

**Lucent Technologies**  
Bell Labs Innovations



**What's New in DEFINITY<sup>®</sup>**  
**Enterprise Communications Server**  
Release 8.3

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#### Notice

Every effort was made to ensure that the information in this book was complete and accurate at the time of printing. However, information is subject to change.

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#### Preventing Toll Fraud

“Toll fraud” is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or working on your company’s behalf). Be aware that there may be a risk of toll fraud associated with your system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

#### Lucent Technologies Fraud Intervention

If you suspect you are being victimized by toll fraud and you need technical support or assistance, call the appropriate BCS National Customer Care Center telephone number. Users of the MERLIN®, PARTNER®, and System 25 products should call 1 800 628-2888. Users of the System 75, System 85, DEFINITY® Generic 1, 2 and 3, and DEFINITY® ECS products should call 1 800 643-2353.

#### Providing Telecommunications Security

Telecommunications security (of voice, data, and/or video communications) is the prevention of any type of intrusion to (that is, either unauthorized or malicious access to or use of your company’s telecommunications equipment) by some party.

Your company’s “telecommunications equipment” includes both this Lucent product and any other voice/data/video equipment that could be accessed via this Lucent product (that is, “networked equipment”).

An “outside party” is anyone who is not a corporate employee, agent, subcontractor, or working on your company’s behalf. Whereas, a “malicious party” is anyone (including someone who may be otherwise authorized) who accesses your telecommunications equipment with either malicious or mischievous intent.

Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based) or asynchronous (character-, message-, or packet-based) equipment or interfaces for reasons of:

- Utilization (of capabilities special to the accessed equipment)
- Theft (such as, of intellectual property, financial assets, or toll-facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company (including, but not limited to, human/data privacy, intellectual property, material assets, financial resources, labor costs, and/or legal costs).

#### Your Responsibility for Your Company’s Telecommunications Security

The final responsibility for securing both this system and its networked equipment rests with you – a Lucent customer’s system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources including but not limited to:

- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure your:

- Lucent-provided telecommunications systems and their interfaces
- Lucent-provided software applications, as well as their underlying hardware/software platforms and interfaces
- Any other equipment networked to your Lucent products

Lucent Technologies does not warrant that this product or any of its networked equipment is either immune from or will prevent either unauthorized or malicious intrusions. Lucent Technologies will not be responsible for any charges, losses, or damages that result from such intrusions.

#### Federal Communications Commission Statement

**Part 15: Class A Statement.** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

**Part 68: Answer-Supervision Signaling.** Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 Rules. This equipment returns answer-supervision signals to the public switched network when:

- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

This equipment returns answer-supervision signals on all DID calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered
- A busy tone is received
- A reorder tone is received

#### Industry Canada (IC) Interference Information

This digital apparatus does not exceed the Class A limits for radio noise emissions set out in the radio interference regulations of Industry Canada.

Le Présent Appareil Numérique n’émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le règlement sur le brouillage radioélectrique édicté par le Industrie Canada.

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#### European Union Declaration of Conformity

The “CE” mark affixed to the equipment means that it conforms to the above directives. Lucent Technologies Business Communications Systems declares that XXX equipment specified in this document conforms to the referenced European Union (EU) Directives and Harmonized Standards listed below:

EMC Directive 89/336/EEC  
Low-Voltage Directive 73/23/EEC

#### Comments

To comment on this document, return the comment card at the front of the document.

#### Acknowledgment

This document was prepared by the Product Documentation Development, Lucent Technologies, Denver, CO.

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# Contents

DEFINITY R8.3 Feature Overview	1
Network Call Redirection	1
IP Media Processor Interface for VoIP Bearer (TN2302AP)	1
ARS/AAR Dialing without FAC	2
CVM Enhancements	2
24-Port Analog with Caller ID	2
Upgrading R8.1/8.2 to R8.3	3
Read This First	3
Service Interruption	3
Call Management System (CMS)	3
Contact Network Technicians	3
Translation Card Compatibility (si/csi only)	4
Software Upgrade	4
Required Tools	4
Required Hardware	5
DC Isolator	5
Antistatic Protection	5
Task Table	6
Upgrade the Software	7
Check SPE	7
Resolve Alarms	8
Back Up Disk (r only)	8
Disable Scheduled Maintenance and Alarm	
Origination to INADS	8
Disable TTI	9
Check TTI Status	9
Check Link Status	9
Save Translations	9
Save Announcements (if necessary)	10
Verify Software Version	10
Resolve Alarms	11
Save Translations (r only)	11
Save Announcements (r only)	11
Restore Disk (r only)	11
Upgrade Software (csi only)	12
Upgrade Software (si only)	12
Verify SPE Is Running R8.3 (si only)	13
Upgrade Software (r only)	14
Administer the System	14

---

# Contents

Check SPE status (si, H/C only)	14
Reset SPE status (r, H/C only)	14
Set Daylight Savings Rules	15
Set Date and Time	16
Verify Software Version (si, r only)	18
Verify Additional Administration	18
Set Core Dump Vector (r only)	18
Enable TTI	18
Enable Scheduled Maintenance	19
Enable Customer Options and Alarm Origination	19
Resolve Alarms	20
Check Link Status	20
Save Translations	20
Restore Announcements (csi/si only)	20
Save Announcements (r only)	20
Back Up Disk (r only)	21
Return Replaced Equipment	21
Where to Call for Technical Support	22
IP Solutions	23
Preparing for Installation and Upgrade	23
Check your onsite equipment	24
Check your shipment	25
Installing the TN2302AP IP Media Processor	26
Connect the cables for TN799B	26
Connect the cables for TN2302AP	27
Connect the Ethernet	27
Install the Circuit Packs	27
Initial Administration Steps for C-LAN and IP Media Processor	29
Test the External Connection to the LAN	31
Upgrading TN802 IP Trunking to TN2302AP IP Media Processor	32
Pre-upgrade steps	32
Remove the Circuit Packs	32
Replace the Cables	33
Install the circuit packs	33
Administration Steps	34

---

# Contents

Upgrading a TN802B IP Interface Assembly to TN2302AP IP Media Processor	34
Pre-upgrade steps	34
Remove the Circuit Packs	35
Replace the Cables	35
Install the circuit packs	36
Administration Steps	36
Modified Maintenance Objects	37
ISDN-SGR (ISDN-PRI Signaling Group)	37
ISDN-TRK (DS1 ISDN Trunk)	37
TIE-DS1 (DS1 Tie Trunk)	38
New Maintenance Objects	39
IPMEDPRO (IP Media Processor Circuit Pack)	39
Error Log Entries and Test to Clear Values	40
System Technician-Demanded Tests: Descriptions and Error Codes	44
Control Channel Looparound Test (#52)	45
SAKI Sanity Test (#53)	46
IP Address Query Test #1371	47
Ping Test (#1379)	48
MP Diagnostic Test (#1406)	50
MEDPRO (Media Processor MAPD Circuit Pack)	53
Error Log Entries and Test to Clear Values	54
System Technician-Demanded Tests: Descriptions and Error Codes	57
Control Channel Looparound Test (#52)	58
SAKI Sanity Test (#53)	59
IP Address Query Test #1371	60
Ping Test (#1379)	61
NT Reset Test (#1381)	63
NIC Query Test (#1383)	65
MEDPROPT (TN802/TN2302 MED PRO DSP PORT)	66
Error Log Entries and Test to Clear Values	66
System Technician-Demanded Tests: Descriptions and Error Codes	68
DSP Capacity Query Test (#1382)	68
TDM NIC Looparound Test (#1380)	70
Port Status Query Test (#1407)	72

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# Contents

## **DEFINITY R8.3 Feature Overview**

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The primary focus of Release 8.3 is the call center Network Call Redirection feature. In addition, R8.3 introduces the new IP Media Processor circuit pack, enhances the Centralized Voice Messaging feature, and adds a limited version of ARS/AAR Dialing without FAC.

This introduction covers the following topics:

- Network Call Redirection
- IP Media Processor
- ARS/AAR Dialing without FAC
- Centralized Voice Messaging using Mode Codes Enhancements
- TN793B/2793B 24 Port Analog Circuit Pack with Caller Identification

### **Network Call Redirection**

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Network Call Redirection (NCR) allows customers to reduce the number of ISDN trunks required by having the PSTN re-direct incoming ISDN calls to another PSTN destination.

Call Center customers will no longer require trunk-to-trunk connections for Interflow, ASAI, or station/agent/VRU transferred calls.

Call redirection is invoked in real time on a call-by-call basis.

NCR utilizes either the ETSI Network Call Deflection (NCD) or ANSI Network Call Transfer (NCT) features provided by the PSTN.

### **IP Media Processor Interface for VoIP Bearer (TN2302AP)**

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TN2302AP is a hardware alternative to TN803B MedPro.

The first release of the TN2302AP, available in July, 2000, is intended for configurations that require IP station and trunk connectivity without fax. Future releases of this circuit pack will support fax using R8.3 and later DEFINITY Software.

TN2302AP has the following features:

- Support for 32/64 Simultaneous calls.
- Single slot interface card.
- Real time operating system with integrated DSPís.
- Enhanced performance through audio delay improvement.

- 
- Variable packet sizing (10-30 ms).
  - Support for new 46xx series Ethernet telephones with US transmission parameters downloads.
  - Board that includes 10/100 BaseT Ethernet interface.
  - Echo cancellation, silence suppression, DTMF detection, and conferencing.

### **ARS/AAR Dialing without FAC**

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ARS/AAR Dialing without FAC allows a DEFINITY system to be administered so that callers can place Automatic Route Selection (ARS) and/or Automatic Alternate Routing (AAR) calls without first dialing the Feature Access Code (FAC). This is the only approved and supported capability. ARS/AAR Dialing without FAC is *not* to be used or sold to meet any other need.

This feature is not generally available in R8.3. Only select customers will be granted authorization to purchase it under a Controlled Availability status.

**It is *strongly recommended* that systems with the ARS/AAR dialing without FAC feature active do not activate transfer out of the voice mail system. Additionally, other adjuncts should be checked to verify that calls will not be allowed off-switch unintentionally.**

### **CVM Enhancements**

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Release 8.3 updates the Centralized Voice Messaging using Mode Codes feature to work with Merlin Legend. For more information on CVM, refer to the LVI courses BTT705B and BSS203B, and to Appendix B in *Administration for Network Connectivity*, 555-233-504.

### **24-Port Analog with Caller ID**

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The 24-Port Analog circuit pack with caller ID was introduced in R8.2. Features include:

- New board codes are TN793B and TN2793B.
- Customers can receive Caller ID information on Analog Phones.
- 24 analog ports that can be used for Bellcore compliant Caller ID capable devices such as Caller ID boxes or telephones.

Caller ID Information will include:

- Telephone Number, if sent by Central Office.
- Name of calling Party (up to 15 characters), if sent by Central Office.
- Time and date of call.

Requires DEFINITY ECS R8.2 or greater software.



## **Upgrading R8.1/8.2 to R8.3**

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This section provides the information to upgrade from a DEFINITY ECS Release 8.1 or Release 8.2 to a DEFINITY ECS Release 8.3 as a software upgrade only.

To upgrade from pre-Release 8.1 to Release 8.3, refer to one of the following books:

- *DEFINITY Enterprise Communications Server Release 8 Installation, Upgrades, and Additions for Compact Modular Cabinets*
- *DEFINITY Enterprise Communications Server Release 8 Upgrades and Additions for R8si*
- *DEFINITY Enterprise Communications Server Release 8 Upgrades and Additions for R8r*

### **Read This First**

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#### **Service Interruption**

The upgrade process requires a service interruption of about 10 minutes for a standard reliability and must be closely coordinated with the customer and the local account team.

#### **Call Management System (CMS)**

The CMS link is dropped and restarted during the upgrade. This causes CMS data to be lost. This data loss can be minimized if the upgrade is performed just after the last CMS measurement interval.

All measurement data is lost during the upgrade (including BCMS). If needed, the reports may be printed before the upgrade begins.

CMS could abort the processing of a call if a measured trunk that was part of the conference dropped off the call before the end of the call.

#### **Contact Network Technicians**

Contact the technician for each public and private network before the update or upgrade begins. Otherwise, it is possible that network access trunk facilities will be busied out at the far end.

### **Translation Card Compatibility (si/csi only)**

Release 8.1 or 8.2 formatted translation cards are compatible with Release 8.3 systems and, therefore, can be reused. It is not necessary to obtain new Release 8.3 formatted translation cards.

### **Software Upgrade**

Although the translations upgrade automatically to Release 8.3, several features require special attention because of screen changes or potential naming conflicts in the update or upgrade procedure.

Between customer confirmation and the actual update or upgrade, check the screens to ensure the translations meet the customer's needs. After rebooting the system, enter the translations either locally or remotely. If done remotely, Contact Field Support Administration Center (FSAC) for the remote entry. For information to make the required changes, refer to:

- *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*

No administration changes should be made during the upgrade procedure. There can be time gaps between steps and, since the system cannot prevent administration changes, it is up to the system technician to make sure that none are attempted during the entire upgrade process.

### **Required Tools**

This upgrade requires one copy of each of the following books:

- *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8si*
- *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8csi*
- *DEFINITY Enterprise Communications Server Release 8 Maintenance for R8r*
- *DEFINITY Enterprise Communications Server Release 8 Administrator's Guide*

## Required Hardware

Ensure that the following items are available before proceeding:

Comcode	Description	Quantity
406805481	Release 8.3 Generic Program Card (csi)	1
601810790	Release 8.3 Generic Program Card (si)	1
J58890TO-1 L1 or J58890TF-1 L1	Release 8.3 Removable Media (r only)	2 (4 if duplex)
<b>csi only:</b> 601845589 or 601845571 or 601845563	2-Mbyte Mass-Storage Translation Card (White Card) or 4-Mbyte Mass-Storage Translation Card (White Card) or 10-Mbyte Mass-Storage Translation Card (White Card)	1 <sup>1</sup>
<b>si only:</b> 601817448 or 601817422 or 601817430	2-Mbyte Mass-Storage Translation Card (White Card) or 4-Mbyte Mass-Storage Translation Card (White Card) or 10-Mbyte Mass-Storage Translation Card (White Card)	1 <sup>1</sup> (2 if duplex)

1. A 4-Mbyte translation card is required for a system with recorded announcements. A 10-Mbyte translation card is required if a DEFINITY Wireless Business System is installed.

