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## TotalNET Advanced Server 5.2 Release Notes

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## About These Notes

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### Read Me Before Installation

During the installation of TotalNET Advanced Server (TAS), the installation program adds the local user and group `totalnet` to your system as the TAS administrative user and group, if it does not already exist.

TAS 5.2 cannot operate on the same system with earlier versions of TAS, TAS components, or `TNclient`. If your system contains any of these, upgrade as instructed in “Upgrading Overview” on page 7. You can only make one-way conversions from earlier versions of TAS to TAS 5.2. Back up TAS before upgrading.

TAS has year-2000 compliancy. It conforms with Option One of the *Y2000 Developer's Guide*.

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## About These Notes

These release notes contain TAS upgrading and installation instructions. Immediately after completing installation, follow the instructions for initial configuration in *TAS Administration Manual* or *TAS Reference Manual* to configure TAS.

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**Note** - You do not need to reconfigure TAS to upgrade from a previous version.

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This document supplements the TAS on-line HTML manuals. The TAS manual set consists of the following publications:

- TAS Administration Manual

- TAS Reference Manual
- TAS Quick Reference (printed document in your TAS CD packaging)
- TAS-DCE Manual

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**Note** - *TAS-DCE Manual* only applies to clients using the optional TAS-DCE module. It includes information for installing the TAS-DCE package.

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Instructions for accessing the TAS manuals appear under “Connecting to TNAS and Accessing Documentation” on page 41. You can also download documentation at <http://www.syntax.com/support/guest/docs/tedoc.htm>.

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## What’s New in This Release

### TotalNET Administration Suite

TotalNET Administration Suite (TNAS) allows you to configure the TotalNET network through HTML menus and dialogue boxes. TotalAdmin constitutes one part of TNAS.

### New TotalAdmin

The presentation and arrangement of TotalAdmin menu items reflect the new, intuitive TNAS framework.

### HTML Documentation

You can now access TAS on-line documentation—*TAS Administration Manual*, *TAS Reference Manual*, and, if applicable, *TAS-DCE Manual*—as HTML documents through your web browser.

### File Name Mapping

The way TAS handles case now defaults to case-preservation, in which TAS maps case to UNIX exactly as given by the client, instead of to lower-case.



## Improved Utility Performance

The TotalNET remote utilities, such as the `ru-` and `nc-` utilities, now support long file names, the `tnpasswd` utility performs more efficiently, the `atconvert` utility allows you to convert from Helios or CAP to TAS, and NetWare client utilities function more intuitively.

## Enhanced Tracing

You can now turn tracing on and off from all three realms and for all file services, and you can do so more easily than in previous releases.

## AppleTalk Printer Access from All Realms

This feature allows you to print to AppleTalk printers through TAS. TAS extends outbound as well as inbound support to the PAP driver.

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## TNHOME

The TAS installation program installs TAS in the default TotalNET home directory, `TNHOME`, whose path differs from platform to platform. Within `TNHOME`, TAS creates subdirectories containing the three TAS realms, the on-line documentation, and TotalNET Administration Suite (TNAS). The following table lists the location of the `TNHOME` directory by platform:

TNHOME by Platform	
AIX	<code>/var/totalnet</code>
IRIX, HP, Solaris	<code>/var/opt/totalnet</code>

The TAS installation program writes the `TNHOME` directory path to `/etc/totalnet/TNHOME` during installation. The following table lists important directories relative to `TNHOME` in the TAS environment:

Directory	Path
TotalNET home directory	TNHOME (default directory)
LM-NT-OS/2 realm	TNHOME/NB
NetWare realm	TNHOME/NW
AppleTalk realm	TNHOME/AT
TNAS	TNHOME/tnas
TotalAdmin	TNHOME/totaladmin
TAS on-line documentation	TNHOME/usr/docs

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## License Key

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**Note** - You need a new license key to upgrade.

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TAS ships with one user license. To purchase additional user licenses, contact your Sun sales representative. To do so, you need your system ID, which determines the activation key for licenses.

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## Installation Information

### Installation Instructions

Complete the steps in “Upgrading Steps: TAS 4.1.1” on page 13 if you have an earlier version of TAS on your system; otherwise, consult the installation section for your platform from the list below.

Read Chapter 7 for information to keep in mind after installing TAS. For the most up-to-date information about issues with this release, see the Syntax Technical on-line documentation web page at the following URL: <http://www.syntax.com/support/guest/docs/tedoc.htm>.

- “Upgrading”
- “AIX 4.1.4, 4.1.5, and 4.2”
- “Solaris”
- “H-P UX 10.10 and 10.20”
- “IRIX 5.3 and 6.x”

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**Note** - TAS no longer supports TAS-NB (HP 9.x and SunOS).

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## Upgrading

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To upgrade to TAS 5.2, you need to run the `tnconvert` utility, which reads existing TAS configuration files, converts them, and saves them in the `/etc/totalnet/convert` directory. The `tnconvert` utility also prompts for and saves your new TAS 5.2 activation key. You need a new key to run `tnconvert`. This process generates a log file in `/etc/totalnet/convert/log.tnconv`. When you complete installation, the post-installation script restores the configuration files saved by `tnconvert`, installs the new activation key, and installs and loads any required drivers.

