Lucent Technologies
Bell Labs Innovations

DEFINITY®
Enterprise Communications Server
Release 7
What's New in Release 7

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Comcode 108566274
Issue 1
June 1999

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Part 68: Network Registration Number. This equipment is registered with the FCC in accordance with Part 68 of the FCC Rules. It is identified by FCC registration number AS593M-13283-MF-E.

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

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For additional documents, refer to ''References'' on page 105

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The "CE" mark affixed to the DEFINITY® equipment described in this book indicates that the equipment conforms to the following European Union (EU) Directives:

- Electromagnetic Compatibility (89/336/EEC)
- Low Voltage (73/23/EEC)
- Telecommunications Terminal Equipment (TTE) i-CTR3 BRI and i-CTR4 PRI

For more information on standards compliance, contact your local distributor.

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

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About this document

Overview

This document introduces new and enhanced features and capabilities of DEFINITY Enterprise Communications Server (ECS) Release 7. It does not contain comprehensive instructions for switch administration or complete feature descriptions, nor does it contain information about how to install, maintain, repair, or troubleshoot the switch.

Audience

This document is intended for DEFINITY ECS system administrators and managers, users interested in information about specific features, and Lucent Technologies personnel responsible for planning, designing, configuring, selling, and supporting the system.

This document assumes that you are familiar with administration of DEFINITY ECS in a recent release of DEFINITY ECS software.

How to Use This Document

The document is divided into two parts:

- Chapter 1 — Presents a brief summary of new features and functionality in Release 7 of DEFINITY ECS.
- Chapter 2 — Presents more detailed information, including brief feature descriptions, feature interactions, and lists of commands and screens.

Conventions Used in This Document

Tip:
Draws attention to information that you may find helpful.

NOTE:
Draws attention to information that you must heed.

CAUTION:
Denotes possible harm to software, possible loss of data, or possible service interruptions.

WARNING:
Denotes possible harm to hardware or equipment.

SECURITY ALERT:
Indicates when system administration may leave your system open to toll fraud.

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- DEFINITY Helpline (for help with feature administration and system applications) 1-800-225-7585
- Lucent Technologies National Customer Care Center Support Line (for help with maintenance and repair) 1-800-242-2121
- Lucent Technologies Toll Fraud Intervention 1-800-643-2353
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R7 Summary

1

This chapter provides a brief overview of the new features and functionality in DEFINITY® ECS Release 7.

Document numbers and brief descriptions for all documents mentioned in this chapter are contained in Chapter 3, ''References''.

For bug-fix information, refer to *DEFINITY ECS Change Description.*

603F1 Callmaster® Native Support

The administration screen for the new 603F1 CallMaster terminal more closely fits the 603F1 button arrangement than the previous screen.

For more information, refer to:

- ''603F1 Callmaster® Native Support'' on page 25
- "Phone reference" in *DEFINITY ECS Administrator's Guide*

Access Security Gateway

Access Security Gateway (ASG) is an authentication interface used to secure the system administration and maintenance ports and/or logins on DEFINITY ECS. ASG uses a challenge/response system to confirm the authenticity of a user and reduce the opportunity for unauthorized access. The authentication transaction consists of a *challenge*, issued by the DEFINITY ECS and based on the login ID supplied by the user, to which users must *respond* appropriately.

Supported keys consist of either a hand-held token-generating device (ASG PassKey) or software module (ASG SoftKey+). In either case, the key (response generation) device must be pre-programmed with the appropriate secret key necessary to communicate with corresponding ASG-protected login IDs on DEFINITY ECS.

For more information, refer to:

- ''Access Security Gateway (ASG) Enhancements'' on page 26
- "Access security gateway" and "Enhancing system security" in *DEFINITY ECS Administrator's Guide*

Announcement History Log

The **list history** command generates a report showing the following modifications to integrated announcements:

- Recording new announcements (add)
- Re-recording announcements (cha)
- Deleting announcements (del)

The report identifies announcements by extension number and shows the date and time at which changes are made, the login ID of the person making the changes, and the extension or trunk access code used to make the changes.

For more information, refer to:

- ''Announcement History Log'' on page 37
- "History Reports" in *DEFINITY ECS Reports Guide*

ATM Enhancements

Enhancements to Asynchronous Transfer Mode (ATM) capabilities in R7 reduce facilities costs by converging voice and data traffic and reduce equipment acquisition costs by increasing the selection of ATM switches or utilizing existing switches. Refer to *DEFINITY ECS R7 ATM Installation, Upgrades and Administration* for more information.

ATM CES Trunk Interface

The ATM Interface circuit pack TN2305 (Multi-Mode Fiber) or TN2306 (Single Mode Fiber) provides an ATM trunk interface over either an OC-3c or STM-1 facility. This interface supports operation as an access, tandem, or tie trunk and will provide emulation of up to 8 ISDN-PRI lines over ATM facilities. All trunk functionality (ISDN, DCS, look-ahead inter-flow, etc.) is identical to that provided by conventional T1 and E1 facilities.

ATM-WAN Port Network Connectivity

ATM-WAN Port Network Connectivity (PNC) extends port network connectivity beyond a single ATM backbone switch to utilize either a private ATM network, a public wide-area network, or a combination of both. This enhancement allows several ATM devices (in addition to the AX500) to be used as effectively as a single ATM switch for connections between port networks. The port network (PN) cabinets within a DEFINITY ECS can be distributed throughout an ATM-WAN, taking full advantage of the 241 bearer channels provided (as opposed to a maximum of 91 with 4 DS1s). Port networks interface to the ATM network via a 155MB OC-3 or STM-1 fiber interface.

Attendant Split Swap

This feature allows attendants logged into an ACD split to alternate between ACD and non-ACD calls. Attendants initiate split swap by pressing SPLIT SWAP, a new button type. SPLIT SWAP must be assigned to the console for this feature to work. SPLIT SWAP can only be assigned as an attendant console button; it can not be assigned to any other type of set.

Refer to ''Attendant Split Swap'' on page 38 for more information.

Brazil

R2MFC Tariff-Free Backward Signal

This feature allows customers to identify whether a trunk group provides an 800 service. For trunk groups so identified, DEFINITY ECS generates an MFC Tariff-Free Backward Signal during call setup, therefore facilitating central office billing. This feature is intended for use in Brazil but is not tied to any specific country code.

R2MFC MCT Backward Signal

R2MFC Malicious Call Trace (MCT) Backward Signal feature allows customers to assign an MCT class of restriction (COR) to a station. DEFINITY ECS then generates an MFC Malicious Call Trace Backward Signal during call setup, triggering the CO to collect trace information before releasing the calling party. This feature is intended for use in Brazil but is not tied to any specific country code.

BCC Block Collect Calls

For increased flexibility, the Block Collect Call function has been moved from the Trunk Group screen to the Class of Restriction screen. Now you can restrict selected users by their assigned class of restriction, without partitioning trunks. It is available only under the Brazilian country code.

CentreVu™ Advocate Agent Limit

A new field, "Logged-In Advocate Agents," has been added to the System Parameters Customer-Options screen. The value of this field equals the number of *CentreVu* Advocate agents you have contracted for. On systems with *CentreVu* Advocate, DEFINITY ECS maintains a count of all logged-in Advocate agents, not counting AAS and AUDIX agents. Once this count is equal to the administered maximum value, log-in attempts by additional agents will be blocked.

For more information, refer to the *CentreVu Advocate User Guide*, 585-215-855.

Controlled Toll Restriction

As part of Lucent's support for the hospitality industry, DEFINITY ECS provides attendant consoles (or any telephone with console permissions) with the capability to restrict guests from placing toll calls from specified phones. For example, a hotel might allow guests to dial local calls but not toll calls. Attendants can restrict specified stations on a station-by-station basis or through a class of restriction.

For more information, refer to:

- ''Controlled Toll Restriction'' on page 39
- "Restriction – Controlled" in *DEFINITY ECS Administrator's Guide*
- *DEFINITY ECS Hospitality Operations*

Crisis Alert to Digital Station

Crisis alert to digital station is an enhancement supported by digital DCP and BRI display phones. All emergency calls (such as 911 calls) can alert designated digital sets with a CRSS-ALERT button assigned. Emergency calls complete normally, and the designated digital sets display the caller's name and extension number so that a person receiving the alert will know where to send the emergency team when they arrive. Crisis alert does not establish a talk path between the caller and phones with a CRSS-ALERT button assigned.

This capability is similar to attendant crisis alert, but it allows you to monitor emergency calls on a phone other than an attendant console.

For more information, refer to:

- ''Crisis Alert to Digital Station'' on page 41
- "Crisis Alert" in *DEFINITY ECS Administrator's Guide*

Daily Wake-Up

The R7 Daily Wake-up feature allows a hotel guest or an attendant to schedule a wake-up call that will repeat at the same time every day for the duration of the guest's stay. The wake-up call repeats until it is cancelled or reprogrammed.

For more information, refer to:

- "Daily Wake-Up" on page 44
- *DEFINITY ECS Hospitality Operations*

DEFINITY AUDIX® 4.0

Version 4.0 of DEFINITY AUDIX has been repackaged in the TN568 circuit pack and takes up only 3 carrier slots. Refer to *DEFINITY AUDIX System Release 4.0 System Description*, 585-300-214, for an introduction to the system.

DEFINITY Site Administration

DEFINITY Site Administration (DSA) is a PC-based tool you can use to administer your DEFINITY ECS and voice mail systems. DSA offers an easy-to-use graphical interface, as well as wizards that simplify many of the most common administration tasks, including:

- adding and removing phones and voice mail subscribers
- changing a phone user's name or voice mail subscriber's name
- adding bridged appearances
- browsing dial ranges, stations, and unused ports
- finding unused extensions
- printing button labels
- creating and using station templates
- importing data into the switch
- exporting data from the switch, including call accounting data
- finding and replacing data in the switch (global search and replace)
- monitoring trunks

For these and other switch administration activities, DSA also offers GEDI, the Graphically Enhanced DEFINITY Interface. DSA also offers 4410 or 513 terminal emulation for both switch and voice mail administration.

DSA works with DEFINITY ECS Release 7.1, INTUITY™ AUDIX® Release 4.4 and 5.0, and DEFINITY® AUDIX® Release 3.1. To run DSA, your computer must meet the following minimum hardware requirements:

	Windows 95	Windows 98	Windows NT 4.0
Processor	486	Pentium	Pentium
RAM	16 Mb	32 Mb	64 Mb
Available hard disk space	Requirements depend on the number and size of systems you are connecting to. A minimum of 100 Mb available disk space is required.		
CD-ROM	Required		
Display	SVGA with minimum screen resolution of 800 x 600		
Ports and connections	For printing: one standard PC printer port, or network connection For DEFINITY ECS: one free serial port, or network connection For AUDIX: a second free serial port or network connection is required for simultaneous connection to AUDIX.		

After you install DSA, you can learn how to use it by viewing the Guided Tour, which is accessible from the Help menu. After viewing the Guided Tour, you can use the online help to learn how to perform specific activities. You can also learn to use DSA if you attend DEFINITY system administration training courses, which now use DSA as their tool of choice.

End-To-End DTMF Signaling over ISDN-BRI Trunks

DEFINITY ECS now allows endpoints such as hybrid sets or features such as abbreviated dialing to send DTMF digits across ISDN-BRI tie trunks for use by voice mail or similar services. TN556D and TN2185B circuit packs can now generate DTMF tones in response to a "send digits" message from the switch. There is no administration for this function.

Only newer versions of the following circuit packs are compatible with BRI trunk end-to-end DTMF signaling.

- TN2185B (v1)
- TN556D (v1)
- TN2198B (v1)

TN556D and TN2185B circuit packs can now generate DTMF tones in response to a "send digits" message from the switch. Newer BRI boards recognize the DTMF tones, providing greater compatibility with voice mail and other services over ISDN-BRI trunks. The TN2198 circuit pack does not support this feature.

Enhanced Modem Interfaces

R7 introduces new internal and external modem interfaces on the G3r that support internal or external modems at speeds up to 9.6K bps.

Refer to ‘‘Enhanced Modem Interfaces’’ on page 47 for more information.

Expanded Wait Step for Message Care

On R7 systems with call vectoring, an administrator may now write a vector that will queue a call, wait up to 8 hours, then disconnect the call. This enhancement enables you to manage e-mail and faxes through an Automatic Call Distribution (ACD) system, using the phantom call capability of CallVisor® Adjunct-Switch Applications Interface (ASAI) to hold a queue spot for messages in other media.

This enhancement is designed for use with Lucent's Message Care offer (though it can be used in any vectoring system). In this offer, e-mail and fax messages are queued in the ACD using the ASAI Phantom call feature. Then the *wait-time* step suspends vector processing for the administered time. If an agent does not answer the call within the administered time, you can configure vector processing to disconnect the call (using the *disconnect* vector step) and Message Care is responsible for requeuing the call.

For more information, refer to:

- ‘‘Expanded Wait Step for Message Care’’ on page 49
- Appendix A, “Call Vectoring Commands,” in *DEFINITY ECS Call Vectoring/Expert Agent Selection (EAS) Guide*

Feature Transparency over the Public Network

Instead of using private, dedicated leased lines for feature transparency among nodes of a network, you can use less expensive facilities on the switched public network. This capability is called Feature Plus.

For more information, refer to:

- ''Feature Transparency over the Public Network'' on page 53
- *DEFINITY ECS Administration for Network Connectivity*

Four-Digit Feature Access Codes

The maximum length of feature access codes has been increased from 3 digits to 4 digits in release R7.

For more information, refer to:

- ''Four-Digit Feature Access Codes'' on page 60
- "Adding feature access codes" in *DEFINITY ECS Administrator's Guide*

IP Trunk

Internet Protocol (IP) trunk service on the TN802 MAPD can send real-time voice and fax from DEFINITY ECS through IP networks to another DEFINITY ECS that has this feature. DEFINITY ECS with IP trunk service can also send calls over IP networks to other vendors' PBXs if they are equipped with the Lucent Internet Telephony Server - Enterprise (ITS-E).

By taking voice or fax signals from the switch, packetizing them, and transporting them across an intranet, IP trunk service can reduce facilities costs and help you to reduce your long distance charges (especially for international calls).

The IP trunk system is administered with the correlation between telephone numbers and IP addresses for destinations it can reach. The system continuously monitors performance of the IP network between itself and the administered destinations. If transmission quality across the IP network to any particular destination is not acceptable, the IP trunk server will show the entire trunk group used for that destination as unavailable. DEFINITY ARS software can then choose an alternate route for calls until network performance is acceptable and the system marks the trunks as available again.

For more information, refer to:

- "IP Trunk" on page 61
- "Managing IP Trunks" and "IP Trunk Service" in *DEFINITY ECS Administrator's Guide*
- Appendix E, "IP Trunk Installation and Administration," in *DEFINITY ECS Administration for Network Connectivity*

Japan

2Mb Trunk

Private networking in Japan within multi-vendor call center environments requires a new 2 megabit-per-second interface. This interface uses CMI (Code Mark Inversion) line coding. With R7, Lucent Technologies has introduced a new trunk circuit pack (TN2242 – Japanese Digital Tie) solely for this use in Japan. No other countries currently support this trunk type. This new trunk is only able to interconnect with other circuit packs of the same model. Other DEFINITY digital trunks cannot connect to the TN2242.

This interface connects to a bandwidth multiplexor referred to as a TDM (Time Division Multiplexor). (The TDM helps reduce access costs.) Because the TN2242 provides this service, customers do not require the TDM and may thus connect directly to the service provider.

This trunk supports both CAS (Channel Associated Signaling) and ISDN-PRI. The CAS signaling is specific for the Japanese network. This circuit pack supports DTMF and rotary inter-register signaling but not MF signaling.

Changes to the Trunk Group screen, DS1 Circuit Pack screen, and the Signaling Group screen support this feature. Maintenance software has been changed to perform all the necessary tests on the new trunk circuit pack.

For more information, refer to:

- *DEFINITY ECS System Description*
- "Screen Reference" in *DEFINITY ECS Administrator's Guide (*for the DS1 Circuit Pack screen and the Trunk Group screen)
- Appendix A, "Screens Reference," in *DEFINITY ECS Administration for Network Connectivity* (for the Signaling Group screen)

Models

For complete information on models, cabinet configurations, hardware, and system capacities, see *DEFINITY ECS System Description*, 555-230-211.

For installation instructions, use the the appropriate installation or upgrades manual for your equipment as shown in Chapter 3, ''References''.

G3vs

The G3vs model has been discontinued. Lucent continues to provide full support for existing G3vs customers. If you have a G3vs and want to upgrade to R7, contact your Lucent representative who can help you upgrade to a G3csi or G3si.

G3si

The new Network Control/Packet Interface (NetPkt) TN794 is only used in the R7si. The NetPkt control circuit pack replaces the following:

- The present TN777B Network Control (NetCon) circuit pack
- The PACCON (TN778) circuit pack
- The ISDN-PRI functionality of the Processor Interface (PI) TN765

In addition, the NetPkt circuit pack provides 8 asynchronous data channels, which is an increase over the 4 channels previously provided by the NetCon.

The backplane on new G3si models has been redesigned. Insert a NetPkt circuit pack in the NetCon slot and the PACCON slot needs nothing. To upgrade an existing G3si model to R7, remove the NetCon and PACCON circuit packs and replace with the Network Control/Packet Control Assembly. The assembly consists of the following:

- NetPkt circuit pack, inserted in the NetCon slot
- The Net/Pac Backplane Connection (TN2400) circuit pack inserted in the PACCON slot.

A G3si upgraded to R7 requires the PI circuit pack only if existing BX.25 connections are retained.

Enhanced Single Carrier Cabinet

The power supply for the Enhanced Single Carrier Cabinet (ESCC) has been redesigned for global use with self-adjusting inputs of 90–264V AC, 47–63 Hz, and 20–25 Hz selectable ringing via jumpers. 50 Hz ringing continues to require a separate circuit pack. This power supply (coded 1217a) has power factor correction to comply with International Standard IEC 1000-3-2 and Japanese MITI Harmonic Control Law.

Multiple Locations Support

NOTE:
The changes in R7 that support multiple locations affect ARS administration *even for users who do not have multiple locations*.

DEFINITY ECS G3r can support up to 44 expansion port networks (EPN) in different time zones (but in the same country), using either an ATM wide-area network or DS1 remoting to connect the EPNs. You can have a single switch spread out across widely dispersed locations.

In addition to the standard entries for ARS analysis, digit conversion, and toll analysis that apply to all users, special tables are required for each location to support "local" calling (including 911 calls). Administer each location to have its own time zone (as an offset from the system time) and daylight savings time plan. Touch-tone receivers have been modified to search within their own EPN for suitable circuit packs to use before looking in port networks located elsewhere.

For more information, refer to:

- ''Multiple Locations Support'' on page 69
- "Locations" (in the Screen reference section) and "Routing Outgoing Calls" in *DEFINITY ECS Administrator's Guide*

System Clock Enhancements

To support widely distributed expansion port networks in different time zones, DEFINITY ECS can now maintain a "user time" different from the time according to the system clock. The "user time" will control phone displays as well as the automatic wake-up and do-not-disturb features. The system time will control time-of-day routing, SDMR recording, maintenance, and other internal timers.

For more information, refer to:

- ''System Clock Enhancements'' on page 94
- "Setting up multiple locations" in *DEFINITY ECS Administrator's Guide*

Octel® Message Servers

New voice terminal types

Two new voice terminal emulation types, 7405ND and 7434ND, can be administered on the station screen. When either is administered, DEFINITY ECS sends extension number information to these ports when calls are redirected from a called station, without the alphabetic characters normally used to provide calling party information.

These new terminal emulation types are to be used with Octel message servers, and the ports are directly connected to Octel message servers instead of to voice terminals. This configuration allows customers to use names in place of extension numbers in the DEFINITY integrated directory without regard to the effect on Octel systems.

For more information, refer to:

- "Octel® Message Servers: New Terminal Types" on page 76
- your Octel message server documentation

Integration with DEFINITY ECS

For integration with DEFINITY ECS, Octel message servers require ports on the TN754B 8-port, 4-wire DCP circuit pack. The ports interface to Octel Voicebridge integration devices or Octel FLT-A boards on the Octel server, depending on the integration method.

For more information, refer to:

- "Octel® Message Servers: Integration" on page 78
- your Octel message server documentation

QSIG Enhancements

For a general reference on QSIG networks, refer to *DEFINITY ECS Administration for Network Connectivity.*

Called/Busy Number ID

QSIG Called/Busy Number ID allows DEFINITY ECS to pass Called/Busy Number ID information between QSIG and DCS nodes in a private network. The name and number of the called party display on the caller's phone, analogous to the display callers see on calls to users on the same DEFINITY ECS. The display confirms that the caller dialed the right number.

