

AudioCodes Routing Manager (ARM) REST Application Programming Interface (API)

Version 9.8



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Abbreviations and Terminology

Each abbreviation, unless widely used, is spelled out in full when first used.

Related Documentation

Document Name
ARM User's Manual

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41967	Updates for ARM Version 9.6
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1 REST API Overview

Widespread across enterprises and core applications, distributed systems over the web are the fundamental method used in emerging Cloud services. Web API is the main interface used by these web services for communications between the elements distributed over the web because Web API complies with the infrastructure and constraints defined by the web.

REST (Representational State Transfer) is an architectural style recommended for Web APIs. It's not a strict standard. It therefore allows a high level of flexibility in implementation.

REST APIs are designed in a way that accommodates to web infrastructure and complies with web constraints.

REST adopts a fixed set of operations on named resources, where the representation of each resource is the same for retrieving and setting information. In other words, you can retrieve (read) data in a formatted method and also send data back to the server in similar format in order to set (write) changes to the system.

Operations on resources are implemented with the standard primitives (request methods) of HTTP:

- GET – get information about list of resources or existing resource
- POST – create new resource
- PUT –update existing resource
- DELETE – delete existing resource

JSON Encoding: REST doesn't define which data encoding and formatting is to be used. The most commonly used methods are XML and JSON (JavaScript Object Notation).

Security: basic authentication will be used for each Rest request.

Version Control: REST API should be versioned (v1, v2 ...) so client-server communication and API methods can be verified as the same version. Backward compatibility between versions should be kept.

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2 ARM Server REST API

The following shows the prefix URL for all REST requests:

```
<ARM_Configurator_IP>/ARM/v1
```

Where <ARM_Configurator_IP> is the IP address of the ARM Configurator.

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3 Topology Rest API

This chapter describes the REST API resources for the Topology server. The following APIs are described:

- Create Resource Group
- Update Resource Group

3.1.1 Patch Resource Group

The <ARM_Configurator_IP>/ARM/v1/topology/group/{id} URL when used with the PATCH method provides the ability for the ARM Manager to send a request to the ARM Configurator to add and remove specific elements from resource-group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/group/{id}
```

HTTP Method

PATCH

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
name	String	Group name: unique
add	[Integer]	Elements to add
remove	[Integer]	Elements to remove

- Get API
- Create Topology API

3.1.2 Create Resource Group

The <ARM_Configurator_IP>/ARM/v1/topology/group URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create a new group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/group
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
-----------	------	-------------

name	String	Group name: unique
elements	[Integer]	-
type	TopologyGroupType	TopologyGroupType: NODE PEER_CONNECTION VOIP_PEER

HTTP Response

- 200 OK
- Topology Update API

3.1.3 Update Resource Group

The <ARM_Configurator_IP>/ARM/v1/topology/group/{id} URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to update a specific Group interface.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/group/{id}
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
name	String	Group name: unique
elements	[Integer]	-

3.1.4 Patch Resource Group

The <ARM_Configurator_IP>/ARM/v1/topology/group/{id} URL when used with the PATCH method provides the ability for the ARM Manager to send a request to the ARM Configurator to add and remove specific elements from resource-group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/group/{id}
```

HTTP Method

PATCH

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
name	String	Group name: unique
add	[Integer]	Elements to add
remove	[Integer]	Elements to remove

3.1.5 Get API

The `<ARM_Configurator_IP>/ARM/v1/topology/<ARM_attribute>` URL when used with the GET method provides the ability for the ARM Manager to send a GET Topology request to the ARM Configurator.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/<ARM_attribute>
<ARM_Configurator_IP>/ARM/v1/topology/<ARM_attribute>/{id}
```

Where:

- `<ARM_attribute>` requests all of the ids of the specified attribute (listed in the table below).
- `{id}` requests a specific ID of a specific attribute (listed in the table below).

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The ARM Configurator must respond to the GET request with JSON data that includes the request URI attribute. If the ID is not specified in the GET request, the URI JSON data MUST contain an array of all specified elements defined in the database for the attribute.

Attribute	Type	Description
node	ARRAY OF: <pre>[{ id: integer, operState: { description:String status:integer } adminState: string name: string, ipAddr: string, hostname: String serialNum: string, deviceType: string url: string transportType:String isIpProfileAvailable: Boolean routingServerPolicy:String productType:String }]</pre>	Id – Node ID in the database
		operState: 0 = login 4 = logout 5 = unroutable 6 = invalid_configuration
		adminState: 0 = unlock 1 = lock
		teamsRole: 0 = NOT_TEAMS 1 = PROXY 2 = REMOTE
		name – Name configured by ARM operator
		deviceType: 1 = MEDIANT_1000 2 = MEDIANT_3000 3 = M3K_8410 4 = MEDIANT_600

Attribute	Type	Description
	<pre> routingServers: [{ id: Integer, priority: Integer, status: String }] routingInterfaces: [{ Id: Integer udpPort: Integer tcpPort: Integer tlsPort: Integer name: String controllpAddr: String operativeState: ENUM nodeId: Integer srlId: String applicationType: ENUM isOffline: Boolean }] operatorId: Integer credentialsId: Integer routingServerGroupId: Integer supportedFeatures: ENUM topologyGroups: [Integer] teamsRole: ENUM </pre>	<p>5 = MP500_MSBG 6 = MEDIANT_1000_MSBG 7 = MEDIANT_800_PRO 8 = MEDIANT_1000_PRO 9 = MEDIANT_4000_ESBC 10 = SW_SBC:int 11 = MEDIANT_500_MSBG 12 = MEDIANT_500_ESBC 13 = MEDIANT_2600_ESBC 14 = MEDIANT_500L_MSBG 15 = MEDIANT_500L_ESBC 16 = MEDIANTG_800B_MSBG 17 = MEDIANTG_800B_ESBC 18 = SW_SE_SBC 19 = SW_SE_H_SBC 20 = SW_VE_SBC 21 = SW_VE_H_SBC 22 = SW_9000_SBC 23 = ADC device- default device type</p> <p>URI – element REST path</p> <p>transportType: HTTP HTTPS</p> <p>routingServerPolicy: ROUND_ROBIN STICKY_PRIMARY STICKY_LAST_AVAILABLE</p> <p>productType: SBC GW HYBRID UNDEFINED or THIRD_PARTY</p> <p>OperatorId – the ID of the operator that will be used by the node to login into ARM</p> <p>CredentialsId – the ID of the credentials that the ARM will use when authenticating to the node</p>
peerCon	<pre> ARRAY OF: [{ Id: integer </pre>	<p>operState: 0 = created 1 = available 2 = not_available</p>

Attribute	Type	Description
	nodeId: integer, nodeName: string, name: string, voipPeerId : integer operState : string adminState : string peerConnectionNodeType : PeerConnectionNodeType nativeName : String tgrp : String srcNormalizationGroupId: Integer destNormalizationGroupId: Integer isInternal : Boolean isProxySetWithIp : Boolean rild: Integer weight: Integer IpGroupType: IPGroupType topologyGroups : [TopologyGroup] quality : { quality : Map<QualityParameter, QualityObjectJson> result: QualityEnum } isOffline : Boolean callsQuotaId : Integer callsQuotaName : String callsDuration : Double qoutaState : QuotaState quotaWarningReached : boolean quotaLimitReached : Boolean cacProfileId : Integer cacProfileName : String sipReasonGroupId : Integer sipReasonGroupName : String ustomerId : string	3 = predeleted 4 = temp_not_available 5 = not_synced adminState: 0 = unlock 1 = lock 2 = locked Incoming 3 = locked outgoing url – element REST path QualityParameter MOS, ASR mesurment – the reading that was received from the node isUsed: indicated whether the QoS parameter will be taken into consideration when calculating the quality result the result of the quality calculation - enum BAD, FAIR, GOOD or UNKNOWN QuotaState UNBLOCK, BLOCK_OUTGOING SecureLogixDirection: 0 = IN 1 = OUT

Attribute	Type	Description
	<pre> callDirection : SecureLogixDirection } }]</pre>	
voippeer	<pre> ARRAY OF: [{ Id: integer name: string, deviceType: string, url: string }]</pre>	<p>deviceType:</p> <ul style="list-style-type: none"> 0 = NA 1 = PSTN 2 = SIP_Trunk 3 = PBX 4 = IP_PBX 5 = IP_Phones <p>url – element REST path</p>
connection	<pre> ARRAY OF: [{ id: integer weight: integer name: string, URI: string, adminState: string connections: [{ srcNodeId: integer destNodeId: integer srcRoutingInterface: integer destRoutingInterface: integer operState: string }], quality: { "MOS": { measurement: Integer isUsed: Boolean }, "ASR": { measurement: Integer isUsed: Boolean } } }]</pre>	<p>By default each connection is two-way. Each direction has the following statuses: Direction 1 –from Node1 to Node2 Direction2- from Node2 to Node1 weight [1-100] Default =50</p> <p>operState:</p> <ul style="list-style-type: none"> 0 = available 1 = not_available 2 = predeleted 3 = temp_not_available 4 = not_synced <p>adminState:</p> <ul style="list-style-type: none"> 0 = unlock 1 = lock <p>url – element REST path</p> <p>measurment – the reading that was received from the node</p> <p>isUsed – indicated whether the QoS attribute is taken into consideration when calculating the quality result the result of the quality calculation - enum BAD, FAIR, GOOD or UNKNOWN</p> <p>This value is sent for both connection nodes and the connection itself.</p> <p>type:</p> <ul style="list-style-type: none"> REGULAR LOOP_BACK NODE_TO_THIRD_PARTY

Attribute	Type	Description
	<pre> result: String(enum) }] } quality: { "MOS": { isUsed:Boolean }, "ASR": { isUsed:Boolean } } } result: String(enum) type:String(enum)]</pre>	
routingInterface	<pre> ARRAY OF: [{ Id: integer, nodeId: integer udpPort: integer, tcpPort: integer, tlsPort: integer, name: string, controlIpAddr: string, transportType: integer, operState: string, srId: string, url: string }]</pre>	<pre> operState: 0= available 1 = not_available 2 = predeleted 3 = temp_not_available 4 = not_synced transportType: UDP TCP TLS url – element REST path</pre>
nodeArchive	<pre> ARRAY OF: [{ Id: integer, serialId: String userName: String password: String region: String url: string }]</pre>	

Attribute	Type	Description
]	
cluster	{ id : String x : Integer y : Integer nodes : [Strings] name : String }	
group	{ id : Integer name : String elements : [Integer] type: TopologyGroupType }	(Resource Group) TopologyGroupType: NODE PEER_CONNECTION VOIP_PEER
registeredUsers	{ user : String host : String pConIds : [Integer] nodeId : Integer }	
customer	{ id : Integer name : String cacState : String(Enum) adminState : String(Enum) attributeGroups : [Integer] sipHeaderName : String(Enum) sipHeaderValue : String, cacProfileId : Integer tag : String }	cacState : 0 = UNBLOCK 1 = BLOCK 2 = BLOCK_INCOMING 3 = BLOCK_OUTGOING adminState: 1 = LOCKED 2 = UNLOCKED sipHeaderName: 0 = CONTACT_HOST attributeGroups: Array of Attribute Groups ID's
customer\ sessionCount	{ id : Integer incomingCount : Integer outgoingCount : Integer cacId : Integer cacName : String cacTotalLimit : Long cacIncomingLimit : Long cacOutgoingLimit : Long }	

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

3.1.6 Filter

You can use a filter for specific requests. The filter should be added to the suffix of the URL, for example:

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/peerCon?filter=(nodeId=100)
```

HTTP Method

GET

Supported Content-Type

application/json

Supported Filter

Filter	Available for these Requests	Description
nodeId	peerCon routingInterface	Filter results only for the node ID specified.
name	node	Contains for partial search Equals for regular search
serial	node	Filter by serial number
ipAddr	node	Filter nodes by ip address
limit	voippeer, customer	Limits the number of items
page	voippeer, customer	Request a specific page
searchString	customer	Filter by all customer properties
name	customer	Filter by customer name
operativeState	customer	Filter by operative state
adminState	customer	Filter by admin state
sipHeaderName	customer	Filter by sip header name
sipHeaderValue	customer	Filter by sip header value
cacProfileId	customer	Filter by CAC profile
attrGroupsIds	customer	Filter by attr Group ID
tag	customer	Filter by tag

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

3.2 Create Topology API

This section describes the API for creating Topology.

3.2.1 Create Connection

The `<ARM_Configurator_IP>/ARM/v1/topology/connection` URL when used with the POST method, provides the ability for the ARM Manager to send a Create Connection request to the ARM Configurator.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/connection
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	Unique name of the connection.
weight	integer	The weight of the connection.
connections	Array of two entries, one for each direction: [{ srcNodeId: integer destNodeId: integer srcRoutingInterface: integer destRoutingInterface: integer }]	
type	String	REGULAR or NODE_TO_THIRD_PARTY

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal Error

3.2.2 Create Node Archive

The `<ARM_Configurator_IP>/ARM/v1/topology/nodeArchive` URL when used with the POST method, provides the ability for the ARM Manager to send a Create Node Archive request to the ARM Configurator.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/topology/nodeArchive`

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
nodeArchive	Array of [{ serialId : String userName: String password: String region: String }]	The node details.

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal Error

3.2.3 Create Virtual Peer Connection

The <ARM_Configurator_IP>/ARM/v1/topology/peerCon URL when used with the POST method, provides the ability for the ARM Manager to send a Create Virtual Peer Connection request to the ARM Configurator.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/peerCon
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
name	String	The name of the virtual peer connection.
nodeId	Integer	The ID of the Virtual Peer node
voipPeerId	Integer	The ID of the voipPeerId node (optional)
weight	integer	The weight of the virtual peer node. Default: 50

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal Error

3.2.4 Create Routing Interface

The `<ARM_Configurator_IP>/ARM/v1/topology/routingInterface` URL when used with the POST method, provides the ability for the ARM Manager to send a Create Routing Interface request to the ARM Configurator.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/topology/routingInterface`

HTTP Method

POST

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
name	String	The name of the routing interface.
controllpAddr	String	The IP address of the routing interface (SIP interface in the SBC).
tcpPort	Integer	The TCP port number (0 for none)
udpPort	integer	The UDP port number (0 for none)
tlsPort	integer	The TLS port number (0 for none)

The combination of IP address and the 3 ports must be unique.

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal Error

3.2.5 Create VOIP Peer

The <ARM_Configurator_IP>/ARM/v1/topology/voippeer URL when used with the POST method, provides the ability for the ARM Manager to send a Create VOIP Peer request to the ARM Configurator.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/voippeer
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Request must contain the following data elements:

Attribute	Type	Description
deviceType	string	0=NA 1= PSTN 2= SIP_trunk 3= PBX 4= IP_PBX 5= IP_PHONES
name	string	Name of the VOIP peer

HTTP Response:

- 201 Created
- 409 Conflict
- 500 Internal Error

3.2.6 Add Node to ARM

The `<ARM_Configurator_IP>/ARM/v1/topology/node` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to add a node.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/topology/node`

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
ipAddr	String	The IP address / hostname of the node
userName	String	Optional
operatorId	Integer	Credentials that the node uses to communicate with ARM
credentialsId	Integer	Credentials used to communicate with the device.
name	String	Unique node name
transportType	String	HTTP or HTTPS
type	String	If Third-party then a 3rd party node will be created.
routingInterfaces	Routing interface Json	Optional
x	Integer	The value of the x coordinate.
y	Integer	The value of the y coordinate.

HTTP Response:

- 201 Created
- 409 Conflict
- 500 Internal Error

3.2.7 Create Resource Group

The <ARM_Configurator_IP>/ARM/v1/topology/group URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create a new group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/group
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	Group name: unique
elements	[Integer]	
type	TopologyGroupType	TopogyGroupType: NODE PEER_CONNECTION VOIP_PEER

HTTP Response

■ 200 OK

3.2.8 Create Customer

The `<ARM_Configurator_IP>/ARM/v1/topology/customer` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create a new customer.REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/customer
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	Customer name: unique
cacState	ENUM	operativeState: 0 = UNBLOCK 1 = BLOCK 2 = BLOCK_INCOMING 3 = BLOCK_OUTGOING
adminState	ENUM	adminState: 1 = LOCKED 2 = UNLOCKED
attributeGroups	[Integer]	Array of Attribute Groups ID's
sipHeaderName	ENUM	Header identification name sipHeaderName: 0 – CONTACT_HOST
sipHeaderValue	String	Header identification value
cacProfileId	Integer	CAC Profile ID

HTTP Response

■ 200 OK

3.3 Topology Update API

This section describes the Topology Update API.

3.3.1 Update Connection

The `<ARM_Configurator_IP>/ARM/v1/topology/connection/{id}` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a specific connection.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/topology/connection/{id}`

Where {id} is the ID of the connection.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	string	Name of the connection
weight	integer	Connection weight. 1-100 Default = 50

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.3.2 Update VoIP Peer

The <ARM_Configurator_IP>/ARM/v1/topology/voippeer/{id} URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a specific VoIP Peer.

REST Resource

PUT <ARM_Configurator_IP>/ARM/v1/topology/voippeer/{id}

Where {id} is the ID of the VoIP Peer.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
deviceType	string	0 = NA 1 = PSTN 2 = SIP trunk 3 = PBX 4 = IP_PBX 5 = IP_PHONES
name	string	Name of the VoIP Peer

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.3.3 Update VoIP Peers Map Locations

The <ARM_Configurator_IP>/ARM/v1/topology/voippeer/location URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to save the location of the VoIP peers elements.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/voippeer/location
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
id	Integer	=
x	Integer	X coordinate value
y	Integer	Y coordinate value

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.3.4 Update Peer Connection

The `<ARM_Configurator_IP>/ARM/v1/topology/peerCon/{id}` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a peer connection.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/topology/peerCon/{id}`

Where {id} is the ID of the peer connection.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	string	Name of the peer connection.
weight	Integer	Weight for calculating the optimal call path.
voipPeerId	Integer	ID of the peer connection.
nodeId	Integer	ID of the peer node
srcNormalizationGroupId	Integer	ID of the source normalization group
destNormalizationGroupId	Integer	ID of the destination normalization group
callsQuotaId	Integer	ID of the calls quota
cacProfileId	Integer	ID of the CAC profile
sipReasonGroupId	Integer	ID of the SIP Reason Group
quality: { "MOS": { isUsed:Boolean }, "ASR": { isUsed:Boolean } }		isUsed: indicated whether the QoS parameter will be taken into consideration when calculating the quality, if this is NULL for all the quality parameters the default global settings will be used, otherwise local will be used.
customerId	string	Customer identification string
callDirection	SecureLogixDirection	0 = IN 1 = OUT

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.3.5 Update Node

The <ARM_Configurator_IP>/ARM/v1/topology/node/{id} URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a specific node.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/node/{id}
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	string	Name of the node.
transportType	string	Either HTTP or HTTPS
routingServerPolicy	String	ROUND_ROBIN, STICKY_PRIMARY, STICKY_LAST_AVALIABLE
useGeneralCredentials	Boolean	Either node should use general credentials
userName	String	userName for connecting to Node
routingServers:[{ id:Integer, priority:Integer, status:String }]	-	Id – the ID of the routing server Priority – the order in which the routing server are written to the node (asc order) Status – AVAILABLE, UNAVAILABLE

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.3.6 Update Nodes Map Locations

The `<ARM_Configurator_IP>/ARM/v1/topology/node/location` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to save the location of the node elements. In this event, the ARM Web interface will send a JSON object of all the nodes in the screen with their updated x and y coordinates.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/topology/node/location`

HTTP Method

PUT

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
id	Integer	ID of the map locations.
x	Integer	X coordinate
y	Integer	Y coordinate

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.3.7 Update Routing Interface

The `<ARM_Configurator_IP>/ARM/v1/topology/routingInterface/{id}` URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to update a routing interface.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/topology/routingInterface/{id}`

HTTP Method

PUT

Supported Content-Type

`application/json`

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
name	String	Name of the routing interface.
controllpAddr	String	The IP address of the routing interface (SIP interface on the SBC).
tcpPort	Integer	TCP port name (0 for none)
udpPort	integer	UDP port name (0 for none)
tlsPort	integer	TLS port name (0 for none)

The combination of IP address and the 3 ports must be unique.

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.3.8 Update Clusters

The <ARM_Configurator_IP>/ARM/v1/topology/cluster URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to update a Clusters interface.

REST Resource

<ARM_Configurator_IP>/ARM/v1/topology/cluster

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
id	String	Internal ID
x	Integer	X coordinate of the cluster
y	Integer	y coordinate of the cluster
nodes	[String]	List of UI internal node ids
name	String	The name of the cluster

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.3.9 Update Resource Group

The <ARM_Configurator_IP>/ARM/v1/topology/group/{id} URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to update a specific Group interface.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/group/{id}
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
name	String	Group name: unique
elements	[Integer]	

3.3.10 Update Customer

The <ARM_Configurator_IP>/ARM/v1/topology/customer/{id} URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to update a specific customer.

REST Resource

<ARM_Configurator_IP>/ARM/v1/topology/customer/{id}

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments except cacProfileId:

Attribute	Type	Description
name	String	Customer name: unique
cacState	ENUM	operativeState: 0 = UNBLOCK 1 = BLOCK 2 = BLOCK_INCOMING 3 = BLOCK_OUTGOING
adminState	ENUM	adminState: 1 = LOCKED 2 = UNLOCKED
attributeGroups	[Integer]	Array of Attribute Groups ID's
sipHeaderName	ENUM	Header identification name sipHeaderName: 0 = CONTACT_HOST
sipHeaderValue	String	Header identification value
cacProfileId	Integer	CAC Profile ID

3.4 Topology Delete API

Note the following:

- The delete peer connection is only available when it is in locked status.
- The Peer connection can get to lock status after it is been deleted from the node itself.
- Delete node is only available if the node is locked.
- For multiple delete operations, multi response JSON is returned with the appropriate HTTP response code for each element.

URL

```
<ARM_Configurator_IP>/ARM/v1/topology/peerCon/{id}
<ARM_Configurator_IP>/ARM/v1/topology/peerCon?filter=(id=id1;id2...)
<ARM_Configurator_IP>/ARM/v1/topology/connection/{id}
<ARM_Configurator_IP>/ARM/v1/topology/connection?filter=(id=id1;id2...)
<ARM_Configurator_IP>/ARM/v1/topology/voippeer/{id}
<ARM_Configurator_IP>/ARM/v1/topology/voippeer?filter=(id=id1;id2...)
<ARM_Configurator_IP>/ARM/v1/topology/node/{id}
<ARM_Configurator_IP>/ARM/v1/topology/node?filter=(id=id1;id2...)
<ARM_Configurator_IP>/ARM/v1/topology/routingInterface/{id}
<ARM_Configurator_IP>/ARM/v1/topology/group/{id}
<ARM_Configurator_IP>/ARM/v1/topology/customer/{id}
```

- Note that delete peer connection is only available when it is in locked status. Peer connection can enter lock status after it has been deleted from the node itself. Peer connection can enter lock status after it has been deleted from the node itself. The delete action will only delete it from the database.
- Delete virtual peer connection is available even if it is not in locked status.
- Delete node is only available if node is locked
- For multiple delete operation Multi response JSON is returned with the appropriate HTTP response code for each element.
- Deleting routing interface will only work on routing interfaces associated with 3rd party devices

Where: For the suffix of each URL for update API, there is a {id} sign which represents the ID of the element in the database.

HTTP Method

DELETE

Supported Content-Type

application/json

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.5 Topology Actions API

3.5.1 Sync all Nodes Action

The `<ARM_Configurator_IP>/ARM/v1/topology/sync` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to Sync all Nodes. This action forces the ARM server to read all configuration from all nodes in the system and update these values to the database. During this process, the server will push (if necessary) information such as connection details and servers details to a node.

Note the following:

- If a filter is used only nodes with the specified ids are synchronized.
- This action is an unsynchronized action which returns a unique job ID which the client may later ask for the action status with the assistance of the Action status API (see Chapter 9).

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/sync  
<ARM_Configurator_IP>/ARM/v1/topology/sync?filter=(id=id1;id2...)
```

HTTP Method

GET

Supported Content-Type

application/json

HTTP Response

- 202 – If action has been accepted.
- 409 – In case a previous Sync All Nodes action is in progress on the server; the server will not start a new action if a previous action is in progress.

3.5.2 Sync Node Action

The `<ARM_Configurator_IP>/ARM/v1/topology/node/{id}/sync` when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to synchronize a specific node.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/topology/node/{id}/sync`

Where {id} is the database ID of the node. In this event, the ARM Configurator will perform synchronization between the current state of device and the node data in the database.

HTTP Method

GET

Supported Content-Type

application/json

HTTP Response

200 OK

3.5.3 Lock Node Action

The `<ARM_Configurator_IP>/ARM/v1/topology/node/{id}/lock` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to lock a node.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/node/{id}/lock
<ARM_Configurator_IP>/ARM/v1/topology/node/lock?filter=(id=id1;id2
)
```

Where {id} is the database ID of the node.

For multiple lock operation Multi response, JSON is returned with the appropriate HTTP response code for each element.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Lock node request API MUST contain JSON data with the following argument:

Attribute	Type	Description
lock	string	1 = lock 0 = unlock

HTTP Response

■ 200 OK

For multiple lock operation Multi response, the following additional codes may be returned:

■ 409 Conflict (in case the operation is not allowed)

■ 500 Internal Error

3.5.4 Lock Peer Connection Action

The `<ARM_Configurator_IP>/ARM/v1/topology/peerCon/{id}/lock` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to lock a Peer Connection.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/peerCon/{id}/lock
<ARM_Configurator_IP>/ARM/v1/topology/peerCon/lock?filter=(id=id1;id2...)
```

{id} – database ID of the peer connection

For multiple lock operation Multi response, JSON is returned with the appropriate HTTP response code for each element.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Lock peer connection request API MUST contain JSON data with the following argument:

Attribute	Type	Description
lock	string	3 = locked outgoing 2 = locked incoming 1 = lock 0 = unlock

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.5.5 Lock Router Action

The `<ARM_Configurator_IP>/ARM/v1/topology/router/{id}/lock` URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to lock a router.

REST Resource

PUT `<ARM_Configurator_IP>/ARM/v1/topology/router/{id}/lock`

`{id}` – database ID of the router

Attributes

The Lock router request API MUST contain JSON data of the following argument:

Attribute	Type	Description
lock	string	1 = lock 0 = unlock

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.5.6 Lock Customer Action

The `<ARM_Configurator_IP>/ARM/v1/topology/customer/{id}/lock` URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to lock a specific customer.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/topology/customer/{id}/lock`
 {id} – database ID of the customer

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Lock customer request API MUST contain JSON data of the following argument:

Attribute	Type	Description
lock	ENUM	0 = unlock 1 = lock 2 = lockIncoming 3 = lockOutgoing

HTTP Response

■ 200 OK

3.5.7 Lock Multiple Customers Action

The `<ARM_Configurator_IP>/ARM/v1/topology/customer/{id}/lock` URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to lock multiple customers.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/topology/customer/lock?filter=(id=1;2;3...)
```

{id} – database ID of the customer

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Lock customer request API MUST contain JSON data of the following argument:

Attribute	Type	Description
lock	ENUM	0 = unlock 1 = lock 2 = lockIncoming 3 = lockOutgoing

HTTP Response

■ 200 OK

3.5.8 Detach Peer Connection Action

The `<ARM_Configurator_IP>/ARM/v1/topology/peerCon/{id}/detach` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to detach a Peer Connection.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/topology/peerCon/{id}/detach`
 {id} – database ID of the peer connection

HTTP Method

PUT

Attributes

Lock node request API MUST contain JSON data of the following argument:

Attribute	Type	Description
name	string	The name of the created VP, must be unique

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.5.9 Configure Node

The Configure Node URL when used with the GET method, provides the ability to send a request to the ARM Configurator to retrieve the URL of a specific node.

REST Resource

`GET <ARM_Configurator_IP>/ARM/v1/topology/node/{id}/configure`
 {id} – database ID of the node

If single sign on operation is supported returns url with token (logged in to node), otherwise returns the url of the node (node's page).

HTTP Method

GET

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

3.5.10 Get Node INI

The Get Node INI URL when used with the GET method, provides the ability to send a request to the ARM Configurator to retrieve the Node ini file of a specific node.

