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# Lucent Gateway Platform System Release Notes

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# 1. Scope

This document provides information regarding the Lucent Gateway Platform (Signaling Gateway, Network Gateway and Network Controller) system software version 5.1.0.3.SP.7 patch release for the System Processor (SP) and Input/Output Modules (IOMs). Topics covered are:

- Upgrade files and information
- Product improvements
- Hardware and software installation and provisioning considerations
- TL1 restrictions and security errata
- IP security considerations

Detailed descriptions of all hardware supported by release 5.1.0.3 is available by CLEI code and part number in the Part Information section in the *Lucent Gateway Platform Planning and Engineering Guide*.

# 2. Upgrade File

The following file is required to upgrade to version 5.1.0.3.SP.7.

- 5.1.0.3.SP.7_cpu.tar.gz

# 3. Upgrade Notes

## 3.1 In-Service Upgrade

An in-service system processor upgrade from version 5.1.0.3.SP.3, 5.1.0.3.SP.4, 5.1.0.3.SP.5, or 5.1.0.3.SP.6 to version 5.1.0.3.SP.7 is supported.

**Important:** After upgrading the system processor, you should check the versions of the IOMs and upgrade, if necessary. For instructions on performing an in-service IOM upgrade, contact LWS. An LWS representative will refer you to DLP-686, which contains specific steps for completing the upgrade. DLP-686 can be obtained from your LWS representative.

| Supported IOM Type | Part Number | Commcode | Minimum Version |
|---|---|---|---|
| 10/100/1000 Ethernet Network Access Module | 89-0390-A | 300730124 | 5.1.0.3 |
| 10/100/1000 Ethernet Network Access Module w/RAM | 89-0390-B | 300746906 | 5.1.0.3 |
| Compute Module Front | 89-0419-B | 300763885 | 5.1.0.3 |

| Supported IOM Type | Part Number | Commcode | Minimum Version |
|---|---|---|---|
| Voice Server Module 2688 Channel | 89-0395-B | 300730157 | 5.1.0.3 |
| Triple DS3 STS-1 I/O with Tone Detect | 89-0410-A | 300730215 | 5.1.0.3 |
| Octal DS3 STS-1 I/O with Tone Detect | 89-0411-A | 300730223 | 5.1.0.3 |
| DS1/E1/J1 I/O Termination Module | 89-0414-A | 300746922 | 5.1.0.3 |
| Triple DS3 I/O Module With Tone Detect | 89-0424-A | 300730264 | 5.1.0.3 |
| Octal DS3 I/O Module With Tone Detect | 89-0425-A | 300730272 | 5.1.0.3 |

### 3.2 In-Service Downgrade

An in-service downgrade from version 5.1.0.3.SP.7 is supported to 5.1.0.3.SP.3, 5.1.0.3.SP.4, 5.1.0.3.SP.5, and 5.1.0.3.SP.6.

## 4. EMS/Billing/Traffic Server Requirements

- Element Management System (EMS) version 9.8.0.0 or higher is required for 5.1.0. 3.
- Billing and Traffic System (BTS) version 5.1.1.0.9 or higher is required for 5.1.0.3.
- Traffic Collection Application (TCA) version 2.0.0.93 or higher is required for 5.1.0.3.

## 5. Product Improvements

This maintenance release of system software provides the following improvements.

### 5.1 Resolved Error Defects

| Tracking Number | Symptom | Comments |
|---|---|---|
| 37297 | The JIP is not generated in case of a ported-in subscriber forwarding the call. The JIP needs to be replaced in all cases that a call is forwarded. | Fixed in SP.1. |
| 39093 | Release cause not populated on CDR module code 623. | Fixed in SP.1. |
| 39258 | Security scan, with IP Filtering enabled, causes the slave processor to fail. | Fixed in SP.1. |
| 39413 | Target Type printed out in CALEA M-Log may be incorrect. | Fixed in SP.1. |

