Lucent Technologies
Bell Labs Innovations

DEFINITY®
Enterprise Communications Server
R5.4.0 (R5EM Issue 4.0 G3V5 [ir].04.0.122.2)
Change Description

555-230-472
Comcode 107989246
Issue 1
April 1997

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

Your Responsibility for Your System's Security
Toll fraud is the unauthorized use of your telecommunications system by an unauthorized party, for example, persons other than your company's employees, agents, subcontractors, or persons working on your company's behalf. Note that there may be a risk of toll fraud associated with your telecommunications system and, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

You and your system manager are responsible for the security of your system, such as programming and configuring your equipment to prevent unauthorized use. The system manager is also responsible for reading all installation, instruction, and system administration documents provided with this product in order to fully understand the features that can introduce risk of toll fraud and the steps that can be taken to reduce that risk. Lucent Technologies does not warrant that this product is immune from or will prevent unauthorized use of common-carrier telecommunication services or facilities accessed through or connected to it. Lucent Technologies will not be responsible for any charges that result from such unauthorized use.

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

Part 68: 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

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

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

Canadian Department of Communications (DOC) Interference Information
This digital apparatus does not exceed the Class A limits for radio noise emissions set out in the radio interference regulations of the Canadian Department of Communications.

Le Présent Appareil Nomérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A préscrites dans le reglement sur le brouillage radioélectrique édicté par le ministére des Communications du Canada.

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European Union Declaration of Conformity
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.

Contents

1. HIGHLIGHTS

This change description document describes the changes incorporated in DEFINITY Enterprise Communications Server (ECS), R5.4.0 (R5EM Issue 4.0 G3V5 [ir].04.0.122.2).

Some of the new enhancements and features are described in this section. For more information, see *DEFINITY Enterprise Communications Server (ECS), R5.1.0 Change Description* (555-230-466), *DEFINITY Enterprise Communications Server (ECS), R5.2.0 Change Description* (555-230-469), and *DEFINITY Enterprise Communications Server (ECS), R5.3.0 Change Description* (555-230-471).

1.1 Product Overview

DEFINITY ECS Release 5 [DEFINITY ECS R5 (R5vs, R5si, and R5r)] continues to offer communication solutions from 10 to 25,000 stations. DEFINITY is a “seamless” product throughout its entire line size range. Customers simply need to add additional capacity, for example, when growth requires moving from the G3s to G3i "model.” A “seamless” strategy was implemented with the introduction of the G3siV4 product that eliminated the seam between the G3s and G3i offers. DEFINITY ECS R5 also eliminates the two packaging options associated with R5vs: the Advanced Business Package (ABP) and the Premier Business Package (PBP), further positioning DEFINITY as a seamless offering. R5vs has one software package that is equivalent to the current (pre-R5) PBP.

1.2 Changes and Enhancements

1.2.1New Hardware Capabilities

The following circuit packs support Multimedia Call Handling.

1.2.1.1 Multimedia Interface (MMI) Circuit Pack (TN787G)

The MMI is a service circuit that provides a number of H.221 protocol terminations for bit streams received from port/trunk circuit packs. The multimedia interface circuit pack provides a standard DEFINITY control channel interface. This interface will be used to communicate with the SPE through the network control circuit pack. It does not interface directly with multimedia endpoints.

The MMI circuit pack supports:

- G.711 (3.1kHz audio) Mu or A-law at 48, 56, 64kbps
- G.728 (coding of speech at 16 kbit/s using low-delay code excited linear prediction.)
- G.722 (7 kHz audio) at 48 and 56kbps
- G.711 in G.722 interworking mode at 48 and 56kbps

All the MMI and Voice Conditioner (VC) resource circuit packs in a switch must be in a single port network.

1.2.1.2 Voice Conditioner (VC) Service Circuit (TN788B)

The VC is a service circuit that has no external interface other than to the TDM bus. SPE communication is via a standard control channel and all audio (port) connectivity is via the TDM Bus.

Each VC provides a pool of resources to provide all audio processing needs for up to four endpoints in a conference. Up to 32 VCs can be used together to support endpoints, in any combination of conferences (for example, only 2-party conferences, 6-party conferences plus 3-party conferences, etc.). The resources support mixed conferences of endpoints encoded with PCM (either A-law or Mu-law), and LD-CELP, performing the necessary conversions between formats, audio processing, and conferencing. On a per-channel basis, the audio processing can be optioned to provide automatic gain control, voice energy detection, and noise gating. When optioned to provide voice energy detection, the VC can provide this information to the SPE for the purpose of voice energy based video switching. The VC provides the speaker selection control for the audio portion of the conference.

Each decoder port on the TN788B is capable of performing echo cancellation on its corresponding input under SPE control, according to ITU G.165 specifications for echo cancelers.

The VC circuit pack supports G.722 7-kHz audio running at 48 and 56 Kbps.

TN788B V2 or later version is required to support A-law companding for DEFINITY ECS R5 Multimedia Call Handling.

1.2.1.3 DS1 Loopback Jack

The new DS1 loopback jack hardware supports remote diagnostics on customer premises DS1 wiring up to the network interface (demarcation) point. It also isolates customer DS1 equipment from the DC power present on repeatered DS1 spans when a network interface jack is not provided by the span provider. The loopback jack hardware is installed in series with the DS1 wiring at the network interface point. Loopback jacks operate only with DS1 installations that use the integrated channel service unit (CSU) and can be retrofitted to any DS1 installation using G3V3 or later version of software and 120A2 or later integrated CSUs.

1.2.2 New Software Capabilities

1.2.2.1 ISDN PRI

1.2.2.1.1 QSIG

The DEFINITY ECS ISDN QSIG features provide a Supplementary Service Platform based on the QSIG private network specifications for supplementary services. The platform is built on top of the ISDN-PRI basic call setup protocol. For Release 5.4, the platform supports the following new features.

- QSIG Platform Enhancements
  - — Private Numbering - Selection Party Number Encoding

    DEFINITY ECS Release 5.4 is able to create a complete selection number (a digit string, for any party residing off the local network node).
  - — DEFINITY ECS is able to move an established call from its original path in a QSIG private network to a new path. The new path may contain some or all of the old connection. This feature allows a new path after the original call setup is complete that may cost less or use resources more efficiently.
- QSIG Call Transfer with Path Replacement

  Call Transfer allows Path Replacement to operate after a call has been established with Transfer-By-Join. (For calls that are measured by CMS, Path Replacemnt does not occur.)
- QSIG Diversion with Reroute

  All three diversion features: Unconditional, Busy, and No Reply allow for rerouting a call during setup to find a more cost effective or resource efficient path from the originator to the forwarded-to party.

- QSIG Customer Charging:

  A third level of customer charging is added to the System Parameters Customer Options form to allow administration of the QSIG features that use Path Replacement.

1.2.2.1.2 AAR/ARS Overlap Sending

DEFINITY ECS currently provides Overlap Receiving which is the ability to receive ISDN-PRI call address information a digit at a time, as opposed to enbloc which is all address information in one message. However, DEFINITY ECS currently only sends address information in enbloc. With this development DEFINITY ECS Release 5.4 is also able to send address information one digit at a time. In countries with complex public-network numbering plans, this allows significant decreases in call setup time, especially for tandemed calls received by overlap.

1.2.2.1.3 Look Ahead Routing

DEFINITY ECS Release 5.4 can continue to try to route an outgoing call if an earlier attempt to route the call over an ISDN trunk is rejected by the network with certain cause values.