REST Resource

```
GET <ARM_Configurator_IP>/ARM/v1/topology/node/{id}/ini
```

HTTP Method

GET

HTTP Response

INI file

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4 Routing API

This chapter describes the REST API resources for the ARM routing. The following APIs are described:

- Get API
- Routing Create API
- Routing Delete API
- Test Route API
- Time-based Routing (TBR) API
- Attribute Group API

4.1 Get API

The `<ARM_Configurator_IP>/ARM/v1/routing/<ARM_attribute>` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve a route.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/routing/<ARM_attribute>
<ARM_Configurator_IP>/ARM/v1/routing/<ARM_attribute>/{id}
```

Where:

- `{id}` requests a specific ID of a specific attribute (listed in the table below). In case of the Routing Rule attribute, requests for all Routing Rules will only be supported at the Group level.
- `<ARM_attribute>` requests all of the ids of the specified attribute (listed in the table below).

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The ARM Configurator must respond to the Get request with JSON data that includes the request URI attribute. If the ID is not specified in the GET request, URI JSON data MUST contain an array of all specified elements defined in the database for the attribute.

The following attributes MUST be included:

Attribute	Type	Description
routingRule	<pre>{ id: Integer name: String adminState: adminState operState: rrOperState testMode: AdminState }</pre>	Enums: RoutingRuleAttrType: 0 = PREFIX 1 = HOST_NAME

Attribute	Type	Description
	priority: Integer rrGroupId: Integer isFiltered: Boolean sourceNodes: [id : Integer] sourcePcons: [id: Integer] sourceRRAttr: { attributes: [{ type: RoutingRuleAttrType value: String }], attributeGroups: [Integer] } destRRAttr: { attributes: [{ type: RoutingRuleAttrType value: String }], attributeGroups: [Integer] } sourceUserGroups: [id: Integer] dstUserGroup: [id: Integer] actions: [{ nodeId: Integer peerConnectionId: Integer voipPeerId: Integer priority: Integer srcNormalizationGroupId: Integer destNormalizationGroupId: Integer weight: Integer isEquallyBalanced: Boolean discard: Boolean sipReason: Integer routingAttempts: Integer	adminState 0 = UNLOCKED 1 = LOCKED rrOperState 0 = UNDEFINED 1 = AVAILABLE 2 = UNAVAILABLE QualityEnum BAD (0), FAIR (1), GOOD (2), UNKNOWN (3); PrivacyType TRANSPARENT (0), TRANSPARENT_WITH_PRIVACY_ID (1), ANONYMOUS_CALLER (2), IDENTIFY_CALLER (3); RoutingMethod Seq (0), Fork (1); ActionCallSetupFields SOURCE_URI_USER(0), SOURCE_URI_HOST(1), DEST_URI_USER(2), DEST_URI_HOST(3), DEST_IP_ADDR(4), DEST_PORT(5), DEST_PROTOCOL(6), USER_CREDENTIALS_USER_NAME(7), USER_CREDENTIALS_PASSWORD(8), P_ASSERTED_IDENTITY_DISPLAY_NAME(9), P_ASSERTED_IDENTITY_USER(10), P_ASSERTED_IDENTITY_HOST(11), TAG_1(12), TAG_2(13), TAG_3(14), CREDENTIALS(15), DISCARD_CREDENTIALS(16), INCOMING_CUSTOMER_TAG(17), OUTGOING_CUSTOMER_TAG(18), X_ARM_INFO_1(19),

Attribute	Type	Description
	topologyGroupId: Integer attemptsInTopologyGroup: Integer registeredUsers: Boolean continueWithNodeInternalTables: Boolean destTypeRequestUri: Boolean viaNodes: [Id: Integer] srcNormalizationFromHeader: Boolean srcNormalizationPAIHeader: Boolean srcNormalizationPPIHeader: Boolean customerNormalizationSIPHeader: Boolean }] tbrConditionsIds: [Integer] isFiltered: Boolean quality: QualityEnum isEmergency: Boolean isTrigger3xx: Boolean isTriggerRefer: Boolean isTriggerInitialOnly: Boolean isTriggerBrokenConnection: Boolean isTriggerFaxRerouting: Boolean isRegisteredUsers: Boolean privacy: PrivacyType eventOnMatch: Boolean routingMethod: RoutingMethod noAnswerTimeout: Integer sipHeaders: [{ Id: Integer name: String value: String rrId: Integer }] tags: [{	X_ARM_INFO_2(20), X_ARM_INFO_3(21); RequestType CALL (0), REGISTER (1); <ul style="list-style-type: none"> • srcNormalizationGroupId / destNormalizationGroupId (Optional) – The normalization Group that will be performed on the action. ▪ sipReason - Defines the SIP error code that will be presented in the SIP message when the message will be discarded. The value should be between 400-699 or null in case the SIP reason is taken from error code of the SIP message. ▪ Discard - Defines whether this action should discard the call. If this field is set to true, this action must be with the lowest priority and there must not be another action with the same priority (load balancing). ▪ isFilterd – indicates whether the group or one of its rules matches the search filter.

Attribute	Type	Description
	tag: ActionCallSetupFields value: String rrld: Integer }] sourceTopologyGroups: [Integer] minSecureLogix: Integer maxSecureLogix: Integer requestType: RequestType sourceCustomers: [Integer] destCustomers: [Integer] allSourceCustomers: Boolean allDestCustomers: Boolean }	
routingGroup	ARRAY OF: [{ id: integer, URL: string name: String adminState: adminState priority : Integer isFiltered: Boolean routingRules: [{ routingRule (in above structure) }] }]	adminState 0 = UNLOCKED 1 = LOCKED
sipResponseAction	ARRAY OF: [{ id: int sipResponseNumber: int sipResponseDescription: String reroute: Boolean sipReasonGroupId: Integer }]	
sipReasonGroup	ARRAY OF:	

Attribute	Type	Description
	<pre>[{ id: int name: String description: String isDefault: Boolean sipResponseBehaviors: [{ id: int }] sipResponseNumber: int sipResponseDescription: String reroute: Boolean sipReasonGroupId: Integer }]</pre>	
isActionDirective	boolean	Used for Security Based Routing Default value: false

HTTP Response

- 200 OK
- 204 No Content Response

4.1.1 Get Filter

You can use a filter for specific requests. Filters should be added to the suffix of the URL, for example:

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/routing/routingRule?filter=(adminState=1)
<ARM_Configurator_IP>/ARM/v1/routing/routingGroup?filter=(quality=2)
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Filter	Available for These Requests	Description
adminState	routingRule	Node ID=<value>
testMode	routingRule	Connection ID=<value>
quality	routingRule	User Group ID=<value>
isDiscard	routingRule	Equals (=)
rrName	routingRule	Contains (~)
rrGroupName	routingRule	Contains (~)
isRegisteredUsers	routingRule	Equals (=)
isContinueWithNodeTables	routingRule	Equals (=)
requestType	routingRule	Equals (=)
userGroupId	routingRule	Equals (=)
prefixGroupId	routingRule	Equals (=)
searchString	routingGroup	Contains (~) – searches in most of the fields of the group and the rules inside the group (node name, peer connection name, voippeer name, prefix, host etc.)

HTTP Response

- 200 OK – if at least one resource is found.
- 204 No Content Response

4.2 Routing Create API

This section describes the Routing Create API.

4.2.1 Routing Group Create API

The `<ARM_Configurator_IP>/ARM/v1/routing/routingGroup` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create a Routing Group.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/routing/routingGroup`

HTTP Method

POST

Supported Content-Type

`application/json`

Attributes

The request MUST consist of the following arguments:

Attribute	Type	Description
name	String	The name of the Routing Group (must be unique).
adminState	adminState	adminState: 0 = UNLOCKED 1 = LOCKED
prevRRGroupId	Integer	prevRRGroupId indicates the previous routing group prevRRGroupId = -1 if first in the list
nextRRGroupId	Integer	nextRRGroupId indicates the next routing group nextRRGroupId = -1 if last in the list
tbrConditionsIds	List of Integers	The ids of the condition to attach to the Routing Rule.

HTTP Response

- 201 Created – The ARM Configurator responds to the request if completed successfully and the corresponding group is sent.
In case there was recalculation of all priorities in the database (the ARM user has changed the order of the Routing Groups), the Created group is returned with -1 priority value.
- 409 Conflict – in case the operation is not allowed.
- 500 Internal Error

4.2.2 Routing Rule Create API

The <ARM_Configurator_IP>/ARM/v1/routing/routingRule URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create a routing rule.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/routing/routingRule
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

The request MUST consist of the following arguments:

Attribute	Type	Description
name	String	The name of the Routing Rule (must be unique).
adminState	adminState	adminState 0 = UNLOCKED 1 = LOCKED
prevRRId	Integer	prevRRId stands for previous routing rule prevRRId = -1 if first in the list
nextRRId	Integer	nextRRId stands for next routing rule nextRRId = -1 if last in the list
rrGroupId	Integer	Routing rule group ID
sourceNodes	[id : Integer]	ID of the source node (Optional)
sourcePcons	[id: Integer]	ID of the sourcePcons (Optional)
sourceRRAttr	{ attributes: [{ type: RoutingRuleAttrType (enum) value: String }], attributeGroups:	Optional

Attribute	Type	Description
	[Integer] }	
destRRAttr	{ attributes: [{ type: RoutingRuleAttrType (enum) value: String }], attributeGroups: [Integer] }	Optional
sourceUserGroups	[id: Integer]	Optional
dstUserGroup	[id: Integer]	Optional
actions	[{ nodeId: Integer priority: Integer peerConnectionId: Integer voipPeerId: Integer srcNormalizationGroupId: Integer destNormalizationGroupId: Integer weight: Integer isEquallyBalanced: Boolean routingAttempts: Integer sipReason: Integer discard: Boolean viaNodes: [{ type: VoipPeerType (enum) value: String }] }] }	<p>* priority will be used also for load balancing</p> <p>* At least one action must be present</p> <p>* peerConnectionId and viaNodes are Optional * must contain nodeId or voipPeerId</p> <p>* peer connection can appear only with node</p> <p>* weight – used when there are actions with the same priority, default 50</p> <p>srcNormalizationGroupId / destNormalizationGroupId (Optional) – The normalization Group that will be done on the action</p> <p>isEquallyBalanced - whether all the actions in the same priority group should be load balanced, if should have the same value for all of the actions in the priority group. If its true the weight is ignored.</p>

Attribute	Type	Description
	<pre> Id: Integer] topologyGroupId: Integer attemptsInTopology Group: Integer registeredUsers: Boolean continueWithNodeIn ternalTables: Boolean destTypeRequestUri : Boolean srcNormalizationFro mHeader: Boolean srcNormalizationPAI Header: Boolean srcNormalizationPPI Header: Boolean customerNormalizati onSIPHeader: Boolean }]</pre>	<ul style="list-style-type: none"> • sipReason - Defines the SIP error code that will be presented in the SIP message when the message will be discarded The value should be between 400-699 Or null incase the sip reason is taken from error code of the SIP message • Discard - Defines whether this action should discard the call or not, if this field is set to true, the action must be with the lowest priority and there must not be another action with the same priority (load balancing).
sipReason	Integer	<p>Defines the SIP error code that is displayed in the SIP message when a call is disconnected (when 'discard' attribute is true)</p> <ul style="list-style-type: none"> • The value should be between 400-699. • 0 in case 'discard' attribute is disabled i.e. this attribute is only relevant when discard attribute is 'true'. When it is true then 'sipReason' is mandatory.
discard	Boolean	Defines whether the call should be disconnected.
tbrConditionsIds	List of Integers	The ids of the condition to attach to the Routing Rule Group.
isEmergency	Boolean	Indicates if the rule is prioritized
isTrigger3xx	Boolean	-
isTriggerRefer	Boolean	-
isTriggerInitialOnly	Boolean	-
isTriggerBrokenConn ection	Boolean	-
isTriggerFaxRerouting	Boolean	-
privacy	ENUM	Defines which privacy strategy rule to use:

Attribute	Type	Description
		TRANSPARENT, TRANSPARENT_WITH_PRIVACY_ID, ANONYMOUS_CALLER, IDENTIFY_CALLER
eventOnMatch	Boolean	-
sipHeaders	{ name:String value:String }	Match specific headers, name is the SIP header, value is the value to match
sourceTopologyGroups	[Integer]	Indicates the source Topology Groups
isRegisteredUsers	Boolean	Enables the Registered Users feature for operators to route calls to SBC registered users
minSecureLogix	Integer	Used for Security Based Routing. Defines the minimum Security call score option for the 'SecureLogix' web service. The Routing Rule uses the score returned from the 'SecureLogix' web service as part of the match. Note: this service must be enabled in the ARM GUI "Security call score" for this setting to take effect. In addition, both this attribute and maxSecureLogix below must be configured, otherwise an error is returned.
maxSecureLogix	Integer	Used for Security Based Routing. Defines the minimum Security call score option for the 'SecureLogix' web service. The Routing Rule uses the score returned from the 'SecureLogix' web service as part of the match. Note: this service must be enabled in the ARM GUI "Security call score" for this setting to take effect. In addition, both this attribute and minSecureLogix above must be configured, otherwise an error is returned.
tags	[RoutingRuleTag]	RoutingRuleTag: { id: Integer, tag: ActionCallSetupFields, value: String, rrId: Integer } ActionCallSetupFields: 0 = SOURCE_URI_USER 1 = SOURCE_URI_HOST 2 = DEST_URI_USER 3 = DEST_URI_HOST 4 = DEST_IP_ADDR 5 = DEST_PORT 6 = DEST_PROTOCOL

Attribute	Type	Description
		7 = USER_CREDENTIALS_USER_NAME 8 = USER_CREDENTIALS_PASSWORD 9 = P_ASSERTED_IDENTITY_DISPLAY_NAME 10 = P_ASSERTED_IDENTITY_USER 11 = P_ASSERTED_IDENTITY_HOST 12 = TAG_1 13 = TAG_2 14 = TAG_3 15 = CREDENTIALS 16 = DISCARD_CREDENTIALS
requestType	ENUM	0 = CALL 1 = REGISTER
sourceCustomers	[Integer]	Customer ids
destCustomers	[Integer]	Customer ids
allSourceCustomers	Boolean	-
allDestCustomers	Boolean	-
isActionDirective	boolean	Used for Security Based Routing Default value: false
actionDirectiveType	ActionDirectiveType	Used for Security Based Routing 0 = ALLOW 1 = BLOCK Default value: ALLOW Defines the action-directive type, for the 'SecureLogix' web service. The Routing Rule uses the response from 'SecureLogix' web service as part of the match. Note: 'isActionDirective' must be enabled for this setting to take effect.
sourceReroutePcons	[id: Integer]	ID of the sourceReroutePcons (optional).

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal Error

4.2.3 SIP Response Action Create

The URL `<ARM_Configurator_IP>/ARM/v1/routing/sipResponseAction` when used with the POST method provides the ability for the ARM Manager to send a request to the ARM Configurator to create a SIP Response action.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/routing/sipResponseAction`

HTTP Method

POST

Supported Content-Type

application/json

Attributes

The request MUST consist of the following arguments:

Attribute	Type	Description
sipResponseNumber	Int	The response number must be unique.
sipResponseDescription	String	The text description of the SIP response.
reroute	Boolean	
sipReasonGroupId	Integer	

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal Error

4.2.4 Sip Reason Group Create API

The <ARM_Configurator_IP>/ARM/v1/routing/sipReasonGroup URL when used with the POST method sends Sip reason group create request to the ARM Configurator:

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/routing/sipReasonGroup
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

It MUST consist of the following arguments:

Attribute	Type	Description
name	String	
description	String	
isDefault	Boolean	
sipResponseBehaviors	List of: { sipResponseNumber: int sipResponseDescription: String reroute: Boolean sipReasonGroupId: Integer }	

HTTP Response

■ 201 Created

4.3 Routing Update API

This section describes the Routing Update API.

4.3.1 Routing Rule Update API

The `<ARM_Configurator_IP>/ARM/v1/routing/routingRule/{id}` URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to update a routing rule.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/routing/routingRule/{id}`

Where {id} is the ID of the element in the database.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

The request should contain the following elements:

Attribute	Type	Description
name	String	The name of the Routing Rule (must be unique for the specific Routing Rule group).
adminState	adminState	adminState: 0 = UNLOCKED 1 = LOCKED
prevRRId	Integer	prevRRId is the previous routing rule prevRRId = -1 if first in the list. Optional – if not sent, nextRRId will also not be checked.
nextRRId	Integer	nextRRId is the next routing rule nextRRId = -1 if last in the list. Optional
sourceNodes	[id : Integer]	The ID of the source node.
sourcePcons	[id: Integer]	The ID of the sourcePcons.
sourceRRAttr	{ attributes: [The source Routing Rule attributes.

Attribute	Type	Description
	<pre>{ type: RoutingRuleAttrType (enum) value: String }], attributeGroups: [Integer] }</pre>	
destRRAttr	<pre>{ attributes: [{ type: RoutingRuleAttrType (enum) value: String }], attributeGroups: [Integer] }</pre>	The destination Routing Rule attributes.
sourceUserGroups	<pre>[id: Integer]</pre>	The ID of the source User Groups.
dstUserGroups	<pre>[id: Integer]</pre>	The ID of the destination User Group
actions	<pre>[{ nodeId: Integer priority: Integer peerConnectionId: Integer voipPeerId: Integer srcNormalizationGroupId: Integer destNormalizationGroupId: Integer weight: Integer isEquallyBalanced: Boolean }]</pre>	<p>Mandatory (at least one)</p> <p>srcNormalizationGroupId / destNormalizationGroupId (Optional) – The normalization Group that will be applied to the action</p> <p>* must contain nodeId or voipPeerId * peer connection can appear only with node</p>

Attribute	Type	Description
	<pre> routingAttempts: Integer sipReason: Integer discard: Boolean viaNodes: [Id: Integer] topologyGroupId: Integer attemptsInTopologyGroup: Integer registeredUsers: Boolean continueWithNodeInternalTables: Boolean destTypeRequestUri: Boolean srcNormalizationFromHeader: Boolean srcNormalizationPAIHeader: Boolean srcNormalizationPPIHeader: Boolean customerNormalizationSIPHeader: Boolean } </pre>	
discard	Boolean	Defines whether the call should be disconnected.
sipReason	Integer <ul style="list-style-type: none"> ▪ The value should be between 400-699 • 0 in case discard is disabled 	Defines the SIP error code that is displayed in the SIP message when a call is disconnected (when 'discard' attribute is true) <ul style="list-style-type: none"> • The value should be between 400-699. ▪ 0 in case 'discard' attribute is disabled i.e. this attribute is only relevant when discard attribute is 'true'. When it is true then 'sipReason' is mandatory.
tbrConditionsIds	List of Integers	The ids of the condition to attach to the Routing Rule Group.
quality	Enum	The quality of the route that will be chosen if quality based routing is enabled <ul style="list-style-type: none"> ▪ FAIR ▪ GOOD
isTrigger3xx	Boolean	-
isTriggerRefer	Boolean	-

Attribute	Type	Description
isTriggerInitialOnly	Boolean	-
isTriggerBrokenConnection	Boolean	-
isTriggerFaxRerouting	Boolean	-
privacy	ENUM	Defines which privacy strategy should be used if the rule is matched: TRANSPARENT,TRANSPARENT_WITH_PRIVACY_ID, ANONYMOUS_CALLER, IDENTIFY_CALLER
eventOnMatch	Boolean	-
sipHeaders	{ name:String value:String }	Match specific headers, name is the SIP header, value is the value to match
sourceTopologyGroups	[Integer]	The Topology Group ID of the Routing rule.
isRegisteredUsers	Boolean	Enables the Registered Users feature for operators to route calls to SBC registered users.
minSecureLogix	Integer	Used for Security Based Routing. Defines the minimum Security call score option for the 'SecureLogix' web service. The Routing Rule uses the score returned from the 'SecureLogix' web service as part of the match. Note: this service must be enabled in the ARM GUI "Security call score" for this setting to take effect. In addition, both this attribute and maxSecureLogix below must be configured, otherwise an error is returned.
maxSecureLogix	Integer	Used for Security Based Routing. Defines the maximum Security call score option only if the 'SecureLogix' web service is used. Once enabled, the Routing Rule will use the score returned from the 'SecureLogix' web service as part of the match. Note: this service must be enabled in the ARM GUI "Security call score" for this setting to take effect. In addition, both this attribute and minSecureLogix above must be configured, otherwise an error is returned.
tags	[RoutingRuleTag]	RoutingRuleTag: { id: Integer, tag: ActionCallSetupFields,

Attribute	Type	Description
		value: String, rrId: Integer }
requestType	ENUM	0 = CALL 1 = REGISTER
sourceCustomers	[Integer]	Customer ids
destCustomers	[Integer]	Customer ids
allSourceCustomers	Boolean	
allDestCustomers	Boolean	
sourceReroutePcons	[id: Integer]	ID of the sourceReroutePcons (optional).

HTTP Response

- 200 OK
- 409 Conflict (in case the operation is not allowed)
- 500 Internal Server Error

4.3.2 Routing Rule PATCH API

The `<ARM_Configurator_IP>/ARM/v1/routing/routingRule/{id}` URL when used with the PATCH method provides the ability for the ARM Manager to send a request to the ARM Configurator to update specific attributes of a Routing Rule.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/routing/routingRule/{id}`

Where {id} is the ID of the element in the database.

HTTP Method

PATCH

Supported Content-Type

application/json

Attributes

The request should contain the following elements:

Attribute	Type	Description
adminState	AdminState	0 = LOCKED 1 = UNLOCKED

HTTP Response

- 200 OK
- 409 Conflict (in case the operation is not allowed)
- 500 Internal Server Error

4.3.3 Routing Group Update API

The `<ARM_Configurator_IP>/ARM/v1/routing/routingGroup/{id}` URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to update a Routing Group.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/routing/routingGroup/{id}`

Where {id} is the ID of the element in the database.

HTTP Method

PUT

Supported Content-Type

`application/json`

Attributes

The request should contain the following elements:

Attribute	Type	Description
adminState	adminState	The adminState of the routing group: 0 = UNLOCKED 1 = LOCKED
name	String	The name of the routing group. This name must be unique.
prevRRId	Integer	prevRRId indicates the previous routing rule prevRRId = -1 if first Note: if not sent, this implies that the location of the rule has not changed and therefore nextRRId will also not be checked. If a new rule is added to table, -1
nextRRId	Integer	nextRRId indicates the next routing rule nextRRId = -1 if last
tbrConditionsIds	List of Integers	The ids of the condition to attach to the Routing Rule Group.

Response

Corresponding Routing Rule Group will be sent. In case there was recalculation of all priorities for the rules in the Database (the ARM User changed the order of the Routing Groups) the Created group will be returned with -1 priority value.

4.3.4 SIP Response Action Update API

The `<ARM_Configurator_IP>/ARM/v1/routing/sipResponseAction/{id}` URL when used with the PUT method, it provides the ability for the ARM Manager to send a request to the ARM Configurator to update a SIP response action.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/routing/sipResponseAction/{id}`

Where {id} is the ID of the element in the database.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

The request should contain the following elements:

Attribute	Type	Description
sipResponseNumber	Int	The SIP Response Number (must be unique).
sipResponseDescription	String	The description of the SIP response.
reroute	Boolean	Mandatory
sipReasonGroupId	Integer	

HTTP Response

- 200 OK
- 409 Conflict - in case the operation was not allowed.
- 500 Internal Error

4.3.5 Sip Reason Group Update API

The `<ARM_Configurator_IP>/ARM/v1/routing/sipReasonGroup/{id}` URL when used with the POST method sends a Sip reason group create request to the ARM Configurator.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/routing/sipReasonGroup/{id}`

HTTP Method

POST

Supported Content-Type

`application/json`

Attributes

The request should contain the following elements:

Attribute	Type	Description
name	String	
description	String	
isDefault	Boolean	
sipResponseBehaviors	List of: { sipResponseNumber: int sipResponseDescription: String reroute: Boolean sipReasonGroupId: Integer }	

HTTP Response

■ 200 Updated

4.4 Routing Delete API

You can send a request to the ARM Configurator to delete a routing rule, a routing group or a SIP Response action.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/routing/routingRule/{id}
<ARM_Configurator_IP>/ARM/v1/routing/routingGroup/{id}
<ARM_Configurator_IP>/ARM/v1/routing/sipResponseAction/{id}
<ARM_Configurator_IP>/ARM/v1/routing/sipReasonGroup/{id}
```

Where {id} is the ID of the element in the database.

HTTP Method

DELETE

Supported Content-Type

application/json

HTTP Response

- 200 OK
- 409 Conflict (in case the operation is not allowed)
- 500 Internal Server Error

4.5 Test Route API

The `<ARM_Configurator_IP>/ARM/v1/routing/testRoute` URL when used with the POST method provides the ability for the ARM Manager to send a request to the ARM Configurator to update a test route.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/routing/testRoute`

HTTP Method

POST

Supported Content-Type

`application/json`

Request Attributes

The request should contain the following elements:

Attribute	Type	Description
srcPeerConnection	Integer	The ID of the peer connection.
srcNode	Integer	The ID of the srcNode.
maxRoutes	Integer	The maximum number of routes to find. When this attribute is not contained in the request, the default value 6 applies.
maxRoutesPerDestination	Integer	The maximum number of routes per destination to find. When this attribute is not contained in the request, the default value 2 applies.
srcUser	string	The name of the user of the call source.
srcHost	string	The name of the source host (optional).
destUser	string	The name of the user of the call destination.
destHost	string	The name of the host of the call destination (optional).
routerId	Integer	(Optional) The ID of the router that will respond to the route request
isTrigger3xx	Boolean	Mark the test route request as if it was a 3XX response
isTriggerRefer	Boolean	Mark the test route request as if it was a referred call.
isTriggerInitialOnly	Boolean	-
isTriggerBrokenConnection	Boolean	-

Attribute	Type	Description
isTriggerFaxRerouting	Boolean	-
headers	ARRAY OF: <pre>[{ name: TestRouteRequestSipHeaderEnum, value: STRING }]</pre>	<ul style="list-style-type: none"> Name – for now only "Contact" will be supported. It should be a unique name in this array (optional). name is enum (current with only one value "Contact"). Value – as a real Contact header. For example : <sip:401@10.7.2.17> or <sip:401@10.7.2.17:5060> or <sip:401@moshebe.audiocodes.com> or <sip:mosheCell@moshebe.audiocodes.com:6061> GUI validations : The header should be a unique name in this array. It can be added from IPGroup Pcon (not TrunkGroup). The Name and value are not null or empty string.

Response Attributes

The response should contain the following attributes:

Attribute	Type	Description
srcNode	Integer	The source node ID.
srcPeerConnection	Integer	The peer connection ID.
srcReroutePeerConnection	Integer	Only for 3xx/refer call trigger.
httpResponse	Integer	The HTTP response code.
description	String	The description of the routing manipulation list.
preRouteManipulationsList	ARRAY OF:{ originalValue:String manipulatedValue:String manipulatedEntity:String isChanged:Boolean manipulationsList:{ originalValue:String manipulatedValue:String manipulatingEntity:String manipulatingEntityUrl:String } }	<ul style="list-style-type: none"> ManipulatingEntity (optional)- the entity from ARM data base/GUI perspective which tracked and might change the ManipulatedEntity. ManipulatedEntity (optional)- the entity that is tracked and may change. originalValue: the value of the manipulated entity prior to manipulation (in the case of user/password/destIP), these entities may be optional as well.

Attribute	Type	Description
	<pre> manipulatingEntityName:String usingManipulatingEntity:String usingManipulatingEntityUrl: String usingManipulatingEntityName:String description:String isChanged:Boolean }} }</pre>	<ul style="list-style-type: none"> Note: When the ManipulatingEntity is a 'RoutingRuleAction', there is no URL.
paths	<pre> ARRAY OF: [{ destNode:Integer destPeerConnection:Integer routingRuleAction:Integer routingRuleID:Integer edges:[{ connSrcNode:Integer connDestNode:Integer connectionId:Integer }] pathRouteManipulationsList:[{ originalValue:String manipulatedValue:String manipulatedEntity:String isChanged:Boolean }] manipulationsList:[{ originalValue:String manipulatedValue:String manipulatingEntity:String manipulatingEntityName:String usingManipulatingEntity:String usingManipulatingEntityUrl: String }] }] }</pre>	<ul style="list-style-type: none"> ManipulatingEntity (optional)- the entity from ARM data base/GUI perspective which tracked and might change the ManipulatedEntity. ManipulatedEntity (optional)- the entity that is tracked and might change. originalValue: the value of the manipulated entity prior to manipulation (in the case of user/password/destIP), these entities may be optional as well. Note: when the ManipulatingEntity is a RoutingRuleAction, it contains a RoutingRule URL. The RoutingRuleActionId is attached per path as well.

Attribute	Type	Description
	<pre> usingManipulatingEntityName:String description:String isChanged:Boolean } }]</pre>	
discardingByRoutingRule	Integer	The ID of the routing rule which discards the call. -1 if there is no such rule.
preRouteManipulationsList	RouteManipulations	
unselectedRulesList	<pre> ARRAY OF: [{ originalValue: String manipulatedValue: String manipulatingEntity: ManipulatingEntity manipulatingEntityUrl: String manipulatingEntityName: String usingManipulatingEntity: ManipulatingEntity usingManipulatingEntityUrl: String usingManipulatingEntityName: String UnselectedRuleDescription: String description: String isChanged: Boolean relatedAidForUnselected: Integer parsedUnselectedAction: EnumMap<ParsedActionName, String> isUnselectedRule: boolean }]</pre>	<p>ManipulatingEntity:</p> <p>ROUTING_INCOMING_MANIPULATION, PCON, CALL_SETUP_RULE, ROUTING_RULE_ACTION, NORMANIZATION_GROUP, NUMBER_PORTABILITY, CUSTOMER</p> <p>ParsedActionName</p> <p>RR, NODE, PCON, VOIPPEER, TOPOLOGY_GROUP</p>
discardingByRrName	String	
discardingByRrGroupName	String	
continueWithNodeInternalTablesByRoutingRule	Integer	
continueWithNodeInternalTablesByRrName	String	

Attribute	Type	Description
continueWithNodeInternalTablesByRrGroupName	String	
routerId	Integer	
incomingCustomerId	Integer	
outgoingCustomerId	Integer	
incomingCustomerName	String	
outgoingCustomerName	String	

HTTP Response

- 200 OK
- 409 Conflict (in case the operation is not allowed)
- 500 Internal Server Error

Other Information

- preRouteManipulationsList and pathRouteManipulationsList:
 - ManipulatedEntity means which entity will be tracked and might change.
 - ManipulatedEntity values:
 - ◆ SOURCE_URI_USER
 - ◆ SOURCE_URI_HOST
 - ◆ DEST_URI_USER
 - ◆ DEST_URI_HOST
 - ◆ DEST_IP_ADDR
 - ◆ DEST_PORT
 - ◆ DEST_PROTOCOL
 - ◆ USER_CREDENTIALS_USER_NAME
 - ◆ USER_CREDENTIALS_PASSWORD
 - Only tracked will be added to routeManipulationsList.
 - isChanged will be set to true if one of the isChanged in manipulationsList is true.

