



APX®/MAX TNT®

TAOS 10.1.3 Cumulative Release Note

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Upgrading and Downgrading

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Read the following instructions carefully before upgrading your system to True Access™ Operating System (TAOS) 10.1.3, or downgrading to a previous release.

Boot-loader and tar files in TAOS 10.1.3

Table 1-1 lists the boot-loader files and tar files that you use to upgrade your unit to TAOS 10.1.3.

Table 1-1. Boot-loader and tar files in TAOS 10.1.3

APX 8000 files	APX1000 files	MAX TNT files	Description
apxsrb.bin	apx1ksrb.bin	tntsrb.bin	The boot loader. Both T1 and E1 loads use the same boot loader software.
apxrel.tar and apxrel2.tar	apx1krel.tar	tntr1.tar and tntr12.tar	Tar files (T1 load). Contain images for the shelf controller and all T1-compatible slot cards.
apxrele.tar and apxrele2.tar	apx1krele.tar	tntrele.tar and tntrle2.tar	Tar files (E1 load). Contain images for the shelf controller and all E1-compatible slot cards.

Before you begin upgrading

The following recommended tasks help ensure a smooth upgrade process.

Verify that you have local access to the unit

Whenever you install system software, Lucent recommends that you access the unit through the shelf controller serial or LAN port rather than a slot card port.

Save the system configuration

As a general practice, save the system configuration before upgrading or downgrading system software. If you use TFTP to save the system configuration, the target file must exist on the TFTP server and you must have permission to write it. For example, the following commands executed on a TFTP server create a target file and set its permissions:

```
$ touch /tftpboot/config/testcfg.1
$ chmod a=rw /tftpboot/config/testcfg.1
```

Before you save the system configuration, you must enable the `allow-password` permission in the user profile to save the configured passwords. If you do not have `allow-password` permission enabled, you will be prompted to confirm that you wish to save the configuration without passwords. If you do so and then restore the saved configuration, all passwords in the configuration are wiped out. The following commands executed on the APX 8000 unit save the system's configuration to the target file on the TFTP server and then restore the saved configuration:

```
admin> save network 10.10.10.10 config/testcfg.1
admin> load config network 10.10.10.10 config/testcfg.1
```

For additional information about the `save` command and its options, see the *APX/MAX TNT Reference*.

Verify that the load-select profile is properly configured

TAOS includes a `load-select` profile that prevents the system from loading the entire set of slot card images. The `load-select` profile causes the system to determine which card types are present, load only those images, and delete all images in the flash card that were not selected in the `load-select` profile.

Verify that the `load-select` profile is configured to either automatically load only required or selected binaries. For more information about using the `load-select` profile, see the *APX/MAX TNT Administration Guide*.

Format the flash card(s)

Loading the new tar file during the upgrade procedure should delete any unnecessary images in the flash card(s). In cases of some unexpected error, however, the flash card(s) sometimes retain unwanted images from the previous release. You can optionally format the flash card(s) before the upgrading system software to ensure that any unwanted image has been removed.

The system flash card(s) might contain voice announcement files and slot card coredump files. Save those files to another location before formatting the unit's flash card(s).

Upgrading an APX 8000 unit

On a dual-controller system, if you are logged into the primary controller, the `load` and `reset` commands in the following procedure affect both controllers.

To upgrade a single-controller or dual-controller APX 8000 unit, proceed as follows:

- 1 Log into the hard IP address of the primary shelf controller. Do not use the soft IP address. To obtain IP address of the primary shelf controller, use the `dir ip-interface` command.

- 2 Load the boot loader. For example:

```
admin> load boot-sr network 10.10.10.10 apxsrb.binaries/apxsrb.bin
```

- 3 Load the tar file(s).

```
admin> load tar network 10.10.10.10 apxrel.tar apxrel2.tar
```

If the `load tar` command recognizes no slot cards and loads only the shelf controller image, reset system and load the tar files again. Entering the `load tar` command for a second time should load the appropriate slot card images for the system. To verify that images for all installed slot cards are present on the flash card(s), enter the `ls` command on both the primary and secondary controllers.

- 4 Restore system configuration. (Optional.)

- 5 Reset the system.

For example:

```
admin> reset
```

The `reset` command on the primary controller resets both controllers, dropping all calls.

Upgrading an APX 1000 or MAX TNT unit

Use the following instructions to upgrade to TAOS 10.1.3 from TAOS 9.0.x and later releases. To upgrade an APX 1000 or MAX TNT unit, proceed as follows:

- 1 Format the flash card (optional).

For example:

```
admin> format flash-card-1
```

- 2 Load the boot loader.

For example:

```
admin> load boot-sr network 10.10.10.10 tntsrbin.bin
```

- 3 Load the tar file(s).

```
admin> load tar network 10.10.10.10 tntrel.tar tntrel2.tar
```

- 4 Reset the system. This step is required to set the name of the TAOS unit.

```
admin> reset
```

Special upgrade situations in TAOS 10.1.3

Be aware of the following situations that might exist for your system after upgrading the system software to TAOS 10.1.3.

Migration for the `ss7-gateway` profile in TAOS 10.1.3

When you upgrade to APX/MAX TNT 10.1.3, all Internet Protocol Device Control (IPDC), Access SS7 Gateway Control Protocol (ASGCP), and Q.931+ configuration information contained in an `ss7-gateway` profile is converted and migrated to the new `media-gateway` profile.

