



AT&T 585-306-402
Issue 1
May 1993

AUDIX®
R1V7 Issue 7:1 to 7:2
Change Description

Copyright © 1995 AT&T
All Rights Reserved
Printed in U.S.A.

Notice

While reasonable efforts were made to ensure that the information in this document was complete and accurate at the time of printing, AT&T can assume no responsibility for any errors. Changes and corrections to the information contained in this document may be incorporated into future reissues.

Your Responsibility for Your System's Security

You are responsible for the security of your system. AT&T 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. AT&T will not be responsible for any charges that result from such unauthorized use. Product administration to prevent unauthorized use is your responsibility and your system administrator should read all documents provided with this product to fully understand the features available that may reduce your risk of incurring charges.

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 instruction manual, 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 or her 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-14695-MA-E.

Trademarks

AUDIX is a registered trademark of AT&T.
DEFINITY is a registered trademark of AT&T.

Refer to the Trademarks and Service Marks section near the front of this manual for additional trademarks.

Ordering Information

The ordering number for this document is 585-310-226. To order this document, call the GBCS Publications Fulfillment Center at 1-800-457-1235 (International callers use 1-317-361-5353). For more information about AT&T documents, refer to the *Global Business Communications Systems Publications Catalog* (555-000-010).

Comments

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

Acknowledgment

This document was prepared by the AT&T Product Documentation Development Department, Denver, CO 80234-2703.

Contents

| | |
|--|------------|
| About This Document | v |
| INTENDED AUDIENCES | v |
| HOW THIS DOCUMENT IS ORGANIZED | v |
| HOW TO USE THIS DOCUMENT | vi |
| CONVENTIONS USED IN THIS DOCUMENT | vi |
| TRADEMARKS AND SERVICE MARKS | vi |
| RELATED RESOURCES | vii |
| | |
| 1. Subscriber Changes (User Affecting) | 1-1 |
| GENERAL CHANGES | 1-1 |
| Common Features | 1-1 |
| Special Features | 1-3 |
| NETWORKING CHANGES | 1-4 |
| AMIS Changes | 1-4 |
| Digital Networking Changes | 1-6 |
| | |
| 2. Administration Changes (Administrator Affecting) | 2-1 |
| GENERAL CHANGES | 2-1 |
| Common Features | 2-1 |
| Special Features | 2-6 |
| NETWORKING CHANGES | 2-7 |
| AMIS Changes | 2-9 |
| Digital Networking Changes | 2-10 |

| | |
|--|------------|
| 3. Maintenance Changes (Services Affecting) | 3-1 |
| GENERAL CHANGES | 3-1 |
| Common Features | 3-1 |
| Special Features | 3-3 |
| NETWORKING CHANGES | 3-4 |

| | |
|------------------------|-------------|
| Index | IN-1 |
|------------------------|-------------|

LIST OF TABLES

| | |
|---|-----|
| Table 2-1. New Default Filesystem Sizes | 2-5 |
|---|-----|

About This Document

This document describes the field-update changes incorporated in the AUDIX® Voice Messaging System Release 1 Version 7 (R1V7) Issue 7:1 to 7:2 update software.

These changes will be available on all new AUDIX R1V7 systems and for all AUDIX upgrades after the publication date. Systems that are currently running the previous issue of R1V7 software (7:1) and exhibit no problems will *not* be issued this change unless specifically requested by AT&T remote services personnel.

INTENDED AUDIENCES

The AUDIX system administrator is one of the primary audiences for this document. Much of the material in this document directly affects the AUDIX system administrator or the subscribers that the system administrator supports.

The information in this document is also useful to AT&T sales and marketing personnel, AT&T remote services support staff, and other AT&T personnel who must understand and support AUDIX voice mail systems.

HOW THIS DOCUMENT IS ORGANIZED

Changes (either corrections or enhancements) to AUDIX features are divided into three categories, depending upon the audience the change is most likely to affect. The chapters are titled for each of the categories as follows:

- *Subscriber Changes (User Affecting)* — Covers changes or enhancements that AUDIX subscribers will experience as they use the system. System administrators should distribute this information as appropriate to their subscriber populations.
- *Administration Changes (Administrator Affecting)* — Covers changes that directly affect the AUDIX system administrator. Administrators can use this information to supplement their regular AUDIX library (affected documents are noted in the text).
- *Maintenance Changes (Services Affecting)* — Covers changes most likely to affect local or remote services personnel. However, system administrators may wish to review this section to be aware of all the changes to their AUDIX system.

HOW TO USE THIS DOCUMENT

This document should be reviewed along with the documentation set for a new AUDIX 7:2 system, or when an AUDIX system running an earlier version of software is updated to 7:2. Administrators and remote AT&T support personnel may wish to insert the change-description information into the appropriate AUDIX R1V7 document as noted in the text.

Some changes affect more than one area of the AUDIX system. A cross-referenced index appears at the end of this document to help users quickly locate various items that may have changed.

CONVENTIONS USED IN THIS DOCUMENT

The following typographic conventions are used in this document:

- Terminal keys and telephone buttons that you press are shown in curved-edge boxes. For example, an instruction to press the return, carriage return, or equivalent key is shown in this document as:

Press **RETURN**.

- The word *enter* means to type a value and press **RETURN**. For example, an instruction to type the letter *y* and press **RETURN** is shown in this document as:

Enter *y* to continue.

- AUDIX screen forms and other information that appears on the terminal screen is shown in constant-width type. For example:

The `sdat` filesystem appears on the `filesystem : list` form.

- Variables for which you or the system substitute a word specific to your own application are shown in italic type. For example, an error message that appears on the screen with the name of your own specific filename might appear generically in this document as:

Your file *<filename>* is formatted incorrectly.

TRADEMARKS AND SERVICE MARKS

The following trademarked products are mentioned in this document:

- 5ESS® Switch is a registered trademark of AT&T.
- AUDIX® System is a registered trademark of AT&T.
- DMS-100™ Switch is a trademark of Northern Telecom Limited.
- ESS™ Switch is a trademark of AT&T.

RELATED RESOURCES

Documents affected by the 7:2 software changes include:

- *AUDIX Administration* (585-305-501)
- *AUDIX Administration and Data Acquisition Package* (585-302-502)
- *AUDIX Call Detail Recording Package* (585-305-506)
- *AUDIX Feature Descriptions* (585-305-203)
- *AUDIX Maintenance for Tier I* (585-305-106)
- *AUDIX Networking* (585-300-903)
- *AUDIX Release 1 Version 7 Forms Reference* (585-305-208)
- *AUDIX System Description* (585-305-201)
- *AUDIX Upgrade Instructions* (585-302-108)

1. Subscriber Changes (User Affecting)

The changes in this section are visible to users (subscribers) on the AUDIX system. The AUDIX system administrator should distribute this information to the subscriber population as appropriate.

GENERAL CHANGES

The changes in this section affect most AUDIX systems. The information should be used to update the following documents:

- *AUDIX Administration* (585-305-501)
- *AUDIX Feature Descriptions* (585-305-203)

Common Features

The changes in this section apply to most AUDIX customers.

Callers were unable to leave messages: A filesystem problem forced callers to disconnect without leaving a message.

Occasionally a vtext filesystem that still had space available would not accept any new messages. Callers would hear, “*Leave a message after the tone*” followed by, “*This call is experiencing difficulty, please disconnect.*” Previously, only way to correct this problem was to run the DBP Administrator audit on the maintenance : audits : fp form manually. In 7:2, this audit runs nightly, ensuring that vtext filesystems with available space will accept new messages.

Incorrect AUDIX prompt after a failed transfer attempt: A Return the Call attempt to a busy internal extension played a confusing message.

If a Call Answer message is left for an AUDIX subscriber by an internal caller who is *not* an AUDIX subscriber and has no coverage path assigned, the recipient of the message can still press (1) (0) to automatically return the call (even though the subscriber hears only an extension number for the caller, not a name). This feature works correctly if the extension is idle. Prior to 7:2, however, if the extension was busy, AUDIX played a “*Line busy, returned to previous activity*” message, followed by an “*Entry not understood, try again after the tone*” prompt. In 7:2, the second (extraneous) prompt has been removed.