- ManipulatingEntity means which entity from ARM data base/GUI perspective tracked and might change the ManipulatedEntity.
 - ManipulatingEntity values:
 - ◆ ROUTING_INCOMING_MANIPULATION
 - ◆ PCON
 - ◆ CALL_SETUP_RULE
 - ◆ ROUTING_RULE_ACTION
 - ◆ NORMANIZATION_GROUP
 - usingManipulatingEntity and usingManipulatingEntityId are Optional.

- preRouteManipulationsList and pathRouteManipulationsList examples:

Example 1: if Pcon 1 with NormalizationGroup 2 and Call Setup Rule 3 and Routing Rule Action 4 with NormalizationGroup 5 changed sourceUriUser :

```
preRouteManipulationsList:{
  originalValue:12
  manipulatedValue:56
  manipulatedEntity:SOURCE_URI_USER
  isChanged:true

  manipulationsList:[{
    originalValue:12
    manipulatedValue:34
    manipulatingEntity:PCON
    manipulatingEntityId:1
    usingManipulatingEntity:NORMANIZATION_GROUP
    usingManipulatingEntityId:2
    description:
    isChanged:true
  },
  {
    originalValue:34
    manipulatedValue:56
    manipulatingEntity:CALL_SETUP_RULE
    manipulatingEntityId:3
    description:
    isChanged:true
  }]
}

paths =[{
.
.
.
  pathRouteManipulationsList:[{
    afrerPreRouteValue:String
    originalValue:56
    manipulatedValue:78
    manipulatingEntity:ROUTING_RULE_ACTION
    manipulatingEntityId:4
    usingManipulatingEntity:NORMANIZATION_GROUP
    usingManipulatingEntityId:5
    description:
    isChanged:true
  }
  ]

  }]
}
```

Example 2 :if RoutingIncomingNormalization (it doesn't have really an index so we set it to "-1") with NormalizationGroup 2 and Call Setup Rule 3 and Routing Rule Action 4 with NormalizationGroup 5 changed sourceUriUser :

```
preRouteManipulationsList:{
  originalValue:12
  manipulatedValue:56
  manipulatedEntity:SOURCE_URI_USER
  isChanged:true

  manipulationsList:[{
    originalValue:12
    manipulatedValue:34
    manipulatingEntity: ROUTING_INCOMING_MANIPULATION
    manipulatingEntityId:-1
    usingManipulatingEntity:NORMANIZATION_GROUP
    usingManipulatingEntityId:2
    description:
    isChanged:true
  },
  {
    originalValue:34
    manipulatedValue:56
    manipulatingEntity:CALL_SETUP_RULE
    manipulatingEntityId:3
    description:
    isChanged:true
  }]
}

paths =[{
.
.
.
  pathRouteManipulationsList:[{
    originalValue:56
    manipulatedValue:78
    manipulatingEntity:ROUTING_RULE_ACTION
    manipulatingEntityId:4
    usingManipulatingEntity:NORMANIZATION_GROUP
    usingManipulatingEntityId:5
    description:
    isChanged:true
  }
  ]

}]
}
```

4.6 Time-based Routing (TBR) API

This section describes the Time-based Routing API.

4.6.1 TBR Conditions Create API

The `<ARM_Configurator_IP>/ARM/v1/routing/condition/tbr` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create conditions for Time-based routing.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/routing/condition/tbr`

HTTP Method

POST

Supported Content-Type

`application/json`

Attributes

The request should contain the following attributes:

Attribute	Type	Description
TimeCondition	<pre>{ "id" : Integer, "name" String, "days" : ["day": Day "startTime": Time (String), "endTime": Time (String),], "startDateTime": DateTime (String), "endDateTime": DateTime (String) "startDay": Day, "endDay": Day, "type": Enum (Integer) }</pre>	<p>Enum DAYS: SUN, MON, TUE, WED, THU, FRI, SAT</p> <p>startTime and endTime are optional in case the type is WEEKLY or PERIOD.</p> <p>If they are not sent, the condition will be for a full day (not sent equals both of them being null),</p> <p>In type DAILY the days should have all the days of the week, and startTime and endTime are must, and must be the same time for all days.</p> <p>In type RANGE days should have only two days, the start day with startTime and end day with endTime.</p> <p>Example of the time format: 12:12:21.000</p> <p>startDateTime and endDateTime will be ignored unless the type is PERIOD</p> <p>startDay and endDay will be ignored unless type is RANGE</p> <p>startDateTime and endDateTime should be in the same format as defined by Alex, for example: 2015-11-12T14:21:19.000Z</p> <p>Enum Type: DAILY, WEEKLY, PERIOD or RANGE</p>

HTTP Response

- 200 OK - if no error occurred.
- 409 Conflict - if an error occurred.

4.6.2 TBR Condition Update API

The `<ARM_Configurator_IP>/ARM/v1/routing/condition/tbr/{id}` URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to update a TBR condition.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/routing/condition/tbr/{id}
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
TimeCondition	<pre>{ "id": Integer, "name" String, "days": ["day": Day "startTime": Time (String), "endTime": Time (String),], "startDateTime": DateTime (String), "endDateTime": DateTime (String) "startDay": Day, "endDay": Day, "type": Enum (Integer) }</pre>	<p>Enum DAYS: SUN, MON, TUE, WED, THU, FRI, SAT</p> <p>startTime and endTime are optional in case the type is WEEKLY or PERIOD.</p> <p>If they are not sent, the condition will be for a full day (not being sent is equivalent to both of them being set to null).</p> <p>In type DAILY, the days should include all the days of the week, startTime and endTime are mandatory, and must be the same time for all days.</p> <p>In type RANGE, days should be set to only two days, the start day with startTime and end day with endTime.</p> <p>Example of the time format: 12:12:21.000 startDateTime and endDateTime will be ignored unless the type is PERIOD</p> <p>startDay and endDay will be ignored unless type is RANGE.</p> <p>startDateTime and endDateTime should be in the same format as defined by Alex, for example: 2015-11-12T14:21:19.000Z Enum Type: DAILY, WEEKLY, PERIOD or RANGE</p>

HTTP Response

- 200 OK – if no error occurred
- 409 Conflict – if an error occurred

4.6.3 TBR Condition Delete API

The `<ARM_Configurator_IP>/ARM/v1/routing/condition/tbr/{id}` URL provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a TBR condition.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/routing/condition/tbr/{id}`

Where {id} is the ID of the element in the database.

HTTP Method

DELETE

Supported Content-Type

application/json

HTTP Response

- 200 OK - if no error occurred.
- 409 Conflict - if an error occurred.

Note: Conditions that are attached to Routing Rule Groups or Routing Rules cannot be deleted.

4.7 Attribute Group API (Prefix Groups)

This section describes the URLs for Attribute Groups.

4.7.1 Attribute Group Get API

The `<ARM_Configurator_IP>/ARM/v1/routing/attributeGroup` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve an Attribute Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/routing/attributeGroup
<ARM_Configurator_IP>/ARM/v1/routing/attributeGroup/{id}
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
attrGroup	<pre>{ "id" : Integer "name" String, "values" : [String], "type": ENUM (String), }</pre>	Name – must be unique Type: 0 = PREFIX 1 = HOST_NAME
attrGroups	<pre>[{ attrGroup }]</pre>	Name – must be unique Type: 0 = PREFIX 1 = HOST_NAME

HTTP Response

- 200 OK – if no error occurred.
- 409 Conflict – if an error occurred.

4.7.2 Attribute Group Create API

The <ARM_Configurator_IP>/ARM/v1/routing/attributeGroup URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to create an Attribute Group.

REST Resource

<ARM_Configurator_IP>/ARM/v1/routing/attributeGroup

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
attrGroup	{ "name" String, "values" : [String], "type": ENUM (String), }	Name – must be unique type: 0 = PREFIX 1 = HOST_NAME

HTTP Response

- 200 OK – if no error occurred.
- 409 Conflict – if an error occurred.

4.7.3 Attribute Group Update API

The <ARM_Configurator_IP>/ARM/v1/routing/attributeGroup/{id} URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to update an Attribute Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/routing/attributeGroup/{id}
```

HTTP Method

PUT

Supported Content-Type

application/json

Attribute

Attribute	Type	Description
attrGroup	<pre>{ "name" String, "values" : [String], "type": ENUM (String), }</pre>	Name – must be unique type: 0 = PREFIX 1 = HOST_NAME

HTTP Response

- 200 OK – if no error occurred.
- 409 Conflict – if an error occurred.

4.7.4 Attribute Group Add\Remove Attributes API

The `<ARM_Configurator_IP>/ARM/v1/routing/attributeGroup/{id}` URL when used with the PATCH methods provides the ability for the ARM Manager to send a request to the ARM Configurator to update specific attributes within an attribute group without setting the entire resource.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/routing/attributeGroup/{id}`

HTTP Method

PATCH

Attribute

With the following JSON:

Attribute	Type	Description
attrGroup	<pre>{ "add": [String], "remove": [String] }</pre>	Add and remove values

HTTP Response

- 200 OK - if no error occurred.
- 409 Conflict - if an error occurred.

4.7.5 Attribute Group Delete API

The `<ARM_Configurator_IP>/ARM/v1/routing/attributeGroup/{id}` when used with the DELETE method provides the ability for the ARM Manager to send a request to the ARM Configurator to delete an Attribute Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/routing/attributeGroup/{id}
```

HTTP Method

DELETE

Supported Content-Type

application/json

HTTP Response

- 200 OK - if no error occurred.
- 409 Conflict - if an error occurred.

Note: An Attribute Group cannot be deleted when it contains conditions that are attached to Routing Rule Groups or Routing Rules.

4.7.6 Attribute Group Multiple Delete API

The

<ARM_Configurator_IP>/ARM/v1/routing/attributeGroup?filter=(id=1;2;3) URL when used with the DELETE methods provides the ability for the ARM Manager to send a request to the ARM Configurator to delete multiple Attribute Groups.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/routing/attributeGroup?filter=(id=1;2;3)
```

HTTP Method

DELETE

Attributes

Attribute	Type	Description
multiStatusJsonList	[{ status: Integer description: String id: Integer }]	Status: the http response code for this specific ID Description: the description Id: the ID of the object for this specific response

HTTP Response

- 200 OK – if no error occurred
- 409 Conflict
- 500 Internal Error

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5 SIP Condition group

This chapter describes the REST API resources for the Sip Condition. The following APIs are described:

- Get Policy Studio API
- Add Policy Studio API
- Update Policy Studio API
- Delete Sip Condition Group API

5.1 Get Sip Condition Group API

The `<ARM_Configurator_IP>/ARM/v1/sipCondition/group` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve a Sip Condition Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/sipCondition/group  
<ARM_Configurator_IP>/ARM/v1/sipCondition/group/{id}
```

HTTP Method

GET

Supported Content-Type

application/json

Attribute	Type	Description
id	Integer	Database ID
name	String	Name of the Sip Condition Group.
conditions	{ id: Integer description: String priority: Integer conditionGroupId: Integer subject:String operator: enum values: [String] prefixGroups: [Integer] logicalOperator: enum }	Possible values for operator: equal, notEqual, greaterEqual, smallerEqual, greater, smaller, contain, notContain, suffix, prefix, lenGreater, lenSmaller, lenEqual, regex, exist, notExist, belong. Possible values for prefixGroups: or, and.

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

5.2 Add Sip Condition Group API

The <ARM_Configurator_IP>/ARM/v1/sipCondition/group URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create a Sip Condition Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/sipCondition/group
```

HTTP Method

POST

Supported Content-Type

application/json

Attribute	Type	Description
name	String	Name of the Sip Condition Group.
conditions	{ id: Integer description: String priority: Integer conditionGroupId: Integer subject:String operator: enum values: [String] prefixGroups: [Integer] logicalOperator: enum }	Possible values for operator: equal, notEqual, greaterEqual, smallerEqual, greater, smaller, contain, notContain, suffix, prefix, lenGreater, lenSmaller, lenEqual, regex, exist, notExist, belong. Possible values for prefixGroups: or, and.

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

5.3 Update Sip Condition Group API

The `<ARM_Configurator_IP>/ARM/v1/sipCondition/group` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a Sip Condition Group.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/sipCondition/group/{id}`

HTTP Method

PUT

Supported Content-Type

application/json

Attribute	Type	Description
name	String	Name of the Sip Condition Group.
conditions	{ id: Integer description: String priority: Integer conditionGroupId: Integer subject:String operator: enum values: [String] prefixGroups: [Integer] logicalOperator: enum }	Possible values for operator: equal, notEqual, greaterEqual, smallerEqual, greater, smaller, contain, notContain, suffix, prefix, lenGreater, lenSmaller, lenEqual, regex, exist, notExist, belong. Possible values for prefixGroups: or, and.

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

5.4 Delete Sip Condition Group API

The `<ARM_Configurator_IP>/ARM/v1/sipCondition/group` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a Sip Condition Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/sipCondition/group/{id}
```

HTTP Method

DELETE

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

6 SIP Manipulation group

This chapter describes the REST API resources for the Sip Condition. Following are APIs described:

- Get Policy Studio API
- Add Policy Studio API
- Update Policy Studio API
- Delete Sip Manipulation Group API

6.1 Get Sip Manipulation Group API

The `<ARM_Configurator_IP>/ARM/v1/sipManipulation/group` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve a Sip Manipulation Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/sipManipulation/group
<ARM_Configurator_IP>/ARM/v1/sipManipulation/group/{id}
```

HTTP Method

GET

Supported Content-Type

application/json

Attribute	Type	Description
id	Integer	Database ID
name	String	Name of the Sip Condition Group.
manipulations	<pre>{ id: Integer description: String priority: Integer conditionGroupId: Integer manipulationGroupId: Integer normalizationGroupId: Integer prefixGroupId: Integer actionSubject: String actionType: enum actionValue: String webServiceId: Integer requestMethod: enum requestContentType: enum requestBody: String requestUrlSuffix: String }</pre>	<p>Possible values for actionType: add, remove, modify, addPrefix, addSuffix, removePrefix, removeSuffix, normalization, randomFromPool, sendByWebService.</p> <p>Possible values for requestMethod: POST, GET, PUT, PATCH.</p> <p>Possible values for requestContentType: APPLICATION_JSON, NONE.</p>

HTTP Response

- 200 OK
- 500 Internal error

6.2 Add Sip Manipulation Group API

The `<ARM_Configurator_IP>/ARM/v1/sipManipulation/group` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create a Sip Manipulation Group.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/sipManipulation/group`

HTTP Method

POST

Supported Content-Type

application/json

Attribute	Type	Description
name	String	Name of the Sip Condition Group.
manipulations	{ id: Integer description: String priority: Integer conditionGroupId: Integer manipulationGroupId: Integer normalizationGroupId: Integer prefixGroupId: Integer actionSubject: String actionType: enum actionValue: String webServiceId: Integer requestMethod: enum requestContentType: enum requestBody: String requestUrlSuffix: String }	Possible values for actionType: add, remove, modify, addPrefix, addSuffix, removePrefix, removeSuffix, normalization, randomFromPool, sendByWebService Possible values for requestMethod: POST, GET, PUT, PATCH. Possible values for requestContentType: APPLICATION_JSON, NONE.

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

6.3 Update Sip Manipulation Group API

The `<ARM_Configurator_IP>/ARM/v1/sipManipulation/group` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a Sip Manipulation Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/sipManipulation/group/{id}
```

HTTP Method

PUT

Supported Content-Type

application/json

Attribute	Type	Description
name	String	Name of the Sip Condition Group.
manipulations	{ id: Integer description: String priority: Integer conditionGroupId: Integer manipulationGroupId: Integer normalizationGroupId: Integer prefixGroupId: Integer actionSubject: String actionType: enum actionValue: String webServiceId: Integer requestMethod: enum requestContentType: enum requestBody: String requestUrlSuffix: String }	Possible values for actionType: add, remove, modify, addPrefix, addSuffix, removePrefix, removeSuffix, normalization, randomFromPool, sendByWebService Possible values for requestMethod: POST, GET, PUT, PATCH Possible values for requestContentType: APPLICATION_JSON, NONE

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

6.4 Delete Sip Manipulation Group API

The `<ARM_Configurator_IP>/ARM/v1/sipManipulation/group` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a Sip Manipulation Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/sipManipulation/group/{id}
```

HTTP Method

DELETE

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

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7 Security Rest API

This chapter describes the REST API resources for the ARM security. The following APIs are described:

-
- Get Security Attributes API
- Security Create API
- Security Update API
- Security Delete API
- Login API

7.1 Get Security Attributes API

The `<ARM_Configurator_IP>/ARM/v1/security/<ARM_attribute>` when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve security attributes.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/security/<ARM_attribute>  
<ARM_Configurator_IP>/ARM/v1/security/<ARM_attribute>/{id}
```

Where:

- `<ARM_attribute>` requests all of the ids of the specified attribute (listed in the table below).
- `{id}` requests a specific ID of a specific attribute (listed in the table below)

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The ARM Configurator must respond to the GET request with JSON data that includes the request URI attribute. If the ID is not specified in the GET request, URI JSON data MUST contain an array of all specified elements defined in the database for the attribute.

Attribute	Type	Description
operator	ARRAY OF: [{ id: integer, userName: string, role: string status: string, }	OperatorRoleType: 1 = ADMIN 2 = SECURITY_ADMIN 3 = DEVICE 4 = ROUTER url – element REST path

Attribute	Type	Description
	url: string }]]	
credential	ARRAY OF: [{ Id: Integer, username: String type: ENUM, description: String }]	Type: 1 = ADMIN 2 = SECURITY_ADMIN 3 = DEVICE 4 = ROUTER 5 = MONITOR 100 = NONE

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

7.1.1 Filter

There is a possibility to use a filter for specific requests. Filter should be added to the suffix of the URL, for example:

```
<ARM_Configurator_IP>/ARM/v1/security/<ARM_element_path>?filter=(roles=ENUM)
```

Filter	Available for these Requests	Description
roles	Operator	Filter Operators according to the role
type	Credentials	Filter credentials according to the type

7.2 Security Create API

This section describes the Security Create API.

7.2.1 Create Operator

The `<ARM_Configurator_IP>/ARM/v1/security/operator` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create an operator.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/security/operator  
<ARM_Configurator_IP>/ARM/v1/security/credentials
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

The request MUST contain JSON data that consists of the following attributes:

Attribute	Type	Description
userName	STRING	The requested user name
password	STRING	The password
role	role: string	Role: 1 = admin 2 = security_admin The security level of the requested user security_admin - Security administrator – can add/delete/modify users, and do all the rest admin - Administrator – can NOT add/delete/modify users; but can do all the rest
description	String	Optional, only relevant for credentials creation

HTTP Response

- 200 OK
- 201 Created (successful user creation)
- 403 Forbidden (incorrect credentials or with role of the user that does not match the security administrator)

7.3 Security Update API

This section describes the Security Update API.

7.3.1 Update Operator

The `<ARM_Configurator_IP>/ARM/v1/security/operator/{id}` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update an operator.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/security/operator/{id}
<ARM_Configurator_IP>/ARM/v1/credentials/operator/{id}
```

Where {id} is the ID of the element in the database.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
userName	String	The requested user name
password	String	The user password.
role	role: string	<p>Role:</p> <ul style="list-style-type: none"> 1 = admin 2 = security_admin <p>The security level of the requested user:</p> <ul style="list-style-type: none"> ROLE_SECURITY_ADMIN- Security administrator – can add/delete/modify users, and perform all other operations ROLE_ADMIN - Administrator – cannot add/delete/modify users; however can perform all other operations.
description	String	Optional, Only relevant for credentials creation

HTTP Response

- 200 OK
- 201 Created (successful user creation)
- 403 Forbidden (incorrect credentials or with role of the user that does not match the security administrator)

7.4 Security Delete API

This section describes the Security Delete API.

7.4.1 Delete Operator API

The `<ARM_Configurator_IP>/ARM/v1/security/operator/{id}` URL provides the ability for the ARM Manager to send a request to the ARM Configurator to delete an operator.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/security/operator/{id}
<ARM_Configurator_IP>/ARM/v1/security/credentials/{id}
```

Where {id} is the ID of the element in the database.

HTTP Method

DELETE

HTTP Response

■ 200 OK

7.5 Login API

The <ARM_Configurator_IP>/ARM/v1/login URL when used with the POST method, provides the ability for the ARM Manager to send a request to login.to the ARM Configurator.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/login
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
userName	STRING	The requested user name
password	STRING	The login password

HTTP Response

- 200 OK- Response will be sent if the user was successfully authenticated.
- 401 - Unauthorized in case of incorrect credentials or if the role of the user didn't match the correct privileges (security admin/admin).

Response Attributes

The response provided by the ARM Configurator must contain JSON data with the following attributes:

Attribute	Type	Description
userName	String	The requested user name (only in case of a successful login).
role	String	The role (permission) of the user (only in case of successful login). For the role the following enum is used: <ul style="list-style-type: none"> • SECURITY_ADMIN • ADMIN
sessionTimeout	Integer	Session timeout in hours (only in case of a successful login).
inactivityPeriod	Integer	Inactive period in minutes (only in case of successful login).
description	String	Description for a successful login and for failed login.

7.6 Azure AD for REST Requests Authentication

The `<ARM_Configurator_IP>/ARM/v1/security/authentication/token` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve an updated list of servers.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/login/microsoft/authentication/token
```

HTTP Method

```
POST
```

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
accessToken	String	The access token received from Microsoft
authenticationType	ENUM	ACCESS_TOKEN

HTTP Response

- 200 OK- Response will be sent if the user was successfully authenticated.
- 401 - Unauthorized in case of incorrect credentials or if the role of the user didn't match the correct privileges (security admin/admin).

Besides the response code the following Response object will be returned:

Attribute	Type	Description
userName	String	The requested user name, only in case of successful login
role	String	The role (permission) of the user, only in case of successful login For the role the following enum is used: SECURITY_ADMIN ADMIN
roleName	String	
sessionTimeout	Integer	Session time out in hours, only in case of successful login
inactivityPeriod	Integer	Inactive period in minutes, only in case of successful login
description	String	Description in both cases
password	String	
token	String	Used the received token in the authorization header for any rest request to ARM

7.6.1 Revoking Azure User Tokens

Revoke all tokens created for Azure AD users:

The

<ARM_Configurator_IP>/ARM/v1/security/authentication/token/revoke

URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve an updated list of servers.

REST Resource

<ARM_Configurator_IP>/ARM/v1/security/authentication/token/revoke

HTTP Method

DELETE

8 Server Rest API

This chapter describes the REST API resources for the ARM server. The following APIs are described:

- Get API
- Servers Create API
- Server Update API
- Server Delete API

8.1 Get API

The `<ARM_Configurator_IP>/ARM/v1/server` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve an updated list of servers.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/server  
<ARM_Configurator_IP>/ARM/v1/server/{id}
```

Where {id} requests a specific ID of a specific attribute (listed in the table below).

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The ARM Configurator must respond to the GET request with JSON data that includes the request URI attribute. If the ID is not specified in the GET request, URI JSON data MUST contain an array of all specified elements defined in the database for the attribute.

Attribute	Type	Description
Server	ARRAY OF: [{ Id: integer address: String name: string, type: string, protocol: string, port: integer, url: string state:ServerState confRouterPort:Integer adminState:Integer memory:Integer }]	Protocol: 1 = http 2 = https type: ROUTING url – element REST path confRouterPort – conf <-> router ServerState: 0 = AVAILABLE 1 = UNAVAILABLE 2 = INITIALIZING 3 = NOT_SYNC

Attribute	Type	Description
	<pre> nodes:[Integer] }]</pre>	<p>adminState: 0 = UNLOCKED 1 = LOCKED</p> <p>Nodes – the ids of the nodes for which the router is configured.</p>

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

8.2 Servers Create API

This section describes the Servers Create API.

8.2.1 Create Server

The `<ARM_Configurator_IP>/ARM/v1/server` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create a new ARM Routing server.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/server`

HTTP Method

POST

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
name	String	The name of the server
address	String	The IP address of the server
type	String	type: ROUTING
protocol	String	The protocol that is used by the server.
port	Integer	The port that is used by the server.
confRouterPort	Integer	The port that is used by the Configurator to communicate with the routers.
nodes	ARRAY OF: [Integer]	Ids of the router nodes.
upgradeSequence	Integer	

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal error

8.3 Server Update API

This section describes the Server Update API.

8.3.1 Update Server

The `<ARM_Configurator_IP>/ARM/v1/server/{id}` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a server configuration.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/server/{id}`

Where {id} is the ID of the element in the database.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	??
address	String	??
type	String	type: ROUTING
protocol	String	??
port	Integer	
confRouterPort	Integer	
nodes	ARRAY OF: [Integer]	Ids of the nodes to whom the router is added.
upgradeSequence	Integer	
name	String	

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

8.4 Server Delete API

This section describes the Server Delete API.

8.4.1 Delete Server API

The `<ARM_Configurator_IP>/ARM/v1/server/{id}` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a specific server.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/server/{id}`

Where {id} is the ID of the element in the database.

Supported Content-Type

`application/json`

HTTP Method

`DELETE`

HTTP Response

■ 200 OK

8.5 Servers Group API

8.5.1 Get All Server Groups

The <ARM_Configurator_IP>/ARM/v1/server/{id}URL when used with the GET method, provides the ability for the ARM Manager to request to the ARM Configurator to retrieve a list of all server groups.

REST Resource

```
GET <ARM_Configurator_IP>/ARM/v1/server/group
```

Supported Content-Type

```
application/json
```

HTTP Method

```
GET
```

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

Attributes

Attribute	Type	Description
id	Integer	Server Group ID
name	String	Server Group Name
policyBetweenGroups	ENUM	STICKY_PRIMARY, STICKY_LAST_AVAILABLE
policyInsideGroup	ENUM	ROUND_ROBIN, STICKY_PRIMARY, STICKY_LAST_AVAILABLE
multipleSockets	Boolean	Default: false
groups	[{ id: Integer servers:{ id: Integer priority: Integer } }]	The outer ID is the group ID The ID in the servers objects is the server ID from the database Priority is between 1 - 10

8.5.2 Get Specific Server Group

The `<ARM_Configurator_IP>/ARM/v1/server/{id}` URL when used with the GET method, provides the ability for the ARM Manager to request to the ARM Configurator to retrieve a specific server group.

REST Resource

```
GET <ARM_Configurator_IP>/ARM/v1/server/group/{id}
```

Supported Content-Type

`application/json`

HTTP Method

`GET`

HTTP Response

- 200 OK
 - 409 Conflict
 - 500 Internal error
-

Attributes

Attribute	Type	Description
id	Integer	Server Group ID
name	String	Server Group Name
policyBetweenGroups	ENUM	STICKY_PRIMARY, STICKY_LAST_AVAILABLE
policyInsideGroup	ENUM	ROUND_ROBIN, STICKY_PRIMARY, STICKY_LAST_AVAILABLE
groups	[{ id: Integer servers:{ id: Integer priority: Integer } }]	The outer ID is the group ID The ID in the servers objects is the server ID from the database Priority is between 1 - 10

8.5.3 Create Server Group API

The <ARM_Configurator_IP>/ARM/v1/server/group URL when used with the POST method, provides the ability for the ARM Manager to request to the ARM Configurator to create a specific server group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/server/group
```

Supported Content-Type

```
application/json
```

HTTP Method

```
POST
```

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal error

Attributes

Attribute	Type	Description
id	Integer	Server Group ID
name	String	Server Group Name
policyBetweenGroups	ENUM	STICKY_PRIMARY, STICKY_LAST_AVAILABLE
policyInsideGroup	ENUM	ROUND_ROBIN, STICKY_PRIMARY, STICKY_LAST_AVAILABLE
groups	[{ id: Integer servers:{ id: Integer priority: Integer } }]	The outer ID is the group ID The ID in the servers objects is the server ID from the database Priority is between 1 - 10

8.5.4 Update Server Group API

The <ARM_Configurator_IP>/ARM/v1/server/group URL when used with the PUT method, provides the ability for the ARM Manager to request to the ARM Configurator to update a specific server group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/server/group/{id}
```

HTTP Method

PUT

Attributes

Attribute	Type	Description
id	Integer	Server Group ID
name	String	Server Group Name
policyBetweenGroups	ENUM	STICKY_PRIMARY, STICKY_LAST_AVAILABLE
policyInsideGroup	ENUM	ROUND_ROBIN, STICKY_PRIMARY, STICKY_LAST_AVAILABLE
groups	[{ id: Integer servers:{ id: Integer priority: Integer } }]	The outer ID is the group ID The ID in the servers objects is the server ID from the database Priority is between 1 - 10

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

8.5.5 Delete Server Group API

The `<ARM_Configurator_IP>/ARM/v1/server/group` URL when used with the DELETE method, provides the ability for the ARM Manager to request to the ARM Configurator to delete a specific server group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/server/group/{id}
```

HTTP Method

DELETE

Supported Content-Type

application/json

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

8.6 Servers Keystore

8.6.1 Get Server Keystore

The `<ARM_Configurator_IP>/ARM/v1/server/{id}/keystore` URL when used with the GET method retrieves the routing server's keystore where {id} is the routing server id.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/server/{id}/keystore
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
{ alias: String		

Attribute	Type	Description
raw: String		
}}		

8.6.2 Generate Server Keystore

The `<ARM_Configurator_IP>/ARM/v1/server/{id}/keystore/generate` URL when used with the POST method generates a server keystore.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/server/{id}/keystore/generate`

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
cn	String	
ou	String	
o	String	
c	String	
l	String	
st	String	
sanEmail	[String]	
sanURI	[String]	
sanDNS	[String]	
sanIP	[String]	
keyAlg	KeyAlgorithm	KeyAlgorithm: RSA EC
keySize	Integer	Default: 2048 For EC: 256, 384 RSA: 2048, 3072
validity	Integer	Default: 365

signAlg	SignAlgorithm	SignAlgorithm: SHA256withRSA SHA384withRSA SHA512withRSA SHA256withECDSA SHA384withECDSA SHA512withECDSA
keyUsage	[KeyUsage]	KeyUsage: digitalSignature nonRepudiation keyEncipherment dataEncipherment keyAgreement keyCertSign cRLSign encipherOnly decipherOnly
extendedkeyUsage	[ExtendedKeyUsage]	ExtendedKeyUsage: anyExtendedKeyUsage serverAuth clientAuth codeSigning emailProtection timestamping OCSPSigning
keyUsageCritical	Boolean	Default: false
extendedKeyUsageCritical	Boolean	Default: false
storepass	String	

8.6.3 Upload Keystore

The <ARM_Configurator_IP>/ARM/v1/server/{id}/keystore/upload when used with the POST method uploads a keystore to the ARM server.

REST Resource

<ARM_Configurator_IP>/ARM/v1/server/{id}/keystore/upload

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
keystore	file	
storepass	String	

8.6.4 Upload Keystore and CSR

The <ARM_Configurator_IP>/ARM/v1/server/{id}/keystore/csr/upload URI when used with the POST method uploads a keystore and CSR to the ARM server.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/server/{id}/keystore/csr/upload
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
keystore	file	
response	file	
storepass	String	
alias	String	

9 Action Status API

The `<ARM_Configurator_IP>/ARM/v1/action/status/{id}` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to determine the status of an unsynchronized action.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/action/status/{id}
```

Where {id} is the unique identifier of the unsynchronized action.