If you load saved configuration that includes settings from an `ss7-gateway` profile onto a APX/MAX TNT unit running APX/MAX TNT 10.1.3, the `ss7-gateway` parameters are also converted and placed into the new `media-gateway` profile.

The index of a converted `media-gateway` profile is default. With this default index, T1 and E1 lines can continue to provide service after an upgrade.

After upgrade, any existing `ss7-gateway` profile found in NVRAM upon startup is converted into a `media-gateway` profile and the following message is logged with the log-level warning upon the system startup:

```
LOG warning, Shelf 1, Controller, Time: 16:30:08--
  Profile conversion: SS7-GATEWAY is now MEDIA-GATEWAY "default"
```

Enabling the system to recognize cost assignments from an earlier release

If you are upgrading from software version TAOS 10.0.0 and later releases and you have assigned non-default cost values in your `call-route` profiles, your cost assignments are not be taken into account following the upgrade unless you switch to `manual-enabled` mode, as shown in the following set of commands:

```
admin> read system
SYSTEM read

admin> set least-cost-call-routing = manual-enabled

admin> write -f
SYSTEM written
```

If you have not customized cost values in your `call-route` profiles, the default `auto-enabled` mode allows the call routing algorithm to automatically select the least cost destination for processing a call.

Recommendations for restoring call-routing configurations

After a reset or clear of NVRAM, the system automatically repairs the call-routing configuration, ensures that it handles all supported call-route types, and assigns priorities for efficient use of resources. For this reason, if you have not customized your `call-route` profiles, it is best not to save and restore older system-generated default profiles. To save the system configuration without saving the `call-route` profiles, use the `-x` option of the `save` command. For example:

```
admin> save network 10.10.10.10 file.cfg -x call-route
```

If you have customized your `call-route` profiles and you wish to restore them, consider the following:

- If you restore from an earlier software version, the restored profiles will not take into account additional software licenses or new supported call-route types.
- If you restore following a reset, you could create duplicate call-route profiles for the same call-route-type to the same slot card. Duplicate profiles can be confusing, but they do not cause a problem to the call routing algorithms.

You can repair call-route profiles by using one of the new administrative capabilities for repairing the call routing configuration (see “New call routing administrative capabilities”), or by resetting the system.

Downgrading to a previous software release

Releases are not necessarily backward compatible. Lucent recommends that you restore a backup configuration made under the previous version. The following procedures restore a previous software version (TAOS 9.0.x, 9.1.x, 10.0.x) to your unit. To downgrade, you must have serial access to the TAOS unit.

Downgrading an APX 8000 unit

To restore a previous software version on your APX 8000 unit, proceed as follows.

- 1 Load the previous version of the boot loader.
For example:
admin> load boot-sr network 10.10.10.10 apxsrb.bin
- 2 Format the flash cards of both the primary and the secondary controller.
For example:
admin> format flash-card-1
- 3 Load the previous version of the tar file (via TFTP from a local host).
 - If you are downgrading to a TAOS version prior to version TAOS 10.0.x, enter the following command:
admin> load tar network 10.10.10.10 apxrel.tar
 - If you are downgrading to TAOS version TAOS 10.0.x, enter the following command:
admin> load tar network 10.10.10.10 apxrel.tar apxrel2.tar
- 4 Clear all profiles by entering the nvram command, for example:
admin> nvram
- 5 Set the primary shelf controller IP address.
Log into the primary shelf controller via the serial connection. Open the ip-interface profile for the shelf controller and set the IP address. For example:
admin> read ip-interface {{1 right-controller 1} 0}
IP-INTERFACE/{{shelf-1 right-controller 1} 0} read
admin> set ip-address = 10.10.10.2/24
admin> write
IP-INTERFACE/{{shelf-1 right-controller 1} 0} written
- 6 Load a backup configuration made under the restored software version or one of its predecessors.

For example:

```
admin> load config network 10.10.10.10 config/backup-config
```

- 7 Reset the system as follows:

For example:

```
admin> reset
```

Downgrading an APX 1000 or MAX TNT unit

To restore a previous software version (TAOS 9.0.x, TAOS 9.1.x, or TAOS 10.0.x) on your APX 1000 or MAX TNT unit, proceed as follows:

- 1 Format the flash card.

For example:

```
admin> format flash-card-1
```

- 2 Load the previous version of the boot loader.

For example:

```
admin> load boot-sr network 10.10.10.10 tntsr.b
```

- 3 Load the previous version of the tar file.

- If you are downgrading to a TAOS version prior to TAOS 9.0, enter the following command:

```
admin> load tar network 10.10.10.10 tntrel.tar
```

- If you are downgrading to a TAOS 9.0 and later releases, enter the following command:

```
admin> load tar network tntrel.tar tntrel2.tar
```

- 4 Clear all profiles by entering the nvram command.

For example:

```
admin> nvram
```

- 5 Log into the system via the serial connection. Open the ip-interface profile for the shelf controller and set the address.