| Tracking Number | Symptom | Comments |
|---|---|---|
| 39426 | SSH does not work. | Fixed in SP.1. |
| 39532 | Non WLNP calls are populating the 720 module in the CDRs. | Fixed in SP.1. |
| 39544 | WLNP CDR fields are not being populated correctly. | Fixed in SP.1. |
| 39708, 39741 | Issuing the SW-TOPROTN-EQPT command on the SP resulted in all the CICs going OOS. | Fixed in SP.1. |
| 39805 | WLNP query on TLDN needs to be allowed in order to support number pooling of TLDN ranges. | Fixed in SP.1. |
| 39806 | CM switch over IOM-4 to IOM-3 causes channel goes OOS | Fixed in SP.1. |
| 39815 | ISUP - congestion threshold 1 exceeded. | Fixed in SP.1. |
| 39830 | MGC-to-MG MEGACO connection dropped during load testing causing calls to fail. | Fixed in SP.1. |
| 39902 | Unable to Modify ROUTE-DIGITS. | Fixed in SP.1. |
| 39952 | Need a mechanism to capture GENDGTS entries in the billing CDR. | Fixed in SP.1. |
| 40066 | SS7 calls fail when the IAM "segmentation and ISDN UserPart All the way" fields are set to 1. | Fixed in SP.1. |
| 40090 | Additional SNMP Trap destinations are required to support loss of BTS Heartbeat. | Fixed in SP.1. |
| 40134 | REG is not being accepted at RTKEYLIST in TRANS-PLAN. | Fixed in SP.1. |
| 40281, 39708 | SP failover on the MGC results in calls failing and Trunk Group 75% OOS alarms. | Fixed in SP.1. |
| 40289 | CM failover caused calls to failover from IOM-3 to IOM-4. | Fixed in SP.1. |
| 40296 | CAS FGD calls are not receiving RINGBACK signal. | Fixed in SP.1. |
| 40301 | SIP-T calls do not release after CM switch to protection. | Fixed in SP.1. |
| 40304 | Enhancement to failover the active VSM based on "outgoing cell drop" level to prevent one-way audio path. | Fixed in SP.1. |
| 40436 | Call processing failure occurred upon media shuffling on calls that transit both media gateways. | Fixed in SP.1. |
| 40464 | Charge Number is not being populated when is applied at ROUTE-DIGITS level. | Fixed in SP.1. |
| 40511, 40427 | IS41 query with invalid presentation Indicator in CGPN (*67 issue). | Fixed in SP.1. |
| 40561 | Re-configuring IP management and signaling ports from "Auto" to "Full Duplex/100" causes intermittent call failures. | Fixed in SP.1. |

| Tracking Number | Symptom | Comments |
|---|---|---|
| 40563 | Security Scan causes call failures. | Fixed in SP.1. |
| 40607 | Protection IOM failure occurred after active IOM failed. | Fixed in SP.1. |
| 40646 | CDRSEARCH fails if no modules are appended to main structure code. | Fixed in SP.1. |
| 40653 | RTRV-PM-RC does not contain any data. | Fixed in SP.1. |
| 40666 | Delay in bringing CICs IS after provisioning. | Fixed in SP.1. |
| 40720 | Standby CM continuously fails when the incoming COT procedure fails. | Fixed in SP.1. |
| 40728 | Active SP failed over. | Fixed in SP.1. |
| 40746 | Timer value of TCCR is not set to the correct value. | Fixed in SP.1. |
| 40762 | MGC is not handling reINVITE with no SDP properly. | Fixed in SP.1. |
| 40765 | Call release is being delayed by 90 seconds. | Fixed in SP.1. |
| 40770 | An extra MODIFY request is sent by the originating MGC. | Fixed in SP.1. |
| 39265 | The RTRV-PM-SLK does not return all of the proper parameters. | Fixed in SP.2. |
| 40682 | Changing the session timer from a high value to a low value using ED-SIP-SYS causes SIP-T calls to fail. | Fixed in SP.2. |
| 40772 | System process failure occurred during COT testing. | Fixed in SP.2. |
| 40846 | System process error event observed in TL1 while provisioning CALEA target DN in LTDU. | Fixed in SP.2. |
| 40967 | ISUP-to-SIP with direct 200 OK (no 183/180) results in one way RTP problem. | Fixed in SP.2. |
| 41213 | SSH prevents EMS from Accessing Switch DB | Fixed in SP.3. |
| 41323 | Switch Shows Standing Calls When No Calls Are Being Made | Fixed in SP.3. |
| 40446 | When a PSTN private call is made, the switch sends an INVITE in which the From header's Display-name field is "Unavailable" rather than "Anonymous". As a consequence, the call is delivered to a Voice On the Net (VoN) user whose Anonymous Call Rejection feature is on. | Fixed in SP.4. |
| 40846 | When attempting to provision a CALEA mobile call in the LTDU, errors are seen and the LTDU also returns an incorrect point code. | Fixed in SP.4. |
| 40989 | Privacy is not maintained for calls from VoN to PSTN. | Fixed in SP.4. |
| 41278 | When deleting TNS using the `DIGITMOD-TNS` command, the CIP is also deleted. | Fixed in SP.4. |