Message-waiting lamp stayed lit after last new message was scanned: The scanning function did not correctly process all possible subscriber entries.

In certain cases, it was possible for a subscriber's message-waiting lamp to remain lit after the last new message was scanned. The message-scanning function did not correctly process all possible subscriber entries (such as for skip and save). In 7:2, the code has been corrected to scan for all valid user entries and extinguish the message-waiting lamp as appropriate.

Outgoing mailbox message status not correct: Messages could remain in the wrong category in certain situations.

Prior to 7:2, a message in a subscriber's outgoing mailbox could remain in the incorrect category if the following conditions occurred:

1. A subscriber either deleted status messages from his or her outgoing mailbox or scanned *accessed* status messages which are then deleted by the system.
2. The subscriber remained logged in while the status of a message changed (for example, a *delivered* message was accessed). In this case, the message would stay in its current category instead of having its status updated.

In 7:2, the appropriate message is always updated with the correct status regardless of whether a subscriber is logged in or not.

Personal Directory incomplete aliases not deleted: Software did not allow partial entries for aliases in the Personal Directory to be deleted.

Prior to 7:2, subscribers reviewing specific aliases in the Personal Directory could not delete a partial entry for an alias using the (Delete) command. AUDIX responded with, "*Entry not understood...*". A problem in the dial plan prevented from working consistently in all addressing and list creation functions. In 7:2, partial entries for aliases in the Personal Directory may now be deleted.

Special Features

The following changes apply to special AUDIX features that may not be activated on all systems.

Outcalls not delivered at first appropriate interval: The system did not sort all outcall intervals in chronological order.

Prior to 7:2, it was possible for an outcall not to be placed until the start of a new interval period specified on the `system : outcalling` form, even though outcalling was already active during the period when a new message was received. This problem seemed to especially affect those systems whose outcalling periods spanned midnight. In 7:2, outcalls will occur as expected (following the initial delay, if any).

Priority message status not current: The system could take up to 30 minutes to update the status of priority messages in the outgoing mailbox.

Prior to 7:2, messages with priority status were handled as a special “service” instead of simply another type of voice mail message. The software has been updated to handle the priority designation as if it were just another voice mail attribute, so the status of priority messages (such as “*accessed*”) is now updated in the sender’s outgoing mailbox in a timely manner.

NETWORKING CHANGES

The changes in this section apply only to customers who have implemented one of the AUDIX networking features: either AMIS analog networking, or digital AUDIX networking.

AMIS Changes

The changes in this section apply only to customers who have implemented the AMIS analog networking feature. AMIS information is documented in *AUDIX Administration* (585-305-501).

AMIS message delivery to a list incomplete: AMIS software had faulty list processing.

AMIS analog networking did not correctly reschedule some AMIS messages to be retransmitted when there was a list of recipients, so not all the addressed members of a list received a copy of the message. This problem has been corrected in 7:2.

AMIS message delivery rescheduling corrected: If the outgoing message queue contained more than 9 messages, the additional messages were not rescheduled for immediate transmission and incorrectly generated a transmission error message.

AMIS message delivery must be done in packets of 9 to satisfy the AMIS standard. Prior to 7:2, however, the system did not immediately reschedule any messages still left in the queue for immediate delivery, but waited until the next transmission interval. In addition, it modified the header of the rescheduled message in the sender's outgoing mailbox to say the message was rescheduled "*due to transmission errors*". In 7:2, AMIS now reschedules for immediate delivery any messages left in the queue after the first 9 are transmitted, and the false "*transmission errors*" statement is no longer voiced.

AMIS messages not delivered to correct recipient: AMIS messages were being accepted on a machine before software determined the intended recipient had a local subscriber profile.

Prior to 7:2, software did not check if recipients for incoming AMIS messages had a local subscriber profile. For example, if an incoming AMIS message was addressed to subscriber 54321, and if the AUDIX machine had a *remote* subscriber profile for subscriber 54321, the system would try to store the incoming message, only to later fail because it could not deliver it to a local subscriber. The result was the AMIS message was never delivered. In 7:2, software now checks for a local subscriber profile *before* attempting to store an incoming AMIS message, and rejects the message if no valid local profile is found.

AMIS did not handle message deliveries to unknown subscribers correctly: AMIS messages addressed to unknown subscribers logged a general error and were continuously rescheduled.

Prior to 7:2, an AMIS message addressed to an unknown subscriber (one for whom no profile existed) logged a general error following a message transmission to the remote machine (the header of the message in the sender's outgoing mailbox simply said, "*other error*"). The message was then rescheduled for delivery, and the cycle would repeat indefinitely.

In 7:2, the system now allows only three transmission attempts before assuming the message is addressed to a nonexistent subscriber (usually the sender has misdialed). The system then places the message in the *undeliverable* category of the sender's outgoing mailbox and modifies the header to report an appropriate reason. For example, the error message in cases where the remote subscriber profile does not exist has been updated to be state, "*recipient not found*".

AMIS software did not recognize preadministered machines or subscribers: AMIS software did not recognize incoming messages from a preadministered machine as being from that machine; this also prevented the Reply to Sender feature from working correctly. Name voiceback and the Reply to Sender feature also did not work correctly for preadministered remote subscribers.

The AMIS analog networking feature did not correctly recognize preadministered remote machines on the system : translation : machine : audix/amis/call delivery form (for example, an incoming message from a preadministered remote machine would not identify the name of the remote machine even though a name had been voiced in). This problem no longer occurs.

The Reply to Sender feature also did not operate correctly. If the recipient of an AMIS message tried to reply to the sender using automatic addressing, the feature might simply fail to work (the Reply to Sender option would not be available to the recipient). Also, if a *different* remote subscriber had the same extension as the sender of the AMIS message, the system would address the response to the wrong remote subscriber. Now, the Reply to Sender feature will correctly send responses to subscribers on preadministered remote machines.

AMIS software did not correctly supply name voiceback for preadministered remote subscribers, nor did the Reply to Sender feature work for these subscribers; AMIS message recipients could not respond to a message with automatic addressing. Both of these subscriber problems no longer occur in 7:2.

Digital Networking Changes

The changes in this section apply only to customers who have implemented AUDIX digital networking.

Multiple remote messages incorrectly delivered: A system low on filesystem message space transmitted multiple copies of the same message to remote subscribers.

Prior to 7:2, a machine could be low on filesystem space (as shown by the `system message space (vtext)` field on the `system : thresholds` form) and still successfully transmit a message to a remote node. However, the remote subscriber incorrectly received multiple copies of the message because the originating machine was too low on space to receive the remote machine's acknowledgement, preventing it from verifying that the message had been successfully delivered.

In 7:2, the networking software has been modified to make two retries to allocate space for a message acknowledgement when the `vtext` filesystem space is low. The last request is for the smallest amount of free space that is allowed on a `vtext` filesystem (10 blocks); if the system does not have at least this amount of space, other software prevents networking messages from being sent, and the system administrator receives a `thresholds` warning on the screen indicating that the `vtext` filesystems have reached their upper limit.

Outgoing mailbox messages incorrectly deleted: The age of outgoing mailbox entries was not checked, creating status update problems in certain situations.

Prior to 7:2, a message in a subscriber's outgoing mailbox could be incorrectly deleted if the following conditions occurred:

1. A subscriber first deleted status messages from his or her outgoing mailbox.
2. The subscriber then attempted to send a message to a remote (but nonexistent) subscriber.
3. The subscriber stayed logged in until *after* the remote delivery attempt occurred.

If all these conditions occurred, the message would be deleted instead of being marked *undeliverable*. In 7:2, the message is always marked *undeliverable*, allowing the subscriber to send the message again to a valid extension.

2. Administration Changes (Administrator Affecting)

The changes in this section primarily affect the system administrator for the AUDIX system.

GENERAL CHANGES

The changes in this section apply to most AUDIX systems. The following manuals are affected:

- *AUDIX Administration* (585-305-501)
- *AUDIX Administration and Data Acquisition Package* (585-302-502)
- *AUDIX Release 1 Version 7 Forms Reference* (585-305-208)
- *AUDIX System Description* (585-305-201)

Common Features

The changes in this section apply to most AUDIX customers.