1.2.2.2 International Signaling

1.2.2.2.1 Display Charge Advice Information

For all Lucent Technologies DCP and BRI stations with 40-character displays, the ISDN or PPM Charge is accessible using a new display mode, accessible either manually by pressing a display control button, or displayed automatically for each outgoing call if “Automatic Charge Display” is enabled in the station's COR.

1.2.2.2.2 Russian Intrusion on Incoming Toll Calls

The incoming toll office call is able to intrude on a busy station and announce the call. This uses trunk signals particular to the Russian network.

1.2.2.2.3 Private Network Signaling for Hungary

This operation allows DEFINITY ECS to replace transparently any ECS in private networks in Hungary. The Release 5.4 operation allows DEFINITY ECS to:

- Receive and route incoming calls based on an initial digit, and insert I.15 as an initial digit on outgoing calls.
- Map an incoming MFC calling party category to a DEFINITY COR, and send the calling party category administered in the COR after End of Digits and after ANI Request. Improve the COR check for Tie -> Tie and Tie -> Extension calls.

- Set up MFC cut-through signaling (route a call before receiving all digits), and create a talk path between the incoming trunk and the outgoing trunk and send a MFC signal to the incoming trunk to restart MFC dialing.
- Limit the number of signal resends in case the TN744 or TN2182 circuit pack receives unlimited resend requests. This changes firmware on these boards.

1.2.2.3 Basic Platform and Call Processing

1.2.2.3.1 Multimedia Call Handling (MMCH)

DEFINITY's multimedia strategy is to extend feature-rich voice capabilities to TDM standards-based multimedia endpoints. It migrates customers from a voice only environment to a voice and multimedia environment. The initial offering extends selected voice features to H.320 multimedia endpoints without requiring any changes to the multimedia endpoints and without breaking existing voice features. This allows DEFINITY ECS to support any existing H.320 endpoints.

- Multimedia Complex

  DEFINITY Release 5.4 supports a concept of a multimedia complex. This logical complex consists of a multifunction voice phone (voice endpoint) and an associated multimedia endpoint. This complex is intended to provide single number access for voice and multimedia calls. This one-on-one association is accomplished by administration. The multimedia complex data extension number administered on the station form identifies the multimedia endpoint that should receive data calls (multimedia calls) addressed to the voice station. The multimedia endpoints are supported through BRI interfaces. The multifunction voice terminals are any DCP multifunction voice terminals. The data portion of the multimedia complex is a BRI port. Each multimedia complex counts as two ports towards port-sensitive pricing.

- Multimedia Endpoint Administration

  A new station administration field, "MM Complex Data Ext," that identifies the extension of the multimedia endpoint to be associated with that station, is added to the station forms. Two new fields are added to the BRI, WCBRI data module, and DTDM forms. These new fields identify whether the data module is H.320 multimedia compatible, and, if so, the multimedia complex, if any, to which it belongs.

- Single Number

  The multimedia complex is accessed by one number to receive both voice and multimedia calls. The number is that of the voice station. For incoming calls, the switch is able to route to either the voice station or the multimedia station based upon the bearer capability and the fact that the destination is an multimedia complex. This does not work for calls from alternate voice/data (AV/D) trunks. For outgoing calls, users can originate

a multimedia call from their multimedia endpoint or a voice call from their voice terminal. This operation simplifies and eliminates user confusion over using separate destination numbers for voice and multimedia calls.

- Multimedia Call Routing (AAR/ARS)

  Multimedia calls are routed over the digital facilities reserved for data calls using the current AAR/ARS capabilities. On ISDN facilities, it identifies multimedia calls as data. On DS1 facilities, it routes multimedia calls over data trunk groups. AV/D trunk groups should not be used.

- Multimedia Call Detail Recording

  Call details of an multimedia call are recorded for both originated or terminated calls, as two separate calls: one call for each B-channel.

- Multimedia to Voice Conversion

  When an multimedia call terminates at a voice resource or station, DEFINITY provides an MMI and VC conversion resource to convert the multimedia H.320 protocol to pulse code modulation (PCM) voice, and vice versa. The MMI board plays an image over the video channel back to the calling multimedia endpoint.

- Multimedia Redirection

  — Multimedia Call Coverage

  A multimedia call to a busy, no answer, or a send all calls activated endpoint is converted to voice and redirected to the endpoint's coverage path. If the call is an multimedia call directed to a complex whose multimedia endpoint is busy, or does not answer, the call is converted to voice and offered to the voice endpoint.

  If the coverage point is a like-type multimedia endpoint, the multimedia call covers to the multimedia coverage point and does not require voice conversion. If the multimedia call terminates on a voice terminal in the coverage path, DEFINITY inserts a conversion resource to convert the multimedia call to a voice call. There is one coverage path per endpoint for both voice and multimedia.

  — Multimedia Call Forward

  An multimedia call to a voice endpoint that has Call Forwarding activated follows the programmed call forward path, and similarly for forwarding on busy or don't answer. The call forwards a voice call. An multimedia call to a data endpoint that has Call Forwarding activated forwards to the programmed destination as an multimedia call. An multimedia call to an multimedia complex forwards as an multimedia call if the multimedia endpoint has Call Forwarding activated, otherwise, it forwards as a voice call if the voice endpoint has forwarding activated.

  — Multimedia Send All Calls

  A station on behalf of the multimedia endpoint is able to activate Send All Calls for both incoming voice or multimedia calls.

- Multimedia Class of Service (COS) /Class of Restriction (COR)

  Each multimedia complex is assigned a single COS and COR to control network capability of the multimedia complex. Therefore, whether the complex originates a voice call or a multimedia call, or receives a voice or multimedia call, the same administered COR and COS values are applied to the call.

- Multimedia Hunting (Non-ACD)

  Multimedia calls to a hunt group are converted to voice if the members of the hunt group are not multimedia or data endpoints, or if the group is an ACD group. Assignment of a multimedia complex extension to a hunt group is considered to represent the voice endpoint only; the multimedia endpoint extension must be used if the hunt group is to handle end-to-end multimedia calls. For multimedia calls to a multimedia hunt group, the switch matches subsequent calls of the Px64 session to ensure that the same member receives all calls of the session.

- Multimedia Meet-Me Conferencing

  Under the control of a voice endpoint, a form of meet-me multimedia conferencing is provided. Each multimedia participant must place a call to the (voice) user selected as the conference controller; then the controller will use standard voice conferencing operations to join the calls together. The multimedia participants are joined in a video conference, while the voice users have voice-only service. The controller may spontaneously add new voice users to the conference. The total number of participants is limited to the system-administered conference size limit.

- Multimedia Serviceability

The administration of off-board alarms is enhanced so that the alarm level used for the failure of the MASI signaling link that is carried over a directly connected ISDN PRI facility between DEFINITY ECS and MMCX R2 can be administered as a minor alarm or a warning alarm. Normally the loss of the DS1 or E1 signal used for ISDN PRI service is reported as a warning alarm because that failure is considered an off-board problem that should not be reported to INADS.

See 2.1 *New Hardware Capabilities* for information about standard DEFINITY ECS maintenance practices with the circuit packs ported from the MCU: TN787G and TN788B.

1.2.2.4 Hospitality

The new DEFINITY hospitality features are designed to provide new features for the lodging industry.

1.2.2.4.1 Increase Property Management System (PMS) Link Acknowledgment Timer

The link acknowledgment timer is administrable to up to 1500 milliseconds. This change is for any PMS that needs longer to respond than the current maximum of 500 milliseconds.

