

### Overview

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HP Tru64 UNIX® Advanced File System Utilities is a layered product for Tru64 UNIX systems that extends the management capabilities of the Advanced File System. The Advanced File System itself is bundled with the Tru64 UNIX Operating System.

Advanced File System Utilities helps you:

- Spend less time managing file systems
- Improve performance
- Keep data online during routine maintenance
- Extend the capacity of files and file systems

The modern design of Advanced File System Utilities (and the underlying Advanced File System) provides greater configuration flexibility and reduces the amount of time required to manage file systems. The physical storage layer is managed independently of the directory layer. As storage needs change, file systems can be resized by adding or removing volumes — without taking the system down or interrupting users. Users can reclaim accidentally deleted files - without requiring the assistance of the operations staff.

Advanced File System Utilities includes a graphical user interface (GUI) based on Motif® that allows system administrators to easily manage their file systems — both locally and remotely. The graphical displays, menus, and online help make it easy to perform operations — such as creating file systems, adding and removing volumes, and making clones of file systems for online backup. The Motif GUI uses green, yellow, or red Alert icons to indicate system health at a glance.

The Motif GUI for Advanced File System Utilities is completely integrated with the Common Desktop Environment (CDE) for launching and running online help. The GUI is also integrated with Performance Manager, so that file system metrics can be passed from Advanced File System Utilities to Performance Manager.

Advanced File System Utilities provides added performance-tuning capabilities. The balance command balances the percentage of free space among the volumes in a multivolume file domain. System administrators can also spread the I/O load and move files among multiple disks in a single file domain without affecting the file directory tree, file names, or active applications.

Advanced File System Utilities extends system availability by providing access to online data during routine maintenance. Cloning creates a read-only point-in-time copy of a fileset while the system remains on line, so that you can back up the clone while users and applications are accessing the data in the original fileset. You can also add and remove volumes and balance space usage in file domains, while the data remains on line and in use.

Adding Advanced File System Utilities provides generous configuration capabilities. A file domain may contain up to 256 physical or logical volumes/LUNs with an AdvFS Utilities license installed, except that the root domain is always 1 volume. See the *System Configuration and Tuning Guide* for volumes per domain, file domain, and fileset recommendations.

- The maximum number of file domains is 65,531.
- The maximum volume size is 1 TB.
- The maximum number of user files in a fileset is  $(2^{31}) - 6$ .
- The maximum size of an Advanced File System file is 16 TB.

Advanced File System Utilities features include:

- Graphical user interface based on Motif for increased ease of use and efficiency in managing file systems
- Online addition and removal of volumes to expand or contract the file system
- Multidisk support and disk spanning for large file systems
- Capacity balance command to equalize storage space across multiple volumes
- Fileset cloning for backups or testing

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- File undelete
- Capacity migration between disks while the file is in use
- Remote management via GUI
- I/O load balancing which includes the ability to identify and then subsequently move I/O intensive files to less contentious volumes and locations on these volumes
- The relocation of the AdvFS transaction log to a separate volume to improve file system performance
- SNMP agent for configuration monitoring
- Japanese localization subsets that are available in Version 4.0E and later releases

## Standard Features

### Hardware Requirements

Advanced File System Utilities Version 5.1B-5 operates on any AlphaServer supported by Tru64 UNIX Version 5.1B-5. There are no restrictions on the disk devices supported beyond the valid configurations defined in the Tru64 UNIX Version 4.0 or later Software Product Descriptions (SPDs) and QuickSpecs.

### Disk Space Requirements

Disk space in Kilobytes (KB) required for use:

	root	/var	/usr
Advanced File System Utilities	0	0	300
Reference Pages (manpages)	0	0	100
Graphical User Interface (GUI)	30	20	11000
Agent	0	50	800
Japanese Localization GUI	0	1	661
Japanese Localization Agent	1	0	27
Total	31	71	12888

These counts refer to the disk space required in these file systems. The sizes are approximate; actual sizes may vary depending on the user's system environment, configuration, and software options.

### Software Requirements

- Tru64 UNIX Operating System Version 5.1B-5 or later
- Advanced File System
- CDE Minimum Runtime Environment
- A graphic workstation to support the GUI; XTERM hardware devices are not supported.
- A Java™ capable computer with Java V1.1.7 or higher installed to use the SysMan Station (SMS) AdvFS capabilities.

### Optional Software

#### HP StorageWorks Software Package

The HP StorageWorks Software package includes two key storage products:

- Logical Storage Manager
- Advanced File System Utilities

StorageWorks Software delivers high availability, online configuration, optimal file system performance, and data protection.

#### Logical Storage Manager

The Tru64 UNIX Logical Storage Manager (LSM) is an integrated, host-based solution to data storage management, providing concatenation, striping, mirroring, RAID 5, hot sparing, and a graphical user interface that allows data storage management functions to be done transparently — without disrupting users or applications. With LSM, you can also mirror the root and swap partitions, and place existing file systems and LSM volumes under LSM control. LSM manages storage as a single entity in both cluster and single-node environments.

LSM is a separately licensed software product for Tru64 UNIX. See the LSM QuickSpecs for more information.

#### HP TruCluster Server

HP TruCluster Server provides highly available and scalable solutions for users in mission-critical computing environments. It delivers easier, more sophisticated UNIX clustering capabilities by adding a fully clustered shared file system to the rich functionality already found in the HP TruCluster products.



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By combining the advantages of symmetric multiprocessing, distributed computing, and fault resilience, a cluster running TruCluster Server offers its users high availability while providing scalability beyond the limits of a single system. TruCluster Server also significantly reduces, but does not eliminate, the impact of hardware and software failures.

Refer to the TruCluster Server QuickSpecs at [http://www.compaq.com/products/quickspecs/North\\_America/10657.html](http://www.compaq.com/products/quickspecs/North_America/10657.html).

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## Software Licensing

This software is furnished under the licensing provisions of the Compaq Standard Terms and Conditions. For more information about Compaq licensing terms and policies, contact your local HP office or your HP authorized reseller.

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## Licensing Management Facility Support

This layered product supports the Tru64 UNIX License Management Facility. License units for this product are allocated on an Unlimited System Use basis. For more information on the License Management Facility, see the LSM QuickSpecs at [http://www.compaq.com/products/quickspecs/10899\\_div/10899\\_div.HTML](http://www.compaq.com/products/quickspecs/10899_div/10899_div.HTML) or the Tru64 UNIX documentation.

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## Growth Considerations

The minimum hardware and software requirements for any future version of this product might be different from the requirements for the current version.

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## Distribution Media

This product is distributed with the Tru64 UNIX operating system CD-ROM. A software license is required to use this product.

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## Software Warranty

Warranty for this software product is provided by HP with the purchase of a license for the product as defined in the Software Warranty Addendum of this QuickSpecs.

The above information is valid at time of release. Please contact your local HP office for the most up-to-date information.

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## Ordering Information

Software Licenses: QL-0EGA\*-AA

Software Documentation (hardcopy): QA-0EGAA-GZ

StorageWorks Software for Tru64 UNIX: QB-5RXA\*-\*\*

Software Product Services: QT-0EGA\*-\*\*

\* Denotes variant fields. For additional information on available licenses, services, and media, see the appropriate price book.

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## Software Product Services

A variety of service options are available from HP. For more information, contact your local HP office or your HP authorized reseller.

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## *Standard Features*

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