| Tracking Number | Symptom | Comments |
|---|---|---|
| 41715 | ENT-TREATMENT fails in a distributed environment. | Fixed in SP.5 |
| 40296 | Occasionally call progression tones will not be switched through on CAS trunks. | Fixed in SP.5 |
| 41878 | A one-way voice path is set up for SS7-to-SIP-T calls when 180 ringing is received as the first response to the invite. | Fixed in SP.5 |
| 42078 | Support added for SIP p-asserted-ID. | Fixed in SP.5 |
| 41952 | Calls may fail in a scenario where a SIP-to-SIP call processes multiple media transfers (media shuffle). | Fixed in SP.5 |
| 41014 | Incoming IAM COT failure followed by success causes the circuit to be blocked. | Fixed in SP.5 |
| 39071 | EMS does not clear MGC-SG M3UA Down alarms. | Fixed in SP.5 |
| 41812 | Calls involving AIN triggers can cause a circuit to remain blocked for 15 seconds after the call is released. | Fixed in SP.5 |
| 41812 | Calls involving AIN triggers can cause a circuit to remain blocked for 15 seconds after the call is released. | Fixed in SP.5 |
| 42214 | Incorrect tone played for Milliwatt tone test. | Fixed in SP.5 |
| 42196 | Deleting all CICs on a T1 may cause a provisioning inconsistency. A CM failover is required to recover. | Fixed in SP.5 |
| 40846 | The CALEA target DN provisioned using the GMSC- LAESDN command is not persistent. The data is lost when a CM module is rebooted in a distributed system or an SP is rebooted in an integrated system. The target DN must be deleted and entered again after the CM or SP module has been rebooted. A target reset on the LTDU will repopulate all target CALEA DNs. | Fixed in SP.6 |
| 41933 | SP's cyclic reboot | Fixed in SP.7 |
| 42782 | More then 4000 Route Digits (RT-DIGITS) entries are not support. | Fixed in SP.7 |
| 42787 | Receiving an unsolicited TCAP query will cause memory to be consumed and not released. | Fixed in SP.7 |
| 42820 | Deleting a CIC with an active call causes the TL1 agent to reject future CIC provisioning until a SP failover is performed. | Fixed in SP.7 |
| 42823 | ISUP congestion introduced by M3UA/SCTP congestion does not clear. | Fixed in SP.7 |

| Tracking Number | Symptom | Comments |
|---|---|---|
| 42924 | Over a period of time the CM card may fail when CNAM = Y is configured in the SIP trunk and TCAP is not configured to a SCP for the Calling name query. | Fixed in SP.7 |

### 5.2 Unresolved Error Defects

| Tracking Number | Symptom |
|---|---|
| 42225 | The `Edit LRN` command is not supported. LRN must be deleted and entered again to change a parameter. |
| 39548, 40366 | CM failed to upgrade. |
| 40177, 40017 | ISUP congestion observed during SG-MGC upgrade. |
| 41489 | Once SIP heartbeat is enabled, SIP OPTION messages of the Lucent Gateway Platform switch are sent out for every configured instance of the CMs. |

## 6. Hardware Installation and Provisioning Considerations

- A front SP-3 module, 89-406, requires a rear SP-3 module, 89-0417, front switch fabric card (89-0363-D), and Midplane III (chassis 85-3007 or 85-3008).
  **Note:** The OS port is above the SIGA port on the rear SP-3 module, whereas the OS port is below the SIG port on the rear SP module.
- Front and rear CM modules, 89-419 and 89-420 respectively, require SP-3 modules, and Midplane III (chassis 85-3008 ONLY). Slot I/O-9 cannot be used for a CM. Up to 8 protected CM pairs are allowed in a single chassis. A MGC chassis that is fully loaded with CMs has a power dissipation of 1800 Watts.
- The Triple and Octal DS-3 Front IOMs, 89-0424 and 89-0425, require a Rear Octal DS-3 module, 89-0383, and a rear Octal Protection module, 89-0386. They are only supported in a chassis with Midplane II (85-3004) and Midplane III (85-3007 and 85-3008).
- The Triple and Octal DS-3 Front IOMs, 89-0424 and 89-0425 can be protected by corresponding 89-0424/0425 IOMs as well as by 89-0410/0411 IOMs.
  **Note:** ISDN, MTP2, CAS and GR-303 peak signaling rates must be taken into account when using a 89-0410/0411 to protect a 89-0424/0425, since they support higher signaling rates than the 89-0410/0411 IOMs (25%, or greater, depending on the signaling).

**Note:** They cannot be used to protect corresponding Triple and Octal DS-3/STS-1 IOMs, part numbers 89-0397/ 0398/ 0410/0411, since they do not support STS-1.