The `tnconvert` utility does not convert the administrative user and group names. You cannot use `tnconvert` to convert TAS 5.2 to an earlier version of TAS.

Before following the upgrading steps:

- Make sure you have root access.
- Make sure you have NOT removed existing TotalNET servers.
- Locate your new activation key. If you have a Sun Enterprise Services upgrade contract for your additional SunLink PC clients, Sun Enterprise Services will send you the appropriate upgrade package. If you do not have an upgrade contract, contact your Sun sales representative to purchase the appropriate packages.
- Read “Upgrading Overview” on page 7 below for a complete description of the upgrading process.

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## Upgrading Overview

Read this section before following “Upgrading Steps: TAS 5.x” on page 10 or “Upgrading Steps: TAS 4.1.1” on page 13. Upgrading steps include the following tasks:

## TAS File Conversion

The `tnconvert` utility upgrades TAS configuration files. It reads the files, converts them, writes the output to a log file at `/etc/totalnet/convert`, and saves your new activation key. With `tnconvert`, you may use the options in the table below. You will find the exact command-line format for `tnconvert` in the appropriate step of your Upgrading Steps section.

TABLE 2-1 `tnconvert` command options

<code>-f</code>	Prevents <code>tnconvert</code> from prompting you to resolve conflicts. If you use this option, <code>tnconvert</code> resolves conflicts using pre-defined default values. If you do not use this option, <code>tnconvert</code> prompts you to resolve conflicts.
<code>-k activation-key</code>	Allows you to avoid a prompt for the new activation key. Supply your activation key in place of the <i>activation-key</i> variable. If you do not use this option, <code>tnconvert</code> prompts for the new key.

## Package Removal and Installation

To remove your old TAS packages and install the new ones, you will complete the following tasks:

- TAS system shutdown
- unloading the drivers
- package removal
- TAS 5.2 installation, according to the instructions for your platform

## File Synchronization

The `tnvolck` command, located in the `TNHOME/usr/bin` directory, checks TAS shadow files. With it, you may use the options in the table below. You will find the exact command-line format for `tnvolck` in the appropriate step of your Upgrading Steps section. For details, see the complete description of `tnvolck`.

**TABLE 2-2** `tnvolck` command options

<code>-a</code>	Checks all defined TAS volumes, except those with substitutable paths. If you use this option, you do not need to specify a volume and file.
<code>-y</code>	Causes <code>tnvolck</code> to assume you answer yes to all questions and want it to make the default or indicated changes to your files and directories (see <code>-p</code> below).
<code>-n</code>	Causes <code>tnvolck</code> to assume you answer no to all questions. This allows you to use <code>tnvolck</code> to check the volume without making any changes to it.
<code>-p</code>	Causes <code>tnvolck</code> to keep the existing case in file names, even if the names contain mixed cases. Use this option only if you have set the volume's filename-case attribute to lower case. If you do not specify this option, <code>tnvolck</code> prompts for confirmation before converting the file name to lower-case.
volume	Represents the volumes to convert. If you use the same volume name twice, <code>tnvolck</code> only scans the volume first.
file	Allows you to run <code>tnvolck</code> on a volume with a substitutable path. This option contains a list of directory names for <code>tnvolck</code> to use for that volume. If <code>tnvolck</code> comes across a volume with a substitutable path, but you have specified no file, <code>tnvolck</code> prints a warning and skips that volume. For more information on TAS support of substitutable paths, refer to the description of <code>tnvolume</code> in TAS Reference Manual, which you can access by clicking Documentation in the TotalAdmin menu frame of TNAS.

The `tnvolck` command uses the value of each volume's path attribute as a starting point for the volume check, unless the volume has a substitutable path. It checks each file and directory under the path. If two volumes resolve to the same path, `tnvolck` checks the path only once. If one path contains another path, you only need to supply the name of the volume with the higher-level path, since `tnvolck` checks subdirectories. If two volumes resolve to the same path, or if one contains another, and they have different file-name cases, `tnvolck` prints an error message and skips both volumes.

## Conversion of TAS 4.1.1 Macintosh Volumes

The `atconvert` utility converts all TAS 4.1.1 Macintosh volumes on your system to the TAS 5.2 format. With it, you use the `dir` variable, which represents the directory path of the volumes. You will find the exact command-line format for `atconvert` in the appropriate step of your Upgrading Steps section. It may take several minutes for the files in a large volume to convert to the new shadow file directory structure. For more information, refer to the description of `atconvert` in TAS Reference Manual, which you can access by clicking Documentation in the TotalAdmin menu frame of TNAS.

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# Upgrading Steps: TAS 5.x

Follow these steps to upgrade from TAS 5.x to TAS 5.2:

1. **Back up your current version of TAS, including all volumes.**
2. **Mount the TAS 5.2 CD in the drive.**
3. **Change directory to the location of `tnconvert` with the following command, where *mntpnt* represents the mount point and *OSversion* represents the name of the platform to convert, from the table below:**

```
# cd /mntpnt/TAS/OSversion
```

Platform	OSversion
AIX	aix4_1_4
Solaris on SPARC	solaris2_5_1/sparc
Solaris on i386	solaris2_5_1/i386
HP 10.10 and 10.20	hpux10_20
IRIX 5.3	irix5_3
IRIX 6.x	irix6_x

4. **Run `tnconvert` using the format below. For a complete description of the command options, see Table 2-1.**

```
# tnconvert [-f] [-k activation-key]
```

The following example shows the sequence of commands for mounting the CD and running `tnconvert`, for Solaris on SPARC:



```
# cd /cdrom/totalnet_advanced_server/TAS/solaris2_5_1/sparc
# ./tnconvert
```

To verify the success of `tnconvert`, check the `log.tnconv` file in the `/etc/totalnet/convert` directory. The log file for `tnconvert` in TAS 5.2 contains more information than in previous releases, including each conversion step, a copy of the original configuration, and a copy of the new configuration.

