HyperTape
from BridgeHead Software

OpenMedia Product Description

Document M8020   Version 3.3 rev.3   May 2002

Description

HyperTape is a multi-platform, multi-protocol software solution for automated, unattended network backup, archiving and data recovery throughout medium to large computing enterprises. It protects your network investment by using existing hardware and software components, and adapting easily to organizational and operational changes.

Since it supports an unlimited number of concurrent sessions between any number of network nodes, this solution is ideal for high-speed network backup. HyperTape backs up workstations, departmental servers and enterprise servers across entire multi-platform networks. It offers an unlimited choice of backup methods through its support of virtually all storage media.

HyperTape OpenMedia is a key-component of BridgeHead's new generation of storage management solutions. These aim to provide the best enterprise-wide open-systems storage management infrastructure in the marketplace.

OpenMedia provides the media management layer of HyperTape on a wide-variety of platforms across a network. Supported platforms include Windows NT/2000, OpenVMS, Linux and many UNIX variants. It provides facilities for volume, saveset and device management, for robotic or human operator control, for user and host administration and authorization and for system policy application.

At the heart of OpenMedia is a database of objects, which can represent physical items in the enterprise, such as tapes and hosts, or abstract entities such as media pools and user privileges. These objects and the defined relationships between them are encompassed in the OpenMedia object model. You use OpenMedia to monitor, control and automate your storage management by describing your organization in terms of objects and by manipulating the objects in the database.

The OpenMedia software is implemented using client/server architecture with a dynamic service broker. Clients ask for a service rather than a particular server and are connected to any server offering that service. The client does not need to know where the server process is actually running, or what operating system it is using.

OpenMedia is flexible and adaptable, which makes it suitable for use in a wide-variety of organizations. It can stand alone as a media manager, work in concert with other products to form a storage management suite, or integrate with any other storage applications.

OpenMedia communicates between clients and servers with a well-defined network-wide Application Program Interface (API). The API is available as a separate add-on product for OEMs and System Integrators.

A Graphical User Interface (GUI) and Command Line Interface (CLI) are supplied. The GUI provides a simple and efficient way of manipulating the database. It employs industry-standard windowing techniques with standard look-and-feel for supported platforms. The CLI is designed to produce command scripts for direct storage management or interfacing with existing systems.

Benefits

Suitable for any size of organization

OpenMedia is scaleable for use at large and small customer sites. It can be introduced into a small organization and grow as storage management needs increase. For example, adding new jukeboxes and new backup clients is accomplished easily. It is equally suitable for introduction into large sites with vast amounts of data distributed across a network. Management of large sites can be performed centrally or distributed into domains of responsibility.

Maximizes return on hardware

OpenMedia allows major capital expenditure items such as Tape Library Robots to be utilized fully and efficiently between different applications.

Reduces tape volumes or slots required

OpenMedia manages tape allocation from common scratch pools, so significantly fewer tapes and tape slots in robots are needed.

Provides a common view

While running the user interfaces from any client workstation, users can manage and administer objects, regardless of where they are in the enterprise. This is true even when different operating systems and network protocols are used in the organization: The user interface is the same, regardless of the host.

Dynamic device allocation improves resilience

OpenMedia allocates devices at run time, allowing for any devices currently not available and matching available devices' characteristics with the media requested.

Load balancing reduces wear on devices

OpenMedia keeps a record of device usage so it can balance tape loads across all devices to reduce wear and tear.

Fewer tape loads speed up your backups

Before asking for a tape, OpenMedia checks whether a suitable one is already loaded on a suitable device, thus avoiding unnecessary tape loads and speeding up operations.

Separate read and write checks make drive deployment easier

The read and write characteristics of the devices are checked separately, making it easy to deploy new drives that can read but not write old media.

Object model keeps track of changes to your environment

Because OpenMedia uses an object model representing your actual devices and volumes, when you add or upgrade devices it is very simple to change the model; it is not necessary to change your application. Compared to older "hard-wired" device allocations there are huge savings every time you reconfigure your systems.

Easily extendible to new platforms, devices and database management systems

OpenMedia is modular, with a high degree of functional separation. Most modules are platform-independent. This allows for very quick porting to new platforms and removes the need for re-training staff if your platforms change.

Flexible and configurable

Through the interfaces provided, a user or your support personnel can set system policies and environment variables that allow fine-tuning of the product for a particular site. Reasonable defaults are set during installation whenever possible, to ensure a working product straight away.

Recovers rapidly from disaster

OpenMedia provides integrity checks, administrative utilities, database backup and restore facilities that all significantly reduce the time taken to recover after a disaster.

Features

The key features provided by HyperTape OpenMedia are:

Multi-platform architecture neutral

OpenMedia is engineered to be portable. All the client server communications are architecture neutral. The GUI can be configured with a Motif, OPEN LOOK or MS Windows look-and-feel, so providing a native interface on each platform. The CLI supports multiple syntax's, allowing you to enter options as -option (UNIX style) or /Option (Microsoft or VMS style).

Three tier client-server architecture

OpenMedia is built using the latest three-tier database model, with an intelligent server between the client and the database. This dramatically increases performance and reduces network traffic.

Multi-threaded server

The OpenMedia server is multi-threaded, so that each user is not held up by other users' requests. Requests are broken into re-schedulable steps so that one long request never holds up others.

Multi-threaded database

The database layer supports multiple queries concurrently, so that a lengthy report on all media will not hold up a mount request.