HTTP Method

GET

Supported Content-Type

application/json

HTTP Response

- 202 Accepted – in case the action is still in progress.
- 200 OK – in case the action has been completed.

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10 Network Planner API

This chapter describes the REST API resources for the Network Planner. The following APIs are described:

- Get API
- Network Planner Create API
- Network Planner Update API
- Network Planner Delete API
- Network Planner Actions API

10.1 Get API

The `<ARM_Configurator_IP>/ARM/v1/planning/<ARM_element_path>` URL when used with the GET method, provides the ability for the ARM Manager to request to the ARM Configurator to retrieve an ARM element.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/planning/<ARM_element_path>  
<ARM_Configurator_IP>/ARM/v1/planning/<ARM_element_path>/{id}  
{id} – ID of the requested element
```

ARM Configurator must respond to the Get request with 200 respond and includes JSON data that depended from specified in request URI element and its ID. If the ID was not specified in get request URI JSON data must contain array of all specified elements defined in Topology data base.

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The following attributes MUST be included:

Attribute	Type	Description
map	<pre> { nodes: { "id": {node} } "routingInterfaces": { "id": {routing interface} } voipPeers: { "id": {voipPeer} } "peerConnections" : { "id": {peer connection} } "internalPeerConnections": { "id": {peer connection} } "connections": { "id": {connection} } hashCode: Integer } </pre>	<p>each object is a map of elements</p> <p>hashCode: the hash code of the full map object.</p>

Attribute	Type	Description
node	ARRAY OF: <pre>[{ adminState: String deviceTypel: Integer deviceTypeS: String id: Integer ipAddr: String isIpProfileAvailable: Boolean isOffline: Boolean name: String operState: String password: String prevSerialNum: String productType: String serialNum: String softwareVersion: String transportType: String useGeneralCredentials: Boolean username: String x: Interger y: Interger }]</pre>	id- Node ID in the database operState - 1 = available 2 = not_available 3 = predeleted 4 = not_synced adminState – 0 = unlock 1 = lock name- Name configured by ARM operator

Attribute	Type	Description
peerCon	ARRAY OF: [{ Id: integer nodeId: integer nodeName: string name: string voipPeerId: integer operState: ENUM adminState: ENUM peerConnectionNodeType: String(enum) nativeName: String tgrp: String destNormalizationGroupId: integer srcNormalizationGroupId: integer isInternal: Boolean isProxySetWithIp: Boolean rild: Integer weight: Integer ipGroupType: String(enum) topologyGroups: [integer] result: String(enum) quality: integer isOffline: Boolean callsQuotaId: integer callsQuotaName: String callsDuration: Double quotaState: String(enum) quotaWarningReached: Boolean quotaLimitReached: Boolean cacProfileId: integer cacState: String(enum) cacProfileName: String }]	operState – 1 = available 2 = not_available 3 = predeleted 4 = temp_not_available 5 = not_synced adminState – 0 = unlock 1 = lock url – element REST path peerConnectionNodeType – 0 = IPGroup 1 = TrunkGroup 2 = Virtual ipGroupType– 0 = Server 1 = User 2 = Gateway quotaState – 0 = UNBLOCK 1 = BLOCK_OUTGOING cacState– 0 = UNBLOCK 1 = BLOCK 2 = BLOCK_INCOMING 3 = BLOCK_OUTGOING result the result of the quality calculation - enum BAD, FAIR, GOOD or UNKNOWN

Attribute	Type	Description
voippeer	ARRAY OF: <pre>[{ id: integer name: string, deviceType: string, url: string isOffline: Boolean }]</pre>	deviceType – 0 = NA 1 = PSTN 2 = SIP_Trunk 3 = PBX 4 = IP_PBX 5 = IP_Phones url – element REST path
connection	ARRAY OF: <pre>[{ id: integer weight: integer name: string, URI: string, adminState: string isOffline: Boolean connections: [{ offline: Boolean srcNodeId: integer destNodeId: integer srcRoutingInterface: integer destRoutingInterface: integer operState: string }] result: String(enum) }]</pre>	By default each connection is two-way Each direction has status Direction 1 –from Node1 to Node2 Direction2- from Node2 to Node1 weight [1-100] Default =50 operState: 1 = available 2 = not_available 3 = predeleted 4 = temp_not_available 5 = not_synced adminState: 0 = unlock 1 = lock url – element REST path result the result of the quality calculation - enum BAD, FAIR, GOOD or UNKNOWN this will be send for both the of the edges and the connection itself

Attribute	Type	Description
routingInterface	ARRAY OF: <pre>[{ Id: integer, nodeId: integer udpPort: integer, tcpPort: integer, tlsPort: integer, name:string, controllpAddr: string, transportType: integer, operState: string, srldId: string, url: string isOffline: Boolean }]</pre>	operState: 1 = available 2 = not_available 3 = predeleted 4 = temp_not_available 5 = not_synced transportType: UDP TCP TLS url – element REST path

10.1.1 Filter

There is a possibility to use a filter for specific requests. The filter should be added to the suffix of the URL, for example:

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/planning/peerCon?filter=(nodeId=100)
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The following attributes MUST be included:

Filter	Available for these Requests	Description
isOffline	node peerCon voippeer connection	Filter results for elements that are only offline and that weren't imported in.
name	node peerCon voippeer connection	Contains for partial search Equals for regular search

HTTP Response

- 200 OK
- 500 Internal error
- 409 Conflict

10.2 Network Planner Create API

10.2.1 Create Connection

The `<ARM_Configurator_IP>/ARM/v1/planning/connection` URL when used with the POST method, provides the ability for the ARM Manager to request to the ARM Configurator to create a network planner.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/planning/connection
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

The following attributes MUST be included:

Attribute	Type	Description
name	String	Unique name of the network planner.
weight	integer	Weight of the network planner
connections	Array of 2 entries, 1 for each direction <pre>[{ srcNodeId: integer destNodeId: integer srcRoutingInterface: integer destRoutingInterface: integer }]</pre>	

HTTP Response

- 201 Created
- 500 Internal error
- 409 Conflict

10.2.2 Create PeerConnection

The <ARM_Configurator_IP>/ARM/v1/planning/peerCon URL when used with the POST method, provides the ability for the ARM Manager to request to the ARM Configurator to create a peer connection.

REST Resource

<ARM_Configurator_IP>/ARM/v1/planning/peerCon

HTTP Method

POST

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
name	String	The name of the peer connection.
nodeId	Integer	The node ID of the peer connection.
peerConnectionNodeType	PeerConnectionNodeType	IPGroup or TrunkGroup
voipPeerId	Integer	If null, ARM will create the voip peer
rild	Integer	If null ARM will pick the SBC dummy routing interface
weight	Integer	The weight assigned to the peer connection.

HTTP Response

- 201 Created
- 500 Internal error
- 409 Conflict

10.2.3 Add Node to ARM

The <ARM_Configurator_IP>/ARM/v1/planning/node URL when used with the POST method, provides the ability for the ARM Manager to request to the ARM Configurator to create a planning node.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/planning/node
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
ipAddr	String	The IP address of the node
userName	String	Optional – otherwise Admin
password	String	Optional – otherwise Admin
productType	String	One of the following: SBC GW HYBRID
x	Integer	X coordinate value
y	Integer	Y coordinate value

HTTP Response

- 201 Created
- 500 Internal error
- 409 Conflict

10.2.4 Add VoIP Peer to ARM

The <ARM_Configurator_IP>/ARM/v1/planning/voippeer URL when used with the POST method, provides the ability for the ARM Manager to request to the ARM Configurator to create a VoIP peer.

REST Resource

<ARM_Configurator_IP>/ARM/v1/planning/voippeer

HTTP Method

POST

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
deviceType	String	IP_PHONES, IP_PBX, PSTN, NA, PBX, SIP_TRUNK
name	String	Name of the VP
x	Integer	Value of the x coordinate
y	Integer	Value of the y coordinate

HTTP Response

- 201 Created
- 500 Internal error
- 409 Conflict

10.3 Network Planner Update API

At the suffix of each URL for update API there is a {id} sign which represents the ID of the element in the database.

10.3.1 Update Connection

The `<ARM_Configurator_IP>/ARM/v1/planning/connection/{id}` URL when used with the PUT method, provides the ability for the ARM Manager to request to the ARM Configurator to update a specific VoIP connection.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/planning/connection/{id}
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
name	string	The connection name.
weight	integer	The weight assigned to the connection. 1-100 Default - 50
result	String	BAD, FAIR, GOOD, UNKNOWN

HTTP Response

- 200 OK
- 500 Internal error
- 409 Conflict

10.3.2 Update VOIP Peer

The <ARM_Configurator_IP>/ARM/v1/planning/voippeer/{id} URL when used with the PUT method, provides the ability for the ARM Manager to request to the ARM Configurator to update a VOIP Peer.

REST Resource

<ARM_Configurator_IP>/ARM/v1/planning/voippeer/{id}

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
deviceType	string	0 = NA 1 = PSTN 2 = SIP_trunk 3 = PBX 4 = IP_PBX 5 = IP_PHONES
Name	string	Name of the VOIP Peer

HTTP Response

- 200 OK
- 500 Internal error
- 409 Conflict

10.3.3 Update VoIP Peers Map Locations

The <ARM_Configurator_IP>/ARM/v1/planning/voippeer/location URL when used with the PUT method, provides the ability for the ARM Manager to request to the ARM Configurator to save the location of the VoIP peers elements.

REST Resource

PUT <ARM_Configurator_IP>/ARM/v1/planning/voippeer/location

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

It MUST contain the following arguments:

Attribute	Type	Description
id	Integer	ID of the VoIP Peers Map locations.
x	Integer	X coordinate value.
y	Integer	Y coordinate value.

HTTP Response

- 200 OK
- 500 Internal error
- 409 Conflict

10.3.4 Update Peer Connection

The <ARM_Configurator_IP>/ARM/v1/planning/peerCon/{id} URL when used with the PUT method, provides the ability for the ARM Manager to request to the ARM Configurator to update a peer connection.

REST Resource

<ARM_Configurator_IP>/ARM/v1/planning/peerCon/{id}

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

The request MUST contain the following data elements::

Attribute	Type	Description
name	string	Name of the Peer connection.
voipPeerId	Integer	ID of the Peer connection.
result	String	BAD, FAIR, GOOD, UNKNOWN

HTTP Response

- 200 OK
- 500 Internal error
- 409 Conflict

10.3.5 Update Node

The <ARM_Configurator_IP>/ARM/v1/planning/node/{id} URL when used with the PUT method provides the ability for the ARM Manager to request to the ARM Configurator to update a specific node.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/planning/node/{id}
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

The request MUST contain the following data elements:

Attribute	Type	Description
name	string	=
transportType	string	Either HTTP or HTTPS
useGeneralCredentials	Boolean	Either node should use general credentials
userName	String	userName for connecting to Node
password	String	-
ipAddress	String	-

HTTP Response

- 200 OK
- 500 Internal error
- 409 Conflict

10.3.6 Update Nodes Map Locations

The <ARM_Configurator_IP>/ARM/v1/planning/node/location URL when used with the PUT method provides the ability for the ARM Manager to request to the ARM Configurator to save the location of the node elements.

REST Resource

<ARM_Configurator_IP>/ARM/v1/planning/node/location

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

The request MUST contain the following data elements:

Attribute	Type	Description
id	Integer	ID of the node location
x	Integer	X coordinate
y	Integer	Y coordinate

HTTP Response

- 200 OK
- 500 Internal error
- 409 Conflict

10.4 Network Planner Delete API

When ARM Manager sends a Delete request to ARM Configurator, it includes a suffix of each URL for update API {id} sign which represents the ID of the element in the database.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/planning/peerCon/{id}
<ARM_Configurator_IP>/ARM/v1/planning/connection/{id}
<ARM_Configurator_IP>/ARM/v1/planning/voippeer/{id}
<ARM_Configurator_IP>/ARM/v1/planning/node/{id}
<ARM_Configurator_IP>/ARM/v1/planning/map
```

HTTP Method

DELETE

Supported Content-Type

application/json

Note: The delete operation is only available for elements which are not part of a routing rules, or policy studio. Clearing the map will delete all the offline elements from the database and remove the imported elements.

HTTP Response

- 200 OK
- 500 Internal error
- 409 Conflict

10.5 Network Planner Actions API

10.5.1 Import Full Topology

The `<ARM_Configurator_IP>/ARM/v1/planning/import` URL when used with the POST method provides the ability for the ARM Manager to request to the ARM Configurator to import all the elements from the regular map view into the offline planner.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/planning/import
```

HTTP Method

POST

Supported Content-Type

application/json

HTTP Response

- 200 OK.
- 409 in case a previous sync all nodes action is in progress on the server. The server will not start a new action if a previous one is in progress.

10.5.2 Import Nodes

The `<ARM_Configurator_IP>/ARM/v1/planning/node/{id}/import` URL when used with the POST method provides the ability for the ARM Manager to request to the ARM Configurator to import specific nodes from the regular map view into the offline planner.

REST Resource

```
POST <ARM_Configurator_IP>/ARM/v1/planning/node/{id}/import
POST <ARM_Configurator_IP>/ARM/v1/planning/node/import
{id} – database ID of the node
```

HTTP Method

POST

Supported Content-Type

application/json

HTTP Response

- 201 Created
- 500 Internal error
- 409 Conflict

10.5.3 Export Node

The `<ARM_Configurator_IP>/ARM/v1/planning/node/{id}/export` URL when used with the POST method provides the ability for the ARM Manager to request to the ARM Configurator to export specific nodes from the offline planner.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/planning/node/{id}/export
```

`{id}` – database ID of the node

HTTP Method

POST

Supported Content-Type

application/json

HTTP Response

- 202 Accepted
- 500 Internal error
- 409 Conflict.

10.5.4 Lock Node Action

The `<ARM_Configurator_IP>/ARM/v1/planning/node/{id}/lock` URL when used with the POST method provides the ability for the ARM Manager to request to the ARM Configurator to lock a node.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/planning/node/{id}/lock`
{id} – database ID of the node

HTTP Method

POST

Supported Content-Type

application/json

Note: For multiple lock operation Multi response JSON is returned with the appropriate HTTP response code for each element.

Attributes

The request MUST contain the Lock node request API MUST contain JSON data of the following argument:

Attribute	Type	Description
lock	string	1 = lock 0 = unlock

HTTP Response

- 201 Created
- 500 Internal error
- 409 Conflict

10.5.5 Lock Peer Connection Action

The <ARM_Configurator_IP>/ARM/v1/planning/node/{id}/lock URL when used with the POST method provides the ability for the ARM Manager to request to the ARM Configurator to lock a specific peer connection.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/planning/peerCon/{id}/lock
```

{id} – database ID of the peer connection

HTTP Method

POST

Supported Content-Type

application/json

Note: For multiple lock operation Multi response JSON is returned with the appropriate HTTP response code for each element.

Attributes

Lock node request API MUST contain JSON data of the following argument:

Attribute	Type	Description
lock	string	1=lock 0=unlock

HTTP Response

- 201 Created
- 500 Internal error
- 409 Conflict

11 Identity

This chapter describes the REST API resources for the LDAP/AZURE/UMP server. The following APIs are described:

- Get API
- Identity Create API
- Identity Update API

11.1 Get API

The `<ARM_Configurator_IP>/ARM/v1/identity/<ARM_attribute>` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve specific LDAP attributes for server, userGroup, users and user group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/identity/<ARM_attribute>  
<ARM_Configurator_IP>/ARM/v1/identity/<ARM_attribute>/{id}
```

Where:

- `<ARM_attribute>` requests all of the ids of the specified attribute (listed in the table below).
- `{id}` requests a specific ID of a specific attribute (listed in the table below) (irrelevant for device location).

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The ARM Configurator must respond to the Get request with JSON data that includes the request URI attribute. If the ID is not specified in the GET request, URI JSON data MUST contain an array of all specified elements defined in the database for the attribute.

The following attributes MUST be included:

Attribute	Type	Description
server	[{ id: Integer name: String status: serverStatus host: String port : Integer dn: String searchFilter: String }	serverStatus: 0 = AVAILABLE 1 = UNAVAILABLE syncIntervalMinutes (in minutes)

Attribute	Type	Description
	baseObject: String numOfUsers: Integer sslEnabled: boolean certificate: String timeout: Integer syncIntervalMinutes: Integer LastSyncTimestamp: String fullSyncHour: Integer fullSyncMinute: Integer fullSyncIntervallnDays: Integer lastFullSyncTimestamp: String type: Enum pageSize: Integer groupSearchFilter: String advancedSearchFilter: boolean fullGroupMembership: Boolean readTimeout: Integer dicAttrMapping : [{ dicAttrId: Integer dicAttrName: String aDAttrName: String normalizationGroup: Integer }] 	LastSyncTimeStamp and lastFullSyncTimestamp - UTC formatted string: "yyyy-mm-ddThh:mm:ss.mmmZ" Type: 0 = LDAP 1 = AZURE 2 = UMP
userGroup	[{ id: Integer name: String associatedDialable: String conditions: [{ dicAttrName: String operator: LogicalOperatorEnum values: [String	LogicalOperatorEnum: 0 = EQUALS 1 = NOT_EQUALS 2 = CONTAINS 3 = NOT_CONTAINS associatedDialable: name of dialable attribute

Attribute	Type	Description
	<pre>] }] }]</pre>	
user	<pre> { Id: long name: String origin: String groups: [groupId: String], dicAttributes: [{ local: boolean dicAttrId: Integer value: String }] }</pre>	<p>origin: "LOCAL" in case of local user or name of the AD in case of AD user dicAttributes are dynamic, according to the dictionary in the system</p>
user/count	Integer	Total number of users
user/export	CSV file	Export Users data to CSV file
users	<pre> { cursor: { before: Integer, after: Integer }, users: [{ Id: long name: String origin: String groups: [groupId: String], dicAttributes:</pre>	<p>origin: "LOCAL" in case of local user or name of the AD in case of AD user. dicAttributes are dynamic, according to the dictionary in the system</p> <p>cursor: before: Returns the index of the previous page (where 0 represents page 1). after: Returns the index of the next page (where 0 represents page 1).</p>

Attribute	Type	Description
	<pre>[{ local: boolean dicAttrId: Integer value: String }]</pre>	
dicAttribute	<pre>[{ Id: Integer name: String description: String primary: boolean defaultRemoteName: String local: boolean dialable: boolean }]</pre>	<p>defaultRemoteName: Remote Attribute to map dicAttribute to by default</p> <p>local: is attribute created to be "local" or already to be mapped to AD</p> <p>defaultRemoteName: To display this option in the Web interface (not mapped internally)</p>
fileRepository	<pre>[{ Id: Integer name: String status: FileRepositoryStatus delimiter: Character isFileHasHeaders: Boolean uniquePropertyId: Integer isNameUnique: Boolean nameFileMapping: String nameFileLocation: Integer numberOfUsers: Integer lastTimestamp: String description: String dicAttrMapping: [dicAttrId: Integer dicAttrName: String fileRepositoryAttrName: String fileRepositoryAttrLocation: Integer normalizationGroupId: Integer] }] "fileRepositorySyncSourceType": "FileRepositorySyncSourceType", "fileRepositorySchedulingAction": "FileRepositoryAction",</pre>	<p>FileRepositoryStatus:</p> <p>0 = INITIALIZING</p> <p>1 = ACTIVE</p> <p>2 = ERROR</p>

Attribute	Type	Description
	<pre>"syncIntervalHours": "Integer", "queryTimeout": "Integer", "localFileName": "String", "validateChecksum": "boolean", "azureStorageConnectionString": "String", "azureStorageContainer": "String", "azureStorageBlob": "String" }]</pre>	
location	<pre>{ matchingPropertyId: Integer locationPropertyId: Integer syncIntervalMinutes: Integer fullSyncHour: Integer fullSyncMinute: Integer fullSyncIntervalInDays: Integer lastSyncTimestamp: Long lastFullSyncTimestamp: Long enabled: Boolean }</pre>	

HTTP Response

- 409 Conflict – ID does not exist.
- 200 OK – if at least one resource is found.
- 204 No Content Response.

11.1.1 Get Filter API

The

<ARM_Configurator_IP>/ARM/v1/identity/user?filter=(searchString~Alex,origin=1;2) URL when used with the GET method provides the ability for the ARM Manager to send a request to the ARM Configurator to filter specific requests. The filter should be added to the suffix of the URL, for example:

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/identity/user?filter=(searchString~Alex,origin=1;2)
```

Supported Content-Type

application/json

HTTP Method

GET

Attributes

Filter	Available for these Requests	Description
name	user	Filters only the user name column (Contains ~)
limit	user, file repository	Limits the number of result items that can be retrieved. For example, 100 items.
before	user, file repository	Specifies the page index for which to retrieve items.
after	user, file repository	Specifies the page index for which to retrieve items.
userGroup	user	Filters according to the user group ID (Equals =)
searchString	user	Filters according to any attribute of the user (Contains ~)
origin	user	Filters according to the LDAP server ID, -1 for local, can have multiple values (Equals =)
sort	user	Sorts the results according to the column name that was sent. If "-" was sent in the beginning, descending order will be used. For example &sort=name &sort=-Country Note: if "origin" is used, ARM will sort by the server ID and not in alphabetical order.

HTTP Response

- 200 OK – at least one resource is found.
- 204 No Content Response.

11.2 Identity Create API

This section describes the Identity Create API for creating an LDAP/Azure/UMP server for managing server users.

11.2.1 Server Create API

The <ARM_Configurator_IP>/ARM/v1/identity/server URL when used with the POST method sends a request to the ARM Configurator to create an LDAP/Azure/UMP server.

REST Resource

<ARM_Configurator_IP>/ARM/v1/identity/server

Supported Content-Type

application/json

HTTP Method

POST

Attributes

Attribute	Type	Description
name	String	A unique name for the server (if the name is not unique, 409 Conflict is returned).
password	String	The password of the LDAP server. The client secret of the AZURE server.
host	String	The name of the LDAP/UMP server host. The tenant id of the Azure server.
port	Integer	The LDAP server port.
dn	String	The Distinguished Name of the LDAP server. The user name of the UMP.
searchFilter	String	The LDAP/Azure search filter.
baseObject	String	The LDAP base object.
sslEnabled	boolean	Determines whether SSL is enabled for the connection with the LDAP server. Determines whether HTTPS is enabled for the connection with the UMP server.
certificate	String	The certificate that secures the connection with the LDAP server.
syncIntervalMinutes	Integer	The interval time (in minutes) when partial synchronization is performed to retrieve users from the LDAP server. This operation retrieves users that have changed since the last partial sync was run. The interval time (in minutes) when full synchronization is performed to retrieve all users from UMP server.
fullSyncHour	Integer	The hour when full synchronization is performed to retrieve all users from the LDAP/Azure server.
fullSyncMinute	Integer	The minute in the hour when full synchronization is performed to retrieve all users from the LDAP/Azure server.
timeout	Integer	The timeout for connection with the server (in minutes).
fullSyncIntervalInDays	Integer	The interval time (in days) when full synchronization is performed to

Attribute	Type	Description
		retrieve all users from the LDAP/Azure server.
dicAttrMapping	[{ dicAttrId: Integer aDAttrName: String normalizationGroupId: Integer }]	The dictionary attribute mapping with the server.
type	Enum	0 = LDAP 1 = AZURE 2 = UMP
pageSize	Integer	The page size retrieved from the LDAP/AZURE server.
groupSearchFilter	String	The group search filter of the AZURE server.
advancedSearchFilter	boolean	Determines whether the advanced search filter is enabled for AZURE server.
fullGroupMembership	boolean	Determines whether the full group membership is enabled for AZURE server.
readTimeout	Integer	The timeout for query (in seconds).

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal Error

11.2.2 Server Test API

The <ARM_Configurator_IP>/ARM/v1/identity/server/test URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to test an LDAP/AZURE/UMP server.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/identity/server/test
```

HTTP Method

POST

Supported Content-Type

application/json

Request Attributes

Attribute	Type	Description
name	String	A unique name for the server (if the name is not unique, 409 Conflict is returned).
password	String	The password of the LDAP server. The client secret of the AZURE server.
host	String	The name of the LDAP/UMP server host. The tenant id of the AZURE server.
port	Integer	The LDAP server port.
dn	String	The Distinguished Name of the LDAP server. The user name of the UMP.
searchFilter	String	The LDAP/AZURE search filter.
baseObject	String	The LDAP base object.
sslEnabled	boolean	Determines whether SSL is enabled for the connection with the LDAP server. Determines whether HTTPS is enabled for the connection with the UMP server.
certificate	String	The certificate that secures the connection with the LDAP server.

Attribute	Type	Description
syncIntervalMinutes	Integer	<p>The interval time (in minutes) when partial synchronization is performed to retrieve users from the LDAP server. This operation retrieves users that have changed since the last partial sync was run.</p> <p>The interval time (in minutes) when full synchronization is performed to retrieve all users from the UMP server.</p>
fullSyncHour	Integer	The hour when full synchronization is performed to retrieve all users from the LDAP/AZURE server.
fullSyncMinute	Integer	The minute in the hour when full synchronization is performed to retrieve all users from the LDAP/AZURE server.
timeout	Integer	The timeout for connection with the server (in minutes).
fullSyncIntervalInDays	Integer	The interval time (in days) when full synchronization is performed to retrieve all users from the LDAP/AZURE server.
dicAttrMapping	<pre>[{ dicAttrId: Integer aDAttrName: String normalizationGroup: Integer }]</pre>	The dictionary attribute mapping with the server.
type	Enum	0 = LDAP 1 = AZURE 2 = UMP
pageSize	Integer	The page size retrieved from the LDAP/AZURE server.
groupSearchFilter	String	The group search filter of the Azure server.
advancedSearchFilter	boolean	Determines whether the advanced search filter is enabled for Azure server.
fullGroupMembership	boolean	Determines whether the full group membership is enabled for Azure server.

Response Attributes

The following attributes MUST be included in the response:

Attribute	Type	Description
connectionStatus	String	Status of the connection with the server.
availableAttributes	[{ availableAttribute: String }]	Attributes available in this server that can be used as attribute mappings.

HTTP Response

- 201 Created
- 409 Conflict

11.2.3 User Group Create API

The <ARM_Configurator_IP>/ARM/v1/identity/userGroup URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create an LDAP User Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/identity/userGroup
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	The unique name of the LDAP server user group. If the name is not unique, 409 CONFLICT is returned.
associatedDialable	String	Dialable property associated with the user group. The User Group must have an associated dialable property, otherwise, a 409 CONFLICT is returned.
conditions	[{ dicAttrName: String operator: LogicalOperatorEnum values: [String] }]	LogicalOperatorEnum: 0 = EQUALS 1 = NOTEQUALS 2 = CONTAINS 3 = NOT_CONTAINS

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal Server Error

11.2.4 UserGroup Dry Run API

The `<ARM_Configurator_IP>/ARM/v1/identity/userGroup/dryRun` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to verify which LDAP users are suitable for a specific LDAP User Group before the User Group is generated.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/identity/userGroup/dryRun`

HTTP Method

POST

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
name	String	The Unique name of the user group. If the name is not unique, the 409 CONFLICT is returned.
associatedDialable	String	Dialable property associated with the user group. The User Group must have an associated dialable property, otherwise, a 409 CONFLICT is returned.
conditions	<pre>[{ dicAttrName: String operator: LogicalOperatorEnum values: [String] }</pre>	LogicalOperatorEnum: 0 = EQUALS 1 = NOTEQUALS 2 = CONTAINS 3 = NOT_CONTAINS

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal Server Error

A filter should be added to the suffix of the URL, for example:

Filter Example

```
GET
<ARM_Configurator_IP>/ARM/v1/identity/userGroup/dryRun?filter=(searchString~A)
```

Filter	Available for these Requests	Description
searchString	user	Filters according to any attribute of the user (Contains ~).
limit	user	Limit the number of the results
before	user	Returns all the events prior to this ID (larger than this ID).
after	user	Returns all the events after this ID (smaller than this ID).
sort	user	Sorts the result.