## DC Isolator

Each peripheral connected to a DC-powered system by the asynchronous EIA RS-232 interface requires a 116A or 105C isolator. The isolator is inserted at the RS-232 interface between the peripheral and the interface connector to isolate ground between the system and external adjuncts.

## Antistatic Protection



### CAUTION:

*When handling circuit packs or any components of a DEFINITY ECS system, always wear an antistatic wrist ground strap. Connect the strap to an approved ground such as ground jack on the DEFINITY ECS system.*

## Task Table

Table 1 provides the high-level tasks to perform the upgrades in this chapter. Refer to the appropriate page for instructions for each step. The upgrade procedure is similar for both the standard and high or critical reliability system with a few exceptions. These exceptions are noted as you go through the steps.

**Table 1. Tasks to upgrade the software**

✓	Task Description	Page
	<u>Check SPE</u>	<u>7</u>
	<u>Resolve Alarms</u>	<u>8</u>
	<u>Back Up Disk (r only)</u>	<u>8</u>
	<u>Disable Scheduled Maintenance and Alarm Origination to INADS</u>	<u>8</u>
	<u>Disable TTI</u>	<u>9</u>
	<u>Check TTI Status</u>	<u>9</u>
	<u>Check Link Status</u>	<u>9</u>
	<u>Save Translations</u>	<u>9</u>
	<u>Save Announcements (if necessary)</u>	<u>10</u>
	<u>Verify Software Version</u>	<u>10</u>
	<u>Resolve Alarms</u>	<u>11</u>
	<u>Save Translations (r only)</u>	<u>11</u>
	<u>Save Announcements (r only)</u>	<u>11</u>
	<u>Restore Disk (r only)</u>	<u>11</u>
	<u>Upgrade Software (csi only)</u>	<u>12</u>
	<u>Upgrade Software (si only)</u>	<u>12</u>
	<u>Verify SPE Is Running R8.3 (si only)</u>	<u>13</u>
	<u>Upgrade Software (r only)</u>	<u>14</u>
	<u>Administer the System</u>	<u>14</u>
	<u>Check SPE status (si, H/C only)</u>	<u>14</u>
	<u>Reset SPE status (r, H/C only)</u>	<u>14</u>
	<u>Set Daylight Savings Rules</u>	<u>15</u>
	<u>Set Date and Time</u>	<u>16</u>

*Continued on next page*

**Table 1. Tasks to upgrade the software — Continued**

✓	Task Description	Page
	<u>Verify Software Version (si, r only)</u>	<u>18</u>
	<u>Verify Additional Administration</u>	<u>18</u>
	<u>Set Core Dump Vector (r only)</u>	<u>18</u>
	<u>Enable TTI</u>	<u>18</u>
	<u>Enable Scheduled Maintenance</u>	<u>19</u>
	<u>Enable Customer Options and Alarm Origination</u>	<u>19</u>
	<u>Resolve Alarms</u>	<u>20</u>
	<u>Check Link Status</u>	<u>20</u>
	<u>Save Translations</u>	<u>20</u>
	<u>Restore Announcements (csi/si only)</u>	<u>20</u>
	<u>Save Announcements (r only)</u>	<u>20</u>
	<u>Back Up Disk (r only)</u>	<u>21</u>
	<u>Return Replaced Equipment</u>	<u>21</u>

## Upgrade the Software

### Check SPE

For csi/si:

1. Type **status system1** and press `Enter` to check the health of the system.

For r:

1. Type **status spe** and press `Enter` to check the health of the SPE.

For high or critical reliability systems:

- *The Standby Refreshed* field shows **yes**
- *The Standby Shadowing* field shows **on**
- *The Standby Handshake* field shows **up**

## Resolve Alarms

---

1. Type **display alarms** and press `Enter` to examine the alarm log. Resolve any alarms that may exist using
  - *DEFINITY Enterprise Communications Server Maintenance for R8csi.*
  - *DEFINITY Enterprise Communications Server Maintenance for R8si.*
  - *DEFINITY Enterprise Communications Server Maintenance for R8r.*

## Back Up Disk (r only)

---

1. Type **backup disk** and press `Enter` to write all information from the disk to the backup removable media. This takes 30 to 40 minutes.
2. Remove the removable media from the optical drive.

## Disable Scheduled Maintenance and Alarm Origination to INADS

---

### NOTE:

Make sure scheduled daily maintenance does not interfere with the upgrade.

1. Type **change system-parameters maintenance** and press `Enter` to prevent scheduled daily maintenance from interfering with the update or upgrade.
2. If scheduled maintenance has begun, set the `Stop Time` field to 1 minute after the current time.

or

If scheduled maintenance has **not** begun, set the `Start Time` field to a time after the upgrade is completed. For example, if you start the upgrade at 8:00 p.m. and the upgrade takes 90 minutes, set the `Start Time` field to 21:30.

### CAUTION:

*If you do not disable Alarm Origination, the system may generate alarms, resulting in unnecessary trouble tickets.*

3. Type **neither** in the `Alarm Origination to OSS Numbers` field and press `Enter`.

### NOTE:

For some software loads, set the `Cleared Alarm Notification` and `Restart Notification` fields to disable before pressing `Enter`.

---

## Disable TTI

---

**NOTE:**

Do this step only if the Terminal Translation Initialization (TTI) is enabled.

**CAUTION:**

*If you do not disable the TTI, the translations can be corrupted.*

1. Type **change system-parameters features** and press `Enter`.
2. On the second screen, set the `TTI Enable?` field to **n** to de-activate the TTI feature.

---

## Check TTI Status

---

1. Type **status tti** and press `Enter`. Wait until the `Percent Complete` field shows **100%**.

---

## Check Link Status

---

This optional step is to make sure the links are in service before and after the upgrade.

1. Type **display communication-interface links** and press `Enter`. Write down all enabled links.
2. Type **status link *number*** and press `Enter` for each enabled link.
3. Write down which links are in service.

---

## Save Translations

---

1. Type **save translation** and press `Enter`.

For `csi/si`, the command writes all translations from memory to the original translation flashcard, which takes about 10 minutes.

For `r`, the command writes all translations from memory to the system disk, which takes about 2 minutes.

When the save translations is successful, the error code is a zero; otherwise, the translations are not copied. If the translations were corrupted, the following error message displays when logging in:

**WARNING:**

Translation corruption detected; call Lucent Technologies distributor immediately.



**NOTE:**

The **save translation** command cannot function if translations are corrupt.

### Save Announcements (if necessary)



**NOTE:**

The TN750C Announcement circuit pack stores announcements in nonvolatile memory; saving the announcements is optional.

1. If the PPN contains a TN750/B Announcement circuit pack, type **display announcements** and press `Enter`.
2. If administered recorded announcements are listed, type **save announcements cabinet carrier slot** and press `Enter`. For example, 01D03. This takes about 30 minutes.



**NOTE:**

For some software loads, type **save announcements from cabinet carrier slot**. Type **help** and press `Enter` for complete command syntax.

### Verify Software Version

For `csi/si`:

1. Type **list configuration software-version** and press `Enter`. Under the `UPDATE FILE` column, note whether a patch has been applied.



**NOTE:**

If the system must be restored to the old software, this patch must be downloaded onto the system.

For `r`:



**NOTE:**

The `Tape Resident` field shows the software load number. Write it down for use later.

If standard reliability:

1. Type **list configuration software-version** and press `Enter` to verify that the removable media or contains the Release 8 software.

If high or critical reliability (`si/r` only):

1. Type **list configuration software-version long** and press `Enter` to verify that the removable media contains the Release 8 software.



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## Resolve Alarms

---

- Type **display alarms** and press `Enter` to examine the alarm log. Resolve any alarms that may exist using
- *DEFINITY Enterprise Communications Server Maintenance for R8csi.*
- *DEFINITY Enterprise Communications Server Maintenance for R8si.*
- *DEFINITY Enterprise Communications Server Maintenance for R8r.*

## Save Translations (r only)

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1. Type **save translations removable-media** and press `Enter` to save translations to the new removable media, which takes about 2 minutes.

## Save Announcements (r only)

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1. Type **save announce removable-media** and press `Enter` to save announcements to the new removable media.

## Restore Disk (r only)

---

If standard reliability:

1. Type **restore disk full** and press `Enter` to write the new software to disk. Release 8 system software is now resident on the disk.

If high or critical reliability:

1. Type **restore disk full both** and press `Enter` to write the new software to disk.

### NOTE:

This command may take up to 25 minutes to complete. Until this command finishes, the system provides no user feedback on the system access screen. Do not press `Enter` while the command executes. Doing so clears the terminal screen as the command finishes, erasing any success or failure messages the system may provide.

### Upgrade Software (csi only)

1. Insert the Release 8.3 generic program card (orange card) into the TN798B processor circuit pack.
2. Type **upgrade software** and press `Enter` to load the software.
3. When prompted, replace the orange card with the original translation card. When the `login:` prompt appears, the software is loaded onto the processor board.

If the translations were corrupted, the following error message displays when logging in:



**WARNING:**

*Translation corruption detected; call Lucent distributor immediately.*



**NOTE:**

The **save translation** command cannot function if the translation corruption message appears.

### Upgrade Software (si only)

For standard reliability:



**CAUTION:**

*All calls are dropped—this is a service interruption.*

1. Insert the Release 8.3 generic program card (orange card) into the TN794 NetPkt circuit pack.
2. Type **list configuration software-version** and press `Enter` to verify that the system is running the updated release.
3. Type **upgrade software** and press `Enter`. The system loads the Release 8.3 software.
4. When prompted, replace the orange card with the original translation card. When the `login:` prompt appears, the software is loaded onto the TN790B processor board.

For high or critical reliability:

**CAUTION:**

*All calls are dropped—this is a service interruption.*

1. Replace the translation card in the standby SPE with the generic program (orange) flashcard.
2. Type **upgrade software** and press `Enter`. The system loads the Release 8 software.
3. When prompted, replace the generic program (orange) card with the original translation card; and replace the translation card in the active SPE with the generic program (orange) card.
4. When prompted, replace the generic program (orange) card with the original translation card. When the `login:` prompt appears, the software and translations are loaded onto the TN790B processor boards.

### Verify SPE Is Running R8.3 (si only)

For standard reliability:

1. Log in as **craft** at the `login:` prompt.
2. Type **list configuration software-version** and press `Enter` to verify that the system is running the updated release.

For high or critical reliability

1. Log in as **craft** at the `login:` prompt.
2. Type **list configuration software-version long** and press `Enter` to verify that the system is running the updated release on both SPEs.

If you cannot access the SPE:

3. Type **status system 1** to verify the standby SPE is in the standby mode.
4. If the system is not in the standby mode:
  - a. Type **busyout spe-standby** and press `Enter`.
  - b. Type **refresh spe-standby** and press `Enter`
  - c. Type **release spe-standby** and press `Enter`
  - d. Type **status system 1** and press `Enter` to verify that the standby SPE is in the standby mode.

**NOTE:**

You may need to repeat this several times during the upgrade.

## Upgrade Software (r only)

This command copies the software from the removable media to the system disk and takes about 15 minutes to complete.

For standard reliability:



### **CAUTION:**

*All calls are dropped—this is a service interruption.*

1. Type **upgrade software G3V8r.xx.x.xxx.x** (entire alphanumeric string of new software version) and press `Enter`. At the prompt, press `Enter` to save translations.

For high or critical reliability:

1. Type **upgrade software G3V8r.xx.x.xxx.x no-calls** (entire alphanumeric string of new software version) and press `Enter`. At the prompt, press `Enter` to save translations and attempt to preserve calls across the interchange.

## Administer the System

1. After the system resets, log in as **craft**.
2. Check for the `Translation Corruption Detected` message before proceeding with the upgrade.



### **CAUTION:**

*Do not continue with the upgrade process until the translations errors are corrected.*

## Check SPE status (si, H/C only)

1. Type **status system 1** and press `Enter` to check the `SPE Alarms` field and verify that the `Tone Clock` is active.

## Reset SPE status (r, H/C only)

1. Type **status SPE** and press `Enter`. Wait until the `Standby Handshake` field displays **up**, which takes about 3 minutes.
2. Type **reset spe-standby 4** and press `Enter`.



### **NOTE:**

You can continue the process while the SPE is resetting.

## Set Daylight Savings Rules

You can set up to 15 customized daylight savings time rules. If you have cabinets in several different time zones, you can set up rules for each on a location basis. A daylight savings time rule specifies the exact time when you want to transition to and from daylight savings time. It also specifies the increment at which to transition.

### ⇒ NOTE:

The default daylight savings rule is **0**, no daylight savings.

1. Type **change daylight-savings-rules** and press **Enter**.

DAYLIGHT SAVINGS RULES						
Rule	Change	Day	Month	Date	Time	Increment
0:	No	Daylight	Savings			
1:	Start:	first	Sunday	on or after	April 1 at 2:00	01:00
	Stop:	first	Sunday	on or after	October 25 at 2:00	
2:	Start:	first		on or after	at	
	Stop:	first		on or after	at	
3:	Start:	first		on or after	at	
	Stop:	first		on or after	at	
4:	Start:	first		on or after	at	
	Stop:	first		on or after	at	
5:	Start:	first		on or after	at	
	Stop:	first		on or after	at	
6:	Start:	first		on or after	at	
	Stop:	first		on or after	at	
7:	Start:	first		on or after	at	
	Stop:	first		on or after	at	

2. Type the appropriate start and stop information in the **Change Day**, **Month**, **Date**, **Time**, and **Increment** fields for each rule (for example, **1:00** equals one hour) .

### ⇒ NOTE:

You can change any rule except rule 0 (zero). You cannot delete a daylight savings rule if it is in use on either the **Locations** or **Date and Time** screens.

