM")
    objXML.async = "false"
    objXML.loadXML(httpObj.responsetext)
    'evaluate and output data
    Dim nodes
    Set nodes = objXML.documentElement.selectNodes("//OrgUnit")
    For Each node In nodes
        plot = plot & "OrgUnit:" & vbCrLf
        plot = plot & "Id = " & node.SelectSingleNode("./Id").text & vbCrLf
        plot = plot & "Name = " & node.SelectSingleNode("./Name").text &
vbCrLf
        plot = plot & "GuidParent = " &
node.SelectSingleNode("./GuidParent").text & vbCrLf
        plot = plot & vbCrLf
    Next
End If

Set httpObj = Nothing
wscript.echo plot
```

## 6.3 C#

Simple sample in C# to request available bMS org units over bConnect. Used with .NET Framework 4.5.

```
namespace bConnectSample
{
    using System;
    using System.IO;
    using System.Net;
    using Newtonsoft.Json;

    internal class Program
    {
        public static bool AcceptAllCertifications(object sender,
            System.Security.Cryptography.X509Certificates.X509Certificate certification,
            System.Security.Cryptography.X509Certificates.X509Chain chain,
            System.Net.Security.SslPolicyErrors sslPolicyErrors)
        {
            return true;    // check here for valid server certificate
        }

        private static void Main(string[] args)
        {
            ICredentials creds = new NetworkCredential()    // credentials
            {
                UserName = "<user>",    // user authorized in baramundi Management Suite
                Password = "<password>"    // password for the user above
            };

            // configuration
            string server = "<baramundi server>";    // baramundi Management Server
            string version = "v1.1";    // current version of bConnect
            string outputformat = "json";    // request the data in xml format
            string controller = "orgunits";    // an existing controller
            string attribtues = "";    // starting with '?'

            string url = "https://" + server + "/bConnect/" + version + "/" + controller + "."
+ outputformat + attribtues;

            // Create a request for the URL.
            WebRequest request = WebRequest.Create(url);
            request.Method = "GET";
            request.Credentials = creds;
            ServicePointManager.ServerCertificateValidationCallback = new
System.Net.Security.RemoteCertificateValidationCallback(AcceptAllCertifications);

            try
            {
                HttpWebResponse response = (HttpWebResponse)request.GetResponse();
                StreamReader streamReader = new StreamReader(response.GetResponseStream());
                var results = JsonConvert.DeserializeObject<dynamic>(streamReader.ReadToEnd());
            }
        }
    }
}
```

```
        foreach (var orgUnit in results)
        {
            Console.WriteLine("Id:\t\t{0}", orgUnit.Id);
            Console.WriteLine("Name:\t\t{0}", orgUnit.Name);
            Console.WriteLine("GuidParent:\t{0}\n", orgUnit.GuidParent);
        }

        streamReader.Close();
        response.Close();
    }
    catch (WebException ex)
    {
        Console.WriteLine(ex.Message);
    }

    Console.Read();
}
}
```

## 7 Properties of object types

This chapter provides information about the properties of the objects used with bConnect. In the column Access of the specific object type for each property the access right for object creation=C, reading=R and updating=U is stated, depending on the actions the corresponding controller supports.

### 7.1 Version

Property	Data type	Access	Description
SupportedVersions	List of String (*)	R	List of supported versions
CurrentVersion	String (*)	R	Current version of bConnect

(\*) must not be null for reading access

### 7.2 Info

Property	Data type	Access	Description
bConnectVersion	String (*)	R	Current version of bConnect
Description	String (*)	R	Simple description of bConnect
Company	String (*)	R	baramundi Software AG
Copyright	String (*)	R	Copyright ...
bMSVersion	String (*)	R	Current version of the bMS
UserContext	String (*)	R	Context this request is processed in

(\*) must not be null for reading access



## 7.3 SearchResult

Property	Data type	Access	Description
Id	String (*)	R	Unique ID of a found object. Use this ID to load the whole object
Name	String (*)	R	Name of an object found
Type	Int (*)	R	Type of an object found (see coding below)
AdditionalInfo	String	R	Additional data of an object found
Deactivated	Bool (**)	R	For endpoints only: The endpoint is deactivated (Windows) or not managed (mobile endpoints, Macs).

(\*) must not be null for reading access

(\*\*) applies for endpoints only

### Codings:

#### [Type]

0 Unknown	
1 WindowsEndpoint	endpoint of type WindowsEndpoint
2 AndroidEndpoint	BmsNetEndpoint
3 iOSEndpoint	BmsNetEndpoint
4 MacEndpoint	BmsNetEndpoint
5 WindowsPhoneEndpoint	BmsNetEndpoint
6 WindowsJob	for endpoints of type WindowsEndpoint only
7 BmsNetJob	for endpoints of type BmsNetEndpoint only
8 OrgUnit	different nodes (including Logical Groups)
9 DynamicGroup	for endpoints of type WindowsEndpoint only
10 StaticGroup	for endpoints of all endpoint types
11 Application	for endpoints of type WindowsEndpoint only
12 App	for endpoints of type BmsNetEndpoint only
16 NetworkEndpoint	endpoint of type NetworkEndpoint
17 AD object	user or user group

## 7.4 OrgUnit

Property	Data type	Access	Description
Id	String	R	ID of an org unit
Comment	String	R/C/U	Freely editable text field
Extension	<a href="#">Extension</a> (*)	R/C/U	Extended data for org units of node <i>Logical Groups</i>
GuidParent <b>DEPRECATED</b> (use ParentId instead)	String	R	ID of a superior org unit
HierarchyPath	String	R	Path of an org unit in the organizational hierarchy
Name	String	R/C/U	Name of an org unit
ParentId	String	R/C/U	ID of a superior org unit

(\*) applies for org units of node *Logical Groups* only

### 7.4.1 Extension

Property	Data type	Access	Description
DIP	String	R/C/U	DIP list, separated by semi-colon
Domain	String	R/C/U	Windows domain name
LocalAdminPassword	String	R/C/U	Password for a local administrator (must be encrypted with baramundi Cryptor)
EnabledDHCP	Bool	R/C/U	If set the network settings will be provided by the dhcp server
SubnetMask	String	R/C/U	If not EnabledDHCP: Network mask
DefaultGateway	String	R/C/U	If not EnabledDHCP: Standard gateway
DnsServer	String	R/C/U	If not EnabledDHCP: DNS 1
DnsServer2	String	R/C/U	If not EnabledDHCP: DNS 2
DnsDomain	String	R/C/U	If not EnabledDHCP: DNS domain
WinsServer	String	R/C/U	If not EnabledDHCP: WINS 1
WinsServer2	String	R/C/U	If not EnabledDHCP: WINS 2
AutoInstallJobs	List of String	R/C/U	List of job IDs for auto installation (see object type <a href="#">Job</a> )
HardwareProfiles	List of String	R/C/U	List of hardware profile IDs (see object type <a href="#">HardwareProfile</a> )
InheritAutoInstallJobs	Bool	R/C/U	If set, the auto install jobs of parent org unit will be inherited (see object type <a href="#">Job</a> )
RequestableJobs	List of String	R/C/U	List of job ids (for Kiosk; see object type <a href="#">Job</a> )

## 7.5 DynamicGroup

Property	Data type	Access	Description
Id	String	R	ID of a dynamic group
Comment	String	R/C/U	Freely editable text field
HierarchyPath	String	R	Path of a dynamic group in the organizational hierarchy
Name	String	R/C/U	Name of a dynamic group
ParentId	String	R/C/U	ID of a superior org unit
Statement	String	R/C/U	SQL statement of a dynamic group (only WHERE clause can be defined; target is always the table "machine")

## 7.6 UniversalDynamicGroup

Property	Data type	Access	Description
Id	String	R	ID of a universal dynamic group
Comment	String	R	Freely editable text field
HierarchyPath	String	R	Path of a universal dynamic group in the organizational hierarchy
DisplayName	String	R	Display Name of a universal dynamic group
Name	String	R	Name of a universal dynamic group
ParentId	String	R	ID of a superior org unit
IsArgusSynced	Bool	R	If <i>true</i> , a universal dynamic group is synchronized to Argus Cockpit

## 7.7 StaticGroup

Property	Data type	Access	Description
Id	String	R	ID of a static group
Comment	String	R/C/U	Freely editable text field
EndpointIds	List of String	R/C/U	List of endpoint IDs linked to the static group
HierarchyPath	String	R	Path of a static group in the organizational hierarchy
Name	String	R/C/U	Name of a static group
ParentId	String	R/C/U	ID of a superior org unit

## 7.8 Endpoint

For bMS 2014 R2 the *Endpoint* object has been extended for mobile devices (Android, WindowsPhone, iOS) and Mac devices. Hence the property *Type* specifies if the endpoint is of type *WindowsEndpoint*, *AndroidEndpoint*, *WindowsPhoneEndpoint*, *iOSEndpoint*, *MacEndpoint* or *NetworkEndpoint*.

Property	Data type	Access	Description
Id	String (*)	R	ID of an endpoint.
Type	Int (*)	R/C	Type of an endpoint (see coding below)
GuidGroup <b>DEPRECATED</b> (use GuidOrgUnit instead)	String	R/C	ID of <i>Logical Group</i> , a client should be managed with
DisplayName	String (*)	R/C/U	Display name of an endpoint.
HostName	String	R/C/U	Host name of an endpoint.
Domain	String	R/C/U	LAN manager domain an endpoint should be in, after an operating system installation
PrimaryMAC	String	R/C/U	Primary MAC-address of an endpoint. Supported format: MM:MM:MM:MM:MM:MM Each «M» stands for one hexadecimal number (0 to F)
MACList	String (**)	R	List of all MAC-addresses of an endpoint
LogicalMAC	String (**)	R	Logical MAC-address of an endpoint
LAAList <b>DEPRECATED</b>	String (**)	R	List of locally administrated MAC-addresses
PrimaryIP	String (**)	R/C/U	Primary IP-address of an endpoint
PrimarySubnetMask	String (**)	R/C/U	Primary subnet mask of an endpoint
IPList	String (**)	R	List of all IP-addresses of an endpoint
GuidHardwareProfile	String (**)	R/C/U	Hardware profile's ID of an endpoint
OperatingSystem	String	R	Name of an installed OS
Options	UInt (**)	R/C/U	Options of an endpoint (see coding below)
Comments	String	R/C/U	Freely editable text field
PrimaryUser	String	R/C/U	Primary user of an endpoint
ClientAgentState	Int (**)	R	State of the agent on an endpoint (see coding below)
Activity	String	R	Current activity of the client agent
LastChange	DateTime (**)	R	Date and time of last change
LastSeen	DateTime	R	Date and time of last successful communication with the client agent
OSVersionString	String	R	Full name of the installed OS
OSVersionMajor	Int (**)	R	Major version of the installed OS
OSVersionMinor	Int (**)	R	Minor version of the installed OS
OSVersionBuild	Int (**)	R	Build number of the installed OS
LastUser	String	R	Last logged on user
IEVersionString	String (**)	R	Version of the installed Internet Explorer.
CPUDescription	String (**)	R	Description of the CPU.

CPUType	String (**)	R	Information about the CPU type.
CPUspeed	Int (**)	R	Information about the CPU speed in MHz.
TotalMemory	Int (**)	R	Information about the installed memory in MB
DriveCSize <b>DEPRECATED</b>	Int (**)	R	Size of C: drive
DriveCFree <b>DEPRECATED</b>	Int (**)	R	Free space on C: drive
DriveDSize <b>DEPRECATED</b>	Int (**)	R	Size of D: drive.
