

Tru64 UNIX Best Practice

Customizing the Installation Process with Your Own Scripts

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Product Version: Tru64 UNIX Version 4.0A or higher

This Best Practice describes how to customize the Tru64 UNIX installation process using your own scripts and programs.

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Customizing the Installation Process with Your Own Scripts

The Full Installation, Update Installation, and Cloning processes have the built-in capability to look for and execute user-supplied files at predefined times. If you copy these files to the right locations, you can customize the installation process to perform tasks that are not usually part of an installation.

The files you supply must be named `preinstall`, `update_preinstall`, `postload`, `update_postload`, and `postreboot`, which signify their relative invocation points during the installation process.

See the Tru64 UNIX Best Practices Web page for more information about Best Practices documentation.

Is This Best Practice Right for You?

Not all Best Practices apply to all configurations, so you must be sure that it is appropriate for your system and circumstances. To use this Best Practice, you must meet the requirements described in the following table:

Requirement	Description
Operating System	Tru64 UNIX Version 4.0A and higher supports <code>preinstall</code> and <code>postload</code> files. Tru64 UNIX Version 5.0 and higher supports <code>update_preinstall</code> , <code>update_postload</code> , and <code>postreboot</code> files

Requirement	Description
System Configuration	<p>The following are the minimum hardware requirements for successful Full and Update Installations:</p> <ul style="list-style-type: none"> • 64 megabytes (MB) of memory • At least one 1 gigabyte (GB) disk • One disk with an a partition of 128 MB • One CD-ROM drive or registration with a RIS server <p>Other hardware requirements depend upon where the user-supplied file is located. Optionally, you will need:</p> <ul style="list-style-type: none"> • A diskette drive if the user-supplied files are supplied on a diskette • Registration to the right profile set on a remote installation services (RIS) server if the user-supplied file is located in a RIS profile set directory.
Impact on Availability	<p>The actual time the system is unavailable depends upon how long it takes you to answer the up front questions, the speed of the CD-ROM drive, and the number of software subsets you are installing or updating.</p> <ul style="list-style-type: none"> • For Full Installations, the system will be unavailable from 45 to 90 minutes. • For Update Installations, the system will be unavailable from 45 to 120 minutes.

Requirement	Description
Knowledge	Users of this Best Practice should have experience writing shell scripts or programs.
Related Best Practices	<ul style="list-style-type: none"> • <i>Installing a New Version of the Operating System</i> • <i>Updating the Operating System to the Latest Version</i> • <i>Installing Large Numbers of Systems</i> (also known as Cloning)

Before You Begin

Before you apply the Best Practice for customizing the installation process, you must understand some background information.

1. Read the Overview for a description of the feature.
2. Learn about the supported file names and invocation points.
3. Obtain ideas for suggested uses of user-supplied files.

The information contained in this best practice is the minimal amount of information you need to know to use this feature. If you need to or want to learn more, the *Installation Guide — Advanced Topics* fully documents the theory of operation, explains what can be accomplished with user-supplied files, provides sample scripts, and describes the relationship between cloning and user-supplied files.

Overview

User-supplied files can contain scripts, executables, or programs and are a way to extend and customize the installation process. *Invocation Points of User-Supplied Files* shows the invocation points in the installation process, the file names that are searched for, and the type of installation that searches for them. The Full Installation and Update Installation processes always look for these files, and they are executed if found. Except for the `postreboot` file, if a user-supplied file is executed and returns a non-zero status (which indicates a failure), the installation stops.

The contents of any user-supplied file depends upon what tasks you want to perform, but all user-supplied files must have read and execute

permissions. When creating your files, be aware of the environment in which they will be run. For instance, `preinstall` and `postload` files only can call commands and utilities that are available on the distribution media because a full operating system environment is not yet installed. The `postreboot` file can call any command or utility that is available on an installed operating system.

Invocation Points

Invocation Points of User-Supplied Files describes when user-supplied files are searched for by the installation process.

Invocation Points of User-Supplied Files

Invocation Point	Installation Process Searches for a File Named	Searched for During Which Installation Type?
Before the Full Installation user interface is presented	<code>preinstall</code>	Full Installation and Cloning
Before the Update Installation user interface is presented ^a	<code>update_preinstall</code>	Update Installation
After software is installed but before the first reboot of the generic kernel	<code>postload</code>	Full Installation and Cloning
After software is updated but before the system reboots ^a	<code>update_postload</code>	Update Installation
After the first reboot but before the tailored kernel build ^a	<code>postreboot</code>	Full Installation and Cloning

^a

Supported on systems running Version 5.0 or higher.

