

Software Product Description

RemoteShadow[®] V1.5 for Tru64 UNIX¹

Description

RemoteShadow[®] (RSO[™]) combines local and remote shadowing capabilities to provide intra-day recovery of your critical business data in the event of a disk drive, controller, system or data-center failure. RSO, which is application transparent, shadows your data to a contingency system which may be in an entirely different location many miles from your primary data center. RemoteShadow does not have a distance limitation. Your data is instantly available at the contingency site in the event you lose your production systems and/or site.

A shadow set consists of up to ten shadow members. A shadow member is any local or remote disk device partition. All user write I/O operations to the shadow set are directed to all available members within the shadow set. Each member has an associated read cost value, which the user can change. Read operations result in the data being read from the fastest device.

RemoteShadow offers automatic and transparent rollover on a member failure within a shadow set. As long as a single member within the set remains available for I/O operations, RemoteShadow does not pass back any notification of the failure to the user application. When a hardware error is detected on a shadow set device, that device is "removed" from the shadow set and the failure is logged to a journal.

RemoteShadow offers users the ability to dynamically create and/or delete shadow sets and to add, modify, and/or remove a member within a shadow set with no interruption or loss of service. When you want to add a member to a shadow set, RemoteShadow offers an optimized, on-line-disk copy facility to ensure that all volumes within the set reflect the same data. This copy facility is known as a Volume Copy. To add a member to a shadow set, the size of the device partition you wish to add must be of equal or greater storage capacity than that of the original device partition to

be shadowed.

RSO also provides a Hold/Release command mechanism, enabling users to access the remote members of a shadow set for read-only purposes. The user instructs RemoteShadow to hold I/Os designated for the remote device while on hold. When the user is finished using the remote device, the release command will apply the held I/Os and bring the remote device back into the shadow set.

Features

Shadowing Operations

Local shadowing involves shadowing data to locally attached devices.

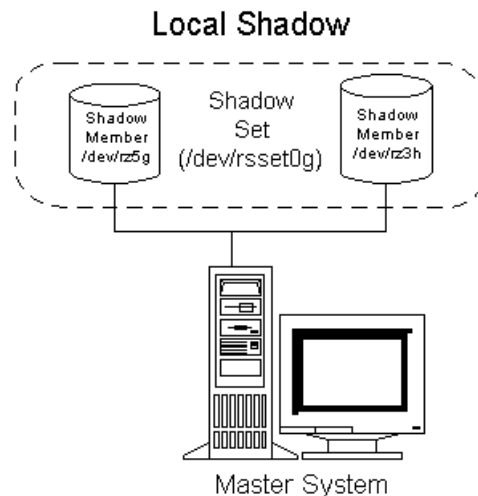


Figure 1

Figure 1 illustrates a sample shadow set. A pseudo device named `/dev/rsset0g` represents a two local member shadow set consisting of `/dev/rz5g` and `/dev/rz3h`. All I/Os directed to `/dev/rsset0g` are shadowed to both members. If one of the member fails, RemoteShadow will drop the member from the set and continue operating with the remaining member.

¹ Formerly known as Digital UNIX

Remote Shadow

RemoteShadow allows you to add remote members to a shadow set. On the production system, the RemoteShadow Master Component must be installed and running. To make a member accessible to a production system on the network, the RemoteShadow Remote Daemon must be installed and running on the contingency (or remote) system.

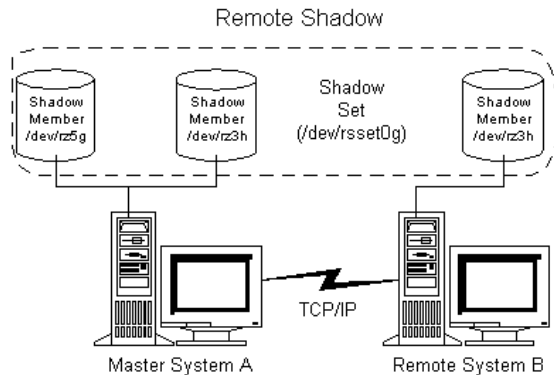


Figure 2

In the above example (Figure 2), there are three members in the shadow set (`/dev/rsset0g`). System A has two local members and one remote member in its shadow set. System A should have the Master Component of RemoteShadow installed and running. System B should have the Remote Component of RemoteShadow installed and running.