DriveDFree <b>DEPRECATED</b>	Int (**)	R	Free space on D: drive
DriveESize <b>DEPRECATED</b>	Int (**)	R	Size of E: drive
DriveEFree <b>DEPRECATED</b>	Int (**)	R	Free space on E: drive
GuidOrgUnit	String (*)	R/C/U	ID of a parent org unit
CustomStateType	Int (**)	R/U	Freely editable user defined state type
CustomStateTime	DateTime (**)	R	Time of the last change of a freely editable user defined state type
CustomStateText	String (**)	R/U	Freely editable user defined state type
BMSServer <b>DEPRECATED</b>	String (**)	R	Responsible baramundi Management Server
BootCounter <b>DEPRECATED</b>	Int (**)	R	Client reboot counter
ClientAgentVersion	String (**)	R	Client agent version
GuidJobPreinstallApp <b>DEPRECATED</b>	String (**)	R	ID of the configured pre-install application
GuidJobPostinstallApp <b>DEPRECATED</b>	String (**)	R	ID of the configured post-install application
Priority <b>DEPRECATED</b>	Int (**)	R	Used priority
GuidBootEnvironment	String (**)	R/C/U	If set, the giving boot environment will boot during the next start. For booting without PXE, this value must be left empty.
LocaleId	Int (**)	R	Localization ID of the client OS
Architecture	String (**)	R	Clients CPU architecture
CurrentUserSID	String	R	SID of the current user
WOLSent <b>DEPRECATED</b>	DateTime (**)	R	Date and time WOL signal was sent last time
LastBoot	DateTime (**)	R	Date and time of the clients last boot event
EnergyScheme	String (**)	R	Name of the active energy scheme
EnergySchemeld	String (**)	R	ID of the current energy scheme
OSVersionSPMajor <b>DEPRECATED</b> (use OSVersionString instead)	Int (**)	R	Service pack level of the installed OS
CPUCountPhysical	Int (**)	R	Number of physical CPUs
CPUCountLogical	Int (**)	R	Number of logical Cores
CPUCountTotalCores	Int (**)	R	Number of physical CPU cores
Manufacturer	String	R	Manufacturer of the device
ModelName	String	R	Model name of the device
ManagementState	Int (***)	R	Management state of the device (see coding below)
UniqueDeviceId	String (***)	R	Unique device ID
UserCategory	(***)	R/U	Free text category
Owner	Int (***)	R/C/U	Owner type of the device (see coding below)

ComplianceState	Int (***)	R	Compliance state of an endpoint (see coding below)
ComplianceCheckCategory	Int (***)	R/C/U	Compliance category of the device (see coding below)
ComplianceCheckDisabledFrom	DateTime (***)	R/U	Date and time the compliance check is disabled
ComplianceCheckDisabledUntil	DateTime (***)	R/U	Date and time the compliance check is re-enabled
SerialNumber	String	R/C	Serial number of the device
PublicKey	String (**)	R/U	Public key of the client certificate
ExtendedInternetMode	Bool (**)	R/C/U	If set Extended Internet Mode is enabled
LastChannel	String (**)	R	Type of the last channel used for communication (see coding below)
Mode	String (**)	R/C/U	Type of the currently configured mode (see coding below)
InstalledSoftware	List of < <a href="#">Software</a> >	R	List of the software installed with the baramundi Management Suite on the client
OSVersionPatchLevel	String (**)	R	Patch level of the operating system (Revision ID) Applies for Windows 10 systems only
OSReleaseId	String (**)	R	Distinguishable ID for Windows 10 systems (e.g. "1507", "1511", ...) Applies for Windows 10 systems only
OSServiceBranch	String (**)	R	The current branch the Windows 10 system is connected to (e.g. "LTSB", "CBB", "CB") Applies for Windows 10 systems only
SNMPData	<a href="#">SNMPDeviceData</a>	R	SNMP data of the device
TPMData	<a href="#">TPMData</a> (**)	R	TPM inventory data
IsSecureBootEnabled	Bool (**)	R	Secure boot enabled on this client
StorageMedia	List of < <a href="#">StorageMedium</a> >	R	Inventoried Storages
IndustrialData	<a href="#">IndustrialData</a>	R/C/U	Additional data for Industrial Endpoints
AndroidEnterpriseProfileType	Int (***)	R/C	Type of android enterprise profile (see coding below)
VirusAndThreadProtectionStatus	String	R	The aggregation of all antivirus products for this computer (see coding below)
AutomaticUpdateStatus	String	R	The automatic update settings for this computer (see coding below)
FirewallAndNetworkProtectionStatus	String	R	The aggregation of all firewalls for this computer (see coding below)
AppAndBrowserControlStatus	String	R	The settings that restrict the access of web sites in each of the Internet zones for this computer (see coding below)
WindowsSecurityServiceStatus	String	R	The running state of the WSC service on this computer (see coding below)

UserAccountControlStatus	String	R	The User Account Control (UAC) settings for this computer (see coding below)
SecurityCenterUser	String	R	Last logged on user (except installation user) (see coding below)
AppleManagementMode	Int (***)	R/C	Type of iOS Management (see coding below)
ManagedAppleId	String	R/C	The managed AppleId
HasAppleAppUpdates	Bool (****)		Flag to check if the apple device has app updates which can be installed
LastUpdateInventoryDate	DateTime (**)	R	Date and time of the last executed update inventory
UpdateInventorySource	String (**)	R	Update metadata source of the last inventory (see coding below)
MissingCriticalUpdatesCount	Int (**)	R	Number of missing critical (defined by bMS) updates
MissingSecurityUpdatesCount	Int (**)	R	Number of missing security (defined by bMS) updates
MissingOtherUpdatesCount	Int (**)	R	Number of missing updates, which are neither critical nor security updates
DeferredUpdatesCount	Int (**)	R	Number of deferred updates
BlockedUpdatesCount	Int (**)	R	Number of blocked updates
LastSuccessfulUpdateDate	DateTime (**)	R	Date and time of the last successfully executed update deploy job step (only applies to update job steps controlling the Windows Update Agent)
LastSuccessfulUpdateSource	String (**)	R	Update metadata source of the last successful update deploy job step (see coding below)
BitLockerNetworkUnlockStatus	String (**)	R	Status of Network Unlock Feature on Client. (see coding below)
DedicatedDeviceModeEnabled	Bool (***)	R	Enabled if the device is a Dedicated Device (Android Enterprise) or has Dedicated Device Mode enabled (iOS).
EmailRecipient	String (***)	C	The email address for the recipient of the enrollment email.
EmailLanguageId	String (***)	C	The Identifier of the email template, which will be used for the email enrollment message sent to the Recipient email. Default available templates are "de-DE" and "en-US".
TargetReleaseVersion	String	R	Version string of the targeted release.
UpdateDownloadMode	String	R	Windows Update download mode (see coding below)
MicrosoftUpdateProfile	String (**)	R/C/U	Assigned Microsoft Update Profile name
GuidMicrosoftUpdateProfile	String (**)	R/C/U	Assigned Microsoft Update Profile id
UpdateState	String (**)	R	Update status of a client (see coding below). If an update inventory has not yet been performed on the client, this property is null

IsBitLockerStartupPinEnabled	Bool (**)	R	BitLocker Startup PIN enabled on this client
IsBitLockerStartupUsbKeyEnabled	Bool (**)	R	BitLocker Startup USB Key enabled on this client
MicrosoftDefenderData	<a href="#">MicrosoftDefenderData</a>	R	Microsoft Defender Antivirus attributes
MacEnrollmentType	String	R	MacOS enrollment type, values are <ul style="list-style-type: none"> <li>- Unenrolled</li> <li>- SSH</li> <li>- SSHAndNative</li> <li>- Native</li> </ul>
DoNotDisturbUntil	DateTime (**)	R	Date and time (UTC) indicating the end of do not disturb
DoNotDisturbActive	Bool (**)	R	Do not disturb is currently active on this client
WindowsModernManagementData	<a href="#">WindowsModernManagementData</a>	R	Data concerning the Modern Management of Windows endpoints

(\*) must not be null for reading access  
(\*\*) applies for WindowsEndpoint only  
(\*\*\*) applies for BmsNetEndpoint only  
(\*\*\*) applies for AppleEndpoints only

### Codings:

#### [Mode]

LAN LAN only  
Internet Internet only  
Dynamic Device selects dynamically the appropriate channel

#### [LastChannel]

LAN LAN channel used by device in LAN mode  
Internet Internet channel used by device in Internet mode  
AutoLAN LAN channel selected automatically by device in Dynamic mode  
AutoInternet Internet channel selected automatically by device in Dynamic mode

#### [VirusAndThreadProtectionStatus]

#### [AutomaticUpdateStatus]

#### [AppAndBrowserControlStatus]

#### [WindowsSecurityServiceStatus]

#### [UserAccountControlStatus]

#### [SecurityCenterUser]

Unknown The status of the security provider could not be determined.  
Good The status of the security provider category is good and does not need user attention.  
NotMonitored The status of the security provider category is not monitored by WSC.  
Poor The status of the security provider category is poor and the computer may be at risk.  
Snooze The security provider category is in snooze state. Snooze indicates that WSC is not actively protecting the computer.

#### [Type]

0 Unknown  
1 WindowsEndpoint



- 2 AndroidEndpoint
- 3 iOSEndpoint
- 4 MacEndpoint
- 5 WindowsPhoneEndpoint
- 16 NetworkEndpoint
- 18 IndustrialEndpoint

**[ClientAgentState]**

- 1 Unchanged
- 0 Unknown
- 1 Not Installed
- 3 Running
- 4 Rebooting

**[Options]**

- 0x00000001 Admits an OS installation
- 0x00000002 Inherits auto installation
- Bit 3-4 *PrimaryUserUpdateOptions* (see below)
- Bit 5-6 *UserJobOptions* (see below)
- 0x00000100 Automatic Usage Tracking is active
- 0x00000200 Energy Management is active
- 0x80000000 Client is deactivated (read only flag)

**[PrimaryUserUpdateOptions]**

- 0x00000000 Primary user will be updated at the next announce (default).
- 0x00000004 Do not use the primary user.
- 0x00000008 Always update the primary user.
- 0x0000000C Never update the primary user.

**[UserJobOptions]**

- 0x00000000 Always execute user related jobs.
- 0x00000010 Never execute user related jobs.
- 0x00000030 Execute user related jobs if the primary user is logged in (default).

**[ManagementState]**

- 0 Unknown
- 1 Enrollable
- 2 Enrolling
- 3 Managed
- 4 Unmanaged

**[Owner]**

- 2 Unknown
- 0 Company
- 1 Private

**[ComplianceState]**

- 0 Unknown
- 1 Compliant
- 2 Not compliant, just a info
- 3 Not compliant, a warning
- 4 Not compliant, severe
- 5 Compliance inactive

**[ComplianceCheckCategory]**

- |   |                      |                                                      |
|---|----------------------|------------------------------------------------------|
| 0 | active               | Compliance is activated for the device               |
| 1 | inactive             | Compliance is deactivated for the device             |
| 2 | temporarily inactive | Compliance is temporarily deactivated for the device |

**[AndroidEnterpriseProfileType]**

- 0 None (Android Legacy Device)
- 1 Fully managed device
- 2 Work Profile
- 4 Dedicated Device

**[AppleManagementMode]**

- 0 None (Will default to DeviceEnrollment for iOS Devices)
- 1 DeviceEnrollment
- 2 UserEnrollment

**[BitLockerNetworkUnlockStatus]**

- 0 Deactivated  
BitLocker Network Unlock is not active, User needs to enter BitLocker PIN at startup.
- 1 OtherCertificate  
BitLocker Network Unlock is active, but not configured for using with bMS. Installed BitLocker Network Unlock Certificate is unknown.
