

# **OCSS7 Changelog**

**TAS-071-Issue 1.1.0-Release 1**

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**metaswitch**

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# 1 OCSS7 Changelog

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## **ocss7 1.1.0.4**

SGC bug fixes in this release:

- Work around a Hazelcast defect that could result in the `PeerManagerObjectManager` throwing a `NoSuchElementException` after 24.8 days uptime. This defect could also cause the `AlarmingFactoryImpl` to throw `IndexOutOfBoundsException` when unregistering alarms after prolonged uptime. (SSSVN-1116)

SGC improvements in this release: None.

TCAP stack (CGIN, SIS, and IN Scenario Pack) improvements in this release: None.

TCAP stack (CGIN, SIS, and IN Scenario Pack) bug fixes in this release: None.

## **ocss7 1.1.0.3**

SGC improvements in this release:

- Improved the robustness of the SGC's handling of TCAP stack connect and disconnects. (SSSVN-1068)
- Added alarm `distributedDataInconsistency` which is raised when a distributed data inconsistency is detected. (SSSVN-1063)

SGC bug fixes in this release:

- Corrected a defect that could result in traffic loss and/or prefix leaks when a TCAP stack connected or disconnected under certain conditions. (SSSVN-757, SSSVN-1063)

TCAP stack (CGIN, SIS, and IN Scenario Pack) improvements in this release: None.

TCAP stack (CGIN, SIS, and IN Scenario Pack) bug fixes in this release: None.

## **ocss7 1.1.0.2**

Bug fixes in this release:

- Fixed an issue where the SGC could restart if a TC-END or TC-ABORT was received with certain unexpected transaction ID values. (SSSVN-856)

## **ocss7 1.1.0.1**

Improvements in this release:

- The SGC will now accept some malformed M3UA messages that are missing their final parameter padding octets. (SSSVN-787)

- Improved the log message emitted when the SGC receives an M3UA message with invalid size. (SSSVN-788)

### Bug fixes in this release:

- Fixed issue where the CommSwitch would generate an AssertionError when trying to connect to other cluster members. (SSSVN-362)
- Fixed an issue where the reassembly timer could race with an incoming XUDT message, resulting in an AssertionError in TcapRouter.globalRouteSelector. (SSSVN-660)
- Fixed issue where prefixes could leak in the SGC, eventually resulting in "out of prefixes" or "Insufficient resources - SGC forbids new connection". (SSSVN-701)
- Fixed some stats that could be misreported via SNMP. (SSSVN-789)
- The TCAP stack will now gracefully handle being asked to send with a null destination SCCP address. (SSSVN-448)
- Fixed defect where TCAP stack could refuse to allocate any further dialogs after prefix wraparound under certain conditions. (SSSVN-691)
- Fix issue with the TCAP stack where an SGC connection could end up not having any entries in the outbound prefixes table, resulting in outbound messages not using that connection. (SSSVN-703)
- Fix hard-to-trigger deadlock in TCAP stack. (SSSVN-704)
- Fix OutOfMemoryError in TCAP stack after many prefix migrations. (SSSVN-705)
- Fixed a TCAP stack TrDataPool leak that could occur if invoke timeouts expired while no connections are available to any SGC. (SSSVN-712)
- Corrected an issue where the TCAP stack could get its internal state confused during prefix migration. (SSSVN-713)

### ocss7 1.1.0.0

#### Improvements in this release:

- Added ability to connect to multiple SGCs simultaneously in a mesh style using new ocss7.sgcs TCAP stack property. (SSSVN-388)
- SGCs now support failover of dialogs between connections to the same TCAP stack when using the new ocss7.sgcs TCAP stack property. (SSSVN-258)
- sgc-cli.sh script now attempts to auto-detect SGC JMX host and port if those parameters are not set on the command line (-h -p) (SSSVN-292)

#### Bug fixes in this release:

- DAUD should no longer be slow to happen when many ASes are configured. (SSSVN-8)
- Fixed an issue where IPv6 addresses in host:port format could not be parsed in the ocss7.urlList TCAP stack configuration property. (SSSVN-133)