When done, press **Enter**. The **Locations** screen is automatically populated from the **Daylight Savings Rules** screen entries. No **Set Locations** needed in **Release 7** and later.

## Set Date and Time

---

1. Type **set time** and press `Enter` to bring up the Date and Time screen.

DATE AND TIME

DATE

Day of the Week: Tuesday      Month: November  
 Day of the Month: 7              Year: 2000

TIME

Hour: 20    Minute: 30    Second: XX      Type: standard  
 Daylight Savings Rule: 0

### Screen 1. Typical Date and Time Screen

2. Type the day in English (Sunday through Saturday) in the `Day of the Week:` field. See [Table 2](#) for English day names. When done, press `Tab` to move to next field.

**Table 2. English Day of the Week Names**

Day Number	Day Name
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday

3. Type the current month in English (January through December) in the `Month:` field. See [Table 3](#) for English month names. When done, press `Tab` to move to next field.

**Table 3. English Month Names**

Number	Name	Number	Name
1	January	7	July
2	February	8	August
3	March	9	September
4	April	10	October
5	May	11	November
6	June	12	December

4. Type the day of month (1 through 31) in the `Day of the Month:` field and press `Tab` to move to the next field.
5. Type the current year in the `Year:` field and press `TAB` to move to the next field.
6. Type the current hour for a 24-hour clock in the `Hour:` field and press `Tab` to move to the next field.
7. Type the current minute (0 through 59) in the `Minute:` field (seconds cannot be set). When done, press `Tab` to move to next field
8. Type **standard** or **daylight savings** in the `Type` field, according to the current time in the local time zone. For example, if currently on standard time, type **standard**.

**NOTE:**

The default daylight savings rule is **0**, no daylight savings.

9. Type the rule number in the `Daylight Savings Rule` field.
10. When all the information is correct, press `Enter`.
11. Type **display time** and press `Enter` to verify date and time data.

### Verify Software Version (si, r only)

For standard reliability:

1. Type **list configuration software-version** and press `Enter` to verify the system software version (in the `Memory Resident` field).

For high or critical reliability:

1. Type **list configuration software-version long** and press `Enter` to verify the system software version (in the `Memory Resident` field)

### Verify Additional Administration

1. Perform a sanity check on the system by executing the following commands to ensure the translations were read in properly:
  - a. **list station**
  - b. **list trunk-group**
  - c. **list hunt-group**

This ensures there is no translation corruption and the translations can be saved with the new software.

2. Notify the switch administrator that for any previous login names and passwords that still exist, the passwords expire in 24 hours. When changed, the new login names and passwords must conform to the following requirements:

As before, a login name must have 3 to 6 alphanumeric characters. A password must have 4 to 11 characters, including at least 1 alphabetic character and 1 numeric character.

### Set Core Dump Vector (r only)

1. Type **set vector f spe-maint** and press `Enter` to set the core dump vector to perform a core dump on any system restart.

### Enable TTI

 **NOTE:**

Do this step only if you disabled the TTI before the upgrade and you want it enabled.

1. Type **change system-parameters features** and press `Enter` to change the TTI field back to its value before the upgrade.



### Enable Scheduled Maintenance

1. Type **change system-parameters maintenance** and press `Enter`.
2. Type the appropriate time in the `Start` field to enable scheduled daily maintenance. Make sure the `Save Translation` field is set to **daily**.

### Enable Customer Options and Alarm Origination

1. Get the DOSS order number of the upgrade from the project manager and ask the regional Customer Software Administration to complete the steps in the shaded box. See [“Where to Call for Technical Support” on page 22](#) for telephone numbers.

**NOTE:**

As part of the system registration process, the INADS Database Administrator enables Alarm Origination.

2. When administration is completed, log in as **craft**.

**"init" login administration:**

1. Log in as **init**.
2. Type **change system-parameters customer-options** and press `Enter` to verify that the customer options are properly set.
3. Go to screen 6, QSIG Optional Features, and set the `Basic Call Setup` field to **y** if the customer was using Supplementary Services Protocol b or d on an ISDN-PRI trunk group before the upgrade.
4. Type **change system-parameters offer-options** and press `Enter`.
5. If the `Activate Offer` field is **n**, set it to **y** and press `Tab`. A warning message lets you know whether you need to save translations and reboot to make the change permanent.
6. Press `Enter` to effect the changes or `Cancel` if there were no changes.
7. Contact the requester when done.

## **Resolve Alarms**

---

1. Type **display alarms** and press `Enter` to examine the alarm log. Resolve any alarms that may exist using
  - *DEFINITY Enterprise Communications Server Maintenance for R8csi.*
  - *DEFINITY Enterprise Communications Server Maintenance for R8si.*
  - *DEFINITY Enterprise Communications Server Maintenance for R8r.*

## **Check Link Status**

---

1. Type **display communication-interface links** and press `Enter`. Compare it with the earlier status.
2. Type **status link number** and press `Enter`. Repeat this step for each link.
3. For *csi*, check that DS1 trunks and BRI phones are functioning normally. Refer to *DEFINITY Enterprise Communications Server Maintenance for R8csi* to test or restore the out-of-service links.

## **Save Translations**

---

1. For *csi/si*, type **save translation** and press `Enter` to copy upgraded translations in memory to the translation card, which takes about 10 minutes.

or

For *r*, type **save translation** and press `Enter` to copy upgraded translations in memory to the system disk, which takes about 2 minutes.

## **Restore Announcements (csi/si only)**

---

1. Type **restore announcements** and press `Enter` to copy announcements from the translation card to memory, which takes about 40 minutes.

## **Save Announcements (r only)**

---

1. Type **save announcements** and press `Enter` to copy announcements to the system disk.

---

### **Back Up Disk (r only)**

---

1. Type **backup disk** and press `Enter` to back up all changed files to the removable media. This takes about 15 minutes.
2. Type **test stored-data** and press `Enter` to verify the consistency of the MSS files on the disk and removable media.

If standard reliability:

3. Type **list configuration software-version** and press `Enter` to verify all the files one last time.

If high or critical reliability:

1. Type **list configuration software-version long** and press `Enter` to verify all the files one last time.

### **Return Replaced Equipment**

---

1. Return replaced equipment to Lucent Technologies according to the requirements outlined in:  
*BCS/Material Logistics, MSL/Attended Stocking Locations*  
*Methods and Procedures for Basic Material Returns*
2. Retain the old translation card for up to 10 business days to verify that the customer is satisfied and that there is no need to reverse the upgrade.
3. Return the old translation card to Lucent Technologies.

## Where to Call for Technical Support

Refer to the table below for the telephone numbers for technical support.

	Telephone Number
DEFINITY Helpline (feature administration and system applications)	1-800-225-7585
Lucent Technologies Toll Fraud Intervention	1-800-643-2353
Lucent Technologies National Customer Care Center	1-800-242-2121
Lucent Technologies Corporate Security	1-800-822-9009
Streamlined Implementation (for missing equipment)	1-800-772-5409
USA/Canada Technical Service Center	1-800-248-1234
ITAC	1-303-804-3777
Lucent Technologies Centers of Excellence	
Asia/Pacific Regional Support Center	65-872-8686
Western Europe/Middle East/South Africa	44-1252-77-4800
Central/Eastern Europe	361-345-4334
Central/Latin America Caribbean	1-303-804-3778
Australia	61-2-9352-9090
North America (INADS Database Administration)	1-800-248-1111

## IP Solutions

---

DEFINITY ECS IP Solutions allows you to send voice and fax from the DEFINITY ECS through an Internet protocol (IP) network to other DEFINITY ECSs having this feature or to other H.323 V2 compliant endpoints. It is implemented using the TN2302AP IP Media Processor and Release 8.3 or later software.

### NOTE:

The “P” designation means the firmware on the circuit pack is programmable, a feature available beginning with Release 9.

IP trunking operating mode is still available using the TN802 IP Trunking (with Release 7) or the TN802B IP Interface Assembly (with Release 8.2), which offers both IP trunk and MedPro operating modes. Unlike the TN802B IP Interface Assembly, the TN2302AP operates in one mode: Media Processor (MedPro), which is H.323 V2 compatible. The TN2302AP works on all 3 DEFINITY ECS platforms (r, si, csi), beginning with R8.3, and DEFINITY ONE.

For information on TN802 IP Trunking, refer to the *DEFINITY Enterprise Communications Server Release 7 Installation and Test for Multicarrier Cabinets*. For information on the TN802B IP Interface Assembly, refer to the *DEFINITY Enterprise Communications Server Release 8 Installation and Test for Multicarrier Cabinets*.

The following sections describe the process for

- [Preparing for Installation and Upgrade](#)
- [Installing the TN2302AP IP Media Processor](#)
- [Upgrading TN802 IP Trunking to TN2302AP IP Media Processor](#)
- [Upgrading a TN802B IP Interface Assembly to TN2302AP IP Media Processor](#)

For administration, refer to the *DEFINITY Enterprise Communications Server Release 8 Administration for Network Connectivity*.

## Preparing for Installation and Upgrade

---

In addition to the TN2302AP IP Media Processor, you must also install and administer a C-LAN circuit pack (TN799B or later). For C-LAN administration, refer to *DEFINITY Enterprise Communications Server Release 8 Administration for Network Connectivity*.

The TN2302AP IP Media Processor can work in the same DEFINITY with the TN802 IP Trunking and the TN802B IP Interface Assembly. When figuring the maximum number of circuit packs, you must include all in your total count.

### NOTE:

The TN802 IP Trunk cannot talk directly via Ethernet to the TN2302AP.

**Table 4. Release 8.3 software limits**

	<b>r</b>	<b>si</b>	<b>csi</b>	<b>ONE</b>
TN802/B + TN2302AP	46	13	6	6
Endpoints <sup>1</sup>	1000	300	300	168
C-LANs	10	10	10	10

<sup>1</sup>The administered IP endpoints may be a mix of any of these types: H.323 trunks, H.323 stations, and IP SoftPhones, as long as the sum of all administered endpoints is no more than 300 on csi/si or DEFINITY ONE and 1000 on r.

Each TN2302AP can support between 32 and 64 voice channels, depending on the codecs used.

### Check your onsite equipment

Have the following equipment on site before your shipment arrives:

- An unoccupied port slot in the DEFINITY ECS for each TN2302AP IP Media Processor



**NOTE:**

The TN2302AP consumes 16 W of power per slot compared with an average of 15 W per slot. Do not fill every available slot in a given carrier with them.

- An additional unoccupied port slot for the TN799B, if needed. If you have an existing C-LAN TN799 circuit pack, replace it with the TN799B or later if it is to be used for IP solutions registration.
- A 10 BaseT or 10/100 BaseT Ethernet connection into your local area network (LAN) for the TN2302AP.
- A 10 BaseT Ethernet connection into your LAN for the TN799B.
- Valid, unused IP addresses on your network (one for each TN2302AP or TN802/B and one for each C-LAN). You also need the subnet mask and default gateway.



**NOTE:**

The customer provides the IP address, subnet mask, and gateway address.

## Check your shipment

When your DEFINITY ECS IP Solutions order arrives at your site, check the contents (see [Table 5](#)).

1. Inspect the shipping carton for damage before opening it. If the box is damaged, *do not open it*. Inform the shipping company, and ask for instructions on filing a claim.
2. If the box is undamaged, check the contents against the packing slip. Check the condition of each component, and note any damage or shortages on the packing slip. The carton should contain the items in [Table 5](#) for each TN2302AP IP Media Processor ordered.
3. Read and follow any directions inserted into the package by the factory.

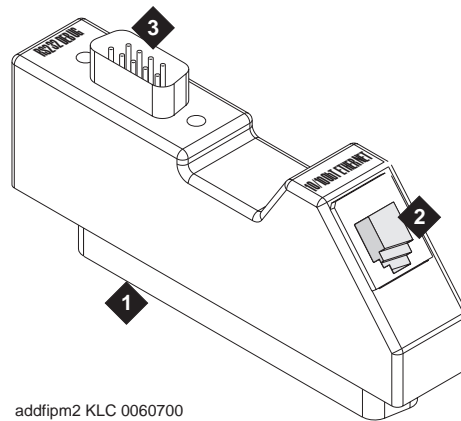
**Table 5. Required Hardware**

Comcode/Code	Description	Quantity
108525528	TN799B C-LAN circuit pack (may not be included if the appropriate number of C-LAN circuit packs are already installed).  ⇒ <b>NOTE:</b> One TN799B supports more than one TN2302AP.	
108312612	TN2302AP IP Media Processor	1
848525887	TN2302AP Amphenol Adapter <sup>1</sup>	1
102631413	ADPTR-259A connector	1

<sup>1</sup>The adapter has an amphenol connector on one side and an RJ45 connector on the other for connecting to the LAN. See [Figure 1](#). Early orders may include a cable with the appropriate connectors.

⇒ **NOTE:**

The customer must provide one CAT5 or better cable for each TN2302AP.



**Figure Notes**

- |                                                                             |                                    |
|-----------------------------------------------------------------------------|------------------------------------|
| 1. Amphenol connector to backplane connector corresponding to TN2302AP slot | 2. To Ethernet                     |
|                                                                             | 3. 9-pin connector for maintenance |

---

**Figure 1. TN2302AP Amphenol Adapter**

**Installing the TN2302AP IP Media Processor**

---

To install a TN2302AP IP Media Processor, you must install

- One or more TN2302AP circuit pack
- One or more TN799B or later circuit pack (A TN799B can support more than one TN2302AP)
- An IP Media Processor adapter.

**Connect the cables for TN799B**

1. Determine into which port slot(s) you are putting the TN799B C-LAN and circuit pack(s).

From the rear of the cabinet:

2. Connect a 259A connector to the backplane connector corresponding to each TN799B slot.
3. Connect one end of each DW8 cable to each 259A connector.



### Connect the cables for TN2302AP

1. Determine into which port slots you are putting the TN2302AP IP Media Processor circuit packs.

From the rear of the cabinet:

2. Connect the amphenol connector on the adapter to the backplane connector corresponding to each TN2302AP slot.



**NOTE:**

Early orders may include a cable with the appropriate connectors rather than the adapter.