For example:

```
admin> read ip-interface {{1 controller 1} 0}
```

```
IP-INTERFACE/{{shelf-1 controller 1} 0} read
```

```
admin> set ip-address = 10.10.10.2/24
```

```
admin> write
```

```
IP-INTERFACE/{{shelf-1 controller 1} 0} written
```

- 6 Load a backup configuration made under the restored software version or one of its predecessors.

For example:

```
admin> load config network 10.10.10.10 config/801-config
```

- 7 Reset the system. This step is required.

For example:

```
admin> reset
```

Corrections in TAOS 10.1.3

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Table 2-1 lists problems (Change Requests) that have been resolved in 10.1.3.

Table 2-1. *Change request resolved in TAOS 10.1.3*

CR #	Description
N/A	cause-code-transparency parameter values changed from yes/no to enable/disable. This problem has been reversed. cause-code-transparency supports the values yes, no, and enable-until-connect.
7009866	The dnis -a command indicated failed calls that actually were successful calls that went down with normal disconnect codes.
7010081	TAOS unit generated a warning 104 message when administrator deleted a T3 interface and reset the asociated CLPM.
7010149	PPTP calls failed because TAOS unit discarded GRE packets with protocol type 880B.
7010254	When administrator removed CLMP with slot -r command, TAOS unit did not remove the t3-interface profile.
7010372	MultiDSP module reset, generating a Fatal Error 40 message when administrator entered the pppif -k command.
7010494	The memory-alert-timeout-primary/secondary parameters functioned was incorrect. For values specified between 3-9, it returned 0, logging the following message: LOG error, Shelf 1, Right-controller (P), Time: 08:13:10-- _memoryHMStart: memory HM timeout value <= 0
7010629	When media controller requested Transparent PCM, the TAOS unit did not send RTP data. When TAOS unit was configured for 711-alaw, the same call worked. This CR also corrects an issue where the TAOS unit (E1) incorrectly sent G.711 RTP packets with packet type u-law for transparent PCM.

Enhancements and Corrections in **3** TAOS 10.1.2

TAOS 10.1.2 introduces enhancements and corrects problems from the previous release.

TAOS 10.1.2 enhancements

TAOS 10.1.2 includes the following enhancements.

Firmware versions for digital modem cards

The Mindspeed (formerly known as Conexant) firmware versions for the MAX TNT Digital Modem slot cards include support for V.90, K56flex, K56plus, and all slower, standard modem speeds. This release includes the following Mindspeed firmware:

- Series56 II Digital Modem slot cards (also called CSM/3, TNT-SL-48MOD-SGL and TNT-SL-48MOD-S-C) support V5.817 firmware.
- Series56 III Digital Modem slot cards (also called CSMV/3, TNT-SL-48MODV3-S-C) support V5.8175 firmware.

Firmware versions for MultiDSP cards

This release includes the following Lucent firmware versions for the MAX TNT MultiDSP slot cards:

- 48-port MultiDSP slot cards (TNTP-SL-ADI-C or TNTV-SL-ADI-C) support Controller V0.2.39, Modem DSP V0.2018.0, and VoIP DSP V4.0.43 Lucent firmware.
- 96-port MultiDSP slot cards (APX8-SL-96DSP) support Controller V0.2.39, Modem DSP V0.2018.0, and VoIP DSP V4.0.43 Lucent firmware.
- 240-port MultiDSP slot card (APX-SL-DSP-3-L) support Controller V0.2.39, Modem DSP V0.2018.0, and VoIP DSP V4.0.43 Lucent firmware.
- 288-port MultiDSP slot card (APX-SL-DSP-3) support Controller V0.2.39, Modem DSP V0.2018.0, and VoIP DSP V4.0.43 Lucent firmware.

cause-code-transparency parameter enhancement

In previous releases, the cause-code-transparency parameter supported the values yes and no. Now it supports disable, enable, and enable-until-connect.

cause-code-transparency

Description Enables or disables transparent delivery of the Q.931 (H.323 VoIP) or Q.850 (SS7) disconnect-cause codes generated by the far-end switched network. The codes are passed across the packet network from the far-end MultiVoice® gateway to the near-end MultiVoice® gateway, and then delivered to the local telephone company.

Usage Specify one of the following settings:

- no specifies that, because cause code transparency is disabled, the TAOS unit always sends Cause Code 16 (Normal Release) to the PSTN switch. When Busy, Local Busy Tone is played. `disable` is the default.
- yes specifies that the TAOS unit will derive the appropriate Cause Code from the call's release message, and send it to the PSTN switch. When Busy, Local Busy Tone is not played.
- enable-until-connect specifies that the TAOS unit:
 - For unconnected calls, derives appropriate Cause Code from release message and sends it to the PSTN switch and when Busy, does not play Local Busy Tone
 - For connected calls, sends Cause Code 16 (Normal Release) to the PSTN switch and when Busy, plays Local Busy Tone

Example `set cause-code-transparency = yes`

Dependencies For callers to hear both a busy signal and the call failure message, set `cause-code-transparency` to enabled whenever `h323-voice-ann-enabled` is set to yes.

Location `VOIP/{ "" "" }:pstn-attribute`

H.323 G.711 Transparent FAX enhancement

This release introduces the `g711-transparent-data-initiate-clc` parameter to ensure that the TAOS unit supports fax mode (T.38 or G.711) to interoperate with previous versions of TAOS software, or to operate in compliance with H.323.

g711-transparent-data-initiate-clc

Description When switching to fax mode (either T.38 or G.711) the TAOS unit and the far end should exchange H245 messages to close the existing voice channels and open data channels for the fax data. This parameter enables you to direct the TAOS unit to support fax mode like previous versions of TAOS software, or to be compliant with H.323.

