



# NF Set and NF Service Set

**Table 1: Feature History**

Feature Name	Release Information	Description
NF Set and NF Service Set	2023.04	PCF supports the configuration of NF Set and NF Service Set feature by using the <code>Set ID</code> attribute in <code>service-registration</code> CLI commands.  <b>Default Setting:</b> Disabled – Configuration required to enable

- [Feature Summary and Revision History, on page 1](#)
- [Feature Description, on page 2](#)
- [How it Works, on page 2](#)
- [Bulk Statistics Support, on page 5](#)

## Feature Summary and Revision History

### Summary Data

**Table 2: Summary Data**

Applicable Product(s) or Functional Area	PCF
Applicable Platform(s)	SMI
Feature Default Setting	Enabled – Configuration required to disable
Related Documentation	Not Applicable

## Revision History

*Table 3: Revision History*

Revision Details	Release
First introduced.	2023.04.0

## Feature Description

Policy Control Function (PCF) implements the NF Set and NF Service Set in compliance to the 3GPP Release 17 specifications.

NF Set and NF Service Set supports the following functionalities:

- NF Set and Service Set for the services produced by PCF (smpolicycontrol(N7), ampolicycontrol(N15) and policyauthorization(N5).
- PCF register and update of NRF, UDR and CHF call-back services.
- NF Set and Service Set support for UDR and CHF.

## How it Works

This section describes how NF Set and NF Service feature works.

### NF Register

#### Constructing NF Set ID and NF Service Set ID

PCF constructs the NF Set ID and NF Service Set ID in the following formats.

Following is the format for NF Set Identifier:

```
set<Set ID>.<nftype>set.5gc.mnc<MNC>.mcc<MCC> for a NF Set in a PLMN
or
set<Set ID>.<nftype>set.5gc.nid<NID>.mnc<MNC>.mcc<MCC> for a NF Set in a SNPN
```

Following is the format for NF Service Set Identifier:

```
set<Set ID>.sn<Service Name>.nfi<NF Instance ID>.5gc.mnc<MNC>.mcc<MCC> for a NF Service Set
in a PLMN
or
set<Set ID>.sn<Service Name>.nfi<NF Instance ID>.5gc.nid<NID>.mnc<MNC>.mcc<MCC> for a NF
Service Set
in a SNPN
```

#### Ops Center Configuration for Populating Set ID Part of NF Set ID

To configure this feature, use the following configuration:

```
config
  service-registration profile nf-set set-id <value>
end
```

**NOTES:**

- **service-registration**—Enters the service registration configuration mode.
- **profile**—Enters the profile configuration mode.

Following is an example:

```
service-registration profile locality pcf01
service-registration profile capacity 20
service-registration profile priority 10
service-registration profile nf-status REGISTERED
service-registration profile plmn-list 100 010
service-registration profile nf-set set-id <value>
service-registration profile snssais
1 sd ABCDEF
```

**Ops Center Configuration for Notification Services**

Added the following options for notification services:

- chfNotificationService
- udrNotificationService
- nrfNotificationService

To configure this feature, use the following configuration:

```
config
service-registration services chfNotificationService
service-name <value>
nf-service-set service-set-id <value>
end
```

**NOTES:**

- **service-registration**—Enters the service registration configuration mode.
- **services**—Enters the services configuration mode.

Following is an example:

```
service-registration services chfNotificationService
service-name <value>
nf-service-set service-set-id <value>
```




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**Note** Configure only the Set ID part of NF Service Set ID using the CLI and other attributes can be derived.

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**NRF Register and NRF Update**

PCF registers or updates to NRF using the `Nnrf_NFManagement_NFRegister` API by passing following additional attributes to support the NF Set and NF Service Set:

- NFProfile

- nfSetIdList
- NFService
  - nfServiceSetIdList

## NF Service Discovery

### Ops Center CLI changes in Profile for NF Set ID and NF Service Set ID

Added the following attributes for configuration:

- NF Set ID - **nf-set-id-list**
- NF Service Set ID - **nf-service-set-id**

To configure this feature, use the following syntax:

```
config
  profile nf-pair nf-type nf-set-id-list
end
```

```
config
  profile nf-client nf-type nf-set-id-list
end
```

Following is an example:

```
profile nf-pair nf-type CHF
nrf-discovery-group nrf-discovery-group
subscription-enabled true
subscription-extension 3
locality client pcf01
locality preferred-server loc1
locality geo-server loc2
nf-set-id-list set-id chfset1 mcc 111 mnc 12
exit
nf-service-set-id-list service-set-id chfservice nf-instance-id
54804518-4191-46b3-955c-ac631f953ed8 mcc 111 mnc 12
exit
exit

profile nf-client nf-type chf
chf-profile chfprofile
locality SW
priority 10000
service name type nchf-spendinglimitcontrol
nf-service-set-id-list [service-set-id list]
endpoint-profile chfprofile
capacity 10
priority 30
uri-scheme http
version
uri-version v1
exit
exit
nf-set-id-list set-id chfset1 mcc 111 mnc 11
exit
nf-service-set-id-list service-set-id spendlimit1 nf-instance-id 54804518-4191-46b3-
955c-ac631f953ed8 mcc 111 mnc 11
```



- [Introduction to the NF Set and NF Service Set](#) (1.0)