



# Graceful Assert Handling

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## Feature Summary and Revision History

### Summary Data

|  |                                  |
|--|----------------------------------|
| Applicable Product(s) or Functional Area | SGSN                             |
| Applicable Platform(s)                   | ASR 5500                         |
| Feature Default                          | Enabled - Configuration Required |
| Related Changes in This Release          | Not applicable                   |
| Related Documentation                    | SGSN Administration Guide        |

### Revision History

| Revision Details  | Release |
|-------------------|---------|
| First introduced. | 21.5    |

## Feature Description

The Graceful Assert Handling framework enables graceful handling of subscriber sessions for which ASSERT condition is hit during call execution. This is achieved without affecting other subscriber sessions on the same procler.

Normally, when the ASSERT condition is hit, the Session Manager (SessMgr) procllet restarts and recovers all the subscriber sessions from the AAA Manager (AAAMgr). The recovered subscriber sessions are moved to IDLE state.

When Graceful Assert Handling is enabled, the SessMgr procllet will not be restarted. Instead, the SessMgr procllet recovers only the affected subscriber's session from the AAAMgr, and clears the existing subscriber's session on the SessMgr. The recovered subscriber sessions are moved to IDLE state. During the recovery procedure, all messages directed towards the subscriber are dropped. After recovery, the subscriber will continue to handle messages directed towards it. With this procedure, the remaining subscriber sessions on the SessMgr remain unaffected.

## Configuring Graceful Assert Handling

Use the following configuration to enable or disable the Graceful Assert Handling framework. By default, this command is enabled.

```
configure
  debug controlled-assert s4sgsn
    [ disable | enable ] core-generation
    limit-per-asset asset_value
    [ no ] test file-name file_name line-number line_num [ sequence-number
seq_num ]
  end
```

### Notes:

- **controlled-assert**: Configures the controlled assert framework.
- **s4sgsn**: Configures the S4-SGSN controlled assert.
- **core-generation**: Configures core generation for controlled assert. Default: Enabled.
- **limit-per-asset**: Configures the limit per assert for controlled assert. Default: 5.
- **test file-name *file\_name* line-number *line\_num* [ sequence-number *seq\_num* ]**: Configures controlled assert test handling.
  - **file-name *file\_name***: Configures the file name where assert control is required. *file\_name* must be an alphanumeric string of 1 through 254 characters.
  - **line-number *line\_num***: Configures the line number where assert control is required. *line\_num* must be an integer from 1 to 4294967295.
  - **sequence-number *seq\_num***: Configures the sequence number where assert control is required. *seq\_num* must be an integer from 1 to 100. Default: 1.
- **disable**: Disables the specified action for controlled assert framework.
- **enable**: Enables the specified action for controlled assert framework.
- **no**: Removes the specified test configuration related to controlled assert framework.

# Monitoring and Troubleshooting

This section provides information on the show commands available to support Graceful Assert Handling.

## Show Commands and/or Outputs

This section provides information regarding show commands and/or their outputs in support of the Graceful Assert Handling feature.

### **show session subsystem facility sessmgr instance <instance\_num> debug-info verbose**

This command displays statistics related to the Graceful Assert Handling framework. The following statistics in the sample output displays the number of times a particular ASSERT condition is hit along with file name, line number, and the last observed time.

Controlled Assert Stats:

Module Name: S4\_SGSN

Asset Count: 3

Count File: Line Last Assert hit time (in sec)

1 sess/sgsn/sgsn-app/sm/sma\_activate\_fsm.c:1357 2017/09/26 07:20:53 EDT

2 sess/sgsn/sgsn-app/sm/msg\_fsm\_table.c:7859 2017/09/26 07:20:53 EDT

```
show session subsystem facility sessmgr instance <instance_num> debug-info verbose
```