Activity log does not display activity consistently: The system required specifying an ending time and date after a reboot or it would not display data.

The system : activity log : display form previously required an ending date and ending time to be specified before it would display system events following a reboot. Also, if an ending time and date had been previously specified and then cleared, the system would only display events up to that date and time (even though the field was cleared). In 7:2, if no ending time and date is specified or if the field has been cleared, the form defaults to showing system activity up to the current time and date.

Announcement compositions corrupted: Announcements could be damaged during nightly audits if the system was in service.

In R1V7 7:1, it was possible for announcement compositions to become corrupted if calls were being serviced while a nightly audit was being run. In 7:2, this problem has been corrected.

Bad subscriber profiles not deleted: More than 10 corrupt subscriber IDs caused systems to crash.

An error introduced in R1V6 (6:3) caused corrupt subscriber profiles to not be deleted, even after the subscriber data audit detected them (the `maintenance : error : display` form would show error 14, subscriber profile is corrupt). This caused an incorrect number of subscribers to appear on AUDIX traffic reports. If the number of corrupt subscriber profiles was 10 or more, the system crashed.

In 7:2, the subscriber data audit has been enhanced to delete bad subscriber profiles. If a bad subscriber profile is entered on the `subscriber : local` form (for example, if a nonvalid extension number is assigned to an existing subscriber), the `list : subscriber` form will show either a blank or incomplete subscriber name and/or extension number, and the `list : extension : local` form will display program error encountered as a means of notifying the administrator of a problem.

To delete the corrupt profile(s), run the Subscriber Data audit on the `maintenance : audits : fp` form manually, or wait until the subscriber data audit runs automatically on Friday night. (Because the subscriber data audit takes a long time to complete, you may not want to run it manually unless 10 or more corrupt subscriber profiles are causing the system to crash.) Error code 14 (subscriber file is corrupt) appears on the `maintenance : error : display` form indicating that the corrupt subscriber profiles have been deleted.

Corrections to `system : appearance` form: The transfer access code and online help have been updated in 7:2.

Several minor corrections to the `system : appearance` form were made in 7:2 as follows:

- *Online help incorrect for Wait command:* The input time limit for the (Wait) command has been corrected to read 1-999 (earlier releases stated 1-99 as the system pause interval).
- *Rescheduling increments fields not checked:* Prior to 7:2, the rescheduling increments fields were not checked for valid entries. The increment fields have been corrected to check for valid ranges (0 to 9999 days, 0 to 23 hours, and 0 to 59 minutes).
- *Transfer access code field incorrect:* Prior to 7:2, the `transfer access code` field on the `system : appearance` form did not support the characters *, #, or +, even though these characters are required by some switches (such as Rolm) in order to cause the switchhook transfer to function properly. This problem has been corrected in 7:2.

Corrections to `system : limits` form: The ranges for two fields have been corrected in 7:2.

Several minor corrections to the `system : limits` form were made in 7:2 as follows:

- *Online help for number of subscribers changed:* The online help previously gave a smaller range for the one-cabinet AUDIX system than for the two-cabinet models. Because the number of local subscribers is not strictly limited to 2,000 for a one-cabinet system, the online help for the `subscriber , local` field has been changed to indicate up to 4,000 local subscribers are allowed for all AUDIX models.
- *Recipients/list field not checked:* Prior to 7:2, the `recipients/list` field was not checked for valid entries. The field has been corrected to check for a valid range of 0 to 250.

Inaccurate ranges for mailbox size and message lengths: The `subscriber : local` and `cos` forms listed incorrect numbers for mailbox and message sizes.

Prior to 7:2, online help for the `cos` (default and 1 through 12) and `subscriber : local` forms listed incorrect ranges for the following fields. These values are also incorrectly stated in the *AUDIX Release 1 Version 7 Forms Reference* (585-305-208). The correct ranges are:

- `voice mail message, maximum length` field: Enter any multiple of 8 from 8 to 1200 (seconds).
- `voice mail message, minimum needed` field: Enter any multiple of 8 from 8 to 1200 (seconds). The recommended value is 24.
- `call answer message, maximum length` field: Enter any multiple of 8 from 8 to 1200 (seconds).
- `call answer message, minimum needed` field: Enter any multiple of 8 from 8 to 1200 (seconds). The recommended value is 24.
- `mailbox size, maximum` field: Enter any multiple of 8 from 8 to 32,767 (seconds).
- `mailbox size, minimum guarantee` field: Enter any multiple of 8 from 0 to 9,999 (seconds). It is strongly recommended to leave this field at the default value of 0.

Incorrect size estimate given for names filesystem: The `system : limits` form calculation for the names filesystem resulted in an inadequate filesystem size.

Prior to 7:2, the `system : limits` form used a slightly inaccurate estimate for the size of a recorded name, resulting in a size estimate for the names filesystem that was too small. Administrators had to boost the size recommendation by at least 10 percent or they received filesystem threshold warnings. In 7:2, the algorithm for the `system : limits` form has been adjusted to provide a more accurate estimate for the names filesystem (the new calculation also provides a 20 percent buffer for expected growth, allowing names to be added periodically without needing to resize the filesystem).

Incorrect threshold values permitted: The `system : thresholds` form incorrectly confirmed invalid limits.

The `system : thresholds` form incorrectly allowed administrators to enter `middle` and `upper` threshold limits that were lower than the `lower` limit. After confirming the operation, the system would reset the incorrect values to the default settings. In 7:2, the `system : thresholds` form has been corrected to supply an appropriate error message informing users that an incorrect value has been entered for a `middle` or `upper` threshold limit (each threshold limit must be higher than the previous one).

Missing announcement fragment: Nightly audits for the announcement filesystem(s) did not work correctly.

Prior to 7:2, nightly audits for the system announcement filesystem(s) incorrectly removed fragment 595 (the word “*including*”) from the announcement set (the `system : announcement : detail` form showed that this fragment was missing). In addition, announcement audit changes were not being made permanently (the problem could recur), nor was the entire announcement set being audited. In 7:2, the announcement filesystem audits were enhanced to correctly process fragment 595, run an audit on the entire announcement set, and to make any audit corrections permanent.

The list : subscriber form sometimes displayed last subscriber’s name twice: The system did not correctly process the end of the subscriber name list.

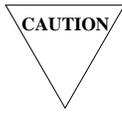
The `list : subscriber` form displays subscriber names in alphabetical order in multiples of 12 (12 names per page). If the last subscriber name happened to appear as the twelfth name on the form, the next time the `(ENTER)` key was pressed, this subscriber’s name would appear on the screen again all by itself. The next time the `(ENTER)` key was pressed, the screen would begin displaying the list beginning with the first subscriber’s name as expected.

This double display of the last subscriber’s name created problems if the data was used for additional purposes (for example, if it was downloaded through ADAP to a PC and used for billing purposes, the last subscriber would be double billed). In 7:2, the subscriber name processing has been corrected to display the final subscriber’s name only once, then a page with a blank name field (indicating the end of the list), before wrapping around to display the beginning of the list again on a new page.

Nightly filesystem backups failed: The automatic nightly backup of the `sdat` filesystem failed for small databases or after a restore.

A backup of the system data (`sdat`) filesystem runs nightly on all AUDIX systems. Prior to 7:2, this backup could fail if the disk containing the `sdat` filesystem had just been restored (typically `disk00`), or if the AUDIX system had a very small number of subscribers. The backup program always tried to create a backup at a reduced size from the original `sdat` filesystem. For most systems, this compressed size worked fine, but in the two previous instances, the filesystem was already too compressed to be reduced further.

In 7:2, the backup software has been modified. First, it attempts to compress the backup filesystem (make the backup smaller than the original filesystem). If the backup attempt fails, the program next attempts to make the backup filesystem the same size as the original `sdat` filesystem, ensuring that an `sdat` backup can be made of a highly compressed filesystem. Both attempts are made during the same nightly backup.



Customers with very large databases may find that this change results in creating an `sdat` filesystem that is too large for a 20-Mbyte drive. These customers may choose to mirror their `sdat` filesystem and ignore the nightly warning, or they may replace their RCD with a 50-Mbyte model.