11.2.5 User Create API

The `<ARM_Configurator_IP>/ARM/v1/identity/user` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create an LDAP user.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/identity/user`

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	
dicAttributes	[{ dicAttrId: Integer value: String }]	Dynamic JSON constructed according to dicAttributes. If dicAttrId does not exist, 409 CONFLICT status is returned.

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal Error

11.2.6 Dictionary Attribute Create API

The <ARM_Configurator_IP>/ARM/v1/identity/dicAttribute URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create a Property Dictionary (for mapping with the AD objects) in the UI.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/identity/dicAttribute
```

HTTP Method

```
POST
```

Supported Content-Type

```
application/json
```

Attributes

Attribute	Type	Description
dicAttribute	<pre>{ name: String description: String dialable: boolean primary: boolean defaultRemoteName: String }</pre>	<p>The unique name of the dictionary attribute. If the name is not unique, 409 CONFLICT status is returned.</p> <p>defaultRemoteName: The default mapping of this property in the LDAP server.</p>

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal Error

11.2.7 File Repository Create API

The <ARM_Configurator_IP>/ARM/v1/identity/ fileRepository URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create a File Repository (for mapping with the AD objects) in the ARM Web interface.

REST Resource

<ARM_Configurator_IP>/ARM/v1/identity/fileRepository

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	Indicates the unique name for file repositories. If the name is not unique, 409 CONFLICTED status is returned.
status	Integer	Indicates the status of the File Repository as indicated in the adjacent column. FileRepositoryStatus: 0 = INITIALIZING 1 = ACTIVE 2 = ERROR
delimiter	Character	Indicates the character used to separate entries in the File repository. This can be one of the following: ',', ';' or ' ').
isFileHasHeaders	boolean	Indicates whether the file contains headers in the first line.
uniquePropertyId	Integer	When the unique property of the user repository is a user dictionary attribute, indicates the ID of this unique attribute. If 'Name' is set as the unique attribute for the user repository, then this attribute is Null.

Attribute	Type	Description
isNameUnique	boolean	If the unique property is set to "Name", this attribute is TRUE. If the unique property is taken from the property dictionary, this attribute is FALSE.
nameFileMapping	String	File mapping for the "name" property.
nameFileLocation	Integer	Indicates the column location e.g. 3 indicates that the "Name" property is the third column in the file.
dicAttrMapping	[{ dicAttrId: Integer dicAttrName: String fileRepositoryAttrName: String fileRepositoryAttrLocation: Integer normalizationGroupId: Integer }]	Mapping of the dictionary attributes specified in the adjacent array.
fileRepositorySyncSourceType	FileRepositorySyncSourceType	0 = NO_SCHEDULING 1 = LOCAL_FILE_PATH 2 = AZURE_FILE_STORAGE
fileRepositorySchedulingAction	FileRepositoryAction	0 = AddAndUpdateUsers 1 = DeleteUsers 2 = FullSyncAllUsers
syncIntervalHours	Integer	Default value: 24 (hours)
queryTimeout	Integer	Only for Azure sync Default value: 120 (seconds)
localFileName	String	In case of local file sync, name of the csv file in '/home/armAdmin/' directory
validateChecksum	boolean	If checked, .txt file should be supplied, with the same name of the Repository File, that contains the 'sha256' checksum of the Repository File in the same directory (local/azure supported). Default value: false
azureStorageConnectionString	String	-
azureStorageContainer	String	-
azureStorageBlob	String	-

11.3 Identity Update API

This section describes the Identity Update API.

11.3.1 Server Update API

The `<ARM_Configurator_IP>/ARM/v1/identity/server/{id}` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update an LDAP/AZURE/UMP server.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/identity/server/{id}`

Where {id} is the element in the database.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	A unique name for the server (if the name is not unique, 409 Conflict is returned).
password	String	The password of the LDAP server. The client secret of the Azure server.
host	String	The name of the LDAP/UMP server host. The tenant id of the Azure server.
port	Integer	The LDAP server port.
dn	String	The Distinguished Name of the LDAP server. The user name of the UMP.
searchFilter	String	The LDAP/AZURE search filter.
baseObject	String	The LDAP base object.

Attribute	Type	Description
sslEnabled	boolean	Determines whether SSL is enabled for the connection with the LDAP server. Determines whether HTTPS is enabled for the connection with the UMP server.
certificate	String	The certificate that secures the connection with the LDAP server.
syncIntervalMinutes	Integer	The interval time (in minutes) when partial synchronization is performed to retrieve users from the LDAP server. This operation retrieves users that have changed since the last partial sync was run. The interval time (in minutes) when full synchronization is performed to retrieve all users from the UMP server.
fullSyncHour	Integer	The hour when full synchronization is performed to retrieve all users from the LDAP/AZURE server.
fullSyncMinute	Integer	The minute in the hour when full synchronization is performed to retrieve all users from the LDAP/AZURE server.
timeout	Integer	The timeout for connection with the server (in minutes).
fullSyncIntervallnDays	Integer	The interval time (in days) when full synchronization is performed to retrieve all users from the LDAP/AZURE server.
dicAttrMapping	[{ dicAttrId: Integer	The dictionary attribute mapping with the server.

Attribute	Type	Description
	<pre> aDAttrName: String normalizationGroup: Integer }]</pre>	
type	Enum	0 = LDAP 1 = AZURE 2 = UMP
pageSize	Integer	The page size retrieved from the LDAP/AZURE server.
groupSearchFilter	String	The group search filter of the AZURE server.
advancedSearchFilter	boolean	Determines whether the advanced search filter is enabled for AZURE server.
fullGroupMembership	boolean	Determines whether the full group membership is enabled for AZURE server.
readTimeout	Integer	The timeout for query (in seconds).

HTTP Response

- 200 OK
- 409 Conflict status for non-existing ID

11.3.2 User Group Update API

The <ARM_Configurator_IP>/ARM/v1/identity/userGroup/{id} URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update an Identity User Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/identity/userGroup/{id}
```

Where {id} is the element in the database.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	The unique name of the LDAP user group. If the name is not unique, 409 CONFLICT is returned
associatedDialable	String	Dialable property associated with the user group. The User Group must have an associated dialable property, otherwise, a 409 CONFLICT is returned.
conditions	[{ dicAttrName: String operator: LogicalOperatorEnum values: [value:String] }]	LogicalOperatorEnum: 0 = EQUALS 1 = NOTEQUALS 2 = CONTAINS 3 = NOT_CONTAINS

HTTP Response

- 200 OK
- 409 Conflict for non-existing ID.

11.3.3 User Update API

The `<ARM_Configurator_IP>/ARM/v1/identity/user/{id}` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update an Identity user.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/identity/user/{id}
```

Where {id} is the element in the database.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	
dicAttributes	[{ dicAttrId: Integer value : String }]	Dynamic JSON constructed according to dictionary attributes. Validation: it is not possible to define attributes for a remote user which are part of the mapping between the dictionary and the user's AD. If this occurs, 409 CONFLICT is returned.

HTTP Response

- 200 OK
- 409 Conflict for non-existing ID

11.3.4 Dictionary Attribute Update API

The <ARM_Configurator_IP>/ARM/v1/identity/dicAttribute/{id} URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a Dictionary attribute.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/identity/dicAttribute/{id}
```

Where {id} is the element in the database.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	The unique name for the dictionary attribute. If the name is not unique, 409 CONFLICT is returned.
description	String	The description of the dictionary attribute.
dialable	boolean	Indicates whether the LDAP AD property is 'dialable'.
primary	boolean	Indicates whether to display the 'primary' property in the user's screen.

HTTP Response

- 200 OK
- 409 Conflict for non-existing ID

11.3.5 File Repository Update API

The `<ARM_Configurator_IP>/ARM/v1/identity/fileRepository/{id}` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a specific File Repository attribute.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/identity/ fileRepository/{id}`

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	Indicates the unique name for the file repository. If not, 409 CONFLICTED status returned.
status	Integer	Indicates the status of the file repository as specified in the adjacent column. FileRepositoryStatus: 0 = INITIALIZING 1 = ACTIVE 2 = ERROR
delimiter	Character	Indicates the character used to separate entries in the File repository. This can be one of the following: ',', ';' or ' ').
isFileHasHeaders	boolean	Indicates whether the file contains headers in the first line.
uniquePropertyId	Integer	If the unique property is set to "Name", this attribute is TRUE. If the unique property is taken from the property dictionary, this attribute is FALSE.
isNameUnique	boolean	If the unique property is set to "Name", this attribute is TRUE.

Attribute	Type	Description
		If the unique property is taken from the property dictionary, this attribute is FALSE.
nameFileMapping	String	File mapping for the “name” property.
nameFileLocation	Integer	Indicates the column location e.g. 3 indicates that the “Name” property is the third column in the file.
dicAttrMapping	[{ dicAttrId: Integer dicAttrName: String fileRepositoryAttrName: String fileRepositoryAttrLocation: Integer normalizationGroupId: Integer }]	Mapping of the dictionary attributes specified in the adjacent array
fileRepositoryAction	FileRepositoryAction	0 = AddAndUpdateUsers 1 = DeleteUsers 2 = FullSyncAllUsers
fileRepositorySyncSourceType	FileRepositorySyncSourceType	0 = NO_SCHEDULING 1 = LOCAL_FILE_PATH 2 = AZURE_FILE_STORAGE
fileRepositorySchedulingAction	FileRepositoryAction	0 = AddAndUpdateUsers 1 = DeleteUsers 2 = FullSyncAllUsers
syncIntervalHours	Integer	Default value: 24 (hours)
queryTimeout	Integer	Only for Azure sync Default value: 120 (seconds)
localFileName	String	In case of local file sync, name of the csv file in ‘/home/armAdmin/’ directory
validateChecksum	boolean	If checked, .txt file should be supplied, with the same name of the Repository File, that contains the ‘sha256’ checksum of the Repository File in the same directory (local/azure supported). Default value: false
azureStorageConnectionString	String	-
azureStorageContainer	String	-
azureStorageBlob	String	-

11.3.6 Device Location Update API

The <ARM_Configurator_IP>/ARM/v1/identity/location URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a device location.

REST Resource

<ARM_Configurator_IP>/ARM/v1/identity/location

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
matchingPropertyId	Integer	The id of the dictionary property to be matched against the OVOC phone number field
locationPropertyId	Integer	The id of the dictionary property for the location
syncIntervalMinutes	Integer	
fullSyncHour	Integer	
fullSyncMinute	Integer	
fullSyncIntervalInDays	Integer	
enabled	boolean	Default value: true

11.4 Identity Delete API

This section describes the Delete API.

11.4.1 Server Delete API

The `<ARM_Configurator_IP>/ARM/v1/identity/server/{id}` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete an Identity server. When deleting the server, all its users' local attributes are also deleted.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/identity/server/{id}
```

Where {id} is the element in the database.

HTTP Method

DELETE

HTTP Response

409 Conflict for non-existing ID.

11.4.2 User Group Delete API

The `<ARM_Configurator_IP>/ARM/v1/identity/userGroup/{id}` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a User Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/identity/userGroup/{id}
```

Where {id} is the element in the database.

HTTP Method

DELETE

Supported Content-Type

application/json

HTTP Response

409 Conflict status when trying to delete a User Group with associated Routing Rules.

11.4.3 User Delete API

The `<ARM_Configurator_IP>/ARM/v1/identity/user/{id}` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a user.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/identity/user/{id}
```

Where {id} is the element in the database.

For multiple delete:

```
<ARM_Configurator_IP>/ARM/v1/identity/user?filter=(id=id1;id2;...)
```

The response will be a multi-response JSON with the appropriate response code for each request ID.

HTTP Method

DELETE

Supported Content-Type

application/json

HTTP Response

409 Conflict when trying to delete an AD user.

Attributes (Multi-delete)

Attribute	Type	Description
multiStatusJsonList	<pre>[{ status: Integer description: String id: Integer }]</pre>	<ul style="list-style-type: none">• Status: the http response code for this specific ID• Description: the description• Id: the ID of the object for this specific response

11.4.4 Dictionary Attribute Delete API

The <ARM_Configurator_IP>/ARM/v1/identity/dicAttribute/{id} URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a Dictionary attribute.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/identity/dicAttribute/{id}
```

Where {id} is the ID of the element in the database.

For multiple delete actions:

```
<ARM_Configurator_IP>/ARM/v1/identity/dicAttribute?filter=(id=id1;id2;...)
```

HTTP Method

DELETE

Supported Content-Type

application/json

Attributes (Multi-delete)

Attribute	Type	Description
multiStatusJsonList	[{ status: Integer description: String id: Integer }]	Status: the http response code for this specific ID Description: the description Id: the ID of the object for this specific response

HTTP Response

The response will be a multi-response JSON with one of the following response codes for each ID that is sent:

- 409 Conflict
- 500 Internal Error

11.4.5 File Repository Delete API

The `<ARM_Configurator_IP>/ARM/v1/identity/fileRepository/{id}` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a specific File Repository.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/identity/fileRepository/{id}`

HTTP Method

DELETE

Supported Content-Type

application/json

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12 Statistics REST API

This chapter describes the REST API resources for ARM statistics.

12.1 Get Report API

ARM provides an API for retrieving reports.

REST Resource

```
<ARM_Configurator_IP>/v1/statistics/report/<report_identifier>?filter=(dateType=RANGE,startDate=1542492000,endDate=1542578340,statistics=SOURCE_CALL_ATLTERNATIVE_ROUTING_ATTEMPTS )
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

filter	Type	Description
reportIdentifier <report_identifier> in the url	ReportIdentifier	ReportIdentifier: armOverTime, nodeOverTime, topNodes, topNodesOverTime, nodeStackedByPeerConnection, topNodesStckedByPeerConnection, peerConnectionOverTime, topPeerConnections, topPeerConnectionsOverTime, connectionOverTime, topConnections, topConnectionsOverTime, routerOverTime, topRouters, topRoutersOverTime, routingGroupOverTime, topRoutingGroups, topRoutingGroupsOverTime, routingGroupsStackedByRoutingRules, topRoutingGroupsStackedByRoutingRules, routingRuleOverTime, topRoutingRules, topRoutingRulesOverTime, routingRuleStackedByActions, topRoutingRulesStackedByActions;
dateType	DateType	DateType: RANGE,

filter	Type	Description
		RELATIVE; Must
startDate	Long	unix time in seconds Must when DateType is <i>RANGE</i>
endDate	Long	unix time in seconds Must when DateType is <i>RANGE</i>
relativeTimeUnit	TimeUnit	TimeUnit: MONTH, WEEK, DAY, HOUR, MINUTE; Must when DateType is <i>RELATIVE</i>
relativeTimeUnitValue	Integer	Must when DateType is <i>RELATIVE</i>
numberOfElements	Integer	
elements	[Integer]	IDs of selected elements.
statistics	Array of StatisticType	StatisticsType: SOURCE_CALL_1ST_ROUTING_ATT EMPTS, SOURCE_CALL_ATLTERNATIVE_RO UTING_ATTEMPTS, SOURCE_CALL_FAILED_ROUTING_A TTEMPTS, SOURCE_CALL_DISCARD_ROUTING _ATTEMPTS, DESTINATION_CALL, TRANSIENT_CALL,ss ROUTING_RULE_ACTION_1ST_MATC H, ROUTING_RULE_ACTION_2ND_MAT CH, ROUTING_RULE_ACTION_3RD_MAT CH, SOURCE_CALL_DROP_ROUTING_RE QUEST, ROUTING_RULE_ACTION_TRY, ROUTING_RULE_ACTION_FAIL, NO_MATCH_RULE; Must
overTimeGraphType	OverTimeGraphType	OverTimeGraphType: MULTUPLE_STATISTICS, MULTUPLE_ELEMENTS; Must only in reports over time (except from ARM over time). Multiple statistics- means few statistics on one element.

filter	Type	Description
		Multiple elements – means few elements on one statistic.

Response:

Attribute	Type	Description
data	<pre>{ "startDate": Long, "interval": Integer, "series": [{ "elementName": String, "statisticName": String, "data": [{ "name": String, "id": Integer, "y": Long }] }] }</pre>	<p>Interval should be in seconds.</p> <p>The order in series. Data list is important in case of over time graph.</p> <p>The first point in the data array representing the start date and each point after it is the previous date + interval.</p>
title	String	
Subtitle	String	
graphType	GraphType	GraphViewType: COLUMN, LINE, STACKED_COLUMN;
preferences		This is in case we will want to add more information in the future.

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

12.1.1 Top Routes Statistics

The `<ARM_Configurator_IP>/ARM/v1/performanceMonitoring/topRoutes?filter=(startTime={startTime},endTime={endTime})` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve top routes. Top routes represent the busiest routes for a period of time.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/performanceMonitoring/topRoutes?
filter=(startTime={startTime},endTime={endTime})
{ startTime } - unix time (seconds)
{ endTime } - unix time (seconds)
```

HTTP Method

GET

Supported Content-Type

application/json

Response Attributes

Attribute	Type	Description
Top Routes	ARRAY OF: <pre>[{ startTime: integer endTime: integer startTimeTs: String endTimeTs: String dataValid: boolean routes: [{ route: String srcNode: integer srcPeerConnection: integer destNode: integer (optional) destPeerConnection: integer (optional) hits: integer edges:[(optional) { connSrcNode: integer connDestNode: integer connectionId: integer</pre>	The query elements for the node upon which the data is collected.

Attribute	Type	Description
	<pre>}] }] }]</pre>	

12.1.1.1 Filter

The statistics API requires using a filter to control the size and content of the data. The filter should be added to the suffix of the URL, for example:

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/
performanceMonitoring/topRoutes?filter=(startTime={startTime},endTime={endTime}mmaxRoutes={max routes})
```

HTTP Method

GET

Supported Content-Type

application/json

Response Attributes

Filter	Available for these requests	Description
startTime	For all resources	Results data timestamp beginning from startTime. Where startTime is the unix time in seconds.
endTime	For all resources	Results data timestamp ending by endTime. Where endTime is the unix time in seconds.
maxRoutes	For all resources	The maximum number of routes to return.

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

13 Thresholds

13.1 Get API

13.1.1 Get Threshold Structure API

The <ARM_Configurator_IP>/ARM/v1/statistics/threshold/structure ARM when used with the GET method allows the operator to send a request to the ARM Configurator to retrieve the Threshold Structure API.

REST Resource

<ARM_Configurator_IP>/ARM/v1/statistics/threshold/structure

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The following attributes MUST be included:

Attribute	Type	Description
elementType	StatElementType	StatElementType: arm router node pcon connection routingRuleAction topRoutes routingRule routingGroup callsQuota resourceGroup customer voipPeer
eventName	String	
supportedStatistics	ARRAY OF: [StatisticsTypes:

Attribute	Type	Description
	<pre> { statisticTypes: StatisticsTypes statisticName: String statisticName: ReportIdentifier }]</pre>	<p> SOURCE_CALL_1ST_ROUTING_ATTEMPTS SOURCE_CALL_ATLTERNATIVE_ROUTING_ATTEMPTS SOURCE_CALL_FAILED_ROUTING_ATTEMPTS SOURCE_CALL_DISCARD_ROUTING_ATTEMPTS DESTINATION_CALL TRANSIENT_CALL ROUTING_RULE_ACTION_1ST_MATCH ROUTING_RULE_ACTION_2ND_MATCH ROUTING_RULE_ACTION_3RD_MATCH HITS SOURCE_CALL_DROP_ROUTING_REQUEST ROUTING_RULE_ACTION_TRY ROUTING_RULE_ACTION_FAIL NO_MATCH_RULE REGISTRATION_ROUTED REGISTRATION_UNROUTED REGISTRATION_BLOCKED LAST SESSION_COUNT_AVERAGE SESSION_COUNT_MIN SESSION_COUNT_MAX ACCUMULATED_DURATION SESSION_INCOMING_AVERAGE SESSION_INCOMING_MIN SESSION_INCOMING_MAX SESSION_OUTGOING_AVERAGE SESSION_OUTGOING_MIN SESSION_OUTGOING_MAX SESSION_TOTAL_AVERAGE SESSION_TOTAL_MIN SESSION_TOTAL_MAX INCOMING_CAC OUTGOING_CAC COMBINED_CAC </p> <p>ReportIdentifier:</p> <p> armOverTime sessionOverTime nodeOverTime topNodes topNodesOverTime nodeStackedByPeerConnection topNodesStckedByPeerConnection peerConnectionOverTime </p>

Attribute	Type	Description
		topPeerConnections topPeerConnectionsOverTime connectionOverTime topConnections topConnectionsOverTime routerOverTime topRouters topRoutersOverTime routingGroupOverTime topRoutingGroups topRoutingGroupsOverTime routingGroupsStackedByRoutingRules topRoutingGroupsStackedByRoutingRules routingRuleOverTime topRoutingRules topRoutingRulesOverTime routingRuleStackedByActions topRoutingRulesStackedByActions quotaOverTime quotaPeerConnectionOverTime quotaResourceGroupOverTime quotaResourceGroupByPeerConnection customerSessionsOverTime peerConnectionSessionOverTime voipPeerSessionOverTime

HTTP Response

- For a non-existent Id returns 409 CONFLICT status
- For a successful retrieval returns 200 OK response if at least one resource is found.
- Otherwise returns 204 No response.

13.1.2 Get Thresholds API

The `<ARM_Configurator_IP>/ARM/v1/statistics/threshold` URL when used with the GET method allows the ARM Operator to send a request to the ARM Configurator to retrieve the Thresholds API or a specific threshold.

REST Resource

```
GET <ARM_Configurator_IP>/ARM/v1/statistics/threshold
```

```
GET <ARM_Configurator_IP>/ARM/v1/statistics/threshold/{id}
```

HTTP Method

```
GET
```

Supported Content-Type

```
application/json
```

Attributes

The following attributes MUST be included:

Attribute	Type	Description
id	Integer	
isEnabled	Boolean	
name	String	
alarmSeverity	AlarmSeverity	AlarmSeverity: Cleared indeterminate warning minor major critical
elementType	StatElementType	StatElementType: arm router node pcon connection routingRuleAction topRoutes routingRule routingGroup callsQuota

Attribute	Type	Description
		resourceGroup customer voipPeer
allElements	Boolean	
elementsIds	ARRAY OF Integers: [Integer]	
thresholds	ARRAY OF: [{ id: Integer statisticType: StatisticTypes lowWatermark: Integer highWatermark: Integer alarmsCount: Integer }]	StatisticsTypes: SOURCE_CALL_1ST_ROUTING_ATTEMPTS SOURCE_CALL_ATLTERNATIVE_ROUTING_ATTEMPTS SOURCE_CALL_FAILED_ROUTING_ATTEMPTS SOURCE_CALL_DISCARD_ROUTING_ATTEMPTS DESTINATION_CALL TRANSIENT_CALL ROUTING_RULE_ACTION_1ST_MATCH ROUTING_RULE_ACTION_2ND_MATCH ROUTING_RULE_ACTION_3RD_MATCH HITS SOURCE_CALL_DROP_ROUTING_REQUEST ROUTING_RULE_ACTION_TRY ROUTING_RULE_ACTION_FAIL NO_MATCH_RULE REGISTRATION_ROUTED REGISTRATION_UNROUTED REGISTRATION_BLOCKED LAST SESSION_COUNT_AVERAGE SESSION_COUNT_MIN SESSION_COUNT_MAX ACCUMULATED_DURATION SESSION_INCOMING_AVERAGE SESSION_INCOMING_MIN SESSION_INCOMING_MAX SESSION_OUTGOING_AVERAGE SESSION_OUTGOING_MIN SESSION_OUTGOING_MAX SESSION_TOTAL_AVERAGE SESSION_TOTAL_MIN SESSION_TOTAL_MAX INCOMING_CAC OUTGOING_CAC COMBINED_CAC

HTTP Response

- {id} – id of the threshold rule
- For a non-existent Id returns 409 CONFLICT status
- For successful retrieval returns 200 OK response if at least one resource is found.
- Otherwise returns 204 No response.

13.2 Create API

The `<ARM_Configurator_IP>/ARM/v1/statistics/threshold` when used with POST method allows an ARM operator to send a request to the ARM Configurator to create a threshold.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/statistics/threshold`

HTTP Method

POST

Supported Content-Type

application/json

Attributes

The following attributes MUST be included:

Attribute	Type	Description
isEnabled	Boolean	
name	String	
alarmSeverity	AlarmSeverity	AlarmSeverity: Cleared indeterminate warning minor major critical
elementType	StatElementType	StatElementType: arm router node pcon connection routingRuleAction

		topRoutes routingRule routingGroup callsQuota resourceGroup customer voipPeer
allElements	Boolean	
elementsIds	ARRAY OF Integers: [Integer]	
thresholds	ARRAY OF: [{ id: Integer statisticType: StatisticTypes lowWatermark: Integer highWatermark: Integer alarmsCount: Integer }]	StatisticsTypes: SOURCE_CALL_1ST_ROUTING_ATTEMPTS SOURCE_CALL_ATLTERNATIVE_ROUTING_ATTEMPTS SOURCE_CALL_FAILED_ROUTING_ATTEMPTS SOURCE_CALL_DISCARD_ROUTING_ATTEMPTS DESTINATION_CALL TRANSIENT_CALL ROUTING_RULE_ACTION_1ST_MATCH ROUTING_RULE_ACTION_2ND_MATCH ROUTING_RULE_ACTION_3RD_MATCH HITS SOURCE_CALL_DROP_ROUTING_REQUEST ROUTING_RULE_ACTION_TRY ROUTING_RULE_ACTION_FAIL NO_MATCH_RULE REGISTRATION_ROUTED REGISTRATION_UNROUTED REGISTRATION_BLOCKED LAST SESSION_COUNT_AVERAGE SESSION_COUNT_MIN SESSION_COUNT_MAX ACCUMULATED_DURATION SESSION_INCOMING_AVERAGE SESSION_INCOMING_MIN SESSION_INCOMING_MAX SESSION_OUTGOING_AVERAGE SESSION_OUTGOING_MIN SESSION_OUTGOING_MAX SESSION_TOTAL_AVERAGE SESSION_TOTAL_MIN SESSION_TOTAL_MAX INCOMING_CAC OUTGOING_CAC

		COMBINED_CAC
--	--	--------------

HTTP Response

- If completed successfully returns "201 Created"
- If an operation fails, an error response is returned

13.3 Update API

The `<ARM_Configurator_IP>/ARM/statistics/threshold/{id}` when used with the POST method allows the ARM operator to send a request to the ARM Configurator to update a specific Threshold.

REST Resource

```
<ARM_Configurator_IP>/ARM/statistics/threshold/{id}
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

The following attributes MUST be included:

- {id} – Threshold id

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
isEnabled	Boolean	
name	String	
alarmSeverity	AlarmSeverity	AlarmSeverity: Cleared indeterminate warning minor major critical

Attribute	Type	Description
elementType	StatElementType	StatElementType: arm router node pcon connection routingRuleAction topRoutes routingRule routingGroup callsQuota resourceGroup customer voipPeer
allElements	Boolean	
elementsIds	ARRAY OF Integers: [Integer]	
thresholds	ARRAY OF: [{ id: Integer statisticType: StatisticTypes lowWatermark: Integer highWatermark: Integer alarmsCount: Integer }]	StatisticsTypes: SOURCE_CALL_1ST_ROUTING_ATTEMPTS SOURCE_CALL_ATLTERNATIVE_ROUTING_ATTEMPTS SOURCE_CALL_FAILED_ROUTING_ATTEMPTS SOURCE_CALL_DISCARD_ROUTING_ATTEMPTS DESTINATION_CALL TRANSIENT_CALL ROUTING_RULE_ACTION_1ST_MATCH ROUTING_RULE_ACTION_2ND_MATCH ROUTING_RULE_ACTION_3RD_MATCH HITS SOURCE_CALL_DROP_ROUTING_REQUEST ROUTING_RULE_ACTION_TRY ROUTING_RULE_ACTION_FAIL NO_MATCH_RULE REGISTRATION_ROUTED REGISTRATION_UNROUTED REGISTRATION_BLOCKED LAST SESSION_COUNT_AVERAGE SESSION_COUNT_MIN SESSION_COUNT_MAX ACCUMULATED_DURATION SESSION_INCOMING_AVERAGE

Attribute	Type	Description
		SESSION_INCOMING_MIN SESSION_INCOMING_MAX SESSION_OUTGOING_AVERAGE SESSION_OUTGOING_MIN SESSION_OUTGOING_MAX SESSION_TOTAL_AVERAGE SESSION_TOTAL_MIN SESSION_TOTAL_MAX INCOMING_CAC OUTGOING_CAC COMBINED_CAC

13.4 Delete API

The `<ARM_Configurator_IP>/ARM/v1/statistics/threshold/{id}` URI when used with the DELETE method allows an operator to delete a specific threshold.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/statistics/threshold/{id}
```

HTTP Method

DELETE

Supported Content-Type

application/json

Attributes

- {id} – Threshold id

HTTP Response

- Response status: 200 OK

14 Alarms History

This chapter describes the REST API resources for the Alarms History.

14.1 Get API

The `<ARM_Configurator_IP>/ARM/v1/alarms/history` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve alarm events.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/alarms/history  
<ARM_Configurator_IP>/ARM/v1/alarms/history/{id}
```

Where {id} is the ID of a specific event.

