



Signaling Delivery Controller

Web Services API Guide

4.4

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About this Document

Document Name: F5 Signaling Delivery Controller Web Services API Guide

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Document Objectives

This document provides the user with a description of the Web Service APIs that are available to the user as an additional way to work with the SDC.

Document History

Revision Number	Change Description	Change Location
May 2015 – Ver. 2	Added Note to addPeer parameter. Added Note to getSiteIds. Updated trademark text.	See <i>addPeer</i> , <i>getSiteIds</i> ,

Conventions

The style conventions used in this document are detailed in Table 1.

Table 1: Conventions

Convention	Use
Normal Text Bold	Names of menus, commands, buttons, user-initiated CLI commands and other elements of the user interface
<i>Normal Text Italic</i>	Links to figures, tables, and sections in the document, as well as references to other documents
<code>Script</code>	Language scripts
<code>Courier</code>	File names





Convention	Use
 Note:	Notes which offer an additional explanation or a hint on how to overcome a common problem
 Warning:	Warnings which indicate potentially damaging user operations and explain how to avoid them

Table of Contents

- 1. Web Service API Overview 1
 - 1.1 Software Architecture 1
 - 1.2 Web Service Interface Functionality..... 2
 - 1.3 Running and Authenticating a Request 3
- 2. Working with the Web Service Provisioning API 5
 - 2.1 Web Service API Methods 5
 - 2.2 Web Service API Parameters by API Method 7
 - 2.2.1 addPeer 7
 - 2.2.2 getPeer 10
 - 2.2.3 addPeerToPool 15
 - 2.2.4 modifyPeer 16
 - 2.2.5 removePeer 18
 - 2.2.6 addPool..... 19
 - 2.2.7 modifyPool 20
 - 2.2.8 removePool 22
 - 2.2.9 getListFromPool 23
 - 2.2.10 removePeerFromPool 26
 - 2.2.11 getPeerList..... 27
 - 2.2.12 getPeerProfileList 32
 - 2.2.13 getPoolList 33
 - 2.2.14 loadACLList 33
 - 2.2.15 getACLList 35
 - 2.2.16 setEntityProperties 36
 - 2.2.17 getEntityProperties..... 38
 - 2.2.18 getEntityProperty 39
 - 2.2.19 getStatisticsForAllPools 41
 - 2.2.20 getStatisticsForPools 41
 - 2.2.21 setFtpServerName..... 44
 - 2.2.22 getFtpServerName..... 44
 - 2.2.23 uploadFiles..... 44
 - 2.2.24 addLicense 45
 - 2.2.25 getLicenses 45
 - 2.2.26 getSitelds 46
- 3. Working with the Web Service Flow Management APIs 47
 - 3.1 Web Service Routing API Parameters by API Method 48
 - 3.1.1 addColumn 48



3.1.2 removeColumn	52
3.1.3 getColumns.....	54
3.1.4 getColumnAttribute.....	54
3.1.5 getColumnFilterType	58
3.1.6 getColumnDescription	59
3.1.7 editRoutingRow	61
3.1.8 addRoutingRow	64
3.1.9 removeRouteRow	66
3.1.10 getRouteRows	67
3.1.11 setRouteRowPools.....	69
3.1.12 getRouteRowPools	70
3.1.13 setForwardSettingsOfRoutingRow	72
3.1.14 getForwardSettingsOfRoutingRow	74
Glossary.....	76

List of Figures

Figure 1: SDC Software Architecture	1
Figure 2: Web Service Call Flow	2
Figure 3: SOAP Request and Response Example	4

List of Tables

Table 1: Conventions	II
Table 2: Call Flow Description.....	3
Table 3: Web Service Provisioning Methods and Responses	5
Table 4: Web Service Flow Management Methods and Responses.....	47
Table 5: Terms and Abbreviations	76



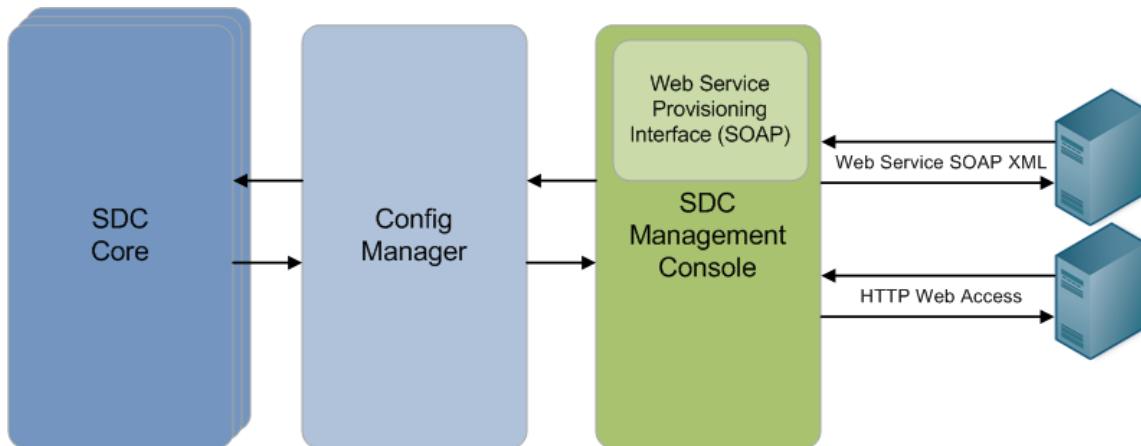
1. Web Service API Overview

In addition to accessing the F5® Traffix® Signaling Delivery Controller™ (SDC) solution through a Web UI, users can access many functionalities through Web Service APIs. There are two main categories of APIs, the Web Service Provisioning APIs and the Web Service Flow Management APIs.

1.1 Software Architecture

The F5 SDC Web Service (WS) provisioning interface is based on SOAP API and is integrated as part of SDC Management Console. SDC Management Console is a system configuration web access application that is based on TOMCAT web services. The user can either connect to SDC Management Console to configure the system from an interactive mode or from a customized SOAP client allowing programmatic system configuration.

Figure 1: SDC Software Architecture



The following are SDC's Components as shown in *Figure 1*.

- **SDC Core:** Gateway/LB/DRA handling Diameter and other signaling protocol traffic.



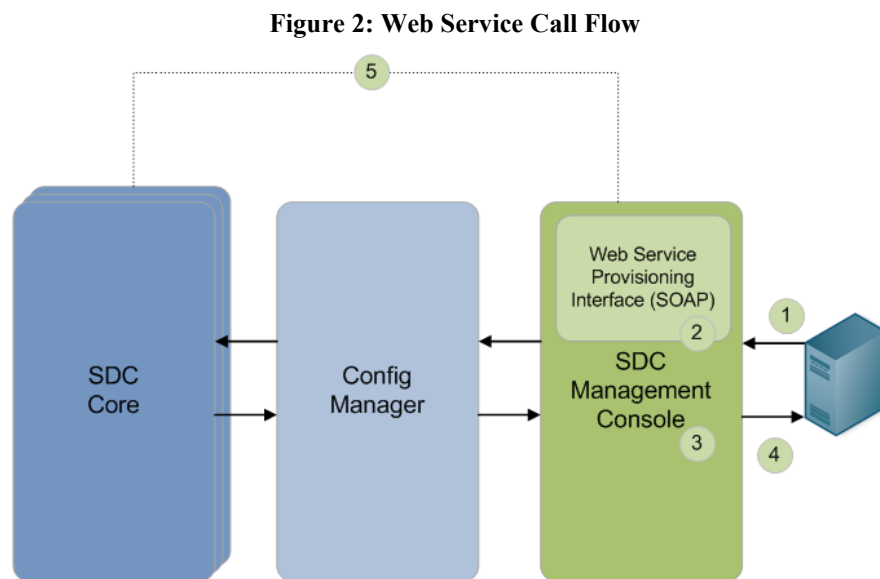
- **Config Manager:** SDC Management Console. A configuration management module, responsible for configuring the distribution to all SDC Components within the cluster, providing configuration backup, restore and roll-back functionalities.
- **SDC Management Console:** a web module, providing SOAP and web access for end user configuration.