**Note:** They cannot be used to replace previously provisioned Triple and Octal DS-3/STS-1 IOMs, part numbers 89-0397/ 0398/ 0410/ 0411, since they do not support STS-1.

- A VSM can be provisioned in any I/O slot, but it will only fail over to I/O slot 9. Version 5.0.0.0.47 is the minimum version that is required to support VSM protection in I/O slot 9. **Note:** In versions 3.X and earlier versions of 5.0, the VSM would only failover to slot I/O 17.
- ENA IOMs can only be provisioned in slot 8 and will only fail over to slot 10.
- A OC-3 module, 89-0400-A, requires a Midplane III (chassis 85-3007 or 85-3008). It also requires a OC-3 rear module (89-0492-A). The rear module can terminate four OC-3 lines. Only the first eight STS-1 can be provisioned. STS-1 through STS-6 can be bulk provisioned. STS-7 and STS-8 cannot be bulk provisioned. They must be provisioned individually. A maximum of four protected pairs of Channelized OC-3 modules are supported. A Channelized OC-3 module cannot be provisioned if there is a card in its mated pair I/O slot that is other than a Channelized OC-3 module. The protected pairs can be installed in:
    - I/O-1 and I/O-2
    - I/O-3 and I/O-4
    - I/O-5 and I/O-6
    - I/O-7 and I/O-8
- A Midplane III (85-3007 and 85-3008) chassis requires an Octal rear-protection IOM on DS3 IOMs regardless of whether the front IOMs are Octal or Triple DS3 IOMs (rear-working IOMs can be Triples, but the protection IOM must always be Octal).
- An Octal rev. A can be backed up with either an Octal rev. A or an Octal rev. B; however, an Octal rev. B can only be backed up with an Octal rev. B. IOM failover won't work if Octal rev. B tries to fail over to an Octal rev. A.
- A Switch Fabric (SF) module must be inserted before its associated SP module.
- SP and SF Rev. B or later are required for operation with Octal DS3 IOMs.
- Chassis Part Number 85-3000, CLEI Code BAM9LJ0GRA, does not support Octal IOMs.
- CAS is supported on Octal, part number 89-0398 and higher and triple DS3, part number 89-0397 and higher.
- When using the ENT-EQPT command, redundancy can be set equal to SEC (redundancy=sec) only if the IOM AID specified is in a protection slot. Attempting to provision an unsupported slot as a SEC redundancy returns a DENY message.

- You cannot provision slot 11 (IOM slot 9) if the ENA port 4 is provisioned, nor can you provision the ENA port 4 if slot 11 (IOM slot 9) contains a provisioned card. This is because there is a bandwidth limitation on the SF card.
- If an SP module is manually removed and then reinserted, it will not automatically be restored to service. You must enter the TL1 command, `RST-EQPT::SP-{A|B}`, to initialize and synchronize the previously removed SP.

# 7. Software Installation and Provisioning Considerations

## 7.1 Equipment Management Issues

- A Compute Module can support up to eight media gateways (subject to Compute Module CPU capacity).
- Additional logic has been implemented regarding the execution of the RMV-EQPT command (or EMS equivalent) on a working 1:1 protected IOM (CM, ANA, ENA) to allow the operator to take a working/standalone IOM OOS for emergency operations.
  - If the standby IOM is provisioned to be OOS, then the RMV-EQPT command will be accepted for the active IOM to allow the operator to take a protected/standalone IOM OOS for emergency operations.
  - If an attempt is made to remove the active I/O IOM before first provisioning the stand-by IOM to be OOS, the system will respond with a “DENY card not in a valid state” error message. You must first use the RMV-EQPT command against the stand-by IOM to place it into an OOS state and then re-issue the RMV-EQPT command for the active IOM.
  - If an attempt is made to remove an active IOM using the EMS, it will respond with "are your sure" and if the user selects "yes" the system will respond with "The card is not in a valid state." You should then use the appropriate EMS procedure to place the standby IOM OOS and then remove the active IOM using the appropriate EMS procedure.
- The TEST-TRANS command has the following limitations:
  - No SCP interactions (tollfree, LNP, other general AIN triggers) are validated. They would not even be detected in this case.
  - The announcement ID associated with a treatment will be captured. However, individual arguments (spoken announcement variables) that are used in an announcement may or may not be captured.
- The absence of carrier on the signaling or management ports on the protection SP will not prevent the manually executed SW-TOPROTN-EQPT::SP-x TL1 command from being executed. It will result in an SP failover, even if the signaling or management ports do not have carrier (an Ethernet cable has been pulled). Note: It is recommended that you check for alarms before issuing any equipment commands that force failovers.