### Connect the Ethernet

1. Connect the network cable(s) to the ETHERNET connector on the TN2302AP Amphenol adapter(s).



**NOTE:**

You need a CAT5 or better cable for 100-Mbps operation.

### Install the Circuit Packs



**CAUTION:**

*When adding or replacing any hardware, be sure to ground yourself against electrostatic discharge (ESD) by wearing a grounded wrist strap.*



**NOTE:**

The TN799B and TN2302AP circuit packs are hot-swappable, so you do not need to power down the carrier to install them.

If replacing the existing TN799 circuit pack, remove it first and replace it with the new TN799B.

1. Insert the TN799B circuit pack into the port slot identified earlier.



**NOTE:**

To properly seat the circuit pack, push firmly on the front of the faceplate until the latch reaches the bottom rail of the carrier. Then close the latch until it is fully engaged.

2. Insert the TN2302AP IP Media Processor into the port slot you reserved for it and seat it properly (See [Figure 2](#)).

When you plug in the TN2302AP IP Media Processor, the circuit pack starts to boot. The RED LED stays on until an IP address is assigned to the circuit pack.

3. Type **list configuration all** and press `Enter` to verify that the system recognizes the TN2302AP circuit packs.
- 



---

**Figure 2. TN2302AP IP Interface faceplate**

## Initial Administration Steps for C-LAN and IP Media Processor

### ⇒ NOTE:

Refer to the *DEFINITY Enterprise Communications Server Release 8 Administration for Network Connectivity* for specific information.

1. Log in as **craft**.
2. Type **change node-names** and press `Enter`.
3. On page 2, type in the node names and IP addresses for the TN799B and the TN2302AP.

### ⇒ NOTE:

The customer or design team provides the actual name and address. Suggest a generic name and not one tied to the circuit pack.

change node-names		NODE NAMES		Page	2 of	6
Name	IP Address	Name	IP Address			
clan-a1	192.168.1 .31	.	.	.		
clan-b1	192.168.2 .31	.	.	.		
default	0 .0 .0 .0	.	.	.		
mrmedpro1	192.168.1 .81	.	.	.		
	.	.	.	.		
	.	.	.	.		
	.	.	.	.		

4. Type **display circuit-pack** and press `Enter`. Verify that the TN2302AP shows up in the Code column.
5. Type **change ip-interfaces** and press `Enter`.

```
change ip-interfaces Page 1 of 2
```

IP INTERFACES										
Inter-region IP connectivity allowed? n										
Enable										
Eth Pt	Type	Slot	Code	Sfx	Node Name	Subnet Mask	Gateway Address	Net Rgn		
y	C-LAN	01A09	TN799	B	clan-a1	255.255.255.0	. . .	1		
y	MEDPRO	01A13	TN802	B	med-a1	255.255.255.0	192.168.10 .21	1		
y	C-LAN	01B03			ppp10	255.255.255.0	. . .	1		
y	MEDPRO	01B09	TN2302	AP	mrmedpro1	255.255.255.0	. . .	1		
n						255.255.255.0	. . .			
n						255.255.255.0	. . .			
n						255.255.255.0	. . .			
n						255.255.255.0	. . .			
n						255.255.255.0	. . .			
n						255.255.255.0	. . .			
n						255.255.255.0	. . .			
n						255.255.255.0	. . .			
n						255.255.255.0	. . .			
n						255.255.255.0	. . .			
n						255.255.255.0	. . .			
n						255.255.255.0	. . .			

**⇒ NOTE:**

The TN802B and the TN2302AP both display as Type MEDPRO on the IP Interfaces screen.

**⇒ NOTE:**

The customer provides the IP address, subnet mask, and gateway address.

6. Type in the following information for the TN2302AP IP Media Processor and TN799B C-LAN:
  - Set Slot field to **UUCSS**.
  - The Code and SFX fields are automatically populated with TN799B and TN2302AP.
  - In the Node Name field type the same node name entered on the Node Name screen.
  - In the Subnet Mask field use the default setting unless you are given a different subnet mask.
  - In the Gateway Address field use the address you are given or leave blank.
  - Set the Net Region field to **1** unless you are given a different number. More information about Network Regions can be found in *Administration for Network Connectivity, 555-233-504*.
  - Set the Enable Eth Pt field to **y**
7. Press `Enter` to save the information and effect the new settings.

Refer to the *DEFINITY Enterprise Communications Server Release 8 Administration for Network Connectivity* for more information on these administration steps and for the steps to administer IP Softphones and H.323 trunks.

 **NOTE:**

Administration of the TN2302AP is the same as that for the TN802B.

### Test the External Connection to the LAN

To test the external IP connections, ping the C-LAN or IP Media Processor server and ping a known computer connected to your network. If everything is configured correctly, the `Result` column on the Ping Results screen reads **pass**. If it reads **abort**, verify the IP-address information and check the connectivity, including the cabling.

1. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press `Enter`. The variable *nnn.nnn.nnn.nnn* is the IP address of the TN2302AP IP Media Processor and *UUCSS* is the cabinet, carrier, and slot of the TN2302AP IP Media Processor.

```
ping ip-address 192.168.10.21
```

PING RESULTS						
End-pt IP	Port	Port Type	Result	Time(ms)	Error	Code
192.168.10.21	01A13	MEDPRO	PASS	10		1124

2. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press `Enter`. The variable *nnn.nnn.nnn.nnn* is the IP address of the customer's gateway and *UUCSS* is the cabinet, carrier, and slot of the TN2302AP IP Media Processor.
3. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press `Enter`. The variable *nnn.nnn.nnn.nnn* is the IP address of another computer beyond the gateway and *UUCSS* is the cabinet, carrier, and slot of the TN2302AP IP Media Processor.

The TN2302AP IP Media Processor is now installed in the DEFINITY carrier and connected to the IP network.

## Upgrading TN802 IP Trunking to TN2302AP IP Media Processor

---

To upgrade IP Trunking to IP Media Processor, you must replace

- The TN802 circuit pack with a TN2302AP circuit pack
- The TN799 circuit pack with a TN799B circuit pack
- The H600 512, G1 external cable assembly with an IP Media Processor adapter.

### Pre-upgrade steps

1. Type **list configuration all** and press `Enter` to locate all the TN802 circuit pack ports.
2. Type **display port UUCSSppp** and press `Enter` to find the trunk group number associated with the TN802 circuit pack port.
3. Type **change trunk-group number** and press `Enter`. Go to screen 4. Delete all the TN802 ports.
4. Repeat steps 1 through 3 for each port.
5. Type **remove ds1 UUCSS** and press `Enter`.

### Remove the Circuit Packs



#### CAUTION:

*When adding or replacing any hardware, be sure to ground yourself against electrostatic discharge (ESD) by wearing a grounded wrist strap.*



#### NOTE:

The TN799B and TN2302AP circuit packs are hot-swappable, so you do not need to power down the carrier to remove or install them.

1. Press the recessed Reset button on the TN802 circuit pack until **MSHUT\*** starts flashing on the LCD. When **MSHUT\*** is in a steady state, it is safe to remove the circuit pack.
2. Remove the TN799 and TN802 circuit packs.

## Replace the Cables

1. Disconnect the network cable from the Ethernet connection.
2. Turn off the monitor and unplug it from the AC outlet, if necessary.
3. Disconnect the monitor, keyboard, and mouse from the H600-512 external cable assembly, if necessary.
4. Turn off the modem and unplug it from the AC outlet.
5. Disconnect the modem's RS232 port from the H600-512 external cable assembly.

From the rear of the cabinet:

### ⇒ NOTE:

Early models may use a cable with the appropriate connectors rather than the adapter.

6. Disconnect the amphenol connector on the existing external cable assembly from the backplane connector corresponding to the TN802 circuit pack.
7. Connect the amphenol connector of the TN2302AP Amphenol adapter to the backplane connector corresponding to the slot selected for the TN2302AP circuit pack.

### ⇒ NOTE:

The TN802 occupied 3 slots, and the cable was connected to the rightmost backplane slot. For convenience use the same rightmost slot vacated by the TN802 circuit pack for the TN2302AP circuit pack.

8. Connect the network cable to the Ethernet connector on the TN2302AP Amphenol adapter.

## Install the circuit packs

1. If replacing the TN799 circuit pack, install the TN799B circuit pack in the slot vacated by the TN799 circuit pack.
2. For convenience install the TN2302AP circuit pack in the rightmost slot vacated by the TN802. The other 2 slots are now available for other circuit packs.

When you plug in the TN2302AP IP Media Processor, the circuit pack starts to boot. The RED LED stays on until an IP address is assigned to the circuit pack.

3. Type **list configuration all** and press `Enter` to verify that the system recognizes the TN2302AP circuit packs.

## Administration Steps

1. Administer the TN799B C-LAN. Refer to the *DEFINITY Enterprise Communications Server Release 8 Administration for Network Connectivity*.
2. Administer the IP Media Processor, which is usually done remotely. Call your service representative to start the process.
3. Complete the administration and testing. Refer to "Initial Administration Steps for C-LAN and IP Media Processor" on page 29 and "Test the External Connection to the LAN" on page 31.

## Upgrading a TN802B IP Interface Assembly to TN2302AP IP Media Processor

To upgrade IP Interface Assembly to IP Media Processor, you must replace

- The TN802B circuit pack with a TN2302AP circuit pack
- The TN799 circuit pack with a TN799B circuit pack, if necessary
- The H600 512, G1 external cable assembly with an IP Media Processor adapter.

## Pre-upgrade steps

1. Type **change ip-interfaces** and press Enter.

```
change ip-interfaces Page 1 of 2

                               IP INTERFACES
Inter-region IP connectivity allowed? n
Enable
Eth Pt Type Slot Code Sfx Node Name      Subnet Mask      Gateway Address Rgn
  y C-LAN 01A09 TN799 B clan-a1        255.255.255.0    . . .           1
  n MEDPRO           med-a1        255.255.255.0    192.168.10 .21  1
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
  n                                           255.255.255.0    . . .
```



2. Set the `Enable Eth Pt` field to `n`.
3. Press `Enter` to effect the change.
4. Type **change ip-interfaces** and press `Enter`.
5. Delete the information in the `Type`, `Slot`, and `Node Name` fields for each TN802B you are replacing.
6. Press `Enter` to save the information and effect the new settings.

### Remove the Circuit Packs

**CAUTION:**

*When adding or replacing any hardware, be sure to ground yourself against electrostatic discharge (ESD) by wearing a grounded wrist strap.*

**NOTE:**

The TN799B and TN2302AP circuit packs are hot-swappable, so you do not need to power down the carrier to remove or install them.

**NOTE:**

If replacing the existing TN799 circuit pack, remove it first and replace it with the new TN799B.

1. Press the recessed Reset button on the TN802B circuit pack until **MSHUT\*** starts flashing on the LCD. When **MSHUT\*** is in a steady state, it is safe to remove the circuit pack.
2. Remove the TN799 and TN802B circuit packs.

### Replace the Cables

1. Disconnect the network cable from the Ethernet connection.
2. Turn off the modem and unplug it from the AC outlet. It is not needed for the TN2302AP.
3. Disconnect the modem's RS232 port from the H600-512 external cable assembly.

From the rear of the cabinet:

4. Disconnect the amphenol connector on the external cable assembly from the backplane connector corresponding to the TN802B circuit pack.
5. Connect the amphenol connector on the TN2302AP Amphenol adapter to the backplane connector corresponding to slot selected for the TN2302AP circuit pack.



**NOTE:**

The TN802 circuit pack occupied 3 slots, and the cable was connected to the rightmost slot. For convenience use the same rightmost slot vacated by the TN802 circuit pack for the TN2302AP circuit pack. The other 2 slots are now available for other circuit packs.

6. Connect the network cable to the Ethernet connector on the TN2302AP Amphenol adapter.

### **Install the circuit packs**

1. If replacing the TN799 circuit pack, install the TN799B circuit pack in the slot vacated by the TN799 circuit pack.
2. For convenience install the TN2302AP circuit pack in the rightmost slot vacated by the TN802 circuit pack. The other 2 slots are now available for other circuit packs.

When you plug in the TN2302AP IP Media Processor, the circuit pack starts to boot. The RED LED stays on until an IP address is assigned to the circuit pack.

3. Type **list configuration all** and press `Enter` to verify that the system recognizes the TN2302AP circuit packs.

### **Administration Steps**

1. Administer the TN799B C-LAN, if necessary. Refer to the *DEFINITY Enterprise Communications Server Release 8 Administration for Network Connectivity*, 555-233-504.
2. Administer the IP Media Processor, which is usually done remotely. Call your service representative to start the process.
3. Complete the administration and testing. Refer to [“Initial Administration Steps for C-LAN and IP Media Processor”](#) on page 29 and [“Test the External Connection to the LAN”](#) on page 31.

## Modified Maintenance Objects

These are the modified Maintenance Objects for R8.3 and the Maintenance Documents where they can be found.

### ISDN-SGR (ISDN-PRI Signaling Group)

Document number 555-233-221.

MO Name (in Alarm Log)	Alarm Level	Initial Command to Run <sup>a</sup>	Full Name of MO
ISDN-SGR	MINOR	test sig-group <i>grp#</i>	ISDN-PRI Signaling Group
ISDN-SGR	WARNING	test sig-group <i>grp#</i>	ISDN-PRI Signaling Group

- a. *grp#* is the signaling group number (1-166); the test sequence can be either short or long.

### ISDN-TRK (DS1 ISDN Trunk)

Document number 555-233-752.

MO Name (in Alarm Log)	Alarm Level	Initial Command to Run <sup>a</sup>	Full Name of MO
ISDN-TRK <sup>b</sup>	MAJOR <sup>c</sup>	test port UUCSSpp l	DS1 ISDN Trunk
ISDN-TRK	MINOR	test port UUCSSpp l	DS1 ISDN Trunk
ISDN-TRK	WARNING	test port UUCSSpp sh	DS1 ISDN Trunk

- a. UU is the universal cabinet number (1 for PPN, 2 -44 for EPN s). C is the carrier designation (A, B, C, D, or E). SS is the number of the slot in which the circuit pack resides (01 to 21). pp is the two digit port number (01, 02, ...).
- b. For additional repair information, see also DS1-BD for TN767 ports and UDS1-BD for TN464C/D ports.
- c. A MAJOR alarm on a trunk indicates that alarms on these trunks are not downgraded by the **set options** command.