Refer to ''Survivable Remote EPN Enhancements'' on page 92 for more information.

Call-Independent Signaling Connections

DEFINITY ECS can provide the capability to transport QSIG operation information independent of an active call between two QSIG-compliant nodes. In R7, Call-Independent Signaling Connections are enhanced as follows:

- They work over BRI trunks.
- They are recorded in CDR, using a scheme similar to that currently used for an NCA TSC.
- The **status signaling group** command also shows the status of a CISC.

Refer to ''QSIG CISC Enhancements'' on page 81 for more information.

Message Waiting Indication

QSIG Message Waiting Indication (MWI) enables a centralized voice mail system (such as AUDIX systems) to indicate to users in a QSIG network that they have messages waiting or to indicate that messages have been retrieved. You can provide message notification to users through phone lamps, displays, or stutter dial tone.

Refer to ''QSIG Message Waiting Indication'' on page 86 for more information.

Russia

Multiple ANI and Call Forward

With R7, administrators can determine whether the calling party's ANI or the redirecting set's ANI is sent when a call originally destined for a set on the switch is automatically redirected via call coverage or call forwarding to a destination off the switch via an MF trunk.

Incoming ANI Trace via Button

The Russian interface to malicious call trace (MCT) can not have calling party information (ANI) requested on every call: this would overload the MF signaling central offices. Therefore, DEFINITY ECS allows users to press a button to request that ANI be collected from the public network via MF ANI signaling trunks.

If a set user presses the button while talking on a call, DEFINITY ECS displays ANI on the user's display phone and gives ANI to all other features, including CDR and MCT.

If a caller presses ANI TRACE while listening to dial tone, the switch returns a dial tone. The caller enters an extension number, and DEFINITY ECS collects ANI from the connected trunk of the dialed extension number. The ANI collected is sent to CDR and to MCT, but it is not displayed on the phone unless the phone is also an MCT controller set.

Survivable Remote EPN Enhancements

R7 provides a new command to allow remote reset of the SR Switch in a Survivable Remote EPN and reconnect it to the G3r switch processor. The R7si ESCC processor (Survivable Remote Processor, or SRP) will now identify itself as an SRP.

For more information, refer to:

- "Survivable Remote EPN Enhancements" on page 92
- *DEFINITY ECS Installation and Maintenance for Survivable Remote EPN*

TCP/IP Support

With R7, customers can use, administer, and maintain TCP/IP connections on DEFINITY ECS. This ability reduces costs by eliminating data modules and by using data networks for signaling information for DCS, centralized INTUITY™ AUDIX®, and centralized *CentreVu*™ Call Management Systems (CMS).

For more information, refer to:

- "TCP/IP Support" on page 96
- *DEFINITY ECS Administration for Network Connectivity*

Transfer and Conference Enhancements

Users with DCP, hybrid, or wireless phones can transfer or conference a call placed on hold without removing the call from hold if there is no active call appearance and no other call on hold.

Displays on DCP, hybrid, ISDN-BRI, or wireless phones (except the 9601 wireless) now provide users with confirmation upon completion of a transfer.

For more information, refer to:

- "Transfer and Conference Enhancements" on page 99
- "Transfer" and "Conference" in *DEFINITY ECS Administrator's Guide*

VIP Wake-up

VIP wake-up is an enhancement to the hospitality wake-up feature. Users submit VIP wake-up requests using the normal wake-up interface. Instead of alerting the guest phone for the wake-up call, DEFINITY ECS calls the attendant and the attendant personally calls the VIP guest room.

For more information, refer to:

- "VIP Wake-up" on page 101
- *DEFINITY ECS Hospitality Operations*

Getting Started with R7

2

For DEFINITY® ECS Release 7, this chapter provides operational descriptions and information for:

- New and enhanced features and functions
- Feature interactions
- Administration commands and screens

603F1 Callmaster® Native Support

The administration screen for the new 603F1 CallMaster terminal more closely fits the 603F1 button arrangement than the previous screen.

Limitations

- MUTE cannot be administered. The field is display-only.
- LOGIN can be administered as any feature button. It does not default to login, although the set faceplate overlay does say "Login." Administer the button as ABRV-DIAL containing a log-in string.
- Administer RELEASE as any feature button. It does not default to Release.
- The 603F1 replaces the 603E1. For use with CentreVu® Agent, if you upgrade a 603F1 to a 606A1 the 606A1 default button assignments are applied. The 603F1 must use the 606A1 defaults when upgraded.
- Hardware pin-outs are the same as the other 603-series (2- or 4- wire) phones.

- As with other 603-series phones, the 603F1 requires that you set the G3 version field on the System Parameters Customer-Options screen to release **G3V3** or later.
- The downloadable terminal parameters are the same as the other 603 series sets.

Interactions

The 603F1 sets have the same feature interactions as the other 603 series sets.

Related Commands

- **change station**

Related Screens

On the new administration screen, the 603F1 has 3 columns of 5 buttons instead of 6 buttons. The last row is shifted left and up, as shown below:

603 CallMaster®

```
1          7          13
2          8          14
3          9          15
4          10         16
5          11         17
6mute      12login    18release
```

CallMasterIV® (603F)

```
                                1     7     13
                                2     8     14
                                3     9     15
                                4     10    16
6mute      12login    18release 5     11    17
```

Access Security Gateway (ASG) Enhancements

The following diagrams illustrate the steps associated with an ASG challenge/response scenario using either an ASG Pass Key or ASG Site Manager.

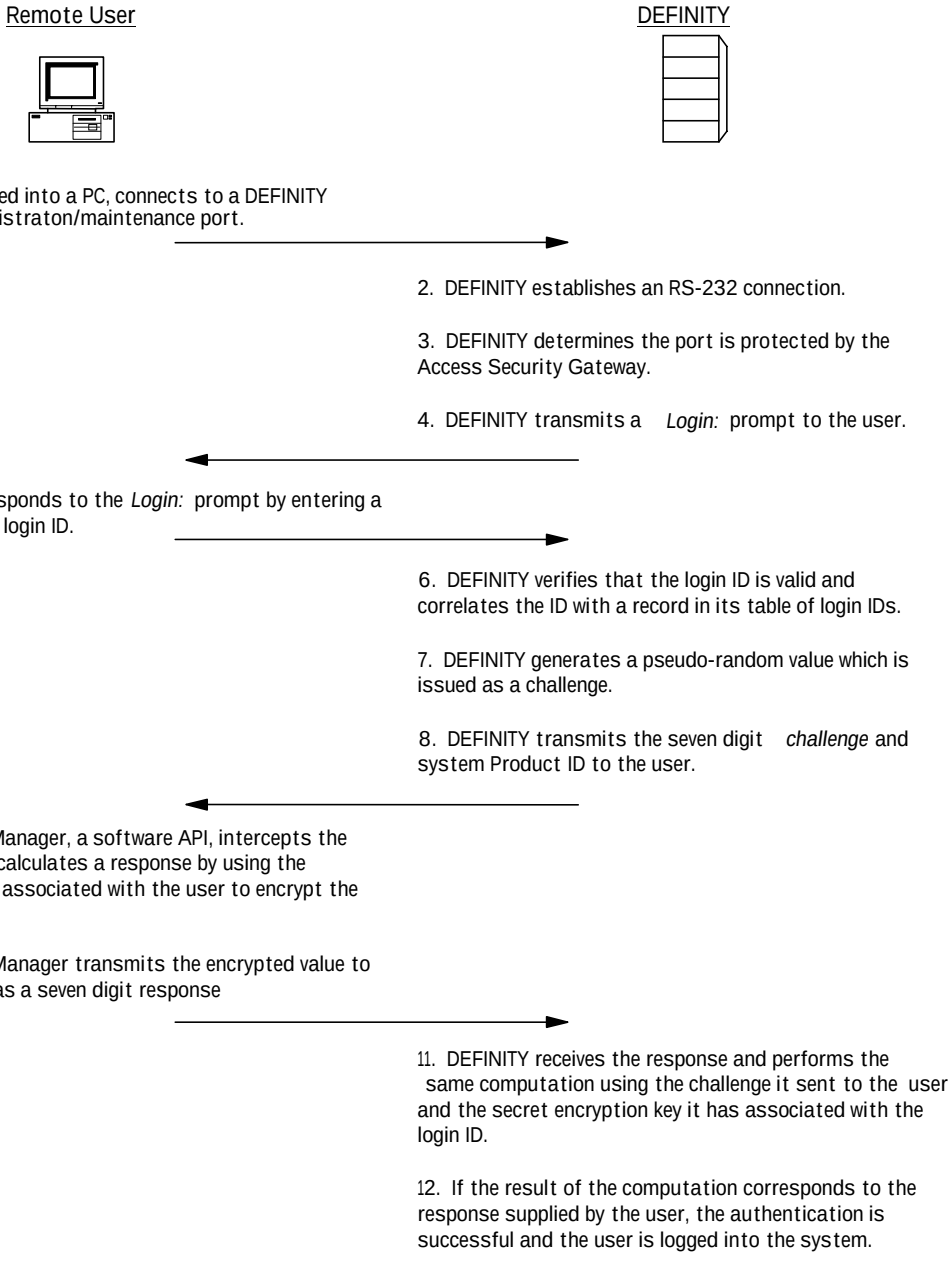

Figure 1. ASG Site Manager Interaction

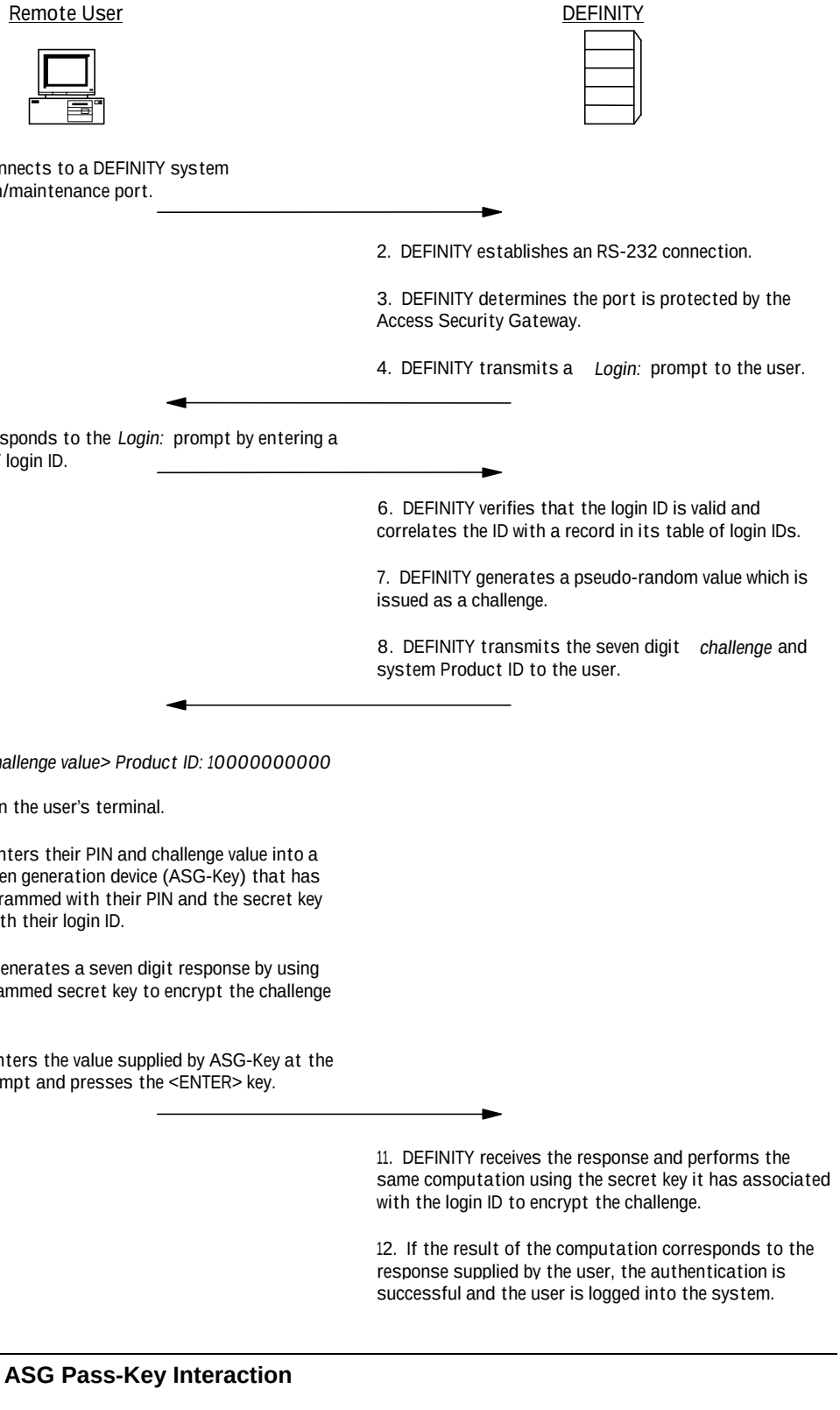

Figure 2. ASG Pass-Key Interaction

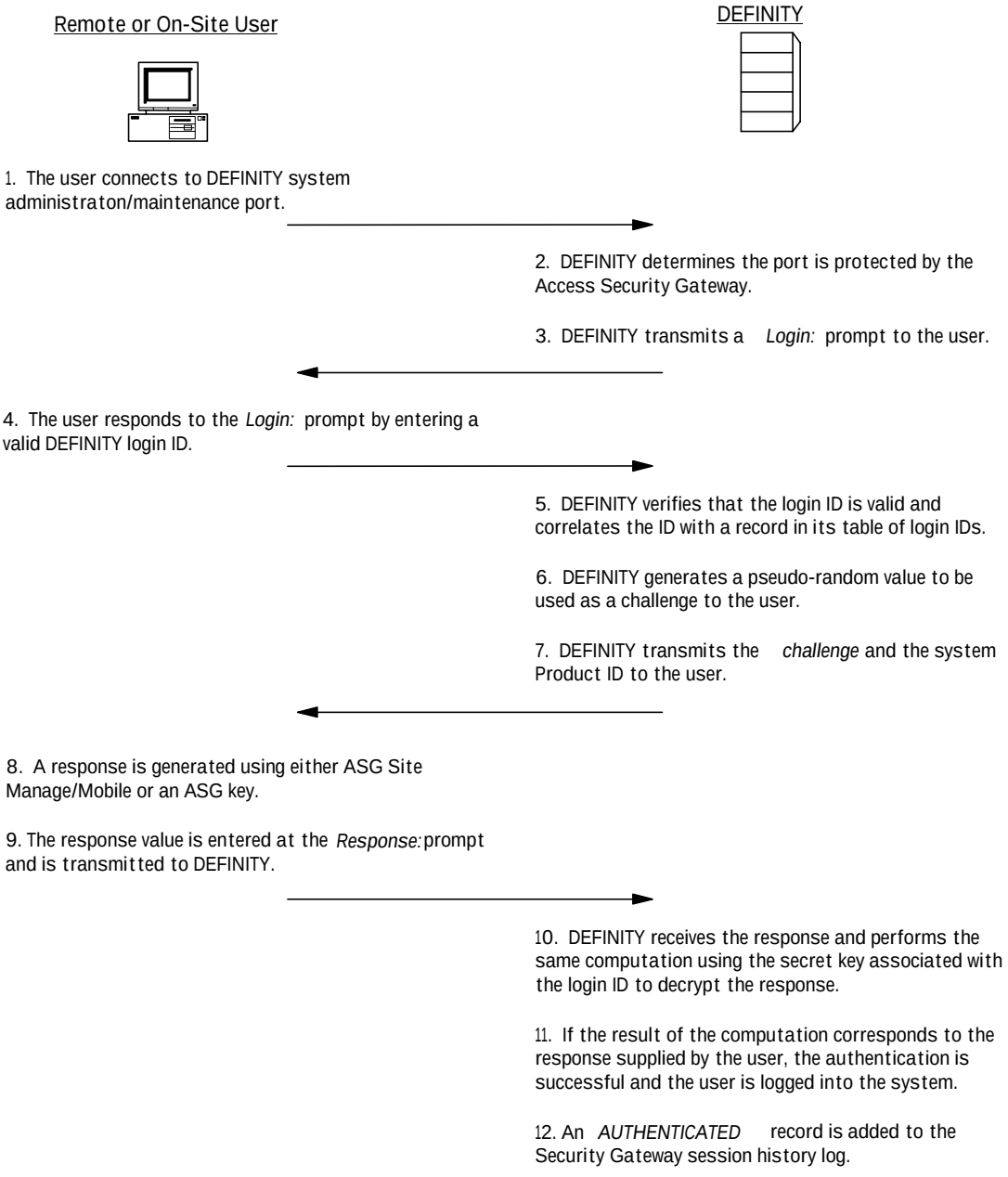

Figure 3. ASG Session Establishment

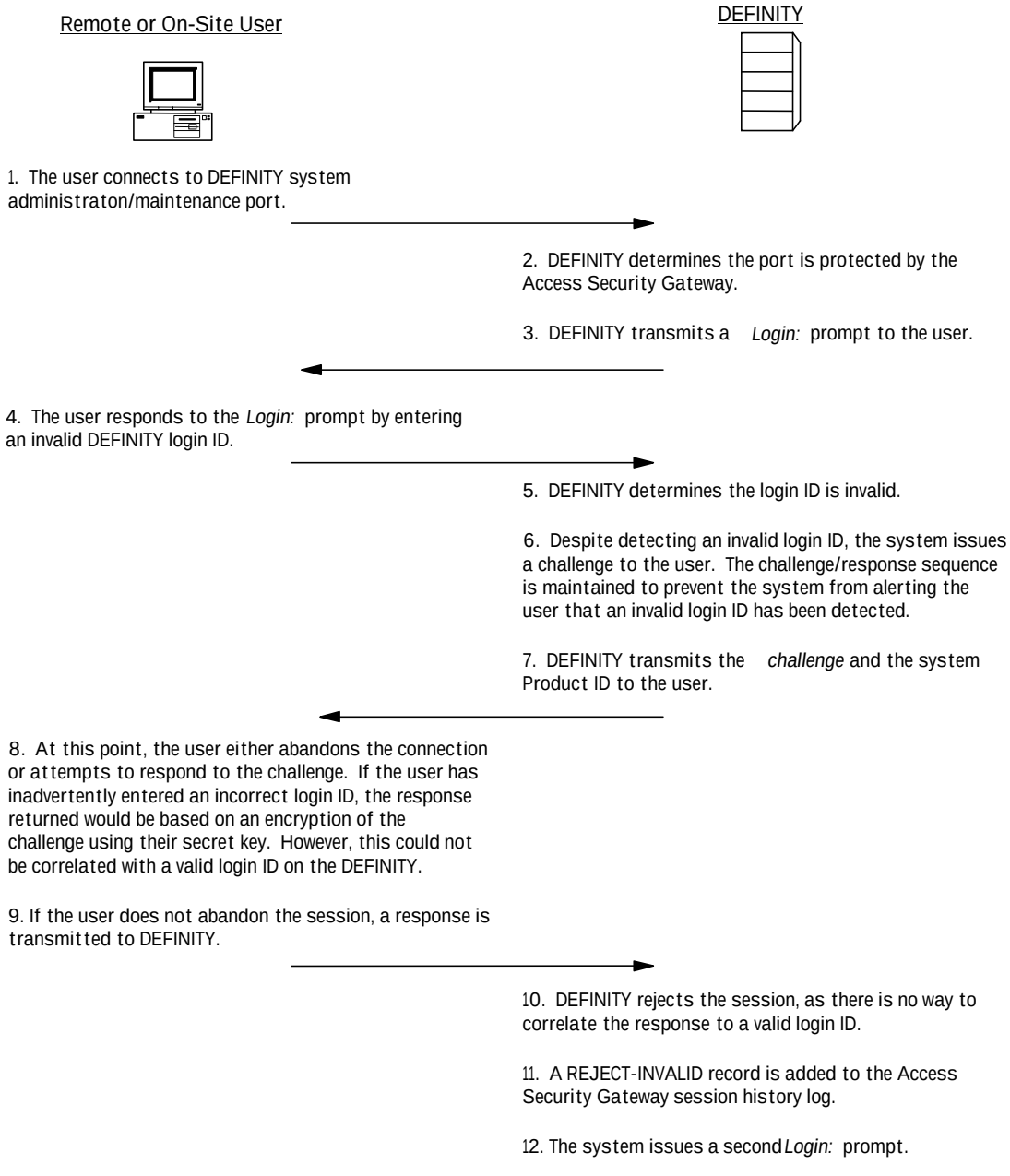

Figure 4. ASG Session Rejection – Invalid User (Login ID)