- The associated Connection Control and Signaling (CCS) process must be rebooted when a TL1 DLT-MGC-MGASSOC command is issued.
- When an IOM or CM is manually put into an OOS state using the TL1 `SW-TOPROTN-EQPT` command or by selecting `Switch to Protection` within the EMS, it must be manually put back IS using the TL1 `RST-EQPT` command or by setting the card's state to IS with the EMS `Modify Card` screen prior to issuing a TL1 `SW-TOWORK-EQPT` command or EMS `Switch to Working` screen.
- If a CM needs to be moved from one slot to another, the corresponding MGs must be deleted prior to removing the CM. The corresponding MGs must then be re-entered after the CM has been installed in the new slot.
- Support for the following software features is not available in this software version but is on the roadmap for a future 5.X release: H248.2 (Text Conversation and FAX) – MG and MGC.
- The negotiation parameters on the SP management and signaling IP ports cannot be set via TL1 commands, contact Lucent Worldwide Services at 1-866-582-3688 for provisioning assistance.
- The IP addresses must be correct and unique on both SPs before bringing the switches into service.
- IP addresses for OS, signaling and craft Ethernet ports should not be on the same subnet. If it is desired that they be on the same subnet, contact Lucent Worldwide Services at 1-866-582-3688 for provisioning assistance.
- If the signaling interfaces are not configured with IP addresses, an alarm from each SP, stating "lost link on signaling Ethernet," will be generated.
- When switching from SS7 to ISDN signaling or vice-versa, the signaling link and interface must be deleted and the Octal DS3/DS1/DS3 IOMs must be rebooted before provisioning can occur.
- If you pull an SP, thus taking it out of service, you must wait 10 seconds before reinserting the SP.
- Using the ED-DATE TL1 command to change the time is not required or recommended when the NTP is provisioned. If the new date differs by more than 1000 seconds, then the NTP daemon may shut down. If this happens, you should reset the NTP server to 0.0.0.0 then back to the correct server IP address.
- A single IOM cannot support signaling links of both 56K and 64K. The link speed must be the same for all links on a single IOM. This restriction does not apply to Triple DS3 IOMs, part numbers 89-0397 and higher, and Octal DS3 IOMs, part numbers 89-0398 and higher, as a mix in the link speed creates no problems.
- Midplane II (85-3004 chassis) and Midplane III (85-3007 and 85-3008 chassis) use slot pairs for provisioning line timing. Therefore, you cannot have just one IOM in a paired slot. Slots 1 and 2 are paired, as are slots 8 and 10. To use line timing, any Triple DS3 IOMs must be in place in a given slot pair or any Octal DS3 IOMs.

- The default value for the Signaling loss of carrier timer has been changed to 3 seconds from 30 seconds.

### 7.1.1 DS3 IOMs

- Operating a FEND loopback on a channel already in a near-end (NEND) loopback cannot be done because of DS3 interface chip limitations. If a NEND loopback command was followed by a FEND loopback command, the DS3 interface chip will only execute the NEND loopback, but will remember the FEND request. If the NEND loopback is released, the FEND request is remembered but will not execute. Issuing a FEND loopback will not work because the DS3 interface chip thinks a loopback is in progress. The FEND must also be released. To insure a T3 is put into a FEND loopback, first send a RLS-LPBK-T3::<lpbk_id>:::FEND command followed by a OPR-LPBK-T3::<lpbk_id>:::FEND.

  **Note:** This limitation is still in effect from a TL1 command standpoint and will remain in the release notes until it is documented in DLP-532 (Perform Loopbacks). However, you cannot issue a NEND loopback followed by a FEND loopback from the EMS without issuing a RLS in between.

### 7.1.2 STS-1 IOMs

- GR-253 (R6-372) states that there must be a method provided to detect and report the actual contents of the Received STS Path Trace message. The RTRV-STS1 command presently only supports the expected Rx Trace message and the Tx Trace message.
- The system reports an STS Trace ID Mismatch when the J1 byte is inaccessible. GR-253 (R6-382) states that STS Path Trace monitoring should be suspended if the J1 byte in the Path Overhead cannot be accessed (e.g., LOS, LOF, LOP-P and AIS-P). This means that the system should not report an STS Trace ID Mismatch just before it declares any of the above mentioned alarm conditions, or after they clear.
- STS reports Trace ID Mismatch events.

### 7.1.3 Voice Server Modules

- When the precedence of RTP packets is changed with `ED-VOIP-SYS`, the voice server module needs to be rebooted for the settings to take effect. This can be done with an IOM failover to the protection voice server module followed by an IOM revert of the voice server module.

