



Support for UDR Subscribe, Unsubscribe, and Notify

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Feature Summary and Revision History

Summary Data

Table 1: Summary Data

Applicable Products or Functional Area	PCF
Applicable Platform(s)	SMI
Feature Default Setting	Enabled – Always-on
Related Documentation	Not Applicable

Revision History

Table 2: Revision History

Revision Details	Release
First introduced.	2023.01.0

Feature Description

The Unified Data Repository (UDR) offers the Nudr_DataRepository service. The Nudr_DataRepository service allows the Network Function (NF) service consumers to retrieve, create, update, and modify, and delete data stored in the UDR.

PCF supports the following services of UDR for both AMF and SMF Policies:

- Subscribe
- Unsubscribe
- Notify
- Query

Following are the functions of Nudr_DataRepository service:

- Allows NF service consumers to subscribe or unsubscribe to the data change notification and notifies the data change.
- Allows the PCF to access subscription data for policy controls and application-specific data stored in the UDR.

The Nudr interface supports the reference point representation and defines the N36 reference point for the interactions between PCF and UDR.

How It Works

This section describes how this feature works.

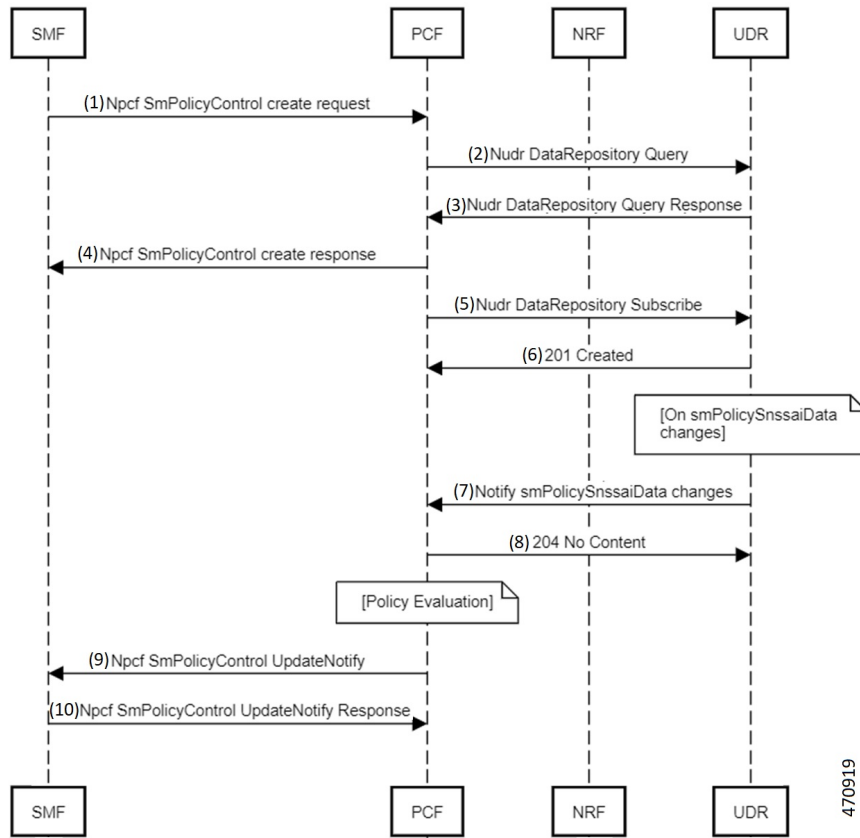
Call Flows

This section describes the key call flows for this feature.

UDR Subscribe and Notify Call Flow

This section describes the UDR subscribe and notify call flow.

Figure 1: UDR Subscribe and Notify Call Flow



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Table 3: UDR Subscribe and Notify Call Flow Description

Step	Description
1	The SMF sends a Npcf SmPolicy Control Create request to the PCF.
2	The PCF sends the Nudr Data Repository Query to the UDR.
3	The UDR sends the Nudr Data Repository Query response to the PCF.
4	The PCF sends the Npcf SmPolicy Control Create response to the SMF.
5	The PCF sends the Nudr Data Repository Subscribe to the UDR.
6	The UDR sends the 201 Created to the PCF.
7	After smPolicy SnssaiData changes, the UDR sends the Notify smPolicy SnssaiData changes to the PCF.
8	The PCF sends 204 No Content to the UDR.