1.2.2.4.2 Provide Capability to Remove PMS to INTUITY Link

A subset of messages (check in, checkout, room swap, guest info, room image, and message wait) that the PMS sends to the DEFINITY ECS are tandemed onto the Lucent Technologies INTUITY AUDIX voice messaging system using the switch-to-AUDIX data link. Systems that use only those features can eliminate the PMS-to-AUDIX data link.

1.2.2.4.3 Support Guest Data in ASCII and BCD

The PMS features that use BCD to encode data sent to the DEFINITY ECS are modified to optionally accept that data in mixed BCD and ASCII form. BCD is still needed for compatibility with existing PMS products. This feature is administrable. This feature makes the DEFINITY ECS compatible with some of the new PMSs and simplifies development of future PMSs.

1.2.2.4.4 Attendant Crisis Alert

This feature alerts the attendant console when an emergency call (for example,. 911 in the United States) is placed from any phone on the DEFINITY ECS. A record is kept that shows the time of the call and which extension made the call.

1.2.2.5 Product Commonality

1.2.2.5.1 Station Hunting

In G3V4, hunting allows Automatic Call Distribution (ACD), Direct Department Calling (DDC), Uniform Call Distribution (UCD), and Call Coverage to check the status of extensions in hunt groups (ordered groups of extensions). Once this feature is enabled on a system level, specific hunting patterns are administered on a station form. In Release 5.4, a new type of hunting is introduced that allows hunting to begin with the called extension rather than at the beginning of the hunt group. There are three forms of this type of hunting:

- Circular Station Hunting

  In circular hunting, the hunt starts with the called extension and proceeds to check all extensions in the hunt group. The call completes to the first idle extension. If every extension in the hunting sequence is busy, the switch returns busy tone to the caller.

- Linear Station Hunting

  In linear hunting, the hunt starts at the called extension and proceeds to check the remaining extensions in the hunt group. If the called extension is not the first number in the hunting sequence, the extensions preceding the called number in the hunt group are not checked. If the remaining extension numbers are busy, the switch returns busy tone to the caller.

- Modified Circular Station Hunting

  This is an operation that searches for an idle extension within a prearranged group by always starting with the called extension and ending when an available extension is found or the search limit is reached. This is a combined form of linear and circular station hunting.

This feature does not support multimedia endpoints or any other data endpoints.

1.2.2.5.2 Mixed FAC and TAC Numbering

This enhancement allows FACs and trunk access codes (TACs) of the same length to begin with the same digit(s). For example, 132 can be a FAC and 133 can be a TAC. This new capability allows customers to maintain their current access codes when upgrading to DEFINITY from G2, System 85, or DIMENSION.

NOTE:
TAC is now known as “dial access code (DAC)”.

1.2.2.5.3 Incoming Trunk Call Splitting

In Release 5.4, the optional Incoming Trunk Call Splitting feature is provided on a per-system basis. Incoming trunk call splitting allows a new CDR call record to be generated when an incoming trunk call is transferred or conferenced. Incoming Trunk Call Splitting provides post processing systems (Call Accounting - MOSCOM) with the ability to appropriately allocate charges to users of a particular incoming call segment. The customer gains greater cost management control of their telecommunications system by segmenting their CDR records for accurate billing. Incoming trunk call splitting is intended to provide accurate call records when more than one end user (station user and/or attendant) is involved in the call. The call records correctly allocate the time of each portion of a transferred or conferenced call involved with an incoming trunk. Calls involving an incoming trunk are split (if the Incoming Trunk Call Splitting feature is turned on) when a call is transferred or conferenced.

In summary, in Release 5.4, a customer is asked to select one of two options:

- Incoming Trunk Call Splitting feature that provides a call record for each call segment
- Current G3V4 operation of a call record for the first call segment

1.2.2.5.4 DS1 Administration Enhancements

This enhancement provides the ability to change parameters on the DS1 administration form even if trunks are administered on the DS1 interface. Currently, for most parameter fields on the DS1 form, changes are not allowed if trunks have been administered on the board. This feature works for both T1 and E1 trunks.

Release 5.4 allows administrators to change some of the fields on the DS1circuit pack form without first removing any trunks from the trunk group. The exact list of fields is determined by the requirements, but will at least include line coding and framing.

Currently, if a DS1 option needs to be changed (often due to changes at the operating company), it may require several TSC personnel and an elapsed time of five hours for a trunk group of 150 trunks. The new capability allows the change to be made instantly. This significantly reduces administration costs.

1.2.2.6 Call Center and Callvisor ASAI

1.2.2.6.1 Global Call Classification

A global Call Classification capability on the standard DEFINITY ECS platform is added. The development includes switch call processing changes and the TN744D (vintage 2) and TN2182B (vintage 2) circuit packs firmware changes. The changes support recognition and classification of call progress tones, special information tones, answering machines, and modem tones in most countries. Operation is intended for all passport call center countries, and is confirmed for Brazil. As with classification in the United States, the accuracy of classification varies with the type of tone and the method of tone generation.

NOTE:
This feature is being qualified in many countries. See your Lucent Technologies technical representative for further information.

1.2.2.6.2 ASAI support of Release 5.4 Features

The following new R5.4 features have been verified with ASAI:

- ASAI test of the Global Call Classification board
- ASAI support of Release 5.4 QSIG enhancements: QSIG Path Replacement, QSIG Call Transfer, and QSIG LookAhead Routing
- Russian Signaling
- Incoming Trunk Call Splitting

1.2.2.6.3 Service Observing by Class of Restriction

A separate COR is provided to specifically limit the extensions that a Service Observing user can observe, to a subset of the stations that they can call. Previously, a user could observe any station that they could call.

1.2.2.7 System Administration

This topic is covered in Sections 1.2.2.3.1, *MultiMedia Call Handling (MMCH)* and 1.2.2.5.4, *DS1 Administration Enhancements*.

1.2.3 Adjunct Support

1.2.3.1 Calling Party Number to INTUITY AUDIX

Calling Party Number information will be passed to INTUITY AUDIX systems. In order to ensure that ANI information is not sent from a DEFINITY to a release of INTUITY AUDIX that does not support this information, this feature is optional on DEFINITY. INTUITY AUDIX R4.3 is planned to support this information.

Message Manager is a product available with both INTUITY and DEFINITY AUDIX. It provides a visual interface into a subscriber's AUDIX environment via a PC Windows application. The relevant feature is access, and particularly nonsequential access, to the mailbox.

- ISDN Based

  If a user has several messages from other internal users, he or she can, based on the originators extension and name, choose the message that is most important and handle it first. External messages are only identified by the ISDN calling party number (CPN). The ISDN-calling party number (CPN) on the INTUITY AUDIX message header provides a way for customers to identify their most common callers (for example, family, priority customers, etc.).

- R2 MFC Based

  R2 MFC ANI to INTUITY AUDIX applications are used in countries where ISDN-based CPN is not available. This allows for advanced messaging capabilities in places that don't have ISDN facilities.

1.2.4 Enhancements/New Capabilities

1.2.4.1 Abbreviated Dialing (AD) Softkey Labels

Abbreviated dialing softkey labels now have the last two characters as the button number and every label is unique. The Italian labels have **NBr** on them followed

by the button number. The user-defined labels have the last two characters positions administered with blanks and are reserved for the button numbers.

1.2.4.2 Agent/Split Pairs

Three hundred agent split pairs are available on the R5vs configuration. Previously, only 150 agent/split pairs were available.