**TIE-DS1 (DS1 Tie Trunk)**

Document number 555-233-752.

MO Name (in Alarm Log)	Alarm Level	Initial Command to Run	Full Name of MO
TIE-DS1 <sup>a</sup>	MAJOR <sup>b</sup>	test trunk <i>grp/mbr</i> 1 <sup>c</sup>	DS1 Tie Trunk
TIE-DS1	MINOR	test trunk <i>grp/mbr</i> 1 <sup>d</sup>	DS1 Tie Trunk
TIE-DS1	WARNING	test trunk <i>grp/mbr</i>	DS1 Tie Trunk

- a. For additional repair information, see DS1-BD documentation if the tie trunk is on a TN722 or TN767 DS1 circuit pack. See UDS1-BD documentation if the tie trunk is on a TN464C/D UDS1 circuit pack.
- b. A MAJOR alarm on a trunk indicates that alarms on these trunks are not downgraded by the **set options** command and that at least 75% of the trunks in this trunk group are alarmed.
- c. For TN767B vintage 8 or 9 circuit packs, a failure of Test #136 causes a subsequent failure of Test #7. Test #136 is part of the short sequence and generates off-board alarms Test #7 is part of the long sequence and generates on-board alarms. Before entering **busyout**, **release**, **reset** or **test board long** commands, check the vintage number of the circuit pack with **list configuration board** UUCSS. If it is TN767B vintage 8 or 9, do not use the above commands until first making sure that Test #136 passes via **test board short**. Otherwise, extraneous on-board alarms may be generated.
- d. For TN767B vintage 8 or 9 circuit packs, a failure of Test #136 causes a subsequent failure of Test #7. Test #136 is part of the short sequence and generates off-board alarms Test #7 is part of the long sequence and generates on-board alarms. Before entering **busyout**, **release**, **reset** or **test board long** commands, check the vintage number of the circuit pack with **list configuration board** UUCSS. If it is TN767B vintage 8 or 9, do not use the above commands until first making sure that Test #136 passes via **test board short**. Otherwise, extraneous on-board alarms may be generated.

## New Maintenance Objects

The following sections contain the new Maintenance Objects for R8.3.

### IPMEDPRO (IP Media Processor Circuit Pack)

MO Name (in Alarm Log)	Alarm Level	Initial Command to Run <sup>a</sup>	Full Name of MO
IPMEDPRO	MAJOR	test board UUCSS sh	IP Media Processor Circuit Pack
IPMEDPRO	MINOR	test board UUCSS 1	IP Media Processor Circuit Pack
IPMEDPRO	WARNING	test board UUCSS sh	IP Media Processor Circuit Pack

- a. UU is the universal cabinet number (1 for PPN, 2 - 44 for EPNs). C is the carrier designation (A, B, C, D, or E). SS is the number of the slot in which the circuit pack resides (01 to 21).

The TN2302 (IPMEDPRO) circuit pack is the next generation H.323 platform. The TN2302 includes a 10/100 BaseT Ethernet interface to support H.323 endpoints for DEFINITY IP (Internet Protocol) trunks and H.323 endpoints. The TN2302 can perform echo cancellation, silence suppression, DTMF detection, and conferencing. It supports the following codecs, fax detection for them, and conversion between them:

- G.711 (mu-law or a-law, 64Kbps);
- G.723.1 (6.3Kbps or 5.3Kbps audio);
- G.729A (8Kbps audio);

The TN2302 IPMEDPRO circuit board is used by the DOLAN (Definity on the LAN) feature to provide voice over IP connectivity. The TN2302 can run the Media Processor (MedPro) application, which allows the TN2302 to act as a service circuit to terminate generic RTP streams used to carry packetized audio over an IP network. As part of the overall H.323 implementation, the TN2302 circuit pack handles the audio streams while the TN799 C-LAN handles the TCP/IP signaling channels. This maintenance object applies only to a TN2302 IPMEDPRO running the Media Processor application.

The Media Processor application is built upon the existing ITS software, and as such is not administered in DEFINITY as a DS1 trunk, and does not emulate a DS1 for maintenance purposes. Use the following Maintenance procedures for this application.

**Error Log Entries and Test to Clear Values**

**Table 6. DS1 Interface Circuit Pack Maintenance Error Log Entries**

<b>Error Type</b>	<b>Aux Data</b>	<b>Associated Test</b>	<b>Alarm Level</b>	<b>On/Off Board</b>	<b>Test to Clear Value</b>
0 <sup>a</sup>	0	Any	Any	Any	test board UUCSS
1(a)	0	Circuit pack removed or SAKI Test (#53)	MIN/WRN	OFF	
18(b)	0	busyout board UUCSS	WARNING	OFF	release board UUCSS
23(c)	0	Board administered but not inserted	WARNING	OFF	add ds1 UUCSS
125(d)	none	Wrong board	MINOR	ON	
257(e)	65535	Control Channel Loop Test (#52)	MINOR	ON	test board UUCSS 1 r 20
513(f)	4352 4353 4355 4356 4358	TN2302 On board hardware errors	MINOR	ON	
1025(g)	Any	FPGA Query Test (#xxxx)	MINOR		
1281(h)	Any	TSI Health Query Test (#xxxx)			
1538(i)	Any	Circuit pack is hyperactive	MINOR	ON	
2049(j)	Any	PPC Sanity Query Test (#xxxx)			
2305(k)	Any	IP Address Update			
2561(l)		Ping error			
2817(m)	Any	Ethernet Hardware Query Test (#xxxx)			
3073(n)	Any	Circuit pack reset Test (#xxxx)			
3840, 3841(o)		Inconsistent downlink or board error			
3999(p)	Any	None			

a) Run the Short Test Sequence first. If all tests pass, run the Long Test Sequence. Refer to the appropriate test description and follow the recommended procedures.

## Notes:

- a. **Error Type 1** -This error indicates that the circuit pack has been removed from the system or is not fully administered. The alarm is logged about 15 minutes after the circuit pack has been removed, or 11-minutes after the SAKI Test (#53) fails.

To be fully administered, a IPMEDPRO circuit pack must meet *all of these 4 conditions*:

1. Have an entry in the circuit pack form (**change circuit pack**)
2. Have the MedPro ip address administered (**change node-names**)
3. Be enabled (**change ip-interface**)
4. Be physically inserted into the correct slot

If the circuit pack has an entry in the circuit pack form and either of the other two conditions are *not* met, a MINOR alarm is logged. To resolve the error:

1. Make sure all conditions for administration are met and that a functioning MedPro circuit pack is inserted in the correct slot  
OR
  2. Completely remove the IPMEDPRO from the system using the following steps:
    - a. Remove the administered IP-Interface associated with the circuit pack.
    - b. Physically remove the circuit pack from the slot.
    - c. Execute the **remove medpro UUCSS** and **change circuit pack UUCSS** commands.
- b. **Error Type 18** -The IPMEDPRO Interface circuit pack has been busied out by a **busyout board UUCSS** command.
1. Release the circuit pack (**release board UUCSS**).
- c. **Error Type 23** -The IPMEDPRO circuit pack is not completely administered. To be fully administered, a IPMEDPRO circuit pack must meet *all of these 4 conditions*:
1. Have an entry in the circuit plan (**change circuit pack**)
  2. Have the IPMEDPRO IP address administered (**change node-names**)
  3. Be enabled (**change ip-interface**)
  4. Be physically inserted into the correct slot.

A DS1 (IPMEDPRO, MEDPRO, MAPD, UDS1-BD and DS1-BD) differs from most circuit packs in that inserting the circuit pack into the switch is not enough to make the board usable. It must also be administered.

- d. **Error Type 125** - No Aux Data: The wrong circuit pack is inserted in the slot where this circuit pack is logically administered.
  - 1. Remove the wrong circuit pack and insert the logically administered circuit pack
  - OR
  - 2. Re-administer this slot to match the circuit pack inserted (**change circuit-pack**).
- e. **Error Type 257** - This error is associated with a failure of the Control Channel Test #52. Refer to Control Channel Test #52 Maintenance documentation for details.
- f. **Error Type 513** - This error indicates different hardware device problems on the board. They include an external RAM failure, and internal RAM failure, a ROM checksum failure, message corruption, and a program logic inconsistency. The counter can be alarmed if it goes over threshold. There are really no good associated tests for these inline errors, if they continue to happen, an alarm will occur, otherwise the counter will be decremented via the leaky bucket.
- g. **Error Type 1025** - FPGA failure. This failure indicates a problem on the FPGA device located on the TN2302. The last byte of the inline error gives a hint as to the problem with the FPGA. The diagnostic strategy for this inline error is to take the switch resources associated with all of the DSPs out of service, and then to reset the FPGA. The reset of the FPGA will cause an uplink response as to whether the reset passed or not. There are several error conditions that can be sent up in the error message for the FPGA, they will all be treated as the same failure by switch software.
- h. **Error Type 1281** - TSI failures. There are potentially 2 different TSI failures that can occur, one is a TSI DSP failure and the other is a TSI FPGA failure. Both of these failures will be looked for by switch software, but, they will both cause the same response by software. The diagnostic strategy for this inline error is to take the switch resources associated with all of the DSPs out of service, and then to reset the TSI (the reset downlink is slightly different depending on whether the TSI DSP or the TSI FPGA is to be reset). The reset of the TSI will cause an uplink response as to whether the reset passed or not. There are several error conditions that can be sent up in the error message for the TSI, they will all be treated as the same failure by switch software.
- i. **Error Type 1538** - This error is used to indicate hyperactivity on the board. Hyperactivity on a circuit pack is when the angel is sending too many CCMS messages uplink, 400 per ten seconds for the TN2302, to switch software. The circuit pack will be taken out of service. See error Type 3999.



- 
- j. **Error Type 2049** - This error indicates that the processor, specifically the Power PC, 860T hardware is failing. The PPC provides the Angle functionality as well as the UDP/IP interface; an attempt is made to reset the board automatically. If the reset fails, the board is probably bad and should be replaced.
  - k. **Error Type 2305** - This error indicates an IP address inconsistency between switch software and the IPMEDPRO board. If this error occurs, an attempt will be made to download the IP address again. If the board still refuses the IP address, the board will be reset.
  - l. **Error Type 2561** - This error indicates that the ping test has failed. The diagnostics that are run by this failure start up analysis testing and rerun the test. Testing will continue until the problem is cleared. However, once the counter reaches threshold, an attempt will be made to refresh the IP address to the board.
  - m. **Error Type 2817** - This error indicates an Ethernet hardware failure on the TN2302 circuit pack. The diagnostic strategy for this inline error is to take the switch resources associated with all of the DSPs out of service, and then to reset the Ethernet hardware. The reset of the Ethernet hardware will cause an uplink response as to whether the reset passed or not. There are several error conditions that can be sent up in the error message for this problem, they will all be treated as the same failure by switch software.
  - n. **Error Type 3073** - This error is associated with a circuit board reset. The diagnostic strategy for these inline errors is to take the switch resources associated with all of the DSPs out of service, and then to reset the board as the failure of the Scotch is severe enough to warrant a board reset. After the board reset a query can be made again for the health of the Scotch devices to verify whether they are OK, if they are the alarm and counters will be cleared, if not, the alarm will be left up, all DSPs will be left out of service, and maintenance diagnostics will stop. If the board continues to fail with this error type replace the TN2302.
  - o. **Error Type 3840, 3841** - Inconsistent downlink message. These errors are not service-affecting. No action is required.
  - p. **Error Type 3999** - This error indicates that the circuit pack sent a large number of control channel messages to the switch within a short period of time. If Error Type 1538 is also present, then the circuit pack was taken out-of-service due to hyperactivity. If Error Type 1538 is not present, then the circuit pack has not been taken out-of-service, but it has generated 50% of the messages necessary to be considered hyperactive. This may be completely normal during heavy traffic periods. However, if this error type is logged when the circuit pack is being lightly used, it may indicate a problem with the circuit pack or the equipment attached to it.
-

## System Technician-Demanded Tests: Descriptions and Error Codes

Investigate tests in the order they are presented in the table below. By clearing error codes associated with the *Control Channel Loop Test*, for example, you may also clear errors generated from other tests in the testing sequence.

**Table 7. System Technician-Demanded Tests**

Order of Investigation	Short Test Sequence	Long Test Sequence	Reset Board Sequence	D/ND <sup>a</sup>
Control Channel Loop Test (#52)	X	X		ND
SAKI Sanity Test (#53)		X	X	D
IP Address Query (#1371)	X	X		D
Local Ping Test (#1379)	X	X		ND
MP Diagnostic Test (#1406)		X	X	D

a. D = Destructive; ND = Nondestructive

**Control Channel Looparound Test (#52)**

This test queries the circuit pack for its circuit pack code and vintage and verifies its records.

**Table 8. TEST #52 Control Channel Looparound Test**

<b>Error Code</b>	<b>Test Result</b>	<b>Description/ Recommendation</b>
None 2100	ABORT	System resources required for this test are not available. 1. Retry the command at 1-minute intervals a maximum of 5 times.
	FAIL	The circuit pack failed to return the circuit pack code or vintage. 1. Retry the command a maximum of 5 times. 2. If the problem continues, replace the circuit pack. 3. Retry the command a maximum of 5 times.
	PASS	Communication with this circuit pack is successful.
0	NO BOARD	The test could not relate the internal ID to the port (no board). This could be due to incorrect translations, no board is inserted, an incorrect board is inserted, or an insane board is inserted. 1. Ensure that the board translations are correct. Administer the MedPro interface if it is not already administered. 2. If the board was already administered correctly, check the error log to determine whether the board is hyperactive. If this is the case, the board is shut down. Reseating the board re-initializes the board. 3. If the board was found to be correctly inserted in step 1, then issue the <b>busyout board UUCSS</b> command. 4. Issue the <b>reset board UUCSS</b> command. 5. Issue the <b>release board UUCSS</b> command. 6. Issue the <b>test board UUCSS long</b> command. This should re-establish the linkage between the internal ID and the port.