### 7.1.4 Primary Rate ISDN Line

- As indicated by the ED/ENT-ISDN-IF command responses, the 4ESS ISDN PRI variant is currently not supported in this version.
- Two-way Primary Rate ISDN lines on the Plexus should be provisioned as National ISDN-2 or DMS-100.

- The Plexus supports National ISDN-2, 4ESS, 5ESS, and DMS-100 variants for one-way calls leaving the Plexus.

## 7.2 SS7 and ISDN Signaling

- The capturing of SS7 MTP3 signaling messages via `SigTrace` is supported in this version. The capture of ISDN Q.931 or CAS signaling messages is not supported in this version.
- When editing a T1 out-of-service the mode (OMODE) must be set to AIS in order to bring MTP2 and LAPD down.
- Currently, the signaling point code restart procedure is not supported.
- Alarms for ISUP timer expiry are disabled.
- Alarms are not generated if the initial condition for a remote Point Code is down.
- A maximum of 1250 destination point codes can be configured.
- A signaling link set must contain at least one signaling link with a link priority set to 0. Any additional links, in the link set, must have contiguous priorities.
- Plexus currently does not support T-321 timers.
- Trunk Group IDs must be unique in the system.
- There can be no more than 100,000 interfaces formed by TRKGRPS+ ISDNIF+CASIF in the router. The breakdown of each consists of the following: a maximum of 3808 configurable ISDN interfaces and TRKGRPS each; and a maximum of 91392 CAS-IF interfaces (currently, however, it is recommended that you not configure more than 64,000 CAS-IFs).
- SS7 Trunks cannot be assigned the CIC value 0.

## 7.3 CAS Signaling

- The CAS profileID for an existing CAS trunk group cannot be edited. In order to change the CAS profileID, all of the trunks in the trunk group must be deleted, the trunk group must be then be deleted and subsequently re-added with the new CAS profile.
- The maximum CAS ports (T1s) that can be provisioned for one Octal (89-0398, 89-0411, 89-0425) is 150 T1 ports (3600 T0s).
- Parameters in the CAS-IF command cannot be edited after changing the ALLOC parameter equal to CIRCULAR for one CAS-IF entry.

## 7.4 ISUP and SIP-T Interworking

- All unrecognized parameters received in SIP-T messages are not passed to ISUP. Correspondingly, all unrecognized parameters received in ISUP messages will be discarded in SIP-T.

## 7.5 Call Processing

- The CALL TRACE and CALL CAPTURE TL1 commands are not supported in this version.

- The signaling trace utility (sigtrace) should not be relied on for debugging with high CPU utilization (greater than 85-90%).
- The SS7 signaling links are not protected during an IOM hardware failover.
- When an IOM is in protection mode, attempting to add, modify or delete ISDN or signaling links from the protected IOM will return DENY messages.

## 7.6 Billing/Statistics

- The ISDN PRI Traffic CCS report does not currently update the available circuit (AVLCIRC) field to reflect ISDN channels that are OOS.
- Because Feature Group D functionality is fully supported from an Access Tandem and Inter-Exchange Carrier standpoint for CAS and ISUP in release 3.8 and above, originating carrier information (such as connect date, connect time, and elapsed time) is only valid for Feature Group D trunks. Note: End Office Feature Group D functionality is not fully supported. For terminating carrier access calls, the carrier timing information is populated even if the incoming trunk group is not Feature Group D.

## 7.7 Session Initiation Protocol

- Enabling the SIP session timer can cause some performance degradation at high call rates if a large number of session refresh messages are sent at the same time. The recommended value for this timer when enabled is 1800 (30 minutes) - that way, session refresh messages will not occur in most cases.
- A SIP trunk group should not be deleted if it has standing calls (#37577/31033)
- In release 3.10, the default NPI for CPN for SIP initiated calls was UNKNOWN. Starting with this release, the default NPI value is ISDN. Customers that were previously assuming that the default value was UNKNOWN or were using digitmods to change the NPI value, need to make appropriate configuration changes (add/remove the digitmods).
- Changing media streams in SIP 18x responses and subsequent 200 OK responses is not supported since it is it is contrary to RFC 3261.
- A SIP CANCEL message is not sent out after Invite Timer (T1) expiry which is consistent with RFC 3261 but inconsistent with RFC 3398.

## 7.8 Integrated VoIP

- If you change the VSM `aal5enc` encoding parameter (VCMUX, LLCSNAP), a VSM reboot is required for the change to take effect.
- If you change the ENA `format` parameter (802.3, DIX II), an ENA reboot is required for the change to take effect.
- Tone Relay support is limited to DTMF Events per RFC2833, Section 3.10, Table 1. Other types of tones are not supported.
- Additional logic has been implemented regarding the execution of the remove command on an active module. The system now denies RMV commands for

working 1:1 modules (CM, ANA, ENA) when the protection card is provisioned to be IS.