Filesystems distributed across all hard disks: AUDIX filesystems are now distributed across all fixed disk units during factory configuration.

Prior to 7:2, AUDIX systems were shipped with all system filesystems on the first hard disk (`disk00`), with a single `vtext` filesystem placed on any remaining fixed disk units. If either the technician or system administrator did not move the filesystems to the other disks as recommended in the AUDIX documentation, the system could experience performance problems by trying to access all the high-usage filesystems on a single disk.

In 7:2, when a new AUDIX system is shipped from the factory, the AUDIX filesystems are distributed across all hard disks in the system according to the recommended filesystem distribution guidelines covered in the *AUDIX System Description* manual (585-305-201). The distribution of filesystems improves system performance and reliability.

Factory default filesystem sizes did not match `system : limits` form: The `system : limits` form default filesystem sizes did not match the sizes of filesystems actually shipped.

Prior to 7:2, new AUDIX systems were shipped with default filesystem sizes that did not match the default filesystem sizes that appeared on the `system : limits` form. The disagreement was particularly large for two-cabinet AUDIX systems.

In 7:2, the `system : limits` form has been updated to display the default filesystem sizes shown in the following table. The factory default filesystem sizes have been adjusted as well to agree with the values displayed in the *One-Cabinet AUDIX System* or *Two-Cabinet AUDIX System* columns in the following table. All sizes are in disk blocks.

Table 2-1. New Default Filesystem Sizes

| Filesystem Name | One-Cabinet AUDIX System Default Sizes | Two-Cabinet AUDIX System Default Sizes * |
|----------------------|--|--|
| <code>nm.ndat</code> | 73 | 369 |
| <code>sd.sdat</code> | 160 | 413 |
| <code>ss.sst</code> | 335 | 631 |
| <code>vd.vdat</code> | 27 | 100 |

* AUDIX two-cabinet systems which have only a single hard disk installed (`disk00`) use the filesystem sizes for AUDIX *one-cabinet* systems listed in Table 2-1. Otherwise, two-cabinet systems with one hard disk would not have adequate room for growth.

Special Features

The following changes apply to special AUDIX features that may not be activated on all systems.

Broadcast messages caused an incorrect error code: The administration (system) log recorded an error for broadcast messages.

When broadcast messages were sent, the `system : log : display` form logged a `noci` type error which only applies to failed outcalling attempts. This message was incorrectly generated because of a coding problem where the AUDIX system attempted to light the message-waiting lamp for the broadcast mailbox, which does not typically have a voice terminal associated with it. In 7:2, broadcast messages do not attempt to light the message-waiting lamp for the broadcast mailbox, so false `noci` errors should no longer appear in the log.

Guest password use not tracked: Software did not track the use of the guest password feature.

Prior to 7:2, software did not track the use of the guest password feature, so customers were unable to retrieve usage statistics using the `ADAP getperf` command. In 7:2, guest password statistics are now available.

Number of failed login attempts misleading: The system logs outcalling notification attempts as failed login attempts.

The `traffic : feature : day` and `traffic : feature : hour` forms shows outcalling notification attempts as `failed logins` (external or internal) when the outcalls are not answered by a subscriber logging in (for example, if an outcall is made to a pager). Because the system uses an AUDIX port to make an outcall (even if the call does not result in a valid login), 7:2 software continues to list outcalling notification attempts in the appropriate `failed logins` field so systems engineers can track AUDIX port usage. However, the online help for these forms has been amended to indicate that the `failed logins` numbers can be misleading if the outcalling feature is active.

NETWORKING CHANGES

The changes in this section apply only to customers who have implemented one of the AUDIX networking features: either AMIS analog networking, or digital AUDIX networking. General changes are covered in this section. Changes that apply only to one of the AUDIX networking features are covered in the following sections.

Online help description for voiced-in names unclear: The description for the `voiced` name field was misleading.

The `voiced` name field on the `system : translation : machine : audix/amis/call delivery` form displays a `y` if the administrator has recorded a name for that machine or an `n` if no name has been voiced. If the field is changed from `y` to `n`, a previously voiced-in name is deleted and cannot be recovered by changing the field back to `y`. The online help has been updated to clarify the nonreversible effect of the `n` change.

Intervals for message transmission unclear: Minimum message transmission schedule intervals vary depending on the type of machine.

The online help for the header and message transmission schedule interval fields for the `system : translation : machine : audix/amis/call delivery` and `system : translation : machine : adjunct` forms has been clarified in 7:2. The interval fields should be set to different minimum values depending on the type of AUDIX machine being administered. Correct minimum values are summarized below.

- Intervals for message header transmission on the `system : translation : machine : adjunct` form are:
 - For text service machines (`machine type t`), the minimum interval allowed for the header transmission schedule interval field is 1 minute (00:01).
 - For CDR machines (`machine type c`), the header transmission schedule interval field is *not* valid. A value of 00:00 or blanks may be used.
- Intervals for message transmission on the `system : translation : machine : audix/amis/call delivery` form are:
 - For local machines, the field is *not* processed. A value of 00:00 or blanks may be used.
 - For remote machines, the minimum interval allowed for the message transmission schedule interval field is 5 minutes (00:05).

The internal processing has also been updated to differentiate between blanks and zeros in the interval fields in case the distinction becomes important.

Incorrect number of remote machines: Software did not permit 100 remote machines.

AUDIX software should allow one local machine and up to a total of 100 remote machines to be added using the `system : translation : machine : adjunct` and `system : translation : machine : audix/amis/call delivery` forms. The remote machines may be digitally networked machines, AMIS analog networking machines, CDR PCs, or text service machines. Prior to 7:2, software sometimes incorrectly limited the number of remote machines to 99. In 7:2, 100 remote machines are always permitted.

System log errors excessive: Large digital networks generated a huge number of network connection messages.

The administration (system) log recorded huge numbers of connection failure and success messages that quickly filled the log and made it difficult to locate other networking problems. Large digital networks (more than 10 machines) frequently encounter busy conditions which are recorded on the `system : log : display` form; additional busy conditions are logged as `continuing connect failure` in the log and eventually raise a warning alarm.

Because the warning alarm is sufficient to alert the network administrator of a possible problem, a new field has been added to the `system : translation : machine : audix/amis/call delivery` form in 7:2. Administrators can now set the new `log connect failures` field to `n` to prevent the system log from recording network connection messages. (This change does *not* affect the normal error logging that occurs when a connection fails that will eventually result in a warning alarm against a remote node).

The `log connect failures` field may be set as follows:

- If administrators are tracking a problem with a particular node, both the local and remote machine must have their `log connect failures` fields set to `y` for the system log to record connection messages. If either machine has the field set to `n`, *no* connection events will be logged.
- If the field is set to `n` on a *local* machine profile, the logging of connection events is disabled for *all* remote machines that communicate with that node (remote machine profiles do not need to be set to `n` individually).

The default setting of the `log connect failures` field depends on the type of networking administered for that machine (either digital networking or AMIS analog networking):

- If the `network connection type` field is `dcp`, `rs232a`, or `rs232s`, the `log connect failures` field defaults to `y`. Administrators of large digital networks may wish to reset this value to `n` to prevent numerous connection messages in the system log. They may reset the value to `y` if they are troubleshooting a problem with a specific node.
- If the `network connection type` field is `amisac`, `amisap`, or `calld`, the `log connect failures` field defaults to `n`. AMIS analog networks do not generate connection message entries in the system log.

AMIS Changes

The changes in this section apply only to customers who have implemented the AMIS analog networking feature. AMIS information is documented in *AUDIX Administration* (585-305-501).

Transmitted AMIS messages not deleted on receiving machine: Software did not correctly delete transmitted AMIS messages.

Prior to 7:2, an AMIS machine administered for casual addressing failed to set up the header correctly when it created a copy of an incoming message. When the recipient deleted the message, the message and header appeared to have been deleted, but were actually still present and taking up space on the system. Internal audits could take a week or more to actually remove this message and header from the receiving AMIS machine. If a message was sent to a *preadministered* AMIS machine, the message and its header were not removed from the system at all. Both of these problems were corrected in 7:2. Now, when the recipient of an AMIS message deletes the message, the header and body are removed from the system immediately.

