Heartbeat

Feature Summary and Revision History

Summary Data

Table 1: Summary Data

Applicable Product(s) or Functional Area	5G-PCF
Applicable Platform(s)	SMI
Feature Default Setting	Enabled – Configuration Required
Related Changes in this Release	Not Applicable
Related Documentation	Not Applicable

Revision History

Table 2: Revision History

Revision Details	Release
First Introduced.	2020.02.0

Feature Description

PCF registers with NRF and sends a heartbeat message to the same NRF to infer its status as active or inactive. Complying with *3GPP TS 29.510*, PCF performs the following tasks when sending a heartbeat:

- Sends a heartbeat in the form of a PATCH request to, and processes responses with the NRF that it has registered with.

- Performs the failover operation when the registered NRF is unavailable due to connectivity issues or some unknown reasons. In such situations, PCF registers and uses the available secondary or tertiary NRF when the primary NRF is unresponsive. Simultaneously, PCF attempts to register with the primary NRF. When registration to the original (primary) NRF is successful, PCF stops sending heartbeats to the secondary or tertiary NRF.

  In the absence of the primary NRF, PCF performs the failover and failback in the following sequence:

  - Failover: Primary > Secondary or Tertiary > Tertiary

  - Failback: Tertiary > Secondary or Primary > Primary

- When PCF registers with a nonprimary NRF, it attempts to register with the primary NRF in the interval that is configured in the interval-in-secs parameter. For more information, see the nfServices information in the Network Repository Function Subscription to Notifications chapter.

- When sending two consecutive heartbeat messages, PCF honors the time interval that is available in the heartBeatTimer attribute in the registration response or the heartbeat response.

Standards Compliance

The NF Heartbeat feature complies with the following standards:

- *3GPP TS 29.510 (2018-12)*