HTTP Method

GET

Supported Response Attributes

The following attributes MUST be included:

Attribute	Type	Description
id	Integer	The internal ID of the alarm in the database.
alarmDateAndTime	Date	The time that the ARM Configurator raised the alarm. In the following format: 2010-03-01T22:38:37.000Z (UTC time)
name	String	The name of the alarm For example: "Operation status changed"
alarmSource	String	The source of the alarm
alarmSeverity	Integer	The alarm severity: 0 = cleared 1 = indeterminate 2 = warning 3 = minor 4 = major 5 = critical
alarmType	Integer	The alarm type: 0 = other 1 = communicationsAlarm 2 = qualityOfServiceAlarm 3 = processingErrorAlarm 4 = equipmentAlarm 5 = environmentalAlarm

Attribute	Type	Description
		6 = integrityViolation 7 = operationalViolation 8 = physicalViolation 9 = securityServiceOrMechanismViolation 10 = timeDomainViolation
alarmProbCause	Integer	The probable cause of the alarm.
alarmTextualDescription	String	The text description of the alarm.
alarmAddInfo1	String	The additional information for the alarm received in the AddInfo1 field.
alarmAddInfo2	String	The additional information for the alarm received in the AddInfo2 field.
alarmAddInfo3	String	The additional information for the alarm received in the AddInfo3 field.
nodeId	Integer	The ID of the node where the alarm is raised.
routingInterfaceId	Integer	The routing interface ID of the alarm.
alarmUniqId	Integer	The internal ID of the alarm in the database.
isAlarm	Boolean	Indicates whether an alarm or an event.
clearedBy	Integer	Indicates which event cleared the alarm (Optional)

HTTP Response

- 409 Conflict
- 200 OK response if at least one resource is found.
- Otherwise returns a 204 No Content Response

14.1.1 Get Filter API

There is a possibility to use filter for specific types of requests. The filter should be added to the suffix of the URL, for example:

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/alarms/history?filter=(severity=minor)
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Filter	Operation	Description
searchString	contains	The search string for the filter query. Results are retrieved only if the provided string is part of the following columns values (or operation between columns): name, source, description
name	Equals or contains	The name of the alarm specified in the filter query. Results are retrieved only if the names specified in the filter is matched.
source	contains	The alarm source specified in the filter query. The result includes only alarms whose source contains the source string defined in the filter (the source in the filter if part of the source string in the alarm).
description	contains	The alarm description specified in the filter query. Results are retrieved only if the part of the description specified in the filter is matched.
severity	equals	The severity specified in the filter query. Results are retrieved only if the part of the severity

Filter	Operation	Description
		specified in the filter is matched.
startDate	equals	The start date for the filter query. Results are retrieved only if the actual startDate is larger or equal to the startDate specified in the filter.
endDate	equals	The end date for the filter query. Results are retrieved only if the actual endDate is less or equal to the endDate specified in the filter.
isAlarm	equals	Whether the History view shows alarms or events. By default, both alarms and events are displayed.

14.1.2 Cursor API

Filter	Operation	Description
before	Return the latest alarms	Returns all the alarms before this ID (larger than this ID).
after	Return the oldest alarms	Returns all the alarms after this ID (smaller than this ID).
limit	Limits the number of retrieved alarms for analysis purposes	Limits the number of results.

HTTP Response

- 200 OK response if at least one resource is found.
- 204 No Content Response

14.1.3 Get Event Count API

The `<ARM_Configurator_IP>/ARM/v1/alarms/history/count` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the number of history alarms.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/alarms/history/count
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The following attributes MUST be included:

Attribute	Type	Description
SeverityCount	ARRAY OF: <pre>[{ type: AlarmSeverity, count: Long }]</pre>	AlarmSeverity: <ul style="list-style-type: none"> cleared indeterminate warning minor major critical

Note: The absence of a count record for a specific severity, implies that there are no alarms for this type.

Cursor API

Filter	Operation	Description
before	Return the latest alarms	Returns all the events before this ID (larger than this ID).
after	Return the oldest alarms	Returns all the events after this ID (smaller than this ID).
limit	Limit the number of retrieved alarms for analysis purposes.	Limits the number of the results.

HTTP Response

- 200 OK response if at least one resource is found
- 204 No Content Response

15 Active Alarms

This chapter describes the REST API resources for the Active Alarms.

15.1 Get API

The `<ARM_Configurator_IP>/ARM/v1/alarms/active` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve a list of active alarms or a specific alarm event.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/alarms/active  
<ARM_Configurator_IP>/ARM/v1/alarms/active/{id}
```

Where {id} is the ID of the requested event.

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The following attributes MUST be included:

Attribute	Type	Description
id	Integer	The internal ID of the alarm in the database.
alarmDateAndTime	Date	The time and date that the ARM Configurator raised the alarm. In the following format: 2010-03-01T22:38:37.000Z (UTC time)
name	String	The name of the alarm For example: "Operation status changed"
alarmSource	String	The source of the alarm
alarmSeverity	Integer	The alarm severity
alarmType	Integer	The alarm type
alarmProbCause	Integer	The probable cause of the alarm.

Attribute	Type	Description
alarmTextualDescription	String	The text description of the alarm.
alarmAddInfo1	String	The additional information for the alarm received in the AddInfo1 field.
alarmAddInfo2	String	The additional information for the alarm received in the AddInfo2 field
alarmAddInfo3	String	The additional information for the alarm received in the AddInfo3 field
nodeId	Integer	The ID of the node where the alarm is raised.
routingInterfaceId	Integer	The routing interface ID of the alarm.
alarmUniqId	Integer	The internal ID of the alarm in the database.
isAlarm	Boolean	Indicates whether this is an alarm.
clearedBy	Integer	(Optional) Indicates which event was cleared by the alarm.

HTTP Response

- 409 Conflict
- 200 OK response if at least one resource is found
- Otherwise returns a 204 No Content Response

15.1.1 Get Filter API

You can use a filter for specific requests. The filter should be added to the suffix of the URL, for example:

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/alarms/active?filter=(severity=minor)
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Filter	Operation	Description
searchString	contains	The search string for the filter query. Results are retrieved only if the provided string is part of the following columns values (or operation between columns): name, source, description
name	equals or contains	The name of the alarm specified in the filter query. Results are retrieved only if the names specified in the filter is matched.
source	contains	The alarm source specified in the filter query. Results are retrieved only if the part of the alarm source specified in the filter is matched.
description	contains	The alarm description specified in the filter query. Results are retrieved only if the part of the description specified in the filter is matched.
severity	equals	The severity specified in the filter query. Results are retrieved only if the part of the severity specified in the filter is matched.
startDate	equals	The start date for the filter query. Results are retrieved only if the actual startDate is larger or equal to the startDate specified in the filter.
endDate	equals	The end date for the filter query. Results are retrieved only if the actual endDate is less or equal to the endDate specified in the filter.
isAcknowledged	equals	Return only if the alarm was acknowledged by the operator.

15.1.2 Cursor API

Filter	Operation	Description
before	Return the latest alarms	Returns all the events before this ID (larger than this ID).
after	Return the oldest alarms	Returns all the events after this ID (smaller than this ID).
limit	Limit the number of retrieved alarms for analysis purposes.	Limits the number of the results.

HTTP Response

- 200 OK response if at least one resource is found
- 204 No Content Response

15.1.3 Get Alarm Count API

The `<ARM_Configurator_IP>/ARM/v1/alarms/active/count` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the number of active alarms.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/alarms/active/count`

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The following attributes MUST be included:

Attribute	Type	Description
SeverityCount	ARRAY OF: [{ type: AlarmSeverity, count: Long }]	AlarmSeverity: <ul style="list-style-type: none">• cleared• indeterminate• warning• minor• major• critical

HTTP Response

- 200 OK response if at least one resource is found

Note: The absence of a count record for a specific severity, implies that there are no alarms for this type.

15.2 Update API

The <ARM_Configurator_IP>/ARM/v1/alarms/active/{id} URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update the Active alarms.

REST Resource

```
PUT <ARM_Configurator_IP>/ARM/v1/alarms/active/{id}
```

Where {id} is the ID of the requested event.

HTTP Method

```
PUT
```

Supported Content-Type

```
application/json
```

Attributes

The following attributes MUST be included:

Attribute	Type	Description
isAcknowledged	Boolean	Whether the alarm was acknowledged by the operator.

HTTP Response

- 409 Conflict in the absence of an ID
- 200 OK response if at least one resource is found.

16 Alarms Additional Info

This section describes the URLs for supporting the customization of information provided in notifications for call matching a specific rule (Routing Rule Match), usually applied for emergency calls such as 911 calls e.g. user name, building, floor, country or office branch name. This information is not part of the SIP INVITE message but can be added to the ARM users database and used for additional information in notifications.

16.1 Get Alarms Additional Info

The `<ARM_Configurator_IP>/ARM/v1/alarms/additionalInfo` and `<ARM_Configurator_IP>/ARM/v1/alarms/additionalInfo/{id}` URLs when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve Additional Info for all alarms or for a specific alarm.

REST Resource

```
GET <ARM_Configurator_IP>/ARM/v1/alarms/additionalInfo
GET <ARM_Configurator_IP>/ARM/v1/alarms/additionalInfo/{id}
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
id	Integer	The SNMP alarm OID
eventType	Integer	The event type
matchingProperty	MatchingProperty	MatchingProperty: 0 = SRC_URI_NAME 1 = SRC_URI_USER 2 = SRC_URI_HOST 3 = DST_URI_NAME 4 = DST_URI_USER 5 = DST_URI_HOST 6 = SRC_IP_FROM_LYNC
matchingMethod	MatchingMethod	MatchingMethod: 0 = FULL 1 = CONTAINS 2 = NETWORK_MASK

Attribute	Type	Description
matchedProperty	Integer	The property ID in the database.
template	String	The text contained in the additional info pattern.
isEnabled	Boolean	Indicates if this rule match\additional info is enabled
eventName	String	The event name

16.2 Test Alarms Additional Info

The <ARM_Configurator_IP>/ARM/v1/alarms/additionalInfo/test API when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to test alarms Additional Info.

REST Resource

<ARM_Configurator_IP>/ARM/v1/alarms/additionalInfo/test

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
eventType	Integer (default 15)	The event type
matchingProperty	MatchingProperty	MatchingProperty: 0 = SRC_URI_NAME 1 = SRC_URI_USER 2 = SRC_URI_HOST 3 = DST_URI_NAME 4 = DST_URI_USER 5 = DST_URI_HOST 6 = SRC_IP_FROM_LYNC
matchingMethod	MatchingMethod	MatchingMethod: 0 = FULL 1 = CONTAINS 2 = NETWORK_MASK
matchedProperty	Integer	The property ID in the data base.
template	String	Default value: "" (empty string)
eventName	String (default Routing Rule Match)	The event name
testValue	String	Test result for GET

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17 Syslog

This chapter describes the REST API resources for the Syslog server. The following APIs are described:

- Get API
- Create API
- Update SNMP Target API
- Delete API

17.1 Get API

The `<ARM_Configurator_IP>/ARM/v1/externals/syslog` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the entire syslog or a specific syslog record.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/externals/syslog  
<ARM_Configurator_IP>/ARM/v1/externals/syslog/{id}
```

Where:

{id} is the ID of the requested element.

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The following attributes MUST be included:

Attribute	Type	Description
syslog	ARRAY OF: [{ id: Integer host: String protocol: String enabled: Boolean sourceType: String level:String port:Integer, cdrFormat: CdrType }]	<ul style="list-style-type: none">■ Protocol: UDP or TCP■ Enabled : Whether the syslog is enabled• sourceType: the source of the syslog either TOPOLOGY(0) or ROUTER(1)• level: the detail level of the syslog, enum: TRACE,DEBUG,INFO,WARN,ERROR• CdrType enum: CDR_AS_CLEAR_TEXT, CDR_AS_JSON, BOTH

Attribute	Type	Description
	<pre> }]</pre>	

HTTP Response:

- 409 `Conflict` status for a non-existent ID.
- 200 `OK` response if at least one resource is found.

17.1.1 Get Filter

You can use a filter for specific requests. The filter should be added to the suffix of the URL, for example:

REST Resource

```
GET <ARM_Configurator_IP>/ARM/v1/externals/syslog?filter=(sourceType=ROUTER)
```

HTTP Method

`GET`

Supported Content-Type

`application/json`

Attributes

The following attributes **MUST** be included:

Filter	Available for these Requests	Description
sourceType	syslog	Returns the requested source type.

17.2 Create API

The `<ARM_Configurator_IP>/ARM/externals/syslog` URL when used with the POST method creates a syslog.

REST Resource

`<ARM_Configurator_IP>/ARM/externals/syslog`

HTTP Method

POST

Supported Content-Type

application/json

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
host	String	The IP address of the remote
port	Integer	Valid port number
protocol	String	Either UDP or TCP
enabled	Boolean	Whether the syslog is enabled or not
sourceType	String	The source of the syslog either TOPOLOGY(0) or ROUTER(1)
level	String	level: the detail level of the syslog, enum: TRACE,DEBUG,INFO,WARN,ERROR

HTTP Response

- 201 Created
- 409 Conflict status for a non-existent ID.
- 500 Internal error

17.3 Update API

The <ARM_Configurator_IP>/ARM/externals/syslog/ URL when used with the PUT method updates a Syslog record.

REST Resource

```
<ARM_Configurator_IP>/ARM/externals/syslog/{id}
```

HTTP Method

PUT

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
host	String	The IP address of the remote host
port	Integer	The valid port number.
protocol	String	The protocol: <ul style="list-style-type: none"> • UDP • TCP
enabled	Boolean	Whether the syslog is enabled
sourceType	String	The source of the syslog: <ul style="list-style-type: none"> 0 = TOPOLOGY 1 = ROUTER
level	String	The detailed level of the syslog, enum: TRACE,DEBUG,INFO,WARN,ERROR

HTTP Response

- 200 OK
- 409 Conflict status for a non-existent ID.
- 500 Internal error

17.4 Delete API

The `<ARM_Configurator_IP>/ARM/v1/externals/syslog/{id}` URL enables you to delete a syslog.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/externals/syslog/{id}
```

HTTP Method

DELETE

Supported Content-Type

application/json

HTTP Response

200 OK response if at least one resource is found.

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18 SNMP

This chapter describes the REST API resources for SNMP Managers. The following APIs are described:

- Get API
- Create SNMP Target API
- Update SNMP Target API
- Delete SNMP Target API

18.1 Get API

The `<ARM_Configurator_IP>/ARM/v1/externals/snmp/target/` URL when used with the GET method, URL provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve SNMP Managers.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/externals/snmp/target/  
<ARM_Configurator_IP>/ARM/v1/externals/snmp/target/{id}
```

Where {id} is the ID of the requested element.

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
snmp	ARRAY OF: [{ id: Integer host: String port: Integer community: String }]	The SNMP Manager elements.

HTTP Response

- 409 Conflict when an ID is not included in the request.
- 200 OK response if at least one resource is found.

18.2 Create SNMP Target API

The <ARM_Configurator_IP>/ARM/v1/externals/snmp/target URL when used with the POST method creates a target SNMP Manager.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/externals/snmp/target
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
host	STRING	Valid IP address of the SNMP Manager
port	INTEGER	Valid port of the SNMP Manager
community	STRING	The SNMPv2 community string "password"

HTTP Response

- 201 Created
- 409 Conflict status for a non-existent ID.
- 500 Internal error

18.3 Update SNMP Target API

The `<ARM_Configurator_IP>/ARM/v1/externals/snmp/target/{id}` URL when used with the PUT method updates the details of an SNMP Manager.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/externals/snmp/target/{id}`

Where `{id}` is the ID of the element in the database.

HTTP Method

PUT

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
host	STRING	Valid IP address of the SNMP Manager
port	INTEGER	Valid port of the SNMP Manager
community	STRING	The SNMPv2 community string "password".

HTTP Response

- 200 OK
- 409 Conflict status for a non-existent ID.
- 500 Internal error

18.4 Delete SNMP Target API

The `<ARM_Configurator_IP>/ARM/v1/externals/snmp/target/{id}` URL provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a Target SNMP Manager.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/externals/snmp/target/{id}`

Where `{id}` is the ID of the element in the database.

HTTP Method

DELETE

Supported Content-Type

`application/json`

HTTP Response

- 200 OK

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19 External Alarms

This chapter describes the URLs for creating external alarms for third-party proprietary equipment such as routers and for third-party applications such as Web Services.

19.1 Create External Alarm

The `<ARM_Configurator_IP>/ARM/v1/externals/alarm` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create a single external alarm.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/externals/alarm`

HTTP Method

POST

Supported Content-Type

`application/json`

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
source	STRING	SNMP Alarm source
identifier	STRING	SNMP Alarm OID
description	STRING	Alarm description field
addInfo1		The additional information for the alarm received in the AddInfo1 field.
addInfo2		The additional information for the alarm received in the AddInfo2 field.
severity	AlarmSeverity	AlarmSeverity: 0 = cleared 1 = indeterminate 2 = warning 3 = minor 4 = major 5 = critical
alarmType	AlarmEventType	AlarmEventType: 0 = other 1 = communicationsAlarm 2 = qualityOfServiceAlarm 3 = processingErrorAlarm 4 = equipmentAlarm 5 = environmentalAlarm 6 = integrityViolation

Attribute	Type	Description
		7 = operationalViolation 8 = physicalViolation 9 = securityServiceOrMechanismViolation 10 = timeDomainViolation
probabyCause	AlarmProbableCause	AlarmProbableCause: 0 = other 1 = adapterError 2 = applicationSubsystemFailure 3 = bandwidthReduced 4 = callEstablishmentError 5 = communicationsProtocolError 6 = communicationsSubsystemFailure 7 = configurationOrCustomizationError 8 = congestion 9 = corruptData 10 = cpuCyclesLimitExceeded 11 = dataSetOrModemError 12 = degradedSignal 13 = dteDceInterfaceError 14 = enclosureDoorOpen 15 = equipmentMalfunction 16 = excessiveVibration 17 = fileError 18 = fireDetected 19 = floodDetected 20 = framingError 21 = heatingVentCoolingSystemProblem 22 = humidityUnacceptable 23 = inputOutputDeviceError 24 = inputDeviceError 25 = lanError 26 = leakDetected 27 = localNodeTransmissionError 28 = lossOfFrame 29 = lossOfSignal 30 = materialSupplyExhausted 31 = multiplexerProblem 32 = outOfMemory 33 = ouputDeviceError 34 = performanceDegraded 35 = powerProblem 36 = pressureUnacceptable 37 = processorProblem 38 = pumpFailure 39 = queueSizeExceeded 40 = receiveFailure 41 = receiverFailure 42 = remoteNodeTransmissionError 43 = resourceAtOrNearingCapacity 44 = responseTimeExcessive 45 = retransmissionRateExcessive 46 = softwareError

Attribute	Type	Description
		47 = softwareProgramAbnormallyTerminated 48 = softwareProgramError 49 = storageCapacityProblem 50 = temperatureUnacceptable 51 = thresholdCrossed 52 = timingProblem 53 = toxicLeakDetected 54 = transmitFailure 55 = transmitterFailure 56 = underlyingResourceUnavailable 57 = versionMismatch 58 = authenticationFailure 59 = breachOfConfidentiality 60 = cableTamper 61 = delayedInformation 62 = denialOfService 63 = duplicateInformation 64 = informationMissing 65 = informationModificationDetected 66 = informationOutOfSequence 67 = intrusionDetection 68 = keyExpired 69 = nonRepudiationFailure 70 = outOfHoursActivity 71 = outOfService 72 = proceduralError 73 = unauthorizedAccessAttempt 74 = unexpectedInformation

19.2 Create Multiple External Alarms

The <ARM_Configurator_IP>/ARM/v1/externals/alarms URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create multiple external alarms.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/externals/alarms
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
<pre>[{ source: String identifier: String description: String addInfo1: String addInfo2: String severity: AlarmSeverity alarmType: AlarmEventType probabyCause: AlarmProbableCause }]</pre>		

20 Normalization Group

This chapter describes the REST resources for the Normalization Group API (Attribute Manipulation Group). The following APIs are described:

- Get API
- Create Normalization Group API
- Update Normalization Group Target API
- Delete Normalization Group API
- Test Normalization Group
- Get Normalization Group Associations (Relationships)

20.1 Get API

The `<ARM_Configurator_IP>/ARM/v1/normalization/group` URL when used with the GET method provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve Normalization Groups.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/normalization/group  
<ARM_Configurator_IP>/ ARM/v1/normalization/group/{id}
```

Where {id} is the ID of the element in the database.

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
normalizationGroup	ARRAY OF: <pre>[{ id: Integer groupName: String normalizationAttrs: [{ id: Integer priority: Integer regExp: String</pre>	<ul style="list-style-type: none">• Priority – the priority of the attribute inside the group• regEx – regular expression that will be matched against the element• replacement – the value to replace with the matched expression

Attribute	Type	Description
	<pre> replacement: String description: String }] }]</pre>	

HTTP Response

- 409 Conflict when an ID is not contained in the request.
- 200 OK

20.2 Create Normalization Group API

The `<ARM_Configurator_IP>/ARM/v1/normalization/group` URL when used with the POST method provides the ability for the ARM Manager to send a request to the ARM Configurator to create a Normalization Group.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/normalization/group`

HTTP Method

POST

Supported Content-Type

`application/json`

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
groupName	STRING	The name of the group must be unique.
normalizationAttrs [{ priority: Integer regEx: String replacement: String description: String }]		<ul style="list-style-type: none">• priority – the priority of the attribute inside the group• regEx – regular expression that will be matched against the element• replacement – the value to replace with the matched expression.

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal Error

20.3 Update Normalization Group Target API

The `<ARM_Configurator_IP>/ARM/v1/normalization/group/{id}` URL when used with the PUT method, updates the details of a Normalization Group.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/normalization/group/{id}`

Where {id} is the ID of the element in the database.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
groupName	STRING	The name of the group, must be unique
normalizationAttrs [{ Id: Integer priority: Integer regEx: String replacement: String description: String }]		<ul style="list-style-type: none"> Id – the ID of the attribute as received in the get request regEx – regular expression that will be matched against the element replacement – the value to replace with the matched expression

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

Note: To delete the normalization attribute, the update request should be sent to the group, without the attribute you wish to delete.

20.4 Delete Normalization Group API

The `<ARM_Configurator_IP>/ARM/v1/normalization/group/{id}` URL provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a Normalization Group.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/normalization/group/{id}
```

Where {id} is the ID of the element in the database.

HTTP Method

```
DELETE
```

Supported Content-Type

```
application/json
```

HTTP Response

- 409 Conflict if the Group is connected to other elements
- 200 OK

20.5 Test Normalization Group

The `<ARM_Configurator_IP>/ARM/v1/normalization/group/test` URL when used with the POST method, tests a Normalization Group over random input (Rules Simulation for Attribute Manipulation Group).

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/normalization/group/test
```

HTTP Method

POST

Supported Content-Type

application/json

Request Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
testString	String	The string which the manipulation will be done on
normalizationAttrs [{ priority: Integer regEx: String replacement: String description: String }]		<ul style="list-style-type: none"> regEx – regular expression that will be matched against the element replacement – the value to replace with the matched expression.

Response Attributes

The response MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
result	String	The result of the normalization on the “testString” field
results:[{ regEx: String result: String }]		The intermediate results of each replacement done according to the regular expression

HTTP Response

- 409 Conflict when there is an error regarding the syntax of the regular expressions (including error description)
- 200 OK

20.5.1 Examples

The operator may wish to test an existing normalization group, where this may be performed by sending the following HTTP request:

```
POST <ARM_Configurator_IP>/ARM/v1/normalization/group/{id}/test
```

Where {id} is the ID of the element in the database.

Request Attribute

Attribute	Type	Description
testString	String	The string upon which the manipulation will be performed.

Response Attributes

Attribute	Type	Description
result	String	The result of the normalization on the "testString" field
results:[{ regEx: String result: String }]		The intermediate results of each replacement performed according to the regular expression.

HTTP Response

■ 200 OK

20.6 Get Normalization Group Associations (Relationships)

The `<ARM_Configurator_IP>/ARM/v1/normalization/group/{id}/associations` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the Normalization Group Associations (Relationships). This request provides details of the relationships of a normalization group to different elements in the system, such as routing rules and peer connections.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/normalization/group/{id}/associations
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
<pre>{ routingRules: [Integer], }</pre>		<ul style="list-style-type: none"> routingRules – ids of the routing rules to which the normalization group is associated.

HTTP Response

■ 200 OK

21 NTP Server Rest API

This chapter describes the REST resources for the NTP server. The following APIs are described:

- Get API
- Create NTP Server
- Update NTP Server
- NTP Server Delete API

21.1 Get API

The `<ARM_Configurator_IP>/ARM/v1/ntpServer` when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve NTP servers.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/ntpServer  
<ARM_Configurator_IP>/ARM/v1/ntpServer/{id}
```

Where {id} is the ID of the element in the data.

HTTP Method

GET

Supported Content-Type

application/json

Attributes

The ARM Configurator must respond to the Get request with JSON data from the request URI element and its ID. If the ID was not specified in the Get request URI, JSON data must contain an array of all specified elements defined in the database.

The following attributes MUST be included:

Attribute	Type	Description
Server	ARRAY OF: [{ Id: integer address: String serverName: string, }]	IP address or FDQN of the NTP server.

HTTP Response

- 200 OK

21.2 Create NTP Server

The `<ARM_Configurator_IP>/ARM/v1/ntpServer` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to create an NTP server.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/ntpServer
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
serverName	String	Name of the NTP server.
address	String	IP Address of the NTP server.

HTTP Response

■ 201 Created

21.3 Update NTP Server

The `<ARM_Configurator_IP>/ARM/v1/ntpServer/{id}` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update an NTP server.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/ntpServer/{id}
```

Where {id} is the ID of the element in the database.

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

The request must contain the following data elements:

Attribute	Type	Description
serverName	String	Name of the NTP server.
address	String	IP address of the NTP server.

HTTP Response

■ 200 OK

21.4 NTP Server Delete API

The <ARM_Configurator_IP>/ARM/v1/ntpServer/{id}URL when used with the DELETE method provides the ability for the ARM Manager to send a request to the ARM Configurator to delete an NTP server.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/ntpServer/{id}
```

Where {id} is the ID of the element in the database.

HTTP Method

```
DELETE
```

Supported Content-Type

```
application/json
```

HTTP Response

- 200 OK

22 ARM License

This chapter describes the REST resources for the ARM License. The following APIs are described:

- Get License API
- Get ARM Machine ID
- Update License Key API

22.1 Get License API

The `<ARM_Configurator_IP>/ARM/v1/license/key` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve an ARM License.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/license/key
```

HTTP Method

GET

Supported Content-Type

application/json

Response Attributes

The response should be as follows:

Attribute	Type	Description
url	String	The URL of the ARM license.
license	String	The ARM license string.
machineId	String	The machine ID of the ARM Configurator.
limitedByDate	boolean	Whether the license expires according to a specific date.
licenseDate { day: String, month: String, year: String }		The license date. Can be null if limitedByDate is false.

Attribute	Type	Description
Features [{ feature: String, value: String }]		Array of license features
licenseExists	Boolean	Whether license exists.
armFlavor	Boolean	REGULAR, LITE
lastChanged	Boolean	-
licenseExpired	Boolean	-
licenseFeatures	licenseFeatures { [Key: LicenseFeatureEnum]: Value:LicenseFeature }	-
productKey	String	-

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal Error

22.2 Get ARM Machine ID

The `<ARM_Configurator_IP>/ARM/v1/license/machineId` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the details of a ARM Machine ID.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/license/machineId`

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
machineId	String	The ARM machine ID.

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

22.3 Update License Key API

The <ARM_Configurator_IP>/ARM/v1/license/key URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to update a License Key.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/license/key
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
license	String	The valid ARM license string.

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23 Configuration

This chapter describes additional configuration requests for the following APIs:

- Normalization API
- License Configuration
- Routing Rule Configuration
- Security Configuration
- Quality-based Routing Configuration
- LDAP Authentication
- RADIUS Authentication
- Calls Configuration
- Registered Users
- Analytics
- Registration

23.1 Normalization API

This section describes additional configuration requests for the Normalization API.

23.1.1 Update Routing Normalization API

The `<ARM_Configurator_IP>/ARM/v1/configuration/normalization` URL when used with the PUT method provides the ability for the ARM Manager to send a request to the ARM Configurator to update Routing Normalization API.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/normalization`

HTTP Method

PUT

Supported Content-Type

`application/json`

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
srcNormalization	Integer	ID of the normalization group
destNormalization	Integer	ID of the normalization group

HTTP Response

- 200 OK response if at least one resource is found.
- 409 Conflict in case of an incorrect request.

23.1.2 Get Routing Normalization API

The `<ARM_Configurator_IP>/ARM/v1/configuration/normalization` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve a Normalization API.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/normalization
```

HTTP Method

```
GET
```

Supported Content-Type

```
application/json
```

Attributes

Attribute	Type	Description
srcNormalization	Integer	ID of the normalization group
destNormalization	Integer	ID of the normalization group

HTTP Response

- 200 OK response if at least one resource is found.
- 409 Conflict in case of an incorrect request.

23.2 License Configuration

This section describes additional configuration requests for the License API.

23.2.1 Get License Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/license` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve an ARM License.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/license`

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
numberOfSessionsAlarmWarning	Integer	The Alarm warning threshold to indicate when the number of valid licensed sessions is exceeded (percentage)
numberOfSessionsAlarmCritical	Integer	The Alarm critical threshold to indicate when the number of valid licensed sessions is exceeded.
currentNumberOfSessions	Integer	The current number of sessions in the system.

HTTP Response

- 200 OK response if at least one resource is found.
- 409 Conflict in case of an incorrect request.

23.2.2 Update License Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/license` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update an ARM License.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/license
```

HTTP Method

PUT

Supported Content-Type

application/json

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
numberOfSessionsAlarmWarning	Integer	The Alarm warning threshold to indicate when the number of valid licensed sessions is exceeded (percentage).