#### 5. Shut down TAS and TotalAdmin:

```
# cd TNHOME/usr/sbin
# ./tnshut
# ./tas.sh stop totaladmin
```

#### 6. Unload the drivers:

```
# ./tniunload
# ./atunload
```

If you have Solaris or AIX, or if your system runs NetBEUI, run `nbuunload` in addition to `tniunload` and `atunload`:

```
# ./nbuunload
```

For TAS 5.1 on Solaris, run `smbmxunload` if you have loaded multi-user kernel drivers:

```
# ./smbmxunload
```

#### 7. Remove the old package by following the appropriate instructions in the following table:

Platform	Command/Instruction
AIX	Use smit.
Sparc/i386	Run the command <code>pkgm TAS TASDOC</code> and, if you have the TASDCE package installed, <code>pkgm TASDCE</code> for Sparc platforms.
HP 10.x	Run the command <code>swremove -x autoreboot=true TAS TASDOC</code> .
IRIX	Run the command <code>inst -a -R TAS</code> .

8. Install TAS 5.2 according to the instructions for your platform.
9. Run `tnvolck`. The example below shows the sequence of commands for running `tnvolck` to synchronize all volumes in TAS. For a complete description of the command options, refer to Table 2-2.

```
# cd TNHOME/usr/bin
# ./tnvolck -a
```

10. Start the TotalNET system:

```
# cd TNHOME/usr/sbin
# ./tnstart
```

11. Read Chapter 7.
12. Connect to TNAS and administer TAS by following the instructions in “Connecting to TNAS and Accessing Documentation” on page 41.  
You do not need to complete initial setup to upgrade.

---

# Upgrading Steps: TAS 4.1.1

Follow these steps to upgrade from TAS 4.1.1:

1. **Back up your current version of TAS, including all volumes.**
2. **Mount the TAS 5.2 CD in the drive.**
3. **Change directory to the location of `tnconvert` with the following command, where *mntpnt* represents the mount point and *OSversion* represents the name of the platform to convert, from the table below:**

```
# cd /mntpnt/TAS/OSversion
```

Platform	OSversion
AIX	aix4_1_4
Solaris on SPARC	solaris2_5_1/sparc
Solaris on i386	solaris2_5_1/i386
HP 10.10 and 10.20	hpux10_20
IRIX 5.3	irix5_3
IRIX 6.x	irix6_x

4. **Run `tnconvert` using the format below. For a complete description of the command options, see [Upgrading Overview](#).**

```
# tnconvert [-f] [-k activation-key]
```

The following example shows the sequence of commands for mounting the CD and running `tnconvert`, for Solaris on SPARC:

```
# cd /cdrom/totalnet_advanced_server/TAS/solaris2_5_1/sparc
# ./tnconvert
```

To verify the success of `tnconvert`, check the `log.tnconv` file in the `/etc/totalnet/convert` directory. The log file for `tnconvert` in TAS 5.2 contains more information than in previous releases, including each conversion step, a copy of the original configuration, and a copy of the new configuration.

**5. Shut down TAS and TotalAdmin with the following sequence of commands:**

For AIX:

```
# cd /usr/tn
# ./tnshut
# cd totaladmin/W3/bin
# ./tnadmin.sh stop
```

For Solaris, HP, and IRIX:

```
# cd /opt/TAS/tn
# ./tnshut
# cd totaladmin/W3/bin
# ./tnadmin.sh stop
```

**6. Unload the drivers:**

For AIX:

```
# cd /usr/tn
# ./tniunload
# ./atunload
```

For Solaris, HP, and IRIX:

```
# cd /opt/TAS/tn
# ./tniunload
# ./atunload
```

If you have Solaris or AIX, or if your system runs NetBEUI, run `nbuunload` in addition to `tniunload` and `atunload`:

```
# ./nbuunload
```

7. Remove the old package by following the appropriate instructions in the following table:

Platform	Command/Instruction
AIX	Use <code>smit</code> .
Sparc/i386	Run the command <code>pkgm TAS TASDOC</code> .
HP 10.x	Run the command <code>swremove -x autoreboot=true TAS TASDOC</code> .
IRIX	Run the command <code>inst -a -R TAS</code> , then remove the directories <code>/opt/TAS/tn</code> and <code>/opt/TAS</code> .