- 2 Activated  
BitLocker Network Unlock is active, System boots without requesting PIN, if connected per LAN
- 3 NotSupported  
BitLocker Network Unlock is not supported on device
- 4 Unknown  
BitLockerNetworkUnlock status was not inventorised yet.

**[LastSuccessfulUpdateSource, UpdateInventorySource]**

WSUS  
Windows Online  
Microsoft Online

**[UpdateState]**

- 0 Out of date  
The last inventory is further in the past than the configured tolerance value for update inventories
- 1 Noncompliant  
The client has missing updates (which are neither blocked nor delayed) whose publication date is further in the past than the configured tolerance value for missing updates
- 2 Compliant  
The last inventory is not as far in the past as the configured tolerance value for update inventories and/or all updates missing on the client are either blocked, delayed or their publication date is not as long ago as the configured tolerance value for missing updates

**[UpdateDownloadMode]**

NotSupported  
HttpOnly

HttpBlendedWithPeeringAcrossPrivateGroup  
 HttpBlendedWithPeeringBehindSameNat  
 HttpBlendedWithInternetPeering  
 SimpleDownloadModeNoPeering  
 BypassMode  
 Unknown

### 7.8.1 TPMData

Property	Data type	Access	Description
Version	String	R	TPM version
TPMStatus	Int	R	0 : Not available 1 : Deactivated 2 : Enabled 3 : Activated
IsOwned	Bool	R	Indicates whether the TPM has an owner

### 7.8.2 StorageMedium

Property	Data type	Access	Description
Index	Int	R	Disk index
Name	String	R	Disk name
ByteSize	ULong	R	Total size in bytes
BusType	Int	R	Bus type (see coding below)
PartitionStyle	Int	R	0 : Unknown 1 : MBR (Master boot record) 2 : GPT (GUID partition table)
StorageVolumes	List of < <a href="#">StorageVolumes</a> >	R	Volumes on this disk

#### [BusType]

- 0 Unknown
- 1 SCSI
- 2 ATAPI
- 3 ATA
- 4 IEEE1394
- 5 SSA
- 6 FibreChannel
- 7 USB
- 8 RAID
- 9 iSCSI
- 10 SAS
- 11 SATA
- 12 SD
- 13 MMC
- 14 Virtual
- 15 FileBackedVirtual
- 16 StorageSpaces
- 17 NVMe

### 7.8.3 StorageVolumes

Property	Data type	Access	Description
DriveLetter	String	R	Current volume letter
Label	String	R	Volume label
FileSystem	String	R	NTFS, ReFS, FAT32 or CSVFS
FileSystemType	Int	R	File system type (see coding below)
ByteSize	ULong	R	Total size in bytes
ByteSizeRemaining	ULong	R	Free space in bytes
IsSystemVolume	Bool	R	Contains operating system
BitLockerVolumeData	<a href="#">BitLockerVolumeData</a>	R	BitLocker data
VolumeID	String	R	Volume ID
PartitionType	String	R	Type of the partition

#### [FileSystemType]

- 0 Unknown
- 1 FAT
- 2 FAT32
- 3 NTFS
- 4 EXFAT
- 5 CSVFS
- 6 ReFS

## 7.8.4 BitLockerVolumeData

Property	Data type	Access	Description
ConversionStatus	Int	R	Conversion status (see coding below)
EncryptionPercentage	Int	R	Encryption progress in percent
SuspendCount	Int	R	Suspend BitLocker for <i>n</i> reboots
BitLockerVersion	Int	R	0 : Unknown 1 : Vista 2 : Win7+
ProtectionStatus	Int	R	0 : Unprotected 1 : Protected 2 : Unknown
LockStatus	Int	R	0 : Unknown 1 : Unlocked 2 : Locked

### [ConversionStatus]

- 0 Fully decrypted
- 1 Fully encrypted
- 2 Encryption in progress
- 3 Decryption in progress
- 4 Encryption paused
- 5 Decryption paused
- 6 Unknown

## 7.8.5 Software

Property	Data type	Access	Description
Id	String	R	Unique ID of a software
Name	String	R	Name of a software
Version	String	R	Version of a software
Package	String	R	Identifier of a software
Manufacturer	String	R	Name of the manufacturer

## 7.8.6 SNMPDeviceData

Property	Data type	Access	Description
SNMPName	String	R	Name of a device
Description	String	R	Description of a device
VendorId	Int	R	SNMP ID of a vendor
UpTime	String	R	The time since a device has been running. Format: days.hours:minutes:sec.millisec
PrimaryMAC	String	R	Primary MAC address of a device
LastContact	DateTime	R	Date and time of last successful communication with a device
Comment	String	R	Freely editable text field
PrimaryIP	String	R	Primary IP address of a device
DetectionRules	List of < <a href="#">DetectionRule</a> >	R	Detection Rules that apply for a device

### 7.8.6.1 DetectionRule

Property	Data type	Access	Description
TypeId	String	R	Id of a rule
Name	String	R	Name of a rule

## 7.8.7 IndustrialData

Property	Data type	Access	Description
GatewayType	String	R/C	Gateway type
Url	String	R/C/U	Web interface URL
Port	int	R/C/U	Communication port
SnmpConfiguration	<a href="#">SnmpConfiguration</a>	R/C/U	SNMP configuration
LastInventory	DateTime	R	Last inventory date
ModelType	String	R	Model type
IndustrialCPU	String	R	CPU description
FirmwareVersion	String	R	Firmware version
HardwareVersion	String	R	Hardware version
OrderNumber	String	R	Order number
UpTime	Long	R	Uptime
Contact	String	R	Contact person
Location	String	R	Location

**[GatewayType]**  
SiemensSimaticS7

## 7.8.8 MicrosoftDefenderData

Property	Data type	Access	Description
AntimalwareEngineVersion	String	R	Engine version
AntimalwareProductVersion	String	R	Product version
AntimalwareRunningMode	String	R	Running mode
AntimalwareServiceActive	Bool	R	Antimalware status
AntimalwareServiceVersion	String	R	Service version
AntispywareActive	Bool	R	Antispyware status
AntispywareDefinitionCreation	DateTime	R	Antispyware definition creation
AntispywareDefinitionVersion	String	R	Antispyware definition version
AntivirusActive	Bool	R	Antivirus status
AntivirusDefinitionCreation	DateTime	R	Antivirus definition creation
AntivirusDefinitionVersion	String	R	Antivirus definition version
BehaviorMonitoringActive	Bool	R	Behavior monitoring status
LastFullScanEndTime	DateTime	R	Last full scan
IoavProtectionActive	Bool	R	IOAV protection status
TamperProtectionActive	Bool	R	Tamper protection status
NetworkInspectionSystemActive	Bool	R	Network inspection system status
NetworkInspectionSystemEngineVersion	String	R	Network inspection system engine version
NetworkInspectionSystemDefinitionCreation	DateTime	R	Network inspection system definition creation
NetworkInspectionSystemDefinitionVersion	String	R	Network inspection system definition version
OnAccessProtectionActive	Bool	R	On-access protection status
LastQuickScanEndTime	DateTime	R	Last quick scan
RealTimeProtectionActive	Bool	R	Real-time protection status
RealTimeScanDirection	String	R	Real-time scan direction
HighestSeverity	String	R	Severity of highest active threat
ActiveThreats	Int	R	Number of active threats
ResolvedThreats	Int	R	Number of resolved threats

### [HighestSeverity]

None,  
Low,  
Moderate,  
High,  
Severe

### [RealTimeScanDirection]

ScanIncomingAndOutgoingFiles,  
ScanIncomingFilesOnly,  
ScanOutgoingFilesOnly

### 7.8.9 SnmpConfiguration

Property	Data type	Access	Description
Version	Int	R/C/U	SNMP version 1: V1 2: V2c 3: V3
Community	String	R/C/U	Community Required for V1 and V2c
Username	String	R/C/U	Username Required for V3
Authentication	String	R/C/U	Authentication Type Required for V3
AuthenticationPassword	String	C/U	Authentication password Required for Authentication other than 'NoAuth'
Encryption	String	R/C/U	Encryption algorithm
EncryptionPassword	String	C/U	Encryption password Required for Encryption other than 'NoEncrypt'
ContextName	String	R/C/U	Name of SNMP context (only for V.3)
ContextEngineId	String	R/C/U	Id of SNMP context engine (only for V.3)

#### [Authentication]

NoAuth

MD5

MD5 (96 bit)

SHA

SHA (96 bit)

SHA256

SHA (196 or 256 bit)

#### [Encryption]

NoEncrypt

DES

AES

TDES

AES192

AES256

### 7.8.10 WindowsModernManagementData

Property	Data type	Access	Description
IsAutopilotDevice	bool	R	True if the device is an autopilot device
ModernManagementState	String	R	The modern management state of the device. One of: <i>NotManaged,</i> <i>Managed,</i> <i>ManagedAndBaramundiAgentInstalling,</i> <i>ManagedAndBaramundiAgentInstalled</i>



## 7.9 NewEndpoint

Property	Data type	Access	Description
EnrollmentToken	String	R	Token for enrollment ( <i>null</i> for endpoints of type WindowsEndpoints)
TokenValidUntil	DateTime	R	Validity time for created token ( <i>null</i> for endpoints of type WindowsEndpoints)
Endpoint	<a href="#">Endpoint</a>	R	Newly created endpoint object

## 7.10 Job

Property	Data type	Access	Description
Id	String	R/C <sup>1</sup>	Unique ID of a job
ParentId	String	R/C <sup>1</sup> /U	ID of a superior org unit
Name	String	R/C <sup>1</sup> /U	Name of a job
DisplayName	String	R/C <sup>1</sup> /U <sup>4</sup>	Display name of a job. Visible in the bMA TrayNotifier and Kiosk.
Type	String	R/C	Job type: Windows, Mobile, Universal
Initiator	String	R	User, who had created the job.
Category	String	R/C <sup>1</sup> /U <sup>4</sup>	The job's category.
Description	String	R/C <sup>1</sup> /U <sup>4</sup>	The job's description
Comments	String	R/C <sup>1</sup> /U	Admin's comment
IconId	String	R/C <sup>1</sup> /U <sup>4</sup>	The id of the job's icon, which is visible in the Kiosk.
Destructive	Bool	R	True if the job is destructive (for example if it contains a wipe job step)
JobExecutionTimeout	Int	R/C <sup>1</sup> /U <sup>4</sup>	The execution timeout of the job
AbortOnError	Bool	R/C <sup>1</sup> /U <sup>4</sup>	If set to true the job aborts after an erroneous job step.
RemoveInstanceAfterCompletion	Bool	R/C <sup>1</sup> /U <sup>1</sup>	If set to true the job assignment will be deleted after successful execution.
Steps	List< <a href="#">JobStep</a> >	R/C <sup>2</sup> /U <sup>2</sup>	The job steps which the job will execute.
WindowsProperties	<a href="#">WindowsProperties</a>	R <sup>1</sup> /C <sup>1</sup> /U <sup>1</sup>	The windows properties of the job. Must not be null if job is for windows endpoints. Must be null if job is for mobile or mac endpoints.
MobileAndMacProperties	<a href="#">MobileAndMacProperties</a>	R <sup>3</sup> /C <sup>3</sup> /U <sup>3</sup>	The mobile and mac properties of the job. Must not be null if job is for mobile or mac endpoints. Must be null if the job is for windows endpoints.
UniversalProperties	<a href="#">UniversalProperties</a>	R <sup>5</sup> /C <sup>5</sup> /U <sup>5</sup>	The properties of a universal job. Must be null if the job is for windows or mobile endpoints.