HTTP Response

- 201 Created
- 409 Conflict in case of an incorrect request.

23.3 Routing Rule Configuration

This section describes additional configuration requests for the Routing Rule API.

23.3.1 Routing Rule Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/routingRule` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to configure a routing rule.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/routingRule`

HTTP Method

PUT

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
maxRoutes	Integer	The maximum number of routes Default value is 6
maxRoutesPerAction	Integer	The maximum number of routes per action. Default value is 2
maxRoutesPerVoippeer	Integer	The maximum number of peer connections per VoipPeer. Default value is 2
maxUnselectedRulesToBeShown	Integer	Maximum unselected rules to be shown.
enableRerouteGroupOf3XX	Boolean	Use rerouteGroup as source in case of 3xx
enableRerouteGroupOfRefer	Boolean	Use rerouteGroup as source in case of refer

HTTP Response

- 201 Created
- 409 Conflict in case of an incorrect request.

23.3.2 Update Routing Rule Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/routingRule` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a routing rule.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/routingRule
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
maxRoutes	Integer	The maximum number of routes. Default value is 6
maxRoutesPerAction	Integer	The maximum number of routes per action. Default value is 2
maxOfPconsPerVoippeer	Integer	The maximum number of peer connections per VoipPeer Default value is 2
maxUnselectedRulesToBeShown	Integer	Maximum unselected rules to be shown.
enableRerouteGroupOf3XX	Boolean	Use rerouteGroup as source in case of 3xx.
enableRerouteGroupOfRefer	Boolean	Use rerouteGroup as source in case of refer.

HTTP Response

- 201 Created
- 409 Conflict in case of an incorrect request.

Note: All the values must be positive between 1 and 10, otherwise 409 conflict will be returned. Values that are not sent in the JSON will not be updated.

23.4 Security Configuration

This section describes the security configuration.

23.4.1 Get Security Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/security` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the security credentials of ARM users.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/security`

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
userName	String	User name that ARM uses for HTTP authentication with the devices. Default value is Admin
Password	String	Password that ARM uses for HTTP authentication with the devices. Default value is Admin
sessionTimeout	Integer	Client session timeout (in hours). Default value is 5 hours
inactivityPeriod	Integer	Client inactivity period (in minutes). Default value is 5 minutes
httpHttpsEnabled	Boolean	Whether mixed mode is on or off (http+https)
configuratorIpAddress	String	The IP address of the configurator
configuratorHostname	String	The host name of the configurator
IsConfCommunicationIpBased	Boolean	Indicates whether ARM should publish the host name or the ip address
verifyCertificate	Boolean	Indicates whether the configurator should verify the server certificate before initiating the TLS connection.
verifyCertificateSubjectName	Boolean	Indicates whether the configurator should verify the server's subject name before initiating the TLS connection.

HTTP Response

- 200 OK
- 500 Internal error

23.4.2 Update Security Configuration

The <ARM_Configurator_IP>/ARM/v1/configuration/security URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update the security credentials of an ARM user.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/security
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
userName	String	User name that ARM uses for HTTP authentication with the devices. Default value is 'Admin'
Password	String	Password that ARM uses for HTTP authentication with the devices. Default value is 'Admin'
sessionTimeout	Integer	Client session timeout (in seconds). Default value is 300
inactivityPeriod	Integer	Client inactivity period (in seconds). Default value is 300
httpHttpsEnabled	Boolean	Indicates whether mixed mode (HTTP+HTTPS) is enabled or disabled.
configuratorIpAddress	String	The IP address of the configurator
configuratorHostname	String	The host name of the configurator
IsConfCommunicationIpBased	Boolean	Indicates whether ARM should publish the host name or the IP address.
verifyCertificate	Boolean	Indicates whether the configurator should verify the server certificate before initiating the TLS connection
verifyCertificateSubjectName	Boolean	Indicates whether the configurator should verify the server's subject name before initiating the TLS connection.

Note: Security configuration is only available for the Security administrator (Get/ Update).

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.5 Quality-based Routing Configuration

23.5.1 Quality-based Routing Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/quality` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update the Quality-based routing configuration.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/quality`

HTTP Method

PUT

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
samplingTime	Integer	The rate in seconds in which the nodes send quality status updates This attribute also controls the rate in which the topology updates the routers regarding the quality changes Default 60 seconds
isQualityEnabled	Boolean	Is the feature enabled or not
"ASR":{ lowerThreshold: Float upperThreshold: Float isUsed:Boolean }	-	ASR value: <ul style="list-style-type: none">• Lower Threshold• Upper Threshold• If Used
"MOS":{ lowerThreshold: Float upperThreshold: Float isUsed:Boolean }		Mos value: <ul style="list-style-type: none">• Lower Threshold• Upper Threshold• If Used

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.5.2 Quality-based Routing Update Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/quality` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the Quality-based routing configuration.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/quality
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
samplingTime	Integer	The rate in seconds in which the nodes send quality status updates This attribute also controls the rate in which the topology updates the routers regarding the quality changes Default 60 seconds
isQualityEnabled	Boolean	Is the feature enabled or not
"ASR":{ lowerThreshold: Float upperThreshold: Float isUsed:Boolean }		ASR value: <ul style="list-style-type: none"> Lower Threshold Upper Threshold If Used
"MOS":{ lowerThreshold: Float upperThreshold: Float isUsed:Boolean }		Mos value: <ul style="list-style-type: none"> Lower Threshold Upper Threshold If Used

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.6 LDAP Authentication

23.6.1 Get LDAP Authentication Server

The `<ARM_Configurator_IP>/ARM/v1/configuration/security/ldap` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the LDAP Authentication Server attributes.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/security/ldap`

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
baseObject	String	The base object from which the search will be conducted
dn	String	The user DN to do the initial binding to the server
isEnabled	Boolean	Whether the LDAP authentication feature is activated
isSSEnabled	Boolean	Should LDAPS be used
port	Integer	LDAP server port number
host	String	LDAP server host name
<pre> "parsedCertificate":{ issuer: String notAfter: String notBefore: String subject:String validity:String } </pre>		The parsed certificate if such certificate exists

Attribute	Type	Description
<pre> "mappings":{ adminMapping: String permissionsAttribute: String securityAdminMapping: String userNameAttribute:String } </pre>		<p>The mapping for each permission lever (Security admin and Admin).</p> <p>The field that the permission will be checked against and the field for the username.</p>
certificate		
connectTimeout	Integer	
isReferralEnabled	Boolean	

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.6.2 Update/Add LDAP Authentication Server

The `<ARM_Configurator_IP>/ARM/v1/configuration/security/ldap` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to Update/Add the LDAP Authentication Server attributes.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/security/ldap`

HTTP Method

PUT

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
baseObject	String	The base object from which the search will be conducted
dn	String	The user DN to do the initial binding to the server
isEnabled	Boolean	Whether the LDAP authentication feature is activated
isSSEnabled	Boolean	Should LDAPS be used
port	Integer	LDAP server port number
host	String	LDAP server host name
certificate		Certificate if LDAPS is sued
"mappings":{ adminMapping: String permissionsAttribute: String securityAdminMapping: String userNameAttribute:String }		The mapping for each permission lever (Security admin and Admin) The field that the permission will be checked against and the field for the username
certificate		
connectTimeout	Integer	
isReferralEnabled	Boolean	
password	String	The password for the initial binding

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.6.3 Test LDAP Authentication Server

The `<ARM_Configurator_IP>/ARM/v1/configuration/security/ldap` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to test the LDAP Authentication Server.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/security/ldap/test
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
baseObject	String	The base object from which the search will be conducted
dn	String	The user DN to do the initial binding to the server
isSSLEnabled	Boolean	Whether the LDAP authentication feature is activated
isSSL	Boolean	Should LDAPS be used
port	Integer	LDAP server port number
host	String	LDAP server host name
certificate		Certificate if LDAPS is used
"mappings":{ adminMapping: String permissionsAttribute: String securityAdminMapping: String userNameAttribute:String }		The mapping for each permission lever (Security admin and Admin) The field that the permission will be checked against and the field for the username
password	String	The password for the initial binding
testConnectivity:{ name:String password:String }		The user name and the password to check against the LDAP server

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.7 RADIUS Authentication

23.7.1 Get RADIUS Authentication Server

The `<ARM_Configurator_IP>/ARM/v1/configuration/security/ldap` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the RADIUS Authentication Server attributes.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/security/radius`

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
defaultRole	ENUM	SECURITY_ADMIN,ADMIN,MONITOR,REJECT The default authentication level if the RADIUS doesn't have audiocodes dictionary but the user was found in the RADIUS
isEnabled	Boolean	Whether the RADIUS authentication feature is activated
port	Integer	The port number
host	String	The host / IP address of the RADIUS server
retryCount	Integer	The number of retries in case of the failure
sharedSecret	String	The password of the RADIUS server
timeout	Integer	The connection timeout

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.7.2 Update/Add RADIUS Authentication Server

The `<ARM_Configurator_IP>/ARM/v1/configuration/security/radius` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update or add the RADIUS Authentication Server attributes.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/security/radius
```

HTTP Method

```
PUT
```

Supported Content-Type

```
application/json
```

Attributes

Attribute	Type	Description
defaultRole	ENUM	SECURITY_ADMIN,ADMIN,MONITOR,REJECT The default authentication level if the RADIUS doesn't have audiocodes dictionary but the user was found in the RADIUS
isEnabled	Boolean	Whether the RADIUS authentication feature is activated
port	Integer	The port number
host	String	The host / IP address of the RADIUS server
retryCount	Integer	The number of retries in case of the failure
sharedSecret	String	The password of the RADIUS server
timeout	Integer	The connection timeout

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.7.3 Test RADIUS Authentication Server

The `<ARM_Configurator_IP>/ARM/v1/configuration/security/radius` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to test the RADIUS Authentication Server.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/security/radius/test`

HTTP Method

PUT

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
defaultRole	ENUM	SECURITY_ADMIN,ADMIN,MONITOR,REJECT The default authentication level if the RADIUS doesn't have an AudioCodes dictionary; however, the user was found on the RADIUS server.
isEnabled	Boolean	Whether the RADIUS authentication feature is activated
port	Integer	The port number
host	String	The host / IP address of the RADIUS server
retryCount	Integer	The number of retries in case of the failure
sharedSecret	String	The password of the RADIUS server
timeout	Integer	The connection timeout
testConnectivity:{ name:String password:String }		The user name and the password to check against the RADIUS server

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.8 Azure Authentication

This section describes the URLs for managing the connection with Microsoft Azure.

23.8.1 Get Azure Authentication Server

The `<ARM_Configurator_IP>/ARM/v1/configuration/azure` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the Microsoft Azure authentication credentials.

REST Resource

```
GET <ARM_Configurator_IP>/ARM/v1/configuration/azure
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
isEnabled	Boolean	Whether the Azure authentication feature is activated
clientId	String	Azure AD client ID
tenantID	String	Azure AD tenant ID
clientSecret	String	Azure AD client secret
securityAdminMapping	String	Azure app role that mapped to ARM security admin level
adminMapping	String	Azure app role that mapped to ARM admin level
monitorMapping	String	Azure app role that mapped to ARM monitor level
redirectUrl	String	Microsoft redirect URL to ARM after authentication

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.8.2 Update/Add Azure Authentication Server

The `<ARM_Configurator_IP>/ARM/v1/configuration/azure` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to add or update the Microsoft Azure authentication credentials.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/azure`

HTTP Method

PUT

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
isEnabled	Boolean	Whether the Azure authentication feature is activated
clientId	String	
tenantID	String	
clientSecret	String	
securityAdminMapping	String	
adminMapping	String	
monitorMapping	String	

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.8.3 Test Azure Authentication Server

The `<ARM_Configurator_IP>/ARM/v1/configuration/test` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to test the Microsoft Azure authentication server.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/security/azure/test`

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
clientId	String	
tenantID	String	
clientSecret	String	
securityAdminMapping	String	
adminMapping	String	
monitorMapping	String	

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.9 Calls Configuration

23.9.1 Get Calls Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/calls` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the Calls configuration.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/calls`

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
limit	Integer	The maximum number of calls that will be saved in the database. Maximum value is 10,000,000
enabled	Boolean	Indicates whether calls will be sent by the routers and whether they will be saved in database
threshold	Integer	Indicates the time after which an open call is considered closed
includeCdrInSuccessfulCalls	Boolean	Should the entire CDR chain be saved for successful calls
includeCdrInPartialCalls	Boolean	Should the entire CDR chain be saved for partial calls

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.9.2 Update Calls Configuration

The <ARM_Configurator_IP>/ARM/v1/configuration/calls URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update the Calls configuration.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/calls
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
limit	Integer	The maximum number of calls that will be saved in the database. Maximum value is 10,000,000
enabled	Boolean	Indicates whether calls will be sent by the routers and whether they will be saved in database
threshold	Integer	Indicates the time after which an open call is considered closed
includeCdrInSuccessfulCalls	Boolean	Should the entire CDR chain be saved for successful calls
includeCdrInPartialCalls	Boolean	Should the entire CDR chain be saved for partial calls

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.10 Registered Users

23.10.1 Get Registered Users Configuration

The `<ARM_Configurator_IP>/ARM/v1/topology/registeredUsers` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the registered users configuration.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/topology/registeredUsers`

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
enabled	Boolean	Enable registered users feature

23.10.2 Update Registered Users Configuration

The `<ARM_Configurator_IP>/ARM/v1/topology/registeredUsers` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update the registered users configuration.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/topology/registeredUsers`

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
enabled	Boolean	Enable registered users feature

23.11 Analytics

23.11.1 Get Analytics Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/analytics` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the Analytics configuration.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/analytics
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
password	String	Analytics user password. This password can be any string which doesn't contain the following characters: <code>, ; \ ' ;</code>
host1	String	IP / hostname 1 for connecting to the Analytics database using default user 'analytics'. Default='%' you can connect using the analytics user from any IP / hostname. For example, " 'analytics'@'%' "; " 'analytics'@'ABC' "
host2	String	IP / hostname 2 for connecting to the Analytics database using default user 'analytics'. Default='%'
host3	String	IP / hostname 3 for connecting to the Analytics database using default user 'analytics'.. Default='%'

23.11.2 Update Analytics Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/analytics` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update the Analytics configuration.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/analytics`

HTTP Method

PUT

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
password	String	Analytics user password. This password can be any string which doesn't contain the following characters: <code>, ; \ ' ;</code>
host1	String	IP / hostname 1 for connecting to the Analytics database using default user 'analytics'. Default='%' you can connect using the analytics user from any IP / hostname. For example, " 'analytics'@'% ' "; " 'analytics'@'ABC' "
host2	String	IP / hostname 2 for connecting to the Analytics database using default user 'analytics'. Default='%'
host3	String	IP / hostname 3 for connecting to the Analytics database using default user 'analytics'. Default='%'

23.11.3 Restore Analytics to Default

The `<ARM_Configurator_IP>/ARM/v1/configuration/analytics/default` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to restore the Analytics configuration to default.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/analytics/default
```

HTTP Method

PUT

Supported Content-Type

application/json

23.11.4 Get Analytics Users

The `<ARM_Configurator_IP>/ARM/v1/configuration/analytics/users` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve a list of Analytics users.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/analytics/users
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
[String]	["analytics'@%", "analytics'@'ABCCorp", "analytics'@'VoIP"]	User-defined analytics users

23.12 Registration

23.12.1 Get Registration

The `<ARM_Configurator_IP>/ARM/v1/configuration/registration` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the registration configuration.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/registration`

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
registrationPropertyId	Integer	The ID of the dictionary property which should be mapped to one of the following: <ul style="list-style-type: none">▪ True: ARM Routers route Register SIP messages for the registered user.▪ False: User is not eligible for the Register SIP message routing.
dailablePropertyIds	[Integer]	List of dictionary property ids which are mapped to the dialable / address of the user. Used as the match for the user in the "To" SIP Header of the SIP Register message.
Enabled	Boolean	Indicates whether the routing of registration messages should be enabled.

23.12.2 Update Registration

The `<ARM_Configurator_IP>/ARM/v1/configuration/registration` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update the registration configuration.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/registration
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
registrationPropertyId	Integer	The ID of the dictionary property "registration" which should be mapped to one of the following: <ul style="list-style-type: none"> True: ARM Routers route Register SIP messages for the registered user. False: User is not eligible for the Register SIP message routing.
dialablePropertyIds	[Integer]	List of dictionary property IDs which are mapped to the dialable / address of the user. Used as the match for the user in the "To" SIP Header of the SIP Register message.
Enabled	Boolean	Indicates whether the routing of registration messages should be enabled for the user. Equivalent to "Destination is a registered user in ARM" in the routing rule in the ARM Web interface.

23.12.3 Get Registration Users

The `<ARM_Configurator_IP>/ARM/v1/configuration/registration` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the list of registered users.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/registration`

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
[String]		Name of registered user.

23.13 Quota

23.13.1 Get Quota Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/quota` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the quota configuration.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/quota
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
warningThreshold	Integer	

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.13.2 Update Quota Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/quota` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update the quota configuration.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/quota`

HTTP Method

PUT

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
warningThreshold	Integer	

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.14 CAC

This section describes the URLs for managing the Call Admission Control (CAC) configuration.

23.14.1 Get CAC Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/cac` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the CAC configuration.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/cac
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
warningThreshold	Integer	The warning threshold value in percentages
enabled	Boolean	Is warning threshold enabled

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.14.2 Update CAC Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/cac` URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update the CAC configuration.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/cac`

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
warningThreshold	Integer	The warning threshold value in percentages
enabled	Boolean	Is warning threshold enabled

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

23.15 Keystore

23.15.1 Get Keystore

The `<ARM_Configurator_IP>/ARM/v1/configuration/keystore` when used with the GET method allows an operator to retrieve a keystore.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/keystore`

HTTP Method

GET

Supported Content-Type

```
application/json
```

Attributes

Attribute	Type	Description
{ alias: String raw: String }		

23.15.2 Generate Keystore

The <ARM_Configurator_IP>/ARM/v1/configuration/keystore/generate when used with the POST method generates a keystore.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/keystore/generate
```

HTTP Method

```
POST
```

Supported Content-Type

```
application/json
```

Attributes

Attribute	Type	Description
cn	String	
ou	String	
o	String	
c	String	
l	String	
st	String	
sanEmail	[String]	
sanURI	[String]	
sanDNS	[String]	
sanIP	[String]	
keyAlg	KeyAlgorithm	KeyAlgorithm: RSA EC

keySize	Integer	Default: 2048 For EC: 256, 384 RSA: 2048, 3072
validity	Integer	Default: 365
signAlg	SignAlgorithm	SignAlgorithm: SHA256withRSA SHA384withRSA SHA512withRSA SHA256withECDSA SHA384withECDSA SHA512withECDSA
keyUsage	[KeyUsage]	KeyUsage: digitalSignature nonRepudiation keyEncipherment dataEncipherment keyAgreement keyCertSign cRLSign encipherOnly decipherOnly
extendedkeyUsage	[ExtendedKeyUsage]	ExtendedKeyUsage: anyExtendedKeyUsage serverAuth clientAuth codesigning emailProtection timestamping OCSPSigning
keyUsageCritical	Boolean	Default: false
extendedKeyUsageCritical	Boolean	Default: false
storepass	String	

23.15.3 Replace Keystore

The `<ARM_Configurator_IP>/ARM/v1/configuration/keystore/replace` URL when used with the POST method generates a keystore.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/keystore/generate`

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
cn	String	Must
ou	String	
o	String	
c	String	
l	String	
st	String	
sanEmail	[String]	
sanURI	[String]	
sanDNS	[String]	
sanIP	[String]	
keyAlg	KeyAlgorithm	KeyAlgorithm: RSA - Default EC
keySize	Integer	Default: 2048 For EC: 256, 384 RSA: 2048, 3072
validity	Integer	Default: 365
signAlg	SignAlgorithm	SignAlgorithm: SHA256withRSA - Default SHA384withRSA SHA512withRSA SHA256withECDSA SHA384withECDSA SHA512withECDSA
keyUsage	[KeyUsage]	KeyUsage: digitalSignature nonRepudiation keyEncipherment dataEncipherment keyAgreement keyCertSign cRLSign encipherOnly decipherOnly

Attribute	Type	Description
extendedkeyUsage	[ExtendedKeyUsage]	ExtendedKeyUsage: anyExtendedKeyUsage serverAuth clientAuth codesigning emailProtection timestamping OCSPSigning
keyUsageCritical	Boolean	Default: false
extendedKeyUsageCritical	Boolean	Default: false
storepass	String	

23.15.4 CSR

The <ARM_Configurator_IP>/ARM/v1/configuration/keystore/csr URL when used with the POST method allows the operator create a keystore.

REST Resource

<ARM_Configurator_IP>/ARM/v1/configuration/keystore/csr

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
cn	String	
ou	String	
o	String	
c	String	
l	String	
st	String	
sanEmail	[String]	
sanURI	[String]	
sanDNS	[String]	
sanIP	[String]	

Attribute	Type	Description
keyAlg	KeyAlgorithm	KeyAlgorithm: RSA EC
keySize	Integer	Default: 2048 For EC: 256, 384 RSA: 2048, 3072
validity	Integer	Default: 365
signAlg	SignAlgorithm	SignAlgorithm: SHA256withRSA SHA384withRSA SHA512withRSA SHA256withECDSA SHA384withECDSA SHA512withECDSA
keyUsage	[KeyUsage]	KeyUsage: digitalSignature nonRepudiation keyEncipherment dataEncipherment keyAgreement keyCertSign cRLSign encipherOnly decipherOnly
extendedkeyUsage	[ExtendedKeyUsage]	ExtendedKeyUsage: anyExtendedKeyUsage serverAuth clientAuth codesigning emailProtection timestamping OCSPSigning
keyUsageCritical	Boolean	Default: false
extendedKeyUsageCritical	Boolean	Default: false
storepass	String	

23.15.5 Upload Keystore

The `<ARM_Configurator_IP>/ARM/v1/configuration/keystore/upload` URL when used with the POST method uploads a keystore to the ARM server.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/keystore/upload`

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
keystore	file	
storepass	String	

23.15.6 Upload Keystore and CSR

The `<ARM_Configurator_IP>/ARM/v1/configuration/keystore/csr/upload` URL when used with the POST method uploads a keystore and CSR to the ARM server.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/configuration/keystore/csr/upload`

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
keystore	file	
response	file	
storepass	String	
alias	String	

23.16 Statistics Configuration

23.16.1 Get Statistics Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/statistics` URL when used with the GET method allows an operator to retrieve statistics.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/statistics
```

HTTP Method

```
GET
```

Supported Content-Type

```
application/json
```

Attributes

Attribute	Type	Description
historyInDays	Integer	
historyInDaysQuota	Integer	

23.16.2 Update Statistics Configuration

The `<ARM_Configurator_IP>/ARM/v1/configuration/statistics` URL when used with the PUT method allows an operator to update statistics.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/configuration/statistics
```

HTTP Method

```
PUT
```

Supported Content-Type

```
application/json
```

Attributes

Attribute	Type	Description
historyInDays	Integer	
historyInDaysQuota	Integer	

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24 Calls

This section describes the URLs for calls management.

24.1 Get Calls Summary

The `<ARM_Configurator_IP>/ARM/v1/configuration/calls` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve a summary of the Calls configuration.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/calls
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
cursor	Integer	The next page or -1 if it is the last page
calls	{ sessionKey: String sessionId:String armSetupTime: Date srcUriBeforeManipulation:String dstUriBeforeManipulation:String incomingNodeId:Integer incomingPconId:Integer outgoingNodeId:Integer outgoingPconId:Integer routingRuleId:Integer sipTerminationReason:String }	Call details

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

24.1.1 Filter

The Statistics API requires using a filter to control the size and content of the data. The filter should be added to the suffix of the URL as is shown in the example below:

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/calls?
filter=(incomingNodeId={id},outgoingNodeId={id})
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Filter	Available for these Requests	Description
incomingNodeId	calls	Equals (=)
outgoingNodeId	calls	Equals (=)
incomingPconId	calls	Equals (=)
outgoingPconId	calls	Equals (=)
startTime	calls	Equals (=)
endTime	calls	Equals (=)
dstUriBeforeManipulation	calls	Contains (~)
srcUriBeforeManipulation	calls	Contains (~)
sessionId	calls	Equals (=)
routingRuleId	calls	Equals (=)
sipTerminationReason	calls	Equals (=)

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

24.2 Get Specific Call

The `<ARM_Configurator_IP>/ARM/v1/calls/{sessionKey}` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the details of a specific call.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/calls/{sessionKey}`

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
sessionKey	String	Unique combination of node id and sessionId
sessionId	String	The session ID generated by the Node
armSetupTime	Date	UTC time
armReleaseTime	Date	UTC time
routerIp	String	The IP address of the initial router that calculated the path.
srcUriBeforeManipulation	String	The source URI as it was prior to manipulation.
dstUriBeforeManipulation	String	The destination URI as it was prior to manipulation.
discardingByRoutingRule	Integer	The routing rule ID of the routing rule which case the call to be discarded.
routingRuleId	Integer	The routing rule ID of the successful path, or the last path if the call failed.
partial	Boolean	Indicates whether the call was ended with all the CDR information, or if some of the data was missing.
description	String	Description regarding the call (if any).
incomingNodeId	Integer	The ID of the incoming node.

Attribute	Type	Description
incommingPconId	Integer	The ID of the incoming peer connection.
incommingConnectionId	Integer	The ID of the incoming connection (only relevant to 3 rd party nodes).
outgoingNodeId	Integer	The ID of the last node in the paths chain.
outgoingPconId	Integer	The ID of the last peer connection in the paths chain.
sipTerminationReason	String	The SIP response code.
voiceDuration	Integer	Duration of the voice call in milliseconds.
preRouteManipulationsList	<pre>{ originalValue:String manipulatedValue:String manipulatedEntity:ENUM manipulationsList:{ originalValue: String manipulatedValue: String manipulatingEntity:ENUM manipulatingEntityName: String isChanged: Boolean description: String } }</pre>	<ul style="list-style-type: none"> ManipulatingEntity (optional)- the entity from ARM data base/GUI perspective which tracked and might change the ManipulatedEntity. ManipulatedEntity (optional)- the entity that is tracked and may change. originalValue: the value of the manipulated entity prior to manipulation (in the case of user/password/destIP), these entities may be optional as well. <p>Note: When the ManipulatingEntity is a 'RoutingRuleAction', there is no URL.</p>

Attribute	Type	Description
cdrSessionPathList	<pre>{ sipTerminationReason: String sipTerminationReasonDesc: String routeSeq: Integer routerIp: String srcUriAfterManipulation: String dstUriAfterManipulation: String armSetupTime: Date armReleaseTime: Date sbcSetupTime: Date sbcConnectTime: Date sbcReleaseTime: Date sbcAlertTime: Date alertDuration: Integer voiceDuration: Integer completeDuration: Integer }</pre>	Represents a path of a call. If the call failed without starting this object, this field is Null. Durations are -1 if the path fails

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

24.3 Export calls

The <ARM_Configurator_IP>/ARM/v1/calls/export URL when used with the GET method retrieves a CSV file containing a list of calls.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/calls/export
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Retrieves a CSV file containing a list of calls (limited to 10,000 calls).

Filter	Available for these requests	Description
incomingNodeId	calls	Equals (=)
outgoingNodeId	calls	Equals (=)
incomingPconId	calls	Equals (=)
outgoingPconId	calls	Equals (=)
startTime	calls	Equals (=)
endTime	calls	Equals (=)
dstUriBeforeManipulation	calls	Contains (~)
srcUriBeforeManipulation	calls	Contains (~)
sessionId	calls	Equals (=)
routingRuleId	calls	Equals (=)
sipTerminationReason	calls	Equals (=)

25 Calls Quota

This section describes the URLs for managing calls quotas.