- "We should never have invoke timeout in UNUSED or ALLOCATED state" TCAP stack message has been downgraded from SEVERE to DEBUG. (SSSVN-182)
- Segmentation configuration parameters MSS and MUSS will no longer permit unacceptable combinations. (SSSVN-209)
- The CLI now reports a connection error rather than an unknown error when unable to communicate with the SGC. (SSSVN-228)
- Fixed a ConcurrentModificationException that could be thrown in TcapRouter. This also fixes an issue where the TcapRouter could prevent graceful shutdown from completing. (SSSVN-315)
- Fixed issue where "releasing begin prefix which has apparently been not assigned - no prefix at all" could be erroneously logged. (SSSVN-316)
- Fixed very small thread local leak seen when rebuilding outbound translation data. (SSSVN-338)
- Fixed an issue where SctpManagementMessages that were queued for transmission when a socket was closed were not released properly. (SSSVN-353)
- sgcd script now creates /var/lock/subsys/sgcd entry. (SSSVN-365)
- If the SGC fails to start up due to an Exception the stack trace from that Exception will now be logged at WARN (used to be logged at DEBUG). (SSSVN-376)
- Made some usability fixes to the display-event-history command. (SSSVN-383)
- SCCP defers registering to handle distributed tasks until after ReqCtx pools have been initialized. This prevents a NullPointerException at SccpManagement.sendSCMGMessage. (SSSVN-457)
- Fix NullPointerException if an unknown alarm is raised via Hazelcast. (SSSVN-464)
- Unexpected exceptions thrown while processing SGCTopics will now cause the SGC to attempt a graceful shutdown, similar to uncaught exceptions thrown elsewhere. (SSSVN-513)
- Fixed NullPointerException in NodeObjectManager.nodeLeft when a node without configuration (create-node) leaves the cluster. (SSSVN-538)
- Updated documentation to include Hazelcast configuration recommendations for clusters with more than 2 members. (SSSVN-550)
- Applied a workaround for Hazelcast issue where a lock owned by an SGC could be unlocked underneath it during exit of another cluster member, generating "java.lang.IllegalMonitorStateException: Current thread is not owner of the lock!" messages. (SSSVN-604)
- Fixed NullPointerException during config save. (SSSVN-626)
- Fixed case where create-XXX could return before XXX had completed creation, resulting in subsequent enable-XXX or remove-XXX commands failing to notice that XXX was created. (SSSVN-626)
- Decoder now correctly decodes Reject components that have no argument when received with component length in indefinite length form. (SSSVN-638)

- Added -XX:+PrintGCDateStamps JVM flag to SGC startup script. (SSSVN-407)
- Added documentation suggesting appropriate ulimit settings for user processes. (SSSVN-575)
- Changed some default ports so that they're no longer in the ephemeral range: SGC's JMX port, Hazelcast multicast UDP discovery port. (SSSVN-618)

### **ocss7 1.0.1.15**

Bug fixes in this release:

- Fixed issue that could result in the SGC's routing taking longer than expected to be available. (SSSVN-608)
- Prevent NullPointerException during alarm unregistration while an SGC cluster split/merge is in progress from restarting the SGC. (SSSVN-553)
- Failure of the comm switch to bind its listen port will now raise an alarm at critical level and attempt to rebind that port at regular intervals until successful. (SSSVN-531)

### **ocss7 1.0.1.14**

Bug fixes in this release:

- Corrected issue where global title translation tables were only updated on a single node after a local SSN status change. (SSSVN-536)
- Fixed a ConcurrentModificationException that could occur when multiple threads attempted to modify the same configuration object simultaneously. (SSSVN-511)
- Fix NullPointerException that could occur if global title rules were created and deleted very quickly. (SSSVN-420)
- Corrected issue where display-info-remotessninfo was not updated cluster-wide on a local SSN state change. (SSSVN-517)

### **ocss7 1.0.1.12**

Bug fixes in this release:

- Fixed an issue which caused the SGC to leave gracefully disconnected TCAP stack connections in CLOSE\_WAIT state indefinitely. (SSSVN-488)
- Unexpected exceptions thrown while processing SGCTopics will now cause the SGC to attempt a graceful shutdown, similar to uncaught exceptions thrown elsewhere. (SSSVN-513)

### **ocss7 1.0.1.11**

Bug fixes in this release:

- Fixed an error where certain DPCs in SST/SSA/SSP messages would be incorrectly decoded. (SSSVN-314)

### **ocss7 1.0.1.10**

Bug fixes in this release:

- Fixed a race condition that could result in the SGC shutting down due to an unchecked `IllegalStateException` during task data pool exhaustion. (SSSVN-395)
- Fixed an issue where segments could arrive out of order if sent while the task pool was exhausted. (SSSVN-397)
- Fixed `NullPointerException`s that could sometimes be thrown when requesting SNMP counters for OGT and DPC info. (SSSVN-398)
- Fixed an issue where under certain conditions all worker threads could be hanging around waiting to be allowed to send, resulting in no worker threads available to process incoming messages (such as heartbeats required to maintain connectivity). (SSSVN-400)
- Fixed an issue where segments received split across multiple stream IDs could result in the SGC exiting due to an uncaught exception. (SSSVN-406)

### **ocss7 1.0.1.9**

Bug fixes in this release:

- Fixed an issue which could prevent the SGC from successfully restarting. (SSSVN-364)
- Fixed an issue with SCCP decoding when the Data part comes after the Optional Parameters part in the received message. (SSSVN-372)
- Fixed a `NullPointerException` caused by insufficient tasks being available in the task pool. (SSSVN-201)
- Fixed `AssertionError: Empty buffer: Cannot decode message` when transferring messages internally from one SGC to another. (SSSVN-352)
- Fixed an issue which could cause the SGC not to restart automatically following a graceful shutdown caused by an uncaught exception. (SSSVN-249)
- Fixed an issue causing the CLI and MBeans to display stale status information for `asinfo`, `associationinfo`, `dpcinfo`, and `pcinfo` on failed SGCs. (SSSVN-202)
- Fixed a race condition that could cause the SGC to attempt to register the same MBean twice. (SSSVN-159)
- Handled the failure to deliver NOTICE to TCAP stack in an edge case. (SSSVN-165)
- The uncaught exception handler is now initialized earlier. (SSSVN-248)
- The example `hazelcast.xml.sample` file now matches the in-jar default hazelcast configuration. (SSSVN-235)
- Disabled the hazelcast `SystemLogService` by default as it has a small memory leak. (SSSVN-192)
- Fixed a `NullPointerException` in `OgtInfoHelper.compare`, which resulted in `display-info-ogtinfo`, `snmpwalk` and retrieving `snmp` stats to fail under certain conditions. (SSSVN-363)
- Fixed the SGC system OID to be the correct OID. (SSSVN-371)
- The SGC no longer spams stdout (or the startup log) with state info. (SSSVN-146)



Improvements in this release:

- Outbound global title translation errors are now logged at WARN level. (SSSVN-43)
- Added generate-report.sh script for easy log gathering. (SSSVN-191)

### **ocss7 1.0.1.8**

Bug fixes in this release:

- The default Hazelcast configuration has been changed so that the SGC now detects cluster member failure more quickly. (SSSVN-295/SSSVN-280)
- Changed the default values of ocss7.trdpCapacity , ocss7.schNodeListSize, ocss7.taskdpCapacity, ocss7.wgQueuesSize, and ocss7.senderQueueSize; this provides a more coherent default configuration. (SSSVN-274)
- Fixed an issue which caused the SGC not to raise alarms for certain configuration items (ASes, associations, etc) if it was unable to activate them after starting up. (SSSVN-129)
- Fixed a issue which would cause the SGC to throw an AssertionError and exit abnormally after receiving a TC-BEGIN which could not be handled because of insufficient resources. (SSSVN-302)
- Fixed an issue which could cause the SGC to crash under certain M3UA failure conditions. (SSSVN-196)
- Fixed an issue which could cause DPC configuration changes for segmentation not to be applied when changed. (SSSVN-211)
- An error is now returned to the CGIN user when attempting to initiate a dialog to a global title longer than the supported maximum. (SSSVN-53)
- Fixed a SGC crash that could occur when unregistering alarms. (SSSVN-255)
- display-info-associationinfo no longer intermittently displays out of date information following disabling of an active association. (SSSVN-285/SSSVN-279)
- Fixed an issue with the CLI which caused it to report unknown command errors when the connection to the SGC was lost. (SSSVN-99)

### **ocss7 1.0.1.3**

Improvements in this release:

- SCCP XUDT support extended to include reassembly of incoming segments, segmentation of outgoing messages, and configuration of segmentation parameters and preferred message type per destination Point Code. (SSSVN-79)
- Added SGC startup option --seed, which can be used to provide an alternative entropy source to the SGC's encryption facilities. (SSSVN-116)
- When deactivating an M3UA connection to a peer the SGC now sends ASP-INACTIVE and ASP\_DOWN rather than simply using the SCTP Shutdown procedure. (SSSVN-123)
- SGC local port configuration validation prevents the use of ports below 1,024. (SSSVN-124)

Bug fixes in this release:

- The SGC will now restart correctly if terminated by an uncaught Exception or Error. (SSSVN-157)
- Fixed an issue causing SCTP association down alarms to be removed and replaced periodically while the association remained down. (SSSVN-120)
- Fixed MIB syntax errors which prevented some SNMP clients from accepting the OCSS7 MIB. (SSSVN-1)
- Fixed timestamps sent by SNMP, which now send the day of the month, but used to send the day of the year. (SSSVN-2)
- Corrected the spelling of CLI configuration parameter table.format.maxCellContentLength. (SSSVN-51)
- Input is now validated when changing boolean configuration attributes. (SSSVN-61)
- Fixed an SCCP handling bug which could cause the SGC to exit if an unrecognised optional parameter was received. (SSSVN-126)
- Fixed an issue allowing overly long GTs to be placed in inbound-gtt configuration. (SSSVN-152)
- Fixed in issue allowing overly long GTs to be placed in replace-gt configuration. (SSSVN-54)

### **ocss7 1.0.0.9**

Improvements in this release:

- The SGC's SNMP MIB description strings have been improved. (SSSVN-58)
- If both global title and point code are absent on an incoming SCCP message, set the SCCP OPC to that of the L3MTP OPC, in order that we're able to route responses to this message. (SSSVN-104)

### **ocss7 1.0.0.8**

Bug fixes in this release:

- Support A, D and E sccp address global title digits (defined as spare in Q.713). (SSSVN-42)

### **ocss7 1.0.0.7**

Bug fixes in this release:

- Inbound GTT rules may omit the SSN, allowing the CdPA SSN to be retained. (SSSVN-4)
- Inbound GTT rules with duplicate NAI/NP/TT/digits can no longer be created. (SSSVN-5)
- Fixed incorrect outbound GTT for messages with: GT present, PC present, SSN absent. (SSSVN-11)

### **ocss7 1.0.0.6**

Initial release.