8. Install TAS 5.2 according to the instructions for your platform.
9. Run `atconvert` using the format below. The *dir* variable represents the directory path of the volumes.

```
# cd TNHOME/usr/bin
# ./atconvert dir
```

- 10. Run `tnvolck`.** The example below shows the sequence of commands for running `tnvolck` to synchronize all volumes in TAS. See the complete description of the command options.

```
# ./tnvolck -a
```

- 11. Start the TotalNET system:**

```
# cd TNHOME/usr/sbin  
# ./tnstart
```

- 12. Read Chapter 7.**

- 13. Connect to TNAS and administer TAS by following the instructions in “Connecting to TNAS and Accessing Documentation” on page 41.**

**You do not need to complete initial setup to upgrade.**

---

## tnvolck

### Description

The `tnvolck` command checks files and directories under a TAS volume for the integrity of their corresponding TAS shadow files.

The filename-case attribute of a volume determines its naming convention. You need to synchronize file names only for volumes with the filename-case attribute set to lower. By default, if `tnvolck` needs to synchronize a file name, it prompts for user confirmation before converting the file name.

The `tnvolck` command checks for TAS shadow files that no longer have their corresponding UNIX base files. This condition may occur if users have moved or removed the UNIX file using UNIX commands such as `mv` or `rm`, instead of TAS commands `tnmv` or `tnrm`. The `tnvolck` command removes these shadow files.

The `tnvolck` command checks for TAS shadow files that have different owner, group and mode information than their corresponding UNIX base files. This condition may occur if users have changed the ownership and mode of the UNIX file

using UNIX commands such as `chown`, `chgrp` or `chmod` instead of TAS commands `tnchown`, `tnchgrp` or `tnchmod`. The `tnvolck` command changes the information on the shadow files to match the information of their corresponding UNIX files.

The `tnvolck` command checks to see if the file's UNIX name complies with naming conventions for the TAS volume in which the file resides. If the name does not comply with the specified convention, `tnvolck` attempts to synchronize it.

If you specify the `-p` option, `tnvolck` preserves file name case without prompting for confirmation. Before modifying a file name or deleting a shadow file, `tnvolck` prompts for user confirmation.

If you specify the `-y` option, `tnvolck` behaves as if you answer yes (y) to all questions. It does not prompt for confirmation. Use this option only when you want `tnvolck` to synchronize shadow files.

If you specify the `-n` option, `tnvolck` behaves as if you answer no (n) to all questions. It does not prompt for confirmation. If it finds inconsistencies, `tnvolck` prints error messages. Use this option only when you want `tnvolck` to check the volume without synchronizing shadow files.

## Usage

```
# tnvolck [-a] [-y|-n] [-p] [volume[:file]]
```

## Options

<code>-a</code>	Run <code>tnvolck</code> on all TAS volumes except those with substitutable paths.
<code>-y</code>	Assume a yes response to all questions asked by <code>tnvolck</code> .
<code>-n</code>	Assume a no response to all questions asked by <code>tnvolck</code> .
<code>-p</code>	Suppress file name conversion.

volume	Specify a volume.
file	Specify a file name that contains a list of valid directory paths. Use this only if the volume has a substitutable path for its path attribute. The directory paths defined in this file substitute the volume's path attribute. If <code>tnvolck</code> finds a volume with substitutable path, but you specified no file, <code>tnvolck</code> prints a warning and skips that volume. For information on TAS-supported escape sequences for path substitution, refer to the <code>tnvolume</code> command description in the TAS Reference Manual, which you can access by clicking Documentation in the TotalAdmin menu frame of TNAS.

## Examples

1. Use the following command to check and clean up shadow files in the volume `myvol`:

```
# tnvolck myvol
```

2. Use the command below to check and clean up shadow files in the volume `mybin`, which has a substitutable path, and replace it with the path contained in the file `/tmp/mydoc.txt`, an ASCII file containing a list of directory names. Each line should in `/tmp/mydoc.txt` should contain a directory path name. For example, the file might contain the following entries: `/home/simon`, `/home/steven`, and `/home/emily`.

```
# tnvolck mybin:/tmp/mydoc.txt
```

3. Use the following command to check and clean up all TAS volumes, as found in the TAS configuration file:

```
# tnvolck -a
```

4. Use the following command to check and clean up the volume `saleorders` and assume a `yes` answer to all questions:

```
# tnvolck -y saleorders
```

5. Use the following command to check, but not perform directory synchronization or clean-up on, the volume `singular`:

```
# tnvolck -n singular
```



6. Use the following command to check and clean up the volume `spartacus` and suppress the file name conversion:

```
# tnvlock -p spartacus
```



## AIX 4.1.4, 4.1.5, and 4.2

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### System Requirements

- Operating System — AIX 4.1.4, 4.1.5, or 4.2.
- Prerequisite Packages — The packages below, located on the AIX 4.1.4 and 4.1.5 operating system media. Install them before continuing with the TAS installation. Use the listed versions or later.

- bos.net.tcp.server 4.1.3.0
- bos.txt.tfs 4.1.3.0
- bos.rte.streams 4.1.4.3
- bos.rte.tty 4.1.4.10
- bos.data 4.1.4.0

AIX 4.1.4 users: Install the following PTFs from IBM:

- U443346 for bos.rte.tty v 4.1.4.10
  - U441953 for bos.rte.streams 4.1.4.3
- Input Device — A CD-ROM drive.
  - Disk Space — Approximately 35 MB of free disk space in the `/usr` partition. Use the `df -k` command to verify free space. To make free space available, find a partition with sufficient space and create a symbolic link from the `/usr/totalnet` directory to a directory on another partition as follows, where *partition* represents the partition with sufficient space:

```
# ln -s /partition /usr/totalnet
```

- DLPI Configuration — Correct configuration of DLPI, as directed below.
- Network Interface Card — An available network interface card on your system. Verify its availability with the command `lsdev -C`. This command displays the status of all hardware within the system.