1.2.4.3 Announcements

Executing the **list integrated-annc-boards** command now results in showing announcements that are administered but have a zero length (are not recorded).

1.2.4.4 Automatic Numbering Identification (ANI)

When an incoming primary rate interface (PRI) call is tandemed over a Distributed Communications System+ (DCS+) trunk, vectoring automatic numbering identification (ANI) conditionals can now be used to branch onto the original Integrated Services Digital Network (ISDN) PRI ANI.

1.2.4.5 CallMaster

CallMaster sets in hunt group 1 can always answer incoming calls and transfer calls to other extensions.

1.2.4.6 Coverage of Calls Redirected Offnet

When a remote coverage or forwarding call routes to a busy destination with the Coverage of Calls Redirected Offnet feature active, the calling party used to have to wait through five seconds of busy tone before the call transferred to a subsequent coverage point. Now, the calling party listens to local ringback throughout the call until a covering party answers the call.

1.2.4.7 Conference and Transfer

Conference and transfer now work with multiple service observers if a conference or transfer occur between two calls that are being service observed by separate observers. Previously, conference and transfer were blocked with warning tone.

1.2.4.8 Disablement Feature

The new Disablement feature is used to detect when a customer has physically moved a switch. The radio infrastructure is disabled so that no radiators operate after the move. The “Radio Transmission” field on the System-Parameters Wireless form must be set from n to y to reactivate the radio infrastructure.

1.2.4.9 Message Retrieval

Logged-in Expert Agent Selection (EAS) agents can now press the “message” retrieval button and retrieve any Leave Word Calling (LWC) messages (or indications of waiting AUDIX messages) for the agent’s login ID by then pressing the “next” button.

1.2.4.10 Redirect on No Answer (RONA)

The RONA feature with a vector directory number (VDN) destination for redirection works correctly when redirecting to auto-available splits (AASs). Previously, the caller received intercept tone instead of queuing to the second AAS group after the call RONAed in the first AAS hunt group that redirected to a VDN whose vector had a route-to step to the second AAS group. This made the second AAS group appear as if it had no agents in it.

1.2.4.11 Switch-Classified Calls

DEFINITY DEFINITY ECS now uses cause information elements (IEs) that arise within progress messages during call setup to classify the outcome of switch-classified (predictive dialed) calls, improving the classification process of these calls when they go over ISDN facilities.

The DEFINITY R5r switch now supports a maximum of 600 simultaneous switch-classified calls. Previously, a maximum of 400 simultaneous switch-classified calls were supported.

1.2.4.12 Trunk Flash

The Trunk Flash feature is enhanced to allow tie trunks to be administered. Previously, the Trunk Flash feature only allowed central office (CO) and foreign exchange (FX) trunks to be administered.

1.2.4.13 Zip Tone

Zip tone is now one of the administrable tones on the change system country form. Previously, zip tone was fixed at 480 Hz, -17 dB, 500 ms.

1.2.4.14 DEFINITY Wireless Business System (WBS)

This system is a 1.9-GHz multizone mobility solution for large businesses that use the unlicensed PCS spectrum. The system uses a 2-line pocket phone offering corded voice quality for up to 260 wireless terminals and a coverage area of up to 4 million square feet. The following features are included:

- Easy and complete integration with the DEFINITY DEFINITY ECS

- In addition to having most every feature found on wired digital communications protocol (DCP) phones, the DEFINITY WBS Pocket Phone 9601 has excellent voice quality, alphanumeric display for call screening and call control, and a 2-line display in a small, lightweight handset.
- Dynamic Channel Allocation, that automatically distributes and redistributes channel capacity on demand to eliminate call blocking
- High-capacity base stations that provide 12 simultaneous communications links for each station, which is more than any other in-building wireless system
- Access Authentication, that provides denied access to unauthorized users
- Fast incoming call connection
- Administered Roaming, which means that users can roam in up to eight other separate and distinct DEFINITY Wireless Business System locations using the same handset
- System Management that has all the capabilities of DEFINITY ECS, that provides a high degree of total control over the parameters and functionality of the system
- Data Capable Architecture, which means that the DEFINITY WBS will support additional wireless applications such as data and video in the future

1.2.4.15 Attendant Backup Alerting

A new feature is added for Attendant Backup Alerting. This feature provides an audible alerting signal along with the existing visual alerting for multiappearance stations whenever there are calls waiting in the attendant queue and these queued calls can be answered via the TAAS feature. This feature restricts the use of the TAAS feature to those endpoints that have the client-room COS set to no.

1.2.4.16 Usage Allocation Enhancements

The table expansions for the Usage Allocation Enhancements feature were not implemented.

1.2.5 Maintenance and Serviceability

1.2.5.1 Message Sequence Tracer (MST)

CMS tracing is added to MST to enhance our ability to collect data that will help in troubleshooting BCMS/CMS problems.

1.2.5.2 Radio Transmission Field

A new field on the system-parameters wireless form, “Radio Transmission,” controls radio transmission. After a power cycle of the switch, the “Radio Transmission” field is changed to n and radio transmission on the switch is disabled.

1.2.6 Upgrades

1.2.6.1 ISDN-PRI Usage Allocation

If a switch is V5 or later and ISDN-PRI is enabled, the “Usage Allocation Enhancements” customer option is automatically set to yes. If the option is set to yes, the number of entries allowed in G3i is increased from 12 to 24 and in G3r, from 12 to 60. The number of incoming call handling treatment (ICHT) entries increases only on a G3r as follows:

- The system-wide number of allowed ICHT entries increases from 288 to 576 entries
- The number of ICHT entries allowed in a single trunk group increases from 36 to 54
- The number of Usage Plan Allocation Plan entries (on a call-by-call ISDN-PRI trunk group with Usage Allocation enabled) increases on both a G3i and a G3r from 10 entries per plan to 15 entries per plan.

1.2.6.2 QSIG Supplementary Service

On a pre-R5 to R5 upgrade, if the customer was using Supplementary Service Protocol “b” or “d” in an ISDN-PRI trunk group before the upgrade, the “QSIG Basic Supplementary Services” option must be set to yes after the upgrade.

On an R5 to R5.4 upgrade, if the customer was using Supplementary Service Protocol “d” in an ISND-PRI trunk group before the upgrade, the “QSIG Basic Supplementary Services” option must be set to yes after the upgrade.

2. INDEX OF CHANGES

The following lists the item numbers of the features and categories that are affected by changes, modifications, and enhancements.

3. CHANGE DESCRIPTIONS

The following problems are corrected and addressed in DEFINITY Enterprise Communications Server (ECS), R5.4.0 (R5EM Issue 4.0 G3V5 [ir].04.0.122.2).

1. The CPN for a 5-digit extension was not sent if there was a 4-digit extension that matched the first four digits of the 5-digit extension defined on the ISDN Public-Unknown-Numbering form
2. .When a service observer pressed the “voa-repeat” button, a procedure error was generated, although the feature worked.
3. In an EAS environment, when using a FAC to change to the auxiliary work mode, the line appearance was not dropped correctly and intercept tone was heard.
4. The CDR link did not come up when a PDM was added with the remote looparound test set.
5. If an incoming public-network ISDN voice call could not be routed over a private-network trunk group because all trunk members were busy, the cause value sent back to the public network caused it to play a misleading announcement to the caller. Now, the cause value causes the calling party to hear busy tone.
6. If a call covered to a remote off-net coverage point, timed out to go to a subsequent coverage point, and the next coverage point was a VDN, the call either (depending on whether the principal had remained on the call via a simulated bridged appearance) remained ringing on the remote off-net coverage point or stopped ringing that point. Now, the call covers to the VDN coverage point.
7. When a calling party placed an offnet coverage or forwarded call and was speaking while the call was being classified, the call classifier reported a false answer and the call did not transfer to a subsequent coverage point.