1.2 Web Service Interface Functionality

The WS interface enables a user to use a limited set of commands of the SDC Management Console to allow defining Remote Peers, Access Control Lists and Pools or flow management.

For a detailed list of available commands, see *Web Service API Methods* and *Web Service Routing API Parameters by API Method*. These WS interface commands replicate the SDC Management Console's commands.

Figure 2 shows the WS interface Call Flow.



The order in which SDC handles SOAP calls is described in *Table 2*.



Table 2: Call Flow Description

Order	Action Description
1.	The client sends an XML request to the WS using SOAP format The URL for the WS Interface is: <i>http://<address of WEBUI>:8080/MgmtConsole/provisioningWs?wsdl</i>
2.	The XML request is translated into a configuration command of the SDC Management Console
3.	The SDC Management Console validates the command. In case of a valid command, the command is executed and distributed to the Config Manager. In case of an error, the command is discarded and an error is sent back to the client.
4.	The WS sends an XML response with the result Status, which indicates whether the command was committed successfully or rejected. In case of an error, the error description is included in the response.
5.	SDC Management Console saves the new configuration in the configuration file and distributes it to SDC.



Note: All changes done via the WS interface are automatically applied to the system.

1.3 Running and Authenticating a Request

SOAP requests sent to the Web Service are only processed if they contain user credentials (username and password) that can be authenticated against the SDC user database (as defined in **Administration > User Management** screen).

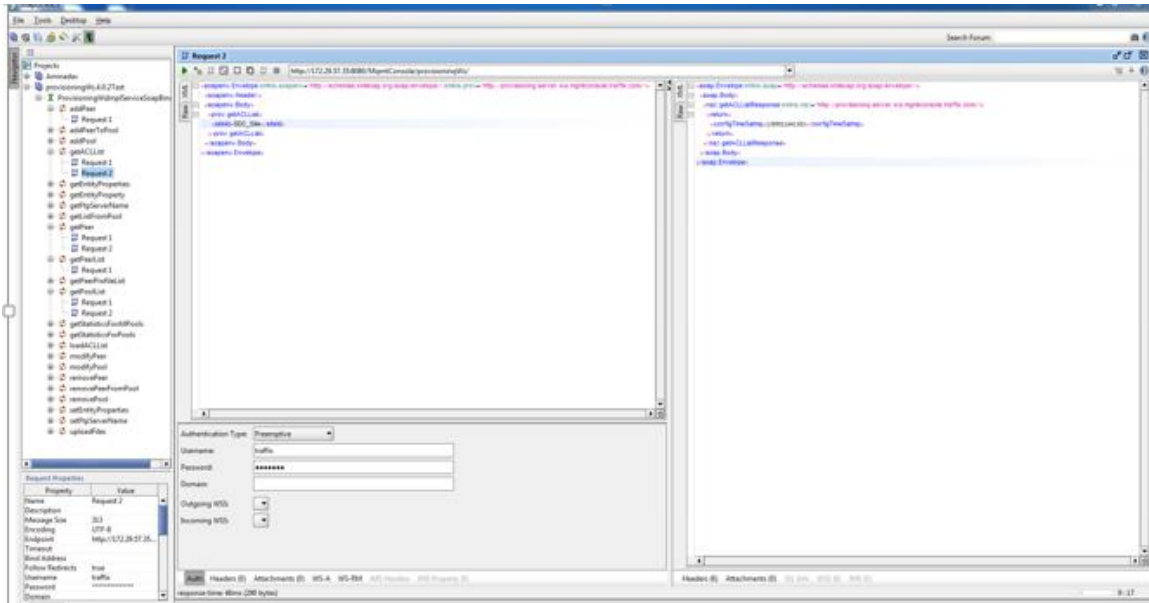
To add user credentials to SOAP requests:

1. Enter your **Username** and **Password**.
2. Verify that the basic **Authentication Type** setting in your SOAP application is defined to **Preemptive** mode.



An authentication header with the user credentials is now automatically added to generated SOAP requests, as can be seen in the following example. (In this example, the username and password are both “traffix”):

Figure 3: SOAP Request and Response Example



Note: Only users that are defined in SDC Web UI with a permission level of ‘Expert’ or higher, have permission to work with the WS API interface. Alternatively, if the SDC is configured to authenticate the users against the LDAP Authentication server, each user that is allowed by authentication server with permission of “Expert” and higher is allowed to use the SDC API interface.



2. Working with the Web Service Provisioning API

This section explains the WSDL methods and their related input and output parameters.

2.1 Web Service API Methods

The SDC WSDL contains all available methods (commands) supported by the Web Service provisioning interface.

To view the WSDL:

1. Access the following URL:

http://<WEB UI IP ADDRESS>:8080/MgmtConsole/provisioningWs?WSDL



Note: If this URL cannot access the Management Console, enter your **Username** and **Password**, and then access the WSDL URL again in a new tab.

Table 3: Web Service Provisioning Methods and Responses

Method	Response	Description
addPeer	addPeerResponse	Adds a new Remote Peer
getPeer	getPeerResponse	Retrieves a peer's configuration and status parameters
addPeerToPool	addPeerToPoolResponse	Assigns a peer to a specific pool
modifyPeer	modifyPeerResponse	Modifies one or a few parameters of a peer.
removePeer	removePeerResponse	Removes a peer from the system
addPool	addPoolResponse	Configures a new pool



Method	Response	Description
modifyPool	modifyPoolResponse	Modifies one or a few parameters of a pool
removePool	removePoolResponse	Removes a pool from the system
getListFromPool	getListFromPoolResponse	Retrieves a pool's configuration and status parameters
removePeerFromPool	removePeerFromPoolResponse	Removes a peer from a pool
getPeerList	getPeerListResponse	Retrieves the list of all peers
getPeerProfileList	getPeerProfileListResponse	Retrieves the list of all Peer Profiles
getPoolList	getPoolListResponse	Retrieves the list of all pools
loadACLList	loadACLListResponse	Loads the list of ACL into the system
getACLList	getACLListResponse	Retrieves the list of all configured ACLs
setEntityProperties	setEntityPropertiesResponse	Sets entity properties
getEntityProperties	getEntityPropertiesResponse	Gets entity properties
getEntityProperty	getEntityPropertyResponse	Gets an entity property
getStatisticsForAllPools	getStatisticsForAllPoolsResponse	Gets statistics for all pools
getStatisticsForPools	getStatisticsForPoolsResponse	Gets statistics for specific pools
setFtpServerName	setFtpServerNameResponse	Sets the FTP server name
getFtpServerName	getFtpServerNameResponse	Retrieves the FTP server name



Method	Response	Description
uploadFiles	uploadFilesResponse	Uploads the files
addLicense	addLicenseResponse	Adds a new license key for a VIP address
getLicenses	getLicensesResponse	Retrieves the license keys
getSiteIds	getSiteIdsResponse	Retrieves a list of the current site names

2.2 Web Service API Parameters by API Method

Each WS API method has a set of predefined parameters. These parameters define the request (input) and response (output) information for each method. This section details the related parameters for each WS API method. When optional parameters are not filled out by the user, they are assigned a default value. These values are listed in the tables below. In addition, this section also details the possible error messages for each WS API method with their corresponding result codes.