25.1 Get Calls quota

The `<ARM_Configurator_IP>/ARM/v1/calls/quota/{id}` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the entire calls quota or the quota for a specific call.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/calls/quota  
<ARM_Configurator_IP>/ARM/v1/calls/quota/{id}  
{id} – ID of the requested element
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
id	Integer	Quota ID
name	String	Quota name
quota	Double	Quota limit
periodicity	Enum	Possible values for periodicity: 1 = MONTHLY 2 = WEEKLY 3 = DAILY
firstDayOfWeek	Enum	Possible values for day: 1 = MON 2 = TUE 3 = WED 4 = THU 5 = FRI 6 = SAT 7 = SUN Relevant when periodicity property is equal to WEEKLY
firstDayOfMonth	Integer	Relevant when periodicity property is equal to WEEKLY
blockCalls	Boolean	block call when quota limit reached

HTTP Response

- 200 OK
- 409 Conflict

25.1.1 Filter

Quota API requires using a filter to control the size and content of the data. Filter should be added to the suffix of the URL, for example:

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/calls/quota?limit=20&page=1)
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Filter	Available for these Requests	Description
limit	qouta	Equals (=)
page	qouta	Equals (=)

HTTP Response

- 200 OK
- 409 Conflict

25.2 Add Calls Quota

The `<ARM_Configurator_IP>/ARM/v1/calls/quota` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to add a calls quota.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/calls/quota`

HTTP Method

POST

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
name	String	Quota name
quota	Double	Quota limit
periodicity	Enum	Possible values for periodicity: 1 = MONTHLY 2 = WEEKLY 3 = DAILY
firstDayOfWeek	Enum	Possible values for day: 1 = MON 2 = TUE 3 = WED 4 = THU 5 = FRI 6 = SAT 7 = SUN Relevant when periodicity property is equal to WEEKLY
firstDayOfMonth	Integer	Relevant when periodicity property is equal to WEEKLY
blockCalls	Boolean	block call when quota limit reached

25.3 Update Calls Quota

The <ARM_Configurator_IP>/ARM/v1/calls/quota/{id} URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a specific calls quota.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/calls/quota/{id}
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	Quota name
quota	Double	Quota limit
periodicity	Enum	Possible values for periodicity: 1 = MONTHLY 2 = WEEKLY 3 = DAILY
firstDayOfWeek	Enum	Possible values for day: 1 = MON 2 = TUE 3 = WED 4 = THU 5 = FRI 6 = SAT 7 = SUN Relevant when periodicity property is equal to WEEKLY
firstDayOfMonth	Integer	Relevant when periodicity property is equal to WEEKLY
blockCalls	Boolean	block call when quota limit reached

25.4 Delete Calls Quota

The `<ARM_Configurator_IP>/ARM/v1/calls/quota/{id}` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a specific calls quota.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/calls/quota/{id}
```

HTTP Method

DELETE

Supported Content-Type

application/json

25.5 Delete Multiple Calls Quota

The `<ARM_Configurator_IP>/ARM/v1/calls/quota?filter=(id=1;2;3...)` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete multiple calls quotas.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/calls/quota?filter=(id=1;2;3...)
```

HTTP Method

DELETE

Supported Content-Type

application/json

Attributes

The response will be a multi response JSON with the appropriate response code for each ID that was sent

Attribute	Type	Description
multiStatusJsonList	<pre>[{ status: Integer description: String id: Integer }]</pre>	<p>Status: the http response code for this specific ID</p> <p>Description: the description</p> <p>ID: the ID of the object for this specific response</p>

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26 Dynamic Blacklist

Dynamic blacklists allows operators to prevent DDOS/DOS attacks on the enterprise. Calls identified as suspicious and disruptive can be added to the blacklist. Operators can decide how to handle blacklisted calls using the ARM's generic routing capabilities. For example, calls can be dropped or routed to a specific server. Network operators must configure a Policy Studio Rule to dynamically add or remove numbers to and from the blacklist.

26.1 Get Dynamic Blacklist

The `<ARM_Configurator_IP>/ARM/v1/blacklist` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve the Blacklist.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/blacklist
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
policyId	Integer	
Number	String	
startBT	Integer	Default 0
endBT	Integer	
hits	Integer	

26.2 Add Dynamic Blacklist

The `<ARM_Configurator_IP>/ARM/v1/blacklist` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to add a dynamic blacklist.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/blacklist
```

HTTP Method

POST

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
policyId	Integer	
Number	String	
startBT	Integer	Default 0
endBT	Integer	
hits	Integer	

26.3 Update Dynamic Blacklist

The `<ARM_Configurator_IP>/ARM/v1/blacklist/{id}` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a dynamic blacklist.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/blacklist/{id}`

HTTP Method

`POST`

Supported Content-Type

`application/json`

Attributes

Attribute	Type	Description
policyId	Integer	
Number	String	
startBT	Integer	Default 0
endBT	Integer	
hits	Integer	

26.4 Delete Dynamic Blacklist

The `<ARM_Configurator_IP>/ARM/v1/blacklist/{id}` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a dynamic blacklist.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/blacklist/{id}
```

HTTP Method

```
DELETE
```

Supported Content-Type

```
application/json
```

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27 Web Services

This chapter describes the REST API resources for Web Services. The following APIs are described:

- Get Web Services Templates
- Get Web Services Implementation
- Create Web Service Implementation
- Update Web Service Implementation
- Delete Web Service Implementation

27.1 Get Web Services Templates

The `<ARM_Configurator_IP>/ARM/v1/numberPortability/template`

URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve a Web Services template.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/numberPortability/template`

The Template defines all the attributes that the operator will be able to define for a specific web service.

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
id	Integer	ID of the Web services template
name	String	Name of the Web services template.
numberPortabilityAgentType	Enum	The unique ID of the template type.
params	[{ name: String uiName: String value: String type:enum }]	Name – the database of the parameters in the database uiName- the name of the attribute in the UI value – the default value 0 = type - stringType 1 = numberType 2 = booleanType

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

27.2 Get Web Services Implementation

The <ARM_Configurator_IP>/ARM/v1/numberPortability/implementation

URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve a specific Web Services Implementation.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/numberPortability/implementation
<ARM_Configurator_IP>/ARM/v1/numberPortability/implementation/{id}
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Implementation of one of the templates

Attribute	Type	Description
id	Integer	ID of the Web services template
name	String	The name of the Web Service Implementation.
numberPortabilityAgentType	Enum	The unique ID of the template type.
params	[{ name: String uiName: String value: String type:enum }]	<ul style="list-style-type: none"> Name – the database of the attributes in the database uiName- the name of the attribute in the UI value – the default value type: <ul style="list-style-type: none"> 0 = stringType 1 = numberType 2 = booleanType

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

27.3 Create Web Service Implementation

The `ARM_Configurator_IP>/ARM/v1/numberPortability/implementation` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to add a Web Service Implementation.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/numberPortability/implementation`

HTTP Method

POST

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
id	Integer	The ID of the Web Service Implementation
name	String	The name of the Web Service Implementation.
numberPortabilityAgentType	Enum	The unique ID of the template type.
params	[{ name: String uiName: String value: String type:enum }]	<ul style="list-style-type: none">Name – the database of the attributes in the databaseuiName- the name of the attribute in the UIvalue – the default value type: 0 = stringType 1 = numberType 2 = booleanType

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal error

27.4 Update Web Service Implementation

The `<ARM_Configurator_IP>/ARM/v1/numberPortability/implementation/{id}` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a Web Service Implementation.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/numberPortability/implementation/{id}`

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
id	Integer	The ID of the Web Service Implementation.
name	String	The name of the Web Service Implementation.
numberPortabilityAgentType	Enum	The unique ID of the template type.
params	[{ name: String uiName: String value: String type:enum }]	<ul style="list-style-type: none"> Name – the database of the parameter in the database uiName- the name of the attribute in the UI value – the default value type: <ul style="list-style-type: none"> 0 = stringType 1 = numberType 2 = booleanType

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

27.5 Delete Web Service Implementation

The `<ARM_Configurator_IP>/ARM/v1/numberPortability/implementation/{id}` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a Web Service Implementation.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/numberPortability/implementation/{id}`

HTTP Method

DELETE

Supported Content-Type

application/json

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

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28 Certificates

The URLs describes in this section can be implemented to manage the SSL connection for the ARM SSL client for authenticating the server certificate of a remote server (one-way authentication).

28.1 Get Certificate API

The `<ARM_Configurator_IP>/ARM/v1/certificate` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve a remote server certificate or root certificate from the Trusted Root Store.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/certificate
```

HTTP Method

GET

Supported Content-Type

application/json

Attribute	Type	Description
alias	String	The name of the alias of the certificate
value	String	Base64 representation of the certificate

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

28.2 Add Certificate API

The <ARM_Configurator_IP>/ARM/v1/certificate URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to upload a remote server certificate or root certificate to the Trusted Root Store.

REST Resource

POST <ARM_Configurator_IP>/ARM/v1/certificate

HTTP Method

POST

Supported Content-Type

application/json

Attribute	Type	Description
alias	String	The name of the alias of the certificate
value	String	Base64 representation of the certificate

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal error

28.3 Delete Certificate API

The `<ARM_Configurator_IP>/ARM/v1/certificate/{alias}` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a remote server certificate or root certificate from the Trusted Root Store.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/certificate/{alias}
```

HTTP Method

DELETE

Supported Content-Type

application/json

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

This page is intentionally left blank.

29 Policy Studio

This chapter describes the REST API resources for the Policy Studio. The following APIs are described:

- Get Policy Studio API
- Add Policy Studio API
- Update Policy Studio API
- Delete Policy Studio API

29.1 Get Policy Studio API

The `<ARM_Configurator_IP>/ARM/v1/callSetupRule` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve a call setup rule.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/callSetupRule
<ARM_Configurator_IP>/ARM/v1/callSetupRule/{id}
```

HTTP Method

GET

Supported Content-Type

application/json

Attribute	Type	Description
id	Integer	Database ID
name	String	Name of the policy studio rule.
searchFields	<pre>{ field: enum propertyDicEntryIds: [Integer] }</pre>	<p>Possible values for the field:</p> <p>SOURCE_URI_USER, SOURCE_URI_HOST, DEST_URI_USER, DEST_URI_HOST, CONTACT_URI_USER, CONTACT_URI_HOST, CONTACT_URI_PORT, P_ASSERTED_IDENTITY_DISPLAY_NAME, P_ASSERTED_IDENTITY_USER P_ASSERTED_IDENTITY_HOST SRCATTR, SOURCEORDESTINATIONNUMBER, CALLOCCURSMORETHANNUMBERTIMES, CALLWITHINNUMBERSECONDS, ALARMENABLED, WHITEATTR, SIPHEADERS</p> <p>Each represents SIP header to be matched</p>

Attribute	Type	Description
actionFields	{ field: enum propertyDicEntryIds:[Integer] }	Possible values for the field: SOURCE_URI_USER, SOURCE_URI_HOST, DEST_URI_USER, DEST_URI_HOST, DEST_IP_ADDR, DEST_PORT, DEST_PROTOCOL, USER_CREDENTIALS_USER_NAME, USER_CREDENTIALS_PASSWORD, P_ASSERTED_IDENTITY_DISPLAY_NAME, P_ASSERTED_IDENTITY_USER, P_ASSERTED_IDENTITY_HOST Each represents SIP header to be changed
nodeIds	[Integer]	Nodes to be matched
pConIds	[Integer]	Peer connections to be matched
topologyGroupIds	[Integer]	Topology Groups to be matched
priority	Integer	The priority of the policy studio rule
adminState	Enum	LOCKED, UNLOCKED
destAttr	{ attributes: { value: String } attributeGroups:[Integer] }	Destination attribute to match (destination number), can be either prefix, or prefix group ID
type	CallSetupRuleActionType	0 = USER, 1 = NUMBER_PORTABILITY 2 = CREDENTIALS 3 = BLACK_LIST 4 = DIDS_COUNT_MATCH <ul style="list-style-type: none"> User is the regular Policy Studio Number portability is the web services Credentials - Enables the SBC to act as an authentication server for SIP message requests and allows the ARM to centrally manage user credentials for all SIP phones in the global network. BLACK_LIST – tag a caller's number if the caller calls a destination more than a defined number of times within a defined time period. DIDS COUNT MATCH – phone number counting, either calling or called within a defined time period.
numberPortabilityId	Integer	If the type is NUMBER_PORTABILITY, ID of the web service which will be done in case of a match is provided.

Attribute	Type	Description
isRegisteredUsers	Boolean	Enables the Registered Users feature for operators to route calls to SBC registered users.
destUserGroupsIds	[Integer]	Destination User Group IDs
srcUserGroupsIds	[Integer]	Source User Group IDs
requestType	Enum	0 = CALL 1 = REGISTER
didMatchType	Enum	SRC_AND_DEST, DEST, SOURCE This attribute is only used for DID masking web services.
poolId	Integer	The ID of the "pool of numbers" prefix group, <ul style="list-style-type: none"> If defined: ARM Router chooses a free random number and manipulates the source number, If not defined: ARM saves the source URI and destination URI in the database without manipulating (masking) the source number. This attribute is only used for DID masking web services.
callExpirationTime	Integer	Timeout before the call is unavailable for callback (in seconds). This attribute is only used for DID masking web services.
didXHeader	String	If defined, the ARM router does not manipulate the destination number for the incoming call, instead it adds it as the defined X Header; the header must start with the X-ARM- prefix. This attribute is only used for DID masking web services.
srcNormalizationGroupId	Integer	ID of the normalization group. This normalization is performed on the source URI prior to the database lookup / persistence. This manipulation does not affect the routing. This attribute is only used for DID masking web services.
setDestNormalizationGroupId	Integer	ID of the normalization group. This normalization is performed on the destination URI prior to the database lookup / persistence. This manipulation does not affect the routing. This attribute is only used for DID masking web services.
direction	Enum	Call direction: <ul style="list-style-type: none"> OUTGOING INCOMING

Attribute	Type	Description
		This attribute is only used for DID masking web services.
flow	Enum	STOP, CONTINUE, CONTINUE_TO_RULE
continueToRuleId	Integer	ID of the policy studio. This attribute is only relevant when the flow attribute is set to CONTINUE_TO_RULE.
didCountTimeOfDay	LocalTime	Only for Did_count if 'didCountDurationType' = TIME_OF_DAY
didCountDurationType	DidCountDurationType	MINUTES, TIME_OF_DAY If specified 'MINUTES' > ARM will use 'blockNumberDuration' attribute. If specified 'TIME_OF_DAY' > ARM will use 'didCountTimeOfDay' attribute.
reroutePconIds	[Integer]	Reroute Peer Connections to be matched.

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

29.2 Add Policy Studio API

The `<ARM_Configurator_IP>/ARM/v1/callSetupRule` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to add a Policy Studio generated call setup rule.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/callSetupRule`

HTTP Method

POST

Supported Content-Type

application/json

Attribute	Type	Description
id	Integer	Database ID
name	String	Name of the policy studio rule
searchFields	{ field: enum propertyDicEntryIds :[Integer] }	Possible values for the field: SOURCE_URI_USER, SOURCE_URI_HOST, DEST_URI_USER, DEST_URI_HOST, CONTACT_URI_USER, CONTACT_URI_HOST, CONTACT_URI_PORT, P_ASSERTED_IDENTITY_DISPLAY_N AME, P_ASSERTED_IDENTITY_USER P_ASSERTED_IDENTITY_HOST Each represents SIP header to be matched
actionFields	{ field: enum propertyDicEntryIds :[Integer] }	Possible values for the field: SOURCE_URI_USER, SOURCE_URI_HOST, DEST_URI_USER, DEST_URI_HOST, DEST_IP_ADDR, DEST_PORT, DEST_PROTOCOL, USER_CREDENTIALS_USER_NAME, USER_CREDENTIALS_PASSWORD, P_ASSERTED_IDENTITY_DISPLAY_N AME, P_ASSERTED_IDENTITY_USER, P_ASSERTED_IDENTITY_HOST Each represents SIP header to be changed
nodeIds	[Integer]	Nodes to be matched
pConIds	[Integer]	Peer connections to be matched
priority	Integer	The priority of the policy studio rule
prevId	Integer	The ID of the previous policy studio rule, -1 if first

Attribute	Type	Description
nextId	Integer	The ID of the next policy studio rule, -1 if last
topologyGroupIds	[Integer]	Topology Group ids
adminState	Enum	LOCKED, UNLOCKED
destAttr	{ attributes: { value: String } attributeGroups:[Integer] }	Destination attribute to match (destination number), can be either prefix, or prefix group ID.
srcAttr	{ attributes: { value: String } attributeGroups:[Integer] }	Source attribute to match (source number), can be either prefix, or prefix group ID.
type	CallSetupRuleActionType	<p>0 = USER, 1 = NUMBER_PORTABILITY 2 = CREDENTIALS 3 = BLACK_LIST 4 = DIDS_COUNT_MATCH</p> <ul style="list-style-type: none"> User is the regular Policy Studio Number portability is the web services Credentials - Enables the SBC to act as an authentication server for SIP message requests and allows the ARM to centrally manage user credentials for all SIP phones in the global network. BLACK_LIST – tag a caller's number if the caller calls a destination more than a defined number of times within a defined time period. DIDS COUNT MATCH – phone number counting, either calling or called within a defined time period.
numberPortabilityId	Integer	If the type is NUMBER_PORTABILITY, ID of the Web service which will be done in case of a match must be provided
isRegisteredUsers	Boolean	Enables the Registered Users feature for operators to route calls to SBC registered users ("Destination is a registered user in ARM" check box in ARM GUI).
destUserGroupIds	[Integer]	The list of Destination User Group IDs
srcUserGroupIds	[Integer]	The list of Source Group IDs

Attribute	Type	Description
requestType	Enum	0 = CALL 1 = REGISTER
didMatchType	Enum	SRC_AND_DEST, DEST, SOURCE This attribute is only used for DID masking web services.
poolId	Integer	This attribute is only used for DID masking web services.
callExpirationTime	Integer	This attribute is only used for DID masking web services.
didXHeader	Integer	This attribute is only used for DID masking web services.
srcNormalizationGroupId	Integer	This attribute is only used for DID masking web services.
destNormalizationGroupId	Integer	This attribute is only used for DID masking web services.
setDestNormalizationGroupId	Integer	This attribute is only used for DID masking web services.
direction	Enum	This attribute is only used for DID masking web services. OUTGOING, INCOMING
sourceOrDestinationNumber	Enum	<ul style="list-style-type: none"> SOURCE (0) DESTINATION (1)
callOccursMoreThanNumberTimes	Integer	
callWithinNumberSeconds	Integer	Only for BlackList (seconds)
blockNumberDuration	Integer	Used for: <ul style="list-style-type: none"> BlackList (minutes) DID count (minutes)
alarmEnabled	Boolean	
whiteAttr	<pre>{ attributes: { value: String } attributeGroups:[Integer] }</pre>	
sourceOrDestinationNumber	Enum	<ul style="list-style-type: none"> SOURCE (0) DESTINATION (1)
callOccursMoreThanNumberTimes	Integer	
callWithinNumberSeconds	Integer	Only for BlackList (seconds)
blockNumberDuration	Integer	Used for: <ul style="list-style-type: none"> BlackList (minutes) DID count (minutes)
alarmEnabled	Boolean	
flow	Enum	This attribute is only used for DID masking web services.

Attribute	Type	Description
		STOP, CONTINUE, CONTINUE_TO_RULE
continueToRuleId	Integer	This attribute is only used for DID masking web services.
sipHeaders	{ Id: Integer Name: String callSetupRuleId: Integer }	
didCountDurationType	DidCountDurationType	MINUTES, TIME_OF_DAY If specified 'MINUTES' > ARM will use 'blockNumberDuration' attribute. If specified 'TIME_OF_DAY' > ARM will use 'didCountTimeOfDay' attribute.
didCountTimeOfDay	LocalTime	Only for Did_count if 'didCountDurationType' = TIME_OF_DAY
reroutePconIds	[Integer]	Reroute Peer Connections to be matched.

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal error

29.3 Update Policy Studio API

The <ARM_Configurator_IP>/ARM/v1/callSetupRule URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a Policy Studio generated call setup rule.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/callSetupRule/{id}
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
id	Integer	Database id
name	String	Name of the policy studio rule
searchFields	{ field: enum propertyDicEntryIds: [Integer] }	Possible values for the field: SOURCE_URI_USER, SOURCE_URI_HOST, DEST_URI_USER, DEST_URI_HOST, CONTACT_URI_USER, CONTACT_URI_HOST, CONTACT_URI_PORT, P_ASSERTED_IDENTITY_DISPLAY_N AME, P_ASSERTED_IDENTITY_USER P_ASSERTED_IDENTITY_HOST Each represents SIP header to be matched
actionFields	{ field: enum propertyDicEntryIds: [Integer] }	Possible values for the field: SOURCE_URI_USER, SOURCE_URI_HOST, DEST_URI_USER, DEST_URI_HOST, DEST_IP_ADDR, DEST_PORT, DEST_PROTOCOL, USER_CREDENTIALS_USER_NAME, USER_CREDENTIALS_PASSWORD, P_ASSERTED_IDENTITY_DISPLAY_N AME, P_ASSERTED_IDENTITY_USER, P_ASSERTED_IDENTITY_HOST Each represents SIP header to be changed

Attribute	Type	Description
nodeIds	[Integer]	Nodes to be matched
pConIds	[Integer]	Peer connections to be matched
priority	Integer	The priority of the policy studio rule
prevId	Integer	The id of the previous policy studio rule, -1 if first
nextId	Integer	The id of the next policy studio rule, -1 if last
topologyGroupIds	[Integer]	Topology Group ids
adminState	Enum	LOCKED, UNLOCKED
destAttr	{ attributes: { value: String } attributeGroups:[Integer] }	Destination attribute to match (destination number), can be either prefix, or prefix group id
srcAttr	{ attributes: { value: String } attributeGroups:[Integer] }	
type	CallSetupRuleActionType	0 = USER, 1 = NUMBER_PORTABILITY 2 = CREDENTIALS 3 = BLACK_LIST 4 = DIDS_COUNT_MATCH <ul style="list-style-type: none"> User is the regular Policy Studio Number portability is the web services Credentials - Enables the SBC to act as an authentication server for SIP message requests and allows the ARM to centrally manage user credentials for all SIP phones in the global network. BLACK_LIST – tag a caller's number if the caller calls a destination more than a defined number of times within a defined time period. DIDS COUNT MATCH – phone number counting, either calling or called within a defined time period.

Attribute	Type	Description
numberPortabilityId	Integer	If the type is NUMBER_PORTABILITY, Id of the web service which will be done in case of a match must be provided
isRegisteredUsers	Boolean	
destUserGroupsIds	[Integer]	
srcUserGroupsIds	[Integer]	
requestType	Enum	<ul style="list-style-type: none"> CALL (0) REGISTER (1)
didMatchType	Enum	SRC_AND_DEST, DEST, SOURCE
poolId	Integer	Only for DID masking web services
callExpirationTime	Integer	Only for DID masking web services
didXHeader	Integer	Only for DID masking web services
srcNormalizationGroupId	Integer	Only for DID masking web services
destNormalizationGroupId	Integer	Only for DID masking web services
direction	Enum	Only for DID masking web services OUTGOING, INCOMING
sourceOrDestinationNumber	Enum	<ul style="list-style-type: none"> SOURCE (0) DESTINATION (1)
callOccursMoreThanNumberTimes	Integer	
callWithinNumberSeconds	Integer	Only for BlackList (seconds)
blockNumberDuration	Integer	Used for: <ul style="list-style-type: none"> BlackList (minutes) DID count (minutes)
alarmEnabled	Boolean	
whiteAttr	<pre>{ attributes: { value: String } attributeGroups:[Integer] }</pre>	
flow	Enum	Only for DID masking web services STOP, CONTINUE, CONTINUE_TO_RULE
continueToRuleId	Integer	Only for DID masking web services
sipHeaders	<pre>[{ Id: Integer Name: String</pre>	

Attribute	Type	Description
	callSetupRuleId: Integer }}	
didCountDurationType	DidCountDurationType	MINUTES, TIME_OF_DAY If specified 'MINUTES' > ARM will use 'blockNumberDuration' attribute. If specified 'TIME_OF_DAY' > ARM will use 'didCountTimeOfDay' attribute.
didCountTimeOfDay	LocalTime	Only for Did_count if 'didCountDurationType' = TIME_OF_DAY
reroutePconIds	[Integer]	Reroute Peer Connections to be matched

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

29.4 Delete Policy Studio API

The `<ARM_Configurator_IP>/ARM/v1/callSetupRule` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a Policy Studio generated call setup rule.

REST Resource

```
DELETE <ARM_Configurator_IP>/ARM/v1/callSetupRule/{id}
```

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

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30 CAC Profile

This chapter describes the REST API resources for the CAC Profile. The following APIs are described:

- Get CAC Profile
- Add CAC Profile
- Update CAC Profile
- Delete CAC Profile

30.1 Get CAC Profile

The `<ARM_Configurator_IP>/ARM/v1/cac/profile/{id}` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve all CAC profiles or a specific CAC profile.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/cac/profile  
<ARM_Configurator_IP>/ARM/v1/cac/profile/{id}
```

{id} – ID of the requested element

HTTP Method

GET

Supported Content-Type

application/json

Attribute	Type	Description
id	Integer	CAC Profile ID
name	String	CAC Profile name
totalLimit	Long	Maximum number of allowed simultaneous sessions in the network
incomingLimit	Long	Maximum number of allowed incoming simultaneous sessions in the network
outgoingLimit	Long	Maximum number of allowed outgoing simultaneous sessions in the network

HTTP Response

- 200 OK
- 409 Conflict

30.1.1 Filter

Cac API requires using a filter to control the size and content of the data.
Filter should be added to the suffix of the URL, for example:

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/cac/profile?limit=20&page=2)
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Filter	Available for these Requests	Description
limit	Integer	Equals (=)
page	Integer	Equals (=)

HTTP Response

- 200 OK
- 409 Conflict

30.2 Add CAC Profile

The `<ARM_Configurator_IP>/ARM/v1/cac/profile` URL when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to add a CAC profile.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/cac/profile`

HTTP Method

POST

Supported Content-Type

application/json

Attribute	Type	Description
name	String	CAC Profile name
totalLimit	Long	If totalLimit is set incomingLimit and outgoingLimit should be empty
incomingLimit	Long	If incomingLimit or outgoingLimit is set totalLimit should be empty
outgoingLimit	Long	If incomingLimit or outgoingLimit is set totalLimit should be empty

HTTP Response

- 201 Created
- 409 Conflict
- 500 Internal error

30.3 Update CAC Profile

The <ARM_Configurator_IP>/ARM/v1/cac/profile/{id} URL when used with the PUT method, provides the ability for the ARM Manager to send a request to the ARM Configurator to update a CAC profile.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/cac/profile/{id}
```

HTTP Method

PUT

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
name	String	CAC Profile name
totalLimit	Long	If totalLimit is set incomingLimit and outgoingLimit should be empty
incomingLimit	Long	If incomingLimit or outgoingLimit is set totalLimit should be empty
outgoingLimit	Long	If incomingLimit or outgoingLimit is set totalLimit should be empty

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

30.4 Delete CAC Profile

The `<ARM_Configurator_IP>/ARM/v1/calls/quota/{id}` URL when used with the DELETE method, provides the ability for the ARM Manager to send a request to the ARM Configurator to delete a specific CAC profile.

REST Resource

```
DELETE <ARM_Configurator_IP>/ARM/v1/ cac/profile/{id}
```

HTTP Method

```
DELETE
```

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

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31 Journal

This chapter describes the URLs for managing journal entries.

31.1 Get Journal

The `<ARM_Configurator_IP>/ARM/v1/journal` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve pages of journal entries.

REST Resource

`<ARM_Configurator_IP>/ARM/v1/journal`

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
totalPages	Integer	Total pages according to the limit selected
totalElements	Integer	Total number of journal entries
numberOfElementsInPage	Integer	Total of journal entries in the current page
pageNumber	Integer	Current page
elements	{ Id: Integer source: String createDate: Date description: String value: String action: enum actionDescription: String }	value – the JSON object that was used to do the action, or null if didn't have a body action – enum of the action actionDescription – textual description of the action

31.1.1 Filter

The Statistics API requires using a filter to control the size and content of the data. Filter should be added to the suffix of the URL, for example:

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/journal?
filter=(searchString={string},description={String})&limit=25
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Filter	Available for these requests	Description
searchString	calls	Contains (~)
value	calls	Equals (=)
description	calls	Contains (~)
operator	calls	Equals (=) or Contains (~)
source	calls	Equals (=)
action	calls	Contains (~)
startDate	calls	Equals (=)
endDate	calls	Equals (=)
limit	calls	Equals (=)
page	calls	Equals (=)
sort	calls	DESC or ASC

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

31.1.2 Get Specific Journal Entry

The `<ARM_Configurator_IP>/ARM/v1/journal` URL when used with the GET method, provides the ability for the ARM Manager to send a request to the ARM Configurator to retrieve specific journal entries.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/journal/{id}
```

HTTP Method

GET

Supported Content-Type

application/json

Attributes

Attribute	Type	Description
Id	Integer	Database ID
source	String	The source of the journal, generally ARM
createDate	Date	The creation date of the journal entry in UTC
description	String	Description of the action
Value	String	The JSON value if any of the body request
Action	ENUM	An action enumerator
actionDescription	String	Textual description of the action enumerator

HTTP Response

- 200 OK
- 409 Conflict
- 500 Internal error

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32 Logging

This chapter describes the REST resources for logging.

32.1 Client Logging into the Server

The `<ARM_Configurator_IP>/ARM/v1/logging/client` when used with the POST method, provides the ability for the ARM Manager to send a request to the ARM Configurator to send an error log message to a dedicated log file on the server.

REST Resource

```
<ARM_Configurator_IP>/ARM/v1/logging/client
```

HTTP Method

POST

Supported Content-Type

application/json

Attributes

The request MUST contain JSON data that consists of the following elements:

Attribute	Type	Description
message	String	The message to be logged to the log file

HTTP Response

- 201 Created – The log message was created successfully to the log file.
- 409 Conflict
- 500 Internal error

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33 REST Responses Codes

The following is a summary of the status codes for responses that will be used in the API:

- **200 OK** – Indicates that a successful request has been completed.
- **201 Created** – Indicates the successful creation of a new resource and corresponding JSON is sent.
- **202 Accepted** – Indicates that the request has been accepted for processing, however the processing has not yet been completed.
- **204 No Content Response** – a successful request has been completed without a response body (the result was empty).
- **401 Unauthorized** – Indicates that the username or password of an existing WEB user is not correct.
- **403 Forbidden** – Indicates that the existing WEB user does not have privileges to execute this request (incorrect credentials are sent or if the role of the user didn't match the security administrator's credentials).
- **409 Conflict** – Indicates that there is a conflict in the request.
- **500 Internal Error** – the server encountered an internal error

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