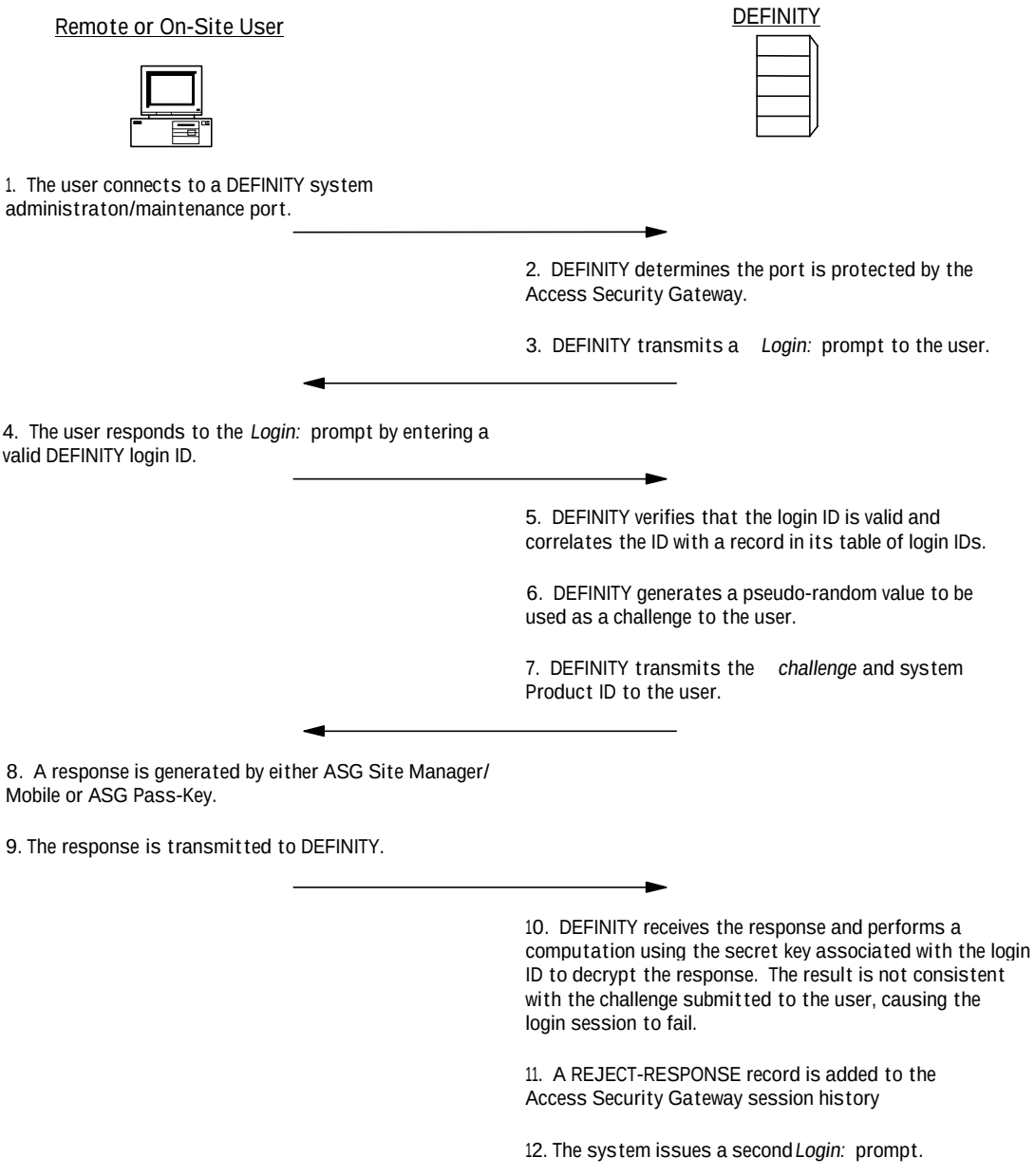

Figure 5. ASG Session Rejection – Invalid Response

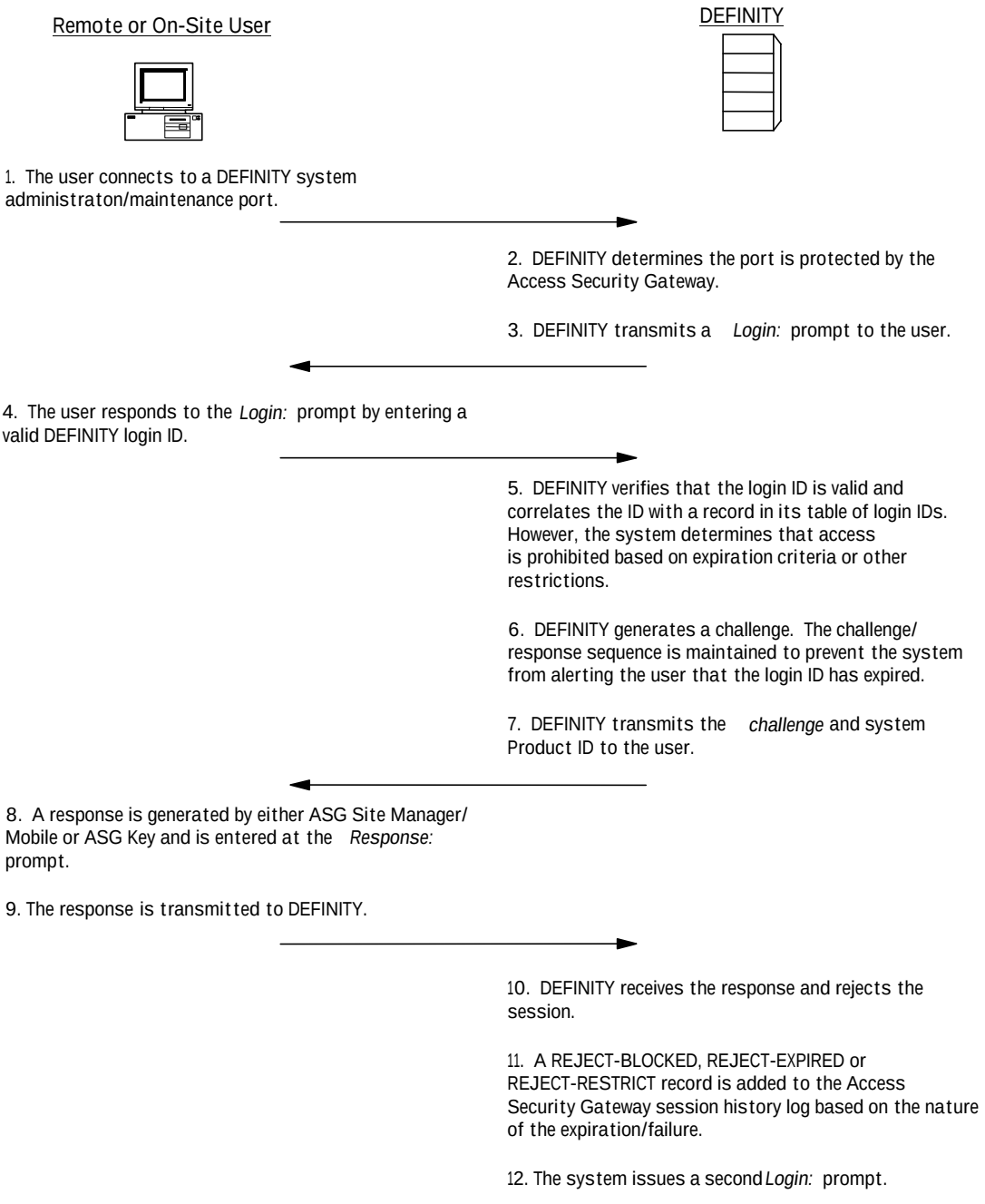

Figure 6. ASG Session Rejection – Blocked, Restricted, or Expiration Criteria

Limitations

- ***Maximum Logins*** – R7 supports a maximum number of 15 login IDs (4 Lucent Technologies services logins + 11 customer logins).
- ***ASG Authentication Enforcement*** – The R7 release enforces ASG authentication for the *init* login for all types of access (dial-up and direct connections). It cannot be disabled.

Interactions

- Customer Access to INADS Port

  If access to the INADS port is disabled on a system-wide basis, administering access to the SYSAM-RMT or INADS port, through ASG, does not override the INADS port restriction. Administration does not prohibit assignment of ASG to the SYSAM-RMT or INADS port. However, in a configuration where this method of access is blocked, you will be denied access to the system through the SYSAM-RMT or INADS port even if you attempt to access the port using a valid ASG login ID.

  If access to the INADS port has been disabled on a login basis, administering access to the SYSAM-RMT or INADS port, via ASG, will not override the INADS port restriction.

- Login Administration

  The standard user interface for DEFINITY ECS login administration has not been modified by ASG. Also, the standard DEFINITY ECS login user interface is maintained in cases where ASG parameters have not been administered for the login and/or port.

- Security Violation Notification

  ASG does not support an interface to SVN. Session rejection events do not appear in the monitor security-violations login report and referral calls are not spawned in the event that the number of rejected ASG sessions exceeds the threshold/time interval criteria imposed by SVN.

- Security Measurements

  ASG session establishment or reject events do not increment the Successful Logins, Invalid Attempts, Invalid IDs, Forced Disconnects, Login Security Violations or Trivial Attempts counters maintained for the list measurements security-violations detail report. Additionally, login specific information maintained by the measurements security-violations summary report does not include ASG related data.

Related Commands

- **change system-parameters customer-options**
  - Access Security Gateway (ASG)
- **change system-parameters security**
  - Access Security Gateway parameters
- **change login administration**
  - Access Security Gateway (ASG)
- **change systems-parameters maintenance**
- **list asg-history**
- **list logins**
- **set secret-key**

Related Screens

Some commands are not illustrated.

change system-parameters customer-options

```
                                OPTIONAL FEATURES

                          G3 Version: V7                 Maximum ports: 1300
                            Location: 1
    Abbreviated Dialing Enhanced List? y                        CAS Main? n
        Access Security Gateway (ASG)? y Cvg of Calls Redirected Off-net? n
        Analog Trunk Incoming Call ID? y                     DCS (Basic)? y
 A/D Grp/sys List Dialing Start at 01? y               DCS Call Coverage? y
Answer Supervision by Call Classifier? y              DCS with Rerouting? y
                                  ARS? y          DEFINITY Network Admin? y
                ARS/AAR Partitioning? y                          DS1 MSP? n
                      ASAI Interface? y   Emergency Access to Attendant? y
                                            External device Alarm Admin? y
  Async. Transfer Mode (ATM) Trunking? y                Flexible Billing? n
                                  ATMS? n   Forced Entry of Account Codes? y
             Audible Message Waiting? y      Global Call Classification? y
                 Authorization Codes? y              Hospitality(Basic)? y
                           CAS Branch? y  Hopsitality(G3V3)Enhancements)? y

    (NOTE: You must logoff & login to effect the permission changes.)
```

change system-parameters security

```
                                                                  PAGE 2
                      SECURITY-RELATED SYSTEM PARAMETERS

SECURITY VIOLATION NOTIFICATION PARAMETERS

SVN Station Security Code Violation Notification Enabled? n
           Originating Extension: ____          Referral Destination?  n
 Station Security Code Threshold: 10                  Time Interval:  0:03
          Announcement Extension: ____

STATION SECURITY CODE VERIFICATION PARAMETERS

                    Minimum Station Security Code Length: 4
 Security Code for Terminal Self-Administration Required? y

ACCESS SECURITY GATEWAY PARAMETERS

   YSAM-LCL?  n          SYSAM-RMT?  n
      MAINT?  n           SYS-PORT?  n
```

change login administration

```
                                                                  Page 1
                             LOGIN ADMINISTRATION

     Password of Login Making Change:

LOGIN BEING ADMINISTERED
                              Login's Name:  _____
                                Login Type:  _____
                             Service Level:  _____
   Disable Following a Security Violation?  n       Access to INADS port? n

LOGIN'S PASSWORD INFORMATION
                    Login's Password: _________
            Reenter Login's Password: _________
 Password Aging Cycle Length (Days): __

LOGOFF NOTIFICATION
Facility Test Call Notification? n     Facility Test Call Acknowledgment? n
     Remote Access Notification? n          Remote Access Acknowledgment? n

ACCESS SECURITY GATEWAY PARAMETERS
  Access Security Gateway?  n
```

change login administration

```
                                                                  Page 2
                ACCESS SECURITY GATEWAY LOGIN ADMINISTRATION

                     Blocked? n
 System Generated Secret Key? n Secret Key: _________-__________-______


EXPIRATION CRITERIA
     Expiration Date:  __/__/____
  Number of Sessions:  ____

RESTRICTION CRITERIA
Restrict Days of Week
    Monday?  n    Tuesday?  n  Wednesday?  n  Thursday?  n  Friday?  n
  Saturday?  n     Sunday?  n

Restrict From Time:  __:__  Restrict To Time:  __:__
```

list logins

```
                                LOGINS

Login     Service         Status Pwd.Aging  ASG   Blk  Exp.  No.of Sess
          Level                  Cycle(Days)          Date  Sess  Used

trahan    super-user      active    90      y     n  9/20/99  20    2
coy       super-user      active    40      n
bennett   super-user      inactive  90      y     y 12/30/99  50   23
brakowski super-user      active    90      y       03/01/00  40   17
bubeck    non-super-user  inactive  30      n
pierson   non-super-user  disabled  30      y     y 09/30/99  50   10
```

list asg-history

```
                ACCESS SECURITY GATEWAY SESSION HISTORY

Date     Time      Port       Login       Status

01/06    12:45     SYSAM-RMT  trahan      AUTHENTICATED
01/05    01:32     SYSAM-LCL  pierson     REJECT-BLOCK
01/05    12:33     SYSAM-RMT  bubeck      REJECT-EXPIRE
01/03    15:10     SYSAM-RMT  coy         REJECT-INVALID
01/01    07:45     SYSAM-LCL  brakowski   REJECT-RESPONSE
```

The product ID display appears on the Login Session screen in the following format:

```
    Login: <login>
Challenge: <7-digit quantity>      Product ID: <10-digit product ID>
 Response:
```

Announcement History Log

Description

The **list history** command generates a report showing the following modifications to integrated announcements:

- Recording new announcements (add)
- Re-recording announcements (cha)
- Deleting announcements (del)

The report shows announcement changes made using a local station as well as changes made from remote access with a trunk. Remote access is shown via the trunk access code for the trunk being used to make the modification.

If you use the **change announcement** command but cancel it without modifying the announcement, an entry will still appear in the log.

Tip:
*The **list usage extension** will show the vector directory number (VDN), if any, that is using an announcement for vector directory number of origin (VOA).*

Related Commands and Screens

No special administration is needed. Below is an example of the new history log showing changes to the integrated announcements:

list history

```
                                HISTORY

Date of Loaded Translation: 7:38pm Wed Mar 17, 2000

Date Time     Port     Login    Actn    Object         Qualifier
3/18 1:08     PHONE    annc     add     recorded-ann   1999 by TAC 300
3/18 1:07     PHONE    annc     de      recorded-ann   1999 by 1100
3/18 1:06     PHONE    annc     cha     recorded-ann   1999 by 1100
```

- In the example above, "1999" is the announcement extension modified.
- The qualifier "by TAC 300" is a trunk access code using remote access to modify the announcement 1999.
- The qualifier "by 1100" is a local extension on the switch.

Attendant Split Swap

If a SPLIT SWAP button is administered on the attendant console, attendants logged in to an ACD split can toggle between ACD and non-ACD calls by pressing the button.

Description

A split swap is allowed only when the attendant has an call in the ACD split and a non-ACD call and both calls are in talking state. If the attendant presses SPLIT SWAP during non-talking states (for example, during dialing or ringing), the system denies the operation. (For outgoing trunk calls, the the trunk is in talking state once it is cut-through or the trunk answer supervision timer times out.)

If the attendant presses SPLIT, CANCEL, RELEASE, OR HOLD during a split swap, the results are described below:

- If the attendant presses SPLIT, then all parties are joined in conference and the system denies further presses of SPLIT or SPLIT SWAP.
- If the attendant presses CANCEL, the active call is dropped and the split-away party is connected to the attendant as the active call.
- If the attendant presses RELEASE, the active call and the split call are connected.
- If the attendant presses HOLD, the active call is placed on hold.

The split swap lamp stays off during a split swap. The split lamp, on the other hand, remains lit during a split swap and flutters if the system denies the operation.

Related Commands and Screens

Administer only one SPLIT SWAP button per attendant console.

change attendant 2

```
                                                          Page  2 of 3
                          ATTENDANT CONSOLE


FEATURE BUTTON ASSIGNMENTS

 1: split                       13: trk-id
 2: intrusion                   14: rs-alert
 3: serial-cal                  15: verify
 4: override                    16: directory
 5: dont-split                  17: vip-wakeup
 6: hold                        18: vip-retry
 7: lwc-store                   19: forced-rel
 8: last-numb                   20: abrv-dial  List: 3 DC: 18
 9: cov-cback                   21: abrv-dial  List: 1 DC: 02
10: busy-ind   TAC/Ext: 78519   22: re-ringoff
11: after-call     Grp:         23: night-serv
12: split-swap                 24: pos-busy
```

Controlled Toll Restriction

Description

Controlled toll restriction gives attendant consoles and phones with console permissions the capability to restrict users from making certain types of calls. The existing restrictions are:

- *Outward* - station cannot place external calls (except certain tie calls).
- *Station to station* - station cannot place or receive internal calls.
- *Termination* - station cannot receive any calls (except priority calls). This value is used by the Do-Not-Disturb feature as well.
- *Total* - station can neither make nor receive any calls whatsoever

The new restriction in R7 is:

- *Toll* - allows a station to dial local calls but not toll calls.

This restriction performs much like the existing "all-toll" option on the Class of Restriction screen. The only difference is that there is not an "Unrestricted Call List" as there is on the COR screen. **ALL toll calls are blocked**.

Controlled Toll Restriction is designed primarily for use in the hospitality industry and works with Property Management Systems (PMS) that are able to set outward restrictions. This feature allows those PMS systems to set toll restriction if the activation field is *toll replaces outward*.

Related Commands and Screens

change system-parameters features

```
FEATURE-RELATED SYSTEM PARAMETERS                          Page 3 of 8

               Reserved Slots for Attendant Priority Queue:  5
                                  Time before Off-hook Alert: 10
                      Emergency Access Redirection Extension:
      Number of Emergency Calls Allowed in Attendant Queue:  5
                                       Call Pickup Alerting?  n
                Temporary Bridged Appearance on Call Pickup?  y
                              Call Pickup on Intercom Calls?  y
                                       Directed Call Pickup?  n
          Deluxe Paging and Call Park Timeout to Originator?  n
         Controlled Outward Restriction Intercept Treatment:tone
        Controlled Termination Restriction (Do Not Disturb):tone
                  Controlled Station to Station Restriction:tone

 AUTHORIZATION CODE PARAMETERS  Authorization Codes Enabled?  n

                  Controlled Toll Restriction Replaces:outward
       Controlled Toll Restriction Intercept Treatment:tone
```

status station

```
                              GENERAL STATUS

                  Type: 7406D         Service State: in-service/on-hook
             Extension: 3204        Download Status: not-applicable
                  Port: 01E0201       SAC Activated? no
           Call Parked? no          User Cntrl Restr: stat term toll
      Ring Cut Off Act? no         Group Cntrl Restr: none
Active Coverage Option: 1         CF Destination Ext:

       Message Waiting:
       Connected Ports:

            ACD STATUS                          HOSPITALITY STATUS
Grp/Mod Grp/Mod Grp/Mod Grp/Mod Grp/Mo     AWU Call(s):
   /       /       /       /       /             User DND: not activated
   /       /       /       /       /            Group DND: not activated
   /       /       /       /       /          Room Status: non-guest room

            On ACD Call?  no
```

Crisis Alert to Digital Station

Crisis alert to digital station is an enhancement supported by digital DCP and BRI display phones. All emergency (911) calls can be sent to designated digital sets with a CRSS-ALERT button assigned. This capability is similar to attendant crisis alert, but it allows you to direct monitor emergency calls on a phone other than an attendant console.

This feature works only on the following digital display sets:

- 6000 series
- 7000 series
- 8000 series

Description

As in attendant crisis alert, assign an existing call type (*alrt*) in the ARS digit analysis table and administer an existing attendant button type (*crss-alert*) on the digital station. During an ARS call, DEFINITY ECS matches the dialed digit string with the *alrt* call type in the ARS digit analysis table and sends a visual and audible alert to the digital stations with a CRSS-ALERT button assigned. ARS call processing independently activates crisis alert but does not interact with it: the ARS emergency call will complete its dialed destination normally. The system's emergency log records any emergency call attempt with name, time, and a new event code and prints it in the system journal printer (if connected).