2.2.1 addPeer

Input Parameters:

Parameter Name	Type	Description	Value Ranges	Required(Y/N)
General Peer Properties				
Name	String	The name of the peer	N/A	Y
siteId	String	The name of the site that the peer runs on	N/A	Y
Peer Profile	String	The Peer Profile assigned to the peer	Default	N



Parameter Name	Type	Description	Value Ranges	Required(Y/N)
Use Proxy	Boolean	Indicates if the peer is connected via FEP or directly to the CPF <hr/> Note: This parameter is relevant for Diameter and Radius protocols	true, false Default: true	N
Proxy Node	String	The name of the FEP associated with the peer	N/A	N
Protocol	String	The protocols supported by the peer	N/A	Y
Local IP Addresses	String	The FEP IP address that is used to connect to the remote peer	N/A	N
Port	Integer	The remote peer port from where the message is sent to an SDC component (i.e. FEP)	up to 65,535	Y
HostIP	String	The host IP address of the added peer	N/A	Y



Parameter Name	Type	Description	Value Ranges	Required(Y/N)
isServer	Boolean	The added peer is defined as server peer	true, false Default: true	N
additionalNameValuePairs	String	The name of additional user defined parameters for the added peer Note: For example, user can specify Local Host and Local Realm.	N/A	N
Routing Behavior Parameters				
Weight	Integer	The defined weight of the peer for weighted-based load balancing	1...100,000	N
Priority	Integer	The defined priority of the peer for priority-based load balancing	1...100 (as configured)	N
Transport Layer Parameters				
Use SCTP Transport	Boolean	Indicates if the peer uses SCTP or TCP transport layer	true, false Default: false	N
TW Timer (Millis)	Integer	The Time Wait interval of the transport layer	The minimum TW Timer value is 6000 milliseconds Default: 30 seconds	N



Parameter Name	Type	Description	Value Ranges	Required(Y/N)
Site Replication Parameters				
Use for Site Replication	Boolean	Indicates if this peer is used for connecting to the FEP on the Geo Redundant SDC site.	true, false Default: false	N

Output Parameters: None

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
PEER_113	113	Cannot add Peer '%s'. Because static Peer Profile '%s' does not exist
PEER_101	101	Cannot add '<PeerName>'. The name already exists

2.2.2 getPeer

Input Parameters:

Parameter Name	Type	Description	Value Ranges	Required(Y/N)
siteId	String	The name of the site that the peer runs on	N/A	Y



Parameter Name	Type	Description	Value Ranges	Required(Y/N)
Name	String	The name of the peer	N/A	Y

Output Parameters:

Parameter Name	Type	Description	Value Ranges
General Peer Properties			
Name	String	The name of the peer	N/A
Peer Profile	String	The Peer Profile assigned to the peer	Default
Use Proxy	Boolean	Indicates if the peer is connected via FEP or directly to the CPF	true, false
Proxy Node	String	The name of the FEP associated with the peer	N/A
Node Is Static	Boolean	Same as Discovery method description.	true, false
Administrative State	String	Indicates whether the peer is enabled or disabled by the administrator	Enabled, Disabled
Health	String	The current peer health state	Closed, Open, Limited
Status	String	The status of the peer connection for all CPFs and FEPs	Open /Close /Out of Service/Partially Out of Service
Health Map	String	Indicates the health of the pool per connected CPF	green/yellow/red



Parameter Name	Type	Description	Value Ranges
Status Map	String	Indicates the status of each connected FEP or CPF	Open, Out of service, and Closed
Protocols	String	The protocols supported by the peer	N/A
Local IP Addresses	String	The IP address of the VS that the peer is associated with. This IP is used by a remote peer to connect and communicate with SDC	N/A
Port	Integer	The remote peer port to where the message is being sent	N/A
Host IP Addresses	String	The remote peer IP address (single for TCP or multiple for SCTP)	N/A
Addresses	String	Same as Host IP Addresses description	N/A
Define as Server	Boolean	Indicates if the peer is a server or a client peer	true, false
Discovery Method	String	Indicates if the peer is dynamically connected or if the peer is configured using SDC management	Static, dynamic
Is Enable	Boolean	Indicates whether the peer is enabled or disabled by the administrator	true, false



Parameter Name	Type	Description	Value Ranges
Generate Transaction Data Records	Boolean	Indicates if all the transactions to or from this peer are captured in the TDRs	true, false
Diameter Identity Parameters			
Local Realm	String	The local realm value used by SDC originated messages toward this peer	N/A
Local Host	String	The local host value used by SDC originated messages toward this peer	N/A
Add Destination-Host to Server Initiated Requests	Boolean	Indicates if the Destination-Host is added to the server initiated requests when either the Full or Client Side Proxy policy is selected	true, false
SDC Component Identity			
URI	String	The peer's Universal Resource Identifier	POOL://PEER:PORT
Rate Limit Threshold Parameters			
Major	Integer	The major TPS vs Rate Limit threshold defined for the peer	N/A
Minor	Integer	The minor TPS vs Rate Limit threshold defined for the peer	N/A



Parameter Name	Type	Description	Value Ranges
Critical	Integer	The defined TPS vs Rate Limit Critical threshold for the peer	90
Routing Behavior Parameters			
Binding Name	String	The name used by the routing mechanism to bind sessions belonging to this Remote Peer with other sessions	N/A
Weight	String	The defined weight of the peer for weighted-based load balancing	1...100,000
Priority	String	The defined priority of the peer for priority-based load balancing	1...100 (as configured)
Transport Layer Parameters			
Use SCTP Transport	Boolean	Indicates if the peer uses SCTP rather than TCP transport layer	true, false
TC Timer (Millis)	String	The reconnection attempts for peers that the connection is closed (interval in milliseconds)	30,000
Out of Service Time Unit	String	The time unit that the TC Timer uses	Milliseconds
TW Timer (Millis)	Integer	The Time Wait interval of the transport layer	The minimum TW Timer value is 6000 milliseconds
EU Regulation Parameters			



Parameter Name	Type	Description	Value Ranges
Enable EUInternet LBO	Boolean	Indicates if EU local breakout policy is applied to the peer	true, false
Enable Manipulation PDN-Type for Roaming-S6a (outbound)	Boolean	Indicates if IPv6 protocol for roaming is enabled or not	true, false
Site Replication Parameters			
Use for Geo Redundant Sites Connection	Boolean	Indicates if this peer is used for connecting to the FEP on the Geo Redundant SDC site	true, false

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
PEER_102	102	Cannot get Peer '<PeerName>'. The name does not exist

2.2.3 addPeerToPool

Input Parameters:

Parameter Name	Type	Description	Value Range	Required(Y/N)
siteId	String	The name of the site in which the peer is added to the pool	N/A	Y



Parameter Name	Type	Description	Value Range	Required(Y/N)
peerName	String	The name of the added peer	N/A	Y
poolName	String	The name of the pool that the peer was added to	N/A	Y

Output Parameters: None

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
POOL_220	220	Cannot add Peer '<PeerName>' to Pool '<poolName>'. The Pool is missing from the Pool table
POOL_230	230	Cannot add Peer '<PeerName>' to the Pool. The Peer '<PeerName >' does not exist

2.2.4 modifyPeer

Input Parameters:

Parameter Name	Type	Description	Value Ranges	Required (Y/N)
General Peer Properties				
SiteId	String	The name of the site in which the peer is modified	N/A	Y
Name	String	The name of the peer	N/A	Y



Parameter Name	Type	Description	Value Ranges	Required (Y/N)
Peer Profile	String	The Peer Profile assigned to the peer	N/A Default: Default	N
additionalNameValue Pairs	String	The name of additional user defined parameters for the modified peer	N/A	N
adminStatus	boolean	The administrative state (i.e. enabled) of the peer	true, false Default: true	N
Routing Behavior Parameters				
Weight	String	The defined weight of the peer for weighted-based load balancing	1...100,000	N
Priority	String	The defined priority of the peer for priority-based load balancing	1...100 (as configured)	N
Transport Layer Parameters				
TW Timer (Millis)	Integer	The Time Wait interval of the transport layer	The minimum TW Timer value is 6000 milliseconds	N

Output Parameters: None

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'



Error Name	Error Code	Error Description
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
POOL_111	111	Cannot modify Peer '<PeerName>'. The Peer is missing from the Peer table
PEER_114	114	Cannot modify Peer '%s'. Because static Peer Profile '%s' does not exist