(1) Only possible if the job is a job for Windows endpoints

(2) Only supported for 'Deploy' and 'SoftwareDeployUninstall' (Windows endpoints) or 'HardwareInventory' (Industrial endpoints)

(3) Only possible if the job is a job for mobile or macOS endpoints

(4) Not for universal jobs

(5) Only possible if the job is a universal job

### 7.10.1 Step (Common)

Property	Data type	Access	Description
Sequence	Int	R	Sequence number of the step beginning with 1
Type	String	R	Type of the Step (see <a href="#">Type</a> )
Properties	List of <Key, Value>	R	Additional properties

### 7.10.2 Step (Deploy)

Property	Data type	Access	Description
Sequence	Int	R	Sequence number of the step beginning with 1
Type	String	R	Step type (see <a href="#">Step Types</a> )
Applications	List< <a href="#">Application Entry</a> >	R	The applications which the step will install or uninstall. If the job step is an uninstall job step there must be exactly one application in the list.

### 7.10.3 Step Types

#### Windows jobs:

CloningBackup  
 SoftwareDeploy  
 SoftwareDeployUninstall  
 InventoryScan  
 PatchScan  
 ManagedSoftwareScan  
 PXEBoot  
 OSInstall  
 CloningImaging  
 CloningSysprep  
 WipeDisk  
 PersonalBackup  
 PersonalRestore  
 DisasterBackup  
 DisasterRestore  
 Citrix\_AppConfig\_ServerConfig  
 Citrix\_Publish  
 Citrix\_Retract  
 Citrix\_ServerInstallation  
 ApplyEnergyPolicy  
 ServerSideAction  
 ComplianceScan  
 VirtualizationControlVM  
 VirtualizationCreateVMFromProfile  
 PatchManagement  
 Deploy

ManagedSoftware  
NetworkScan  
MicrosoftUpdateInventory  
UpdateMicrosoftDefenderDefinitions  
RunMicrosoftDefenderScan

#### Mobile and mac jobs:

ApplicationExecuteJobStep  
ApplicationInstallJobStep  
ApplicationUninstallJobStep  
ApplicationConfigureJobStep  
ApplicationRemoveConfigurationJobStep  
ExecuteCommandJobStep  
HardwareInventoryJobStep  
SoftwareInventoryJobStep  
LockJobStep  
UnlockJobStep  
ProfileInstallJobStep  
ProfileJobStep  
ProfileUninstallJobStep  
ServerSideActionJobStep  
SSHExecutionJobStep  
OSUpdateJobStep  
WaitJobStep  
WipeJobStep

#### Universal jobs:

HardwareInventory

### 7.10.4 ApplicationEntry

Property	Data type	Access	Description
Id	String	R	The id of the application
Name	String	R	The name of the application
Parameters	List< <a href="#">ParameterInstance</a> >	R	The configured install/uninstall parameters
IsBundle	bool	R	If <i>true</i> , the application entry is a bundle (Readonly)

### 7.10.5 ParameterInstance

Property	Data type	Access	Description
ParameterName	String	R	The name of the parameter
ParameterValue	String	R	The value of the parameter
ApplicationId	String	R	<b>Only set this property if the parameter is used in a bundle.</b> The application id of the parameter

## 7.10.6 MobileAndMacProperties

Property	Data type	Access	Description
ShowInKiosk	Bool	R/C/U	If true the job will be accessible in the mobile kiosk.
CanRunOnMobileDevice	Bool	R	If true this job can be executed on a mobile device (does not include macOS endpoints)
CanRunOnMac	Bool	R	If true this job can be executed on a macOS device
RequiredComplianceLevel	String	R/C/U	The job will only be executed if the target's compliance state is better or equal to this. See <a href="#">RequiredComplianceLevel</a> for possible values.
Repetition	Int	R/C/U	The job will be repeated after 'Repetition' seconds expired. Must be 0 or greater than 3600 (1 hour) and less than 31449600 (52 weeks)
RescheduleOnError	Bool	R/C/U	The job will be rescheduled, even if the previous execution wasn't successful
AssignOnEndpointCreation	Bool	R/C/U	If true, the job will be assigned to new endpoints. Requires the special OU right 'Edit AutoAssign'

### [RequiredComplianceLevel]

Unknown,  
 Compliant,  
 NotCompliant\_Info,  
 NotCompliant\_Warning,  
 NotCompliant\_Severe,  
 ComplianceInactive

## 7.10.7 Windows Properties

Property	Data type	Access	Description
Priority	Int	R/C/U	The priority of the job. Higher priority jobs will be executed first.
MaxConcurrentTargets	Int	R/C/U	Determines the max. count of clients which will execute the job concurrently.
Unlocksequence	String	R/C/U	The sequence of characters required to enter for unlocking the endpoint's input devices during job execution.
MinBandwidth	Long	R/C/U	The job will only be executed if the available bandwidth is greater than this.
CustomTrayInfo	String	R/C/U	The custom information shown to the user in the tray notifier.
CustomTrayInfoShutdown	String	R/C/U	The custom information shown to the user when shutting down.
MandatoryTime	DateTime	R/C/U	The latest date when the job must be executed on the client. The user can not delay or deny the job if this date is exceeded.
MaxDelayMinutes	Long	R/C/U	The maximum time in minutes during which the user is able to delay the job.
RemindInterval	String	R/C/U	The remind interval type. See <a href="#">RemindInterval</a> for possible values.
UserActionType	String	R/C/U	Determines if the user is allowed to deny/delay the job. See <a href="#">UserActionType</a> for possible values.
KeyMouseLockType	String	R/C/U	Determines if the input device's should be locked during job execution. See <a href="#">KeyMouseLockType</a> for possible values.
PrePostInstallType	String	R/C/U	Determines if the job should add pre and/or post install steps. See <a href="#">PrePostInstallType</a> for possible values.
JobStartType	String	R/C/U	Determines the start type of the job. See <a href="#">JobStartType</a> for possible values.
AtEndOfJobAction	String	R/C/U	Determines the end of job action. See <a href="#">AtEndOfJobAction</a> for possible values.
InfoWindowType	String	R/C/U	Determines if the user is able to see the info window. See <a href="#">InfoWindowType</a> for possible values.
AutoAssignment	String	R/C/U	The auto assignment XML of the job. When updating this property to an own sql statement you must only provide the sql statement's where clause. For example (WHERE machine.name = 'Computer'). If you want to use this property for other jobs, you can use the retrieved AutoAssignment-String without editing it, including the xml tags.

Prerequisites	String	R/C/U	The prerequisites XML of the job. When updating this property to an own SQL statement you must only provide the SQL statement's where clause. For example (WHERE machine.name = 'Computer'). If you want to use this property for other jobs, you can use the retrieved AutoAssignment-String without editing it, including the xml tags.
Options	<a href="#">WindowsJobOptions</a>	R/C/U	The job's windows options.
Validity	<a href="#">JobValidity</a>	R/C/U	The time during which the job is valid (will be executed)
Interval	<a href="#">JobInterval</a>	R/C/U	The job interval
RetryInterval	<a href="#">JobRetryInterval</a>	R/C/U	The job's retry interval

### [RemindInterval]

None,  
 FiveMinutes,  
 TenMinutes,  
 FifteenMinutes,  
 ThirtyMinutes,  
 OneHour,  
 TwoHours,  
 FourHours,  
 Degressive

### [UserActionType]

CanNotInfluence,  
 CanDelay,  
 CanDenyOrDelay,  
 UserConsentRequired

### [KeyMouseLockType]

DetermineAutomatically,  
 LockAccordingToSoftwareConfiguration,  
 Lock,  
 DoNotLock

### [PrePostInstallType]

ExecutePreAndPostInstallSteps,  
 DoNotExecutePreAndPostInstallSteps,  
 ExecuteOnlyPreInstallSteps,  
 ExecuteOnlyPostInstallSteps

### [JobStartType]

Active,  
Passive,  
ActiveWol,  
ActiveOnline,  
ActiveShutdown,  
ActiveShutdownAndOnline

### [AtEndOfJobAction]

NoAdditionalAction,  
ActivateScreenSaver,  
ShutdownSystem,  
ShutdownSystemIfStartedWithWoL,  
RestartSystem

### [InfoWindowType]

DetermineAutomatically,  
ShowAlways,  
ShowNever,  
ShowOnlyWhenBootng

## 7.10.8 WindowsJobOptions

Property	Data type	Access	Description
LatestLogOff	Bool	R/C/U	If true the user will be logged off as late as possible.
LatestLogon	Bool	R/C/U	If true the user will be logged on as late as possible.
LogoffUserBeforeJobStart	Bool	R/C/U	If true the user will be logged off before job start.
UserDelayShutdown	Bool	R/C/U	If true the user is able to delay shutdowns.
UseForceLogoff	Bool	R/C/U	If true the user will be logged off even if there are unsaved changes.
UsersettingsPerUser	Bool	R/C/U	If true, the user settings will be executed per user during software deployment.
WillReinstall	Bool	R/C/U	If true, the job will reinstall the client.
IgnoreBandwidth	Bool	R/C/U	If true, the job will be executed ignoring the configured MinBandwidth
IgnoreBITS	Bool	R/C/U	If true, the job will not support baramundi background transfer
SupportEndpointsInInternetMode	Bool	R/C/U	If true, the job will also be executed on clients which are currently roaming.



### 7.10.9 JobValidity

Property	Data type	Access	Description
StartDate	DateTime	R/C/U	The job will be valid after StartDate
EndDate	DateTime	R/C/U	The job is only valid before EndDate
Days	List< <a href="#">JobValidityDay</a> >	R/C/U	The list of days during which the job is valid. Day types in the list must be unique. Day type "EveryDay" must not be combined with other day types. Day types "Weekday" and "WeekendDay" can only be combined together.

### 7.10.10 JobValidityDay

Property	Data type	Access	Description
DayType	String	R	The type of the day. See <a href="#">DayType</a> for possible values.
Timeboxes	List< <a href="#">Timebox</a> >	R	The list of timeboxes during which the job is valid.

#### [DayType]

EveryDay,  
 Sunday,  
 Monday,  
 Tuesday,  
 Wednesday,  
 Thursday,  
 Friday,  
 Saturday,  
 WeekDay,  
 WeekendDay,

### 7.10.11 Timebox

Property	Data type	Access	Description
Start	<a href="#">Time</a>	R	The start time of the timebox.
End	<a href="#">Time</a>	R	The end time of the timebox.

### 7.10.12 Time

Property	Data type	Access	Description
Hour	Int	R/C/U	The hour of the time (from 0 – 23)
Minute	Int	R/C/U	The minute of the time (from 0 - 59)

### 7.10.13 JobInterval

Property	Data type	Access	Description
IntervalType	String	R/C/U	The type of the interval. See <a href="#">IntervalType</a> for possible values.
Days	List<string >	R/C/U	The list of valid days when specifying IntervalType "Weekdays". Must be empty otherwise. For valid values see <a href="#">JobIntervalDays</a>
Multiplicator	Int	R/C/U	The hour/day/minute multiplicator. Can only be used when specifying IntervalTypes 'EveryXDays', 'EveryXHours' or 'EveryXMinutes'
StartTime	<a href="#">Time</a>	R/C/U	The time the job will be started.