Step	Description
9	After Policy Evaluation, the PCF sends the Npcf SmPolicy Control Update Notify to the SMF.
10	The PCF sends the Npcf SmPolicy Control Update Notify to the SMF.
11	The SMF sends the Npcf SmPolicy Control Update Notify Response to the PCF.

UDR Unsubscribe Call Flow

This section describes the UDR Unsubscribe Call Flow.

Figure 2: UDR Unsubscribe Call Flow

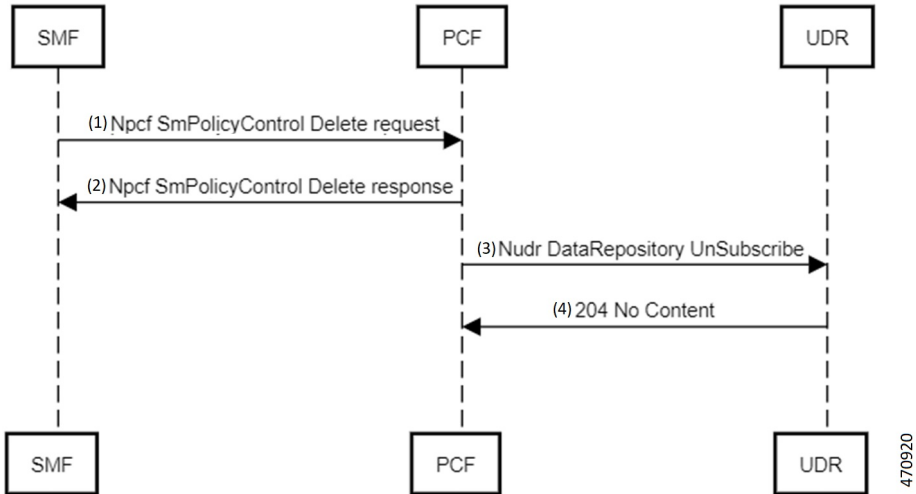


Table 4: UDR Unsubscribe Call Flow Description

Step	Description
1	The SMF sends a Npcf SmPolicy Control Delete request to the PCF.
2	The PCF sends the Npcf SmPolicy Control Delete request to the SMF.
3	The PCF sends the Nudr Data Repository UnSubscribe to the UDR.
4	The UDR sends 204 No Content to the PCF.

Feature Configuration

To configure this feature, use the following configuration:

Rest End-Point configuration

```
config
  rest-endpoint interface [n36]
  ips ip_address
  port port_number
end
```

NOTES:

- **rest-endpoint interface [n36]**—Specifies the interface name N36 for the rest endpoint configurations for PCF-UDR communication.
- **ip_address**—Specifies the IPv4 or IPv6 address that needs to assign for the interface. The specified value is 192.168.X.X.
- **port interface_port_number**—Specifies the port number for the interface. The specified default value is 9082.

Engine Configuration

By default, UDR is disabled on PCF. Enabling the UDR interface on the pcf engine, use the following configuration:

```
config
  properties skipped.device.mgrs
  value RX_TGPP,GX_TGPP,SY_V11
exit
```

Disabling the UDR interface on the pcf engine, use the following configuration:

```
config
  properties skipped.device.mgrs
  value RX_TGPP,GX_TGPP,SY_V11,N36_TGPP
exit
```

Standards Compliance

This feature complies with the following standards specifications:

- 3GPP 29.510 Network function repository services
- 3GPP 33.310 Network Domain Security (NDS); Authentication Framework (AF)
- 3GPP 33.501 Security architecture and procedures for 5G system
- 3GPP 29.512 v16.9.0 Session Management Policy Control Service