AMIS remote subscribers not correctly verified: The system failed to move unverified AMIS subscribers to the verified category after successfully delivering a message.

The `list : extension : remote` form for a preadministered AMIS machine failed to show the correct `type` for remote subscribers. If a message was addressed to an unverified, nonadministered remote subscriber, the type was correctly shown as `u` (unverified nonadministered). However, after a message was successfully delivered, the system failed to update the type to `v` (verified nonadministered). In 7:2, the correct remote subscriber type is shown.

No AMIS message logged for handshake: If two AMIS machines established a connection (handshake) but exchanged no messages, a record of the communication was not kept in the administration (system) log.

Prior to 7:2, the administration (system) log kept no record of an AMIS communication unless one of the machines sent messages to the other. In order to help administrators locate a problem machine, the following messages now appear on the `system : log : display` form whenever two machines establish a connection (handshake), but no messages are exchanged:

- On the receiving machine: `amis - No msgs in AMIS call from <country>
<trunk> <local number>`
- On the sending machine: `amis - No msgs sent by AMIS call to <number of
called AMIS machine>`

AMIS messages from an unknown machine did not log a message: No entry for an unknown remote AMIS machine was made in the administration (system) log.

Prior to 7:2, the administration (system) log did not make a log entry if a message was received from an unknown remote AMIS machine. The activity log made an entry listing the subscriber who received this message, but the AMIS networking administrator was unlikely to see it. Therefore, the following messages have been added to the `system : log : display` form whenever an

unknown remote machine (such as one administered without a callback number) delivers a message to an AUDIX system:

- If an unknown machine sends a message: `unod - Incoming AMIS message from unknown machine <country number> <trunk> <local number>`
- If too many nodes match the callback number: `mnod - Multiple nodes for AMIS address <machine extension>`

Digital Networking Changes

The changes in this section apply only to customers who have implemented AUDIX digital networking. The information in this section updates the *AUDIX Networking* (585-300-903) manual.

Corrupt node names appeared in system log: Random character strings appeared for some remote machine names in the administration (system) log on some networked systems.

Prior to 7:2, if a remote machine profile (node) was deleted in an AUDIX networking setup and nightly audits had not yet been run, the administration (system) log sometimes recorded errors with a random string of characters instead of a valid machine name. In 7:2, software always verifies the existence of a remote machine before recording an error message in the system log. If a remote machine has been deleted, the system will print `unknown` for the machine name instead of a random character string.

Entries ignored on subscriber : deletion form: The system only used the information on the form once instead of weekly.

The weekly subscriber data audit only used the information specified on the `subscriber : deletion` form once instead of every time it ran the audit. For example, if the `remove non-administered remote subscribers with no activity` field was set to one day, the form would only be executed once; the following Friday, the subscriber data audit would resume deleting nonadministered remote subscribers that showed no activity for 14 days (the default value). In 7:2, the system continues to take into account the values set on the `subscriber : deletion` form every time the audit is run.

Incorrect number of remote machine profiles: The system did not always list all assigned remote machines and their voice IDs.

The `list : machine` form sometimes did not display all the assigned remote machines and their voice IDs. Administrators might incorrectly assume that an undisplayed voice ID was available, yet would be prevented from using it because it was actually assigned. Also, the form was inconsistent in displaying all administered remote machines. Both of these problems have been corrected in 7:2.

Nightly audits generate false error code: Error code 13 was generated nightly on some networked

systems due to a faulty self test.

Prior to 7:2, nightly audits for some networked AUDIX systems returned an error code of 13 (illegal data rate on local machine) even though an error did not exist. This problem with the local machine's nightly self tests for 56 and 64 Kbps transmission has been corrected in 7:2.

Reason for automatic full updates added to system log: If a networked AUDIX system requests a full update from a remote system, the reason has been added to the administration (system) log.

Prior to 7:2, a remote machine in a network could cause the AUDIX system to request a full automatic update to correct discrepancies in the subscriber data base (for example, if a remote subscriber profile had been added or deleted). In 7:2, automatic full updates still run as they did before, but now they generate an entry in the administration (system) log explaining the reason for the full update. The new `system : log : display` entries are:

- `furm - remote subscriber add causing a full update: <machine> extension: <extension>`
- `furm - remote subscriber missing - causing a full update: <machine> type: <administered/verified> extension: <extension>`

Networking updates run continuously when remote subscriber limit reached: Nightly audits for networked systems did not gracefully handle reaching the maximum number of administered remote subscribers.

Prior to 7:2, if the maximum number of administered remote subscribers was reached on networked systems (a number specified on the `system : limits` form) and if a remote system sent an update request which included new subscribers to add, the remote update mechanism ran continuously in an attempt to add subscribers beyond the system-administered limit. In 7:2, software has been modified to handle this situation as follows:

- When the maximum number of administered remote subscribers is reached (as specified in the `administered remote` field of the `system : limits` form), the local AUDIX system will block any incoming updates from any remote machine until the `Network Data` audit has freed up some additional remote subscriber IDs.
- If the administrator tries to run a remote update manually using the `system : translation : remote update` form, the update request will be blocked and the screen will show an error message indicating the number of remote subscribers has reached the maximum limit.
- If the administrator tries to add a new remote subscriber using the `subscriber : remote` form, the request will be blocked and the screen will show an error message indicating that no remote subscriber IDs are available.
- The local AUDIX system will put an `nmar` entry in the administrator (system) log indicating that incoming administrative networking updates have been disabled, and that the remote subscriber limit has been reached.

System administrators can correct this problem in one of the following ways:

- If the maximum number of administered remote subscribers has *not* been reached (the `administered remote` field on the `system : limits` form is less than 28,000):
 - Administrators may increase the number displayed in the `administered remote` field of the `system : limits` form (the current limit is 28,000 administered remote subscribers).
 - If they need to receive remote updates immediately, they can run the `Network Data` audit on the `maintenance : audits : fp` form manually, or they can wait until the network data audit runs automatically that night.
- If the maximum number of administered remote subscribers has been reached (the `administered remote` field on the `system : limits` form is set to 28,000):
 - Administrators may delete individual remote subscriber profiles using the `subscriber : remote` form, or delete a large number of nonadministered remote subscribers using the `subscriber : deletion` form.
 - If they need to receive remote updates immediately, they can run the `Subscriber Data` audit on the `maintenance : audits : fp` form manually.

| |
|------|
| NOTE |
|------|

If remote updates are *not* immediately needed, administrators can wait until the subscriber data audit runs automatically on Friday night to process the deletions.

- If additional remote subscriber IDs are needed immediately, administrators must then run the `Subscriber Id` audit.
- Finally, administrators must run the `Network Data` audit in order to enable remote updates.

Extension-length changes not gracefully handled in a network: If the extension length for any network node was changed, the system could not automatically process the change using its normal, remote-update procedures.

Prior to 7:2, if extension length for any machine (node) in a network was changed (a digit was either added or deleted), the networking software was unable to correctly propagate the change throughout the network using the remote-update feature. Instead, when a full or partial (delta) update was received from the node that had undergone the extension-length change, the new subscriber profiles were assigned verified (instead of administered) status due to a perceived name conflict.

To correct this, either the old subscriber profiles on every machine in the network had to be deleted manually using the `subscriber : remote` form, or, on every machine in the network, the affected node had to be deleted and added again using the `system : translation : machine : audix/amis/call delivery` form. This procedure caused any remote subscriber IDs for that node that were in subscribers' mailing lists to be deleted; following the change, these subscribers had to be reentered manually by the list owner using the new extension numbers for that node (anywhere from 3 to 10 digits).

In 7:2, a `machine name` field has been added to the `change : extensions` form to allow administrators to change the extension length of a range of subscribers on either a local or remote network node without needing to remove and readd the affected node throughout the network as described above. This allows the administrator to change the extension lengths of remote subscribers without affecting mailing lists. If one of the nodes does *not* have 7:2 (or later) software, either the remote node or the individual remote subscribers must be deleted in the pre-7:2 manner, and mailing list owners must manually reenter remote subscriber names. Only verified and administered subscriber profiles are updated; nonverified remote subscriber profiles will eventually be deleted from the system through normal internal audits.