2.2.5 removePeer

Input Parameters:

Parameter Name	Type	Description	Value Ranges	Required (Y/N)
siteId	String	The name of the site in which peer is removed	N/A	Y
Name	String	The name of removed peer	N/A	Y

Output Parameters: None

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
PEER_112	112	Cannot remove Peer '%s'. The Peer is missing from the Peer table



2.2.6 addPool

Input Parameters:

Parameter Name	Type	Description	Value Ranges	Required (Y/N)
General Pool Properties				
siteId	String	The name of the site that the pool is added to	N/A	Y
Name	String	The name of the added pool	N/A	Y
minNumberOfServers	Integer	The minimum number of servers that can be configured for the added pool	0...500 Default is 1	N
rampUpSplitBy	string	The value by which messages in the added pool will be divided into groups	N/A Default: request.SESSION_ID	N
rampUpTime	integer	The time (in seconds), that the added pool will be in ramp-up mode from when the mode is activated	N/A Default: 1	N
Rate Limit Threshold Parameters				
rateLimit	integer	Sets the maximum TPS that can be processed by the added pool.	Any Number	N
Routing Behavior Parameters				
IBMethod	realmPolicy	The load balance policy	ByPrecedence, RoundRobin, WeightedRoundRobin, RoundTripBased	Y



Parameter Name	Type	Description	Value Ranges	Required (Y/N)
			PendingRequests Based, Hash, WeightedHash, Modulo, Random, External	
externalLBMethod	realmPolicy	Defines the external load balancing method	Must be defined by a script	Only is required, when lbMethod is defined as External
Script	String	The external script when using external load balancing method	N/A	N

Output Parameters: None

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
POOL_210	210	Cannot add Pool '<PoolName>'. The name already exists"

2.2.7 modifyPool

Input Parameters:



Parameter Name	Type	Description	Value Ranges	Required (Y/N)
General Pool Properties				
siteId	String	The name of the site that the modified pool is added to	Y	Y
Name	String	The name of the modified pool	N/A	Y
minNumberOfServers	Integer	The minimum number of servers that can be configured for the modified pool	0...500 Default: 1	N
rampUpSplitBy	string	The value by which messages in the modified pool will be divided into groups	N/A Default: request.SESSION_ID	N
rampUpTime	integer	The time (in seconds), that the modified pool will be in ramp-up mode from when the mode is activated	N/A Default: 1	N
Rate Limit Threshold Parameters				
rateLimit	integer	Sets the maximum TPS that can be processed by the modified pool	Any Number	N
Routing Behavior Parameters				
IBMethod	realmPolicy	The load balance policy	ByPrecedence, RoundRobin, WeightedRoundRobin, RoundTripBased, PendingRequestsBased, Hash,	N



Parameter Name	Type	Description	Value Ranges	Required (Y/N)
			WeightedHash, Modulo, Random, External	
externalLBMethod	realmPolicy	Defines the external load balancing method	Must be defined by script	Only is required, when lbMethod is defined as External
Script	String	The external script when using external load balancing method	N/A	N

Output Parameters: None

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
POOL_211	211	Cannot modify Pool '<PoolName>'. The Pool does not exist

2.2.8 removePool

Input Parameters:



Parameter Name	Type	Description	Value Ranges	Required (Y/N)
General Pool Properties				
siteId	String	The name of the site of the removed pool	N/A	Y
Name	String	The name of the removed pool	N/A	Y

Output Parameters: None

Error Messages

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
POOL_212	212	Cannot remove Pool '%s'. The Pool is missing in Pool table

2.2.9 getListFromPool

Input Parameters:

Parameter Name	Type	Description	Value Ranges	Required (Y/N)
General Pool Properties				
siteId	String	The name of the site of the pool	N/A	Y
poolName	String	The name of the pool	N/A	Y

Output Parameters:



Parameter Name	Type	Description	Value Ranges
General Pool Properties			
Name	String	Name of the “Default pool”	N/A
Minimum Number of Servers	Integer	The minimum number of peers in the selected pool	Default is 1
Peers	String	The peers contained in the selected pool	N/A
PeerTypes	String	The types of those peers in the selected pool	N/A
Discovery Method	String	Indicates if the peer is dynamically connected or if the peer is configured using SDC management	Static, dynamic
Health	String	Indicates the pool’s peers’ health state	green/yellow/red
Health Map	String	Indicates the health of the pool per connected CPF	green/yellow/red
Status Map	String	Indicates the status of each connected FEP or CPF	Open, Out of service, and Closed
Status	String	The status of a pool’s peer connections for all CPFs and FEPs	Open /Close /Out of Service/Partially Out of Service
Split By	string	The message property value in which the messages are divided into groups	N/A Default: request.SESSION_ID
Pool Ramp-Up Time (Seconds)	integer	The time (in seconds), that the pool will be in ramp-up mode from when the mode is activated	N/A Default: 1
Rate Limit Threshold Parameters			



Parameter Name	Type	Description	Value Ranges
Rate Limit (TPS)	string	Sets the maximum TPS that can be processed by the pool.	Any Number
High	Integer	The percentage of TPS allocation for high priority messages	70
Medium	String	The percentage of TPS allocation for medium priority messages.	20
Low	Integer	The percentage of TPS allocation for low priority messages.	10
Critical	Integer	The critical threshold for pool rate limit defined for the peers in the selected pool	90
Major	Integer	The major threshold for the pool rate limit defined for the peers in the selected pool	70
Minor	Integer	The minor threshold for the pool rate limit defined for the peers in the selected pool	30
Routing Behavior Parameters			
usedinRouting	String	Shows the routing rows that the selected pool is applied	Routing Row IDs (i.e. RT-0)
Policy	String	The load balance policy	ByPrecedence, RoundRobin, WeightedRoundRobin, RoundTripBased, PendingRequestsBased, Hash, WeightedHash, Modulo, Random, External
Transport Layer Parameters			



Parameter Name	Type	Description	Value Ranges
Time to Live (Millis)	Integer	The length of time that a pool policy exists (DNS)	

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
POOL_225	225	Cannot get Peer list from Pool '<PoolName>'. The pool does not exist

2.2.10 removePeerFromPool

Input Parameters:

Parameter Name	Type	Description	Value Ranges	Required (Y/N)
siteId	String	The name of the site in which peer is removed from pool	N/A	Y
peerName	String	The name of the removed peer	N/A	Y
poolName	String	The name of the pool in which peer is removed from	N/A	Y

Output Parameters: None

Error Messages:



Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
POOL_221	221	Cannot remove Peer from Pool '<PoolName>'. The Pool does not exist
POOL_231	231	Cannot remove Peer from Pool '<PoolName>'. The Peer '<PeerName>' does not exist

2.2.11 getPeerList

Input Parameters:

Parameter Name	Type	Description	Value Ranges	Required (Y/N)
siteId	String	The name of the site	N/A	Y

Output Parameters:



Note: These parameters are for Diameter peers.