Usage Specify Yes or No. No is the default.

- Yes directs the TAOS unit to switch to T.38 or G.711 fax mode according to H.323.
- No directs the TAOS unit to switch to T.38 or G.711 fax mode according to previous versions of TAOS software.

Example `set g711-transparent-data-initiate-clc = yes`

Dependencies For this parameter to apply the TAOS unit must support Multivoice.

Location VOIP

Disabling the H.323 protocol on voice-enabled units

The new VOIP > enable-h323-protocol parameter specifies whether the TAOS unit supports the H.323 protocol. You should consider disabling H.323 on voice-enabled TAOS units that do not use H.323.

When disabled, the TAOS unit disables H.323, as well as all H.323-associated protocols and ports. H.323 calls fail, but other calls, IPDC for example, succeed if configured.

enable-h323-protocol

Description Specifies whether the TAOS unit supports the H.323 protocol. You should consider disabling H.323 on voice-enabled TAOS units that do not use H.323. When disabled, the TAOS unit disables H.323, as well as all H.323-associated protocols and ports. H.323 calls fail, but other calls, IPDC for example, succeed if configured.

Usage Specify either yes or no. yes is the default

Example set enable-h323-protocol = no

Location VOIP

Enhanced e1-stats and t1-stats commands

With this release, the TAOS unit supports an enhanced e1-stats and t1-stats commands.

Following is the complete description of the commands, including new options.

e1-stats

Description Reports DS1-level line errors on an E1 card. You must first carry out the open command to open a session with the card.

Permission level diagnostic

Usage e1-stats <line -c -a> [*line* -a -d]

Command element	Description
<i>line</i>	Displays statistics for the specified line.
-c <i>line</i>	Displays statistics for the specified line, then clears the statistics for the specified line.
-a	Displays statistics for all lines one screen's worth at a time.

Command element	Description
-c -a	Displays statistics for all lines one screen's worth at a time, then clears all statistics.
-a -d	Displays statistics for all lines.
-c -a -d	Displays statistics for all lines, then clears all statistics.

Example To open a session with a card in slot 13:

```
admin> open 1 13
e1-1/13>
```

To display and reset the statistics on line 2:

```
e1-1/13> e1-stats -c 2
```

Line	CRC-Err	Frm-Slips	Frm-Bit-Err	Line-Code-V	FEB-Err
2	9872	0	0	0	0

The significance of each number in the output is as follows:

Field	Description
CRC-Err	CRC errors. Data corruption in the signal.
Frm-Slips	Frame slips. The APX/MAX TNT unit received E1 data at a greater or less frequency than that of the internal line clock. In the process of realigning itself to the transmitter, the APX/MAX TNT unit can skip or repeat a frame.
Frm-Bit-Err	Framing bit errors. The APX/MAX TNT unit detected a framing bit that was incorrect. E1 framing requires that certain bit positions (known as <i>framing bits</i>) have a fixed value in the signal.
Line-Code-V	Line code violations. The APX/MAX TNT unit detected either a bipolar violation or excessive zeroes, indicating that one of the low-level E1 rules for encoding data was violated in the received signal.
FEB-Err	Far end block errors. How frequently the remote end reported errors in E1 frames transmitted by the APX/MAX TNT unit.

t1-stats

Description Reports DS1-level line errors on a T1 or T3 card. You must first carry out the open command to open a session with the card.

Permission level diagnostic

Usage t1-stats <line -c -a> [*line* -a -d]

Command element	Description
<i>line</i>	Displays statistics for the specified line.

Command element	Description
-c <i>line</i>	Displays statistics for the specified line, then clears the statistics for the specified line.
-a	Displays statistics for all lines one screen's worth at a time.
-c -a	Displays statistics for all lines one screen's worth at a time, then clears all statistics.
-a -d	Displays statistics for all lines.
-c -a -d	Displays statistics for all lines, then clears all statistics.

Example To open a session with a card in slot 13:

```
admin> open 1 13
```

To display and reset the statistics on line 2:

```
e1-1/13> t1-stats -c 2
```

Line	CRC-Err	Frm-Slips	Frm-Bit-Err	Line-Code-V	00F-Events
2	9872	0	0	0	0

The significance of each number in the output is as follows:

Field	Description
CRC-Err	CRC errors. Data corruption in the signal.
Frm-Slips	Frame slips. The APX/MAX TNT unit received T1 data at a greater or less frequency than that of the internal line clock. In the process of realigning itself to the transmitter, the APX/MAX TNT unit can skip or repeat a frame.
Frm-Bit-Err	Framing bit errors. The APX/MAX TNT unit detected a framing bit that was incorrect. T1 framing requires that certain bit positions (known as <i>framing bits</i>) have a fixed value in the signal.
Line-Code-V	Line code violations. The APX/MAX TNT unit detected either a bipolar violation or excessive zeroes, indicating that one of the low-level T1 rules for encoding data was violated in the received signal.
00F-Events	Out of Frame events. The APX/MAX TNT unit no longer detects a framing pattern in the receiving signal, or it detects a pattern at a different relative offset than expected.

