Session and Service Continuity Mode

This chapter covers the following topics:

Feature Summary and Revision History

Summary Data

Table 1: Summary Data

Applicable Product(s) or Functional Area	SMF
Applicable Platform(s)	SMI
Feature Default Setting	Enabled – Always-on
Related Changes in this Release	Not Applicable
Related Documentation	Not Applicable

Revision History

Table 2: Revision History

Revision Details	Release
First introduced.	Pre-2020.02.0

Feature Description

Session and Service Continuity

The Session and Service Continuity (SSC) support in 5G system architecture enables to address the various continuity requirements of different applications and services for the User Equipment (UE). The 5G system supports different SSC modes. The SSC mode associated with a PDU session does not change during the lifespan of a PDU session. The following three modes are specified:

- With SSC mode 1, the network preserves the connectivity service provided to the UE. For the case of PDU session of IPv4 or IPv6 or IPv4v6 type, the IP address is preserved.

- With SSC mode 2, the network may release the connectivity service delivered to the UE and also may release the corresponding PDU session(s). For the case of IPv4 or IPv6 or IPv4v6 type, the release of the PDU session induces the release of IP address(s) that had been allocated to the UE.

- With SSC mode 3, changes to the user plane can be visible to the UE, while the network ensures that the UE suffers no loss of connectivity. A connection through new PDU session anchor point is established before the previous connection is terminated in order to allow for better service continuity. For the case of IPv4 or IPv6 or IPv4v6 type, the IP address is not preserved in this mode when the PDU session anchor changes.

Session and Service Continuity Mode Selection

The SSC mode selection policy is used to determine the type of session and service continuity mode associated with an application or group of applications for the UE. The SMF receives the list of supported SSC modes and the default SSC mode per DNN per S-NSSAI as part of the subscription information from the UDM.

To select the SSC mode, when UE sends SSC mode in PDU session establishment request, it is checked against subscriber data and local SMF configuration and allowed SSC mode is determined.

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Important   In this release, SMF supports only SSC mode-1.

Priority for Choosing Session and Service Continuity Mode

Priority #1: Subscriber data from UDM has highest priority. UDM sends DefaultSscMode and AllowedSscMode.

Priority #2: Local SSC mode configuration data present in DNN profile which contains ssc-mode and allowed-ssc-mode.

Session and Service Continuity Mode Selection Method

The SSC mode has the following selection methods:

- The SMF verifies if UE sent SSC mode is part of either default ssc mode or allowed ssc mode in order of priority mentioned above. If it is found then PDU establishment procedure continues, otherwise PDU session establishment reject message will be sent to UE with allowed ssc modes in reject message.

- If the SMF does not receive SSC mode from UE, then default ssc mode in the order of above priority is chosen and used to establish PDU session.

- Since current release only supports SSC Mode-1, in case UE sends any other modes, PDU session establishment will be rejected.

NOTES:

When UE requests SSC mode-2 or mode-3, as long as the UE's subscription (in the order of priority: UDM/Local configuration on SMF) allows SSC mode-1 along with SSC mode-2/3, SMF will send *PDU session establishment* reject with 5GSM cause: 68 (Not supported SSC mode) and Allowed SSC mode as 01. This approach is used to allow the UE to retry with SSC mode-1. As per 3GPP spec: 24.501, 5GSM cause: 68 to be sent when the requested SSC mode is not supported by the subscription.

To honor PDU session establishment, SMF expects SSC mode either via UDM subscription or via local configuration. Otherwise, irrespective of SSC mode reception from UE, if SMF doesn't have SSC mode as part of UDM subscription or via local configuration, SMF would reject PDU session establishment with 5GSM cause: 31 (Request rejected and unspecified).

Configuration

To configure the SSC Mode in SMF DNN profile, use the following configuration:

```
config
   profile dnn dnn_name
      ssc-mode 1 allowed-ssc-mode 2
         commit
commit complete
```

To remove the configuration of the SSC Mode from SMF DNN profile, use the following configuration:

```
config
   profile dnn dnn_name
      no ssc-mode
      commit
commit complete
```