

SUPI Policy Management

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SUPI Policy Management

The SUPI policy enhancements feature allows operators to configure policy rules that match a range of IMSI-based Subscription Permanent Identifiers (SUPIs). This capability enables operators to apply a single operator policy to a block of subscribers without configuring an individual rule for each SUPI.

The feature also supports:

- Matching a SUPI by Mobile Country Code (MCC), Mobile Network Code (MNC), and an optional Mobile Subscription Identification Number (MSIN) range.
- Evaluating subscriber-map rules according to their configured precedence.
- Applying the operator policy associated with the first matching rule.
- Configuring a catch-all rule for subscribers that do not match a more specific rule.
- Using the default operator policy when no SUPI-based rule matches.

Table 1: Feature History Table

Feature Name	Release Information	Feature Description
SUPI policy management	2026.04.0	This feature enables the AMF to select an operator policy by matching an IMSI-based SUPI against an MCC, MNC, and optional MSIN range. It also supports precedence-based rule evaluation and a catch-all rule for unmatched SUPIs. Command introduced: **amf-global { fiveG-policy | subscriber-map** *map_name* **{ precedence** *precedence_number* **| supi | mcc** *mcc_number* **| mnc** *mnc_number* **| msin-first** *start_range* **| msin-last** *end_range* **| operator-policy-name** *policy_name* **} }** — Used to configure a precedence-based subscriber map that associates subscribers—matched by SUPI MCC, MNC, and MSIN range—with a specified operator policy. **Default Setting**: Disabled – Configuration Required

The following list describes the supported configuration capabilities:

- The AMF can select an operator policy based on SUPI matching.
- A SUPI-based rule can match:
  - MCC and MNC only.
  - MCC, MNC, and an inclusive MSIN range.
- For an MSIN range match:
  - The SUPI MCC and MNC must match the values configured in the rule.
  - The SUPI MSIN must be numerically greater than or equal to msin-first.
  - The SUPI MSIN must be numerically less than or equal to msin-last.
- The `msin-last` value must be greater than or equal to the `msin-first` value.
- The maximum supported precedence value is `1000`.
- Rules are evaluated in ascending order of precedence number. For example, a rule with precedence `100` is evaluated before a rule with precedence `200`.
- When the first matching rule is found, the AMF applies the corresponding operator policy and stops evaluating additional rules.
- If no rule matches, the AMF continues to use the default operator policy.
- You can configure either the existing SUPI-policy configuration or the subscriber-map configuration. Configuring both methods together is not supported.

Configure a subscriber map for SUPI policy selection

To configure SUPI-based subscriber-map rules and associate the subscriber map with an AMF service.

Procedure

Step 1 Enter configuration mode and navigate to the 5G policy configuration.

`amf-global { fiveG-policy }`

Step 2 Create a subscriber map.

`subscriber-map` *`subscriber_map_name`*

Step 3 Configure a rule that matches an MCC, MNC, and MSIN range.

`precedence` *`precedence_number`* **`| supi | mcc`** *`mcc_number`* **`| mnc`** *`mnc_number`* **`| msin-first`** *`start_range`* **`| msin-last`** *`end_range`* **`| operator-policy-name`** *`policy_name`*

- **precedence** *precedence_number*: Specifies the order in which the rule is evaluated. Rules are evaluated in ascending numerical order. The maximum value is `1000`.
- **mcc** *mnc_number* : Specifies the MCC to match.
- **mnc** *mnc_number* : Specifies the MNC to match.
- **msin-first** *start_range* : Specifies the first MSIN value in the inclusive range.
- **msin-last** *end_range* : Specifies the last MSIN value in the inclusive range. This value must be greater than or equal to `msin-first`.
- **operator-policy-name** *policy_name* : Specifies the operator policy to apply when the rule matches.

A SUPI matches the rule when its MCC and MNC match the configured values and its MSIN is within the configured range, including the first and last values.

Step 4 Optional: Configure `all` rule to associate a specific operator policy with a group of subscribers based on defined matching criteria and precedence.

precedence *precedence_number* **| all | operator-policy-name** *policy_name*

- **precedence***precedence_number*: Specifies the order in which the rule is evaluated. Rules are evaluated in ascending numerical order. The maximum value is `1000`.
- **all**: Specifies that all UEs (subscribers) are to be associated with the designated operator policy
- **operator-policy-name** *policy_name*: Specifies the operator policy to apply to unmatched SUPIs.



Note To ensure that the `all` rule is processed after all specific rules, configure it with the highest numerical precedence value in the subscriber map.

Step 5 Associate the subscriber map with an AMF service.

```
amf-service service_name
          associated-subscriber-map  map_name
            end
```

- **amf-service** *service_name*: Specifies the name of the AMF service.
- **associated-subscriber-map** *map_name*: Specifies the subscriber map to associate with the AMF service.