

# Paging Overload Protection


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# Feature Summary and Revision History

## Summary Data

***Table 1: Summary Data***

| | |
|---|---|
| Applicable Product(s) or Functional Area | AMF |
| Applicable Platform(s) | SMI |
| Feature Default Setting | Disabled - Configuration required to enable |
| Related Documentation | Not Applicable |

## Revision History

***Table 2: Revision History***

| Revision Details | Release |
|---|---|
| First introduced. | 2022.03.0 |

# Feature Description

Congestion control is a proactive mechanism where AMF lets you configure the number of paging requests that are sent for each gNB. When a congestion is detected, AMF drops the new paging requests.

# How it Works

This section describes how this feature works.

The AMF provides a configuration that regulates the number of paging requests that the AMF sends for each gNB. If the paging requests count exceeds the configured value, the AMF ignores the new requests regardless of their type and priority.

# Feature Configuration

To configure this feature, use the following configuration:

```
config
   amf-global
      network-protection-overload rate-limit paging { rate  paging_rate |
burst  number_messages_allowed }
      end
```

**NOTES**:

- **network-protection-overload rate-limit paging**—Configure the overload protection parameters.
- **rate** *paging_rate*—Specify the number of paging request messages that AMF sends to the gNB per second. *paging_rate* accepts values in the range 1–65535.
- **burst** *messages_allowed* —Specify the number of paging messages that AMF must process before applying the threshold. The gNB drops the messages that are received after the threshold value matches the configured value. *messages_allowed* accepts values in the range 1–65535.

## Configuration Example

The following is an example configuration:

```
config
   amf-global
      network-protection-overload rate-limit paging { rate 50000 | burst 45000 }
      end
```

## Configuration Verification

To verify the configuration:

```
show running-config amf-global network-protection-overload
amf-global
 network-protection-overload rate-limit paging
  rate  1000
  burst 250
 exit
exit
```

# OAM Support

This section describes operations, administration, and maintenance support for this feature.

## Bulk Statistics Support

The following statistics are supported for the Paging Overload Protection feature.

**RateLimitPaging_Dropped**

Description: The total count of NGAP messages that are dropped after applying the paging limit range.

Sample Query:

```
amf_ngap_message_total{message_direction=\"outbound\",
message_type=\"RateLimitPaging_Dropped\"}
```

For information on bulk statistics support for AMF, refer *UCC 5G AMF Metrics Reference*.