Parameter Name	Type	Description	Value Ranges
General Peer Properties			
Name	String	The name of the peer	N/A
Peer Profile	String	The Peer Profile assigned to the peer	Default
Use Proxy	Boolean	Indicates if the peer is connected via FEP or directly to the CPF	true



Parameter Name	Type	Description	Value Ranges
Proxy Node	String	The name of the FEP associated with the peer	N/A
Node Is Static	String	Same as Discovery method description.	true, false
Status	String	The status of the peer connection (open, partially closed, all closed) for all CPFs and FEPs	Open  /Close  /Out of Service/Partially Out of Service 
Health Map	String	Indicates the health of the peer per CPF	Green, Yellow, and Red
Status Map	String	Indicates the status for the FEP and each CPF	Open, Out of Service, Out of Service Partially, and Closed For CPF-only deployments, there is also a Pending and Not Available status option
Protocols	String	The protocols supported by the peer	N/A
Local IP Addresses	String	The FEP IP address that is used to connect to the remote peer	N/A
Host IP Addresses	String	The remote peer IP address (single for TCP or multiple for SCTP)	N/A
Port	Integer	The remote peer port from where the message is sent to an SDC component (i.e. FEP)	N/A



Parameter Name	Type	Description	Value Ranges
Addresses	String	The remote peer IP address (single for TCP or multiple for SCTP)	N/A
Define as Server	String	Indicates if the peer is a server or a client peer	true, false
Discovery Method	String	Indicates if the peer is dynamically connected or if the peer is configured using SDC management	static, dynamic
Health	String	Indicates the current peer health.	green/yellow/red
Administrative State	String	Indicates whether the peer is enabled or disabled	Enabled/Disabled
Is Enable	Boolean	Same as Administrative State description	true, false
Generate Transaction Data Records	Boolean	Indicates if all the transactions to or from this peer are captured in the TDRs	true, false
Diameter Identity Parameters			
Local Realm	String	The local realm value used by SDC originated messages toward this peer	N/A
Local Host	String	The local host value used by SDC originated messages toward this peer	N/A



Parameter Name	Type	Description	Value Ranges
Add Destination-Host to Server Initiated Requests	Boolean	Indicates if the Destination-Host is added to the server initiated requests when either the Full or Client Side Proxy policy is selected	true, false
SDC Component Identity			
URI	String	The peer's Universal Resource Identifier, Describes the identity of the SDC Component. Used during capability exchange and routing	POOL://PEER:PORT
Rate Limit Threshold Parameters			
Minor	Integer	The minor TPS vs Rate Limit threshold defined for the peer	30
Major	Integer	The major TPS vs Rate Limit threshold defined for the peer	70
Critical	Integer	The defined TPS vs Rate Limit Critical threshold for the peer	90
Routing Behavior Parameters			
Use Proxy	Boolean	When configuring virtual servers, configuring Use Proxy to true enables the Proxy Node field	true, false



Parameter Name	Type	Description	Value Ranges
Proxy Group	String	The name of the FEP (or group of FEPs) associated with the peer. <hr/> Note: In this release, Proxy Group and Proxy Node is the same.	N/A
Binding Name	String	The name used by the routing mechanism to bind sessions belonging to this Remote Peer with other sessions	N/A
Weight	String	The defined weight of the peer for weighted-based load balancing	1...100,000
Priority	String	The defined priority of the peer for priority-based load balancing	1...100 (as configured)
Transport Layer Parameters			
Use SCTP Transport	Boolean	Indicates if the peer uses SCTP or TCP transport layer	true, false
TC Timer (Millis)	String	The reconnection attempts for peers that the connection is closed (interval in milliseconds)	30,000
TW Timer (Millis)	Integer	The Time Wait interval of the transport layer	The minimum TW Timer value is 6000 milliseconds



Parameter Name	Type	Description	Value Ranges
Out of Service Time Unit	String	The time unit that the TC Timer uses	Milliseconds
EU Regulation Parameters			
Enable EUInternet LBO	Boolean	Indicates if EU local breakout policy is applied to the peer	true, false
Enable Manipulation PDN-Type for Roaming-S6a (outbound)	Boolean	Indicates if IPv6 protocol for roaming is enabled or not	true, false
Site Replication Parameters			
Use for Geo Redundant Sites Connection	Boolean	Indicates if this peer is used for connecting to the FEP on the Geo Redundant SDC site	true, false

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing

2.2.12 getPeerProfileList

Input Parameters: None

Output Parameters:



Parameter Name	Type	Description	Value Range
Name	string	The name of the peer profiles defined in the SDC or EMS site	N/A
static	boolean	The discovery method: static (false)/dynamic (true)	false, true

Error Messages: None

2.2.13 getPoolList

Input Parameters:

Parameter Name	Type	Description	Value Ranges	Required (Y/N)
siteId	String	The name of the site	N/A	Y

Output Parameters:

- getPoolListResponse
 - return - <existing pool name>
- pcrfPool

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error

2.2.14 loadACLList

Input Parameters:



Parameter Name	Type	Description	Value Ranges	Required (Y/N)
General ACL Properties				
SiteId	String	The site in which you are applying the ACL list of IP addresses to determine to accept or reject peers	N/A	Y
Peer Profile	String	The Peer Profile assigned to the peer	N/A Default: Default	N
address	string	The IP address of the client peer. (A CIDR formatted address may be entered, indicating range of IP addresses)	N/A	Y
action	action	Action to accept the client peer or reject it	ACCEPT, REJECT	Y
enabled	boolean	Indicates whether this rule is enabled (true) or disabled (false)	true, false Default: true	N

Output Parameters: None

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing



Error Name	Error Code	Error Description
ACL_400	400	Cannot load ACL list, the ACL list has changed since version '<version time stamp
ACL_401	401	Cannot load ACL list, the given peer profile '%s' is not dynamic

2.2.15 getACLList

Input Parameters:

Parameter Name	Type	Description	Value Ranges	Required (Y/N)
General ACL Properties				
SiteId	String	The site in which you are applying the ACL list of IP addresses to determine to accept or reject peers	N/A	Y

Output Parameters:

Parameter Name	Type	Description	Value Ranges
General ACL Properties			
Enabled	Boolean	Indicates whether this rule is enabled (true) or disabled (false)	true, false
Action	String	Action to accept the client peer or reject it	ACCEPT, REJECT
PeerProfile	String	The Peer Profile that the rejected or accepted Peer is compared to	N/A
Address	String	The IP address of the client peer. (A CIDR formatted address may be	N/A



Parameter Name	Type	Description	Value Ranges
		entered, indicating range of IP addresses)	

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error

2.2.16 setEntityProperties

An entity is a per system object (peer/pool/site/etc.) that a user can define properties (i.e. name, value pairs) for later usage by the system.

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
General Entity Properties				
conditionScript	String	The condition script is a groovy script that returns a boolean value (true/false) and determines whether to perform the settings or not. If it does not perform the setting because the script returned false, then a response is sent with error code 1 and the following message: “Script to enable property change returned false. The script is {0}”	N/A	N



Parameter Name	Type	Description	Value Range	Required (Y/N)
Pathname – pathsandProperties	String	The path of the property that you want to set (global, site, SDC component, peer, pool)	For Global property: <i>Global</i> For Site property: <i>Site/Site-name</i> For SDC Component: <i>Site/Site-name/Node-Type/component-name</i> For Pool Property: <i>Site/Site-name/Pool/Pool-name</i> For Peer Property: <i>Site/Site-name/Peer/Peer-name</i> <hr/> Note: The path values are case sensitive. <hr/>	Y
Key	String	The name of the property	N/A	Y
Value	String	The defined value for the property	N/A	Y

Output Parameters:

- setEntityPropertiesResponse

Error Messages:



Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
PROPERTY_601	601	Invalid path syntax '%s'
PROPERTY_602	602	Invalid path '%s'. Object '%s' does not exist
PROPERTY_603	603	Invalid script '%s'

2.2.17 getEntityProperties

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
General Entity Properties				
entityPath	String	The path of the property that you want to set (global, site, SDC component, peer, pool)	For Global property: <i>Global</i> For Site property: <i>Site/Site-name</i> For SDC Component: <i>Site/Site-name/Node-Type/component-name</i> For Pool Property: <i>Site/Site-name/Pool/Pool-name</i>	Y



Parameter Name	Type	Description	Value Range	Required (Y/N)
			For Peer Property: <i>Site/Site-name/Peer/Peer-name</i> <hr/> Note: The path values are case sensitive. <hr/>	

Output Parameters:

- `getEntityPropertiesResponse`

Parameter Name	Type	Description	Value Range
key	string	The name of the property	N/A
value	string	The defined value for the property	N/A

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
PROPERTY_601	601	Invalid path syntax '%s'
PROPERTY_602	602	Invalid path '%s'. Object '%s' does not exist

2.2.18 `getEntityProperty`

Input Parameters:



Parameter Name	Type	Description	Value Range	Required (Y/N)
General Entity Properties				
entityPath	String	The path of the property that you want to set (global, site, SDC component, peer, pool)	For Global property: <i>Global</i> For Site property: <i>Site/Site-name</i> For SDC Component: <i>Site/Site-name/Node-Type/component-name</i> For Pool Property: <i>Site/Site-name/Pool/Pool-name</i> For Peer Property: <i>Site/Site-name/Peer/Peer-name</i> <hr/> Note: The path values are case sensitive. <hr/>	Y
propertyName	String	The property name of the entity (peer, pool, or site)	N/A	Y

Output Parameters:

- getEntityPropertyResponse



Parameter Name	Type	Description	Value Range
key	string	The name of the property	N/A
value	string	The defined value for the property	N/A

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
PROPERTY_601	601	Invalid path syntax '%s'
PROPERTY_602	602	Invalid path '%s'. Object '%s' does not exist

2.2.19 getStatisticsForAllPools



Note: This Web API method can only be used on SDC sites.