The following example shows the new procedure for updating the extension length in a network:

- A local node, AUDIX-L7, will change its extension length from 4 to 5. AUDIX-L7 is an R1V7 system running 7:2 software.
- A remote node, AUDIX-R7, will *not* change its extension length, but must accommodate the changes made to the AUDIX-L7 machine. AUDIX-R7 is also running 7:2 software.
- Another remote node, AUDIX-R6, is *not* changing its extension length and is *not* running 7:2 software. In this example, AUDIX-R6 is running AUDIX R1V6 software and must simply accommodate the changes made to the AUDIX-L7 machine.

For the network administrator to change the extension length for the AUDIX-L7 network node, the following steps must occur:

1. All administrative changes to the subscriber database on AUDIX-L7 must be suspended about one day prior to the planned extension-length change. This allows any delta updates to be propagated to all remote nodes that have the remote-update capability enabled (those with the `updates` fields set to `y` on the `system : translation : machine : audix/amis/call delivery` form).
2. The network administrator and/or remote services should schedule a time when the customer can have the AUDIX-L7 node taken out of service (typically after regular hours).
3. The network ports must be busied out on AUDIX-L7 using the `system : translation : network port` form. This prevents delta records from being transmitted during the extension-length change.

NOTE

If a digit in an extension range is changed (for example, 2000 to 3000), the system generates update (delta) records. If only the extension length is changed, the system does *not* generate update records. Both digit and extension-length changes may be made during the same session if necessary.

4. On the `system : translation : machine : audix/amis/call delivery` form, the network administrator brings up the machine profile for the local machine (AUDIX-L7) and makes the following changes:
 - a. Changes the `extension length` field from 4 to 5.
 - b. Modifies the extension ranges for this node by adding a digit.
5. The administrator next brings up the `change : extensions` form for the local machine (AUDIX-L7) and makes the following changes:

-
-
- a. Enters AUDIX-L7 in the new machine name field.
 - b. Fills in the subscriber extension range and covering extension range fields.
 - c. Adds the appropriate digit to the digit to add or change field.
6. Any remote node running R1V7 7:2 software must be updated as follows (in this example, the node is called AUDIX-R7):
- a. On AUDIX-R7 (the *local* machine in this context), the network administrator brings up the machine profile for the remote machine (AUDIX-L7) on the `system : translation : machine : audix/amis/call delivery` form and makes the following changes:
 - Changes the `extension length` field from 4 to 5.
 - Modifies the extension ranges for the AUDIX-L7 node by adding a digit.
 - b. On AUDIX-R7, the administrator next brings up the `change : extensions` form for the remote machine (AUDIX-L7) and makes the following changes:
 - Enters AUDIX-L7 in the new machine name field.
 - Fills in the subscriber extension range fields.
 - Adds the appropriate digit to the `digit to add or change` field. This causes all the *remote* subscriber extensions for AUDIX-L7 to be updated on the AUDIX-R7 machine.
 - c. If any digits within the extension range were changed in addition to the extension length, the network administrator should bring up the `system : translation : remote update` form and request a full update from AUDIX-L7.
7. Any remote node running *pre*-R1V7 7:2 software must be updated as follows (in this example, the node is called AUDIX-R6):
- a. On AUDIX-R6 (the *local* machine in this context), the administrator deletes all of remote subscribers associated with the node that is undergoing the extension-length change (AUDIX-L7). This may be done manually using the `subscriber : remote` form or by using ADAP.
 - b. Next on AUDIX-R6, the network administrator brings up the machine profile for the remote machine (AUDIX-L7) on the `system : translation : machine : audix/amis/call delivery` form and makes the following changes:
 - Changes the `extension length` field from 4 to 5.
 - Modifies the extension ranges for the AUDIX-L7 node by adding a digit.
 - c. On AUDIX-R6, the administrator runs the Mailing List audit on the `maintenance : audits : fp` form.
 - d. The AUDIX-R6 administrator confirms that all extension-length changes have been made on AUDIX-L7.
 - e. On AUDIX-R6, the administrator displays the `system : limits` form.
 - If the `subscribers, administered remote` field indicates that enough new remote subscribers can be added to handle node AUDIX-L7, increase the value appropriately and go to the next step.

- If the subscribers, administered remote field is too near the 28,000 limit to accommodate the new profiles from AUDIX-L7, see the previous *Networking updates run continuously when remote subscriber limit reached* section for steps to take when the maximum number of administered remote subscribers has been reached. (Audits must be run to free up the subscriber IDs made available in Step 7a.)
 - f. The AUDIX-R6 administrator then brings up the system : translation : remote update form and requests a full update from AUDIX-L7.
8. Finally, the network ports on AUDIX-L7 are released. Any full updates or delta-record changes would then begin.

3. Maintenance Changes (Services Affecting)

The changes in this section affect local (on-site) or remote services personnel.

GENERAL CHANGES

The changes in this section apply to most AUDIX systems. The following manuals are affected:

- *AUDIX Call Detail Recording Package* (585-305-506)
- *AUDIX Maintenance for Tier I* (585-305-106)
- *AUDIX Release 1 Version 7 Forms Reference* (585-305-208)
- *AUDIX Upgrade Instructions* (585-302-108)

Common Features

The changes in this section apply to most AUDIX customers.

DBP error collection enhanced: Additional information is now displayed with error 1099.

Some systems occasionally reported `forms not available`, and the error collection was insufficient for services personnel to isolate the problem. Error collection for the DBP was enhanced in 7:2 so that, by default, error 1099 is set on the `maintenance : error : specification` form. Two additional values associated with this error code are now displayed on the `maintenance : error : display` form: the DBP primitive failure code in the `session/unit` field, and the return code in the `device` field.

Online help corrections: Various descriptions in the online help were inaccurate or unclear.

Several minor corrections to the online help were made in 7:2. Changes include:

- *Inaccurate reference to maintenance documentation:* The online help for the `maintenance : dbp : read : ram` form was corrected to refer to the *AUDIX Release 1 Version 7 Forms Reference* manual (585-305-208) for further information.
- *Incompatibility with audit forms prompt:* The online help specified a different key to press than the screen prompt for the `maintenance : audits : vsp` form (the help said to enter an `x` while the form prompted for a `y`). In 7:2, both the `maintenance : audits : fp` and `maintenance : audits : vsp` forms prompt the user to enter any character or

blank to run or cancel an audit.

NC board generated false alarms: The TN727 NC board periodically indicated a major alarm when the system was running normally.

The TN727 NC board periodically indicated a major alarm (unit 120, fault 7) when the system appeared to be running normally. Replacing the hardware did not stop the alarm or associated error 786 (invalid acknowledgement) from recurring. In 7:2, the threshold for errors on the TN727 NC board was increased to prevent false alarms from occurring, yet allow a genuine problem with the NC to raise an alarm.

VPT alarming strategy improved: Faulty VPT boards generated multiple alarms due to a quick alarm-resolution rate.

TN747B VPT boards used to raise an alarm (faults 1365 to 1396) after a port failed three times to answer an incoming call. However, software allowed the alarm to be resolved after only three hours. Therefore a faulty VPT board might generate dozens of alarm reports in the `maintenance : active alarm : display` and `maintenance : resolved alarm : display` logs and make several INADS calls before remote services personnel decided the board was actually faulty and had it replaced.

In 7:2, a VPT board raises an alarm after 12 failures to respond to an incoming call, and the alarm is not retired for 6 hours. This raises the probability that an alarmed VPT board is actually faulty, and that the alarm will be handled in a timely manner and the VPT replaced without generating an undue number of alarms.

VPT maintenance testing improved: Background tests for the VPT boards no longer generate frequent alarms, and error logging has been improved.

Prior to 7:2, background maintenance tests for the TN747B Voice Port (VPT) boards frequently generated alarms due to hybrid test failures. The hybrid tests have now been removed from background maintenance and the `hybrid test` fields no longer appear on the `maintenance : vpt : test` form. The switch software also no longer runs hybrid testing as part of routine maintenance because the hybrid test does not provide a reliable indicator of board health.