The audible alert provided to a digital station by this feature is similar to a repeated "manual signaling" ring. The *crss-alert* button lamp flashes and the phone displays the calling party's name and extension number. When CRSS-ALERT is flashing on the digital station, the station can still originate calls.

NOTE:
Crisis alert provides ONLY the visual and audible alerts to the digital station. No talkpath is provided between the user and the emergency caller. The crisis alert display overwrites the existing digital station display when the feature is activated. However, any existing calls on the digital station will not be affected (their talkpath is still maintained).

Limitations

Crisis alert provides visual and audible feedback to a maximum of 10 designated digital stations.

The CRSS-ALERT button on the phone must have a lamp associated with it. You cannot assign CRSS-ALERT to a soft key.

For a system configuration specifying *Crisis Alert: Every User Responds*, each Crisis Alert occurrence uses a timer for each CRSS-ALRT button on each digital station and each attendant console assigned to the system. This can cause timer resource contention.

On BRI sets, after the user has pressed CRSS-ALRT to acknowledge a Crisis Alert, the user is still able to hit MENU to bring up the menu options on the display. Although additional presses of CRSS-ALERT will continue to refresh the emergency display, if the user presses EXIT to leave the Menu mode, the set releases and clears the crisis alert.

Pushing the NORMAL MODE DISPLAY will:

- Release the current Crisis Alert occurrence
- Clear the display
- Turn off the button lamp
- Return the phone's display to normal

At this point, the phone is available for any other Crisis Alert occurrences.

Crisis alerts are not queued.

The *Crisis Alert: Every User Responds* configuration handles multiple alerts in the same way as the current attendant crisis alert feature. The request is queued for each digital station with a 5 second timer. If the system requests more than one crisis alert, then all requests are queued. They do not, however, necessarily appear in the order they were initially queued.

The *Crisis Alert: Single User Responds* configuration handles multiple crisis alerts in a first-in, first-out basis, and therefore multiple Crisis Alerts will appear in the order in which they queued.

Interactions

- Terminal Self Administration

  Those users who have the ability to administer their own phones do not have the ability to disable a crisis alert button.

Related Commands and Screens

change system-parameters features

```
                                                          Page 4 of 9

                  FEATURE-RELATED SYSTEM PARAMETERS

SYSTEM PRINTER PARAMETERS
        System Printer Extension: 78700       Lines Per Page: 66
             EIA Device Bit Rate: 9600

SYSTEM-WIDE PARAMETERS
                     Switch Name: SWITCH2

MALICIOUS CALL TRACE PARAMETERS
          Apply MCT Warning Tone? n MCT Voice Recorder Trunk Group: 77

SEND ALL CALLS OPTIONS
       Send All Calls Applies to: station
  Auto Inspect on Send All Calls? y

UNIVERSAL CALL ID
 Create Universal Call ID (UCID)? y  UCID Network Node ID: 10007

CRISIS ALERT: Every User Responds? y
```

change station 78015

```
                                                                Page 3 of 4
                                 STATION

SITE DATA
      Room:                          Headset? n
      Jack:                          Speaker? n
     Cable:                         Mounting: d
     Floor:                      Cord Length: 0
  Building:                        Set Color: black




ABBREVIATED DIALING
    List1: system   List2:         List3:

BUTTON ASSIGNMENTS
 1: call-appr              6: abrv-dial List: 1 DC: 18
 2: call-appr              7:
 3: call-appr              8:
 4: call-pkup              9: crss-alert
 5:                       10:
```

list usage button-type crss-alert

```
            LIST USAGE REPORT

  Located on
  Station Extension   78015      Button 9
  Station Extension   78522      Feat Mod Button 13
```

Daily Wake-Up

Description

The R7 daily wake-up feature allows a hotel guest or an attendant to schedule a wake-up call that will repeat at the same time every day for the duration of the guest's stay. The wake-up call repeats until it is cancelled or reprogrammed.

Limitations

The current limit on the total number of wake-up calls and wake-up calls per 15 minute interval remains the same: 150 for a G3si and 900 for a G3r.

A digital display terminal is required to schedule daily wake-up calls.

A guest cannot modify a wake-up request if it is a daily wake-up, but receives intercept feedback. The guest must contact the attendant to modify the wake-up request.

Interactions

- Call Management System (CMS)

  No new CMS support is needed. If the attendant or guest are ACD agents, the system pegs the reminder and wake-up calls as non-ACD calls (*aux-in* and *aux-out*), with the associated agent state changes for *AUX* calls.

- G3MA/Terranova/Dragon

  New button types are supported.

- Property Management System (PMS)

  The system cancels all pending wake-up requests when a PMS sends a checkout of the room.

- Personal Station Administration (PSA) and Terminal Translation Initialization (TTI)

  If an attendant or guest phone is disassociated and/or re-associated using these features, wake-up requests may not be successfully delivered. If this is a concern, use the **list wakeup-requests** command to generate a report of all requests before activating PSA/TTI features.

Related Commands

- **Change station**
- **Status station**
- **List wakeup-requests**
- **Display-messages auto-wakeup-dn-dst**

Related Screens

change system-parameters hospitality

```
                                                              Page 2 of 3
                              HOSPITALITY

    Dual Wakeups: n   Daily Wakeup: y   VIP Wakeup: n
                    VIP Wakeup Calls Per 5 Minutes: 5___
                  Room Activated Wakeup With Tones? n
          Time of Scheduled Wakeup Activity Report:
           Time of Scheduled Wakeup Summary Report:
 Time of Scheduled Emergency Access Summary Report:

                                  Announcement Type: silence

Length of time to Remain Connected to Announcement: 30
   Extension to Receive Failed Wakeup LWC Messages:
  Routing Extension on Unavailable Voice Synthesis:
          Display Room Information in Call Display?

                          Number of Digits from PMS:
                                    PMS Sends Prefix? n
             Number of Digits in PMS Coverage Path: 3
                           Digit to Insert/Delete:
```

list wakeup-requests

```
                                                              Page 1 of x

                 WAKEUP REQUESTS

     Extension     Time       Annc    Daily   VIP

     xxxxx         xx:xx xM   xxxxx   y       n
     xxxxx         xx:xx xM   xxxxx   n       y
```

Enhanced Modem Interfaces

R7 introduces new internal and external modem interfaces on the G3r that support internal or external modems at speeds up to 9.6K bps.

Description

The on-board modem includes increased throughput to 9600 bps and error control in a "complete modem" implementation.

The external modem connector is a separate cable coming directly out of the System Administration and Maintenance (SYSAM) board. The new SYSAM board (TN1648B) is backward-compatible with the old SYSAM board.

When the TN1648B is operating and the external modem is in use, the internal modem is disabled and vice-versa.

Limitations

Using the TN1648B with an external modem requires new cabling. The external modem is connected to the G3r processor carrier using an RS-232 cable. Total cable length is limited to 50 feet. The existing Auxiliary connector is not affected, except that its Tip/Ring connections need not be used if an external modem is in use.

If an external modem is misconfigured, reset most modems to their factory defaults. Consult the modem vendor's documentation for details on how to reset to factory defaults.

NOTE:
Frequently you can shut the modem off and turn it back on, and the modem defaults will come back up if they have not been overwritten. To bring the modem factory defaults back into the modem's memory, attach a terminal to the modem, type **AT&F** to bring in the factory defaults, and then type **AT&W** to write them into the modem's memory.

During this period, the switch will not be able to report alarms or receive incoming calls from a remote services center.

If one of the SPEs in a duplicated system has a TN1648 circuit pack and the other SPE has a TN1648B, then use only the internal modem in both circuit packs. Attempts to use an external modem may result in maintenance alarms. Lucent Technologies does not support the use of external modems in this configuration.

Administration of an external modem may vary significantly depending on the country and modem manufacturer. If you're installing an external modem, verify that the default modem initialization parameters coincide with the modem that you are installing. Correctly complete appropriate fields according to the administration manual. To be compatible with the data line rate negotiation features provided by the SYSAM board, Lucent Technologies recommends that only V.34 modems be used.

The TN1648B can be installed in older systems that only recognize the TN1648. It will operate, from a software point of view, exactly like a TN1648. In these older systems, use only the internal modem . The modem will still connect at speeds up to 9600 bps.

External modems are only usable with R6.3 and later software loads.

Lucent Technologies recommends the US Robotics Model 839 modem. Default initialization parameters to support this modem are as follows:

Parameter Description	Command String
Enable hardware flow control	&H1
Disable data compression	&K0
No-answer timeout	S7=255
Auto Answer ring count	S0=10

Interactions

- Hayes Modem Compatibility

  The interface to the external modem supports the Hayes AT command set.

- Internal Modem Data Formats

  The required data formats of the internal modem are as follows:

  - Data Mode: Asynchronous
  - Flow Control: Hardware (CTS/RTS)
  - DTE Line Rate: Set Automatically to the modem-to-modem connection rate.
  - Data Bits: 7 or 8 (Default = 8)
  - Parity Bit: none, even, odd, mark, or space (Default = none)

Related Commands and Screens

change system parameters maintenance (internal modem)

```
                                                          Page 3 of 3
                MAINTENANCE-RELATED SYSTEM PARAMETERS

Modem Connection:        internal
       Data Bits:        8
          Parity:        none
```

change system parameters maintenance (external modem)

```
                                                          Page 3 of 3
                MAINTENANCE-RELATED SYSTEM PARAMETERS

       Modem Connection: external
              Data Bits: 8
                 Parity: none

            Modem Name: US Robotics
        RTS/CTS Enabled: H1     Auto Answer Ring Count (rings): S0=10
  Asynchronous Data Mode:                          Dial Type: T
     DTE Auto-Data Speed:           Adjustable Make/Break Ratio: &P0
Disable Data Compression: &K0                      Dial Command: D
    Enable Error Control:                   No Answer Time-out: S7=255
       Misc. Init. Param:
```

Expanded Wait Step for Message Care

On R7 systems with call vectoring, an administrator may now write a vector that will queue a call, wait up to 8 hours, then disconnect the call. The *wait-time* vector step now specifies up to 3 digits of value and selects one of three units: *secs*, *mins*, or *hrs*. However, the feature blocks the user from entering any time value that exceeds 480 minutes (8 hours). If your system is upgraded to R7, vectors that already contain a *wait-time* step are displayed with the unit *secs*.

This enhancement enables you to manage e-mail and faxes through an Automatic Call Distribution (ACD) system, using the phantom call capability of CallVisor® Adjunct-Switch Applications Interface (ASAI) to hold a queue spot for messages in other media.

Description

From the SAT, you can enter a *wait-time* vector step with any units. You set the wait by specifying a numeric value and a unit of time. For example, if you wish to administer a *wait-time* step of 4 minutes, enter a numeric value of 4 and a unit of *mins*.

Here are the different forms of the enhanced *wait-time* command:

- *wait-time* ___ *secs hearing* _____
- *wait-time* ___ *mins hearing* _____
- *wait-time* ___ *hrs hearing* _____

Do not enter fractional and decimal numeric values. For example, if you want to administer a wait-step time of 2.5 hours, you must specify it as 150 minutes.

If you try to enter a time value greater than 8 hours, the system displays an error message and does not accept the input. For example, if you enter 500 minutes, you will receive the error message, "Wait-time cannot go over 480 minutes."

Limitations

The *wait-time* command cannot be administered on *CentreVu*™ CMS or *CentreVu*™ Visual Vectors if you use a unit of *mins* or *hrs*. However, vectors that contain a *wait-time* step with a unit of *secs* are still accessible from *CentreVu* CMS and *CentreVu* Visual Vectors.

Although the enhanced *wait-time* command is intended mainly to be used in conjunction with the Message Care offer, it can also be used for other applications.

The enhanced *wait-time* command provides some support for being able to disconnect a call after 8 hours of waiting. It does not, however, keep you from indefinitely queueing the call. For example, one should not administer the following vector:

```
1. queue-to main skill 5 pri m
2. wait-time 8 hrs hearing silence
3. goto step 2 if unconditionally
```

With such a vector, the call could queue indefinitely or until it was routed to the agent.

Lucent recommends a basic vector like the following in Message Care applications:

```
1. queue-to main skill 5 pri h
2. wait-time 8 hrs hearing silence
3. disconnect after announcement none
```

With this vector, message call queues for 8 hours and then disconnects. Overflow problems are averted.

CAUTION:

If you do not use a wait-time step followed by a disconnect, overflow can happen with call processing.

It is possible to chain vectors together to provide more information. Consider the following scenario:

```
1. queue-to main skill 5 pri 1
2. wait-time 8 hrs hearing silence
3. route to VDN2
```

VDN2 is the extension for VDN2. VDN2 executes the following vector:

```
1. queue-to main skill 5 pri m
2. wait-time 8 hrs hearing silence
3. route to VDN3
```

By routing the call to VDN2, the call is dequeued from the skill. When it enters VDN2, it is requeued for the same skill, thereby resetting the time in queue for this call. By looking at the VDN reports, you can infer that calls answered in the VDN1 report were answered in less than 8 hours, while calls answered in the VDN2 report waited 8–16 hours. If a third VDN, VDN3, is created to execute a similar vector, then calls answered in VDN3 will have had a queue time of 16–24 hours.

Interactions

- Vector Disconnect

  The Vector Disconnect feature automatically ends vector processing and disconnects calls if the vector has been running longer than the administered time. The Vector Disconnect feature has a maximum administered value of 240 minutes. Customers who wish to queue calls for greater than 2 hours should ensure that this timer (on the "change system-parameters features" screen) is disabled. Set the vector disconnect timer to 0.

- Wait-Time to CMS

  Vectors containing *wait-time* steps are displayed by *CentreVu* CMS only if the time unit is administered as *secs*. For example, if a vector contains a wait-step administered for 3 minutes, it is blocked from being sent to *CentreVu* CMS since the time unit was *mins*. For this vector to be accessible by *CentreVu* CMS, the *wait-time* step must be administered as 180 *secs*.

- Wait-Time from CMS

  When administering vectors on *CentreVu* CMS, you can only set the wait up to 999 seconds. When submitted to the ACD, the *wait-time* step is converted and the unit is *secs*.

Related Commands

- **change vector**

Feature Transparency over the Public Network

Instead of using private, dedicated leased lines for feature transparency among nodes of a network, you can use less expensive facilities on the switched public network. This capability is called Feature Plus. The QSIG MWI feature, the Centralized AUDIX call diversion feature, and Feature Plus share much of the same administration. All users must have DID extensions.

In R7 DEFINITY ECS supports the following features:

- *Centralized AUDIX :* Provides the ability to do a simple, one step "coverage" to voice mail. If the voice mail system is unavailable, the call does NOT cover elsewhere.
- *Call Diversion:* Provides the ability to divert — or forward — calls unconditionally, upon busy or no reply, to another extension. This includes forwarding to voice mail.
- *Calling Number ID:* Provides the ability to display the calling party's number to the called party during alerting and after answer.
- *Call Transfer - Basic:* Provides the ability to transfer calls between parties across the public network. Display updates upon transfer complete, however, are NOT supported.

Description

Before R7, you had to use dedicated leased lines to get feature transparency across public networks. In R7, DEFINITY ECS supports the following scenarios:

- As long as users have DID extensions, ARS/AAR shortcut dialing is available.
- Standard calling and connected number display are provided if the public network supports this functionality.
- Call transfer over a public network is provided using the Trunk-to-Trunk transfer feature. Local transfer and transfer out of AUDIX are also available.
- Centralized AUDIX messaging (via coverage or forwarding) is provided, with both the calling and called information passed to AUDIX. Thus, AUDIX can identify the called user to the caller and associate messages with caller information.
- Message waiting indication (MWI) turns a user's message lamp on and off. MWI support is only applicable to AUDIX systems using a BX.25 DCIU link. Refer to "QSIG Message Waiting Indication" on page 86 for more details.

- Call diversion (coverage/forwarding) unconditional, busy, and no-reply is available. The feature supports display updates at the forwarded-to user indicating the call was forwarded. The calling user's display does not indicate whether the call was forwarded. If the public network transports Calling Party Number, caller information is displayed to the forwarded-to user. The forwarded-to user information is displayed to the caller if the public network transports Connected Party Number.

Since most public networks do not support Non-Call Associated Temporary Signaling Connections (NCA-TSC), Feature Plus signaling provides the equivalent functionality by establishing and immediately dropping a basic call to the Feature Plus extension listed on the Feature-Related System-Parameters screen. This extension must have an unrestricted class of restriction and the highest level of class of service to avoid any required authorization for routing. Validating the extension is based on the administered dial plan. This extension is used strictly for Feature Plus signaling, and, as such, cannot be dialed directly.

Diversion

The Diversion Feature allows the called subscriber to redirect a call to another number (diverted-to number), without answering the call. The private networks connect over public networks. In R7, DEFINITY ECS supports only call forwarding (diversion) by forward switching. All calls, regardless of the state of the called user, are diverted to the diverted-to user, by bridging the first leg between the calling and called user to the second leg between the called user and the diverted-to user. Calls are not re-routed.

Called users activate call diversion through a CALL FORWARD button on their phone or via feature access code. Call diversion routes the call over a public network (on an ISDN trunk that is administered for Feature Plus) to a user on a different switch. That user can invoke call diversion and divert the call to another user on another switch connected over a public network.

Message Waiting Feature

The message waiting indicator (MWI) function keeps the status of a user's message waiting indicator correctly updated. Depending on the type of phone, the message waiting indicator might be a lamp or stutter dial tone.

MWI works only when the Message Center is an AUDIX messaging system and there is a DCIU (BX.25) connection between the AUDIX system and the host DEFINITYECS.

Limitations

- ***Serviceability Considerations*** – Features transporting information via Feature Plus signaling will fail on public networks that do not transport Calling/Called Party information. If these features are failing:

  1. Be sure the public network can transport this information and that you subscribe to any required supplementary services.
  2. Verify that the associated DS1 is set for the correct public network signaling protocol.
  3. Because some features require termination at the Feature Plus extension, be sure the extension has been administered on the Feature-Related System Parameters screen.

- ***DCS*** – The new protocol option (supplementary service **f**) is not allowed on trunk groups used for DCS.
- ***Transmission Interface*** – Transport of Feature Plus signaling is ISDN specific and applies to any ISDN trunk (ATM, PRI, and BRI).

Interactions

- Automatic Circuit Assurance

  ACA measurements and referral calls do not apply for calls terminating at the Feature Plus extension.

- Look Ahead Routing (LAR)

  Invoking LAR on a Feature Plus call in order to light MWI lamps can increase congestion .

- QSIG

  SSb (QSIG) and *SSf* (Feature Plus) are mutually exclusive.

- AAR/ARS Overlap Sending/Receiving

  Overlap Sending/Receiving procedures apply to the Feature Plus extension.

- AAR/ARS Shortcut Dialing

  This applies to the Feature Plus extension as well.

- Restriction Features COR/COS

  Associate an unrestricted class of restriction and class of service with the Feature Plus extension.

- Off-Premises Station

  Feature Plus MWI will not work with an off-premises station implemented with a DS1 circuit pack, because then that station cannot receive system message waiting indicators.

- Calling Line Identification Presentation (CLIP)

  If the public network supports CLIP and the called user has subscribed to the service, then caller information will be available to the called user when retrieving messages.

- DCS AUDIX

  Time stamps generated by DCS AUDIX messaging systems record the time the message was received at the Served User according to the time zone in which the Served User PBX is located. Time stamps generated by Feature Plus Centralized AUDIX record the time at the Message Center (Host), which may or not be different from the Served User PBX.

- Call Coverage

  If a call is forwarded off switch, and the terminating switch has call coverage activated and the criteria is met, the call will not go to the forwarding coverage path. It will go to the terminating coverage path.

- Forwarding and Coverage

  If the last coverage point in a coverage path routes the call over an ISDN *SSf* trunk, no Feature Plus diversion information is passed to the coverage PBX.

- Automatic Callback

  If automatic callback was activated before the called voice terminal user activated Call Forwarding over an ISDN *SSf* trunk, the system redirects the callback attempt to the forwarded-to party over the *SSf* trunk.

- Call Park

  If users park a call that was forwarded or diverted to them from an ISDN *SSf* trunk to that extension, the call is normally parked on the forwarded-to extension and not the forwarding extension (called user) of the ISDN *SSf* trunk.

- CDR

  Since Feature Plus extension signaling is provided via basic calls, customers can be charged for these calls. Therefore, CDR records are generated for calls terminating at the Feature Plus extension.