Input Parameters: None

Output Parameters:

- getStatisticsForAllPoolsResponse

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error

2.2.20 getStatisticsForPools



Note: This Web API method can only be used on SDC sites.



Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
poolNames	string	The names of the pool from which getting statistics	N/A	N

Output Parameters:

- getStatisticsForPoolsResponse

For each of the following parameters, an nmsRecord is returned that contains the following metadata elements:

- description
- elementName
- name
- nodeName
- nodeType
- parentName
- siteName
- statusOutput
- timestamp
- typeName
- value



Parameter Name	Type	Description	Value Ranges
poolEffectivceCapacity	string		N/A
PoolHealth	string	The current pool's health status (red, yellow, green)	N/A
PoolPercentageTimeoutEvents			N/A
PoolRemoteNodeEvents_APPLICATION_ERROR		The number of application errors per seconds for the selected pool	N/A
PoolRemoteNodeEvents_OVERLOADED		This shows the number of events rejected due to overload	N/A
PoolRemoteNodeEvents_RAMPUPOVERLOADED		An error message	N/A
PoolRemoteNodeEvents_TIMEOUT		An error message indicating that no answer was received from the server in the specified time frame. The request will be resent according to the routing resend parameters	N/A
PoolRemoteNodeEvents_TOO_BUSY		A server error message. The request will be resent according to the routing resend parameter	N/A
PoolRoundtripTimeAverage			N/A
PoolSentMessages			N/A

Error Messages:



Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error

2.2.21 setFtpServerName

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
filePeerName	string	The file name of the FTP server	N/A	Y
ftpServerName	string	The FTP server name	N/A	Y

Output Parameters: None

Error Messages: None

2.2.22 getFtpServerName

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
filePeerName	string	The file name of the FTP server	N/A	Y

Output Parameters: None

Error Messages: None

2.2.23 uploadFiles

Input Parameters:



Parameter Name	Type	Description	Value Range	Required (Y/N)
file_pattern	string	The pattern of the uploaded files	N/A	N

Output Parameters: None

Error Messages: None

2.2.24 addLicense

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
siteId	String	The site ID	N/A	Y
License	String	The license	N/A	Y

Output Parameters: None

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error

2.2.25 getLicenses

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
siteId	String	The site ID	N/A	Y
License	String	The license	N/A	Y

Output Parameters: None



Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error

2.2.26 getSiteIds



Note: To use the F5 CLI application, you need to apply this method to get all the available site ID names.

Input Parameters: None

Output Parameters:

Parameter Name	Type	Description	Value Range
Site ids	List<String>	The current existing site names	N/A

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error



3. Working with the Web Service Flow Management APIs

The SDC solution contains multiple services, written in both Java and C++, which require a centralized flow management.

The REST Web Service WSDL includes the following Web Service API methods for flow management:

Table 4: Web Service Flow Management Methods and Responses

Method	Response	Description
addColumn	addColumnResponse	Adds a column to the routing table
removeColumn	removeColumnResponse	Removes a specific column from the routing table
getColumns	getColumnsResponse	Retrieves all column heading names
getColumnAttribute	getColumnAttributeResponse	Retrieves a specific attribute value per column
getColumnFilterType	getColumnFilterTypeResponse	Retrieves a specific filter type per column
getColumnDescription	getColumnDescriptionResponse	Retrieves a specific description per column
editRoutingRow	editRoutingRowResponse	Edits the condition, the Action, Position (change the order) of a specific routing row
addRoutingRow	addRoutingRowResponse	Adds a row with an ID (generated by the SDC) to the routing table



Method	Response	Description
removeRouteRow	removeRouteRowResponse	Removes a routing row from the routing table
getRouteRows	getRouteRowsResponse	Retrieves all routing rows
setRouteRowPools	setRouteRowPoolsResponse	Defines the pools that are associated with a specified routing row
getRouteRowPools	getRouteRowPoolsResponse	Retrieves the pools that are associated with a specified routing row
setForwardSettingsOfRoutingRow	setForwardSettingsOfRoutingRowResponse	Defines a FORWARD routing action for a specified routing row and the specific action configurations (Forward to peer/Forward to pool)
getForwardSettingsOfRoutingRow	getForwardSettingsOfRoutingRowResponse	Retrieves the settings (to which peer/pool) of the FORWARD action for a specified routing row

3.1 Web Service Routing API Parameters by API Method

This section explains the Flow Management API methods and their related input and output parameters.

3.1.1 addColumn

Input Parameters:



Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management Note: In this release, only Routing is supported, so this parameter does not need to be specified.	Default: "Default"	N
tableType	TableType	The type of table (based on the flowName) that the column is added to. If not specified than the column is added to the Routing table	Routing Note: In this release, only Routing is supported.	N
label	string	The name of the rule attribute. This should be a unique name, used as an identifier for this column	N/A	Y
attribute	string	The name of the AVP retrieved from the message	N/A	Y
filterType	DecisionDefinitionElement	The data type for this rule attribute	STRING, STRING_COMP LEMENT, SUBSTRING, SUBSTRING_IG NORE_CASE, OCTET_STRING , SCRIPT, REGEXP,	Y



Parameter Name	Type	Description	Value Range	Required (Y/N)
			NUMBER, POSITIVE_NUMBER, BOOLEAN, NUMBER_RANGE, STRING_RANGE, DATE_RANGE, PEER_STATE, PROTOCOL, IP_ADDRESS, IP_ADDRESS_RANGE, STRING_IGNORE_CASE, STRING_IGNORE_CASE_COMPLEMENT, POOL_STATE, TIME, TIME_RANGE, DATE, PREFIX, PREFIX_IGNORE_CASE, SUFFIX, SUFFIX_IGNORE_CASE	
description	string	The description of this rule attribute	N/A	N



Parameter Name	Type	Description	Value Range	Required (Y/N)
position	integer	The position in the routing table where the column is added. If not specified, then the column is added to the end of the table. If specified, other columns positions are moved accordingly.	0-table size Default: end of table	N

Output Parameters: None

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
GENERAL_ERROR_805	805	Parameter '%s' with value '%s' should be at least %s characters
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'



Error Name	Error Code	Error Description
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'
RULE_ATTRIBUTE_LABEL_ALREADY_EXISTS_300	300	Rule attribute with label '%s' already exists in table '%s'
POSITION_OUT_OF_RANGE_301	301	Position '%s' is out of range [0, %s] in table '%s'
PROVISIONING_ADD_COLUMN_FAILED_302	302	Adding column with label '%s', attribute '%s', filter type '%s', description '%s' and position '%s' failed due to '%s'
TABLE_TYPE_NOT_SUPPORTED_303	303	The given table type '%s' is not supported. Supported table types are '%s'

3.1.2 removeColumn

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management <hr/> <small>Note: In this release, only Routing is supported, so this parameter does not need to be specified.</small> <hr/>	N/A Default: "Default"	N
tableType	tableType	The type of table (based on the flowName) that you want to remove a column	Routing	N