Problems corrected in TAOS 10.1.2

Table 3-1 lists change requests that have been resolved in this release.

Table 3-1. Change request resolved in TAOS 10.1.2 (page 1 of 6)

CR #	Description
7006406	Outgoing BRI calls fail if Q.921 layer failed
7008297	TAOS unit occasionally reset, generating a Fatal Error 1 message.
7008396	When telneted to port 5000, only numeric characters were recognized in AT dialout
7008443	TAOS unit disconnected a PIAFS call without sending Data-link Release Request
7008501	For the MAX6000, TAOS unit did not send a syslog event when the T1 changes state from Up to Down or Down to Up.
7008539	TAOS unit, supporting L2TP, occasionally generated Warning 179 messages
7008546	PPP session didn't establish if the remote client sends unknown characters
7008563	QTP metrics were not reported correctly
7008584	E1 modules occasionally reset, generating Fatal Error 1 message
7008650	After system startup, TAOS unit generated Warning 179 messages
7008656	Point-of-sale terminal had high failure rate when connecting to the MultiDSP module
7008658	TAOS unit sends RADIUS Accounting Stop record 40 seconds after syslog indicated the call had ended
7008709	EAP authentication failed
7008742	Update to facilitate third-party PHS-USB cable drivers that could not discard garbage packets
7008763	MultiDSP modem was stuck in "releasing" state after PIAFS call disconnect with disconnect/progress codes 185/31.
7008829	During load, MADD cards in quadrant four would timeout and reset
7008836	Egress E1/R2 or ISDN Cause Codes were not properly reported to Ingress Gateway
7008845	Occasionally, TAOS unit mishandled fragmented X.25 packets on some SVCs

Table 3-1. Change request resolved in TAOS 10.1.2 (page 2 of 6)

CR #	Description
7008855	When support Modem On Hold, TAOS unit experienced an increase in disconnects with Disconnect code 240 and Progress code 80 as well as an increase in disconnects with Disconnect code 19 and progress code 34 progress codes
7008867	L2TP tunnels did not establish if authentication protocol EAP had been negotiated
7008915	modemstats command did not support v.44
7008917	TAOS unit incorrectly sends Cause H225 RELEASE COMPLETE message for Busy call
7008933	T38 calls failed between TAOS unit and third-party Gateways.
7008940	duplex-mode = (bad value) in ETHER-INFO profile for 4ether2-card.
7008973	TAOS unit sent incorrect call identifier within H225 PROGRESS message
7008978	Modem could not connect at V.22/V.22bis
7008961	TAOS unit sent RADIUS DSL attributes for dialup/ISDN users
7008974	TAOS unit does not transparently forward Progress Indicator in H225 PROGRESS message
7008997	Shelf controller command filterdisp incorrectly displays <filters present> for CLID or DNIS pre-auth calls, even when filters are not applied by either RADIUS server or the TAOS unit
7009004	Name resolution for SNMP TRAP host was not working
7009005	Regardless of how much data was passed, the Acct-Input-Packets was always recorded as one (1).
7009007	SS7 ASGCP was unable to establish calls after reset until the line was bounced
7009017	MultiDSP modules experienced connectivity problems with some third-party modems
7009038	TAOS unit did not send G729annexB capability although both silence-det-cng and G729 codec are selected
7009047	Third-party modem did not reconnect after MOH session when QC was enabled in client
7009057	A third-party modem failed to connect at 1200 (strapped) bps with V.8 Bis enabled

Table 3-1. Change request resolved in TAOS 10.1.2 (page 3 of 6)

CR #	Description
7009085	SDTN - MultiDSP module was sensitive to low level signals coming from terminals, causing v22 modem negotiation to fail
7009089	TAOS unit did not retransmit any H225 PROGRESS message on the PSTN side.
7009115	From shelf controller, user could not open session with 96-Port MultiDSP Card
7009116	:Revert to original IPDC spec of Tag 74 for echo cancellation
7009118	TAOS unit logged several Warning 201 messages, resulting in the TAOS unit being inaccessible. Only a console connection to the secondary controller allowed access.
7009120	Clock change trap did not work correctly on TAOS unit
7009121	Incoming calls with more than 24 DNIS digits were not rejected
7009125	MultiDSP module in V22 mode didn't decode received data when the receive level is below -18 dBm
7009126	Transmit level on MultiDSP module was too high and affected some V22/V22bis terminal calls
7009150	With call-info set to none in log profile, TAOS unit did not send STOP message in syslog.
7009159	TAOS unit experienced some packet loss when load balanced multiple nailed-ppp connections were reestablished
7009165	When radius accounting was enabled and acct-checkpoint set to non-zero value (in external-auth profile), call-info (syslog) messages are also sent with the same interval as well as radius accounting checkpoint messages.
7009168	When the TNT Radius profile auth-id-max-retry-time is smaller than the auth-timeout, and the first server not responding, the TNT didn't immediately switch to the next available radius server.
7009169	TAOS unit running OSPF occasionally reset, generating a Fatal Error 29 message
7009184	MADD firmware updated to V0.2.28
7009205	TAOS unit occasionally reset, generating a Fatal Error 2 message
7009206	E1 channels remained in a seized state (Brazilian switch type)
7009207	TAOS unit occasionally generates Warning 800 messages