In addition, the system was not correctly logging errors for the VPT. Previously, a call coming in on a VPT port that was currently being tested generated an alarm. In 7:2, software now recognizes this condition, and no errors are logged. Previously, the VPT test errors were not logged in the error log. New error codes have been assigned in 7:2 as follows:

- 1100 – VPT dial tone seizure test (this replaces error code 1052)
- 1101 – VPT no loop current detected after offhook (this replaces error code 1053)

Upgrade utility modified to do updates: The AUDIX upgrade utility has been modified to do software updates from 7:1 to 7:2.

Prior to 7:2, the AUDIX upgrade utility was used to bring an AUDIX system running an earlier release of AUDIX software (such as R1V6) to the most current release of AUDIX software (R1V7). In 7:2, the upgrade utility has been modified so it can do updates within the R1V7 software release. Technicians can use either the `update` or `upgrade` command to update a 7:1 system to 7:2 using the steps in the *AUDIX Upgrade Instructions* document (585-302-108). For either command, the software determines whether an update (dot issue) or upgrade (full release) procedure is needed. The upgrade utility automatically installs the new boot and util filesystems required for a 7:2 update, but skips the unnecessary steps of custom announcement processing, converting filesystems, making backup copies, and installing a new announcement filesystem.

Special Features

This section applies only to systems that use an SMSI data link to a 1A ESS Switch, 5ESS Switch, DMS-100, or SL-100 Switch. The information in this section updates the *AUDIX Integration Package for the DMS-100 Switch* (585-304-204) and *AUDIX Maintenance for Tier I* (585-305-106).

SMSI data link timeout incorrect: The timing for generating warning and major alarms was incorrectly set.

The thresholds for fault 351 (No SMSI/API end-to-end message, timeout) were set incorrectly, so a major alarm was raised too quickly if the SMSI data link was out of service. The thresholds were adjusted in 7:2 so that the data link must be out of service for about 3 minutes before a warning is raised and 18 minutes before a major alarm is raised.

NETWORKING CHANGES

The changes in this section apply only to customers who have implemented AUDIX digital networking. The information in this section updates the *AUDIX Networking* (585-300-903) manual.

Network connection turnaround feature failed to clear warning alarms: In certain circumstances, a warning alarm for a functioning remote node would not be cleared.

The network connection turnaround feature (introduced in R1V7) allows one machine to send messages and status updates to another networked machine, then reverse (turn around) the connection so the previously receiving machine could transmit its messages and updates to the calling machine. If, however, the called machine had a warning alarm for connect failures to a remote node, and if that remote node called the alarmed machine first, the warning alarm was not cleared even though the answering machine sent its messages and emptied its queue.

In 7:2, a maintenance procedure was added so that once an hour, on the half hour, the system checks for any warning alarms. If any exist, it checks the outgoing networking queue for status updates and messages. If the queue has messages to send to the remote node with a warning against it, the alarm is resolved automatically once a call is successful (if the call is *not* successful, the warning alarm continues to display). If the queue is empty, the system with the alarm generates a test call to the remote machine to either resolve (or retain) the warning alarm.

Networking looparound test failures: Unequipping the second DCP I channel caused the network looparound test to fail.

The `system : translation : network port form` allows the four DCP channels on the ACC or ACCE board to be equipped (given a valid data rate from 1200 to 19,200 bps) or unequipped (given a data rate of 0 bps). Certain switches such as MERLIN, System 75, Generic 1, and Generic 3 do not support both DCP I channels on a single switch port. Unless the unused channels are set to 0 as follows, alarms are generated on the switch:

- MERLIN: Channels 1 and 3 must be set to 0.
- System 75, Generic 1, Generic 3: Channels 2 and 4 must be set to 0.

The problem with this method is that when test 2 (`channel internal looparound test`) was run on the `maintenance : network form`, the test failed and the previously equipped channel was busied out. (The test passed if a data rate was given to an unsupported channel on one of these switches, but this generated alarms on the switch.)

In order to prevent alarms from being raised on switches that only support one DCP I channel per port, test 2 on the `maintenance : network form` should *not* be run. In 7:2, the software has been updated to check for a 0 value in one of the two DCP I channels. If a 0 is detected, the looparound test is *not* run and the message `Fail: No Resources` is displayed.

| |
|-------------|
| NOTE |
|-------------|

Future versions of some Generic 3 software should be able to support two DCP I channels per port. Check with your account team for projected availability of Generic 3i/r/s software that may be able to support both I channels simultaneously.

Networking statistics added: Performance measurements to track networked message delivery delays were added to 7:2 software so additional statistics can be collected with the next release of ADAP.

An enhancement was made in 7:2 to allow the AUDIX system to collect statistics on possible message delivery delays for networked messages. This information can be retrieved when the next version of the Administration and Data Acquisition Package (ADAP) becomes available.

In 7:2, a performance measurement is taken every time a successful remote delivery is made in order to track the delivery delay characteristics of an AUDIX network. The following performance measurements were added:

- Statistics on total message delay for all messages delivered to remote recipients are kept, where the delay is measured in seconds and is the difference between the scheduled message delivery time and the actual confirmed message delivery time.

This data permits the average delivery delay of all messages to be quickly calculated. The information may be misleading, however, if one or more messages have been excessively delayed due to operational problems.

- A nonlinear scheme for organizing delivery-delay intervals is used, allowing delays caused by error conditions to be distinguished from network congestion. It also permits “once a day” operations to be distinguished from longer delays, assuming these operations complete within one hour.

The message count for each interval is compared to the total message delay (in seconds). This method allows the system to factor out the effects of a few extremely high delays from the average delay (calculated using the previous item).

Like all performance measurements, these statistics accumulate indefinitely, and are reset at reboot. These measurements do *not* break down delay according to remote machine.

NOTE

The Voice Mail Message Detail CDR Record in R1V7 can be used to derive additional networking delay characteristics which may be useful on heavily loaded networks. Although this record requires a substantial amount of data collection and post-processing (compared to the performance measurement discussed above), it gives customers the ability to look at the delivery delay to each machine on an individual basis, and to easily perform time-domain analysis without requiring multiple real-time data retrievals.

Prior to this enhancement, the only way to evaluate networking performance was to rely upon port occupancy figures. Unfortunately, this method is indirect and is unreliable for high traffic levels, because there is no way to track the queued backlog of messages. Obtaining delay measurements through test messages and manually calculating delivery delays is time-consuming and also inaccurate, since the delay is based on a single sample per machine pair. It could also skew the results due to the extra traffic generated.

NOTE

Whenever the system is pushed to its limits, messages are delayed. However, the situation may appear worse than it actually is. Always obtain technical assistance when attempting to interpret AUDIX networking traffic statistics.

Index

A

activity log
 display of activities not consistent 2-1

ADAP
 getperf command 2-6
 performance measurements in next release 3-5
 subscriber billing 2-4

administration changes 2-1

AMIS analog networking
 casual addressing incorrectly processed 2-9
 error messages in header 1-4, 1-5
 message delivery rescheduling problem 1-4
 message delivery to list incomplete 1-4
 message delivery to unknown subscribers 1-5
 message queue transmission procedure 1-4
 messages from unknown machine now logged 2-9
 messages incorrectly accepted 1-4
 messages not deleted on receiving machine 2-9
 no message logged for handshake 2-9
 preadministered machines not recognized 1-5
 preadministered remote subscribers incorrectly processed 1-5, 2-9
 remote subscribers not correctly verified 2-9
 Reply to Sender problem 1-5
 transmission attempts exceeded limit 1-5

announcement compositions corrupted 2-1

audits
 corrupt subscriber profiles 2-2
 DBP administrator 1-1
 mailing list on networks 2-14
 network data 2-11
 nightly audits could corrupt announcements 2-1
 nightly audits for announcements enhanced 2-4
 subscriber data 2-2, 2-10, 2-12

AUDIX messages
 AMIS transmission errors 1-4, 1-5
 callers unable to leave messages 1-1
 incorrect prompt after transfer attempt 1-1

B

bad (corrupt) subscriber profiles not deleted 2-1
bad threshold limits allowed 2-3
broadcast messages caused incorrect error code 2-6