**SAKI Sanity Test (#53)**

**This is a destructive test.**

This test is only run as a part of a reset board procedure. For the Media Processor, it is necessary to use the **change ip-interfaces** form to disable the Media Processor IP interface before performing this reset board procedure. Other common circuit packs can be reset with the **reset board UUCSS** command which also executes this test.

A reset of this circuit pack will take about 3 1/2 minutes.

**Table 9. TEST #53 SAKI Sanity Test**

<b>Error Code</b>	<b>Test Result</b>	<b>Description/ Recommendation</b>
None	ABORT	System resources required for this test are not available. 1. Retry the command at 1-minute intervals a maximum of 5 times.
1015	ABORT	Port is not out-of-service. 1. Busy out the circuit pack. 2. Execute command again.
2100	ABORT	System resources required for this test are not available. 1. Retry the command at 1-minute intervals a maximum of 5 times.
2803	ABORT	It is necessary to reset the board. 1. Use the change ip-interfaces form to disable the Media Processor IP interface. 2. Execute the command again.
1	FAIL	The circuit pack failed to reset. 1. Execute command again. 2. If the problem persists, replace the circuit pack.
2, 2000	FAIL	The circuit pack failed to restart. 1. Execute command again. 2. If the problem persists, replace the circuit pack.

*Continued on next page*

**Table 9. TEST #53 SAKI Sanity Test — Continued**

Error Code	Test Result	Description/ Recommendation
	PASS	The circuit pack initializes correctly. 1. Run the short test sequence.
Any	NO BOARD	This is normal if the test is being done when (a) the board is not physically in the system or (b) the system is booting up. Otherwise, there is some inconsistency between the physical configuration and the data kept in the system. 1. Verify that the board is physically in the system. 2. Verify that the system is not in a stage of booting up. 3. Retry the command at 1-minute intervals for a maximum of 5 times.

**IP Address Query Test #1371**

**This test is destructive.**

This test sends the Media processor the IP address, subnet mask, and gateway translation (IP parameters). If the parameters do not match DEFINITY translation, the maintenance sub-system reboots the board. The board goes through a physical board removal and insertion.

When this test fails, it is an indication that an illegal change was made and the customer should be notified.

**Table 10. TEST #1371 IP Address Query Test**

Error Code	Test Result	Description/ Recommendation
	ABORT	Internal system error 1. Retry the command at 1-minute intervals a maximum of 5 times.
2100	ABORT	Insufficient system resources to run this test. 1. Retry the command at 1-minute intervals a maximum of 5 times.
2801	ABORT	Unable to find IP address data for this location. Verify that the board is administered.
2807	ABORT	The board is administered, but not enabled in the <b>change ip-interfaces</b> form.

*Continued on next page*

**Table 10. TEST #1371 IP Address Query Test — Continued**

Error Code	Test Result	Description/ Recommendation
	FAIL	The IP address, subnet mask, and gateway translation parameters do not match DEFINITY translations. The board goes through a physical board removal and insertion.  1. If the problem persists, replace the circuit pack.
	PASS	Translation data matches.

**Ping Test (#1379)**

**This test is non-destructive**

This test verifies that the MedPro circuit pack can communicate to other nodes on the LAN.

This test pings the gateway IP address as defined on the IP Interface form.

If the PING is successful, this test looks at the PING round trip delay. If a round trip delay of greater than 4 seconds is reported, a separate error is logged. Excessive round trip delays do not take the MedPro out of service.

Services can execute the standard PING command using the C-LAN board address and MedPro IP address to see the actual round-trip delay. (See **ping** commands).

This test is a nondestructive test. It runs due to in-line errors, during periodic and schedule maintenance, and on demand.

**Table 11. TEST #1379 Ping Test**

Error Code	Test Result	Description/ Recommendation
1, 2	ABORT	Internal Error.  1. Retry the command at 1-minute intervals a maximum of 3 times.

*Continued on next page*

**Table 11. TEST #1379 Ping Test — Continued**

<b>Error Code</b>	<b>Test Result</b>	<b>Description/ Recommendation</b>
7	ABORT	Destination unreachable. <ol style="list-style-type: none"> <li>1. Verify that at least one destination reachable through this port is up.</li> <li>2. Repeat the test.</li> <li>3. If the test still aborts, escalate the problem.</li> </ol>
2000	ABORT	Response to the test was not received from the Media Processor circuit pack within the allowable time period. <ol style="list-style-type: none"> <li>1. If this result occurs repeatedly, attempt to reset the circuit pack. Reset the circuit pack by issuing the <b>busyout board UUCSS</b> and the <b>reset board UUCSS</b> commands.</li> <li>2. If this result occurs again, replace the circuit pack.</li> </ol>
2012	ABORT	Internal system error. <ol style="list-style-type: none"> <li>1. Retry the command at 1-minute intervals a maximum of 3 times.</li> </ol>
2100	ABORT	The necessary system resources to execute the test could not be allocated. <ol style="list-style-type: none"> <li>1. Retry the command at 1-minute intervals a maximum of 5 times.</li> </ol>
2500	ABORT	Internal system error. <ol style="list-style-type: none"> <li>1. Retry the command at 1-minute intervals a maximum of 3 times.</li> </ol>
2801	ABORT	No IP address defined. Verify IP Interfaces translations and retest.
2802	ABORT	Different IP address pinged than software had allocated for the test. <ol style="list-style-type: none"> <li>1. Retry the command at 1-minute intervals a maximum of 3 times.</li> </ol>
2805	FAIL	The number of pings received did not match the number sent (normally one ping sent). This means that no ping responses were received from the gateway defined on the ip-interfaces form for the Media Processor. <ol style="list-style-type: none"> <li>1. Retry the command at 1-minute intervals a maximum of 3 times.</li> </ol>
2807	ABORT	The board is administered but not enabled in the <b>change ip-interfaces</b> form.
7, 89, 1007	FAIL	A Ping to the destination failed through this port. This failure is because the destination is down. <ol style="list-style-type: none"> <li>1. Verify that at least one destination is reachable through this port.</li> <li>2. Once verified, execute the <b>test port UUCSSpp</b> command to verify that the H.323 Signaling Group Ping Test (#1387) passes.</li> </ol>
	PASS	Ping through this port successful.

## **MP Diagnostic Test (#1406)**

**This test is destructive.**

The MP Diagnostic Test #1406 runs all of the diagnostic tests listed below and in the order listed, but only if each successive test passes:

1. FPGA Query
2. TSI Query
3. ETHERNET Query
4. SCOTCH Sanity

### **FPGA Query**

This test passes if the FPGA device on the TN2302 tests ok. Otherwise it fails with no fail code or AUX data.

This test is to verify the status of the FPGA device on the TN2302 circuit pack. If the device is bad, software will set an appropriate counter, post an error and alarm, and take all DSPs out of service (all DSPs are controlled by the one FPGA). Software will then attempt to reset the FPGA. If the reset passes or the original test passes, the DSPs will be placed into service.

### **TSI DSP Query**

This test passes if the TSI device on the TN2302 tests ok. Otherwise it fails with no fail code or AUX data.

This test is to verify the status of the TSI device on the TN2302 circuit pack. If the device is bad, software will set an appropriate counter, post an error and alarm, and take all DSPs out of service (all DSPs are controlled by the one TSI). Software will then attempt to reset the TSI. If the reset passes or the original test passes, the DSPs will be placed into service.

### **Ethernet Query**

This test passes if the TN2302 hardware tests ok and the Ethernet port is connected. Otherwise it fails with no fail code or AUX data.

### **SCOTCH Sanity**

The Scotch device on a board contains the functionality on the board to communicate with switch software via the TDM bus for conferencing and gain adjustment. This is done by setting up connections on TDM bus time slots.

There are 3 different inline errors that can be generated due to the Scotch devices on the board. They are NPE scotch device 0, NPE scotch 1, and NCE scotch. If any of these errors are reported from the board, the DSPs will be taken from service and the a circuit pack reset will be done by running the SAKI test.



**Table 12. TEST #1406 MP Diagnostic Test**

<b>Error Code</b>	<b>Test Result</b>	<b>Description/ Recommendation</b>
2012	ABORT	System error: 1. Retry the command at 1-minute intervals a maximum of 5 times.
2100	ABORT	System resources required for this test are not available. 1. Retry the command at 1-minute intervals a maximum of 5 times.
	FAIL	The MP Diagnostic test has failed for this TN2302 and the board is in the OOS state. 1. Issue the <b>busyout board UUCSS</b> command. 2. Issue the <b>reset board UUCSS</b> command. 3. Issue the <b>release board UUCSS</b> command. 4. Issue the <b>test board UUCSS long</b> command. If the board continues to fail replace the board.
8192 - 8328	FAIL	The FPGA DSP test failed: 1. Issue the <b>busyout board UUCSS</b> command. 2. Issue the <b>reset board UUCSS</b> command. 3. Issue the <b>release board UUCSS</b> command. 4. Issue the <b>test board UUCSS long</b> command. If the board continues to fail replace the board.
8448 - 8584	FAIL	The TSI FPGS test failed: 1. Issue the <b>busyout board UUCSS</b> command. 2. Issue the <b>reset board UUCSS</b> command. 3. Issue the <b>release board UUCSS</b> command. 4. Issue the <b>test board UUCSS long</b> command. If the board continues to fail replace the board.
12288 - 12424	FAIL	The TSI DSP test failed: 1. Issue the <b>busyout board UUCSS</b> command. 2. Issue the <b>reset board UUCSS</b> command. 3. Issue the <b>release board UUCSS</b> command. 4. Issue the <b>test board UUCSS long</b> command. If the board continues to fail replace the board.

*Continued on next page*

**Table 12. TEST #1406 MP Diagnostic Test — Continued**

Error Code	Test Result	Description/ Recommendation
16384-16900	FAIL	<p>A SCOTCH device failed:</p> <ol style="list-style-type: none"> <li>1. Issue the <b>busyout board UUCSS</b> command.</li> <li>2. Issue the <b>reset board UUCSS</b> command.</li> <li>3. Issue the <b>release board UUCSS</b> command.</li> <li>4. Issue the <b>test board UUCSS long</b> command.</li> </ol> <p>If the board continues to fail replace the board.</p>
24576-24580	FAIL	<p>A ETHERNET device failed:</p> <ol style="list-style-type: none"> <li>1. Issue the <b>busyout board UUCSS</b> command.</li> <li>2. Issue the <b>reset board UUCSS</b> command.</li> <li>3. Issue the <b>release board UUCSS</b> command.</li> <li>4. Issue the <b>test board UUCSS long</b> command.</li> </ol> <p>If the board continues to fail replace the board.</p>
	PASS	The FPGA device on this TN2302 is operating correctly
0	NO BOARD	<p>The test could not relate the internal ID to the port (no board). This could be due to incorrect translations, no board is inserted, an incorrect board is inserted, or an insane board is inserted.</p> <ol style="list-style-type: none"> <li>1. Ensure that the board translations are correct. Administer the IPMEDPRO interface if it is not already administered.</li> <li>2. If the board was already administered correctly, check the error log to determine whether the board is hyperactive. If this is the case, the board is shut down. Reseating the board re-initializes the board.</li> <li>3. If the board was found to be correctly inserted in step 1, then issue the <b>busyout board UUCSS</b> command.</li> <li>4. Issue the <b>reset board UUCSS</b> command.</li> <li>5. Issue the <b>release board UUCSS</b> command.</li> <li>6. Issue the <b>test board UUCSS long</b> command.</li> </ol> <p>This should re-establish the linkage between the internal ID and the port.</p>

## MEDPRO (Media Processor MAPD Circuit Pack)

MO Name (in Alarm Log)	Alarm Level	Initial Command to Run <sup>a</sup>	Full Name of MO
MEDPRO	MAJOR	test board UUCSS sh	Media Processor MAPD Circuit Pack
MEDPRO	MINOR	test board UUCSS 1	Media Processor MAPD Circuit Pack
MEDPRO	WARNING	test board UUCSS sh	Media Processor MAPD Circuit Pack

- a. UU is the universal cabinet number (1 for PPN, 2 - 44 for EPNs). C is the carrier designation (A, B, C, D, or E). SS is the number of the slot in which the circuit pack resides (01 to 21).

The TN802B MedPro circuit board is used by the DOLAN (Definity on the LAN) feature to provide voice over IP connectivity. The TN802B can run either:

- R8.1 IP Trunk application — allows the TN802B to emulate a DS1 circuit pack. In this mode, the circuit pack is maintained as a standard DS1 board with its associated Tie trunk ports. The TN802B operates as an integrated Internet Telephony Server. It communicates with other ITS boxes or IP trunk boards.
- The Media Processor (MedPro) application — allows the TN802B to act as a service circuit to terminate generic RTP streams used to carry packetized audio over an IP network. As part of the overall H.323 implementation, the TN802B or later circuit pack handles the audio streams while the TN799 C-LAN handles the TCP/IP signaling channels. This maintenance plan applies only to a TN802B MedPro running the Media Processor application.

The MedPro hardware combines an angel complex, a Windows NT PC and a TAP802 DSP card in a 3-slot package. When operating as an IP trunk circuit pack, the MedPro emulates a DS1 Tie Trunk circuit pack and blindly responds to DS1 trunk maintenance requests. Actual maintenance is accomplished via the windows NT interface and the ITS software diagnostics.

The Media Processor application is built upon the existing ITS software, and as such is not administered in DEFINITY as a DS1 trunk, and does not emulate a DS1 for maintenance purposes. Use the following Maintenance procedures for this application.

