

IAD Upgrade Procedure

Upgrading ADTRAN IAD Firmware Using n-Command

Welcome to the n-Command IAD Upgrade Procedure. This document walks you through upgrading the firmware in your ADTRAN IADs using n-Command software. For complete product documentation, see your n-Command online help (select **Help** > **n-Command Help**).

System Requirements

Hardware and Software Requirements	
Operating System	Microsoft Windows 2000, XP, or 2003
Monitor Size	19 inches (17 inches minimum)
Display Resolution	1024 x 768 pixels

Server Configuration			
Number of IADs	Number of Processors	Processor Type	Memory
<2000	1	Pentium 4/2.8 GHz	2 GB of RAM
2000 to 8000	2	Pentium 4/2.8 GHz	2 GB of RAM
>8000	Contact ADTRAN		

Client Configuration			
Number of IADs	Number of Processors	Processor Type	Memory
<2000	1	Pentium 4 or equivalent	5122 MB of RAM
2000 to 8000	1	Pentium 4 or equivalent	1 GB of RAM
>8000	Contact ADTRAN		



n-Command will operate on IAD software versions 04.04.47 or later. If you have an earlier version, contact ADTRAN Technical Support at (888) 4ADTRAN for assistance.

Preparation

n-Command Installation and Configuration

1. First, install the n-Command server. Then install any n-Command clients. Refer to the n-Command *Quick Start Guide* (P/N 61950843L1-13.2B) for help installing the software.
2. Create **Folders** and **Users** following the instructions of steps 1, 2, and 3 in the *Getting Started Guide* found under **Help**.
3. If email notification will be used, set up email following step 7 in the *Getting Started Guide* found under **Help**.



*The other steps described in the **Getting Started Guide** apply only to NetVanta Products.*

IAD Data Preparation

n-Command communicates with the IADs via Telnet and logs in using a user name and password. n-Command does not use SNMP.

1. Prepare a spreadsheet that includes all IADs to be discovered. The spreadsheet should contain the following information in the first three columns in the order listed: IP address, user name, and password.
2. Export the spreadsheet to a Comma Separated Value file (CSV). This file will be the IAD Discovery file used by n-Command.
3. Make sure this file is available to an n-Command client.

Discovery

The following steps describe how to discover devices.

1. Select the **Network** tab.
2. Select **Discover Devices**.
3. Select the target folder for discovered IAD devices. You can move discovered devices to other folders later if necessary.
4. At the bottom of the Discovery dialog window, select **IAD File** from the **Type of Discovery** drop down menu.