- If the protection card is provisioned to be OOS, then the RMV card will be accepted - this is to allow the operator to take a working/standalone card OOS for emergency operations.
- If an attempt is made to remove an active IOM before first removing the stand-by card the system will respond with a DENY card not in a valid state. The operator should then follow the proper procedure of first removing the stand-by module.
- If an attempt is made to remove an active IOM using the EMS, it will respond with "our your sure" and if the user selects "yes" the system will respond with "The card is not in a valid state."
- If an attempt is made to remove an active IOM before first removing the stand-by card the system will respond with a DENY card not in a valid state. The operator should then follow the proper procedure of first removing the stand-by module.

**Note:** This is fixed in 2 ways in R6.0 and beyond. The ENA cards are not auto revertive and they are true one to one protection, so when the standby takes over after a failover it 'becomes' the active.

- Fax/modem support between the Plexus and some third-party equipment (such as gateways, IADs) is only available on G711 calls. For calls using compressed codecs (using G.729 protocol), fax/modem calls won't work with these vendors if they use proprietary signaling protocols.
- The Plexus supports G.711, G.726, G.729, G.723.1, CLEARMODE, X-CCD, CISCO-CLEAR-CHANNEL codecs, each with 10, 20, 30 and 40ms sampling, except for G.723.1, which supports 30 and 60ms sampling
- If you want to modify the endptvoip IP address on a GigE port, you must edit the ENET port Out of Service (OOS) and then use the RMV-EQPT command on the VSM. There is no way to dynamically update the IP addresses without dropping all calls associated with a VSM. For example, information would be entered as such:

```
ED-ENET::IOM-8-ENET-1::::OOS;   (GigE port)
RMV-EQPT::IOM-11; (VSM)
DLT-ENET-ENDPTVOIP::IOM-8-ENET-1;(Delete Endpoint)
ENT-ENET-ENDPTVOIP::IOM-8-ENET-:::IPADDR=10.18.140.211,
MATEIPADDR=10.18.140.212,SUBNETMASK=255.255.255.0,
DEFAULTGATEWAY=10.18.140.1:IS;
(Enter new IP address to the endpoint)
ED-ENET::IOM-8-ENET-1::::IS;
RST-EQPT::IOM-11;
```

- When the SDP profile contains multiple deep compression CODECs (G.729, G.723.1 or G.726), only the first available deep compression CODEC in the preference list will be included in the originating offer from the Plexus, e.g., G.729, G.711, G.726. This results in G.711 and G.729 being the offered CODECs in the originating offer (provided G.729 is available; otherwise, G.726 or G.711 would be offered). This limitation applies to CODEC negotiation across SIP.
- MF Tone detection is not supported on the VSM in this release. In order to support MF Tone detection, 89-0410/0411/0424/0425 IOMs, which have on-board DSPs to perform MF tone detection, must be used.
- The Plexus only supports Payload Type 13 comfort noise for G.711 and G.726.
- RTCP reports sent for T.38 calls are invalid and should be ignored.

## 7.9 System Software

- UNIX system security does not support password aging or security logging for FTP and remote login access.
- The date/time should be set before configuring the system and adding the IOM. Please contact Lucent Worldwide Services at 1-866-582-3688 for instructions on how to provision the switch clock for time zone.
- If an IOM protection switch occurs, the monitoring function stops. Once an IOM revert occurs, the cross-connect to the test port has to be put out of service (OOS) and restored.
- Currently, there is no way to retrieve the status of a nailed up DS0 connection unless you know the exact DS0 of one of the connections. RTRV-CRS-T0 without an AID should return the status of test port settings.
- The ED-SERVICE-ACCESSCODE must put the VMS in-service to support voice mail. The command would appear as: ED-SERVICE-ACCESSCODE::VMS::::IS;.

## 7.10 SS7 MTP-2 Performance

Listed below are the number of SS7 MTP-2 messages per second that can be supported by various IOMs at different IOM CPU utilization rates, assuming that the IOM is ONLY handling SS7 signaling and IMTs. The table does not indicate the calls per second for SS7 links since these performance numbers are a function of TCAP transactions as well as ISUP (or BICC) usage. Please contact your Lucent Sales Engineer, for assistance in determining the numbers of calls per second that can be supported for your particular application(s).