**Error Log Entries and Test to Clear Values**

**Table 13. DS1 Interface Circuit Pack Maintenance Error Log Entries**

<b>Error Type</b>	<b>Aux Data</b>	<b>Associated Test</b>	<b>Alarm Level</b>	<b>On/Off Board</b>	<b>Test to Clear Value</b>
0 <sup>a</sup>	0	Any	Any	Any	test board UUCSS
1(a)	0	Circuit pack removed or SAKI Test (#53)	MIN/WRN <sup>b</sup>	ON	
18(b)	0	busyout board UUCSS	WARNING	OFF	release board UUCSS
23(c)	0		WARNING	OFF	add ds1 UUCSS
125(d)	None	None	MIN/WRN <sup>c</sup>	ON	
257(e)	65535	Control Channel Loop Test (#52)	MINOR	ON	test board UUCSS 1 r 2
1538(f)	Any	Hyper activity	MIN/WRN <sup>d</sup>	ON	
1793	Any	NIC Loss Of Signal	MIN/WRN <sup>d</sup>		test board UUCSS 1 r 2
2049(g)	Any	NT PC Failure	MIN/WRN <sup>d</sup>		reset board UUCSS
2305	Any	IP Address Inconsistency			test board UUCSS 1 r 2
2561	Any	Ping Error	MIN/WRN <sup>d</sup>		test board UUCSS 1 r 5
3841(h)	4358		Log Only		
3999(i)	Any	None			

- a. Run the Short Test Sequence first. If all tests pass, run the Long Test Sequence. Refer to the appropriate test description and follow the recommended procedures.
- b. If ports are assigned to the circuit pack, then a minor alarm is raised. If no ports are assigned to the circuit pack, then a warning alarm is raised. The alarm is raised after the circuit pack has been missing for a period of 15 minutes. Warning alarms are also raised against any ports administered on the circuit pack.
- c. Minor alarms on this MO may be downgraded to warning alarms based on values set in the **set options** command.

**Notes:**

- a. **Error Type 1** -This error indicates that the circuit pack has totally stopped functioning or is not fully administered. The alarm is logged about 15 minutes after the circuit pack has been removed or 11-minutes after the SAKI Test (#53) fails.

To be fully administered, a MedPro circuit pack must meet *all of these 4 conditions*:

1. Have an entry in the circuit pack form (**change circuit pack**)
2. Have the MedPro ip address administered (**change node-names**)
3. Be enabled (**change ip-interface**)
4. Be physically inserted into the correct slot

If the circuit pack has an entry in the circuit pack form and either of the other two conditions are *not* met, a MINOR alarm is logged. To resolve the error either

1. Make sure all conditions for administration are met and that a functioning MedPro circuit pack is inserted in the correct slot

OR

2. Completely remove the MedPro from the system using the following steps:
  - a. Remove the administered IP-Interface associated with the circuit pack.
  - b. Physically remove the circuit pack from the slot.
  - c. Execute the **remove medpro UUCSS** and **change circuit pack UUCSS** commands.

- b. **Error Type 18** -The MedPro Interface circuit pack has been busied out by a **busyout board UUCSS** command.

1. Release the circuit pack (**release board UUCSS**).

- c. **Error Type 23** -The MedPro circuit pack is not completely administered. To be fully administered, a MedPro circuit pack must meet *all of these 4 conditions*:

1. Have an entry in the circuit plan (**change circuit pack**)
2. Have the MedPro IP address administered (**change node-names**)
3. Be enabled (**change ip-interface**)
4. Be physically inserted into the correct slot.

A DS1 (MEDPRO, MAPD, UDS1-BD and DS1-BD) differs from most circuit packs in that inserting the circuit pack into the switch is not enough to make the board usable. It must also be administered.

- d. **Error Type 125** - no Aux Data: The wrong circuit pack is inserted in the slot where this circuit pack is logically administered.
    - 1. Remove the wrong circuit pack and insert the logically administered circuit pack
    - OR
    - 2. Re-administer this slot to match the circuit pack inserted (**change circuit-pack**).
  - e. **Error Type 257** - this error is associated with the Common Port Circuit Pack Maintenance Test. Refer to XXX-BD (Common Port Circuit Pack) Maintenance documentation for details.
  - f. **Error Type 1538** - This error is used to indicate hyperactivity on the circuit pack. Hyperactivity on a circuit pack is when the angel is sending too many CCMS messages uplink, 400 per ten seconds for the TN2302, to switch software. The circuit pack will be taken out of service. See error Type 3999.
  - g. **Error Type 2049** - This error indicates that the operating system is down; an attempt is made to reset the board automatically. If the reset fails, the board is probably bad and should be replaced.
  - h. **Error Type 3841** - inconsistent downlink message. This error is not service-affecting. No action is required.
  - i. **Error Type 3999** - indicates that the circuit pack sent a large number of control channel messages to the switch within a short period of time. If Error Type 1538 is also present, then the circuit pack was taken out-of-service due to hyperactivity. If Error Type 1538 is not present, then the circuit pack has not been taken out-of-service, but it has generated 50% of the messages necessary to be considered hyperactive. This may be completely normal during heavy traffic periods. However, if this error type is logged when the circuit pack is being lightly used, it may indicate a problem with the circuit pack or the equipment attached to it.
-

**System Technician-Demanded Tests: Descriptions and Error Codes**

Investigate tests in the order they are presented in the table below. By clearing error codes associated with the *Control Channel Loop Test*, for example, you may also clear errors generated from other tests in the testing sequence.

**Table 14. System Technician-Demanded Tests**

Order of Investigation	Short Test Sequence	Long Test Sequence	Reset Board Sequence	D/ND <sup>a</sup>
Control Channel Loop Test (#52)		X		ND
SAKI Sanity Test (#53)			X	D
IP Address Query (#1371)	X	X		D
NIC Query Test (#1383)	X	X		ND
PING Test (#1379)	X	X		ND
NT Reset Test (#1381)			X	D

a. D = Destructive; ND = Nondestructive

**Control Channel Looparound Test (#52)**

This test queries the circuit pack for its circuit pack code and vintage and verifies its records.

**Table 15. TEST #52 Control Channel Looparound Test**

<b>Error Code</b>	<b>Test Result</b>	<b>Description/ Recommendation</b>
None 2100	ABORT	System resources required for this test are not available. 1. Retry the command at 1-minute intervals a maximum of 5 times.
	FAIL	The circuit pack failed to return the circuit pack code or vintage. 1. Retry the command a maximum of 5 times. 2. If the problem continues, and if the circuit pack is one of the Port circuit packs, replace the circuit pack. Otherwise, if the circuit pack is part of the SPE, use the procedure described in <i>Replacing SPE Circuit Packs</i> in Chapter 5. 3. Retry the command a maximum of 5 times.
	PASS	Communication with this circuit pack is successful.
0	NO BOARD	The test could not relate the internal ID to the port (no board). This could be due to incorrect translations, no board is inserted, an incorrect board is inserted, or an insane board is inserted. 1. Ensure that the board translations are correct. Administer the MedPro interface if it is not already administered. 2. If the board was already administered correctly, check the error log to determine whether the board is hyperactive. If this is the case, the board is shut down. Reseating the board re-initializes the board. 3. If the board was found to be correctly inserted in step 1, then issue the <b>busyout board UUCSS</b> command. 4. Issue the <b>reset board UUCSS</b> command. 5. Issue the <b>release board UUCSS</b> command. 6. Issue the <b>test board UUCSS long</b> command.  This should re-establish the linkage between the internal ID and the port.



**SAKI Sanity Test (#53)**

**This is a destructive test.**

This test is only run as a part of a reset board procedure. For the Media Processor, it is necessary to use the **change ip-interfaces** form to disable the Media Processor IP interface before performing this reset board procedure. Other common circuit packs can be reset with the **reset board UUCSS** command which also executes this test.

A reset of this circuit pack will take about 3 1/2 minutes.

**Table 16. TEST #53 SAKI Sanity Test**

<b>Error Code</b>	<b>Test Result</b>	<b>Description/ Recommendation</b>
None	ABORT	System resources required for this test are not available. 1. Retry the command at 1-minute intervals a maximum of 5 times.
1015	ABORT	Port is not out-of-service. 1. Busy out the circuit pack. 2. Execute command again.
2100	ABORT	System resources required for this test are not available. 1. Retry the command at 1-minute intervals a maximum of 5 times.
2803	ABORT	It is necessary to reset the board. 1. Use the change ip-interfaces form to disable the Media Processor IP interface. 2. Execute the command again.
1	FAIL	The circuit pack failed to reset.
2	FAIL	The circuit pack failed to restart. 1. Execute command again. 2. If the problem persists, replace the circuit pack.
	PASS	The circuit pack initializes correctly. 1. Run the short test sequence.
Any	NO BOARD	This is normal if the test is being done when (a) the board is not physically in the system or (b) the system is booting up. Otherwise, there is some inconsistency between the physical configuration and the data kept in the system. 1. Verify that the board is physically in the system. 2. Verify that the system is not in a stage of booting up. 3. Retry the command at 1-minute intervals for a maximum of 5 times.

### IP Address Query Test #1371

**This test is destructive.**

The Media Processor has two interfaces for configuring the board, through the NT PC interface and the SAT via CCMS messages. For R8 DoLAN, the SAT and CCMS are the only approved interface. However, the NT PC interface cannot easily be disabled. It is possible that changes can be made via the NT PC interface that cause the Media Processor board to be inconsistent with DEFINITY translation. The area of concern is the IP address, subnet mask, and gateway translation.

This test sends the Media processor the IP address, subnet mask, and gateway translation (IP parameters). If the parameters do not match DEFINITY translation, the new values are written into the Windows registry, and the NT PC asks the maintenance sub-system to reboot the board. The board goes through a physical board removal and insertion.

When this test fails, it is an indication that an illegal change was made and the customer should be notified. Also, writing the IP address parameters to the registry requires NT to reboot. If the IP addresses match, there is no need to update the registry and reboot NT

**Table 17. TEST #1371 IP Address Query Test**

Error Code	Test Result	Description/ Recommendation
	ABORT	Internal system error 1. Retry the command at 1-minute intervals a maximum of 5 times.
2100	ABORT	Insufficient system resources to run this test. 1. Retry the command at 1-minute intervals a maximum of 5 times.
2801	ABORT	Unable to find IP address data for this location. Verify that the board is administered.
2807	ABORT	The board is administered, but not enabled in the <b>change ip-interfaces</b> form.
	FAIL	The IP address, subnet mask, and gateway translation parameters do not match DEFINITY translations. After the new values are written into the Windows registry, the NT PC must go through a reboot. The board goes through a physical board removal and insertion. 1. If the problem persists, replace the circuit pack.
	PASS	Translation data matches the Windows Registry.

**Ping Test (#1379)**

**This test is non-destructive**

This test verifies that the MedPro circuit pack can communicate to other nodes on the LAN.

This test pings the gateway IP address as defined on the IP Interface form.

If the PING is successful, this test looks at the PING round trip delay. If a round trip delay of greater than 4 seconds is reported, a separate error is logged. Excessive round trip delays do not take the MedPro out of service.

Services can execute the standard PING command using the C-LAN board address and MedPro IP address to see the actual round-trip delay. (See **ping** commands).

This test is a nondestructive test. It runs due to in-line errors, during periodic and schedule maintenance, and on demand.

**Table 18. TEST #1379 Ping Test**

<b>Error Code</b>	<b>Test Result</b>	<b>Description/ Recommendation</b>
1, 2	ABORT	Internal Error. 1. Retry the command at 1-minute intervals a maximum of 3 times.
7	ABORT	Destination unreachable. 1. Verify that at least one destination reachable through this port is up. 2. Repeat the test. 3. If the test still aborts, escalate the problem.
2000	ABORT	Response to the test was not received from the Media Processor circuit pack within the allowable time period. 1. If this result occurs repeatedly, attempt to reset the circuit pack. Reset the circuit pack by issuing the <b>busyout board UUCSS</b> and the <b>reset board UUCSS</b> commands. 2. If this result occurs again, replace the circuit pack.
2012	ABORT	Internal system error. 1. Retry the command at 1-minute intervals a maximum of 3 times.
2100	ABORT	The necessary system resources to execute the test could not be allocated. 1. Retry the command at 1-minute intervals a maximum of 5 times.

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**Table 18. TEST #1379 Ping Test — Continued**

<b>Error Code</b>	<b>Test Result</b>	<b>Description/ Recommendation</b>
2500	ABORT	Internal system error. 1. Retry the command at 1-minute intervals a maximum of 3 times.
2801	ABORT	No IP address defined. Verify IP Interfaces translations and retest.
2802	ABORT	Different IP address pinged than software had allocated for the test. 1. Retry the command at 1-minute intervals a maximum of 3 times.
2805	FAIL	The number of pings received did not match the number sent (normally one ping sent). This means that no ping responses were received from the gateway defined on the ip-interfaces form for the Media Processor. 1. Retry the command at 1-minute intervals a maximum of 3 times.
2807	ABORT	The board is administered, but not enabled in the <b>change ip-interfaces</b> form.
7, 89, 1007	FAIL	Ping to the destination failed through this port due to the destination down. 1. Verify that at least one destination reachable through this port is up. 2. Once verified, execute <b>test port UUCSSpp</b> command to verify that the H.323 Signaling Group Ping Test (#1387) passes.
	PASS	Ping through this port successful.

**NT Reset Test (#1381)**

**This test is destructive.**

This test resets the circuit pack. The test is highly destructive and can only be initiated by a system technician-demanded **reset board UUCSS** command.

**Table 19. TEST #1381 NT Reset Test**

<b>Error Code</b>	<b>Test Result</b>	<b>Description/ Recommendation</b>
None	ABORT	System resources required for this test are not available. 1. Retry the <b>reset board UUCSS</b> command at 1-minute intervals a maximum of 5 times.
1015	ABORT	Port is not out-of-service. 1. Busyout the circuit pack ( <b>busyout board UUCSS</b> ). 2. Execute the <b>reset board UUCSS</b> command again.
2100	ABORT	System resources required for this test are not available. 1. Retry the <b>reset board UUCSS</b> command at 1-minute intervals a maximum of 5 times.
1	FAIL	The circuit pack failed to reset.
2	FAIL	The circuit pack failed to restart. 1. Execute the <b>reset board UUCSS</b> command again. 2. If the problem persists, replace the circuit pack.
	PASS	The circuit pack initializes correctly. 1. Run the Short Test Sequence.