Table 3-1. Change request resolved in TAOS 10.1.2 (page 4 of 6)

CR #	Description
7009209	IPDC: TAOS unit delayed the ACR if RCCP followed by RCR before ACCP
7009233	Whenever TAOS unit detected "Cause of No CLID", it did not send the information in '0000000n' format
7009236	With some third-party ISDN routers, there was loss of ppp synchronization in receive direction, resulting in packet loss
7009237	IP MTU with AODI Session in D-channel limited to 119 Bytes.
7009240	IPDC T.38 did not interoperate with some third-party devices
7009278	TAOS unit occasionally reset, generating a Fatal Error 40 message
7009296	MultiVoice: Out-of-Band feature incorrectly used the same sequence number routine to two destinations
7009303	TAOS unit eventually stops responding to Proxy ARP
7009305	MultiVoice: When Cause-codes-transparency is enabled, busy tones fail for E1 Brazil switch type
7009310	cbstats output for slot 17 (shelf-controller) showed incorrect RxBytes and RxPackets values
7009327	Eventually, TAOS unit stopped responding to telnet, ping, IP, and console requests
7009337	TAOS unit sent wrong Call State value (11=Disc-request) in Q.931 Status, which caused call disconnection
7009339	TAOS unit supporting L2TP experienced high packet loss
7009369	Far-end user incorrectly received CLID Restricted Information
7009419	TAOS unit failed to establish L2TP calls from WORMARQ terminal
7009428	Multivoice: RMPC did not update all changed parameters, including destination send address
7009441	Shelf controller occasionally reset, generating a Fatal Error 100 message.
7009442	TAOS units fail to accept VOIP calls containing misrepresented, replaced or omitted digits.
7009476	Ethernet module transmitted fractured packet if ARP entry was missing.
7009458	MultiDSP module reset, generating a Fatal Error 36 message

Table 3-1. Change request resolved in TAOS 10.1.2 (page 5 of 6)

CR #	Description
7009473	Echo Cancellation did not correctly work
7009486	The Multidsp modem failed to handshake successfully with some third-party devices
7009497	ISDN V.120 + ISDN X.75 TCP-Clear sessions do not connect
7009508	MultiDSP module reset, generating a Fatal Error 40 message
7009523	TAOS unit incorrectly sent redirecting number of Called Party IE as DNIS to egress switch
7009524	Some third-party modems disconnected when retraining
7009570	TAOS unit supporting OSPF reset, generating Fatal Error 29 message
7009571	TAOS unit always sent cause value 16 in Q.931 Release Complete messages
7009594	Terminal server login occasionally displayed incorrect output
7009606	Multivoice: Poor voice quality with some third-party devices
7009610	For single stage calls, TAOS unit sent reprompts regardless of mlg-dnis-retries parameter
7009657	MultiDSP module occasionally generated Warning 800 messages
7009670	MultiDSP module occasionally reset, generating a Fatal Error 40 message
7009701	E1 module occasionally reset, generating a Fatal Error 2 message
7009731	CBCP negotiation failed with some third-party devices
7009778	MultiDSP module reset, generating a Fatal Error 50 message
7009781	Occasionally, TAOS unit reset its engine-id (in the SNMP profile) to a value of 00:00:00:00:00:00:00:00:00:00:00:00
7009805	Problems with V.34 modem negotiation
7009837	TAOS unit cleared stats without displaying them when entering E1-stats -c command
7009857	Multivoice: Voice calls failed when TAOS unit sent incorrect 6E information element on PRI trunk
7009865	Channels gradually go into a blocked state on E1 line supporting R2 signaling (Brazil)

Table 3-1. Change request resolved in TAOS 10.1.2 (page 6 of 6)

CR #	Description
7009890	Occasionally, TAOS unit incorrectly disconnected ISDN calls, generating Progress 2 and Disconnect Cause 201 messages
7009931	clpmt module bounced, generating an index 95 message
7009990	V.120 Terminal Adapter did not connect after upgrade
7009992	After loading a configuration without a carriage return at the end of the config file, the unit stopped sending SysConfigChangeTrap
7010033	open command did not indicate appropriately that an invalid slot was entered within the command.
7010039	FE-LOOP command displayed incorrectly
7010040	TAOS unit did not indicate DS3 loopback status
7010078	RADIUS client timeout errors with some MultiDSP modules
7010090	TAOS unit received an SCS to start loopback, then incorrectly returned RSCS indicating that "at least one channel failed"
7010092	IPDC: TAOS unit reported codec=G.723 when G.711 A-law was requested
7010143	DS3 framing on CLPM module didn't display correct c-bit value
7010172	CLPM did not support digital milliwatt tones
7010176	Problems connecting with some third-party modems
7010256	Modem connectivity problems dialing into 96-port MultiDSP module
7010319	MultiVoice: When cause code transparency is enabled, TAOS unit does not pass proper disconnect value to ingress switch

Corrections in TAOS 10.1.1

4

Table 4-1 lists problems (Change Requests) that have been resolved in 10.1.1.