8. A PSA associate operation failed when it was attempted on a station that was already associated.
9. A misdialed call from a DID or tie trunk could be directed to the attendant and cause a system restart when trying to show a blank display.
10. Stations that were busy and had bridged appearances on other stations were handled based on the bridge's status. For example, if the station with the bridged appearance had SAC activated, the call received SAC treatment. This was highly visible with AWOH stations.
11. A redirected display that contained a calling party name larger than 15 characters caused the AUDIX Voice Power (and other applications that use the PC/PBX DCPI circuit pack to connect to the switch) to break.
12. When an "LMAC Lost Sanity" error occurred, action was not taken. Now, when this error occurs, it is logged and the WFB is reset.
13. Logged-in EAS agents could not press the "message retrieval" button and then the "Next" button to retrieve any LWC messages (or indications of waiting AUDIX messages).
14. Calls to AUDIX on a port network with only a few fiber timeslots available could cause minor alarms on the system links.
15. If a user executed a **coverage message retrieval** operation followed by a Q-call or Q-time request, touch-tone dialing from the dial pad was disabled until the user pressed the normal button.
16. External alarm tests did not respond to the testing commands correctly -- the tests always passed.
17. A hardware double failure on the TN744v7 board caused Test 42 to abort with no error code. Now, when this double failure occurs, the error code 2006 is given with the abort message.
18. On BRI data modules, when a release message with Global CRV was received, the DEFINITY switch sent a status message back, causing an infinite loop between the DEFINITY switch and the data module. Now, the DEFINITY switch sends back a release complete message.
19. Technicians were unable to log in to the SYSAM debugging interface if the Inads login was greater than seven characters.
20. On a g3r system, no more than six users could perform the **list emergency** or **list wakeup station** commands. Now, any number of users can perform these commands.
21. If a trunk caller executed a Transfer Out of AUDIX operation with ports translated as digital stations and dialed the remote access number, the transfer was denied.
22. The RONA feature with a VDN destination for redirection works correctly when redirecting to auto-available splits (AASs). Previously, the caller received intercept tone instead of queuing to the second AAS group after

the call RONAed in the first AAS hunt group that redirected to a VDN whose vector had a route-to step to the second AAS group. This made the second AAS group appear as if it had no agents in it.

23. Conferencing to a VDN that was being observed resulted in multiple observers on the call and a procedure error.
24. Route requests performed over the eighth ASAI link could fail to send the messages to the adjunct because of buffer exhaustion.
25. The data link did not come up when translated with the remote looparound test.
26. Outside the United States, if a customer dialed the TAC of an ISDN-PRI trunk group followed by a number that included the digit 9, the 9 was sometimes not sent correctly over the D-channel. Therefore, the call did not go through because one or more of the digits was missing.
27. A system restart could occur if the update key was used over a long period of time to refresh the display of a single **monitor bcms** command
28. A user could put **x** in the port field of a BRI data module when duplicating a data module (using the **duplicate data-module** command) with a port that led to corruption because AWOH was not supported for BRI data modules.
29. When a station with data restriction transferred a call to a party who was being service observed, even after the restricted party completed the transfer, the observer could not observe the call.
30. A 3-party conference with an ISDN trunk with the outgoing display equal to **n** could, in some cases, cause a system reset.
31. Users were allowed to administer more than one AUDIX hunt group on a R5 si/vs machine when administration of only one machine was valid.
32. TTI did not always allow a customer to merge sets because the merge table was full.
33. A trap could occur in handling an intraswitch call when the principal-called station was not being alerted because of redirection features.
34. When a BRI station was optioned with “Auto Select Any Idle Appearance?” set to y, it saw the effect of the option in the case of selecting an idle appearance in response to a conference or transfer button push. If there was no idle appearance of the extension selected when the conference or transfer button was pressed, other extensions assigned to the station were not correctly searched for an idle appearance.
35. The **list config wt-stations** command’s hardware vintage was displayed as a short. Now, this command’s hardware vintage is displayed as a string (that is, X Y Z where X is the baseband vintage, Y is the radio major vintage, and Z is the radio minor vintage).

36. If an RC circuit pack uplinked a sanity error, an error and a minor on-board alarm were generated. Now, in addition to the error and alarm, the SPE automatically attempts to restore normal operation by automatically resetting and reinitializing the RC circuit pack.
37. Features that used the speech synthesis board did not work correctly when used from a wireless terminal (WT).
38. Tone treatment could be incorrectly applied to the new leg of a QSIG Path Replacement call.
39. Call Forwarding lamps were not being updated for third-party data Call Forwarding.
40. When coverage for station A was a remote cover point (B) on another switch and station B had a coverage path with station A as a cover point, calls placed to station A or station B, if unanswered, bounced between the two switches and used all the trunks in the group.
41. When using the **status conference** command on an MMCH call with more than one voice party, the status data for that party was incorrect.
42. A procedure error appeared each time a record was cleaned up in the CDR process without being output.
43. The “Protocol Version” field on the DS1 forms disappeared when changing the “Connect” field from `pbx` to `network`.
44. Incoming trunk calls that were transferred or conferenced to a hunt group always recorded the member extension in the CDR record when ITCS was enabled. Now, the CDR record contains the member extension or the hunt group based on administration on the system-parameters CDR form.
45. A voice endpoint with H.320 set to `no`, and a coverage path with H.320 set to `yes`, resulted in a data call that should not be accepted at the primary terminator being accepted. Now, this MMCH data call is denied.
46. The SAT command, **list measurements cell-performance summary last-hour**, displayed a report that contained the data “`Acceptable RSSI%`” (radio signal strength indicator). Now, this is removed.
47. The SAT command **list measurements cell-performance summary last-hour** displayed a report that contained the frequency usage in percentage. Now, the command displays a report that contains the frequency usage actual values.
48. Common shared extensions did not display correctly on the console-parameters form after an upgrade.
49. Automatic reconnection of calls at DEFINITY Wireless Business System wireless terminals (WTs) resulted in short buzz tone.
50. When WFB was shut down it did not come back or try to come back. Now, WFB initializes itself.
51. Procedure errors resulted from any call originating on a trunk.

52. If a video call was made to a voice endpoint, the call was up and stable, a second voice user bridged on to the call, and the call was now a 3-party conference, if the bridged party hung up, the conference was torn down.
53. If an attendant unheld a call, the system reset, and the attendant could not return to the held call.
54. If an MMCH conversion call was dropped by the PC before the call was answered, the system trapped for multiple port network calls.
55. An intraswitch wideband call to or from PRI endpoints did not generate CDR records when intraswitch CDR was enabled.
56. A station that routed to a trunk via the Calls Redirected Off-Net feature could not enter the charge display mode.
57. MMCH calls that covered to offnet were dropped at the second coverage point if the second coverage point was AUDIX.
58. An MMCH end-point originated call that covered to offnet followed by an AUDIX cover point was dropped at AUDIX.
59. When the attendant released a call and there was only a multimedia endpoint on the call, the call did not drop.
60. The incoming forward signaling “Types for Group-II” on page 2 of the change system-parameters multifrequency-signaling form was converted from “normal” to “maint-call.”
61. d into a conference before the call was cut through resulted in all members of the conference hearing the hourglass tone (ringback) indefinitely.
62. If ITCS and intraswitch were enabled and an incoming trunk call was conferenced and then transferred to an intraswitch optioned station, the CDR records for the transfer-to party were not generated.
63. MMCH data calls did not leave a hunt queue once they had entered it.
64. An MMCH conference call was limited to five parties. Now, it is limited to six parties, like voice conferences.
65. A call that station hunted before it went to coverage could become lost if all the coverage points were busy. Now, the call stays at the hunt-to station or follows the hunt chain of the last coverage point if hunt after coverage is set for this coverage path.
66. An incoming MMCH call over an ISDN trunk without calling party information that was addressing a VDN that routed to a hunt group, caused each channel to route to a different hunt group member and caused the video call to fail.
67. AAR calls routed over a non-ISDN BX.25 DCS trunk showed “unknown name” on the display at the terminating station instead of the trunk group name.