Suggested Uses of User-Supplied Files

It is your decision as to what tasks you want to perform with your scripts and programs. *Hypothetical Uses of User-Supplied Files* provides examples of potential uses. The *Installation Guide — Advanced Topics* contains sample scripts to use as guidelines.

Hypothetical Uses of User-Supplied Files

File Name	Possible Use
preinstall	Define a customized disk label to eliminate the need to do so during the Full Installation.
postload	Dynamically modify host-specific information in the <code>config.cdf</code> file so that the target systems are uniquely defined on the network as soon as the cloning process (or Full Installation) is done.
postreboot	Install additional optional software to simplify the software selection process.
update_preinstall	Automatically perform a backup of the operating system before the actual update process starts.
update_postload	Reinstall a layered product that you removed because it prevented the Update Installation from continuing.

Applying the Best Practice

Before you customize the installation process, be sure to follow the recommendations in *Before You Begin*.

1. Write a script, program, or executable that performs the task you want.

Note

The contents of any user-supplied file depends upon what tasks you want to perform, but remember that all user-supplied files must have read and execute permissions. Also keep in mind the state of the system at the time you want to perform the task. User-supplied files are responsible for supplying their own status or error messages.

The *Installation Guide — Advanced Topics* describes each user-supplied file in detail so you know what is capable of being accomplished at each invocation point. Sample scripts also are included.

2. Copy the files to one of four supported locations so they can be found by the installation process. Both the Full and Update Installation and Cloning processes search for the user-supplied files in the order shown

in *Acceptable Locations of User-Supplied Files*. Copy instructions for each distribution type are located in the *Installation Guide — Advanced Topics* manual.

As soon as a correctly named file is found, the installation process stops looking in the remaining locations. For example, if the installation process finds a `preinstall` file on diskette, it does not look on the RIS server for that same file name.

Acceptable Locations of User-Supplied Files

Search Order	Location
1	In the / (root) directory of diskette drive <code>floppy0</code> or <code>floppy1</code> .
2	In the <code>profile_set</code> subdirectory of the <code>/var/adm/ris/clients/sets/</code> directory on the RIS server to which the client system is registered.
3	In the <code>/var/tmp</code> memory file system (MFS) on the system to be cloned.
4	In the <code>/is1</code> directory on the distribution media (local CD-ROM or extracted RIS area).

3. Begin a Full Installation, Update Installation, or Cloning on a system as described in the *Installation Guide*.

When the installation process finds correctly named and placed user-supplied files, those files are executed. The installation process does not guarantee the results of executing the user supplied files but does guarantee that upon successful completion, the installation process proceeds.

Verifying Success

After you apply the Best Practice for invoking user-supplied files during an installation, only you can verify whether execution of the user-supplied file was successful because only you know the expected outcome.

You know a Full or Update Installation was successful when the system reboots and the login prompt or login window is displayed. When you use root as the login name and the root password, you should be able to log in to the system.

Another way to verify a successful installation is to examine the various installation log files that are located in the `/var/adm/smlogs` directory. The log files capture the output of the installation, and any errors are noted.

If the Best Practice was not successful, see *Troubleshooting* for information about identifying and solving problems.

Troubleshooting

If you determine that the Best Practice was not successful, as described in *Verifying Success*, use the following table to identify and solve problems:

Problem	Possible Solutions
The installation process stops.	<p>The installation process queries the results of the execution of user-supplied files and, except in the case of the <code>postreboot</code> file, terminates the installation process upon receiving a non-zero return status.</p> <p>Review your user-supplied file and fix the point of failure before attempting another installation.</p>
The installation process did not find or execute a user-supplied file	<p>Your user-supplied files must be named as shown in <i>Invocation Points of User-Supplied Files</i> and must be located in one of the four locations shown in <i>Acceptable Locations of User-Supplied Files</i>.</p> <p>Verify that your files are correctly named and located before attempting another installation.</p>

Comments and Questions

We value your comments and questions on the information in this document. Please mail your comments to us at this address:

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