---

## DLPI Configuration

Follow these steps to configure DLPI by editing the files `/etc/dlpi.conf` and `/etc/pse.conf`:

1. **Uncomment the lines of code for the interface you wish to configure. For example, of the code lines below, you need to remove pound sign (#) from the beginning of each of the last three lines to uncomment the 802.3, Token Ring, and FDDI drivers, in addition to the already-uncommented Ethernet driver. This code comes from the `/etc/dlpi.conf` file.**

```
d+  dlpi  en  /dev/dlpi/en  # streams dlpi ethernet driver
#d+ dlpi  et  /dev/dlpi/et  # streams dlpi 802.3 driver
#d+ dlpi  tr  /dev/dlpi/tr  # streams dlpi token ring driver
#d+ dlpi  fi  /dev/dlpi/fi  # streams dlpi FDDI driver
```

This code shows uncommented PSE drivers and modules in the `/etc/pse.conf` file:

```
d+  stddev echo  /dev/echo  # what-u-write-is-what-u-read
d+  stddev nuls  /dev/nuls  # streams version of /dev/null
d    spx                # streams "pipe multiplexor"
m    sc                 # streams config list (scls) module
```

2. **Reboot the UNIX server for these changes to take effect.**

---

# Installation Steps

If you want to upgrade, follow the upgrading instructions in the section **Upgrading**.

TAS includes the following packages:

- TAS.server.admin 5.2.0.0
- TAS.server.doc 5.2.0.0
- TAS.server.com 5.2.0.0
- TAS.server.lmsserver 5.2.0.0
- TAS.server.macserver 5.2.0.0
- TAS.server.man 5.2.0.0
- TAS.server.nwserver 5.2.0.0

The AIX installation program extracts the TAS software package from the distribution media, sets the ownership and permission mode of the files, and moves them to the appropriate directories. This example of the installation process shows the installation of all packages. You may install through the usual TAS installation method or with the `smit` installation tool.

Follow these steps to install TAS by the usual method:

1. **Log in as root.**
2. **Place the CD in the drive.**
3. **Mount the CD-ROM as in the following example, where *device* represents the path to the CD-ROM (for example, `/dev/cd0`), and *mntpnt* represents the directory mount point:**

```
# mount -v cdrfs -oro device /mntpnt
```

4. **To install the package, enter the command below at the system prompt, where *mntpnt* represents the directory mount point. This command installs all packages in the TAS distribution.**

```
# installp 2>&1 -qacgNX -d /mntpnt/TAS/aix4_1_4 all
```

Follow these steps to install TAS using `smit`:

1. Start `smit` by entering the following command at the system prompt:

```
# smit install_latest1
```

2. Select the menu option **Install New Software Products at Latest Level**.
3. In the INPUT device/directory for software field, enter the following command:

```
# /mntpnt/TAS/aix4_1_4
```

4. Select all licensed to install all packages. Press Enter.

---

**Note** - If you have steps to finish in Chapter 2, go back to Step 9 on page 12 in your upgrading section at this point.

---

5. Read Chapter 7.
6. Connect to TNAS and administer TAS by following the instructions in “Connecting to TNAS and Accessing Documentation” on page 41.  
You must complete initial setup to enable TAS services. You do not need to complete initial setup to upgrade.

# Solaris

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## System Requirements

- Operating System — Solaris 2.4, 2.5, 2.5.1, or 2.6 on a SPARC or Intel machine.

For systems running NetBEUI or SPARC systems running AppleTalk-over-Token-Ring, install a token-ring driver patch to keep the multicast issue in check. Sunsoft provides the token-ring-for-SPARC patch #102463-03. For Solaris 2.5.1 and x86 platforms, install Driver update 6 if running NetBEUI, IPX, or AppleTalk protocols. Get this patch from your O/S vendor.

For i386 platforms, TAS does not support NetBEUI and AppleTalk token rings.

- Hardware — A SPARC or Intel i386 workstation.
- Input Device — A CD-ROM drive.
- Disk Space — Approximately 35 MB of free disk space in the `/opt` partition. Use the `df -k` command to verify free space. To make free space available, find a partition with sufficient space and create a symbolic link from the `/opt/totalnet` directory to a directory on another partition as follows, where *partition* represents the partition with sufficient space:

```
# ln -s /partition/opt/totalnet
```

---

# Installation Steps

If you want to upgrade, follow the updating instructions in Chapter 2.

The Solaris `pkgadd` installation program extracts the TAS software package from the distribution media, sets the ownership and permission mode of the files, and moves them to the appropriate directories.

