



Configuring Sx Service for CUPS

The following section provides the configuration commands available for configuring Sx service for CUPS.

- [Configuring Sx Service, on page 1](#)
- [Binding an Sx Service, on page 2](#)
- [Modifying Sxa Parameters, on page 3](#)
- [Modifying Sxab Parameters, on page 3](#)
- [Modifying Sxb Parameters, on page 3](#)
- [Associating Sx Service to SAEGW Service, on page 4](#)
- [Associating Sx Service to User-Plane Service, on page 4](#)

Configuring Sx Service

Use the following commands to specify a Sx service name to allow configuration of the Sx service under Context Configuration Mode.

```
configure  
  context context_name  
    [ no ] sx-service service_name  
  end
```

NOTES:

- **no** : Disables the command.
- By default, this command is disabled.

Selectively Compress or Decompress Optimization Based on Sx Message Length

By default, certain Packet Forwarding Control Protocol (PFCP) messages are compressed. To extract certain CPU benefits, a new CLI command is introduced that compresses the messages only when the total encoded packet length exceeds the configured packet length. Although the compression is enabled by default, the compression begins only on the packets that are either above or equal to the configured length. Maximum restriction on the size of the Sx message is 5120. Packets exceeding this upper limit must be compressed. The packet length is not applicable to the **sx-update-ip-pool** keyword, which compresses the IP pool TLVs in PFCP messages. As the **packet-length** keyword is optional, the default value is configured when the packet length is not specified.

Use the following command to selectively compress or decompress optimization that is based on Sx message length.

```
configure
  context context_name
    sx-service service_name
      [ no ] sx-protocol compression [ packet-length length ]
  sx-update-ip-pool
  end
```

NOTES:

- **no:** Disables command.
- **sx-update-ip-pool:** Configures SX update message to the userplane with compression.
- **packet-length:** Configures compression above or equal to the packet length of 5120.

Verifying Sx Service Configuration

Use the following commands to verify a particular attribute or all attributes associated with the Sx Service configuration:

- **show sx-service all**
- **show sx-service name**
- **show sx-service statistics all**
- **show sx-service statistics header-decoder-errors**

Binding an Sx Service

Use the following commands to bind the specified Sx service to an IP address under Sx Service Configuration Mode.

```
configure
  context context_name
    sx-service service_name
      [ no ] bind { ipv4-address ipv4_address | ipv6-address ipv6_address }
  end
```

NOTES:

- **no:** Disables the command.
- **ipv4-address:** Designates an IPv4 address of the Sx service. Enter a valid IPv4 address.
- **ipv6-address:** Designates an IPv6 address of the Sx service. Enter a valid IPv6 address.
- By default, this command is disabled.

Modifying Sxa Parameters

Use the following commands to modify the Sxa parameters for the S-GW under Sx Service Configuration Mode.

```
configure
  context context_name
    sx-service service_name
      sxa { max-retransmissions number | retransmissions-timeout-ms number
    }
  end
```

NOTES:

- **max-retransmissions:** Configures the maximum retries for Sx control packets on the S-GW. Enter an integer. The valid values range from 0 to 15. The default value is 4.
- **retransmissions-timeout-ms:** Configures the retransmission timeout for Sx control packets (on the S-GW), in milliseconds. Enter a value in multiples of 100. The valid values range from 1000 to 20000. The default value is 5000.
- By default, this command is disabled.

Modifying Sxab Parameters

Use the following commands to modify the Sxab parameters for the S-GW and P-GW under Sx Service Configuration Mode.

```
configure
  context context_name
    sx-service service_name
      sxab { max-retransmissions number | retransmissions-timeout-ms number
    }
  end
```

NOTES:

- **max-retransmissions:** Configures the maximum retries for Sx control packets on the S-GW and P-GW. Enter an integer. The valid values range from 0 to 15. The default value is 4.
- **retransmissions-timeout-ms:** Configures the retransmission timeout for Sx control packets (on the S-GW and P-GW), in milliseconds. Enter a value in multiples of 100. The valid values range from 1000 to 20000. The default value is 5000.
- By default, this command is disabled.

Modifying Sxb Parameters

Use the following commands to modify the Sxb parameters for the P-GW under Sx Service Configuration Mode.

```

configure
  context context_name
    sx-service service_name
      sxb { max-retransmissions number | retransmissions-timeout-ms number
      }
    end

```

NOTES:

- **max-retransmissions:** Configures the maximum retries for Sx control packets on the P-GW. Enter an integer. The valid values range from 0 to 15. The default value is 4.
- **retransmissions-timeout-ms:** Configures the retransmission timeout for Sx control packets (on the P-GW), in milliseconds. Enter a value in multiples of 100. The valid values range from 1000 to 20000. The default value is 5000.
- By default, this command is disabled.

Associating Sx Service to SAEGW Service

Use the following commands to associate an SAEGW service to an existing Sx service within this context.

```

configure
  context context_name
    saegw-service service_name
      [ no ] associate sx-service service_name
    end

```

NOTES:

- **no:** Removes the selected association from this service.
- **sx-service:** Configures Sx service for the SAEGW service.
- By default, this command is disabled.

Verifying SAEGW Service Configuration

Use the following commands to verify if Sx service is associated with the SAEGW Service configuration:

- **show saegw-service statistics**
- **show saegw-service name**

The output of this command displays the entire configuration for SAEGW or the one specified. The following sample output below illustrates the line to indicate the Sx service configured.

```
sx-service : sxc
```

Associating Sx Service to User-Plane Service

Use the following commands to associate User-Plane service to an existing Sx service within this context.

```
configure
  context context_name
    user-plane-service service_name
      [ no ] associate sx-service sx-service-name
    end
```

NOTES:

- **no**: Removes the selected association from this service.
- **sx-service**: Configures Sx service for the User-Plane service.
- By default, this command is disabled.
- The **no associate sx-service** CLI command is recommended to be executed only during the maintenance window when there are no or minimal active sessions.