**Note:** The total number of messages per second per chassis is 8,500 messages/sec (at 85% utilization).

| Description | Part Number | MTP-2 Msgs/sec (80%) | MTP-2 Msgs/sec (40%) |
|---|---|---|---|
| 3 DS-3/STS-1 | 89-0397 | 544 | 272 |
| 8 DS-3/STS-1 | 89-0398 | 544 | 272 |
| 3 DS-3/STS-1 w digit collect | 89-0410 | 544 | 272 |
| 8 DS-3/STS-1 w digit collect | 89-0411 | 544 | 272 |
| 28 T1/E1/J1 | 89-0414 | 768 | 384 |
| 3 DS-3 w digit collect | 89-0424 | 768 | 384 |
| 8 DS-3 w digit collect | 89-0425 | 768 | 384 |

# 8. TL1 Restrictions

- The EXEC-BULK-DOWNLOAD command is not supported in this version.
- The following parameters in the ED-MGC-SYS command cannot be edited in this version and should be left:
  - cdr
  - iua
  - m3ua
  - megaco
  - mgcp
  - sipStaPortRange
- The *sipCgpMap* parameter for SIP and SIP-T trunk groups in the ENT/ED/RTRV-TRKGRP command is not implemented; leave it blank.
- ED/ENT-TRKGRP incorrectly allows you to set the BEARERCAP parameter to RESDIGITAL or UN UNRESDIGITAL in the ITU-T stack. These are ASNI only values.
- The minDgt2Seize parameter in the DLT/ED/ENT/RTRV-PC is not supported in this version, even though TL1 incorrectly lets you provision this un-supported parameter.
- RTRV-PM-T3::IOM-1-T3-1-PORT-1; :: [<montype>], [<monlev>] should not be executed with *montype* parameter equal to *all* since the large amount of data returned will lead to a failure in writing the data on the TL1 -port and subsequently result in the TL1 session being closed.
- The number of TL1 retrieve (RTRV) commands is limited to five results per second.
- Signaling TL1 commands respond “All Resources Busy” while standby SP is synchronizing.
- Logging into the TL1 agent cannot be done during part of SP sync on the standby side.
- When using the INIT-SYS, ED-BILLSYS, and EXEC-RESTORE-PLEXUS commands, the target identifier (TID) must always be used. Therefore, the form of the command must be, as an example, INIT-SYS:TID:::10; or ED-BILLSYS:TID::::10; or EXEC-RESTORE-PLEXUS:TID::::10;
- Before restoring a backed up database using the EXEC-RESTORE-PLEXUS command, contact Lucent Worldwide Services at 1-866-582-3688 for assistance to ensure a successful database restoration.
- The *T3 Idle* and *T3 Map* parameters in the ENT/ED/RTRV-T3 command are not supported.
- For the commands INIT-REG-T1/T3/E1/OC3/STS1, NULL is the only accepted value in the *mondat* and *montm* parameters. *ALL* is the only *montype* that will clear the registers.

- The “state” information on the SIP-IPADDR command is not persistent. If the primary IP address has failed over to the secondary IP address, and then you fail over the SP, your first SIP call after the SP failover will initially attempt the call on the wrong IP address. The call will complete on the secondary IP address once the SP determines the primary is down. The secondary IP address will then be made “active” and all subsequent calls will be made using the "active" IP Address.
- For the DLT/ED/ENT/RTRV-SS7-TRK command, ITU TRKGRP CICs are restricted to 0-4095. This command has been modified to allow for ED/DLT of non-contiguous ranges. RTRV returns a status of no more than 4,000 CICs at a time; re-invoke the command to return information for successive groups of 4,000.
- The RTRV-CAS-TRK command returns a status of no more than 4,000 CICs at a time; re-invoke the command to return information for successive groups of 4,000.

## 9. IP Security Considerations

An IP packet filtering application that runs on the SP is available in this build. It is important to note that IP packet filtering is only a subset of full firewall/Session Border Controller functionality (e.g., packet filtering, bandwidth management, user authentication, network access rules, network address translation, and back-to-back user-agent). Because IP filtering and processing filtering rules is a CPU-intensive task that can degrade overall switch performance, the use of an external network firewall is highly desirable and recommended.

However, in the absence of a firewall, IP filtering can protect the switch from unsophisticated attacks or accidental misuse.

IP Filtering **is not enabled** upon initial boot up. Should IP filtering be required, contact Lucent Worldwide Services at 1-866-582-3688 (Option 5) for assistance. An LWS representative will refer you to DLP-570, which contains specific steps for activating/de-activating and editing security settings. DLP-570 can be obtained from your LWS representative.

It is recommended that security be enabled **during the switch maintenance window** in order to minimize any potential impact to call completion during initial activation.