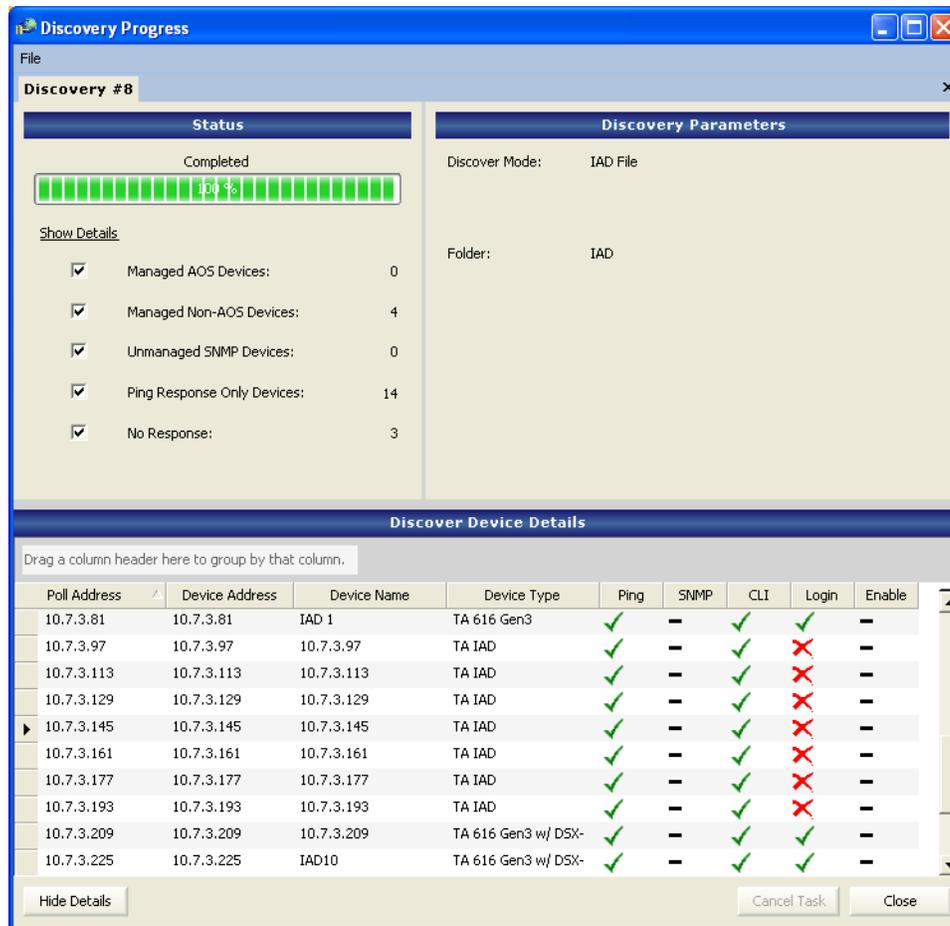
Ping	IP Address	Device Name	SW Version	Device Type	Description	Serial Number
! ▼	10.14.1.210	10.14.1.210		TA IAD		
! ▼	10.7.2.1	10.7.2.1		TA IAD		
! ▼	10.7.2.113	10.7.2.113		TA IAD		
! ▼	10.7.2.129	10.7.2.129		TA IAD		
! ▼	10.7.2.17	10.7.2.17		TA IAD		
! ▼	10.7.2.33	10.7.2.33		TA IAD		
! ▼	10.7.2.49	10.7.2.49		TA IAD		
! ▼	10.7.2.65	10.7.2.65		TA IAD		
! ▼	10.7.2.81	10.7.2.81		TA IAD		
! ▼	10.7.2.97	10.7.2.97		TA IAD		
! ▼	10.7.3.113	10.7.3.113		TA IAD		
! ▼	10.7.3.129	10.7.3.129		TA IAD		
! ▼	10.7.3.145	10.7.3.145		TA IAD		
! ▼	10.7.3.161	10.7.3.161		TA IAD		

5. Browse to the CSV file containing the IADs to be discovered.



The IAD File must be a CSV file with a format: IP address, user name, and password.

6. Select **Discover** from the **Setup** tab. The status window displays.
7. You can view the communication success/failure details for each device by selecting the check boxes denoting the level of details to display and then selecting **Show Details**.



Detail Areas

Ping - Indicates device responded to ping.

SNMP - Indicates an SNMP response was received from the device. This is inactive for IAD discovery.

CLI - Verifies that a prompt was received from the device.

Login - Verifies that n-Command is using the proper user name and password.

Enable - Inactive for IAD discovery.

8. If you need to cancel the discovery process, select **Cancel Task**.
9. When the process is complete, the discovered devices are displayed in the main n-Command window.
10. Select **Close** to return to n-Command.

Error Handling

If errors occur during the discovery process, take the following steps:

1. View the discovery detail to determine whether the error occurred because the device is not reachable (CLI fail) or because of an incorrect user name or password (Login fail).
2. If the error is a Login failure, export the failed devices using the **Export devices / Failed Devices** function under the **File** menu. This is a CSV file that can be read into a spreadsheet if desired.
3. Make corrections, and repeat the discovery process with the corrected file.

Organizing Discovered IADs

Once IADs are discovered, you can view inventory information in the device grid portion of the main screen. Devices can be moved easily by highlighting and dragging devices into folders.

Organizing Folders

Folders and subfolders can be added to aid organization. Review the **Help** section on this function (**Help / Network Tab / Working With Folders**).



*If automatic backup of configuration files is desired, the backup schedule is set as a part of a folder's property. Sub-folders inherit schedules from their parent folder. Setting backup schedules is covered under the **Working With Folders Help** section.*

Upgrade Process

What Does n-Command do?