Parameter Name	Type	Description	Value Range	Required (Y/N)
		from. If not specified than the column is removed from the routing table	Note: In this release, only Routing is supported.	
label	string	The name of the rule attribute. This should be a unique name, used as an identifier for this column	N/A	Y

Output Parameters: None

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
GENERAL_ERROR_805	805	Parameter '%s' with value '%s' should be at least %s characters



Error Name	Error Code	Error Description
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'
PROVISIONING_REMOVE_COLUMN_FAILED_304	304	Failed to remove table column '%s' from table '%s' due to '%s'
TABLE_TYPE_NOT_SUPPORTED_303	303	The given table type '%s' is not supported. Supported table types are '%s'
RULE_ATTRIBUTE_LABEL_DOES_NOT_EXIST_306	306	Rule attribute with label '%s' does not exist in table '%s'

3.1.3 getColumns

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management Note: In this release, only Routing is supported, so this parameter does not need to be specified.	N/A Default: "Default"	N
tableType	tableType	The type of table (based on the flowName) that the column is retrieved from. If not specified than the column is retrieved from the Routing table	IncomingTransformation,OutgoingTransformation,SessionManagement,Routing.	N



Parameter Name	Type	Description	Value Range	Required (Y/N)
			Note: In this release, only Routing tableType is supported.	

Output Parameters:

- List of column labels

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
GENERAL_ERROR_805	805	Parameter '%s' with value '%s' should be at least %s characters
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'



Error Name	Error Code	Error Description
PROVISIONING_GET_COLUMNS_FAIL ED_305	305	Failed to get table columns from table '%s' due to '%s'
TABLE_TYPE_NOT_SUPPORTED_303	303	The given table type '%s' is not supported. Supported table types are '%s'

3.1.4 getColumnAttribute

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management Note: In this release, only Routing is supported, so this parameter does not need to be specified.	N/A Default: "Default"	N
tableType	tableType	The type of table (based on the flowName) that the column attribute is retrieved from. If not specified than the column attribute is retrieved from the Routing table	Routing Note: In this release, only Routing tableType is supported.	N
label	string	The name of the rule attribute. This should be a unique name, used as an identifier for this column	N/A	Y

Output Parameters:



- String - attribute for the specified table and label


Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
GENERAL_ERROR_805	805	Parameter '%s' with value '%s' should be at least %s characters
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'
PROVISIONING_GET_COLUMNS_FAILED_305	305	Failed to get table columns from table '%s' due to '%s'
TABLE_TYPE_NOT_SUPPORTED_303	303	The given table type '%s' is not supported. Supported table types are '%s'
RULE_ATTRIBUTE_LABEL_DOES_NOT_EXIST_306	306	Rule attribute with label '%s' does not exist in table '%s'



3.1.5 getColumnFilterType

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management  Note: In this release, only Routing is supported, so this parameter does not need to be specified.	N/A Default: “Default”	N
tableType	tableType	The type of table (based on the flowName) that the column filter type is retrieved from. If not specified than the column filter type is retrieved from the Routing table	Routing. Note: In this release, only Routing tableType is supported.	N
label	string	The name of the rule attribute. This should be a unique name, used as an identifier for this column	N/A	Y

Output Parameters:

- DecisionDefinitionElementType - filter type for the specified table and label

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error




Error Name	Error Code	Error Description
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
GENERAL_ERROR_805	805	Parameter '%s' with value '%s' should be at least %s characters
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'
PROVISIONING_GET_COLUMNS_FAILED_305	305	Failed to get table columns from table '%s' due to '%s'
TABLE_TYPE_NOT_SUPPORTED_303	303	The given table type '%s' is not supported. Supported table types are '%s'
RULE_ATTRIBUTE_LABEL_DOES_NOT_EXIST_306	306	Rule attribute with label '%s' does not exist in table '%s'

3.1.6 getColumnDescription

Input Parameters:



Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management <hr/>  Note: In this release, only Routing is supported, so this parameter does not need to be specified. <hr/>	N/A Default: “Default”	N
tableType	tableType	The type of table (based on the flowName) that the column description is retrieved from. If not specified than the column description is retrieved from the Routing table	Routing <hr/> Note: In this release, only Routing tableType is supported. <hr/>	N
label	string	The name of the rule attribute. This should be a unique name, used as an identifier for this column	N/A	Y

Output Parameters:

- String - description for the specified table and label

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'



Error Name	Error Code	Error Description
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
GENERAL_ERROR_805	805	Parameter '%s' with value '%s' should be at least %s characters
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'
PROVISIONING_GET_COLUMNS_FAILED_305	305	Failed to get table columns from table '%s' due to '%s'
TABLE_TYPE_NOT_SUPPORTED_303	303	The given table type '%s' is not supported. Supported table types are '%s'
RULE_ATTRIBUTE_LABEL_DOES_NOT_EXIST_306	306	Rule attribute with label '%s' does not exist in table '%s'

3.1.7 editRoutingRow

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management	N/A	N



Parameter Name	Type	Description	Value Range	Required (Y/N)
		Note: In this release, only Routing is supported, so this parameter does not need to be specified	Default: "Default"	
rowId	string	The row ID is a unique identifier for the edited row in the table.	N/A	Y
conditions	List<String, String> (receive "conditionKey" and "conditionValue")	List of conditions matching the column definition		N
action	string	The actions or policies available per flow management. Each policy/action is associated with configured properties and scripts	ROUTE FORWARD Note: In this release, only these actions are supported.	N
position	integer	The position of the row in the table. If changed, other rows' positions are shifted accordingly	0 - (table size)-1	N

Output Parameters: String - the edited routing row ID

Error Messages:



Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
GENERAL_ERROR_805	805	Parameter '%s' with value '%s' should be at least %s characters
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'
ROUTING_ACTION_NOT_SUPPORTED_307	307	The action '%s' is not supported action for routing using web service. Supported actions are '%s'
PROVISIONING_ADD_ROUTING_ROW_FAILED_308 OT_EXIST_311	308	Failed to add routing row due to '%s'
DECISION_TABLE_CONDITIONS_DONT_MATCH_DEFINITION_309	309	Decision table condition '%s' do not match the definitions in definition table '%s'. Use getColumn api to check the conditions



3.1.8 addRoutingRow

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management <hr/> Note: In this release, only Routing is supported, so this parameter does not need to be specified. <hr/>	N/A Default: "Default"	N
conditions	List<String, String> (receive "condition Key" and "condition Value")	List of conditions matching the column definition.		N
action	string	The actions or policies available per flow management. Each policy/action is associated with configured properties and scripts	ROUTE FORWARD <hr/> Note: In this release, only these actions are supported. <hr/>	Y
position	integer	The position in the table where this row is added. If this parameter is not included, the row is added at the bottom of the table. If	0-table size Default: end of table	N



Parameter Name	Type	Description	Value Range	Required (Y/N)
		this parameter is included, but without a value, the row is added at "0". When specified, the other rows are shifted accordingly		

Output Parameters:

- String - the added routing row ID

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
GENERAL_ERROR_805	805	Parameter '%s' with value '%s' should be at least %s characters
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'



Error Name	Error Code	Error Description
ROUTING_ACTION_NOT_SUPPORTED_ 307	307	The action '%s' is not supported action for routing using web service. Supported actions are '%s'
PROVISIONING_ADD_ROUTING_ROW_ FAILED_308	308	Failed to add routing row due to '%s'
DECISION_TABLE_CONDITIONS_DON T_MATCH_DEFINITION_309	309	Decision table condition '%s' do not match the definitions in definition table '%s'. Use getColumnns api to check the conditions

3.1.9 removeRouteRow

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management <hr/> Note: In this release, only Routing is supported, so this parameter does not need to be specified.	N/A Default: “Default”	N
rowId	string	The row ID is a unique identifier for the removed row in the table	N/A	Y

Output Parameters: None

Error Messages:



Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'
ROUTING_ACTION_NOT_SUPPORTED_307	307	The action '%s' is not supported action for routing using web service. Supported actions are '%s'
ROW_ID_DOES_NOT_EXIST_311	311	Row with row id '%s' does not exist in decision table '%s'
PROVISIONING_REMOVE_ROUTING_ROW_FAILED_310	310	Failed to remove routing row '%s' due to '%s' api to check the conditions

3.1.10 getRouteRows

Input Parameters:



Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management Note: In this release, only Routing is supported, so this parameter does not need to be specified.	N/A Default: "Default"	N

Output Parameters:

- The route rows

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'



Error Name	Error Code	Error Description
ROUTING_ACTION_NOT_SUPPORTED_ 307	307	The action '%s' is not supported action for routing using web service. Supported actions are '%s'
PROVISIONING_GET_DECISION_ROW S_FAILED_312	312	Failed to retrieve decision rows from decision table '%s' due to '%s'

3.1.11 setRouteRowPools

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management Note: In this release, only Routing is supported, so this parameter does not need to be specified.	N/A Default: "Default"	N
rowId	string	The row ID is a unique identifier for the selected decision row in the table	N/A	Y
pools	list <string>	A list of pool names	N/A	Y

Output Parameters: None

Error Messages:



Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'
ROUTING_ACTION_NOT_SUPPORTED_307	307	The action '%s' is not supported action for routing using web service. Supported actions are '%s'
ROW_ID_DOES_NOT_EXIST_311	311	Row with row id '%s' does not exist in decision table '%s'
PROVISIONING_SET_POOLS_IN_ROW_FAILED_313	313	Failed to set pools '%s' in routing row '%s' due to '%s'

3.1.12 getRouteRowPools

Input Parameters:



Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management Note: In this release, only Routing is supported, so this parameter does not need to be specified.	N/A Default: "Default"	N
rowId	string	The row ID is a unique identifier for the selected decision row in the table	N/A	Y

Output Parameters:

- List of pool names

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'



Error Name	Error Code	Error Description
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'
ROUTING_ACTION_NOT_SUPPORTED_307	307	The action '%s' is not supported action for routing using web service. Supported actions are '%s'
ROW_ID_DOES_NOT_EXIST_311	311	Row with row id '%s' does not exist in decision table '%s'
PROVISIONING_GET_POOLS_IN_ROW_FAILED_314	314	Failed to get pools '%s' in routing row '%s' due to '%s'

3.1.13 setForwardSettingsOfRoutingRow

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management <hr/> Note: In this release, only Routing is supported, so this parameter does not need to be specified. <hr/>	N/A Default: "Default"	N
rowId	string	The row ID is a unique identifier for the selected decision row in the table	N/A	Y



Parameter Name	Type	Description	Value Range	Required (Y/N)
forwardTo	string	Message can be forwarded to a peer or pool	Peer, Pool	N
extractDestinationFrom	string	Name of the peer or pool that is defined in the forwardTo action	N/A	Y

Output Parameters: None

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'
ROUTING_ACTION_NOT_SUPPORTED_307	307	The action '%s' is not supported action for routing using web service. Supported actions are '%s'



Error Name	Error Code	Error Description
ROW_ID_DOES_NOT_EXIST_311	311	Row with row id '%s' does not exist in decision table '%s'
ROW_ID_ACTION_DOES_NOT_SUPPORT_REQUESTED_ACTION_315	315	Row Id '%s' current configured action '%s' is not of type '%s'
PROVISIONING_SET_FORWARD_DATA_IN_ROW_FAILED_316	316	Failed to set routing row '%s' with forward data '%s', '%s', due to '%s'

3.1.14 getForwardSettingsOfRoutingRow

Input Parameters:

Parameter Name	Type	Description	Value Range	Required (Y/N)
flowName	string	The name of the flow management Note: In this release, only Routing is supported, so this parameter does not need to be specified.	N/A Default: "Default"	N
rowId	string	The row ID is a unique identifier for the selected decision row in the table	N/A	Y

Output Parameters:

- Forward Settings

Error Messages:

Error Name	Error Code	Error Description
INTERNAL_ERROR_800	800	Internal Error



Error Name	Error Code	Error Description
GENERAL_ERROR_801	801	Wrong parameter value. For parameter '%s', allowed values are: '%s'
GENERAL_ERROR_802	802	Mandatory parameter '%s' is missing
GENERAL_ERROR_803	803	Operation is not supported
GENERAL_ERROR_804	804	Mandatory parameter '%s' is missing. Should be one of '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_SITE_806	806	Action is not allowed on EMS site '%s'
PROVISIONING_WS_ACTION_NOT_ALLOWED_ON_LOCAL_SITE_807	807	Action is not allowed on local site '%s'
ROUTING_ACTION_NOT_SUPPORTED_307	307	The action '%s' is not supported action for routing using web service. Supported actions are '%s'
ROW_ID_DOES_NOT_EXIST_311	311	Row with row id '%s' does not exist in decision table '%s'
ROW_ID_ACTION_DOES_NOT_SUPPORT_REQUESTED_ACTION_315	315	Row Id '%s' current configured action '%s' is not of type '%s'
PROVISIONING_GET_FORWARD_DATA_IN_ROW_FAILED_316	317	Failed to get forward data from row '%s', due to '%s'



Glossary

The following table lists the terms and abbreviations used in this document.

Table 5: Terms and Abbreviations

Term	Definition
AAA	Authentication, Authorization and Accounting
ACL	Access Control List
AF	Application Function
Answer	A message sent from one Client/Server Peer to the other following a request message
API	Application Programming Interface
AVP	Attribute Value Pair
CLI	Command Line Interface
Client Peer	A physical or virtual addressable entity which consumes AAA services
CPF	Control Plane Function
Data Dictionary	Defines the format of a protocol's message and its validation parameters: structure, number of fields, data format, etc.
DEA	Diameter Edge Agent
Destination Peer	The Client/Server peer to which the message is sent
DRA	Diameter Routing Agent
EMS Site	Element Management System Site
FEP-In	In-Front End Proxy
FEP-Out	Out-Front End Proxy



Term	Definition
Geo Redundancy	A mode of operation in which more than one geographical location is used in case one site fails
HA	High Availability
HSS	Home Subscriber Server
HTTP	Hypertext Transfer Protocol
IMS	IP Multimedia Subsystem
JMS	Java Message Service
KPI	Key Performance Indicator
LDAP	Lightweight Directory Access Protocol
LTE	Long Term Evolution
Master Session	The session for which the routing selection is performed based on the routing rules (Slave Sessions are applied with routing rules inherited from the Master Session)
MME	Mobility Management Entity
NGN	Next Generation Networking
Node	Physical or virtual addressable entity
OAM	Operation, Administration and Maintenance
OCS	Online Charging System
Origin Peer	The peer from which the message is received
PCEF	Policy and Charging Enforcement Function
PCRF	Policy and Charging Rules Function
PLMN	Public Land Mobile Network
Pool	A group of Server Peers
RADIUS	Remote Authentication Dial In User Service



Term	Definition
Request	A message sent from one Client/Server peer to the other, followed by an answer message
SCCP	Signaling Connection Control Part
SCTP	Stream Control Transmission Protocol
SDC	Signaling Delivery Controller
SDC Site	The entire list of entities working in a single site
Server Peer	A physical or virtual addressable entity which provides AAA services
Session	An interactive information interchange between entities
Slave (Bound) Session	A session which inherits properties from a master session
SNMP	Simple Network Management Protocol
SS7	Signaling System No. 7
TCP	Transmission Control Protocol
TLS	Transport Layer Security
Transaction	A request message followed by an answer message
Tripo	Session data repository
UDP	User Datagram Protocol
UE	User Equipment
URI	Universal Resource Identification.
Virtual Server	A binding point used by SDC to communicate with the Remote Peers (Clients and Servers)
VPLMN	Visited Public Land Mobile Network
Web UI	Web User Interface
WS	Web Service