**Table 19. TEST #1381 NT Reset Test — Continued**

Error Code	Test Result	Description/ Recommendation
0	NO BOARD	<p>The test could not relate the internal ID to the port (no board). This could be due to incorrect translations, no board is inserted, an incorrect board is inserted, or an insane board is inserted.</p> <ol style="list-style-type: none"> <li>1. Ensure that the board translations are correct. Administer the MEDPROMEDPRO interface if it is not already administered.</li> <li>2. If the board was already administered correctly, check the error log to determine whether the board is hyperactive. If this is the case, the board is shut down. Reseating the board re-initializes the board.</li> <li>3. If the board was found to be correctly inserted in step 1, then issue the <b>busyout board UUCSS</b> command.</li> <li>4. Issue the <b>reset board UUCSS</b> command.</li> <li>5. Issue the <b>release board UUCSS</b> command.</li> <li>6. Issue the <b>test board UUCSS long</b> command.</li> </ol> <p>This should re-establish the linkage between the internal ID and the port.</p>

**NIC Query Test (#1383)**

**This test is non-destructive.**

This test passes if the Ethernet port is connected and you can talk on the network. Otherwise it fails with no fail code or AUX data.

**Table 20. TEST #1383 NIC Query Test**

<b>Error Code</b>	<b>Test Result</b>	<b>Description/ Recommendation</b>
None	ABORT	System resources required for this test are not available. 1. Retry the command at 1-minute intervals a maximum of 5 times.
1015	ABORT	Port is not out-of-service. 1. Busyout the circuit pack ( <b>busyout board UUCSS</b> ). 2. Execute the command again.
2100	ABORT	System resources required for this test are not available. 1. Retry the command at 1-minute intervals a maximum of 5 times.
	FAIL	The Ethernet port is not connected and you cannot talk on the network.
	PASS	The Ethernet port is connected and you can talk on the network
0	NO BOARD	The test could not relate the internal ID to the port (no board). This could be due to incorrect translations, no board is inserted, an incorrect board is inserted, or an insane board is inserted.  1. Ensure that the board translations are correct. Administer the MedPro interface if it is not already administered.  2. If the board was already administered correctly, check the error log to determine whether the board is hyperactive. If this is the case, the board is shut down. Reseating the board re-initializes the board.  3. If the board was found to be correctly inserted in step 1, then issue the <b>busyout board UUCSS</b> command.  4. Issue the <b>reset board UUCSS</b> command.  5. Issue the <b>release board UUCSS</b> command.  6. Issue the <b>test board UUCSS long</b> command.  This should re-establish the linkage between the internal ID and the port.

## MEDPROPT (TN802/TN2302 MED PRO DSP PORT)

MO Name (in Alarm Log)	Alarm Level	Initial Command to Run	Full Name of MO
MEDPROPT	MINOR/WARNING	test port UUCSS or PCSS [short/long] [repeat#]   [clear]	TN802/TN2302 MED PRO DSP PORT

The MEDPROPT maintenance object monitors the health of the MEDPRO digital signal processors (DSPs).

The TN802B/TN2302 MAPD (Multi-Application Platform for DEFINITY) Media Processor circuit pack provides the audio bearer channels for H.323 voice over IP calls. One TN802B/TN2302 circuit pack has one MEDPROPT media processing resource. Based on system administration of audio codecs, a MEDPROPT can handle either 31 or 22 simultaneous channels of H.323 audio processing. If the **ip-parameters** form specifies only G.711 Mulaw or G.711 Alaw as the audio codecs, the MEDPROPT can service 31 channels. If any other codec type (G.723-5.3K, G.723-6.3K, or G.729) is administered, the MEDPROPT can only service 22 channels.

The MEDPROPT is physically made up of 11 individual DSPs, but is treated logically as one port. If individual DSPs on the TN802B/TN2302 MAPD fail, the MEDPROPT remains in-service at lower capacity.

The MEDPROPT is a shared service circuit. It is shared between H.323 trunk channels and H.323 stations. An idle channel is allocated to an H.323 trunk/station on a call-by-call basis.

### Error Log Entries and Test to Clear Values

Table 21. MEDPROPT Error Log Entries

Error Type	Aux Data	Associated Test	Alarm Level	On/Off Board	Test to Clear Value
0 <sup>a</sup>	0	Any	Any	Any	test board UUCSS
1(a)	ANY	DSP Capacity Test (#1382)		ON	test board UUCSS l r5
18(b)	0	busyout port UUCSS	WARNING	OFF	release port UUCSS

*Continued on next page*



**Table 21. MEDPROPT Error Log Entries — Continued**

<b>Error Type</b>	<b>Aux Data</b>	<b>Associated Test</b>	<b>Alarm Level</b>	<b>On/Off Board</b>	<b>Test to Clear Value</b>
258(c)	ANY	DSP Capacity Test (#1382)	WARNING	ON	test board UUCSS 1 r5
513(d)		DSP Capacity Test (#1382)	MINOR	ON	test port UUCSSpp
515(e)	ANY	DSP Capacity Query Test (##1382)	MINOR	ON	test board UUCSS 1 r5
769	Any	TDM NIC Looparound Test (#1380)	MIN	ON	test port UUCSS 1 r10
1025(f)	Any				

- a. Run the Short Test Sequence first. If all tests pass, run the Long Test Sequence. Refer to the appropriate test description and follow the recommended procedures.

Notes:

- a. **Error Type 1** - For the TN802B only, this error type indicates that less than three DSPs are out of service (OOS), and no alarm is raised. The Aux Data field contains the number of DSPs that are Out of Service (OOS).
- b. **Error Type 18** - the MEDPRO has been busied out by a **busyout port UUCSS** command.
  - 1. Release the port (**release port UUCSS**).
- c. **Error Type 258** - For the TN802B only, this error type indicates that more than three, but less than 9 DSPs are out of service (OOS), and a WARNING alarm is raised. The Aux Data field contains the number of DSPs that are Out Of Service (OOS).
- d. **Error Type 513** - For the TN2302 only. The port is out of service (OOS) due to an associated DSP that is bad.
- e. **Error Type 515** - For the TN802B only, this error type indicates that all DSPs are out of service (OOS), and a MINOR alarm is raised. The Aux Data field contains the number of DSPs that are Out Of Service (OOS).
- f. **Error Type 1225** - This port is out of service (OOS) due to a board level failure. Check for errors/alarms against the board, in particular, ping problems or IP address inconsistency, or board sanity problems.

## System Technician-Demanded Tests: Descriptions and Error Codes

Investigate tests in the order they are presented in [Table 22](#). By clearing error codes associated with the *DSP Capacity Query Test*, for example, you may also clear errors generated from the other test in the testing sequence.

**Table 22. System Technician-Demanded Tests**

Order of Investigation	Short Test Sequence	Long Test Sequence	D/ND <sup>a</sup>
DSP Capacity Query (#1382)		X	ND
TDM NIC Looparound Test (#1380)		X	ND
Port Status Test (#1407)	X	X	ND

a. D = Destructive; ND = Nondestructive

### DSP Capacity Query Test (#1382)

**This test is non-destructive**

#### If you have the TN802B

When using the TN802B this test polls the circuit pack for the number of failed DSPs. If all DSPs are functional, the test passes and the board is operating at maximum capacity. If any DSPs have failed, the test fails and reports the number of failed DSPs.

A failure of 3 or fewer DSPs does not result in an alarm. A failure of more than 3 up to 8 DSPs results in a warning alarm. A failure of more than 8 DSPs results in a minor alarm. In all cases, except all DSPs failing, the MEDPROPT continues to provide reduced capacity.

#### If you have the TN2302

When using the TN2302 this test polls the circuit pack for the state of health of a specific DSP. If the DSP is bad an error will be logged and the board will be polled again. If the circuit pack is still failing, the DSP will be taken out of service and a MINOR alarm will be raised.

**Table 23. DSP Capacity Query Test (#1382)**

Error Code	Test Result	Description/ Recommendation
2000	ABORT	Response to the test was not received within the allowable time period.
2100	ABORT	Could not allocate the necessary system resources to run this test.
2500	ABORT	Internal system error 1. Retry the command at 1-minute intervals a maximum of 3 times.
1-11	FAIL	Some DSPs on the circuit pack have failed. The FAIL code is the number of bad DSPs reported. TN802B only
	FAIL	For the TN2302 only. The DSP failed. If it continues to fail, it will be taken out of service.
	PASS	All 11 DSPs are functioning and in-service.
0	NO BOARD	No board was detected by the test. 1. Check the Error Log for wrong board (Error Type 125) or no board (Error Type 131). Resolve either of these issues, if applicable. 2. Check that the board is properly translated and inserted. If so, check for hyperactivity. If hyperactive, use the <b>reset board UUCSS</b> command. 3. Run the test again. If it fails, the circuit pack may be bad. Replace the circuit pack and retest.

**TDM NIC Looparound Test (#1380)**

**This test is non-destructive**

This test sets up a loopback path from the TDM bus out to the NIC edge of the Media processor and back to the TDM bus. The loopback is established by setting up the outbound IP connection to send IP packets to the MedPro's own IP address. The tone generator places a test tone (440Hz) onto a timeslot. The timeslot is listened to by the Media processor board. The tone is routed through the TAP802/2302 DSP farm, where it may undergo transcoding to G.723, etc. The tone is looped back at the Network interface and back through the TAP802/2302 where it is converted back into standard PCM. The tone is placed onto a TDM timeslot and detected by a tone detector port. The test passes if 440Hz is reported by the tone detector

**Table 24. TDM NIC Looparound Test (#1380)**

<b>Error Code</b>	<b>Test Result</b>	<b>Description/ Recommendation</b>
1002	ABORT	<p>The system could not allocate timeslots for the test. The system may be under heavy traffic conditions or it may have timeslots out of service due to TDM-BUS errors.</p> <ol style="list-style-type: none"> <li>1. If system has no TDM-BUS errors and is not handling heavy traffic, retry the command at 1-minute intervals a maximum of 3 times.</li> <li>2. If system has TDM-BUS errors, clear any errors, and retry the command at 1-minute intervals a maximum of 3 times.</li> <li>3. If the command continues to abort, escalate the problem.</li> </ol>
1003	ABORT	<p>The system could not allocate a tone receiver for the test. The system may be oversized for the number of Tone Detectors present or some Tone Detectors may be out of service.</p> <ol style="list-style-type: none"> <li>1. Resolve any TTR-LEV errors. Even if there are no TTR-LEV errors, there may not be a Tone Detector available on the network that contains the circuit pack being tested. Verify that there is at least one Tone Detector on this network. This does not harm the system.</li> <li>2. Resolve any TONE-PT errors.</li> <li>3. If neither condition exists, retry the command at 1-minute intervals a maximum of 3 times.</li> </ol>
2000	ABORT	<p>Response to the test was not received in the allowable time period.</p> <ol style="list-style-type: none"> <li>1. Retry the command at 1-minute intervals a maximum of 3 times.</li> </ol>
2100	ABORT	<p>Could not allocate the necessary system resources to run this test.</p>
2500	ABORT	<p>Internal system error.</p> <ol style="list-style-type: none"> <li>1. Retry the command at 1-minute intervals a maximum of 3 times.</li> </ol>

*Continued on next page*

**Table 24. TDM NIC Looparound Test (#1380) — *Continued***

Error Code	Test Result	Description/ Recommendation
2801	ABORT	The TN802B/TN2302 Media Processor board has not been administered on the <b>ip-interfaces</b> form.
ANY	FAIL	The test did not detect the test tone through the looparound connection. <ol style="list-style-type: none"> <li>1. Test the tone-clock in the port network that contains the media processor under test.</li> <li>2. If the tone-clock is healthy, test the media processor board again.</li> <li>3. If the test continues to fail, replace the media processor board.</li> </ol>
	PASS	The board is functioning properly.
0	NO BOARD	No board was detected by the test. <ol style="list-style-type: none"> <li>1. Resolve either wrong board (Error 125) or no board (Error 131) issues, if applicable.</li> <li>2. Check that the board is properly translated and inserted. If so, check for hyperactivity (Error 1538). If hyperactive, use the <b>reset board UUCSS</b> command.</li> <li>3. Run the test again. If it fails, the NCE chip on board may be bad. Replace the board and retest.</li> </ol>

**Port Status Query Test (#1407)**

**This test is non-destructive**

This test queries the Port status.

**Table 25. port Status Query Test (#1407)**

<b>Error Code</b>	<b>Test Result</b>	<b>Description/ Recommendation</b>
1	ABORT	This port is Out of service (OOS) due to: <ul style="list-style-type: none"> <li>— A board level problem, for example no IP address has been translated for this location.</li> <li>— A DSP hardware problem (See Test (#1380) and Test (#1382)).</li> </ul>
2	ABORT	This port has been made maintenance busy
1002	ABORT	The system could not allocate timeslots for the test. The system may be under heavy traffic conditions or it may have timeslots out of service due to TDM-BUS errors. <ol style="list-style-type: none"> <li>1. If system has no TDM-BUS errors and is not handling heavy traffic, retry the command at 1-minute intervals a maximum of 3 times.</li> <li>2. If system has TDM-BUS errors, clear any errors, and retry the command at 1-minute intervals a maximum of 3 times.</li> <li>3. If the command continues to abort, escalate the problem.</li> </ol>
2000	ABORT	Response to the test was not received in the allowable time period.
2100	ABORT	Could not allocate the necessary system resources to run this test.
2500	ABORT	Internal system error. <ol style="list-style-type: none"> <li>1. Retry the command at 1-minute intervals a maximum of 3 times.</li> </ol>
	FAIL	Unable to get status for this port. Verify that this board has been administered correctly, and that there are no alarms against this board.
	PASS	The board is functioning properly and the port is in-service and available.
0	NO BOARD	No board was detected by the test. <ol style="list-style-type: none"> <li>1. Resolve either wrong board (Error 125) or no board (Error 131) issues, if applicable.</li> <li>2. Check that the board is properly translated and inserted. If so, check for hyperactivity (Error 1538). If hyperactive, use the <b>reset board UUCSS</b> command.</li> <li>3. Run the test again. If it fails, replace the board and retest.</li> </ol>