1. Once **Upload Firmware** is selected, n-Command verifies that the file selected for download is appropriate for the devices selected to be upgraded.
2. n-Command verifies that all IAD devices are at least at revision 04.04.47.
3. n-Command Telnets into the device and initiates a TFTP download of the firmware file. By default, n-Command runs 10 simultaneous threads. To increase or decrease the number of threads, contact ADTRAN tech support for assistance.
4. After a download is complete, the IAD automatically reboots if the CRC checksum of the downloaded file is valid.
5. After rebooting, n-Command logs into the device again and verifies that the device is running the new code version.
6. If n-Command is unable to communicate with a device either during the download or after reboot, a catastrophic error is logged. Once five such errors occur, n-Command automatically terminates the upgrade job. To modify the error threshold, contact ADTRAN tech support.

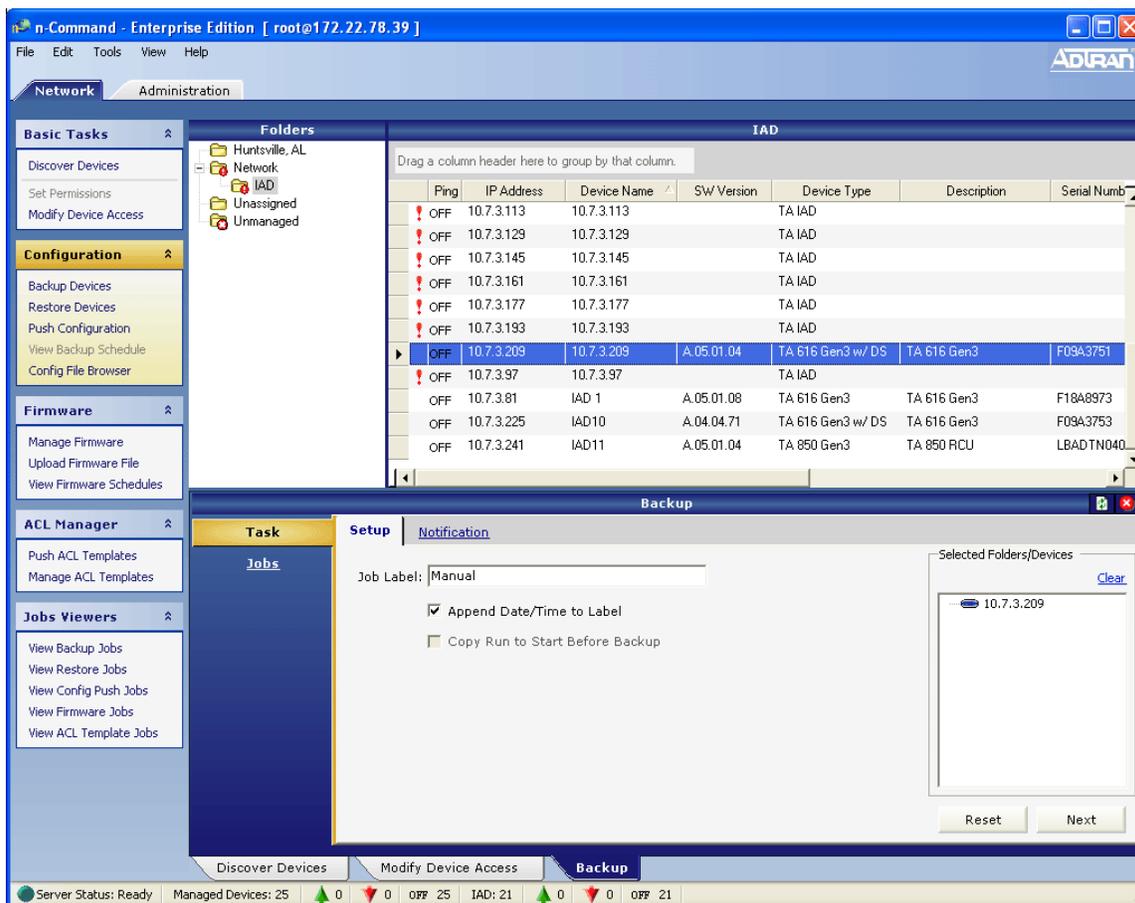


n-Command will not terminate a transfer that is already in process; it can only prevent any new transfers from initiating.

Backup Configuration

Prior to uploading firmware, ADTRAN recommends that a configuration backup be initiated on one or more devices. This will verify that TFTP is properly operational.

