

# Relative Capacity Configuration Update


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# Feature Summary and Revision History

## Summary Data

***Table 1: Summary Data***

| | |
|---|---|
| Applicable Products or Functional Area | AMF |
| Applicable Platforms | SMI |
| Feature Default Setting | Enabled – Always-on |
| Related Documentation | Not Applicable |

## Revision History

***Table 2: Revision History***

| Revision Details | Release |
|---|---|
| First introduced. | 2022.04.0 |

# Feature Description

The AMF supports modification of relative AMF capacity and notifies to the connected gNodeBs. The AMF also provides an option to control the rate at which existing sessions can be cleared in the AMF.

# How it Works

This section describes how this feature works.

When the AMF detects changes in the Relative AMF Capacity configurations, it performs the following actions:

- The AMF triggers the configuration updates toward all the gNBs and each request has a timeout value of 30 seconds, which is a hardcoded value.
- The AMF waits for all the responses and timeout to occur for all the requests toward gNBs.
- The AMF consolidates the completed list of gNBs from which failure is received with TimeToWait IE from gNB. The IE indicates the minimum time, for which the AMF must wait before retransmitting.
- The AMF calculates the maximum value of TimeToWait, received across all the failure responses as the waiting time, before it retransmits to all the failed gNBs.
- The AMF retransmits only to those gNBs which have sent TimeToWait IE and retransmission will be done only once. No further action will be taken on further failure responses.
- If there are new configuration changes and if there is already an AMF configuration update procedure in progress, then the ongoing configuration is prioritized. The AMF handles the new configuration changes, only after the completion of the ongoing AMF configuration update procedure.

#### Clear Sub

Operators can clear the existing sessions at specific rate by issuing **clear sub all** command along with the rate option.

# Call Flows

This section describes the key call flows for this feature.

## AMF Configuration Updates Call Flow

This section describes the AMF Configuration Updates call flow.

*Figure 1: AMF Configuration Updates Call Flow*

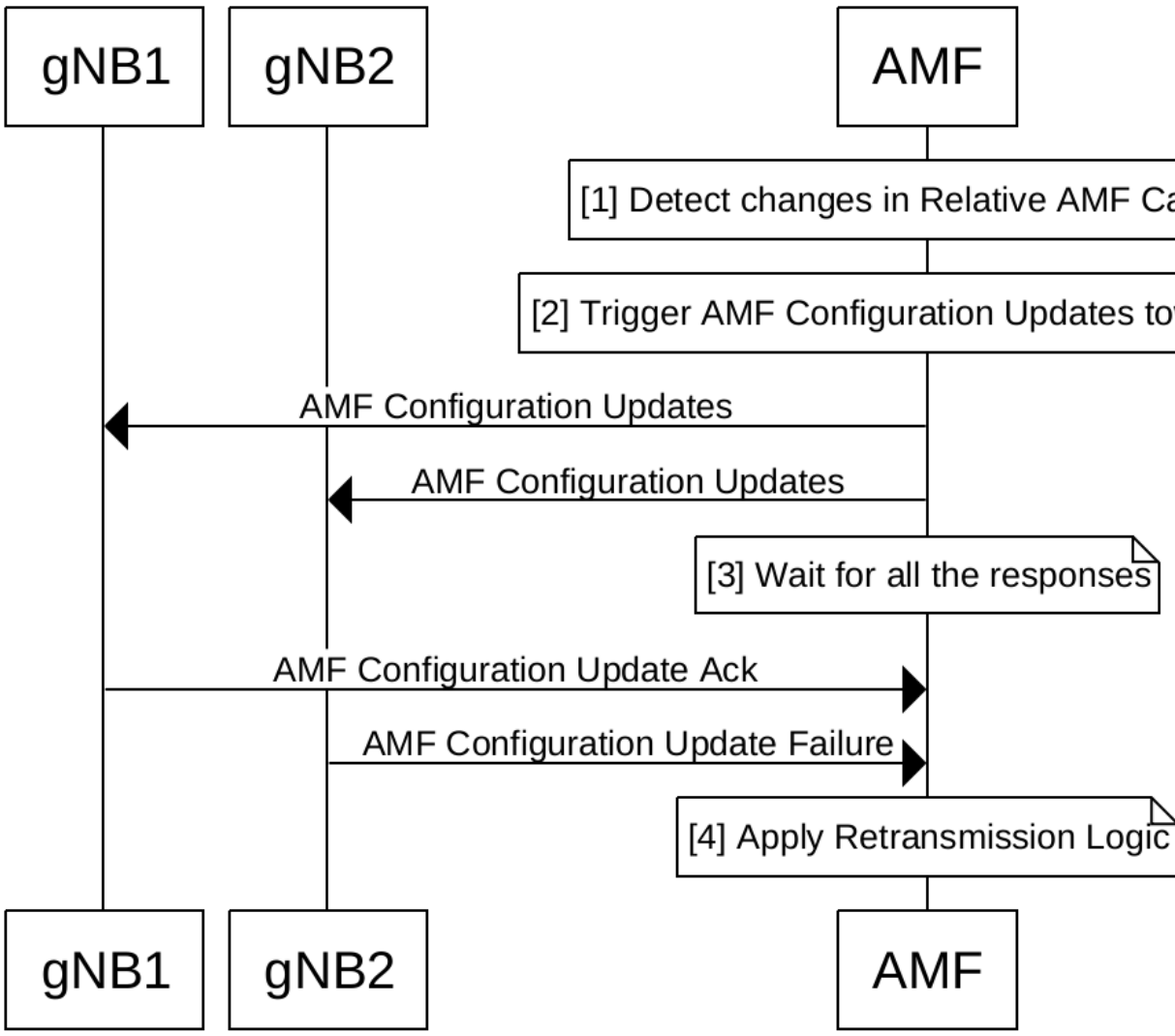



*Table 3: AMF Configuration Updates Call Flow Description*

| Step | Description |
|---|---|
| 1 | The configuration for the relative AMF capacity is detected and modified. |
| 2 | The modified AMF configuration updates are triggered toward all the available gNBs, such as gNB1, gNB2, and so on. |
| 3 | The AMF waits and consolidates responses from gNBs. |

| Step | Description |
|---|---|
| 4 | Calculates overall wait time as the Maximum of all incoming TimeToWait and starts retransmissions. Retransmission is done toward those gNBs, which have responded with the TimeToWait IE.<br>**Note**<br>Retransmission is done only once. |



**Note** The following are important feature-related references:

- The AMF does not update any capacity changes toward the NRF, as part of this feature.
- If there is a protocol pod restart, the ongoing AMF configuration updates procedure will be aborted, and not resumed.

# Feature Configuration

Configuring this feature involves the following steps:

- Clearing Subscribers with Rate
- Configuring Relative AMF Capacity

### Clearing Subscribers with Rate

To clear Subscribers with Rate, use the following command:

```
clear subscriber all rate rate
```

### Configuring Relative AMF Capacity

To configure Relative AMF Capacity, use the following configuration:

```
config
    amf-services service_name
        relative-amf-capacity capacity_number
```

**NOTES**:

- **subscriber**—Specifies the UE subscriber clear condition type.
- **all**—Clears all the subscriber sessions.
- **rate** *rate*—Specifies the rate at which the AMF attempts to clear the existing sessions, within the range of 100-500. The default value is 100.
- **relative-amf-capacity** *capacity_number*—Specifies the AMF capacity, within the range of 0–255. The default value is 127.

# Configuration Example

The following is an example configuration.

```
clear subscriber all rate 300
```

# Configuration Verification

To verify the configuration:

```
show running-config amf-services service_name
relative-amf-capacity 100
```