C

callers unable to leave messages 1-1

CDR
 header transmission intervals clarified 2-7
 networking message delay information 3-5
 number of remote machines 2-8

change : extensions form
 extension length change procedure improved 2-13

cos form
 incorrect ranges for mailbox and message sizes 2-3

D

DBP error collection enhanced 3-1

digital networking
 corrupt node names in system log 2-10
 extension length change procedure improved 2-12, 2-13, 2-15
 full update reason added to system log 2-11
 maximum number of remote subscribers reached 2-11
 message delays and performance statistics 3-5
 multiple remote messages incorrectly delivered 1-6
 network connection messages in log now administrable 2-8
 network connection turnaround failed to clear warning alarms 3-4
 network looparound test failures 3-4
 nightly audits generated false error code 2-10
 performance measurements added 3-5
 remote machine extension length can now be increased 2-12

digital networking—*Contd*

- remote machine profiles not listed 2-10
- subscriber deletions incorrectly processed 2-10
- updates and deltas 2-11, 2-13, 2-14, 2-15
- updates run continuously 2-11
- voice IDs not listed 2-10

disk drives

- filesystem distribution changed 2-5
- larger RCD may be needed 2-4

document

- how to use *vi*
- organization *v*

documentation

- administration changes 2-1
- AMIS changes 1-4, 2-9
- networking changes 2-10, 3-4
- related resources *vii*
- services changes 3-1, 3-3
- subscriber changes 1-1

E

- error codes and messages 2-2, 2-6, 2-10, 2-11, 3-1, 3-2, 3-3, 3-4

F

- failed login attempts number misleading 2-6

filesystem problems

- factory default sizes did not match form 2-5
- low vtext space and network problems 1-6
- names filesystem size estimate incorrect 2-3
- nightly backups failed 2-4
- old distribution caused performance problems 2-5
- vtext not taking messages 1-1

filesystems

- default sizes changed 2-5
- distribution across hard disks changed 2-5

forms

- change : extensions 2-13
- cos 2-3
- list : extension : local 2-2
- list : extension : remote 2-9
- list : machine 2-10
- list : subscriber 2-2, 2-4
- maintenance : active alarm : display 3-2
- maintenance : audits : fp 1-1, 2-2, 2-12, 2-14, 3-1

forms—*Contd*

- maintenance : audits : vsp 3-1
- maintenance : dbp : read : ram 3-1
- maintenance : error : display 2-2, 3-1
- maintenance : error : specification 3-1
- maintenance : network 3-4
- maintenance : resolved alarm : display 3-2
- maintenance : vpt : test 3-2
- subscriber : deletion 2-10, 2-12
- subscriber : local 2-2, 2-3
- subscriber : remote 2-11, 2-12
- system : activity log : display 2-1
- system : announcement : detail 2-4
- system : appearance 2-2
- system : limits 2-2, 2-3, 2-5, 2-11, 2-14
- system : log : display 2-6, 2-8, 2-9, 2-10, 2-11
- system : outcalling 1-3
- system : thresholds 1-6, 2-3
- system : translation : machine : adjunct 2-7, 2-8
- system : translation : machine :
 - audix/amis/call delivery 1-5, 2-7, 2-8, 2-12
- system : translation : network port 2-13, 3-4
- system : translation : remote update 2-11, 2-14
- traffic : feature : day/hour 2-6

G

- guest password use not tracked 2-6

I

- incorrect prompt after failed transfer attempt 1-1
- incorrect ranges for mailbox size and message lengths 2-3

L

- list : extension : local form
 - corrupt subscriber profiles 2-2
- list : extension : remote form
 - remote subscribers not correctly verified 2-9
- list : machine form
 - remote machine profiles not listed 2-10
 - voice IDs not listed 2-10
- list : subscriber form
 - corrupt subscriber profiles 2-2
 - last subscriber displayed twice 2-4

M

mailbox size/message length ranges incorrect 2-3
 maintenance : active alarm : display form
 numerous VPT alarms 3-2
 maintenance : audits : fp form
 corrupt subscriber profiles 2-2
 enabling remote updates 2-12
 extension length change procedure 2-14
 online help correction 3-1
 vtext problems 1-1
 maintenance : audits : vsp form
 online help correction 3-1
 maintenance : dbp : read : ram form
 online help corrected 3-1
 maintenance : error : display form
 corrupt subscriber profiles 2-2
 DBP error collection 3-1
 maintenance : error : specification form
 DBP error collection 3-1
 maintenance : network form
 network looparound test failures 3-4
 maintenance : resolved alarm : display form
 numerous VPT alarms 3-2
 maintenance : vpt : test form
 VPT maintenance testing improved 3-2
 maintenance changes 3-1
 message transmission intervals unclear 2-7
 message-waiting lamp stays lit after last new
 message 1-2
 missing announcement fragment 2-4

N

names filesystem size estimate incorrect 2-3
 NC board generated false alarms 3-2
 networking
 see also AMIS analog or digital networking
 general changes 2-7
 message transmission intervals 2-7
 total number of remote machines 2-7

O

online help corrections
 description for voiced-in names unclear 2-7
 incorrect ranges for mailbox and message
 sizes 2-3
 intervals for message transmission unclear 2-7

online help corrections—*Contd*

 maintenance : audits : fp form 3-1
 maintenance : audits : vsp form 3-1
 maintenance : dbp : read : ram form 3-1
 number of supported subscribers 2-2
 Wait interval 2-2
 Outcalling feature
 notification logged as failed login attempt 2-6
 outcalls not made at appropriate interval 1-3
 outgoing mailbox
 AMIS messages 1-4, 1-5
 message status not correct 1-2
 messages in wrong category 1-2
 messages incorrectly deleted 1-6
 priority message status not current 1-3

P

Personal Directory feature
 incomplete aliases not deleted 1-2
 priority message status not current 1-3

R

Reply to Sender feature
 AMIS analog networking problem 1-5
 Return the Call feature
 failed transfer attempt 1-1
 Rolm switch transfer access codes 2-2

S

services-affecting changes 3-1
 SMSI data link timeout incorrectly generated
 alarms 3-3
 subscriber : deletion form
 freeing up subscriber IDs 2-12
 values ignored 2-10
 subscriber : local form
 corrupt subscriber profiles 2-2
 incorrect ranges for mailbox and message
 sizes 2-3
 subscriber : remote form
 extension length change procedure 2-12
 maximum number of subscribers reached 2-11
 subscriber names displayed twice 2-4
 subscriber-affecting changes 1-1
 system : activity log : display form

system : activity log : display form—*Contd*
 ending date/time enhancement 2-1

system : announcement : detail form
 missing fragment 2-4

system : appearance form
 online help corrections 2-2
 rescheduling increments fields checked 2-2
 transfer access code field enhanced 2-2

system : limits form
 default factory filesystem sizes did not match
 form 2-5
 extension length change procedure 2-14
 incorrect estimate for names filesystem 2-3
 maximum number of subscribers reached 2-11
 online help corrections 2-2
 recipients/list field checked 2-2

system : log : display form
 AMIS messages 2-9, 2-10
 corrupt node names 2-10
 false noci errors 2-6
 network connection messages 2-8
 reason for full updates added 2-11

system : outcalling form
 interval processing problem 1-3

system : thresholds form
 incorrect limits allowed 2-3
 low vtext space and network problems 1-6

system : translation : machine : adjunct form
 message transmission intervals unclear 2-7
 total number of remote machines 2-8

system : translation : machine : audix/amis/call
 delivery form
 AMIS problems 1-5
 extension length change procedure improved
 2-12
 message transmission intervals unclear 2-7
 new field to log network connection messages
 2-8
 total number of remote machines 2-8
 voiced name description unclear 2-7

system : translation : network port form
 extension length change procedure improved
 2-13
 network looparound test failures 3-4

system : translation : remote update form
 extension length change procedure 2-14
 maximum number of subscribers reached 2-11

T

traffic : feature : day/hour forms
 outcalling attempts 2-6

transfer failure gave incorrect prompt 1-1

transmission intervals for machines unclear 2-7

U

upgrade utility
 program now does updates 3-3
 update command added 3-3

user-affecting changes 1-1

V

voiced-in names description unclear 2-7

VPT generated numerous alarms 3-2

VPT hybrid test removed 3-2

VPT maintenance testing improved 3-2