68. The CDR record for an offnet coverage or forwarded switch-classified call started timing from the trunk answer supervision and the record was sometimes not that of the call that completed. Now, the CDR record call duration reflects the time the two parties actually were connected and is always for the call that completed.

69. If a station in conference was ringing and the last party was dropped, the ringback tone to the originator was removed and the originator heard silence.

70. A BRI station that had an active call on its attached data module did not hear the VOA announcement when it played.

71. On a DID trunk-group form with the “Country” field set to 14, the “CO Type field” wrapped to the next line.

72. When a remote coverage or forwarding call routed to a busy destination with the Coverage of Calls Redirected Offnet feature active, the calling party had to wait through five seconds of busy tone before the call transferred to a subsequent coverage point. Now, the calling party listens to local ringback throughout the call until a covering party answers the call.

73. Translation data saved on a flash card for Message Sequence Tracer MST CMS tracing status was not loaded correctly.

74. If an agent pressed the ACW key to prevent the timed ACW timer from being set, and the agent had another non-ACD call on hold, the ACW mode was pending while on the ACD call but the timer was still set when the ACD call ended.

75. When an offnet coverage call in an ISDN-PRI interworked circuit was answered at the offnet coverage point and then the original principal picked up the call on his or her simulated bridged appearance, the original principal’s display was incorrect. Now, the original principal’s display correctly shows “CONFERENCE 2.”

76. The cell performance reports displayed the measurement hour as 0 when a new RC circuit pack was added to the system. This happened only if the report was requested before the hour (before the measurement manager requested the first hourly data from the RC firmware). Also, the cell performance reports did not list all the administered CAUs for each RC.

77. When WFB was out-of-service and the user entered **test wfb 1b12a**, this test executed the CAU test and the test passed. Now, the test executes the CAU test and the test aborts with error code 4000.

78. MST CMS messages could be logged to the MST buffer only within X.25 messages. Now, CMS messages can be logged to MST as separate messages.

79. The command **list integrated-annc-boards** did not show announcements that were administered, but had a zero length.

80. When an incoming PRI call was tandemed over a DCS+ trunk, vectoring ANI conditionals could not be used to branch on the original ISDN PRI ANI.

81. When an attendant console was a member of a split and had an extension number assigned, the attendant could not receive a split call when talking on their extension number.

82. If the second DCS coverage endpoint in the path was busy, the caller heard busy and ringback tones at the same time. Now, the caller only hears ringback tone.

83. Zip tone was fixed at 480 Hz, -17 dB, 500 ms. Now, zip tone is one of the administrable tones on the change system country form.

84. When a service, service acknowledgment, restart, or restart acknowledgment message with a global call reference value and a missing mandatory IE was received on the PRI, the resulting processing error indicated the message causing the failure was a status message. Now, the resulting processing error indicates which of these four message types caused the failure.

85. Executing a **status data** command on the secondary PDM displayed the status for the primary PDM. Now, executing this command on the secondary PDM displays the status for the secondary PDM.

86. When network feedback was set to `no`, network feedback and tone detection were the only characters in the inserted string that could be heard. Now, the tones are not heard.

87. If a conference or transfer was occurring between two calls that were being service observed by separate observers, the conference or transfer was blocked, regardless of warning tone.

88. An invalid value left in a BRI data extension's data structures caused similar values to be rejected for active and valid calls, resulting in hung facilities when clearing the call was attempted.

89. Ringback tone could be heard over announcements when calls covered to an ACD VDN.

90. When switch-classified (predictive dialed) calls were launched and the network sent progress messages with cause IEs to inform the DEFINITY switch that a special information tone (SIT) tone was being played in-band, the DEFINITY switch ignored the cause IEs included in the message and let the classifier board determine the outcome of the call. In some instances, the classifier board classified the call incorrectly. Also, if a disconnect message with the progress indicator "information available in-band" was sent along with a SIT cause IE or "user busy" information, the DEFINITY switch left the call up until the ring-timeout cleared the call.

91. Send all calls buttons for a specific extension did not send calls of the specified extension to coverage if that button was on a station with a bridged appearance of the specified extension and that extension was administered without hardware.

92. If a call covered to a station in a DCS network over an ISDN DCS trunk and went unanswered at that coverage point so that it was then routed to the next coverage point and that coverage point was a local VDN that executed a route-to step to a local station, that station's display showed "UNKNOWN" for the principal's name. Now, the principal's name is displayed.
93. If an ACA call was conferenced or transferred, the feature was blocked from making another call.
94. TN573B circuits packs showed "circuit pack conflict" on the Change Circuit form. Now, the B suffix appears in the "suffix field" and no conflict is shown.
95. If an EAS agent's login ID was administered as a UDP code with UDP codes checked first in the dial plan, an attempt to log in that agent resulted in a dead phone with no indication of the status of the login attempt. Now, intercept tone is heard and the login attempt is denied.
96. When an agent was logged into a non-AAS skill and then had their administration of that skill changed to a different skill on the agent form, changing the skill they were logged into to AAS was allowed and caused the agent to not be able to log out. Now, a skill cannot be changed from non-AAS to AAS if an agent is logged into the skill.
97. If an AUDIX port went into the ACW state in an EAS hunt group, the port was stuck in that state. It had to be busied-out and released to work.
98. Canceling out of a **test**, **busyout**, or **release trunk** command could cause the SAT to stop processing commands.
99. If an ASAI adjunct requested a billing change on a multiquest call with Flexible Billing available, the change was sent to the network (4ESS), but the reply from the network was not sent to the ASAI adjunct.
100. In an EAS environment, the Agent-Status Value Query response sent the status of the agent in the first administered agent's skill regardless of agent activity. This resulted in reporting the agent as available when the agent was in the ACW mode on a skill other than the first administered one. Now, the Agent Status Value Query responses contains the status of the agent in reference to the skill over which the agent received the last serviced call. Therefore, if the agent goes to the ACW mode, the response indicates this agent state.
101. Using more than one EPN maintenance SAT connection could cause the loss of system resources and result in lower limits on the number of SATs that could log in to the system. Now, the documented limits apply.
102. The **change system-parameters customer-options** command did not work correctly for R5 vs/si systems.
103. The 28th alarm was not printed when there were 28 alarms.
104. The **test spe** operation could fail to execute correctly.

105. In an EAS environment, when the BCMS agent table was full but less than the maximum number of agents were logged in and an agent who was not in the table attempted to log in, the new agent was allocated the first entry in the table that was currently allocated to a logged out agent. Now, the new agent is allocated the entry currently allocated to the least recently logged in agent (the agent who is logged out for the longest time).