Related Commands and Screens

At the host switch, called the Message Center switch, complete the administration as stated for the QSIG MWI feature, with the *MWI - Number of Digits per AUDIX subscriber* field on the Feature-Related System Parameters screen.

change system-parameters customer options

```
                              OPTIONAL FEATURES

                          ISDN Feature Plus? y
                            ISDN-BRI Trunks? n  Restrict Call Forward Off Net? y
                                  ISDN-PRI? y          Secondary Data Module? y
                       ISDN-PRI over PACCON? n                       Softlock? n
                       Malicious Call Trace? n          Station and Trunk MSP? n
                        Mode Code Interface?              Tenant Partitioning? n
                     Multifrequency Signaling? y    Terminal Trans. Init. (TTI)? n
Multimedia Appl. Server Interface (MASI)? n             Time of Day Routing? y
        Multimedia Call Handling (Basic)? n           Uniform Dialing Plan? y
     Multimedia Call Handling (Enhanced)? n   Usage Allocation Enhancements y
           Personal Station Access (PSA)? n
                         Wideband Switching? n
                                  Wireless? n
                Processor and System MSP? y
                      Private Networking?
```

NOTE:
You must log off & log in to effect the permission changes.

change system-parameters features

```
                                                          Page 6 of 9 SPE A

                    FEATURE-RELATED SYSTEM PARAMETERS

ISDN PARAMETERS

   Send Non-ISDN Trunk Group Name as Connected Name? y
   Display Connected Name/Number for ISDN DCS Calls? n
         Send ISDN Trunk Group Name on Tandem Calls? n

                                  QSIG TSC Extension: 78569
                                   Feature Plus Ext.: 78525
                 Path Replacement with Measurements? y
      MWI - Number of Digits Per AUDIX®  Subscriber: 5
```

change communications-interface processor channel

```
change communication-interface processor-channels          Page 1 of 16 SPE A
                    PROCESSOR CHANNEL ASSIGNMENT
Proc                Gtwy      Interface    Destination      Session      Mach
Chan Enable  Appl.  To  Mode Link/Chan  Node        Port Local/Remote     ID
 1:    y     mis             3    1                0      1     1
 2:    n                                           0
 3:    n                                           0
 4:    n                                           0
 5:    n                                           0
 6:    n                                           0
 7:    y     dcs             5    7                0      7     7        6
 8:    n                                           0
 9:    y     AUDIX®          5    9      Intuity   0      9     9        4
 10:   y     qsig-mwi        5    10               0      10    10       1
 11:   y     fp-mwi          2    8                2      12    2        2
 12:   n                                           0
 13:   n                                           0
 14:   n                                           0
 15:   n                                           0
 16:   n                                           0
```

change trunk group xx

```
                                                          Page 1 of 22 SPE A
                              TRUNK GROUP

Group Number: 95               Group Type: isdn            CDR Reports: n
  Group Name: Feature Plus            COR: 1                TN: 1  TAC: 195
   Direction: two-way    Outgoing Display? n
 Dial Access? y            Busy Threshold: 255          Night Service:
Queue Length: 0
Service Type: tandem                                     TestCall ITC: rest
                    Far End Test Line No:
TestCall BCC: 4
TRUNK PARAMETERS
        Codeset to Send Display: 6       Codeset to Send TCM,Lookahead: 6
       Max Message Size to Send: 260
Supplementary Service Protocol: f     Digit Handling (in/out):enbloc/enbloc

           Trunk Hunt: cyclical                QSIG Value-Added Lucent? n
    Connected to Toll? n  STT Loss: normal           DTT to DCO Loss: normal
Calling Number-Delete:      Insert:                 Numbering Format:
             Bit Rate: 1200   Synchronization: async            Duplex: full
 Disconnect Supervision - In? y Out? n
 Answer Supervision Timeout: 0
```

change signaling group

```
                                                                  Page 1 of 1
                                SIGNALING GROUP

  Group Number: 1
               Associated Signaling? y             Max number of NCA TSC: 10
                  Primary D-Channel: 01B0524        Max number of CA TSC: 10
            Trunk Group for NCA TSC:
  Trunk Group for Channel Selection:
     Supplementary Service Protocol: f
```

change mwi-prefixes

```
change isdn mwi-prefixes                              Page 1 of 1 SPE A
        MESSAGE WAITING INDICATION SUBSCRIBER NUMBER PREFIXES

Machine Inserted  Routing AUDIX®   Machine Inserted  Routing  AUDIX®
ID      Digits    Digits  Mach ID  ID      Digits    Digits   Mach ID

  1:              556     1        11:
  2:                               12:
  3:                               13:
  4:                               14:
  5:                               15:
  6:                               16:
  7:                               17:
  8:                               18:
  9:                               19:
  10:                              20:
```

change hunt group

```
change hunt-group 10                                  Page 1 of 10 SPE A

                               HUNT GROUP

          Group Number: 10                               ACD? n
            Group Name: feature plus hunt group        Queue? n
     Group Extension: 78050                          Vector? n
          Group Type: ucd-mia                 Coverage Path:
                  TN: 1          Night Service Destination:
                 COR: 1                    MM Early Answer? n
       Security Code:
  ISDN Caller Display:
```

```
change hunt-group 10                                  Page 2 of 10 SPE A
                               HUNT GROUP

                        Message Center: fp-mwi
                    Voice Mail Number: 7775300<-number of message center hunt group
Routing Digits(e.g.AAR/ARS Access Code): 8
 Calling Party Number to INTUITY AUDIX ? n



                           LWC Reception: none
```

```
                                                          Page 3 of 10 SPE A
                                  HUNT GROUP
         Group Number: 10  Group Extension: 78050   Group Type: ucd-mia
 Member Range Allowed: 1 - 200  Administered Members (min/max): 0 /0
                        Total Administered Members: 0
GROUP MEMBER ASSIGNMENTS
       Ext   Name                        Ext   Name
 1:  <- fp-mwi hunt group      14:
 2:  gets no members           15:
 3:                            16:
 4:                            17:
 5:                            18:
 6:                            19:
 7:                            20:
 8:                            21:
 9:                            22:
 10:                           23:
 11:                           24:
 12:                           25:
 13:                           26:

 At End of Member List
```

Four-Digit Feature Access Codes

Description

The maximum length of feature access codes has been increased from 3 digits to 4 digits in release R7.

No additional administration is required. Administer 4-digit feature access codes the same way as 3-digit codes. More consideration must be given to advance planning, however, for feature access codes and the various features that use them.

Limitations

You must administer at least a 4-digit dial plan to use 4-digit feature access codes.

Related Commands

- **Change feature-access-codes**
- **Change dialplan**

IP Trunk

Description

The Internet Protocol (IP) trunk interface on the TN802 MAPD is designed to send voice and fax from DEFINITY ECS through an intranet to another DEFINITY ECS that has this feature or to other vendor's switches that are equipped with Lucent's Internet Telephony Server-Enterprise (ITS-E). To DEFINITY ECS, the MAPD provides a DS1 CAS signaling trunk interface. To the intranet, the MAPD provides TCP signaling for call setup and UDP signaling to carry voice and fax data.

Administer the MAPD with the correlation between telephone numbers and IP addresses for destinations it can reach. The MAPD continuously monitors performance of the network between itself and the administered destinations. If the transmission quality across the IP network to any particular destination is not acceptable for voice or fax calls, the MAPD shows the entire trunk group used for that destination as unavailable. ARS software can then choose an alternate route for calls, until the intranet performance is acceptable and the MAPD marks the trunks as available again.

The MAPD offers only real-time fax over IP, not store-and-forward fax. In other words, fax transmissions are blocked unless the intranet's performance is good enough when the fax is sent that the fax machines involved will not time out because of packet delays.

Configuration/Environment

Network Configuration

To avoid problems with voice distortion or delay during repeated compressions and decompressions, Lucent Technologies recommends that networks be set up to avoid more than 3 conversions between analog and digital transmission in a single voice connection. Examples of conversons include:

- routing a call over an IP or an ATM trunk
- recording a call on INTUITY AUDIX
- playing a call back from INTUITY AUDIX

When different CODECs (COmpression/DECompression protocols) are used in the path of a single call, differences between CODECs may degrade call quality. In such cases, quality may be reduced even if there are fewer than 3 conversions in a call's path.

Cabinet Configuration

If you use logical board administration to enter a TN802, the switch reserves 3 slots for the board. As with previous MAPD circuit packs, the TN802 should not be placed directly above or below another MAPD circuit pack or ATM circuit pack. The packs may overheat if a cabinet is configured this way.

Lucent Technologies strongly recommends UPS protection, as NT is more likely to be damaged by a power failure than DEFINITY ECS.

Software Version/Configuration

This feature requires: DEFINITY ECS R7 software, Microsoft Windows NT 4.0 Server software (comes with the TN802 MAPD), and pcANYWHERE Release 8 or later software. ARS or AAR networking software on DEFINITY ECS is required if you want to re-route calls over the public switched telephone network when intranet performance is unacceptable.

Limitations

- ***Automatic callback*** – Automatic callback does not work on DCS over IP trunks.
- ***Dialed digit formats (used by routing patterns & abbreviated dialing)*** –Do not put digit string format characters such as ~w, ~p, +, and so on in dialed digit strings via the routing pattern screens or abbreviated dialing screens. Only digits are sent to the MAPD, in downlink messages.
- ***Extended trunk access*** – To avoid problems with voice distortion or delay during repeated compressions and decompressions, Lucent Technologies recommends that networks be set up to avoid more than 3 conversions between analog and digital transmission in a single voice connection. Refer to ‘‘Network Configuration’’ on page 61.
- ***Extension number portability*** – Lucent Technologies recommends that networks be set up with no more than 3 packet trunk hop connections in serial for a single voice connection.
- ***Facility Test Call*** – Facility test calls do not work with IP Trunk.
- ***ISDN*** – An IP Trunk is not an ISDN trunk on DEFINITY ECS R7 software; therefore, ISDN features such as 10-digit number display, QSIG , and path replacement do not work over IP trunk in R7.
- ***Line side DS1 & DS1 OPS lines*** – An IP trunk is not a line side DS1 trunk, though it is partially administered through the DS1 Circuit Pack screen.

- ***Remote access to IP Trunk*** – There is no support for expert systems access to the IP trunk application. There is no support for incoming telnet. If you need command line access, you must access the system :
  - through pcANYWHERE, and bring up a Windows NT command line window
  - through a dial-up connection, using PPP and a command line interface
- ***Tandem Calls*** – For ordinary non-tandem outbound calls, call progress information is sent from the called destination over the intranet to the calling MAPD. The calling MAPD in turn generates call progress tones towards the switch. This operation is the same that the ITS-E uses. However, if a call leaves the switch over an IP trunk, then tandems through a second switch before eventually terminating at a third switch, there is a chance that the call progress tones that the calling party hears will be generated by the third switch. Whether that happens or not depends on the signaling protocol used between the 2nd and 3rd switches. If the third switch generates the call progress tones, the tones will be sent in-band over the intranet back to the calling party. That means that the tones will be compressed into IP packets and then re-expanded. The compression algorithm used by IP Trunk handles voice well, but it can distort tone cadences. The tones heard by the calling party may have different cadences than usual.

Security Considerations

- ***pcANYWHERE*** – pcANYWHERE should be configured so that the MAPD running the IP Trunk application satisfies the requirements contained in the Security Standards Checklist to the extent that it's possible. pcANYWHERE provides a mechanism for security features such as:
  - Implementing mandatory call-back to a pre-administered phone number
  - Connection logging
  - Anti-login hacking features
  - Data stream encryption to deter interception of passwords and logins

- ***Microsoft Windows NT 4.0 Operating System*** – The IP Trunk application runs under the Microsoft Windows NT 4.0 Server operating system. The Windows NT operating system will not be modified, but all available options and features within the Windows NT operating system should be activated in such a way as to meet or exceed the requirements of the Security Standards Checklist. The NT operating system should be installed and administered according to industry-standard NT security guidelines and according to ITS-E security guidelines. The operating system itself should be periodically updated against newly discovered security flaws as requested by Lucent Technologies.
- ***No Access Security Gateway*** – Login access to the MAPD is not protected by the Access Security Gateway (formerly Softlock) feature.

Interactions

- Abbreviated Dialing

  IP trunks drop the digits after a pause in an abbreviated dial string.

- Automatic callback

  Automatic callback does not work on DCS over IP trunks.

- Call coverage

  Calls that route to multiple endpoints via call coverage, forwarding, and transfer, including coverage to voicemail, experience lower voice quality over an IP trunk network.

- Conferencing

  Multiple parties conferenced over IP trunks experience delay during conversation.

- Coverage of Calls Redirected Offnet (CCRON)

  CCRON does not work over IP trunk.

- Directory

  Integrated directory information does not appear on display phones connected via IP trunks.

- Facility Test Call

  You can't use Facility Test Calls to test IP trunk ports.

- ISDN

  ISDN features such as 10-digit number display, QSIG , and path replacement do not work over IP trunk.

Cross-Product Compatibility

- ***Call Detail Recording (CDR) Adjuncts*** – Both the switch and the IP Trunk application maintain separate CDR records for each call over IP trunks. These records are in different formats.

  CDR is defaulted OFF on the IP Trunk application. Lucent Technologies recommends that you leave it on the IP Trunk application and use only the CDR record feature on DEFINITY ECS. This configuration provides a single set of CDR records for all trunks, and you don't have to put in place an additional method for backing up CDR data. However, if you need to access IP Trunk CDR records over a LAN, then you should enable the CDR feature on the IP Trunk application.

  CDR files will have a limited size on the IP trunk application. There are two parameters that can be set on IP Trunk to accomplish this.

  The first is the *No new File Will Be Created When Free Disk Space Reaches* parameter. This allows you to specify the minimum free disk space on drive D (the drive on which logs are stored), which, when reached, will stop creation of service log files such as CDR files. The default value is 50 megabytes. You can enter any value within the range of 10 to 1500 megabytes.

  The second is the *Log Properties* parameter. This allows you to set a maximum log file size. You can enter a value between 1 and 100 megabytes. When a log file such as a CDR file reaches this setting, the application will create a new log file. As it is, if this value is not exceeded, a new log file for CDR records is created every day.

- ***Clock*** – The clock on NT can be set from pcANYWHERE.
- ***Call Management System (CMS)*** – CMS treats IP trunks just like any other trunk.
- ***Internet Telephony Server*** – The IP Trunk application running on MAPD can make calls to and receive calls from the Lucent Technologies ITS-E.
- ***INTUITY AUDIX*** – An analog/digital conversion takes place when messages are recorded on or retrieved from INTUITY AUDIX. If callers can use IP trunks to access AUDIX, carefully monitor message quality to ensure that it is acceptable.
- ***Microsoft NetMeeting and other H.323 adjuncts*** – NetMeeting can make a call to a MAPD running the IP Trunk application, which then passes the DEFINITY ECS containing the MAPD. That switch may in turn route the call off-premises, depending on how the IP Trunk application and the switch are configured. In R7, calls cannot be made from a telephone through the switch to an H.323-compliant PC.

- ***Other switches*** – This feature can connect to any other vendor's switch that has a Lucent Technologies ITS-E adjunct connected to it.
- ***Remote Administration and Maintenance Tools*** – Three mechanisms are supported for remote access within Windows NT.

  1. A dial-up connection using PPP and a command line interface.
  2. A dial-up connection using PPP and pcANYWHERE or its equivalent to provide a graphical user interface.
  3. A TCP/IP network connection that also supports pcANYWHERE .

  Where a network connection is available, the full TCP/IP networking services provided by NT are available. This means that functions such as cross mounting of disk drives and network printing are supported. The MAPD appears as a computer on the LAN to which it is connected. In general, remote access to MAPD running Windows NT requires a computer running Windows 95 or Windows NT. There are some instances where a Windows computer is not required (for example, serial access to NT management functions). Other cases, such as using pcANYWHERE with CAS, require a Windows PC to run pcANYWHERE .
- ***pcANYWHERE*** – This feature requires use of pcANYWHERE to administer the IP trunk application on the MAPD.
- ***DS1 CPE Loopback Jack*** – The DS1 CPE Loopback Jack does not work with IP trunks.

Related Commands

- **change/add ds1**
- **add/change trunk**
- **change circuit pack**
- **display port**
- **list configuration all**
- **display alarms**
- **display error**

Related Screens

add DS1

```
                          DSI CIRCUIT PACK

            Location:                            Name:
            Bit Rate:1.544                Line Coding: ami-zcs
   Line Compensation:3                   Framing Mode: d4
      Signaling Mode:robbed-bit

 Interface Companding:mulaw
           Idle Code:11111111

               MAINTENANCE PARAMETERS
   Slip Detection?n
```

```
                          DSI CIRCUIT PACK

           Location:                            Name:
           Bit Rate: 2.048               Line Coding: ami-zcs
  Line Compensation: 3                   Framing Mode: d4
     Signaling Mode: common-chan

Interface Companding: mulaw
          Idle Code: 11111111

              MAINTENANCE PARAMETERS
  Slip Detection?n          Near End CSU type:other
```

There are no changes to the trunk group screen for this development. In particular, there are no restrictions on mixing other kinds of trunks with IP trunks in the same trunk group. However, the trunk group screen must be administered as shown below in order for the IP trunk application on the MAPD to run properly. If the screen is administered with entries other than those shown here, Lucent Technologies will not guarantee the results. Entries depend on the switch configuration, but the Trunk Type (in/out) field is recommended to be **wink/wink** for compatibility with ITS-E.

change trunk-group

```
                                                              Page 1 of x.

                                TRUNK GROUP

Group Number:                Group Type: tie            CDR Reports:
  Group Name:                         COR:       TN:              TAC: 105
   Direction: two-way Outgoing Display?       Trunk Signaling Type:
 Dial Access?           Busy Threshold:99             Night Service:
Queue Length: 0                                 Incoming Destination:
   Comm Type: voice       Authcode:n
 Trunk Flash? n
         BCC: 0

TRUNK PARAMETERS
 Trunk Type (in/out): wink/wink  Incoming Rotary Timeout(sec): 5
  Outgoing Dial Type: tone                 Incoming Dial Type: tone
   Wink Timer (msec): 300            Disconnect Timing (msec):500
     Digit Treatment:                                 Digits:
                             Sig Bit Inversion: none

  Connected to Toll?n      STT Loss:normal   DTT to DCO Loss:normal
 Incoming Dial Tone?y

Disconnect Supervision - In?y Out?n
 Answer Supervision Timeout:0        Receive Answer Supervision?y
```

```
                                                              Page 2 of x

                            TRUNK FEATURES

      ACA Assignment? n           Measured: internal
                                Internal Alert? n      Maintenance Tests? n
                              Data Restriction? n
                                Glare Handling? none
           Used for DCS? n
   Suppress # Outpulsing? n
         Seize When Maintenance Busy: neither-end
```

```
                                                              Page 3 of x

                              TRUNK GROUP

ADMINISTRABLE TIMERS
 Incoming Disconnect (msec):                 Outgoing Disconnect (msec):
 Incoming Dial Guard (msec):                 Outgoing Dial Guard (msec):
 Incoming Disconnect (msec):                Outgoing Glare Guard (msec):
                                         Outgoing Seizure Response (sec):
Programmed Dial Pause (msec):              Disconnect Signal Error (sec):
                                    Incoming Incomplete Dial Alarm (sec):

END TO END SIGNALING
         Tone (msec):350                         Pause (msec):150

OUTPULSING INFORMATION
PPS:           Make (msec):      Break (msec):
```

Multiple Locations Support

DEFINITY ECS G3r can support up to 44 expansion port networks (EPN) in different time zones, using either an ATM wide-area network or DS1 remoting to connect the EPNs. You can have a single switch spread out across widely dispersed locations.

In addition to the standard entries for ARS analysis, digit conversion, and toll analysis that apply to all users, special tables are required for each location to support "local" calling (including 911 calls). Administer each location to have its own time zone (as an offset from the system time) and daylight savings time plan. Touch-tone receivers have been modified to search within their own EPN for suitable circuit packs to use before looking in port networks located elsewhere.

Refer to ‘‘System Clock Enhancements’’ on page 94 for information on administering system time across a network of switches that reside in different time zones.

Description

In R7, ARS analysis, digit conversion, and toll analysis administration has been changed to allow location-specific translations. This means that each port network can now be assigned to a “location” (using the *change locations* command), and the location number can then be entered on the “change ars analysis/digit-conversion/toll” command line to build ARS translations specific to that port network.