Scaleable

OpenMedia is designed with the enterprise in mind. The multi-keyed SQL database underlying the server allows for very large installations with very high performance. The "Neighborhood" model allows media management for even the largest enterprise to be managed simply and effectively.

Open interfaces

OpenMedia is designed to allow any application to utilize the media management service. The combination of GUI, CLI and API, together with the open Agent/Script based robot linkage, provides a truly open interface.

GUI for ease of use

The GUI provides a simple management interface with many built-in reports and the ability to access site-defined reports.

Operator prompt system

Where robotic tape libraries are not employed, the GUI provides a simple sub-system, which prompts for device loads and unloads.

CLI for scripts

The CLI provides a complete script level interface to OpenMedia, allowing batch jobs or user written scripts to be developed easily. The CLI is designed with script writing in mind, providing output that is easy to parse on UNIX or that can set environmental variables on Windows.

Sharing media

One of the drawbacks of traditional media allocation is that each job or application requires its own set of media. OpenMedia facilitates sharing of media, which can draw from a common set of scratch tapes. This is particularly important when a robot with limited slots is used, because allowing "spare" tapes for many different jobs quickly uses all the available capacity.

Multiple scratch pools

Sometimes it is important to differentiate between different physical sets of tapes - for example, special archive quality tapes might need to be restricted to certain uses. OpenMedia allows multiple scratch pools to be defined with usage pools drawing from an appropriate scratch pool. This allows the media library to utilize maximum sharing of scratch tapes while at the same time preserving investment in specific media. For some enterprises, it is necessary to account for different departments' media usage - separate scratch pools can be used for this purpose.

Sharing robots

OpenMedia allows robots to be shared between applications, thereby maximizing the return on investment.

Multiple robots

OpenMedia can handle multiple distributed robots. The agent-script architecture allows the robot commands to be issued locally; the parameters to the script allow multiple robot types to be supported easily.

Multi-hosted robots

The agent-script model can be specific to a device or a robot, allowing different robot architectures to be supported. Sometimes all robot commands have to be issued by a single host, even though the devices in the robot may be connected to different hosts. This is no problem for OpenMedia, because the distributed agent-script model allows one host to respond to all prompts for a jukebox. On the other hand, if each host can issue its own robot commands, for example, if the robot is network attached, then the agent is registered only for these particular devices.

Matching media types

OpenMedia will match the requested tape criteria to the characteristics of devices. It knows the read and write capabilities of each device. This is often important, as new devices purchased with old media are only read compatible. The device independence allows new devices to be utilized easily without requiring extensive re-writes or manual intervention.

Dynamic device allocation

With OpenMedia, device (and tape) allocation is made at run-time based on criteria rather than hard coded devices. This flexible model allows run-time decisions to be made. It also allows new hardware to be utilized or old hardware to be marked down, without requiring any change to the application or job stream.

Automatic device rotation

You can set a system policy for OpenMedia to allocate available devices depending on their usage. This balances tape loading across the available devices, so spreading wear and tear.

Automatic device cleaning

You can schedule individual devices for cleaning by usage, elapsed time and the number of errors that occur on the drive.

Offsite rotations

Probably the single most important feature of backup systems is to be able to protect against a site disaster. This requires off site media. OpenMedia implements multiple rotation models and facilitates network backup, multi-site inter-operation and off-site media tracking.

Saveset model

The sophisticated saveset model means that applications do not have to remember volume names, but rather symbolic names for their data.

Multi-volume savesets

OpenMedia supports savesets that span multiple volumes. There is no limit to the size of a saveset.

Multi-streamed savesets

OpenMedia supports multi-streamed savesets where one saveset is being written simultaneously to multiple volumes. This is needed for replication, or for splitting the data between multiple devices.

Unterminated tapes

OpenMedia recognizes automatically if an application fails to complete and leaves the tapes marked as unterminated. This protects an application from trying to append to a tape that was not correctly terminated. At the same time, it allows an application to re-terminate the tape if it can.

Expiration calculation

The retention period for each saveset written to a tape (or tapes) is defaulted from the pool definition. The overall retention for the tape is maintained automatically, based on the retention period of each saveset on the tape.

Segmentation support

OpenMedia allows a saveset to be split into arbitrary sized segments. This can be used to make positioning faster for restore operations.

Documentation

HyperTape OpenMedia is supplied with comprehensive online documentation, consisting of the following manuals:

- OpenMedia Concepts and Facilities
- OpenMedia System Manager Guide

The online manuals are provided in Adobe Acrobat PDF format. The PDF reader software - Acrobat Reader is supplied free alongside the product.

Documentation and Header files for the OpenMedia API are available as a separately licensed product.

Platform Support

OpenMedia Manager Server

- MS Windows NT Intel
- MS Windows 2000

OpenMedia Client

- MS Windows NT Intel
- MS Windows 2000
- MS Windows 95 / 98 / Me
- MS Windows NT Alpha
- OpenVMS VAX
- OpenVMS Alpha
- Linux
- Sun Solaris
- Compaq Tru64 UNIX
- HP-UX
- IBM AIX
- SGI IRIX
- Reliant UNIX
- Sequent DYNIX/ptx
- UnixWare (SCO)

For details of Operating System compatibility, contact BridgeHead or your software distributor. Alternatively, you can access our WEB site:

www.BridgeHeadSoftware.com

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