Synchronization Tolerance

Synchronization Tolerance (or Sync Tolerance) is an ASCII created concept in which business managers can balance production system performance and bandwidth requirements with intra-day recovery needs. Sync Tolerance is expressed in seconds. When a RemoteShadow set member specifies a zero (0) sync tolerance, all Write operations must complete on all members before completing the I/O. In this manner the remote member is *in-sync* with the shadow set at all times. Specifying a greater than zero (0) sync tolerance value means that insufficient network bandwidth should not impact the local system. Thus, the remote member is to be updated asynchronously after the local system. Regardless, RemoteShadow will always try to keep the remote member in-sync whenever possible. The sync-tolerance value for a remote member is specified by

the user. For example, a sync-tolerance value of 600 seconds would allow the remote member to lag behind the local member upto a maximum of ten (10) minutes.

Network Restart

RemoteShadow provides a communications-network-restart feature that allows a recovery from temporary-network failures without the need for a remote volume-copy. The network timeout value (in seconds) is user configurable.

Utility Program

The RemoteShadow Tools program is a user-friendly utility program used to administer shadow sets. The utility program lets you add/delete shadow sets and/or add/modify/remove members from shadow sets. The utility program can be run as a command without user interaction or as a mini-shell that requires user interaction.

Monitor Program

The RemoteShadow Monitor program lets you monitor shadow sets on the system and/or their members in real-time. The program provides real-time data of the I/O's being performed by the RemoteShadow members.

Configuration Program

The RemoteShadow Configuration (RSC) program automates the initial setup of RemoteShadow. RSC makes all the necessary changes to the system startup files necessary to properly run RemoteShadow at boot-up time. RSC also lets the user decide which shadow sets to automatically mount at boot-up and (in the case of some shadow sets) where to mount them on the file system.

Logging

RemoteShadow logs all important messages and errors to log files. Depending on the criticality of the error message, the message may also be mailed to "root" and/or logged to the console for immediate attention.

Supported Environments

RemoteShadow supports the UFS file-system, AdvFS file-system, Synchronous I/Os,

Asynchronous I/Os, and Logical Storage Manager (LSM). RemoteShadow supports character/raw mode and block mode access. RemoteShadow will run on all SMP (Symmetric Multi-Processor) machines and supports disks of any size, density, and make. RemoteShadow also supports database systems such as Oracle and Sybase.

Minimum Hardware Supported

RemoteShadow is warranted for use with all Digital supported buses, used in conjunction with Digital-supplied device drivers.

RemoteShadow also works with all third-party controllers and disk drives that use unmodified, Digital disk-device drivers.

Prerequisite Software

RemoteShadow runs on any Alpha processor, running Tru64 UNIX V4.0 or later.

RemoteShadow requires TCP/IP for shadowing data remotely.

The *nroff* product must also be installed on the system for using the online help which is provided in the form of *man* pages. The *nroff* product is part of the "Text Processing: Doc. Preparation Tools" subset provided with Tru64 UNIX.

Software Installation

Installation of the RemoteShadow product is subject to the terms of the ASCII Standard Software Product License Agreement. RemoteShadow is designed to be installed by the System Administrator. An optional installation script is provided to automate the installation and setup procedures.

Warranty Information

RemoteShadow is sold through ASCII's Software Product License Agreement which warrants the

product for ninety (90) days from the date of purchase. Warranty services include technical assistance, remedial telephone support, and product upgrades.

Maintenance Information

After the initial product warranty expires, ASCII offers an annual support plan for RemoteShadow. This includes technical assistance, remedial telephone support, product upgrades, and enhancements, as they become available. The annual customer support plan is separately priced.

Ordering Information

RemoteShadow is Licensed in several different ways. The Full-Function RemoteShadow license supports both the local and remote shadow. The Local Only Shadow license supports local shadowing on a single system.

RemoteShadow is licensed using Digital's Licensing Management Facility (LMF). A Product Authorization Key (PAK) is required for each system prior to product installation and execution.

RemoteShadow consists of a CD-ROM distribution of software, User's Manual, Software Product License Agreement, Software Product Description, and ASCII Product Authorization Key.

SHA_550_LIC - Local Only SHADOW License and Documentation
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SHA_550_RTC - Local Only SHADOW Right to Copy License
SHA_551_RTC - RemoteShadow Right to Copy License
AD_550_SHA - RemoteShadow Users Guide