Lucent Technologies
Bell Labs Innovations



APX 1000™

TAOS 9.1-149.2 Cumulative Release Note

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Upgrading an APX 1000 unit

To help ensure a smooth upgrade of your system software, you must follow the procedures described in this section. Read the instructions carefully before upgrading your system. If you must downgrade to an earlier TAOS release, see “Downgrade instructions” on page 3.

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.

Note: To downgrade to a previous version of the TAOS system software, you must have serial access to the unit.

Obtaining the TAOS binary files

You can obtain the current binaries via FTP from Lucent OnLine Customer Support at `http://www.lucent.com/support`. Of the following files, download the boot loader and either the T1 or E1 tar file.

Filename	Description
`apx1ksrb.bin`	The boot loader. Both T1 and E1 loads use the same boot loader software. Install the appropriate boot loader for your release when upgrading or downgrading.
`apx1krel.tar`	Tar file for a T1 load. This file contains images for the shelf controller and all T1-compatible slot cards.
`apx1krele.tar`	Tar file for an E1 load. This file contains images for the shelf controller and all E1-compatible slot cards.

For technical assistance in obtaining the binary files, see “Customer Service” on page iii.

Before you begin the upgrade procedure

As a general practice, Lucent recommends that you log into the system and save its configuration to a TFTP server. This step is optional but strongly recommended.

Saving the system configuration

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 UNIX commands executed on a TFTP server create a target file named `apxconfig` and set its permissions:

```
$ touch /tftpboot/config/apxconfig
$ chmod a=rw /tftpboot/config/apxconfig
```

Before you save the system configuration, you must enable the `allow-password` permission in the `user` profile used to authenticate your login to the APX 1000 console. Otherwise, when you save the configuration the system requests confirmation that you wish to save the configuration without passwords. If you confirm, all passwords in the configuration will be blank when you restore the configuration.

The following commands executed on the APX 1000 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/apxconfig
admin> load config network 10.10.10.10 config/apxconfig
```

Checking load-select settings

The `load-select` profile settings inform the system about which slot card binaries to load during a software upgrade procedure. To verify that the `load` command in the upgrade procedure will not load unnecessary slot-card images, use the following command:

```
admin> get load-select
in LOAD-SELECT]
unknown-cards = auto
8t1 = auto
8e1 = auto
t3 = auto
stm0 = auto
pctfit = auto
pctfie = auto
24t1 = auto
...
```

If the profile specifies `auto` for each slot card type, the system loads a slot card binary only when it detects that the slot card type is physically present in the unit. If you need more details about the `load-select` profile, see the *APX 8000/MAX TNT Reference*.

Upgrade instructions

The following steps are order-sensitive. To help ensure a smooth upgrade, first perform the preliminary upgrade tasks described in the preceding section, and then perform the steps in the order in which they are shown.

Note: Under certain conditions, the `load tar` command might recognize no slot cards and load only the shelf controller image during the upgrade procedure. If this occurs, reset the system and load the tar files again. The second load tar command loads the appropriate slot card images for the system.

To upgrade the APX 1000 unit, proceed as follows:

1. Load the boot loader. For example:

   ```
   admin> load boot-sr network 10.10.10.10 apx1ksrb.bin
   ```

2. Load the tar file. For example:

   ```
   admin> load tar network 10.10.10.10 apx1krel.tar
   ```

3. Restore the system configuration (optional). For example:

   ```
   admin> load config network 10.10.10.10 config/apxconfig
   ```

4. Reset the system as follows:

   ```
   admin> reset
   ```

Downgrade instructions

Because releases are not necessarily backward compatible, Lucent recommends that when you have loaded a previous version of the TAOS software, you restore a backup system configuration made under that earlier TAOS version.

To restore an earlier version of TAOS, proceed as follows:

1 Log into the system via a serial connection to the console.

Note: To downgrade, you must have serial access to the unit.

2 Load the previous version of the boot loader. For example:

```
admin> load boot-sr network 10.10.10.10 apx1ksrb.bin
```

3 Format the flash card:

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

4 Load the previous version of the tar file. For example:

```
admin> load tar network 10.10.10.10 apx1krel.tar
```

5 Clear all profiles by entering the `nvram` command.

```
admin> nvram
```

6 Log into the primary shelf controller 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 right-controller 1 } 0 } read
admin> set ip-address = 10.10.10.2/24
admin> write
IP-INTERFACE/{ { shelf-1 controller 1 } 0 } written
```

7 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/apxconfig
```

8 Reset the system. This step is required.

```
admin> reset
```

Enhancements in TAOS 9.1-149.2

TAOS 9.1-149.2 includes the following enhancements.

Improved resistance to denial of service attempts

TAOS 9.1-149.2 includes improved resistance to denial of service attempts.

Firmware versions for MultiDSP cards

This release includes the following Lucent firmware versions for MultiDSP cards (APX8-SL-96DSP, APX-SL-DSP-3-L, and APX-SL-DSP-3):

- Controller V0.1.55
- PHS DSP V2.1.1
- RAS DSP V0.1902.0
- VoIP DSP V3.0.45
- V.110 DSP V0.0.3

Enhancements and corrections in TAOS 9.1-149.1

TAOS 9.1-149.1 contains new firmware versions for MultiDSP slot cards and corrects problems observed in the previous release.

Firmware versions for MultiDSP cards

This release includes the following Lucent firmware versions for MultiDSP cards (APX8-SL-96DSP, APX-SL-DSP-3-L, and APX-SL-DSP-3):

- Controller V0.1.55
- PHS DSP V2.1.1
- RAS DSP V0.1902.0
- VoIP DSP V3.0.45
- V.110 DSP V0.0.3

Corrected problems in this release

The following problems have been corrected in this release:

TR identifier	Summary
7006701 6002320	When the `external-auth:rad-auth-client:auth-pool` parameter was set to `yes`, indicating that the APX 1000 unit allocates an IP address before sending an authentication request to the RADIUS server, 288-port MultiDSP slot card resets were observed with FE8/FE42/FE29. This problem has been corrected.
7006770	24-port T1 and 24-port EI ISDN lines were unavailable in D channel failure (DF) state after the clock source had been switched several times. This problem has been corrected.
N/A	Certain conditions related to ISDN PRI signaling can cause an underrun condition to occur in the processor of 24-port T1 and 24-port E1 slot cards. The cards now continue to operate properly following an underrun event.
N/A	The `chassis` MIB has been modified to include slot types for the following slot cards: 24-port T1 (`TYPE_t1_24ports`), 24-port E1 (`TYPE_e1_24ports`) and 240-port MultiDSP (`TYPE_madd3_lite`).
N/A	Some voice announcements were not being played.
N/A	The 24-port T1 card now supports the idle code feature.
N/A	When the loop cable for a 24-port T1 or 24-port E1 long-haul line was 1500 feet (457.2 m) long, the line was unavailable in RED ALARM state. The line now comes up and stays in the ACTIVE state as expected.
N/A	Long `syslog` messages were sometimes truncated.