Repetitions	Int	R/C/U	The number of job repetitions
RescheduleOnError	Bool	R/C/U	The job will be rescheduled, even if the previous execution wasn't successful

#### [IntervalType]

Weekdays,  
Every1stOfMonth,  
Every15thOfMonth,  
EveryXHours,  
EveryXDays,  
EveryXMinutes

#### [JobIntervalDays]

Monday,  
Tuesday,  
Wednesday,  
Thursday,  
Friday,  
Saturday,  
Sunday

### 7.10.14 JobRetryInterval

Property	Data type	Access	Description
IntervalType	<a href="#">String</a>	R/C/U	The type of the retry interval. See <a href="#">RetryIntervalType</a> for possible values.
Multiplicator	Int	R/C/U	The hour/minute/day multiplicator
Retries	Long	R/C/U	The number of retries in case of an error
RetryAction	String	R/C/U	The type of the retry action. See <a href="#">RetryAction</a> for possible values.

#### [RetryIntervalType]

EveryXDays,  
EveryXHours,  
EveryXMinutes

#### [RetryAction]

NoAction,  
Continue,  
Restart

### 7.10.15 UniversalProperties

Property	Data type	Access	Description
RepeatedExecution	<a href="#">RepeatedExecution</a>	R/C/U	Configuration for repeated job execution.

### 7.10.16 RepeatedExecution

Property	Data type	Access	Description
IsActive	Bool	R/C/U	Determines if repeated execution is used.
RepetitionEntries	List< <a href="#">RepetitionItem</a> >	R/C/U	The list of configured repeated executions.
ErrorBehavior	String	R/C/U	The behavior on job error. Abort is the default. (See <a href="#">ErrorBehavior</a> )

#### [ErrorBehavior]

Abort,  
PlanNew

### 7.10.17 RepetitionItem (TimeInterval)

Property	Data type	Access	Description
Type	String	R/C/U	The type of the repetition. (See <a href="#">RepetitionItemType</a> )
Minutes	Long	R/C/U	The number of minutes between two executions.

### 7.10.18 ReptitionItem (Daily)

Property	Data type	Access	Description
Type	String	R/C/U	The type of the repetition. (See <a href="#">RepetitionItemType</a> )
Time	<a href="#">Time</a>	R/C/U	The time the job will be started. Specified time is the server time.

### 7.10.19 RepetitionItem (Weekly)

Property	Data type	Access	Description
Type	String	R/C/U	The type of the repetition. (See <a href="#">RepetitionItemType</a> )
Time	<a href="#">Time</a>	R/C/U	The time the job will be started. Specified time is the server time.
Weekdays	List<String>	R/C/U	Days of the week on which the job should be executed. For valid values see <a href="#">JobIntervalDays</a> .

### 7.10.20 RepetitionItem (Monthly)

Property	Data type	Access	Description
Type	String	R/C/U	The type of the repetition. (See <a href="#">RepetitionItemType</a> )
Time	<a href="#">Time</a>	R/C/U	The time the job will be started. Specified time is the server time.
MonthlyRepetitionMode	String	R/C/U	Mode of the monthly repetition. (See <a href="#">MonthlyRepetitionMode</a> )
DaysOfMonth	List<Int>	R/C/U	The specific days of a month on which the job should be executed. Only used when MonthlyRepetitionMode is SpecificDays. For valid values see <a href="#">JobIntervalDays</a> .
Weekdays	List<String>	R/C/U	Days of the week on which the job should be executed. Only used when MonthlyRepetitionMode is not SpecificDays

### 7.10.21 RepetitionItem (Yearly)

Property	Data type	Access	Description
Type	String	R/C/U	The type of the repetition. (See <a href="#">RepetitionItemType</a> )
Time	<a href="#">Time</a>	R/C/U	The time the job will be started. Specified time is the server time.
Month	Int	R/C/U	Number of the month in which to execute the job.
Day	Int	R/C/U	The day in the month on which to execute the job.

#### [RepetitionItemType]

TimeInterval,  
 Daily  
 Weekly,  
 Monthly,  
 Yearly

#### [MonthlyRepetitionMode]

First,  
 Second,  
 Third,  
 Fourth,  
 Last,  
 SpecificDays

## 7.11 JobInstance

For bMS 2014 R2 the *JobInstance* object has been extended to expose properties for mobile (Android, iOS, WindowsPhone) and Mac devices too.

Property	Data type	Access	Description
Id	String (*)	R	Unique ID of a job instance
EndpointId	String (*)	R	Unique ID of an endpoint
EndpointName	String	R	Name of the corresponding endpoint
JobDefinitionId	String (*)	R	Unique ID of a job
JobDefinitionName	String	R	Name of the corresponding job
TimeStart	DateTime	R	Starting time of execution
TimeNext	DateTime	R	Time of the next execution
TimeLastAction	DateTime	R	Time last action occurred
Executed	Int	R	Number of executions
Retried	Int	R	Number, how many times a job execution was tried
HasDenied	Int	R	Number, how many times a job was denied
State <b>DEPRECATED</b> (use BmsNetState instead)	UInt (**)	R	State of a job instance (see coding below)
StateText	String	R	The state of a job instance as text (for all endpoint types)
Properties	List of <Key, Value>	R	Additional properties
Created	DateTime	R	Creation time of a job instance
ExecutionCountError	Int	R	Number, how many times a job execution failed
ExecutionCountSuccess	Int	R	Number, how many times a job execution succeeded
ExecutionDate	DateTime	R	Time of the next execution
Initiator	String	R	User context the job instance was created with
BmsNetState	Int	R	State of job instance for BmsNet endpoint (see coding below)
EndpointCategory	Int	R	Endpoint category of a job instance
Steps	List of <Step>	R	Step can be type of <a href="#">ApplicationInstance</a> or <a href="#">CommonInstance</a>
JobDefinitionDisplayName	String	R	DisplayName of the corresponding job
JobDefinition	<a href="#">Job</a>	R	The <a href="#">Job</a> object the Instance belongs to

(\*) must not be null for reading access  
(\*\*) applies for WindowsJobInstance only

### Codings:

#### [EndpointCategory]

- 1 Any
- 0 Unknown
- 1 MicrosoftWindows
- 2 GoogleAndroid
- 3 AppleIOS,
- 4 AppleMac

- 5 WindowsPhone
- 6 Network
- 7 Industrial

#### [State] DEPRECATED (use BmsNetState instead)

A job instance state consists of a status (lower 8 bits) and a so-called state flag (upper 24 bits). The mask of job instance states is 0x000000FF. That means, just the below 8 bits can be used for coding the state.

- 0 Unknown
- 1 Inactive
- 2 Active
- 5 Running
- 6 Paused
- 7 Finished

0x00000100 Resume	Job steps will not be new created.
0x00000200 Warning	Cancel with warning
0x00000400 Error	Cancel with error
0x00000800 Rebooting	Client new start
0x00001000 RetryFailed	Retry failed
0x00002000 Waiting	Waiting for event to proceed
0x00004000 Connecting	Server connects to client
0x00008000 Delayed	Job on client is delayed (locked workstation)
0x00010000 Rescheduled	Job has been re-planned
0x00020000 Preparing	Job preparation phase
0x00040000 Initializing	Job initializing phase
0x00080000 Rebooted	Client rebooted
0x00100000 WaitingForBootClient	Job waits for a boot client connection.
0x00200000 OtherJobActive	Another Job is active for this client
0x00400000 ConnectFailed	Attempt to connect failed
0x00800000 PreconditionFailed	Set when Preconditions do not apply
0x01000000 DownloadsFinished	Job instance has finished downloading files via bBT
0x02000000 DownloadingFiles	Job instance is downloading files via bBT
0x04000000 UBDSExecuteOnEachLogin	UBDS Option ExecuteOnEachLogin is set
0x08000000 RescheduledForShutdown	Job rescheduled to time of the shutdown
0x10000000 ExecuteShutdownJob	Shutdown Job ready for execution

#### [BmsNetState]

- 1 Unknown
- 0 Assigned
- 1 Running
- 2 FinishedSuccess
- 3 FinishedError
- 4 FinishedCanceled
- 5 ReScheduled
- 6 ReScheduledError
- 7 WaitingForUser
- 8 RequirementsNotMet
- 9 Downloading
- 10 SkippedDueToIncompatibility
- 11 NonBlockingWaitingForUser

### 7.11.1 Step (CommonInstance)

Property	Data type	Access	Description
Sequence	Int	R	Sequence number of the step beginning with 1
Type	String	R	Type of the Step (see <a href="#">Type</a> )
Properties	List of <Key, Value>	R	Additional properties
TimeLastAction	DateTime		Time, the last action was done
State	Int		Current state of the step (see <a href="#">State</a> )
StateText	String		A text that has further information

### 7.11.2 Step (ApplicationInstance)

Property	Data type	Access	Description
Sequence	Int	R	Sequence number of the step beginning with 1
Type	String	R	Type of the Step (see <a href="#">Type</a> )
Properties	List of <Key, list of < <a href="#">Property</a> >>	R	Additional properties of Type <Key, list of < <a href="#">Property</a> >>
TimeLastAction	DateTime		Time, the last action was done
State	Int		Current State of the step (see <a href="#">State</a> )
StateText	String		A text that has further information

### 7.11.3 State

[State]

- 0 Assigned
- 1 Running
- 2 FinishedSuccess
- 3 FinishedError
- 4 FinishedCanceled
- 5 ReScheduled
- 6 ReScheduledError
- 7 WaitingForUser
- 8 RequirementsNotMet
- 9 Downloading
- 10 SkippedDueToIncompatibility



## 7.12 BootEnvironment

This object type applies for endpoints of type *WindowsEndpoint* only.

Property	Data type	Access	Description
Id	String	R	Unique ID of a boot environment
Name	String	R	Name of a boot environment
Bootpath	String	R	Path in which the Windows PE files will be placed
Comment	String	R	Freely editable text field
Architecture	String (*)	R	Processor architecture of the boot environment
Type	String	R	Defines the type of the boot environment (see coding below)
AutoConfirmStep	Bool	R	If <i>true</i> , the started image will not confirm this step
ShowInBootMenu	Bool	R	If <i>true</i> , the boot environment will be shown in the boot menu
ReinstallSystem	Bool	R	If <i>true</i> , the boot environment will reinstall the system
NetworkBootstrapProgram	String (**)	R	Selected network bootstrap program for the boot environment

(\*) for other platforms than UEFI this value is *null*

(\*\*) for UEFI platforms this value is *null*

### Codings:

#### [Type]

Unknown

DOS

WinPE

WinPE\_UEFI

Custom

## 7.13 HardwareProfile

This object type applies for endpoints of type *WindowsEndpoint* only.

Property	Data type	Access	Description
Id	String	R	ID of a hardware profile
CpuSpeed	String	R	Speed of the installed CPU in MHz
CpuType	String	R	Type of the installed CPU
Comment	String	R	Freely editable text field
IgnoreOnAutoDetect	Bool	R	If set, the hardware profile will be ignored on auto detection
JoinDomainAfterSetup	Bool	R	If <i>true</i> , a domain join is executed after the setup
Manufacturer	String	R	Hardware manufacturer
Memory	String	R	Size of available memory in MByte
Model	String	R	Hardware model
Name	String	R	Name of a hardware profile
UseManualDriverAssignment	Bool	R	If <i>true</i> , the driver package stored in the <i>DriverPath</i> will be used for drivers
DriverPath	String	R	Path to driver packages

## 7.14 ObjectVariables

Property	Data type	Access	Description
ObjectId	String	R	Unique ID of the object the variables belong to (e.g. an endpoint)
Scope	String	R	Scope of the variables (e.g. Device)
Variables	List of < <a href="#">Variable</a> >	R	List of all variables of an object

### Codings:

#### [Scope]

Device	Covers endpoints of type <i>WindowsEndpoint</i> and <i>MacEndpoint</i>
MobileDevice	Covers endpoints of type <i>Android</i> , <i>WindowsPhone</i> and <i>iOSEndpoint</i>
Job	Covers jobs of type <i>WindowsJob</i>
OrgUnit	Covers org units in node <i>Logical Groups</i> only
Software	Covers software (applications) for Windows clients only
Hardwareprofile	Covers hardware profiles
ICDevice	Covers industrial control devices
NetworkDevice	Covers network devices

### 7.14.1 Variable

Property	Data type	Access	Description
Category	String	R	Category of a variable
Name	String	R	Name of a variable
Value	String	R/U	Value of a variable
UseDefault	Bool (*)	R/U	If <i>true</i> the default variable value (from variable definition) is used
Type	String	R	The type of a variable (see coding below)

(\*) applies for BmsNetEndpoints only

### Codings:

#### [Type]

Unknown  
 Number  
 String  
 Date  
 Checkbox  
 Dropdownbox  
 DropdownListbox  
 Filelink  
 Folder  
 Password  
 Certificate

## 7.15 App

This object type applies for endpoints of type *AndroidEndpoint*, *iOSEndpoint* and *WindowsPhoneEndpoint* only.