Follow these steps to install TAS:

1. Log in as root at the system login prompt.
2. Place the CD in the drive.
3. Enter the command lines below. For *dir*, enter either `sparc` or `i386`.

```
# cd /cdrom/totalnet_advanced_server/TAS/solaris2_5_1 pkgadd -d dir
```

The following text appears:

```
The following packages are available:
1 TAS TotalNET Advanced Server (sparc) 5.2
2 TASDOC TotalNET Advanced Server Documentation (sparc) 5.2
Select package(s) you wish to process (or 'all' to process all packages).
(default: all) [?,??,q]:
```

---

**Note** - TAS for Solaris comes bundled with the optional T ASDCE package. You must install TAS before installing T ASDCE. Locate the T ASDCE package in the `/cdrom/totalnet_advanced_server/opt/solaris2_5_1/sparc` directory. To install T ASDCE, follow instructions in *TAS-DCE Manual*, which you can access by clicking Documentation in the TotalAdmin menu frame of TNAS.

---

4. Select the packages you wish to install. Answer yes to all prompts for the remainder of the installation.
5. Quit the `pkgadd` program.



---

**Note** - If you have steps to finish in Chapter 2, go back to Step 9 in your upgrading section at this point.

---

6. Read Chapter 7.
7. Connect to TNAS and administer TAS by following the instructions in “Connecting to TNAS and Accessing Documentation” on page 41.  
You must complete initial setup to enable TAS services. You do not need to complete initial setup to upgrade.

---

## Installation Issue: NetWare Internal Network Number

In the NetWare realm, TAS sets the internal network number to the system's host ID by default. This network number cannot consist of all zeroes or contain more than eight digits. If your host ID consists of all zeroes or contains more than eight digits, change your network number to a unique number that conforms to these restrictions.



## H-P UX 10.10 and 10.20

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---

### System Requirements

- Operating System — HP-UX 10.10 or 10.20.
- Input Device — A CD-ROM drive.
- Disk Space — Approximately 35 MB of free disk space in the `/opt` partition. Use the `df -k` command to verify free space. To make free space available, find a partition with sufficient space and create a symbolic link from the `/opt/totalnet` directory to a directory on another partition as follows, where *partition* represents the partition with sufficient space:

```
# ln -s /partition /opt/totalnet
```

- TotalNET User and Group — A local user called `totalnet` and a local group called `totalnet`. Create these on your system. The `totalnet` user must belong to the group `totalnet`.

---

### Installation Steps

If you want to upgrade, follow the upgrading instructions.

---

**Note** - TAS builds a new kernel in the installation process and automatically reboots the system when you complete installation.

---

The HP-UX installation program mounts TAS on the server. It extracts the TAS software package from the distribution media, sets the ownership and permission mode of the files, and moves them to the appropriate directories. This example of the installation process shows the installation of all packages.

Follow these steps to install TAS:

**1. Log in as root.**

**2. Start `pfs` daemons by entering the following commands:**

```
# pfs_mountd&
# pfsd&
```

**3. Mount the TAS CD as follows, where *device* represents the raw device and *mntpnt* represents the mount point:**

```
# pfs_mount -x unix device /mntpnt
```

---

**Note** - Because the standard HP mount procedure reads the Rock Ridge file system type incorrectly, you must mount the TAS CD as a Rock Ridge file system type using the `pfs_mount` command. If you do not complete this step, the `pfs_mount` command mounts the raw device *rdsk*.

---

**4. To install all packages, enter the following command at the system prompt, where *mntpnt* represents the mount point of the CD:**

```
# swinstall -x autoreboot=true -s /mntpnt/TAS/hpux10_20 TAS TASDOC
```

---

**Note** - If you have steps to finish in Chapter 2, go back to Step 9 on page 12 in your upgrading section at this point.

---

**5. Read Chapter 7.**

**6. Connect to TNAS and administer TAS by following the instructions in “Connecting to TNAS and Accessing Documentation” on page 41.**

**You must complete initial setup to enable TAS services. You do not need to complete initial setup to upgrade.**

---

## Installation Issue: Secondary Group Access

For effective secondary/supplementary group access over a file service connection, keep the file `/etc/login.group` up-to-date.



## IRIX 5.3 and 6.x

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### IRIX 5.3 System Requirements

- Operating System — IRIX 5.3.

---

**Note** - TAS does not support the NetBEUI transport protocol for IRIX.

---

- Hardware — An SGI workstation.
- Packages — The `eoel.sw.dlpi` and `eoel.sw.svr4net` packages.
- Input Device — A CD-ROM drive.
- Disk Space — Approximately 35 MB of free disk space in the `/opt` partition. Use the `df -f` command to verify free space. To make free space available, find a partition with sufficient space and create a symbolic link from the `/opt/totalnet` directory to a directory on another partition as follows, where *partition* represents the partition with sufficient space:

```
# ln -s /partition /opt/totalnet
```

- DLPI Configuration — Correct configuration of DLPI, as directed in the section DLPI Configuration.
- `backq` Definition — Definition of the `backq` utility.

---

# IRIX 6.x System Requirements

- Operating System — IRIX 6.x.

---

**Note** - TAS does not support the NetBEUI transport protocol for IRIX.

---

- Hardware — An SGI workstation.
- Packages — The `ee.sw.dlpi` and `ee.sw.svr4net` packages.
- Input Device — A CD-ROM drive.
- Disk Space — Approximately 35 MB of free disk space in the `/opt` partition. Use the `df -f` command to verify free space. To make free space available, find a partition with sufficient space and create a symbolic link from the `/opt/totalnet` directory to a directory on another partition as follows, where *partition* represents the partition with sufficient space:

```
# ln -s /partition /opt/totalnet
```

- Patches — The appropriate patches below.
  - For CHALLENGE S running IRIX 6.2, install the recommended patch set from December 1, 1996, or later.
  - For CHALLENGE DM, L, or XL running IRIX 6.2, install the required patch set from December 1, 1996, or later, and Patch 1572 or its successor patch.