106. “Tie” trunks could not be administered for the Trunk Flash feature. Now, the trunks can be administered, including the administration of the “Flash Length” field on the administrable timer page.

107. Only 150 agent/split pairs were available on the R5vs configuration. Now, 300 agent/split pairs are available.

108. Calls that did TTI separate or PSA dissociate operations stayed up indefinitely with the call appearance busy.

109. If ITCS was enabled and an incoming attendant serial call was transferred to a station that in turn transferred to another station, CDR records were generated out of sequence.

110. The PASTE feature did not include the administered button strings in-call-id, cas-backup, uui-info, dir-pkup, ssvn-halt, and disp-chrg.

111. MMCH-originated local calls to any station were treated as external calls by AUDIX for a message header. Now, these calls are treated as internal calls.

112. CDR records for the outgoing trunks of Path Replacement had incorrect digits for the called party number.

113. A cooperating PBX did not erase the codeset zero facility IE path replacement propose return error data when sending a return error.

114. An MMCH conversion call to an auto-answer station would have a 1-way talk path. Now, an auto-answer station has a 2-way talk path on multimedia calls.

115. MMCH conversion calls always failed.

116. The table expansions for the Usage Allocation Enhancements feature were not implemented.

117. Multiple “toll-auto” keywords could be administered on page 3 of the change system-parameters multifrequency-signaling form. Now, a duplicate entry error is displayed. Single “toll-auto” entries are still allowed.

118. Announcements recorded on an R5 system processor using a TN750C board lost the first announcement when the board was inserted in an R5 vs/si processor.

119. MMCH or plain data calls made over digital trunks could be dropped randomly before the call was answered.

120. The **status conference XX** pages 3 and 4 contained port data that was displayed too close together. Similarly, page 2 of the **status conference XX endpoint Y** command had the same display problem.

121. Attempting to do a PSA associate operation on an already associated station resulted in rejection tone (busy signal).

122. If an incoming ISDN call was transferred from a non-BRI party to another non-BRI party on the same DEFINITY switch, the called number reported over ASAI was the original called number. Now, the called number reported over ASAI is the called number of the transferred-to party.

123. When a voice station used the cov-cback button for a MMCH conversion call, a message was not left at the principal.

124. LookAhead Interflow (and II Digits IEs were lost on an ASAI link if the call was DCS.

125. If “Wireless” was enabled on the customer-options form, and the switch was power cycled, the Wireless option was changed to n and radio transmission was disabled. Radio transmission was restored once the “Wireless” option was enabled again.

    A new field called “Radio Transmission” is located on the system-parameters wireless form and it controls radio transmission. After a power cycle of the switch, the “Radio Transmission” field is changed to n and radio transmission on the switch is disabled.

126. If a wireless terminal (WT) user pressed the end button while active on a call and immediately pressed either the caller or one of the call appearance buttons, the button push was ignored and the user received no dial tone. Now, the user receives dial tone a couple of seconds later (after the old link is torn down and a new link is reestablished).

127. The ASAI page of the system-parameters customer-options form contained an erroneous field.

128. An MMCH complex could not activate LWC for a remote extension.

129. PASTE did not display the R3V5 version of CMS.

130. When the wakeup report ran, the user could not make any changes or additions.

131. A switch with translations provisioned on a small or wall mount platform (8 meg) and then loaded on a medium (12 meg) could have the “Voice Mail” option set incorrectly so that LWC did not work.

132. If the switch was involved with a ringing call and a QSIG path replacement propose was received, the switch responded with a reject message. Now, the switch responds with a return error.

133. The “Card Format” field on the Memory Card Status form had a question mark (?) for the memory card in the standby SPE. Now, this field has the correct card format.

134. If a station parked a MMCH conversion call, received confirmation tone, and then hung up, the parked call was dropped.

135. When the target of an automatic callback call went on-hook, the system reset.

136. A converted call that was sent to a hunt group via pressing the SAC button when the “Early Answer” field on the Hunt Group form was set to y, continued to ring at the principal station. Now, the after SAC is pressed, the call rings only once at the principal station and then goes to the hunt group.

137. When two parties were left on a MMCH conference, the display was incorrectly updated.

138. When ITCS was enabled, an incoming trunk call to an ACD group that conferenced two outgoing trunks produced an extra CDR record. The extra CDR record was output when an outgoing trunk dropped from the conference (before the incoming trunk or station). The CDR record contained the incoming trunk and the ACD group.

139. An AWOH extension that was previously associated with a terminal could not be forwarded with the extended forwarding feature access codes (FACs).

140. Video calls would not associate when routed over DCS and non-DCS trunks.

141. The change station security code feature access code (FAC) could not be used after accessing the telecommuting access extension.

142. A user received an incorrect display when going back to a held MMCH to voice conversion call.

143. Incoming calls on a DS1 tie trunk to a forwarded data module failed.

144. The maintenance **test station short** test turned the call forwarding data extension lamp off.

145. Incoming trunk calls to hunt groups that had then conferenced or transferred caused incorrect CDR output.

146. Bridging, conferencing, or transferring an offnet coverage or forwarded call while call classification was active on the call sometimes resulted in the originating party receiving a false answer because of echo back of his or her own voice. Also, not all originating parties on a call heard ringback. Now, bridging, conferencing, and transfer are blocked when an offnet coverage or forwarded call is being classified. All originating parties on a call hear switch generated ringback tone.

147. The **status conference** command erased the conference object from the command line after execution, causing the **help** and **repeat** commands to work incorrectly.

148. One-line terminals, such as the 7406D and 8410D terminals, continued to display a final charge when the displaying station reoriginated a call and the user could not see a display of digits being dialed.

149. On an R5r, a rotary station did not end-to-end signal over a trunk or to another analog station. On the R5, it worked. Now, it works on both systems.

150. The maximum value in the “Link Acknowledgment Timer” field on the Hospitality form was 500 ms. Now, the maximum value is1500 ms.

151. Conference calls that included two or more switch support base (SSB) ISDN trunks were considered transit. Now, only calls that consist of exactly twoSB ISDN trunks are considered transit.

152. When one CAU failed cell initialization, the WFB was taken out of service with no radio coverage. Now, only the failed CAU is taken out of service.

153. For DEFINITY Wireless Business System wireless measurements, the “list meas cell-perf summary last-hour” report was accessible to all logins. Now, access to this report is limited to init, inads, and craft logins only.

154. An incoming call from an ISDN tandem trunk group was routed using the TCM in the incoming setup message, even if the TCM was lower than the FRL of the incoming trunk group. This caused calls to fail if the trunk group FRL was high enough to access an outgoing route pattern, but the TCM was not high enough to do so. Now, the call is routed using the received TCM only if the TCM is higher than the FRL of the incoming trunk group.

155. Agents with multiple skills using MCH could have agent availability reported incorrectly to CMS. Now, agent availability will be reported correctly to CMS.

156. When performing an **add skill** operation via a FAC, the skill was added at the first empty slot after all of the agents administered skills on the Agent-Login ID form. Now, the first empty slot on the Agent-Login ID form is populated with the new skill.

157. Attendant agents in many forced MCH splits or skills placing ACD calls on hold could have those calls redirected to other agents in that split or skill when the timed reminder on hold expired. Now, the call is returned to the attendant agent who held the call.

158. If an agent was logged into more than one split or skill, auxiliary time was only collected for the first split or skill when an agent completed an extension-in or extension-out call in the MI/AI work mode. Now, auxiliary time is collected for all of an agent’s splits and skills.