Table 4-1. Change request resolved in TAOS 10.1.1 (page 1 of 4)

CR #	Description
7007129	Unit played back "all circuit busy" messages, and disconnected calls with cause 506 and progress 30.
7007840	AMPER credit card PoS terminal and MultiDSP2 card compatibility problems.
7007945	Unit showed connect speed as 0 for PIAFS-8 modems supporting L2TP.
7008263	MultiDSP card generated frequent watchdogWarningTrap thermal traps when thermal thresholds were not being exceeded.
7008308	Unit generated Warning 800 messages relating to TAOS VJ compress/uncompress functionality.
7008344	MultiDSP 2 card and Scorpio AMR Client modem were unable to synchronize at 2400bps with G.721 encoding.
7008406	Unit attempted to assign an IP address that was already in use.
7008460	Slot-info for secondary not available via primary.
7008509	Unit reset, generating a Fatal Error 61 message.
7008510	Unit with switch type of Japan showed T1/PRI lines stuck in Red Alarm.
7008514	Unit supporting tunneling reset, generating a Fatal Error 29
7008542	RFC2833 DTMF events had initial packets with invalid durations.
7008544	IPDC MRJ cause 42 sent for calls when congested instead of RCR.
7008577	MultiDSP 2 cards with v.90-v.92-capable modems were experiencing poor modem performance with longer access lines.

Table 4-1. Change request resolved in TAOS 10.1.1 (page 2 of 4)

CR #	Description
7008603	Unit's serial port did not respond after disconnecting, then reconnecting cable during display of something ("save console" output, for example) on the console. This problem was seen only when auto-logout=yes. Reset resolved problem.
7008613	SNMP: MIB variable dnisGlobalCallsActive incorrectly went to zero with active calls.
7008623	SARM resets when break-in announcements are used.
7008626	Incoming H.323 calls from gateways fail.
7008645	Unit sent RADIUS AVP with username attribute of two bytes.
7008647	Left controller was at the boot prompt and therefore not operational. However, the Show command from the primary indicated that the controller was up.
7008652	MultiDSP card generated multiple Warning 109 messages per day.
7008675	MultiVoice: RMPC without Codec type reverted to setting specified in VOIP profile
7008679	MultiVoice: Dual-stage dialing failed when true connect was set to yes.
7008693	Certain PCTel modems do not connect to a MultiDSP card when V8bis is enabled.
7008694	The M-bit was not set to 1 in RFC2833 RTP packets.
7008698	MultiDSP card generated several Warning 179 messages.
7008709	EAP TLS Authentication failed when using ikey1000 smart token.
7008718	Ethernet card indicated that it was up, but did not pass traffic.
7008719	MultiDSP card: When the open command was issued to start a session with the card, the unit displayed no prompt.
7008720	ICMP Redirect vulnerability.
7008737	Newline character contained in Protection violation syslog message
7008736	Unit caused H323 VOIP call to be dropped by the PSTN. Unit transmitting a PSTN Outbound SETUP message with an inconsistent value for the Type of Number field in the Called party number IE.

Table 4-1. Change request resolved in TAOS 10.1.1 (page 3 of 4)

CR #	Description
7008777	Unit reset, generating a Fatal Error 29 message. When telneted to the unit and running the FTP client command at the CLI, the unit reset if the telnet terminal window was closed ungracefully, while still in the FTP state.
7008783	TCP Clear did not work correctly.
7008811	With busy calls, unit did not report back busy tones when transparent cause codes =yes.
7008840	SNMP: ifAdminStatus returned UP for a disabled Ethernet port.
7008851	SNMP: ifAdminStatus returned UP for a disabled APX Ethernet port.
7008855	When V.92 is allowed globally, but disabled by RADIUS, an MoH request can be rejected, but the modem call can be disconnected immediately. An increase in 34/19 PD code can be seen.
7008889	During upgrade, some images appeared on the primary controller, but didn't get copied to the secondary controller.
7008913	Unit reported inconsistent information transfer capability in the H225 bearer capability IE. For any incoming PSTN call, the unit set the bearer capability IE to "unrestricted digital information" in the H225 SETUP message.
7008919	Zoom 3049C modem does not reconnect after MoH Nack.
7008921	Increase in 1200bps calls when V8bis is disabled.
7008941	On a MAX TNT, after the MEDIA-GATEWAY default profile was reactivated, channels were not available until the unit was reset.
7008947	V.92 PCM upstream does not work over a-law lines.
7008948	FTP sessions timed out for MPP calls
7008949	Unit sent RADIUS accounting checkpoint packets when the functionality was disabled.
7008958	When a unit received an RCCP with the DestinationSendIP = 0.0.0.0 and the DestinationSendRtpPort = 0, but with a valid DestinationListenIP and port, unit did not convert the RTP that was received.
7008962	Unit reset, generating no Fatal Error message after generating Warning 179 messages.
7008966	IPDC did not fail over when the T3 timer was set to any value below 20 seconds.

Table 4-1. Change request resolved in TAOS 10.1.1 (page 4 of 4)

CR #	Description
7008980	Unit responded with 2 identical NMS messages when it received an SMS to put a module in out-of-service condition.
7009069	Shelf running 10.1.0 generated Fatal Warning 179.