---

**Note** - You only need Patch 1572 if you need NetWare and AppleTalk functionality.

---

Contact your SGI representative with questions regarding required patch levels.

- DLPI Configuration — Correct configuration of DLPI, as directed in the section DLPI Configuration.
- `backq` Definition — Definition of the `backq` utility, as directed in the section `backq` Definition.

---

## DLPI Configuration

Use the IRIX Software Manager to ensure that you have installed the package IRIX Execution Environment 1 and its subpackage DLPI Execution Environment.

Follow these steps to configure DLPI by editing the file `/var/config/snetd.options` as follows:



1. Uncomment the lines of code for the interface you wish to configure. For example, of the following code lines, you need to remove the pound sign (#) from the beginning of each of the `tokenring` and `fddi` lines to uncomment those drivers, in addition to the already-uncommented Ethernet driver:

```
#llc2 gtr0    LL_SET_SNID=A    \  
#lSHELL="lltune -P -p llc2 -s A -d /dev/llc2 def.tokenring"  
llc2 ec0     LL_SET_SNID=B     \  
SHELL="lltune -P -p llc2 -s B -d /dev/llc2 def.ether"  
#llc2 xpi0   LL_SET_SNID=C     \  
#SHELL="lltune -P -p llc2 -s C -d /dev/llc2 def.fddi"
```

2. Reconfigure the operating system:

```
# /etc/autoconfig
```

3. Reboot the UNIX server for these changes to take effect.

---

## "backq" Definition

The IPX drivers use a `backq` system call. Due to a bug in the IRIX 5.3 operating system, the kernel did not define this system call. If you do not define `backq`, the TotalNET IPX/SPX (`tnipx`) drivers fail to load and you may see one of these errors:

```
WARNING: /var/opt/totalnet/nw: symbol backq not found
```

or

```
Error loading module tnipx_: Can't resolve all symbols in object
```

Remedy this by adding `backq` to the run-time symbol table, as follows:

1. Log in as root.
2. Find the file `/var/sysgen/master.d/rtsymtab`. Look for a section beginning with this text:

```
rtsymtab rtsymtab[] = {
```

This line signals the beginning of the section that defines the run-time symbol table.

3. Within this section, look for a line beginning with the following comment:

```
/* from sys/stream.h */
```

The lines that follow this comment define symbols from the `sys/stream.h` header file.

4. Add the following line:

```
{(long) &backq, "backq"},
```

5. Save and quit the file.

6. Make a copy of the current kernel:

```
# cp /unix /unix.orig
```

7. Reconfigure the operating system using the following command:

```
# /etc/autoconfig
```

8. Reboot the UNIX server.

---

## Installation Steps

If you want to upgrade, follow the upgrading instructions in Chapter 2.

The IRIX installation program mounts TAS on the server. It extracts the TAS software package from the distribution media, sets the ownership and permission mode of the files, and moves them to the appropriate directories. This example of the installation process shows the installation of all packages.

Follow these steps to install TAS:

1. If your CD did not automount, mount it by entering the following command, where *device* represents the device name of the CD-ROM and *mntpt* represents the directory mount point:

```
# mount -t iso9660 device/mntpnt
```

For example, the command might look like this for a locally-mounted CD-ROM:

```
# mount -t iso9660 /dev/scsi/sc0d510 /mntpnt
```

If your CD automounted, unmount it using the following command, then mount it using the `mount` command as shown above:

```
# umount /CDROM
```

The `inst` installation program expects only `efs` file system CDs mounted under `/CDROM`. It does not accept the TAS CD if the TAS CD automounts under `/CDROM`.

2. **Start the installation by entering the command below at the system prompt. This command installs all packages in the TAS distribution. The *mntpnt* variable represents the directory mount point, and *OSversion* represents the name of the software you wish to install—`irix5_3`, `irix6_2`, `irix6_3` or `irix6_4`.**

```
# inst -a -u new -f /mntpnt/TAS/OSversion -I TAS
```

---

**Note** - If you have steps to finish in Chapter 2, go back to Step 9 in your upgrading section at this point.

---

3. **Read Chapter 7.**
4. **Connect to TNAS and administer TAS by following the instructions in “Connecting to TNAS and Accessing Documentation” on page 41.**  
**You must complete initial setup to enable TAS services. You do not need to complete initial setup to upgrade.**

---

## Installation Issues

### IRIX 5.3 atunload

The `atunload` command does not unload the AppleTalk drivers. Reboot the system to unload the drivers.

### NetWare Internal Network Number

In the NetWare realm, TAS sets the internal network number to the system's host ID by default. This network number cannot consist of all zeroes or contain greater than eight digits. If your host ID consists of all zeroes or contains greater than eight digits, change your network number to a unique number that conforms to these restrictions.