There is now a "default" location (location "all") that can be used to build default system-wide ARS translations. If there are no location-specific ARS translations, ARS will use the default location translations to route the call. If there are location-specific translations, ARS will search both the location-specific ARS tree as well as the default ARS tree and will choose the entry that best matches the dialed string. ARS selects the translation entry to use based on the *Best Match Rule* as follows:

1. If either search returns a "dial string not found" result, the results of the other search is returned.
2. If both searches find a match, the entry that matched the longer dial string is returned. If the matched dial strings are of equal length, the given location's entry is returned, not the "all locations" or default entry.

The *route pattern* field on the ARS analysis screen now accepts either a route pattern (1-640), an RHNPA index (r1-R32), node, deny, or a partition route table index (p1-p2000). The latter is a change to how AAR/ARS partitioning is administered. A partition number is no longer accepted as a command-line qualifier for the AAR/ARS commands. All partition information has been moved to a new table, the Partition Route Table, which is administered on a new screen (*change partition-route-table <index #>*). The partition route table then allows a route pattern, RHNPA index, node, or deny for each partition group number in that table index.

These changes are necessary for the following reason: In areas using the North American numbering plan, problems with local call routing may occur when the EPN and PPN are in different area codes (NPA). In that situation, the same 7-digit local number might exist in two NPAs, and both numbers might exist within the switch's local calling area. As an example, if the PPN is in Area Code 404 and the EPN is in Area Code 505, dialing 567-1111 means two different things, depending on which port network you're calling from. If you are in the PPN, you're trying to reach (404) 567-1111; in the EPN you're trying to reach (505) 567-1111.

With multiple locations support, ARS translations can now exist for each port network. The ARS route-selection software now searches two sets of ARS translations — the originator's location-specific translations and the default translations — and picks the entry that best matches the dialed string. If the same dial string/min/max exists in both the location-specific translations and the default translations, the location-specific entry is chosen. Otherwise, the best-match entry is picked.

The partitioning translations have been moved from the AAR/ARS analysis screen and onto their own screen, which is the Partition-Route-Table screen.

The AAR/ARS analysis screen's "route pattern" field now has a new type of entry, a partition-route-table index, in addition to its existing route-pattern, RHNPA, node, and deny options. In order to distinguish a route-pattern entry from a partition-route-table index, pre-pend a "p" if the entry is a route-pattern, and a number if the entry is a partition-route-table index.

If you upgrade to R7, the partitioning information is moved to the Partition Route Table, and the AAR/ARS analysis entry is pointed to the automatically-created partition-route-table entry. Existing AAR/ARS translations are preserved as the default-location entries. You must create location-specific ARS translations. If you use use neither ARS Partitioning nor location-specific ARS routing, only the default-location ARS translations will exist, and none of them will point to a partition-route-table entry.

ARS Digit Conversion

ARS digit conversion continues to take precedence over digit analysis when the system is searching any location's ARS translations for a dial string match. That is, if a dial string match is found in both the ARS digit conversion translation and the ARS analysis translations for a given location, the digit conversion entry is chosen instead of the analysis entry.

However, after searching the given location's ARS translations and the "all locations" ARS translations, the "best match" rule is used to select which entry to return. This means an ARS analysis entry for a given location may be returned over a digit conversion entry for "all locations" when the given location's matched dial string is equal to or longer than the "all locations'" matched dial string. The reverse is also possible if the "all locations'" matched dial string is longer than the given location's matched dial string.

If both searches returned a digit conversion entry, the "best match" rule is used to select which digit conversion entry to use.

The desired digit conversion behavior can be achieved by populating each location's digit conversion translations accordingly.

Digit Analysis and Route-Pattern Selection

The given location is used to select which location's ARS analysis translations are searched and compared to the results of the "all locations" ARS analysis translations search. The Best Match Rule determines the selected entry.

Toll Analysis

The given location is used to select which location's ARS toll analysis translations are searched and compared to the results of the "all locations" ARS toll analysis translations search. The Best Match Rule determines the selected entry.

Outgoing Trunk Calling, Call Forwarding, and Call Coverage

For simple outgoing trunk calling, the originator's location is used to select which location's ARS analysis translations are searched and compared to the results of the "all locations" ARS analysis translations search. The physical equipment location determines the originator's location. Each port network is assigned a location on the cabinet screen.

If the call is being forwarded or covered off-net, the forwarded or covered station's location is used (instead of the originator's location) because the call is routed as if the forwarded or covered station was dialing.

The same goes for permissions and partition group number. If the call is being forwarded or covered off-net, the forwarded (or covered) station's permissions and partition group number are used.

Hunt Group Forwarding, Look-Ahead Interflow, Vector Routing, and ASAI Redirection While Ringing

All of these features may route calls off-net. In all these cases, the originator's location is used to determine which ARS translations to search and compare to the "all locations" translations.

Within the North American numbering plan, note that calls routed off-net to a 7-digit destination may be routed differently due to differences in the ARS translations for the various locations. For these reasons, these features should *not* use 7-digit destinations for re-routing calls. Note that this is a problem only for 7-digit destinations within the North American numbering plan. If the desired routing behavior cannot be achieved using 7 digits, these features should use 10-digit destinations for all calls. This eliminates the possibility of calls being routed to the wrong HNPA.

Wireless Stations, X-Port (or AWOH), Modem Pools, QSIG Call Diversion, Administered Connections, and TSCs

All of these features originate and/or forward calls without being associated with any particular location. In all these cases, only the "all locations" ARS translations are searched because there is no specific location involved in the call.

Note that if a 7-digit off-net destination is dialed, ARS will probably deny the call because 7-digit destinations will be typically translated only in the location-specific tables. For this reason, these features should use only 10-digit destinations when multi-location ARS is in use.

Remote Access

When a remote access trunk originates a call, the trunk's location determines which location's ARS translations to search.

Multi-Location HNPA

Home NPA administration has been enhanced that previously was found on the Dial Plan screen. It allows each location to be assigned its own Home NPA.

Trunk Digit Outpulsing

DEFINITY ECS must determine whether to insert the originator's HNPA before outpulsing the digits on a 7-digit call. It does this by comparing the originator's HNPA with the outgoing trunk's HNPA. If the two are different, the switch inserts the originator's HNPA so that the call gets routed back to the originator's HNPA by the public network. The originator's HNPA is now determined by their location. If the call is being forwarded or covered off-net, the switch uses the forwarded (or covered) station's location's HNPA (instead of the originator's) because the call is routed as if the forwarded (or covered) station is dialing.

If a 10-digit off-net destination is being used to route the call to a route pattern with the same HNPA, DEFINITY ECS automatically deletes the NPA digits and outpulses the remaining 7 digits as a local call. If the 10-digit dialing is required for all calls (local as well as toll), the HNPA assigned to the route pattern should be blank so that the dialed NPA never matches the route pattern's HNPA and all dialed digits are outpulsed.

Station Displays

DEFINITY ECS uses HNPA translations to determine which display format to use for the calling number display. The North American "xxx-xxxx" (7-digit) and "xxx-xxx-xxxx" (10-digit) formats are used when the HNPA is not blank. Otherwise, the European format ("xxxxxxx…") is used. The terminating station's location determines whether the location has a non-blank HNPA.

Limitations

- Multiple Locations feature can be used only on the G3r.
- All port networks of the switch must reside within a single country.

Related Commands

- **Change location**
- **Change AAR analysis**
- **Change ARS analysis**
- **Change partition group**
- **Change route pattern**

Related Screens

change locations

```
                                                        Page 1 of 3 SPE B
                                LOCATIONS

        ARS Prefix 1 Required For 10-Digit NANP Calls? n

Number  Name          Timezone  Daylight-Savings    Number Plan
                       Offset   Rule                Area Code
 1      Denver         + 00:00  1                   303
 2                         :
 3                         :
 4                         :
 5                         :
 6                         :
 7      San Francisco - 01:00  1                   510
 8      CO Springs     + 00:00  1                   719
 9                         :
10                         :
11                         :
12                         :
13                         :
14                         :
```

change ars digit-conversion

```
change ars digit-conversion 556                        Page 1 of 2 SPE B
                        ARS DIGIT CONVERSION TABLE
                              Location: all             Percent Full: 2

 Matching Pattern  Min  Max  Del  Replacement  String  Net Conv ANI Req

 556                7    7    2                        ext  n        n
                                                                     n
                                                                     n
                                                                     n
                                                                     n
                                                                     n
                                                                     n
                                                                     n
                                                                     n
                                                                     n
                                                                     n
                                                                     n
                                                                     n
```

change aar digit-conversion

```
                                                          Page 1 of 2 SPE A
                        AAR DIGIT CONVERSION TABLE
                                                           Percent Full: 3

 Matching Pattern  Min  Max  Del  Replacement String  Net  Conv  ANI Req

 3035558666        14   14   10   665                aar  n          n
 3035558685        12   14   10   665                aar  n          n
 510               11   11   7    5                  aar  y          n
 551               7    7    3    2                  ext  n          n
 555               7    7    2                       aar  n          n
 5553038685        12   14   10   665                aar  n          n
 x11               3    3    0                       ars  y          n
```

display aars toll 1:303

```
                                                          Page 2 of 2 SPE A
                          ARS TOLL TABLE: 1
                        OFFICE CODES: 300-399



00: y  10: y  20: y  30: y  40: y  50: y  60: y  70: y  80: y  90: y
01: y  11: y  21: y  31: y  41: y  51: y  61: y  71: y  81: y  91: y
02: y  12: y  22: y  32: y  42: y  52: y  62: y  72: y  82: y  92: y
03: y  13: y  23: y  33: y  43: y  53: y  63: y  73: y  83: y  93: y
04: y  14: y  24: y  34: y  44: y  54: y  64: y  74: y  84: y  94: y
05: y  15: y  25: y  35: y  45: y  55: y  65: y  75: y  85: y  95: y
06: y  16: y  26: y  36: y  46: y  56: y  66: y  76: y  86: y  96: y
07: y  17: y  27: y  37: y  47: y  57: y  67: y  77: y  87: y  97: y
08: y  18: y  28: y  38: y  48: y  58: y  68: y  78: y  88: y  98: y
09: y  19: y  29: y  39: y  49: y  59: y  69: y  79: y  89: y  99: y
```

display partition-route-table 1

```
                                                                SPE A
                      PARTITION ROUTING TABLE

                           Routing Patterns
Route
Index  PGN 1 PGN 2 PGN 3 PGN 4 PGN 5 PGN 6 PGN 7 PGN 8
-----  ----- ----- ----- ---- ----- ----- ----- -----
 1
 2
 3
 4
 5
 6
 7
 8
 9
10
11
12
13
14
15
```

Octel® Message Servers: New Terminal Types

Two new voice terminal emulation types, 7405ND and 7434ND, can be administered on the station screen. When either is administered, DEFINITY ECS sends extension number information to these ports when calls are redirected from a called station, without the alphabetic characters normally used to provide calling party information.

These new terminal emulation types are to be used with Octel® message servers, and the ports are directly connected to Octel message servers instead of to voice terminals. This configuration allows customers to use names in place of extension numbers in the DEFINITY integrated directory without regard to the effect on Octel systems.

Description

The 7405ND administration screen is the same as the 7405D terminal administration screen. The 7434ND administration screen is the same as the 7434D terminal administration screen.

These terminal types are only allowed if the 7405ND or 7434ND Numeric Terminal Display fields are enabled on the Feature-Related System Parameters screen.

NOTE:
You can enable the 7405ND or the 7434ND Numeric Terminal Display fields, but not both.

Limitations

- The 7405ND and 7434ND terminal types are for connection to Octel message servers only and cannot be used as actual voice telephones.
- Administer 7405ND and 7434ND terminal types on the TN754B circuit pack only.

Interactions

The 7405ND and 7434ND terminal types are compatible have the same feature interactions as the 7405D and 7434D terminal types.

Related Commands

- **change system-parameters features**
- **change station**
- **list station**
- **duplicate station**

Related Screens

change system-parameters features

```
change system-parameters features                              Page 5 of 9
                        FEATURE-RELATED SYSTEM PARAMETERS

         Public Network Trunks on Conference Call: 5          Auto Start? n
    Conference Parties with Public Network Trunks: 6           Auto Hold? n
 Conference Parties without Public Network Trunks: 6      Attendant Tone? y
         Night Service Disconnect Timer (seconds): 180     Bridging Tone? n
                  Short Interdigit Timer (seconds): 3     Conference Tone? n
              Unanswered DID Call Timer (seconds): ____   Intrusion Tone? n
              Line Intercept Tone Timer (seconds): 30
                                DID Busy Treatment: tone
               Allow AAR/ARS Access from DID/DIOD? _
                 Allow ANI Restriction on AAR/ARS? _

                   7405ND Numeric Terminal Display? n       7434ND? n
                             Transfer Upon Hang-Up? n

DISTINCTIVE AUDIBLE ALERTING
             Internal: 1   External: 2   Priority: 3
                           Attendant originated Calls:_ ________
    DTMF Tone Feedback Signal to VRU - Connection: _    Disconnection: _
```

Octel® Message Servers: Integration

Description

For integration with DEFINITY ECS, Octel message servers require ports on the TN754B 8-port, 4-wire DCP circuit pack. The ports interface to Octel Voicebridge integration devices or Octel FLT-A boards on the Octel server, depending on the integration method.

Refer to "Octel® Message Servers: New Terminal Types" on page 76 for information on the voice terminal emulation types DEFINITY ECS uses for integration with Octel message servers.

Octel message servers can use one of several different integration methods, including:

- Octel 250 message server: uses an Octel FLT-A circuit card or Voicebridge 2 integration device
- Octel 350 message server: uses an Octel FLT-A circuit card or Voicebridge 2 integration device
- Octel 200 and 300 (formerly VMX 200 and 300) message server: uses an Octel ATI1C circuit card or an Octel APIC circuit card
- Octel 100 message server or Lucent Messaging 2000: uses a PC platform
- Unified Messenger Platform: uses a PC platform based on Microsoft Exchange (LAN)

The FLT-A, PIC-A, ATI1C, and APIC integrations emulate 7405D sets. Voicebridge 2 integration, when implemented in the preferred "Bridge Mode," emulates 7434D sets. When used in the "Transfer Mode," administer the port as a 7405ND. When used with the "Bridge Mode," administer the port as a 7434ND.

This feature allows Octel messaging servers to be shared across a network, typically over DCS when the DCS Call Coverage feature is activated.

Refer to Octel message server documentation for more information.

Related Commands

- **change system-parameters features**
- **change station**
- **list station**
- **duplicate station**

QSIG Called/Busy Number ID

QSIG Called/Busy Number ID allows DEFINITY ECS to pass Called/Busy Number ID information between QSIG and DCS nodes in a private network. In some cases, DCS must interpret the called number from the dialed digits.

Description

QSIG-VALU is a general term that describes the DCS features "ported" to work in a QSIG network consisting of DEFINITY ECS systems. The messaging needed to implement the DCS-like feature transparency uses the Manufacture Specific Information (MSI) encoding provided by the QSIG standards. This encoding allows QSIG-VALU features to work between DEFINITY Enterprise Communication Servers in a QSIG network, even if the intervening connection includes other vendor's switches.

The Called/Busy Number feature is an extension to the QSIG Called/Busy Name feature. On a call over a QSIG network, the name and number of the called party display on the caller's phone, analogous to the display callers see on calls to users on the same DEFINITY ECS. The display confirms that the caller dialed the right number.

Limitations

QSIG-VALU is a set of proprietary enhancements to QSIG and works only on QSIG networks. All systems in the QSIG network must support enough of the QSIG standard to pass MSI transparently if it is received in call control messages or supplementary service messages.

The Called/Busy Number function has the following limitations:

- It is not displayed alone. This differs from the way Calling Numbers and Connected Numbers are handled. For example, if a Calling Number is received without a Calling Name, it is displayed with the words "CALL FROM."
- It is only displayed if the Called/Busy Name is available.

To enable QSIG VALU, the following customer options must also be enabled:

- ISDN-PRI or ISDN-BRI Trunks, or Asynchronous Transfer Mode (ATM) Trunking
- QSIG Basic Supplementary Services

Interactions

- CDR

  CDR records unanswered outgoing ISDN calls in two different ways: (1) by setting CDR Reports for a given ISDN trunk group to r, or (2) by setting Answer Supervision Timeout for a given ISDN trunk group to a non-zero value. However, in either case, CDR does not record the Called Number received from the far end over a QSIG-VALU trunk group. CDR is only able to record either the dialed digits or the outpulsed digits.

Related Commands

- **change system-parameters customer options**
- **change trunk (for ISDN trunk group)**

Related Screens

change trunk-group

The Send Connected Number field has been changed to the QSIG Value-Added Lucent? field.

```
                                                          Page  1 of 22  SPE A

                                  TRUNK GROUP

Group Number: 95              Group Type: isdn               CDR Reports: n
 Group Name: DCS+ TG95              COR: 1                  TN: 1     TAC: 195
  Direction: two-way    Outgoing Display? n                          ATM? n
 Dial Access? y           Busy Threshold: 255              Night Service:
Queue Length: 0
Service Type: tandem                                       TestCall ITC: rest
                  Far End Test Line No:
TestCall BCC: 4
TRUNK PARAMETERS
      Codeset to Send Display: 6      Codeset to Send TCM,Lookahead: 6
     Max Message Size to Send: 260
Supplementary Service Protocol: a     Digit Handling (in/out): enbloc/enbloc

      Trunk Hunt: cyclical                    QSIG Value-Added Lucent? y
   Connected to Toll? n   STT Loss: normal          DTT to DCO Loss: normal
Calling Number - Delete:   Insert:                  Numbering Format:
       Bit Rate: 1200     Synchronization: async             Duplex: full
 Disconnect Supervision - In? y Out? n
 Answer Supervision Timeout: 0
```

```
                                TRUNK FEATURES                                 8

       ACA Assignment? n       Measured: external            Wideband Support? n
                         Internal Alert? n                   Maintenance Tests? y
                       Data Restriction? n                 NCA-TSC Trunk Member:
                              Send Name: y                  Send Calling Number: y

         Used for DCS? n
Suppress # Outpulsing? n  Numbering Format: public

    Charge Conversion: 1
      Decimal Point: none
     Currency Symbol:
       Charge Type: units                    Send Called/Busy/Connected Number: y
```

QSIG CISC Enhancements

DEFINITY ECS can provide the capability to transport QSIG operation information independent of an active call between two QSIG-compliant nodes.

Description

A QSIG Call-Independent Signaling Connection (CISC) is similar to a Non-Call Associated Temporary Signaling Connection (NCA-TSC), except that a CISC is established on demand and not via a permanent administered connection.

In R7, Call-Independent Signaling Connections are enhanced as follows:

- They work over BRI trunks.
- They are recorded in CDR, using a scheme similar to that currently used for an NCA-TSC.
- The **status signaling group** and **status bri-port** command also show the status of a CISC.

To users, a CISC appears no different than an NCA-TSC except for the limitations mentioned in the next section below.

As with an NCA-TSC, customers may use the *Max number of NCA-TSC* field on the Signaling Group screen to control whether Call-Independent Signaling Connections are carried on a PRI trunk signaling interface. No CISC is sent if the maximum is set to 0. For BRI trunks, this function is controlled on the Trunk Group screen.

The sequence of switch screens used to administer a route for incoming CISC SETUP messages for an NCA-TSC is complex. The high-level sequence of steps involved in administering an ISDN-PRI NCA-TSC are listed below:

1. Signaling Group screen (Trunk Group for NCA-TSC)
2. ISDN Trunk Group screen (Digit Manipulation)
3. Route Pattern screen (Preference with TSC=**y**)
4. ISDN Trunk Group screen (NCA-TSC Trunk Member)
5. Signaling Group screen (Prim/Sec D-Channel)

Limitations

- To send a QSIG CISC over a signaling interface, the field entitled Basic Supplementary Services? must be enabled on the System-Parameters Customer-Options screen; for ISDN-PRI only, the Signaling Group must be administered to Supplementary Service Protocol: **b**.
- The **status tsc-administered** command does not apply to CISCs due to the unadministered nature of CISCs. Instead, customers should use the new enhanced **status signaling-group** command and **status bri-port** command for the current number of CISCs (displayed as NCA-TSCs) in a QSIG signaling group or QSIG BRI Trunk port.
- The **test tsc-administered** command does not apply to QSIG CISCs due to the unadministered nature of CISCs.
- TSC gateway administration (**change/display isdn tsc-gateway**) does not apply to CISCs.
- DEFINITY ECS currently supports a system-wide maximum of 256 NCA-TSCs. On a per-Signaling Group basis, there is an administrable maximum as well.
- The Signaling Group can support either NCA-TSC or QSIG CISC (never both).
- On the BRI Trunk board administration screen, there is a per-port maximum for NCA-TSC.
- On the BRI trunk administration screen, the field NCA-TSC Signaling Group has been changed to NCA-TSC Trunk Member so that the signaling interface associated with the administered trunk member is used to route a tandem NCA-TSC.
- QSIG CISCs are supported over both PRI and BRI trunk interfaces.