Notices, Known Issues, and Limitations

Notice in TAOS 10.1.3 5-1

Known issues and limitations in TAOS 10.1.3 5-2



If you are upgrading from a release earlier than TAOS 10.0.0, see the TAOS 10.0.0 Release Notes from at <http://www.lucent.com/support> for notices of changes introduced in that release.

Notice in TAOS 10.1.3

The following notices describe important information regarding TAOS software and hardware that is valid for software version TAOS 10.1.3.

Hot standby redundancy provided for APX 8000 systems

APX 8000 systems with dual controllers no longer require a special software license to enable hot standby redundancy. You enable hot standby mode by using the sync-enabled parameter in the redundancy profile.

Unsupported call type in this release

The `rt24-call-type` `call-route-type`, introduced in TAOS 10.0 for 48-port MultiDSP slot cards, is no longer supported with this software version. If you have 48-port MultiDSP cards in the system and restore a configuration from TAOS 10.0 (or a 10.0 maintenance release) that specifies this call type, the system fails to create a profile with this setting:

```
call-route-type = rt24-call-type
```

And instead saves the profile with this setting:

```
call-route-type = any-call-type
```

This profile causes no harm, but you might want to delete it.

V.92 client modem support

Not all V.92 client modems fully support all V.92 capabilities. Lucent recommends that end users regularly check with their manufacturers for firmware updates. V.92 capabilities are achieved only when the client modems are V.92 compatible, otherwise the modems fall back to V.90 or slower protocols. For V.92 PCM Upstream

connections, actual improvement over performance experienced with V.90 connections will vary on the basis of line conditions.

Unsupported parameters on the command-line interface

The command-line interface includes some parameters related to the session initiation protocol (SIP) and H.248 protocol. TAOS 10.1.3 does not support SIP or H.248.

Notice of parameter name changes in the external-auth profile

If you are upgrading from a TAOS 8.x release and Dialed Number Information Service (DNIS) and calling line ID (CLID) preauthentication was configured for your system using the `dnis-password` and `clid-password` parameters in the `external-auth` profile, the system will no longer recognize those passwords after upgrading to this release, and dial-in users might experience a busy tone.

In TAOS 9.0 and later releases, the `dnis-password` and `clid-password` parameters were changed to `dnis` and `clid`, respectively, and were moved from the `external-auth` profile to the `external-auth:password-profile` subprofile.

To restore the DNIS and CLID preauthorization passwords, apply the settings of the `dnis-password` and `clid-password` parameters (set in earlier TAOS 8.x releases), to the new `dnis` and `clid` parameters.

Known issues and limitations in TAOS 10.1.3

Be aware of the following known issues and limitations that are known to exist in the TAOS 10.1.3 release.

■ Known MultiVoice® issues

- A small percentage of calls might experience broken one-way voice path when using break-in announcements stored in G.729 format.
- If your setup includes a 96-port MultiDSP slot card that interacts with a G.711 audio codec device, do not use two frames per packet when you expect to have a fully loaded network with 96 active calls. Set the `frames-per-packet` parameter to 4 or higher in the `voip` profile or accept the default setting of 2 for the `frames-per-packet` set to 2, but disable DSPs on the card with the `mdmdisable` command.

The DSPs remain disabled even if you reset the chassis. If two frames per packet are maintained and no DSPs are disabled, voice quality might degrade after approximately 80 active calls.

- If the `use-trunk-groups` parameter is set to `no` in the `system` profile, you must set the `call-route trunk-group` to 0. The trunk groups defined in the T1 or E1 profile are not affected.
- Under certain network conditions in the simulated test network, transparent fax v.17 calls sometimes downtrain or drop occasionally.
- The performance of the serial WAN 2 (SWAN2) slot declines by about 13 percent if the frame sizes are set to between 1024 and 1518 bytes long.
- Your unit might not route reliably if you configure Border Gateway Protocol (BGP) to accept and inject the full Internet routing table (which currently consists of

approximately 92,000 routes). TAOS units are not designed to be full-fledged Internet core routers, therefore this situation is uncommon. However, to prevent this situation, set BGP to accept a limited number of routes if it would otherwise be receiving too large a routing table. Future software versions might have an explicit limit beyond which it will not accept additional routes.

- If multiple OC3-ATM2 slot cards are configured for OC3 ingress, traffic is unable to pass through the egress slot card.
- If you are using NavisRADIUS, Attribute (21) must be a string instead of an integer in the dictionary file:

```
ATTRIBUTE Ascend-H323-Conference-ID 21 string Lucent
```

The following error message appears in the `navisradius.log` file if Attribute 21 is an integer:

```
Invalid packet type for acct: 33
```

Limitations in TAOS 10.1.3

- A universal gateway (a TAOS unit) that is originating a VoIP call and has a MultiDSP 48-port, 240-port, or 288-port card installed supports the G.723 audio codec. MultiDSP 96-port cards do not support the G.723 audio codec.
- Multilink Protocol bonding of analog calls is supported, but some client modems and software might have compatibility problems.
- Configurable receive and transmit data rate limits are not supported on the unchannelized DS3-ATM slot card (TNT-SL-UDS3A). Configurable receive and transmit data rate limits are supported on the unchannelized DS3 frame relay slot card (TNT-SL-UDS3).
- Virtual path shaping is supported only on first-generation slot cards. This feature is not supported on second-generation OC3-ATM and DS3-ATM cards.