Property	Data type	Access	Description
Id	String	R	Unique ID of an app
Name	String	R	Name of an app
Version	String	R	Version of an app
Platform	String	R	Supported platforms of the app
Package	String	R	Identifier of the app
StoreId	String	R	Unique Store ID of an app
FileSize	Long	R	File size of an app
Account	String	R	Account of an app
VPPManagedOS	Bool (*)	R	If <i>true</i> , the app is managed by the bMS
VPPRedemptionCodes	Bool (*)	R	If <i>true</i> , there are redemption codes for the app available
Licenses	List of <a href="#">AppLicenseCounter</a>	R	List of item properties with data type AppLicenseCounter
ParentId	String	R	Unique ID of a parent org unit

(\*) if the platform does not support this property the value is *null*

### 7.15.1 AppLicenseCounter

Property	Data type	Access	Description
TotalInstalledOn	Int	R	Number of devices the app is installed on
InUse	Int	R	Number of devices where the app is in use
TotalLicense	Int	R	Number of available licenses
FreeLicense	Int	R	Number of free licenses

## 7.16 Icon

Property	Data type	Access	Description
Id	String	R	Unique ID of an app
Data	Array of Bytes	R	The apps binary icon data

## 7.17 Application

This object type applies for endpoints of type *WindowsEndpoint* only.

Property	Data type	Access	Description
Id	String	R/C	Unique ID of an application
Name	String	R/C/U	Name of an application
Comment	String	R/C/U	Freely editable text field
ParentId	String	R/C/U	ID of the parent org unit
Version	String	R/C/U	Version of an application
Vendor	String	R/C/U	Vendor of an application
Category	String	R/C/U	Category of an application
ValidForOS	List of String	R/C/U	List of all supported operating systems of an application (see coding below)
EnableAUT	Bool	R/C/U	If set, AUT is enabled for this application
Installation	<a href="#">InstallationData</a>	R/C/U	Object of the type <a href="#">InstallationData</a>
Uninstallation	<a href="#">UninstallationData</a>	R/C/U	Object of the type <a href="#">UninstallationData</a>
ConsistencyChecks	String	R/C/U	Consistency checks of an application
Files	List of <a href="#">ApplicationFile</a>	R/C/U	List of <a href="#">ApplicationFile</a> objects
Cost	Float	R/C/U	Purchase cost
SecurityContext	String	R/C/U	Context of the execution (see coding below)
Licenses	List of <a href="#">ApplicationLicense</a>	R/C/U	List of <a href="#">ApplicationLicense</a> objects
MSW	Bool	R	If <i>true</i> , the application is a managed software
AUT	List of <a href="#">AUTFileRule</a>	R/C/U	Rules used for application usage tracking
SoftwareDependencies	List of <a href="#">SoftwareDependency</a>	R/C/U	List of <a href="#">SoftwareDependency</a> objects ( <a href="#">Application</a> must exist)
SoftwareLicenseActions	List of <a href="#">SoftwareLicenseAction</a>	R/C/U	List of <a href="#">SoftwareLicenseAction</a> objects
Parameters	List of <a href="#">Parameter</a>	R/C/U	List of <a href="#">Parameter</a> objects

### Codings:

#### [SecurityContext]

AnyUser  
InstallUser  
LocalInstallUser  
LocalSystem  
LoggedInUser  
RegisteredUser  
SpecifiedUser

### [ValidForOS]

NT4  
 Windows2000  
 WindowsXP  
 WindowsServer2003  
 WindowsVista  
 WindowsServer2008  
 Windows7  
 WindowsServer2008R2  
 WindowsXP\_x64  
 WindowsServer2003\_x64  
 WindowsVista\_x64  
 WindowsServer2008\_x64  
 Windows7\_x64  
 WindowsServer2008R2\_x64  
 Windows8  
 Windows8\_x64  
 WindowsServer2012\_x64  
 Windows10  
 Windows10\_x64  
 WindowsServer2016\_x64  
 WindowsServer2019\_x64

## 7.17.1 ApplicationLicense

Property	Data type	Access	Description
Count	Int	R/C/U	Count of all available licenses
LicenseKey	String	R/C/U	Key of the license
Offline	Int	R/C/U	Count of all offline licenses
Online	Int	R	Count of all online licenses

## 7.17.2 ApplicationFile

Property	Data type	Access	Description
Source	String	R/C/U	Source of the file
Type	String	R/C/U	Type of the file (see coding below)

### Codings:

#### [Type]

FolderWithSubFolders  
 SingleFolder  
 File

### 7.17.3 InstallationData

Property	Data type	Access	Description
Command	String	R/C/U	Installation / Uninstallation command
Parameter	String	R/C/U	Parameters for installation / uninstallation
Response File	String	R/C/U	Source of the response file after installation / uninstallation
Engine	String	R/C/U	Name of the installation / uninstallation engine
EngineFile	String	R/C/U	Source of the installation / uninstallation engine
Options	<a href="#">InstallApplicationOption</a>	R/C/U	<a href="#">InstallApplicationOption</a>
UserSettings	<a href="#">InstallUserSettings</a>	R/C/U	<a href="#">InstallUserSettings</a>

#### Codings:

##### [Engine]

baramundi Deploy Package  
Rational Visual Test 6.5  
baramundi Deploy Script

#### 7.17.3.1 InstallApplicationOption

Property	Data type	Access	Description
RebootBehaviour	String	R/C/U	Behaviour after reboot (see coding below)
AllowReinstall	Bool	R/C/U	If set, reinstallation is allowed
UsebBT	Bool	R/C/U	If set, bBT is supported
VisibleExecution	String	R/C/U	Shows in which cases the execution of this software is visible (see coding below)
CopyLocally	Bool	R/C/U	If set, installation files should be copied to local filesystem
DisableInputDevices	Bool	R/C/U	If set, no input devices will be available during installation
DontSetAsInstalled	Bool	R/C/U	If set, this application shouldn't be shown as installed, after installation
MapShare	Bool	R/C/U	If set, installation share will be connected for installation
Target	String	R/C/U	Target file

#### Codings:

##### [RebootBehaviour]

NoReboot  
Reboot  
AppReboot  
DeferrableReboot

### [VisibleExecution]

Silent

NeedsDesktop

VisibleWhenUserLoggedIn

#### 7.17.3.2 InstallUserSettings

Property	Data type	Access	Description
baramundiDeployScript	String	R/C/U	Path to the deploy script that needs to be executed during installation
ValidForInstallUser	Bool	R/C/U	If <i>true</i> , also valid for install user
RunbDSVisible	Bool	R/C/U	If <i>true</i> , bDS will be executed visible
CopyScriptToClient	Bool	R/C/U	If <i>true</i> , script will be copied to the client before execution
ExecuteAtEveryLogin	Bool	R/C/U	If <i>true</i> , script will be executed at every login

#### 7.17.4 UninstallationData

Property	Data type	Access	Description
Command	String	R/C/U	Installation / Uninstallation command
Parameter	String	R/C/U	Parameters for installation / uninstallation
Response File	String	R/C/U	Source of the response file after installation / uninstallation
Engine	String	R/C/U	Name of the installation / uninstallation engine
EngineFile	String	R/C/U	Source of the installation / uninstallation engine
Options	<a href="#">UninstallApplicationOption</a>	R/C/U	<a href="#">UninstallApplicationOption</a>
UserSettings	<a href="#">UninstallUserSettings</a>	R/C/U	<a href="#">UninstallUserSettings</a>

#### Codings:

### [Engine]

baramundi Deploy Package

Rational Visual Test 6.5

baramundi Deploy Script

#### 7.17.4.1 UninstallApplicationOption

Property	Data type	Access	Description
RebootBehaviour	String	R/C/U	Behaviour after Reboot (see codings below)
RemoveUnknownSoftware	Bool	R/C/U	If <i>true</i> , unknown software will be uninstalled
UsebBT	Bool	R/C/U	If <i>true</i> , bBT is supported



VisibleExecution	String	R/C/U	Shows in which cases the execution of this software is visible (see coding below)
CopyLocally	Bool	R/C/U	If <i>true</i> , installation files are copied to local file system
DisableInputDevices	Bool	R/C/U	If <i>true</i> , no input devices will be available during installation

#### Codings:

##### [VisibleExecution]

Silent

NeedsDesktop

VisibleWhenUserLoggedIn

##### [RebootBehaviour]

NoReboot

Reboot

AppReboot

DeferrableReboot

#### 7.17.4.2 UninstallUserSettings

Property	Data type	Access	Description
baramundiDeployScript	String	R/C/U	Path to the deploy script that needs to be executed during installation
ValidForInstallUser	Bool	R/C/U	If <i>true</i> , also valid for install user
RunbDSVisible	Bool	R/C/U	If <i>true</i> , bDS will be executed visible
CopyScriptToClient	Bool	R/C/U	If <i>true</i> , script will be copied to client before execution

#### 7.17.5AUTFileRule

Property	Data type	Access	Description
FileName	String	R/C/U	Name of the file
FileSize	ULong	R/C/U	Size of the file
Date	String	R/C/U	Timestamp as Date of the file
CRC	ULong	R/C/U	Checksum of the file
Version	String	R/C/U	Version of the file
Company	String	R/C/U	Company of the file
ProductName	String	R/C/U	Product name of the file
InternalName	String	R/C/U	Internal name of the file
Language	String	R/C/U	Language of the file
ProductVersion	String	R/C/U	Product version of the file
FileDescription	String	R/C/U	File description of the file
FileVersionNumeric	String	R/C/U	Numerical file version
CommandLine	String	R/C/U	Command line parameters

## 7.17.6 SoftwareDependency

Property	Data type	Access	Description
DependencyId	String	R/C	Unique ID of the dependency (software Unique ID)
DependencyAppName	String	R	Name of the application
DependencyType	String	R/C	Type of the dependency
ValidForOS	List of Strings	R/C	List of all supported operating systems of the dependency (see coding below)

### [DependencyType]

InstallBeforeIfNotInstalled  
 AlwaysInstallAfterwards  
 AlwaysInstallBefore  
 DeinstallBeforeIfInstalled  
 ErrorIfNotInstalled  
 ErrorIfInstalled

### [ValidForOS]

NT4  
 Windows2000  
 WindowsXP  
 WindowsServer2003  
 WindowsVista  
 WindowsServer2008  
 Windows7  
 WindowsServer2008R2  
 WindowsXP\_x64  
 WindowsServer2003\_x64  
 WindowsVista\_x64  
 WindowsServer2008\_x64  
 Windows7\_x64  
 WindowsServer2008R2\_x64  
 Windows8  
 Windows8\_x64  
 WindowsServer2012\_x64  
 Windows10  
 Windows10\_x64  
 WindowsServer2016\_x64

### 7.17.7 SoftwareLicenseAction

Property	Data type	Access	Description
AlarmCount	int	R/C	Count, when the alarm is executed.