159. If an MMCH call converted to voice and the call was not answered within one minute, the call dropped. Now, if the wait answer sup timer flag is set to n, the converted MMCH call rings at the principal or last coverage point forever. If the wait answer sup timer flag is set to y, the converted MMCH call rings at the principal or last coverage point (if coverage exists) for 50 seconds and then drops.

160. Calls that had sent a path replacement propose and were then dropped before a response was received did not clean up the QSIG path replacement call ID table.

161. When the first digital circuit board was a TN2224, the TN765 test failed. The Memory Card Status form showed strange results during upgrades, including 1047% translation space used, no translation present, and question marks. When running BRI port maintenance, Test 624 always aborted with error code 2000 (message timeout).

162. Inads ports hung in a state in which no calls could dial in or originate from the switch. A **status logins** command from the SAT showed the port active with a command (**monitor security-violations**) but no one was connected to the port.

163. A new feature is added for Attendant Backup Alerting. This feature provides an audible alerting signal along with the existing visual alerting for multiappearance stations whenever there are calls waiting in the attendant queue and these queued calls can be answered via the Trunk Answer Any Station (TAAS) feature. This feature restricts the use of the TAAS feature to those endpoints that have the client-room COS set to no.

164. Calls were being dropped after being parked. This caller did not have any attendants. They were using a hunt group for incoming calls. Callers were parked and then a page was made for a department. If the parked call was not picked up after two minutes it, returned to the hunt group. If there were no line appearances available for the returning call, it was dropped.

165. Converted voice calls that merged into a conference before the call was cut through resulted in all members of the conference hearing the hourglass tone (ringback) indefinitely. Now, the tone is not heard when the call is cut through.

166. Transferred ISDN calls and path replaced ISDN calls sometimes displayed the wrong number.

167. An agent with multiple skills, some of which were many-forced or one-per-skill MCH types, could transition from the ACW mode to an available work mode and still be reported as in ACW on CMS and BCMS. v5em970137 Person Assigned = smelko 84206 <CALL>

168. When a call was originated off the DCS network and arrived at switch via a DCS/ISDN trunk, the calling party number was not available.

169. When a call covered to a remote coverage point over a PRI trunk and the second coverage point was a vector, the display on the second cover point showed “UNKNOWN NAME.” Also if the vector had AUDIX, AUDIX gave a wrong greeting.

170. When a call redirected from an ISDN/BRI Station via the Call Coverage feature on a system with “Temporary Bridged Appearance on Call Pickup?” set to n was answered by the covering user, the simulated (temporary) bridged appearance on the BRI station was removed, even though the call was not answered by the Call Pickup feature. Now, simulated bridged appearances on BRI stations are left in place when a call is redirected by the Call Coverage feature and is answered by the covering user.

171. ASAI link throughput was limited on G3V5i switches to about half the correct value. Throughput on G3V5r switches was unaffected.

172. The **test alarm clear** operation did not cancel.

173. Assume that there were calls to a hunt group that had no members assigned and was in night service. Night service extensions that covered to a remote destination failed and caused a software request 1 if the calling party was restricted access to the outgoing trunk group.

174. In CMS, if an agent made an outgoing trunk call, it was not reported to CMS that it was a trunk call.

175. ASAI switch-classified calls could not be placed outbound on trunks that used MFC signaling. Now, these calls can be placed outbound on those trunks if ARS or AAR is used to access the trunk.

176. Switch-classified calls did not work correctly using ARS when the minimum and maximum fields were not equal on the ARS analysis form for non-ISDN calls.

177. The DEFINITY switch could not pass the appropriate cause value to an ASAI adjunct when a switch-classified call failed over MFC trunks because of any of the following conditions:

    - The called endpoint was busy
    - The network was experiencing congestion
    - The called number was invalid

    Now, if a switch-classified call fails over MFC trunks because the endpoint is busy, the DEFINITY switch passes cause value CS0/17 (user busy) to the adjunct. If the network experiences congestion and DEFINITY receives the congestion MFC signal, it sends cause value CS0/41 (temporary failure) to the adjunct. If the called number is invalid and the DEFINITY switch receives an intercept signal, it sends cause value CS0/21 (call rejected) to the adjunct.

178. When recording an integrated announcement, keypad tones were also recorded, including the pound (#) sign, which could be used to terminate the recording session.

179. A 3-second delay of the listening path to the caller was experienced when an operator in the emergency service answered a call from DEFINITY in the central bank in Moscow in Russia. Now, there is no delay.

180. Wake-up reports caused the system to hang.

181. LookAhead Interflow IEs were lost on an ASAI link if the call was DCS over ISDN. When the call was originated off the DCS network and arrived at the switch via a DCS/ISDN trunk, the calling party number was not available.

182. When a DID no answer (NATO) timer expired while a call was in vector processing, the call was routed to an attendant.

183. Customers could not administer more than 2000 queue-status buttons.

184. The data link did not come up when it was translated with the remote looparound test.

185. An attendant-extended call to a station with SAC active that covered to a VDN that queued the call to a busy hunt group resulted in the call being redirected to the attendant when the recall timer expired.

186. There was no information to show how many queue-status buttons had been administered. Now, the display capacities form shows this information.

187. When a station covered to VDN that queued to multiple splits and was then auto answered by an agent in a backup split, the answer attempt failed.

188. Recall dial tone was provided to ASAI Domain Controlled digital sets when manual transfers were performed from the digital sets. Now, normal dial tone is provided.

189. Corruption of stations could occur on an R5r platform when the TTI feature was used heavily for months at a time without a system reset or upgrade.

190. The string “PORT, TTI” was sometimes displayed when using the integrated directory.

191. A call to a bridge on a station that had SAC active was sent to coverage.

192. If a station had "user-defined" display language, the automatic callr-info display show ***** instead of the user-defined string.

193. After a failed transfer, the original call was sometimes locked up and could not be unheld.

194. If a call covered to a station on node B (DCS call), station B on node B in the same pickup group could not pick up the call.

195. A user could experience a false answer because of echo of the originating party's voice to the call classifier during an offnet coverage or forwarded call.

196. Attendant agents administered for MMCH did not receive ACD calls according to the MCH rules for call termination.

197. An offnet coverage or forwarded call that redirected to an offnet destination via an ISDN-PRI trunk and routed via a TAC was cut off.

198. Video calls over PRI without ANI to a hunt group did not result in the channels going to the same endpoint. If the call was not answered, the call did not convert correctly and did not route to the coverage points.

199. Test 228 always failed. The test is associated with the component MAINT (TN775 EPN maintenance circuit pack).

200. PC set types displayed the call appearance indicator (a=) on redirected calls. Also, the ISDN ANI was not displayed on redirected calls.

201. Executing the **loopback hardware-group** test for systems equipped with TN2181 and TN2224 circuit packs caused persistent aborts

202. If the switch is V5 or later and ISDN-PRI is enabled, the “Usage Allocation Enhancements” customer option is automatically set to yes. If the option is set to yes, the number of entries allowed in G3i is increased from 12 to 24 and in G3r, from 12 to 60. The number of incoming call handling treatment (ICHT) entries increases only on a G3r as follows:

    - The system-wide number of allowed ICHT entries increases from 288 to 576 entries
    - The number of ICHT entries allowed in a single trunk group increases from 36 to 54
    - The number of Usage Plan Allocation Plan entries (on a call-by-call ISDN-PRI trunk group with Usage Allocation enabled) increases on both a G3i and a G3r from 10 entries per plan to 15 entries per plan.