



CHAPTER 26

TunnelApp Service

This chapter describes the DCNM web services' API methods for the TunnelApp service.

Information About TunnelApp Service

Tunneling allows you to encapsulate arbitrary packets inside a transport protocol. This feature is implemented as a virtual interface to provide a simple interface for configuration. The tunnel interface is designed to provide the services necessary to implement any standard point-to-point encapsulation scheme. Because tunnels are point-to-point links, a separate tunnel needs to be configured for each link. The API categories are as follows:

- Query/Get APIs—Query data from the persistent database.
- Modify APIs—Modify existing IpGreTunnelNetworkInterface settings.
- Delete APIs—Delete existing tunnel interfaces in the device.
- Apply APIs—Apply a setting to a group of tunnel interface settings.

bindKeepAliveSettingToNetworkInterfaces

Modifies KeepAliveSetting to one or more Tunnel Interfaces.

ValidationException is thrown if any of the following situations occurs:

- If tunnelInstanceIds is null or empty or it is not of type InstanceNameId.
- If tunnelInstanceIds is not a valid InstanceNameId of TunnelNetworkInterface object.
- If keepAliveSetting is null.

Parameters

opContext—Operational context

tunnelInstanceIds—List of one or more InstanceNameId of TunnelNetworkInterface.

keepAliveSetting—KeepAliveSetting to be applied to TunnelNetworkInterface objects.

Return Value

void

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bindPathMtuDiscoverySettingToNetworkInterfaces

Modifies PathDiscoverySetting to one or more Tunnel Interfaces

ValidationException is thrown if any of the following situations occurs:

- If tunnelInstanceIds is null or empty or it is not of type InstanceNameId.
- If tunnelInstanceIds is not a valid InstanceNameId of TunnelNetworkInterface object.
- If keepAliveSetting is null.

Parameters

opContext—Operational context

tunnelInstanceIds—List of one or more InstanceNameId of TunnelNetworkInterface

pathMtuDiscoverySetting—PathMtuDiscoverySetting to be applied to TunnelNetworkInterface objects

Return Value

void

createIpGreTunnelNetworkInterfaces

Create a list of tunnel interfaces in a network elements.

Following associations are to be provided for the given IpGreTunnelNetworkInterface:

- AbstractNetworkElementReference corresponding to the specified IpGreTunnelNetworkInterface AbstractNetworkElement reference

ValidationException is thrown if any of the following situations occurs:

- If tunnelIfs is null or empty or it is not a valid TunnelNetworkInterface object.
- If an instance of IpGreTunnelNetworkInterface exists in the database.

Parameters

opContext—Operational context

tunnelIfs—List of TunnelNetworkInterface objects to be created

Return Value

List of InstanceNameIds corresponding to the new IpGreTunnelNetworkInterface

deleteIpGreTunnelNetworkInterfaces

Deletes one or more Tunnel InterfaceObjects. Given a InstanceNameId of TunnelNetworkInterface, the corresponding tunnel interface object is deleted from the server.

ValidationException is thrown if any of the following situations occurs:

- If tunnelInstanceIds collection is null or it is empty.
- If tunnelInstanceIds collection contains an element that is not of type TunnelNetworkInterface InstanceNameId.

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- If tunnelInstanceIds collection contains a TunnelNetworkInterface that does not exist in the database.

Parameters

opContext—Operational context

tunnelInstanceIds—List of InstanceNameId of TunnelNetworkInterface

Return Value

void

disableTunnelService

Disables Tunnel service in the device. Given the instance name ID of one or more network elements, tunnel service will be disabled on those elements.

ValidationException is thrown if any of the following situations occurs:

- If neInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If neInstanceNameIdCol does not a valid AbstractNetworkElement InstanceNameId.

Parameters

opContext—Operational context

neInstanceNameIdCol—List of InstanceNameId of tunnel service enabled AbstractNetworkElement

Return Value

void

enableTunnelService

Enables Tunnel service globally in the device. Given the instance name ID of one or more network elements, tunnel will be enabled on those elements.

ValidationException is thrown if any of the following situations occurs:

- If neInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If neInstanceNameIdCol does not a valid AbstractNetworkElement InstanceNameId.

Parameters

opContext—Operational context

neInstanceNameIdCol—List of InstanceNameId of tunnel service disabled AbstractNetworkElement

Return Value

void

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getAllTunnelInterfacesInNetworkElement

Returns a list of TunnelNetworkInterface configured in the given device. Given the InstanceNameId of a network element, returns a collection of TunnelNetworkInterface in the network element.

ValidationException is thrown if any of the following situations occurs:

- If neInstanceNameId is null or it is not a valid InstanceNameId of a network element.

Parameters

opContext—Operational context

neInstanceNameId—InstanceNameId of the network element

Return Value

List of instances of TunnelNetworkInterface

getTunnelDestinationInterface

Returns instance of Destination NetworkInterface configured for the given tunnel.

ValidationException is thrown if any of the following situations occurs:

- If tunnelIf is null or it is not a valid InstanceNameId of a IpGreTunnelNetworkInterface.

Parameters

opContext—Operational context

tunnelIf—InstanceNameId of the IpGreTunnelNetworkInterface

Return Value

instances of NetworkInterface

getTunnelGlobalSetting

Returns a list of TunnelGlobalSetting corresponding to the given AbstractNetworkElement.

ValidationException is thrown if any of the following situations occurs:

- If neInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If neInstanceNameIdCol does not a valid AbstractNetworkElement InstanceNameId.

Parameters

opContext—Operational context

neInstanceNameIdCol—List of one or more InstanceNameId of AbstractNetworkElement

Return Value

List of TunnelGlobalSetting

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getTunnelNetworkInterfaces

Returns the Tunnel Network Interface corresponding to the InstanceNameId. Given the InstanceNameId of one TunnelNetworkInterface, returns the corresponding tunnel Network Interface object.

ValidationException is thrown if any of the following situation occurs:

- If tunnelIfInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If tunnelIfInstanceNameIdCol is not a valid InstanceNameId of TunnelNetworkInterface object.

Parameters

opContext—Operational context

tunnelIfInstanceNameIdCol—List of one or more InstanceNameId of TunnelNetworkInterface objects.

Return Value

List of instances of TunnelNetworkInterface.

getTunnelSourceNetworkInterface

Returns instance of source NetworkInterface configured for the given tunnel.

ValidationException is thrown if any of the following situations occurs:

- If tunnelIf is null or it is not a valid InstanceNameId of a IpGreTunnelNetworkInterface.

Parameters

opContext—Operational context

tunnelIf—InstanceNameId of the IpGreTunnelNetworkInterface

Return Value

instances of NetworkInterface

modifyIpGreTunnelNetworkInterfaces

Modify a IpGreTunnelNetworkInterface Objects in one or more network elements.

ValidationException is thrown if any of the following situations occurs:

- If modifiedTunnelIfs is null or empty or it is not of type TunnelNetworkInterface.
- Only existing IpGreTunnelNetworkInterface (exist in database) can be modified.

PropertiesException is thrown if any of the following situations occurs:

- In the modifiedTunnelIfs collection, if any one of the TunnelNetworkInterface attribute is not valid.

Example:

- MTU of a Tunnel Interface is read-only. It Contains default value and it should not be editable.

Parameters

opContext—Operational context

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modifiedTunnelIfs—List of modified TunnelNetworkInterface objects

Return Value

void