1. Select **Backup Devices** under the **Configuration** menu on the **Network** tab.



2. Select device(s) for backup by highlighting one or more in the device grid and dragging to the **Selected Devices** window in the **Backup** action pane.
3. Select **Next**. Ignore **Notification** and select **Submit**.
4. If no errors occur, continue with the firmware upgrade steps. If an error occurs, correct the source of the backup error (firewall blocking TFTP?) and successfully complete a backup prior to attempting a firmware upgrade.

The screenshot shows the 'Job Detail Viewer' window for 'Backup Job #7'. The interface is divided into several sections:

- Status:** A summary box showing the job is 'Running ...'. It lists counts for various states: # Waiting: 0, # Running: 3, # Succeeded: 0, # Failed: 0, and # Cancelled: 0.
- Backup Job Details:** A form containing metadata such as Label (Manual 2/23/2006 9:07:23 AM), Creator (root), Owner (root), Start Time (2/23/2006 9:07:23 AM), End Time, StartUp (Manual), and checkboxes for E-Mail Job Results, E-Mail on First Error, and On Error Only.
- Job Options:** A section with a checkbox for 'Copy Run to Start'.
- Device Details:** A table with a header row and three data rows. The table has columns for Name, Device Type, Start Time, End Time, Current State, Status, and Log. The 'Current State' column for all three devices is highlighted in green and labeled 'Running'.

At the bottom of the window, there are buttons for 'Cancel Job', 'Discard', 'Save', and 'Close'.

Name	Device Type	Start Time	End Time	Current State	Status	Log
10.14.21.2	TA 850 Gen3	2/23/2006 9:07:24 AM		Running	Running	?
red	TA 850 Gen3	2/23/2006 9:07:24 AM		Running	Running	?
IAD10	TA 616 Gen3...	2/23/2006 9:07:24 AM		Running	Running	?

Firmware Upgrade Steps

1. Obtain the firmware file and save it to a local directory or to your desktop.
2. Select **Upload Firmware File** under the **Firmware** menu.
3. Browse to the firmware file and double click to inject into the n-Command server.
4. Select **Manage Firmware**.
5. Select the device type to be upgraded from the **Device Type Filter** drop down menu.
6. In the device grid, select one or more devices to be upgraded.



*Devices can be sorted by clicking on the column header, or grouped by dragging the column header to the box that says **Drag a column header here to group by that column.***



Use **Shift** or **Ctrl + left click** to select multiple devices.

7. Drag the selected devices into the **Selected Folders/Devices** box in the **Firmware** action pane.
8. Select the firmware file to be uploaded



Only files appropriate for the device type selected are shown.

The screenshot shows the ADTRAN Network Administration interface. The main window displays a list of IAD devices with columns for Ping, IP Address, Device Name, SW Version, Device Type, Description, and Serial Number. The 'Firmware Manager' dialog box is open, showing the 'Setup' tab. The 'Device Type Filter' is set to 'TA 600 Gen3 IADs'. The 'Action' is 'Update Device Firmware'. The 'Firmware Revision' is 'A.05.01.1 (TDM)'. The 'Upload Action' is 'New Firmware To Primary, Primary To Backup'. The 'Selected Folders/Devices' box contains 'IAD10'. The 'Available Devices' count is 1, and 'Excluded Devices' count is 0. The 'Next' button is visible.

9. Select **Next** and select when you want the download task to start (**Immediate** is the default). The **Reboot Schedule** will be disabled for TA6xx and TA850 devices.
10. Select **Next** and set **Notification** if desired.
11. Select **Next** and then select **Verify**. This initiates an n-Command check against the selected devices to determine whether all units can be reached and to verify that they are all at the proper revision level.
12. Select **Submit** to initiate the download.

Upgrade Recommendations

1. ADTRAN recommends that you upgrade only a few devices at first. Once you are satisfied with the operation, then you can choose more devices with each task restart.



n-Command limits the number of devices in any task to 500.

2. If a device fails to upgrade but n-Command can still communicate with the device, you can resubmit the job for the failed devices. Select the devices by sorting on **Current State**, highlighting the failed devices, and selecting **Resubmit Selected devices** under the **Actions** menu of the **Job Detail Viewer** (or right click on a device). All other settings will remain the same, and the job will be rerun on only those devices.

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