- The following features are dependent on QSIG CISC operation:
  - Call Completion
  - Message Waiting Indication
- For use of ISDN-PRI facilities such as trunk groups and signaling groups, ISDN-PRI must be **y** on the System Parameters Customer-Options screen. For use of ISDN-BRI facilities, ISDN-BRI Trunks must be **y** on the System Parameters Customer-Options screen.
- Use an unrestricted COR and COS for the QSIG TSC Extension specified on the Feature-Related System Parameters screen.

Related Commands

- **change system-parameters customer-options**
  - ISDN-PRI (if ISDN-PRI is being used)
  - Basic Supplementary Services
  - ISDN-BRI Trunks (if ISDN-BRI is being used)
- **system-parameters features**
  - QSIG TSC Extension (valid value determined by the dial plan)
- **change signaling group** (PRI only)
- **status signaling group** (PRI only)
- **status bri port**
- **change trunk** (BRI)
- **display internal-data trk-port** (This command displays the maximum and current number of NCA-TSCs for a signaling channel; however, this command is not available to customers or to craft logins.)

Related Screens

change system-parameters features

```
                                                              Page 6 of 9
                    FEATURE-RELATED SYSTEM PARAMETERS

ISDN PARAMETERS

 Send Non-ISDN Trunk Group Name as Connected Name? y
 Display Connected Name/Number for ISDN DCS Calls? y
       Send ISDN Trunk Group Name on Tandem Calls? y


                               QSIG TSC Extension: 33999
                 Path Replacement with Measurements? y
    MWI - Number of Digits Per AUDIX®  Subscriber: 5
```

change signaling group (PRI only)

```
                                                              Page 1 of 1
                              SIGNALING GROUP

Group Number: 1        Group Type:
             Associated Signaling? y           Max number of NCA TSC: 10
                Primary D-Channel: 01B0524      Max number of CA TSC: 10
                                               Trunk Group for NCA TSC:
Trunk Group for Channel Selection:
   Supplementary Service Protocol: b
```

change trunk (BRI)

```
                                                              Page 2 of 12
                              TRUNK FEATURES
      ACA Assignment? n        Measured: none        Wideband Support? n
                          Internal Alert? n          Maintenance Tests? y
                       Data Restriction? n       NCA-TSC Trunk Member: 7
                              Send Name: n        Send Calling Number: n
          Used for DCS? n
  Suppress # Outpulsing? n
Outgoing Channel ID Encoding:          UUI IE Treatment: service-provider

                                                 Send Connected Number: n

              Send UCID? n
Send Codeset 6/7 LAI IE?
```

status signaling-group 7

```
                          STATUS SIGNALING GROUP

            Group ID: 7
          Group Type: isdn-pri
      Signaling Type: facility associated signaling
         Group State: in-service


                            Primary D-Channel

     Link:3          Port:01A0724             Level 3 State:in-service

                           Secondary D-Channel

     Link:           Port:                    Level 3 State: no-link
```

status bri-port

```
                               STATUS BRI-PORT

              Port:                                Version:
      Service State: in-service      Active NCA-TSC Count:10
   Maintenance Busy? no
      Layer 1 State: activated

      TEI Value  Layer2 State   Endpt Extension  Endpt SPID      Service SPID?

Link1    64      13-established      43000         43000

Link2

Link3
```

QSIG Message Waiting Indication

Description

QSIG Message Waiting Indication (MWI) enables a centralized voice mail system (such as AUDIX systems) to indicate to each user in a QSIG network whether that user has messages waiting or to indicate that messages have been retrieved. The message center or message center switch notifies served users of waiting messages by signaling across the private telecommunication network. Specifically, the supplementary service Message Waiting Indication (SS-MWI) in the message center or message center switch sends and cancels the indicator messages. The QSIG standard allows you to integrate a heterogeneous network with switches and/or voice mail systems from different vendors.

QSIG Message Waiting Indication can notify users of waiting voice messages through their phone displays. It can light or extinguish a message waiting lamp on phones that have them, or provide a stutter dial tone when new messages are waiting for users without a display phone or message waiting lamp. The indication (lamp, stutter dial tone, display) may also vary in your network based on the switch serving the user. Served users can, of course, query the message center to see whether they have messages.

Limitations

- QSIG MWI is supported over BX.25 (DCIU) and TCP/IP links.
- QSIG MWI works with either DEFINITY or INTUITY™ AUDIX® as well as with Octel Serenade™.
- QSIG MWI does not work with a ProLogix system acting as the host switch in R7.
- QSIG MWI does not work with an embedded DEFINITY AUDIX (digital port emulation, display set mode).

Related Commands

- **change system-parameters features**
- **change communications-processor interface**
- **change hunt group**
- **change isdn-mwi prefixes**
- **change ars analysis**
- **change ars digit conversion**
- **change isdn-public numbering plan**

- **change isdn-private numbering plan**
- **change station**

Related Screens

change system-parameters features

```
                                                          Page  6 of 9  SPE A
           FEATURE-RELATED SYSTEM PARAMETERS

ISDN PARAMETERS

 Send Non-ISDN Trunk Group Name as Connected Name? y
 Display Connected Name/Number for ISDN DCS Calls? n
       Send ISDN Trunk Group Name on Tandem Calls? n


                              QSIG TSC Extension: 78569
              Path Replacement with Measurements? y
    MWI - Number of Digits Per AUDIX  Subscriber: 5
                               Feature Plus Ext:
```

change communication-interface processor-channels

```
                                                          Page  1 of 16  SPE A
            PROCESSOR CHANNEL ASSIGNMENT
 Proc              Gtwy       Interface     Destination       Session    Mach
 Chan Enable  Appl.  To  Mode  Link/Chan    Node       Port  Local/Remote  ID
  1:    y     mis               3  1                  0       1    1
  2:    n                                             0
  3:    n                                             0
  4:    n                                             0
  5:    n                                             0
  6:    n                                             0
  7:    y     dcs               5  7                  0       7    7       6
  8:    n                                             0
  9:    y     AUDIX             5  9     Intuity      0       9    9       4
  10:   y     qsig-mwi          5  10                 0       10   10      1
  11:   n                                             0
  12:   n                                             0
  13:   n                                             0
  14:   n                                             0
  15:   n                                             0
  16:   n                                             0
```

change hunt-group 10

```
change hunt-group 10                                    Page 1 of 10 SPE A
                              HUNT GROUP

             Group Number: 10                                 ACD? n
               Group Name: qsig mwi hunt group              Queue? n
          Group Extension: 78050                          Vector? n
               Group Type: ucd-mia                 Coverage Path:
                       TN: 1           Night Service Destination:
                      COR: 1                     MM Early Answer? n
           Security Code:
      ISDN Caller Display:
```

The extension in the Voice Mail Number field is the number of the message center hunt group.

```
change hung-group 10                                    Page 2 of 10 SPE A
                              HUNT GROUP

                         Message Center: qsig-mwi
                     Voice Mail Number: 7775300
Routing Digits(e.g.AAR/ARS Access Code): 8




                        LWC Reception: none
```

A QSIG-MWI hunt group has no members.

```
change hunt-group 10                                        Page 3 of 10 SPE A
                                  HUNT GROUP
         Group Number: 10   Group Extension: 78050     Group Type: ucd-mia
 Member Range Allowed: 1 - 200     Administered Members (min/max): 0 /0
                                       Total Administered Members: 0
GROUP MEMBER ASSIGNMENTS
       Ext Name                             Ext Name
 1:                                    14:
 2:                                    15:
 3:                                    16:
 4:                                    17:
 5:                                    18:
 6:                                    19:
 7:                                    20:
 8:                                    21:
 9:                                    22:
 10:                                   23:
 11:                                   24:
 12:                                   25:
 13:                                   26:

 At End of Member List
```

change isdn mwi-prefixes

```
change isdn mwi-prefixes                                  Page 1 of 1 SPE A
           MESSAGE WAITING INDICATION SUBSCRIBER NUMBER PREFIXES

  Machine  Inserted    Routing AUDIX    Machine  Inserted  Routing  AUDIX®
     ID    Digits      Digits  Mach ID    ID     Digits    Digits   Mach ID

   1:                 556     1          11:
   2:                                    12:
   3:                                    13:
   4:                                    14:
   5:                                    15:
   6:                                    16:
   7:                                    17:
   8:                                    18:
   9:                                    19:
  10:                                    20:
```

change route-pattern

```
change route-pattern 90                                    Page 1 of 1 SPE A
                           Pattern Number: 90

    Grp.  FRL  NPA  Pfx  Hop  Toll No. Del  Inserted  IXC
    No.             Mrk  Lmt  List Digits   Digits
 1: 90     0                         3         7      user
 2:                                                    user
 3:                                                    user
 4:                                                    user
 5:                                                    user
 6:                                                    user

     BCC VALUE TSC CA-TSC   ITC   BCIE Service/Feature Numbering LAR
    0 1 2 3 4 W    Request  Format
 1: y y y y y n n           rest                       lev2-pvt none
 2: y y y y y n n           rest                                none
 3: y y y y y n n           rest                                none
 4: y y y y y n n           rest                                none
 5: y y y y y n n           rest                                none
 6: y y y y y n n           rest                                none
```

change signaling-group

The Supplementary Service Protocol field must be **b**, and you must have TSCs.

```
change signaling-group 1                                   Page 1 of 1 SPE A
                                SIGNALING GROUP

 Group Number: 1             Group Type:
                   Associated Signaling? y          Max number of NCA TSC: 10
                      Primary D-Channel: 01B0524     Max number of CA TSC: 10
                                                   Trunk Group for NCA TSC:
     Trunk Group for Channel Selection:
        Supplementary Service Protocol: b
```

change coverage path

The first coverage point directs calls to the QSIG-MWI hunt group.

```
change coverage path 25                                Page 1 of 1 SPE A
                              COVERAGE PATH

               Coverage Path Number: 25
                                                 Hunt after Coverage? n
                   Next Path Number:             Linkage

COVERAGE CRITERIA

 Station/Group Status  Inside Call    Outside Call
             Active?        n              n
               Busy?        y              y
       Don't Answer?        y              y           Number of Rings: 2
                All?        n              n
 DND/SAC/Goto Cover?        y              y

COVERAGE POINTS

  Terminate to Coverage Pts. with Bridged Appearances? n
         <-points to qsig-mwi hunt group
    Point1: h10      Point2:          Point3:
    Point4:          Point5:          Point6:
```

change station

Audible Message Waiting must be set to **y** if you want to provide stutter dial tone to users to alert them to new voice messages.

```
change station 78515                                   Page 2 of 4 SPE A
                                  STATION
FEATURE OPTIONS
          LWC Reception: AUDIX  Auto Select Any Idle Appearance? n
         LWC Activation? y               Coverage Msg Retrieval? y
            CDR Privacy? n                           Auto Answer: none
  Redirect Notification? y                       Data Restriction? n
Per Button Ring Control? y           Idle Appearance Preference? n
  Bridged Call Alerting? y
 Active Station Ringing: single        Restrict Last Appearance? y

       H.320 Conversion? n
                         Per Station CPN - Send Calling Number? y

                                      Audible Message Waiting? n
   MWI Served User Type: qsig-mwi    Display Client Redirection? n
                                    Select Last Used Appearance? n
```

Survivable Remote EPN Enhancements

R7 provides a new command to allow remote reset of the SR Switch in a Survivable Remote EPN and reconnect it to the G3r switch processor. The R7si ESCC processor (Survivable Remote Processor, or SRP) will now identify itself as an SRP.

Description

An R6si ESCC processor used as a Survivable Remote Processor (SRP) cannot identify itself as an SRP. Instead, it reports itself as a DEFINITY R6si ESCC PPN. Starting in R7, a new field has been created on the System-Parameters Customer Options screen. This new field, Survivable Remote processor?, defaults to **no**. If an R6si SRP exists in the system, changing the field to **yes** allows the SRP to identify itself correctly. Note that:

- Terminals supported in the survival mode are those administered in the SRP.
- In the survival mode, CDR will be active to the extent that it has been implemented (and administered) in the Survivable Remote Processor.

The new command allows a remote restore of the SR switch (TN2301) in the SRP. The reset of the SR switch will reconnect the remote EPN to the R7r when the links to the R7r are restored to normal operation. If the Survivable Remote Processor? field (mentioned above) is set to **yes**, a new command, **restore survivable-remote link**, replaces **test customer-alarm 1**. This command instructs the SR Switch in the SRP to restore the links between the R7r and the SREPN.

Limitations

The same limitations apply as with the R6 SREPN.

- This feature does not support adjuncts.
- The SRP cannot be in a DCS or QSIG network with other switches.
- Switching to the survival mode or back to the normal mode will always cause a COLD restart.
- This feature does not support SRP processor duplication.

Related Commands

- **add/change cabinet**
- **display system-parameters maintenance** (screen admin has not changed but the SREPN now identifies itself in the Product ID field)
- **list cabinet - sEPN** now denotes a survivable remote EPN.

Related screens

add cabinet 2

```
                                                              Page 1 of 1
                     CABINET
CABINET DESCRIPTION
                   Cabinet: 2
             Cabinet Layout: single-carrier-stack
               Cabinet Type: expansion-portnetwork
   Number of Portnetworks: 1
    Survivable Remote EPN? y  Survivable Remote Processor ID: __________
                     Room:
                    Floor:
                 Building:

CARRIER DESCRIPTION
 Carrier    Carrier Type     Number
    D      not-used
    C      not-used
    B      not-used
    A      expansion-control
```

list cabinet

```
                                                                  SPE B

                          CABINET REPORT

No.  Type LayoutRoom     Floor     Building  A    B    C    D    E
1     PPN 5-car                              PN 01PN 01PN 01SN 01SN 01
2    sEPN 5-car                              PN 02PN 02PN 02SN 02SN 02
3     EPN 5-car                              PN 03PN 03PN 03SN 03SN 03
4     EPN stack                              PN 04PN 04
5    sEPN stack                              PN 05PN 05
6     PPN 5-car                              PN 06PN 06PN 06SN 06SN 06
```

System Clock Enhancements

Description

DEFINITY ECS can now maintain a "user time" different from the time according to the system clock. This is valuable for customers who have remote expansion port networks residing in different time zones. The "user time" will control phone displays as well as the automatic wake-up and do-not-disturb features. The system time will control time-of-day routing, SDMR recording, maintenance, and other internal timers.

Customers can also specify whether their switch is in a time zone that follows daylight savings time and set rules to specify automatic time adjustments. If a "rule" is set, the switch automatically adjusts to and from daylight savings time. You may create up to 15 customized rules. Rule 0 is the default and makes no adjustment to the system clock for daylight savings time. Rule 0 cannot be modified.

These functions are part of Lucent's support for multiple location networks in R7. Refer to "Multiple Locations Support" on page 69

Limitations

Daylight savings time applies only in the U.S.

Interactions

This feature interacts with time-of-day routing, time-of-day call coverage, multi-locations, and any other features that rely on system clock time.

Related Commands and Screens

When initially loaded with null translations, the daylight savings time rule for the system clock is set to "0". Standard time is the default time.

Rule 0	No daylight savings time
Rule 1	U.S. daylight savings time rule for the system clock

change daylight-savings-rules

```
                                                          Page 1 of 2
                        DAYLIGHT SAVINGS RULES

Rule          Change Day              Month    Date      Time  Increment

0:   No Daylight Savings

1:   Start:first Sunday  on or after April     1  at  02:00   01:00
      Stop:first Sunday  on or after October   25  at  02:00
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  __:__
```

set time

```
                                                          Page 1 of 1
                            DATE AND TIME

DATE

      Day of the Week:  Wednesday          Month: April
      Day of the Month: 8                   Year: 1999

TIME

      Hour: 9     Minute: 8       Second: 47    Type: daylight-savings

                  Daylight Savings Rule: 1

WARNING: Changing the date or time will impact BCMS, CDR, and MEASUREMENTS
```

TCP/IP Support

With R7, customers can use, administer, and maintain TCP/IP connections on DEFINITY® ECS. This ability reduces costs by eliminating data modules and by using data networks for signaling information for DCS, centralized INTUITY™ AUDIX®, and centralized *CentreVu*™ Call Management Systems (CMS).

For full administration information, refer to *DEFINITY ECS Administration for Network Connectivity.*

Hardware

TCP/IP support requires the TN799 Control-LAN (C-LAN) circuit pack.

Control LAN TN799

The TN799 Control LAN (C-LAN) port circuit pack supports TCP/IP on Ethernet or PPP (Point-to-Point Protocol) connections to all DEFINITY switches. It supports connections by Ethernet only to adjuncts such as CentreVu™ CMS and INTUITY™ AUDIX®. The TN799 C-LAN can be inserted into any port circuit pack slot. A DEFINITY ECS may contain up to 2 C-LAN circuit packs. Each circuit pack provides 1 Ethernet and up to 16 PPP connections.

The TCP/IP service of the C-LAN circuit pack replaces the BX.25 link of the current Processor Interface (TN765) circuit pack in the R7si model and the PGATE (TN577) circuit pack in the R7r model. However, existing BX.25 connections may be retained on R7si and R7r models. The C-LAN circuit pack does not displace the PI or PGATE circuit packs if BX.25 support is still needed. The R7csi model does not support BX.25.

With the C-LAN circuit pack, the R7csi model now supports connections to DCS and adjuncts. On the R7csi, the C-LAN circuit pack connects the PKT Bus and the TN798B processor. The C-LAN also provides one method for R7csi models to use BRI stations.

On the R7si, the C-LAN circuit pack communicates with the processor via the new PKTINT functionality in the NetPkt circuit pack.

On the R7r, the C-LAN circuit pack is the only new hardware needed for TCP/IP support. The C-LAN circuit pack communicates with the processor via the PKTINT circuit pack using LAPD as other circuit packs do today.

More Information

- ***Adjuncts*** – DEFINITY ECS supports TCP/IP connections to Intuity AUDIX and *CentreVu* Call Management System (CMS) if they have the minimum software versions listed below.
  - INTUITY AUDIX: R4.4
  - *CentreVu* CMS: R3V6 Phase 2
- ***BX.25*** – The Data Module screen, not the Communications Interface Links screen, administers BX.25. The Communications Interface Links screen is now a display-only screen.
- ***Configurable automatic routing*** – Automatic subnet routing for the Ethernet port simplifies the task of administering IP routes to adjuncts on the same subnet. If security is a great concern, and customers do not wish to allow automatic access to all IP addresses on the same subnet, administrators can turn off the Ethernet automatic subnet routing option. However, then they must manually enter all allowed IP routes in the IP routing tables. The automatic subnet routing option is not applicable for IP addresses on PPP ports because the only address that can be reached is the administered destination for the PPP link.
- ***TCP/IP session*** – R7 provides the ability to identify the TCP equivalent of a logical channel, which is called a session. This channel administration includes:
  - Identification of the application that uses the session
  - The remote node that the session is connected to
  - Whether the DEFINITY ECS is a client or server in this session
- ***Processor/Gateway channels*** – Gateway channels must be defined as processor channels, because the processor is required to perform gateway conversions between various protocols. The table below lists the maximum number of channels, including gateway channels for each model of DEFINITY ECS.

	R7csi	R7si	R7r
Maximum number of processor channels	128	256	384

Gateway nodes in a network with switches using X.25, DCS+, and TCP/IP signaling can convert between the following:

- X.25 and TCP/IP
- X.25 and DCS+
- DCS+ and TCP/IP

- ***Node Names*** – Administer node names, which are associated with IP addresses, on the node names screen. The node name provides a convenient reference for the IP address of each switch or adjunct that is a node on the network.
- ***IP Routing*** – R7 provides the ability to administer the initial route that IP packets will use as they leave the switch. You can also administer a default route. The table shows the number of routes supported.

	R7csi	R7si	R7r
Number of routes supported	270	400	650

Related Commands

- **change node-names**
- **change data module** (and replacing communication interface link screen)
- **change communications-interface processor**
- **change system-parameters maintenance**
- **add/change IP route**
- **status c-lan-ip**
- **status processor channel**
- **status sys-link**
- **status data module**
- **status link**
- **status packet-interface**
- **list ip-route**
- **ping node-name xxxxx**
- **ping ip-address**
- **netstat ip-route**

Transfer and Conference Enhancements

Transfer or Conference for a Call Placed on Hold (no other call activity)

Description

Currently, users must take a call off hold and then press TRANSFER or CONFERENCE to initiate a transfer or conference. Incoming calls only interrupt the process of a "transfer upon hold" or "conference upon hold" operation if the user answers the incoming call.