### IRIX 6.x Performance

Patch 1968 improves TAS performance for IRIX 6.4. Patch 1990 improves TAS performance for IRIX 6.2. You can get these patches from your SGI representative.

## General TAS Issues

---

Make a note of the issues below as they apply to your network and keep them in mind when you configure TAS. For up-to-date information about issues with TAS 5.2, access the following Syntax URL: <http://www.syntax.com/support/guest/docs/tedoc.htm>.

---

### Windows 98 Authentication Error

Windows 98 users will experience an authentication error if they attempt to browse a TAS server for shared volumes, or attempt to connect to a TAS volume. This error is caused by differing approaches to security in Windows 98 and in TAS.

By default, Windows 98 uses secure authentication and encrypted passwords. By default TAS uses unencrypted, plain-text, passwords.

There are two ways to resolve this authentication problem: Change Windows 98 default authentication to accept plain-text passwords, or enable TAS secure authentication. Follow the procedure below to enable plain-text Windows 98 passwords. Refer to the TAS Administration Guide, Troubleshooting chapter, Error Conditions and Solutions section, to enable secure authentication within TAS.

---

**Note** - A plain-text password provides significantly less security than an encrypted password. As it travels between client and server, a plain-text password can be viewed by anyone using a network monitoring program. If you require a high degree of security, consider enabling TAS secure authentication.

---

To change default Windows 98 authentication to Password Authentication Protocol (PAP) using plain-text passwords:

1. **Insert the Windows 98 CD into the PC's CD-ROM drive.**

2. Open the Start menu and click Run.
3. Enter the following in the Run dialog: *drive*:\tools\mtsutil. Where *drive* is the drive letter of the CD-ROM drive.
4. Click OK.
5. In the list of items that appears, right-click the Ptxt\_on.inf file, and click Install.
6. Once installation is complete, restart the PC. Plain-text passwords are now enabled in Windows 98.

---

## Passwords

The `tnpasswd` utility changes the TAS encrypted password before attempting to change the UNIX password. If it fails to change the UNIX password, you cannot use `tnpasswd` to resynchronize passwords. To synchronize the TAS and UNIX passwords, run the UNIX password program and provide it with the same password you use to change the TAS password.

---

## Windows Clients

If your network includes Windows NT and Windows 95 clients, set the Use Client Specified File Time Stamps attribute to on in the initial setup wizard or set the `clienttime` attribute to on when you configure from the UNIX command line, for all LM-NT-OS/2 file services you create. (Refer to *TAS Administration Manual*, which you can access by clicking Documentation in the TotalAdmin menu frame of TNAS.) This setting enables icons for connected file services to display correctly.

---

## LM-NT-OS/2 Services

Enumeration of the shares and printers of LM-NT-OS/2 file services from Windows NT 3.51 does not work without Service Pack 5 or later.

---

## Documentation

For slower-loading browsers, HTML documentation text may appear garbled at first. Click your browser's Refresh or Reload button to correct this. If you use Internet Explorer 3.0, some links may not work, and you may need to click Refresh or Reload to load an entire document.

---

## “case-preserving-link” Attribute

The case-preserving-link attribute of TAS 5.0 and 5.1 no longer exists in TAS 5.2. If you had it set to on, `tnconvert` ignores the value of the filename-case attribute in the volume's old configuration and sets the value to preserve in the new configuration.

---

## “no-login” Attribute

TAS 5.2 does not support the no-login attribute for file services. The `tnconvert` command replaces it using the login-control attribute in the new configuration. This way, the form no-login <list of user names> changes to login-control deny <list of user names>.

---

## Connecting to TNAS and Accessing Documentation

To access documentation containing instructions for initial setup and administration of TAS, you need to access TotalNET Administrative Suite (TNAS), a task-oriented graphic administration and configuration interface for TotalNET product administration, licensing, and system administration. Access TNAS and the TAS HTML documentation from any web browser with support for tables, forms, Java, and JavaScript. Supported web browsers include Netscape Navigator 3.0 or higher and Microsoft Internet Explorer 3.0.1 or higher.

You can also access documentation at the following URL:<http://www.syntax.com/support/guest/docs/tedoc.htm>.

## Connection Steps

Follow these steps to connect to TNAS:

1. Using an appropriate web browser, connect to TNAS by entering the URL below. The *host* variable represents the name of the UNIX server on which TAS resides, and *nnnn* represents the TNAS port number, 7777 by default. To assign a port number of your choice, follow the instructions for changing the TNAS port number in Chapter 2 of *TAS Administration Manual*, which you can access by clicking Documentation in the TotalAdmin menu frame of TNAS.

`http://host:nnnn`

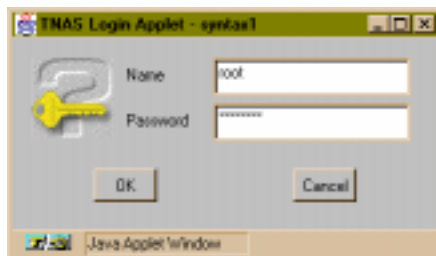
The TotalNET Advanced Server v5.2 screen appears, along with a TNAS icon and a TAS icon for checking status:



2. Click on the center of the screen or the TNAS icon:



The TNAS login window appears:







the instructions in Chapter 2: Initial Setup Steps or use the manual pages for the TAS commands.