AlarmAction	String	R/C	Action of the alarm
ContinueInstall	bool	R/C	If <i>false</i> , the application won't be installed, if less than ' <i>AlarmCount</i> ' licenses are available

#### [AlarmAction]

LogInfo

LogWarning

### 7.17.8 Parameters

Property	Data type	Access	Description
Name	String	R/C	Name of the parameter
Type	String	R/C	The type of the parameter
Value	String	R/C	The actual value of the parameter
DefaultValue	String	R/C	The default value of the parameter when <i>Value</i> is not set

#### [Type]

Unknown

Number

String

Date

Checkbox

Dropdownbox

DropdownListbox

Filelink

Folder

Password

Certificate

## 7.18 Inventory

This object type applies for all endpoint types.

Property	Data type	Access	Description
EndpointId	String	R	Unique ID of the endpoint
Scans	List of <a href="#">InventoryScan</a>	R	List of available inventory scans for an endpoint

### 7.18.1 InventoryScan

Property	Data type	Access	Description
Time	DateTime	R	Scan execution time (in UTC)
Template	String	R	Name of the template used for the inventory scan
Data	List of InventoryData>	R	Inventory data is one of following types: <a href="#">DataRegistry</a> , <a href="#">DataFile</a> , <a href="#">DataWMI</a> , <a href="#">DataCustom</a> and <a href="#">DataHardware</a>

### 7.18.2 DataRegistry

Property	Data type	Access	Description
Name	String	R	Name of a scanned registry entry
Version	String	R	Version of a scanned registry entry
Company	String	R	Responsible Company
ProductName	String	R	Name of a product the entry is for

### 7.18.3 DataFile

Property	Data type	Access	Description
Name	String	R	Name of a scanned file
Path	String	R	Path of a scanned file
Size	Long	R	Size of a scanned file in Bytes
LastWriteTime	DateTime	R	Last time the file was modified
Version	String	R	Version of a scanned file
Company	String	R	Manufacturer of a scanned file
ProductName	String	R	Product a scanned file is part of
ProductVersion	String	R	Version of a product
OriginalName	String	R	Internal name of a scanned file
Description	String	R	Description of a scanned file

## 7.18.4DataWMI

Property	Data type	Access	Description
ClassName	String	R	Corresponding WMI class name
Items	List of <a href="#">Item</a>	R	List of found items with data type <a href="#">Item</a>

### 7.18.4.1 Item

Property	Data type	Access	Description
Child	<a href="#">DataWMI</a>	R	Possible child data
Properties	List of <a href="#">Property</a>	R	List of item properties with data type <a href="#">Property</a> .

## 7.18.5DataCustom

Property	Data type	Access	Description
Name	String	R	Custom name of a root node
Properties	List of <a href="#">Property</a>	R	List of custom node properties with type <a href="#">Property</a>
SubNodes	List of <a href="#">DataCustom</a>	R	List of SubNodes with data type <a href="#">DataCustom</a>

## 7.18.6DataHardware

Property	Data type	Access	Description
Name	String	R	Name of a root node
Properties	List of <a href="#">Property</a>	R	List of node properties with type <a href="#">Property</a>
SubNodes	List of <a href="#">DataHardware</a>	R	List of SubNodes with data type <a href="#">DataHardware</a>

### 7.18.6.1 Property

Property	Data type	Access	Description
Name	String	R	Property name
Value	String	R	Property value

## 7.18.7DataSnmp

Property	Data type	Access	Description
Name	String	R	Name of a SNMP property
ObjectId	String	R	SNMP object identifier
PropertyId	String	R	Id of a SNMP property
Found	Bool	R	True if the object was found
Value	String	R	Value of a SNMP property

## 7.19 InventoryOverview

This object type applies for endpoints of type *WindowsEndpoint* only.

Property	Data type	Access	Description
EndpointId	String	R	ID of an endpoint
Scans	List of < <a href="#">Scan</a> >	R	List of scan objects of an endpoint

### 7.19.1 Scan

Property	Data type	Access	Description
Template	String	R	Name of a used template
Time	DateTime	R	Date and time of a scan (in UTC)
Type	String	R	Inventory Type (see coding below)

**Coding:**

**[Type]**

Unknown

Custom

WMI

Hardware

## 7.20 InventoryApp

This object type applies for endpoints of type *AndroidEndpoint*, *iOSEndpoint* and *WindowsPhoneEndpoint* only.

Property	Data type	Access	Description
Id	String	R	Unique ID of an App
Name	String	R	Name of the App
Version	String	R	Version of the App
Build	String	R	Build number of the App
Platform	String	R	Supported platform for the App
Package	String	R	Identifier of the App
IsRunnable	Bool (*) (***)	R	If set, the App is runnable and whitelisted on the device
LocalPath	String (*) (**)	R	Local installation path of the app
VPPManagedOS	Bool (*) (***)	R	If set, the App is managed by the bMS
VPPRedemptionCodes	Bool (*) (***)	R	If set, there are redemption codes for the app available
Licenses	List of <a href="#">AppLicenseCounter</a>	R	List of item properties with data type <a href="#">AppLicenseCounter</a>

(\*) if the platform does not support the property, the value is *null*.

(\*\*) only supported on Mac OS X devices

(\*\*\*) only supported on iOS and Mac OS X

## 7.21 SoftwareScanRule

Property	Data type	Access	Description
Id	String (*)	R	Unique ID of a software scan rule
SoftwareManufacturer	String (*)	R	Manufacturer of a software
SoftwareName	String (*)	R	Name of a software
SoftwareVersion	String (*)	R	Version of a software
Protected	Bool	R	<i>True</i> , if scan rule is protected
Comment	String	R	Freely editable text field
Rules <b>DEPRECATED</b>	String	R	The rule to detect a software
Category	String	R	Category of the software
IsMswRule	Bool	R	<i>True</i> , if scan rule is for ManagedSoftware product

(\*) must not be null for reading access

## 7.22 SoftwareScanRuleCount

Property	Data type	Access	Description
SoftwareScanRule	<a href="#">SoftwareScanRule</a> object	R	<a href="#">SoftwareScanRule</a> object that a detection rule that identifies installed and deployed software
InstalledCount	String	R	Cumulated count of deployed and inventoried software
InstalledEndpoints	List of <a href="#">EndpointInfo</a> objects	R	The Endpoints which match the scan rule

## 7.23 EndpointInvSoftware

Property	Data type	Access	Description
GuidEndpoint	String (*)	R	Unique ID of an endpoint
GuidRule	String (*)	R	Unique ID of a software scan rule
LastSeen	DateTime(*)	R	Last time a software was detected on an endpoint
InventoryPath	String	R	Inventory path
InventoryVersion	String	R	Inventory version
ConflictedRules <b>DEPRECATED</b>	String	R	List of IDs of conflicted scan rules

(\*) must not be null for reading access

## 7.24 EndpointInfo

Property	Data type	Access	Description
Id	String	R	Unique ID of an endpoint
Name	String	R	Name of the endpoint



## 7.25 Image

Property	Data type	Access	Description
Id	String	R	Unique ID of an image
MimeType	String	R	Image Internet Media Type
Data	Array of Bytes	R	The binary icon data

## 7.26 VariableDefinition

Property	Data type	Access	Description
Id	String	R/C	Unique ID of a custom variable
Scope	String	R/C	Scope of a custom variable (e.g. MobileDevice)
Category	String	R/C/U	Category of a custom variable
Name	String	R/C/U	Name of a custom variable
Type	String	R/C/U	Type of a custom variable (see coding below)
Value	String	R/C/U	The default value of a custom variable
Comments	String	R/C/U	Freely editable text field

### Codings:

#### [Type]

Unknown  
 Number  
 String  
 Date  
 Checkbox  
 Dropdownbox  
 DropdownListbox  
 Filelink  
 Folder  
 Password  
 Certificate

#### [Scope]

Device	Covers endpoints of type <i>WindowsEndpoint</i> and <i>MacEndpoint</i>
MobileDevice	Covers endpoints of type <i>Android</i> , <i>WindowsPhone</i> and <i>iOSEndpoint</i>
Job	Covers jobs of type <i>WindowsJob</i>
OrgUnit	Covers org units in node <i>Logical Groups</i> only
Software	Covers software (applications) for Windows clients only
Hardwareprofile	Covers hardware profiles
AdObject	Covers Active Directory users and groups
Bulletin	Covers patch bulletins
Component	Covers hardware components
ICDevice	Covers industrial control devices
NetworkDevice	Covers network devices

## 7.27 KioskJob

Property	Data type	Access	Description
Id	long	R/D	Unique ID of the job release
AssignedObjectId	String	R/C	Unique Id of endpoint, group or user
AssignedObjectName	String	R	Name of endpoint, group or user
AssignedObjectType	String	R	Types: WindowsEndpoint MacEndpoint IOSEndpoint AndroidEndpoint WP8Endpoint LegacyGroup (Logical Group) ADObject (User or AD-Group)
JobDefinitionId	String	R/C	Unique Id of the released job
JobDefinitionName	String	R	Name of the released job
JobDefinitionDisplayName	String	R	(Kiosk) Display name of the released job
JobDefinitionCategory	String	R	Category of the released job
JobDefinitionSupportedPlatforms	List of Strings	R	Supported device platforms of the released job

## 7.28 EndpointSecrets

Property	Data type	Access	Description
EndpointId	String	R	Unique ID of the endpoint
Pin	String	R/P	BitLocker unlock pin
VolumeSecretEntries	List of <a href="#">&lt;VolumeSecretEntry&gt;</a>	R	Volume secrets

### 7.28.1 VolumeSecretEntry

Property	Data type	Access	Description
Volumeld	String	R	Unique ID of the volume
VolumeName	String	R	Name of the volume
IsSystemVolume	Bool	R	Operation system on volume
GeneratedRecoveryKey	String	R	Generated recovery key sent to endpoint
InventoryRecoveryKey	String	R	Inventoried recovery key
InventoryTimestamp	DateTime	R	Last inventory time

## 7.29 EnrollmentData

Property	Data type	Access	Description
EndpointId	String	R	Unique ID of the endpoint
InstallCommand	String	R	Specific install command for the given endpoint
ValidUntil	String	R	Timestamp until the enrollment data is valid

## 7.30 ServerState

Property	Data type	Access	Description
Name	String	R	Name of the baramundi server
ExecutionState	ExecutionState	R	The current execution state of the baramundi server (see below)
Services	List of <a href="#">ServiceState</a>	R	The states of the sub services of the server

### [ExecutionState]

- 0 Unknown
- 1 Stopped
- 2 StoppedNotConfigured
- 3 Starting
- 4 Running
- 5 RunningNotConfigured
- 6 MaintenanceMode
- 7 Warning
- 8 Stopping
- 9 RestartRequired
- 10 NotLicensed
- 11 RunningNotLicensed

### 7.30.1 ServiceState

Property	Data type	Access	Description
Name	String	R	Name of the service (The name of the service may change in future releases.)