With R7, the user of a DCP, hybrid, or wireless terminal may transfer or conference a call on hold without first taking the call off hold if there are no active call appearances and no multiple calls are on hold. If there is only one call on hold and no other active call appearances, the user may press TRANSFER or CONFERENCE, dial the number to be transferred to or conferenced with, and then press TRANSFER or CONFERENCE to complete the operation.

If there is an active call appearance along with any number of calls placed on hold, the active call will be transferred or used in the conference, as is currently the case. If there are multiple calls placed on hold and no active call appearances, pressing TRANSFER or CONFERENCE will be ignored as is currently the case, because it is not clear which held call the user might wish to transfer or conference.

If the Pull Transfer field on the System-Parameters Features screen is enabled to **yes**, the transferred-to party can press TRANSFER to transfer a call that started the transfer process from the held state.

Limitations

Transfer or conference for a call placed on hold is only possible with DCP, Hybrid, and Wireless telephones. This feature does not work with ISDN-BRI terminals.

Transfer Confirmation Display Message

Description

Currently, the user of a DCP, Hybrid, ISDN-BRI, or Wireless display phone sees a message on their display confirming an active conference call. The user sees no feedback that the call was actually transferred.

With R7, DEFINITY ECS may be administered so that DCP, hybrid, ISDN-BRI, and Wireless display phones will show a message confirming a successful call transfer. The switch displays the transfer confirmation message to the party that initiates the transfer process even when the transferred-to party uses pull-transfer (that is, presses TRANSFER to complete the operation).

Limitations

- The new Wireless 9601 display terminal does not display the new message, because the display turns off when there is no call activity.
- Telephone users without displays will not have any new indication of the completed transfer.
- The Transfer Confirmation Display Message feature only applies to DCP, Hybrid, Wireless, and ISDN-BRI phones with displays.

Interactions

- Class of Restriction

  Set the Block Transfer Display field on the COR screen to **y** if you do *not* want users to receive a confirmation message for call transfers.

Related Screens and Commands

change cor

```
                                                          Page 2 of 4
                  CLASS OF RESTRICTION
MF Incoming Call Trace?n                  Brazil Collect Call Blocking?n
Block Transfer Display?n
```

VIP Wake-up

Description

VIP wake-up provides the hotel with the option of placing a personal phone call to awaken a special guest. A VIP reminder call is sent to an attendant, who then places the personalized wake-up call to the guest. If the attendant is unable to contact the guest, the wake-up can be rescheduled using VIP-RETRY.

When the VIP reminder call is sent to the attendant, the display shows VIP WAKEUP followed by the guest's name and extension. Without the VIP wake-up feature, the guest would be connected to a recorded announcement.

Limitations

The current limit on number of total wake-up calls and wake-up calls per 15 minute interval remains the same: 150 for a G3si and 900 for a G3r. Part of this limit is another administrable limit of 1-50 VIP reminder calls per 5-minute interval.

VIP wake-up requires at least 1 attendant console or a backup console or a night station to deliver the VIP reminder call. If only one such resource is available, it must be in attendant group 1.

VIP designation is at the discretion of the front desk, and guests are not allowed to assign this status to themselves. A guest cannot modify a wake-up request if it is a VIP wake-up, but must contact the attendant.

If the attendant does not answer the reminder call, the call times-out after 3 minutes and converts into a normal wake-up call.

Interactions

- Attendant Backup Alerting

  Backup consoles can receive VIP reminder calls and place VIP wake-up calls.

- Call Management System (CMS)

  No new CMS support is needed. If the attendant or guest are ACD agents, the reminder and wake-up calls are pegged as non-ACD calls (*aux-in* and *aux-out*), with the associated agent state changes for *AUX* calls.

- Conference

  A VIP wake-up call my be conferenced after the guest answers, but not before.

- Do Not Disturb

  As with normal wake-up calls, the VIP reminder call cancels the "do not disturb" feature.

- Hold

  A VIP reminder call can be placed on hold. The VIP-WAKEUP lamp will be darkened when the call is on hold.

- Night Service

  When the attendant is in night service, VIP wake-up reminder calls are delivered to the night console.

- Property Management System (PMS)

  All pending wake-up requests are cancelled when a PMS sends a checkout of the room.

- Personal Station Administration (PSA) and Terminal Translation Initialization (TTI)

  If an attendant or guest phone is disassociated and/or re-associated using these features, the wake-up requests may not be successfully delivered. If this is a concern, the hotel should use the "list wakeup-requests" command to generate a report of all requests before activating PSA/TTI features.

Related Commands

- **Change station**
  - VIP-WAKEUP
  - VIP-RETRY
- **Status station**
- **Change console parameters**
- **List wakeup-requests**
- **Display-messages auto-wakeup-dn-dst**

Related Screens

change console-parameters

```
change system-parameters hospitality                          Page 2 of 3
                CONSOLE PARAMETERS

QUEUE PRIORITIES
            Emergency Access: 1
             Assistance Call: 2
                     CO Call: 2
            DID to Attendant: 2
                    TIE Call: 2
          Redirected DID Call: 2
              Redirected Call: 2
                  Return Call: 2
                  Serial Call: 2
Individual Attendant Access: 2
             Interpositional: 2
   VIP Wakeup Reminder Call: 2
         Miscellaneous Call: 2

Call-Type Ordering Within Priority levels? n
```

```
                                                          Page 2 of 3
                              HOSPITALITY

    Dual Wakeups: n     Daily Wakeup: y      VIP Wakeup: n
                         VIP Wakeup Calls Per 5 Minutes: 5___
                      Room Activated Wakeup With Tones?  n
              Time of Scheduled Wakeup Activity Report:
               Time of Scheduled Wakeup Summary Report:
      Time of Scheduled Emergency Access Summary Report:

                                    Announcement Type: silence

     Length of time to Remain Connected to Announcement: 30
        Extension to Receive Failed Wakeup LWC Messages:
      Routing Extension on Unavailable Voice Synthesis:
              Display Room Information in Call Display?

                              Number of Digits from PMS:
                                       PMS Sends Prefix? n
                 Number of Digits in PMS Coverage Path: 3
                                Digit to Insert/Delete:
```

List wakeup-requests

```
                                                          Page 1 of x

                  WAKEUP REQUESTS

     Extension   Time    Annc  Daily   VIP

     xxxxx     xx:xx xM  xxxxx  y     n
     xxxxx     xx:xx xM  xxxxx  n     y
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References

3

This chapter contains a list of user documents for the DEFINITY Enterprise Communications Server (ECS) Release 7. (Most of these documents are backward compatible with, and can be used with, DEFINITY ECS Release 6 systems.)

To order these or other DEFINITY documents, contact the Lucent Technologies Publications Center at the address and phone number on the back of the title page of this document. A complete catalog of Business Communications Systems (BCS) documents, including previous issues of the documents listed here, is available on the World Wide Web. Ask your account team for the web address.

Basic DEFINITY ECS documents

These documents are issued for all new and upgrade DEFINITY ECS Release 7 systems.

Administration

The primary audience for these documents consists of customer administrators.

DEFINITY ECS Release 7 — Overview, 555-230-024, Issue 7

Provides a brief description of the features available with DEFINITY ECS R7. This book does not provide a general overview of the switch nor of basic telephony. This book is available in the following languages: English, German (DE), Dutch (NL), Brazilian Portuguese (PTB), European French (FR), Latin Spanish (SPL), Italian (IT), Russian (RU), and Japanese (JA). To order, append the language suffix to the document number; for example, 555-230-024DE for German. No suffix is needed for the English version.

DEFINITY ECS Release 7 — Administrator's Guide, 555-233-502, Issue 1

A task-based document that provides step-by-step procedures for administering the switch. This book contains information previously found in *DEFINITY ECS Administration and Feature Description*, 555-230-522, as well as new information for this release and procedural sections added in Release 7.

DEFINITY ECS Release 7 — Administration for Network Connectivity, 555-233-501, Issue 1

Describes how to administer connections between DEFINITY ECS switches (csi, si, and r models) for DCS messaging. The main focus is on TCP/IP connectivity introduced with DEFINITY Release 7.1.

DEFINITY ECS Release 7.1 — Change Description, 555-230-405, Issue 1

Provides a high-level overview of what is new in DEFINITY ECS R7.1. Describes the hardware and software enhancements and lists the problem corrections for this release. It also includes any last-minute changes that come in after the remaining books have gone to production.

DEFINITY ECS Release 7 — System Description, 555-230-211, Issue 4

Provides hardware descriptions, system parameters, listing of hardware required to use features, system configurations, and environmental requirements.

DEFINITY System's Little Instruction Book for basic administration, 555-230-727, Issue 5

Provides step-by-step procedures for performing basic switch administration tasks. Includes managing phones, managing features, routing outgoing calls, and enhancing system security.

DEFINITY System's Little Instruction Book for advanced administration, 555-233-712, Issue 2

Provides step-by-step procedures for managing trunks, managing hunt groups, setting up night service, writing vectors, recording announcements, using reports, and understanding call centers.

DEFINITY System's Little Instruction Book for basic diagnostics, 555-230-713, Issue 2

Provides step-by-step procedures for baselining your system, solving common problems, reading alarms and errors, using features to troubleshoot your system, and contacting Lucent.

DEFINITY ECS Release 7 — Reports, 555-230-511, Issue 5

Provides detailed descriptions of the measurement, status, security, and recent change history reports available in the system and is intended for administrators who validate traffic reports and evaluation system performance. Includes corrective actions for potential problems. Previously known as *DEFINITY ECS System Monitoring and Reporting*.

BCS Products Security Handbook, 555-025-600, Issue 6

Provides information about the risks of telecommunications fraud and measures for addressing those risks and preventing unauthorized use of BCS products. This document is intended for telecommunications managers, console operators, and security organizations within companies.

DEFINITY ECS Release 7 — System 75 and System 85 Terminals and Adjuncts Reference, 555-015-201, Issue 10

Provides drawings and full descriptions for all phones, phone adjuncts, and data terminals that can be used with System 75, System 85, DEFINITY Communications System, and DEFINITY ECS. This document is intended for customers and Lucent Technologies account teams for selecting the correct equipment.

Guide Builder™ Software for DEFINITY® Telephones, 555-230-755

Provides the ability to produce laser-printed documentation for specific telephones. A comprehensive user's guide and on-line help support the software. This information applies to Release 7 as well as earlier DEFINITY systems. All customers receive this software.

Installation and maintenance

DEFINITY ECS Release 7 — Installation and Test for Single-Carrier Cabinets, 555-230-894, Issue 4

Provides procedures and information for hardware installation and initial testing of single-carrier cabinets. This book is available in the following languages: English, German (DE), Dutch (NL), Brazilian Portuguese (PTB), European French (FR), Latin Spanish (SPL), Italian (IT), Russian (RU), and Japanese (JA). To order, append the language suffix to the document number; for example, 555-230-894DE for German. No suffix is needed for the English version.

DEFINITY ECS Release 7 — Installation and Test for Multi-Carrier Cabinets, 555-230-112, Issue 6

Provides procedures and information for hardware installation and initial testing of multi-carrier cabinets.

DEFINITY ECS Release 7 — Installation for Adjuncts and Peripherals, 555-230-125, Issue 5

Provides procedures and information for hardware installation and initial testing of ECS adjunct and peripheral systems and equipment.

DEFINITY ECS Release 7 — Installation, Upgrades and Additions for Compact Modular Cabinets, 555-230-128, Issue 4

Provides procedures and information for hardware installation and initial testing of compact modular cabinets.

DEFINITY ECS Release 7 — ATM Installation, Upgrades, and Administration, 555-233-106, Issue 1

Provides step-by-step instructions for how to install, upgrade, and administer ATM switches.

DEFINITY ECS Release 7 — Installation and Maintenance for Survivable Remote EPN, 555-233-102, Issue 2

Describes how to install, cable, test, and perform maintenance on a Survivable Remote Expansion Port Network (SREPN). Provides power, ground, and fiber connections.

DEFINITY ECS Release 7 — Upgrades and Additions for R7r, 555-230-121, Issue 5

Provides procedures for an installation technician to upgrade an existing DEFINITY Communications System or DEFINITY ECS to DEFINITY ECS Release 7.

Includes upgrade considerations, lists of required hardware, and step-by-step upgrade procedures. Also includes procedures to add control carriers, switch node carriers, port carriers, circuit packs, auxiliary cabinets, and other equipment.

DEFINITY ECS Release 7 — Upgrades and Additions for R7si, 555-233-104, Issue 1

Provides procedures for an installation technician to upgrade an existing DEFINITY Communications System or DEFINITY ECS to DEFINITY ECS Release 7.

Includes upgrade considerations, lists of required hardware, and step-by-step upgrade procedures. Also includes procedures to add control carriers, switch node carriers, port carriers, circuit packs, auxiliary cabinets, and other equipment.

DEFINITY ECS Release 7 — Maintenance for R7r, 555-230-126, Issue 4

Provides detailed descriptions of the procedures for monitoring, testing, troubleshooting, and maintaining the R7r ECS. Included are maintenance architecture, craft commands, step-by-step trouble-clearing procedures, the procedures for using all tests, and explanations of the system's error codes.

DEFINITY ECS Release 7 — Maintenance for R7si, 555-233-105, Issue 1

Provides detailed descriptions of the procedures for monitoring, testing, troubleshooting, and maintaining the R7si ECS. Included are maintenance architecture, craft commands, step-by-step trouble-clearing procedures, the procedures for using all tests, and explanations of the system's error codes.

DEFINITY ECS Release 7 — Maintenance for R7csi, 555-230-129, Issue 4

Provides detailed descriptions of the procedures for monitoring, testing, troubleshooting, and maintaining the R7csi (Compact Modular Cabinet) ECS. Included are maintenance architecture, craft commands, step-by-step trouble-clearing procedures, the procedures for using all tests, and explanations of the system's error codes.

Call center documents

These documents are issued for DEFINITY ECS Call Center applications. The intended audience is DEFINITY ECS administrators.

DEFINITY

DEFINITY ECS Release 7 — Guide to ACD Call Centers, 555-233-503, Issue 1

This module contains information about the call center-specific features of the DEFINITY ECS. This information was previously contained in DEFINITY ECS Administration and Feature Description.

DEFINITY ECS Release 7 — Call Vectoring/EAS Guide, 555-230-521, Issue 2

Provides information on how to write, use, and troubleshoot vectors, which are command sequences that process telephone calls in an Automatic Call Distribution (ACD) environment.

It is provided in two parts: tutorial and reference. The tutorial provides step-by-step procedures for writing and implementing basic vectors. The reference includes detailed descriptions of the call vectoring features, vector management, vector administration, adjunct routing, troubleshooting, and interactions with management information systems (including the Call Management System).

DEFINITY ECS Release 7 — Basic Call Management System (BCMS) Operations, 555-230-706, Issue 1

Provides detailed instructions on how to generate reports and manage the system. It is intended for telecommunications managers who wish to use Basic Call Management System (BCMS) reports and for system managers responsible for maintaining the system. This documentation applies to Release 7 as well as earlier DEFINITY systems.

CentreVu CMS

The following documents provide information about administration and use of the CentreVu Call Management System.

CentreVu Call Management System Release 3 Version 6— Administration, Issue 1, 585-215-850

CentreVu Supervisor Version 6 — Reports, 585-215-851, Issue 1

CentreVu Call Management System Release 3 Version 5 — Custom Reports, 585-215-822, Issue 1

CentreVu Call Management System Release 3 Version 6 — Upgrades and Migrations, 585-215-856, Issue 1

CentreVu Call Management System Release 3 Version 6 — External Call History Interface, 585-215-854, Issue 1

CentreVu Call Management System Release 3 Version 5 — Forecast, 585-215-825, Issue 1

CentreVu CMS R3V6 — Planning, Configuration, and Implementation, 585-215-879, Issue 1

Application-specific documents

These documents support specific DEFINITY documents.

ASAI

DEFINITY Communications System G3 — CallVisor ASAI Planning Guide, 555-230-222, Issue 4

Provides procedures and directions for the account team and customer personnel for effectively planning and implementing the CallVisor Adjunct/Switch Application Interface (ASAI) PBX-Host environment. The CallVisor ASAI is a communications interface that allows adjunct processors to access switch features and to control switch calls. It is implemented using an Integrated Services Digital Network (ISDN) Basic Rate Interface (BRI). Hardware and software requirements are included.

DEFINITY ECS Release 7 — CallVisor ASAI Protocol Reference, 555-230-221, Issue 8

Provides detailed layer 3 protocol information regarding the CallVisor Adjunct/Switch Application Interface (ASAI) for the systems and is intended for the library or driver programmer of an adjunct processor to create the library of commands used by the applications programmers. Describes the ISDN message, facility information elements, and information elements.

DEFINITY ECS Release 7— CallVisor ASAI Technical Reference, 555-230-220, Issue 8

Provides detailed information regarding the CallVisor Adjunct/Switch Application Interface (ASAI) for the systems and is intended for the application designer responsible for building and/or programming custom applications and features.

DEFINITY ECS — CallVisor ASAI DEFINITY LAN Gateway over MAP-D Installation, Administration, and Maintenance of, 555-230-113, Issue 2

Provides procedures for installation, administration, and maintenance of the CallVisor Adjunct/Switch Application Interface (ASAI) Ethernet application over the DEFINITY LAN Gateway and is intended for system administrators, telecommunications managers, Management Information System (MIS) managers, LAN managers, and Lucent personnel. The ASAI-Ethernet application provides ASAI functionality using 10Base-T Ethernet rather than BRI as a transport media.

DEFINITY ECS — CallVisor ASAI PC LAN over MAP-D Installation, Administration, and Maintenance of, 555-230-114, Issue 1

Provides procedures for installation, administration, and maintenance of the CallVisor Adjunct/Switch Application Interface (ASAI) Ethernet application over the PC LAN and is intended for system administrators, telecommunications managers, Management Information System (MIS) managers, LAN managers, and Lucent personnel. The ASAI-Ethernet application provides ASAI functionality using 10Base-T Ethernet rather than BRI as a transport media.

DEFINITY ECS — CallVisor ASAI Overview, 555-230-225, Issue 2

Provides a general description of Call Visor ASAI.

This document is available in the following languages: English, German (DE), Dutch (NL), Brazilian Portuguese (PTB), European French (FR), Colombian Spanish (SPL), and Japanese (JA). To order, append the language suffix to the document number; for example, 555-230-894DE for German. No suffix is needed for the English version.

DEFINITY ECS — CallVisor PC ASAI Installation and Reference, 555-230-227, Issue 3

Provides procedural and reference information for installers, Tier 3 support personnel, and application designers.

ACD

DEFINITY Communications Systems G3 — Automatic Call Distribution (ACD) Agent Instructions, 555-230-722, Issue 5

Provides information for use by agents after they have completed ACD training. Includes descriptions of ACD features and the procedures for using them.

DEFINITY Communications Systems G3 — Automatic Call Distribution (ACD) Supervisor Instructions, 555-230-724, Issue 4

Provides information for use by supervisors after they have completed ACD training. Includes descriptions of ACD features and the procedures for using them.

Console operations

The primary audience for these documents consists of attendant console users.

DEFINITY ECS Console Operations, 555-230-700, Issue 4

Provides operating instructions for the attendant console. Included are descriptions of the console control keys and functions, call-handling procedures, basic system troubleshooting information, and routine maintenance procedures.

DEFINITY ECS Release 7 — Console Operations Quick Reference, 555-230-890, Issue 3

Provides operating instructions for the attendant console.Included are descriptions of the console control keys and functions, call-handling procedures, basic system troubleshooting information, and routine maintenance procedures. This book is available in the following languages: English, German (DE), Dutch (NL), Brazilian Portuguese (PTB), European French (FR), Latin Spanish (SPL), Italian (IT), Russian (RU), and Japanese (JA). To order, append the language suffix to the document number; for example, 555-230-890DE for German. No suffix is needed for the English version.

Hospitality

The primary audience for these documents consists of hotel and health care administrators, and telephone operators at these locations.

DEFINITY ECS Release 7 — Hospitality Operations, 555-230-723, Issue 5

Provides step-by-step procedures for using the features available for the lodging and health industries to improve their property management and to provide assistance to their employees and clients. Includes detailed descriptions of reports.

Non-U.S. audiences

DEFINITY ECS Release 7 — Application Notes for Type Approval

Describes specific hardware and administration required to operate the DEFINITY ECS in countries outside the United States. Available on the DEFINITY ECS Release 7 Library CD only.

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