ExecutionState	ExecutionState	R	The current execution state of the service (see above)
StateText	List of String	R	The current state text of the service

## 7.31 VPPUser

Property	Data type	Access	Description
Id	String	R	Unique ID of the VPP user
Email	String	R/C	The email address of the VPP user
ManagedAppleId	String	R/C	The managed Apple ID of the VPP user
ItunesStoreHash	String	R	The hash of the user's iTunes Store ID
InviteUrl	String	R	The URL for VPP users to complete the registration process
Status	String	R	Status of a VPP user (see coding below)
UserId	String	R	An Id assigned by Apple upon user registration
IsManagedAppleId	Bool	R/C	<i>True</i> , if the VPP user is associated with a managed Apple Id
ADObjectId	String	R	The Id of the AD-User, if an AD-User has been attached to the VPP user

EmailLanguageId	String	R/C/U	The Identifier of the email template, which will be used for the email enrollment message sent to the Recipient email. Default available templates are "de-DE" and "en-US".  Property can only be updated if <b>IsManagedAppleId</b> is false.
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#### Codings:

#### [Status]

Registered  
Associated  
Retired  
Deleted

## 7.32 VPPLicenseAssociation

Property	Data type	Access	Description
Id	String	R	Unique ID of the VPP license association
ClientUserIdStr	String	R/C	The unique ID of the associated VPP user
LicenseIdStr	String	R	The identifier of the assigned license
BmsNetEndpoint	String	R	The unique ID of the associated Mobile Endpoint
SerialNumber	String	R	The serial number of the associated Mobile Endpoint
AdamId	String	R	The unique identifier for a product in the iTunes Store
ShouldBeDisassociated	Bool	R	<i>True</i> , if the VPP license is marked for disassociation, otherwise <i>False</i>
BundleId	String	R/C	The unique bundle ID of the associated app

## 7.33 MicrosoftUpdateInventories

Property	Data type	Access	Description
Endpoints	List of <a href="#">MicrosoftUpdateEndpointInventory</a>	R	Inventoried Microsoft updates of Windows endpoints

## 7.34 MicrosoftUpdateEndpointInventory

Property	Data type	Access	Description
EndpointID	String	R	Unique ID of the Windows endpoint
UpdateInformation	List of <a href="#">MicrosoftUpdateInventoryInformation</a>	R	Inventoried Microsoft updates of the Windows endpoint

## 7.35 MicrosoftUpdateInventoryInformation

Property	Data type	Access	Description
IsInstalled	Bool	R	Indicates whether the update is installed or not
UpdateId	String	R	Revision-independent identifier of the update
RevisionNumber	String	R	Revision number of the update
Classification	String	R	Classification of the update
Products	List of String	R	Collection of the product names that are associated with the update
Title	String	R	Title of the update
Type	String	R	Specifies the update type (see below)
SupportURL	String	R	Hyperlink to the support information for the update
InstallationDeadline	String	R	Date until an update classified as missing (taking into account the settings of an update profile) must be installed to avoid a negative effect on the update status (Noncompliant). The deadline can be extended by increasing the "missing update tolerance period".
LastDeploymentChangeTime	String	R	Last published date of the update on the server that deploys the update (in UTC)
MsrcSeverity	String	R	Microsoft Security Response Center severity rating of the update. Is <i>null</i> when not set.
KBArticleIDs	List of String	R	Collection of Microsoft Knowledge Base article IDs that are associated with the update
MoreInfoUrls	List of String	R	Collection of hyperlinks to more information about the update
SecurityBulletinIDs	List of String	R	Collection of the security bulletin IDs that are associated with the update
CveIDs	List of String	R	Collection of common vulnerabilities and exposures (CVE) IDs that are associated with the update
Description	String	R	Description of the update

### [Type]

Software  
Driver

### [MsrcSeverity]

Low,  
Medium,  
High,  
Critical

## 7.36 ComplianceViolation

Property	Data type	Access	Description
CveId	String	R	The id of the associated cve rule
MdmComplianceRuleId	String	R	The id of the associated mobile devices compliance rule
EndpointId	String	R	The id of the associated endpoint
Endpoint	String	R	Name of the endpoint
Name	String	R	Name of the compliance rule
Products	String	R	Products that cause this compliance violation
CvssScore	Double	R	Cvss score of the compliance violation
Severity	String	R	Severity of the compliance violation
Description	String	R	Description of the compliance violation
ComplianceType	String	R	Type of the compliance depending on the OS
State	String	R	Sate of the compliance violation
MdmRuleType	String	R	Mobile Devices and macOS rule types

### [Severity]

Unknown,  
None,  
Low,  
Medium,  
High,  
Critical

### [ComplianceType]

Windows  
Mobile Devices & macOS  
Industrial

### [State]

Unknown,  
Active,  
Ignored,  
Conditional Ignored,  
Resolved

### [MdmRuleType]

Unknown  
Jailbreak  
Blacklisted App  
Whitelisted App  
Missing App

Outdated Info  
Operating System  
Geo Fence  
Invalid App Version

## 7.37 VulnerabilityExclusion

Property	Data type	Access	Description
CveName	String	R	The name of the associated cve rule
CvId	String	R	The id of the associated cve rule
OriginName	String	R	The origin of the vulnerability exclusion
OriginId	String	R	The id of the origin of the vulnerability exclusion
Initiator	String	R	User context the vulnerability exclusion was created with
Added	DateTime	R	Date and time the vulnerability exclusion was added
Reason	String	R	Entered reason why the vulnerability is excluded
Status	String	R	Exclusion: Exclusion is active Revoked exclusion: Exclusion is revoked

**[Status]**  
Exclusion,  
Revoked exclusion

## 7.38 MicrosoftUpdateProfile

Property	Data type	Access	Description
Id	string	R	Identifier of the Microsoft Update Profile
Name	String	R/C/U	Name of the Microsoft Update Profile. Must be unique (case-insensitive) among all Microsoft Update Profiles
Comment	String	R/C/U	A comment associated with the Microsoft Update Profile
UpdateDeferralPeriodInDays	int	R/C/U	The minimum age of an update relative to its LastDeploymentChangeTime before it is considered a candidate for update deployment. Value must be in the Range [0, 30]. Default value is 0.
BlockedUpdates	List of String	R/C/U	Collection of IDs of updates that must never be considered valid candidates for update deployment
BlockedClassifications	List of String	R/C/U	Collection of names of update classifications that must never be

			considered valid candidates for update deployment. If the property BlockedClassifications is not specified explicitly, the value ["Upgrades"] (in JSON, similarly in XML) is used as default.
BlockedProducts	List of String	R/C/U	Collection of names of update products that must never be considered valid candidates for update deployment

## 7.39 MicrosoftUpdateManagementSetting

Property	Data type	Access	Description
Key	String	R	The key of the setting
Value	String	R/U	The value of the setting

## 7.40 MicrosoftDefenderThreat

Property	Data type	Access	Description
Id	String	R	Identifier of detected threat
Name	String	R	Name of threat
IsActive	Bool	R	Indicates whether the threat is active or not
Severity	String	R	Specifies the threat severity (see below)
Category	String	R	Specifies the threat category (see below)
ThreatType	String	R	Type of threat (see below)
DomainUser	String	R	Domain user where threat was detected
ProcessName	String	R	Process name
FileNames	String	R	File names detected by Microsoft Defender Antivirus, separated by newline
ActionSuccess	Bool	R	Indicates whether threat could be resolved or not
ExecutionStatus	String	R	Execution status of threat (see below)
ThreatStatus	String	R	Threat status (see below)
DetectionSource	String	R	Detection source type (see below)
CleaningAction	String	R	Cleaning status (see below)
AdditionalActions	Int	R	Bit field for additional actions, combinations of two or three actions are possible (see below)
DetectionTime	DateTime	R	Detection time of the threat
RemediationTime	DateTime	R	Remediation time
LastStatusChangedTime	DateTime	R	Last time the status of threat changed
EndpointId	String	R	Id of endpoint where threat was detected
EndpointName	String	R	Name of endpoint where threat was detected



**[Severity]**

UnknownSeverity,  
Low,  
Moderate,  
High,  
Severe

**[Category]**

Invalid,  
Adware,  
Spyware,  
PasswordStealer,  
TrojanDownloader,  
Worm,  
Backdoor,  
RemoteAccessTrojan,  
Trojan,  
EmailFlooder,  
Keylogger,  
Dialer,  
MonitoringSoftware,  
BrowserModifier,  
Cookie,  
BrowserPlugin,  
AolExploit,  
Nuker,  
SecurityDisabler,  
JokeProgram,  
HostileActivexControl,  
SoftwareBundler,  
StealthNotifier,  
SettingsModifier,  
Toolbar,  
Remotecontrolsoftware,  
TrojanFtp,  
PotentialUnwantedSoftware,  
IcqExploit,  
TrojanTelnet,  
Exploit,  
FilesharingProgram,  
MalwareCreationTool,  
RemoteControlSoftware,  
Tool,  
TrojanDenialofservice,  
TrojanRopper,  
TrojanMassmailer,  
TrojanMonitoringsoftware,  
TrojanProxyserver,  
Virus,  
Known,  
Unknown,  
Spp,  
Behavior,  
Vulnerabilty,  
Policy

**[ThreatType]**

KnownBad,  
BehaviorType,  
UnknownType,  
KnownGood,  
NriType

**[ExecutionStatus]**

UnknownExecutionStatus,  
BlockedExecutionStatus,  
AllowedExecutionStatus,  
Executing,  
NotExecuting

**[ThreatStatus]**

UnknownStatus,  
Detected,  
Cleaned,  
Quarantined,  
Removed,  
Allowed,  
Blocked,  
CleanFailed,  
QuarantineFailed,  
RemoveFailed,  
AllowFailed,  
Abandoned,  
BlockedFailed

**[DetectionSource]**

UnknownDetectionSourceType,  
User,  
System,  
RealTime,  
Ioav,  
Nri,  
IeProtect,  
Elam,  
LocalAttestation,  
RemoteAttestation

**[CleaningAction]**

UnknownCleaningAction,  
Clean,  
Quarantine,  
Remove,  
Allow,  
Userdefined,  
Noaction,  
Block

**[AdditionalActions]**

0x00000000 None  
0x00000002 Full scan required  
0x00000008 Reboot required

0x00000010 Manual steps required  
0x00008000 Offline scan required

## 7.41 ModernEnrollmentActivationResult

Property	Data type	Access	Description
EndpointId	String	R	The Id of the endpoint, which has been activated for native enrolment.
EnrollmentUrl	String	R	The URL where the native enrolment profile can be downloaded.
EnrollmentTokenValidUntilUTC	String	R	The timestamp until the enrolment profile can be downloaded as UTC time
ErrorSendingEmail	Bool	R	Indicates whether an error occurred or not while sending the enrolment mail. This property will only be shown if the sending of an email was requested.
ErrorDetail	String	R	Holds the detailed error message if an error has occurred while activating native enrolment. This property will only be shown in case of an error.

## 7.42 IpNetwork


Property	Data type	Access	Description
ID	String	R	The Id of the IP network.
Name	String	R/C/U	The name of the IP network.
Dips	String	R/C/U	The dips specified for this IP network.
WolRelay	string	R/C/U	Wake on lan relays set for this IP network.
BandwidthMode	Enum	R/C/U	The specified bandwidth mode for this IP network. Possible values are <i>AllowAll</i> (0), <i>BlockAll</i> (1) and <i>UseBandwidth</i> (2).
MaxBandwidthKbits	long	R/C/U	The maximal bandwidth in Kbits specified for this IP network.
DuplicateWolToThisNetwork	bool	R/C/U	States whether wake on lan should be duplicated to this IP network.


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