NetVault Packages

NetVault: Backup Packages	NV WorkGroup	NV DataCenter	NV Enterprise
NV Clients (any OS)	5	10	25
Heterogeneous Client Support	Yes	Yes	Yes
Tape Drives	4	20	Unlimited
Tape Library Slots	Up to 60	Up to 350	Unlimited
VTL Capacity	100G/12 Devices	250G/24 Devices	500G/Unlimited Devices
Shared VTL	Optional	Optional	Optional
Maximum VTL Capacity Drives	3TB/12 Devices	10TB/24 Devices	Unlimited
Enhanced Reporting	Included	Included	Included
SmartClient License	Optional	Optional	Optional
NetVault: Report Manager	Optional	Included	Included

Minimum System Requirements

- Sufficient disk space to hold the NetVault: Backup software and the NetVault: Backup database index.

- 128MB RAM or more.

- TCP/IP network.

- Monitor display capable of 800x600 or better resolution and 256 or more colors.

NetVault Supported List

● **Supported NetVault Server/Client OS**

AIX, FreeBSD, HP-UX (Itanium2), HP-UX (PA-RISC), Linux (IA32), Linux (Itanium2), Linux (PowerPC 64), Linux (x86 64), Mac OS X, MP-RAS, OpenServer, Solaris (Intel), Solaris (SPARC), Windows 2000/Server 2003/Storage Server 2003/XP Professional

● **Supported Online Backup Modules (APMs)**

DB2, Informix, Lotus Notes/Domino, Microsoft Exchange, Microsoft SQL Server, MySQL, Oracle Online/RMAN, PostgreSQL, SAP, Sybase, Teradata

Please consult BakBone's website for complete up-to-date information and supported device lists: www.bakbone.com

Information contained within this document is subject to change without notice or prior notification. Please consult BakBone's website for a complete up-to-date information and supported device lists: **www.bakbone.com**

NetVault: Backup

DATA BACKUP AND RESTORE SOLUTIONS

BakBone Redefining Data Protection.

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BakBone®

Data. Businesses depend on it. Companies are storing more of it daily. IT departments struggle enormously to protect it in their ever-changing environments. Everyone worries about regulations that require the ability to recover it at any time. The problem ,in our current financial times, is that most businesses have not increased their budgets appropriately to properly manage all of this data.

Meeting the Requirements for New Storage Management Software

Every successful business knows the importance of protecting critical data with a reliable backup and recovery application. However, in today's business environments, branch offices, business units, and merged or acquired operations will often have different IT environments. This makes unified data protection of the entire business either impossible or prohibitively costly and hampers the agility of the organization. These businesses can't afford the risks associated with any critical data

loss — and require reliable and flexible solutions to fit their new environments. NetVault®: Backup provides enterprise-class functionality for complex heterogeneous environments. NetVault: Backup provides support for multiple server platforms and applications across these platforms, with a common UI across the spectrum to keep TCO down.

NetVault: Backup keeps pace with the changes in the market

Complying with IT's request for a flexible solution that also protects a shrinking budget, BakBone developed NetVault: Backup with a modular design to meet the needs of the changing markets. As IT budgets continue to shrink, companies are putting a greater emphasis on TCO across their computing spectrum. A perfect example of this is the growth of Linux-based servers in small — medium businesses all the way up to enterprise environments. The challenge these customers face is finding a cost-effective storage management solution that supports these new platforms as well as their existing systems.

With it's modular architecture, NetVault: Backup can be enhanced to support a wide variety of new database versions, new operating systems and versions, new tape library devices, and other applications. This modular architecture allows NetVault:Backup to provide the broadest Linux support in the storage management market, supporting more of the leading distributions and applications than any storage management software vendor.
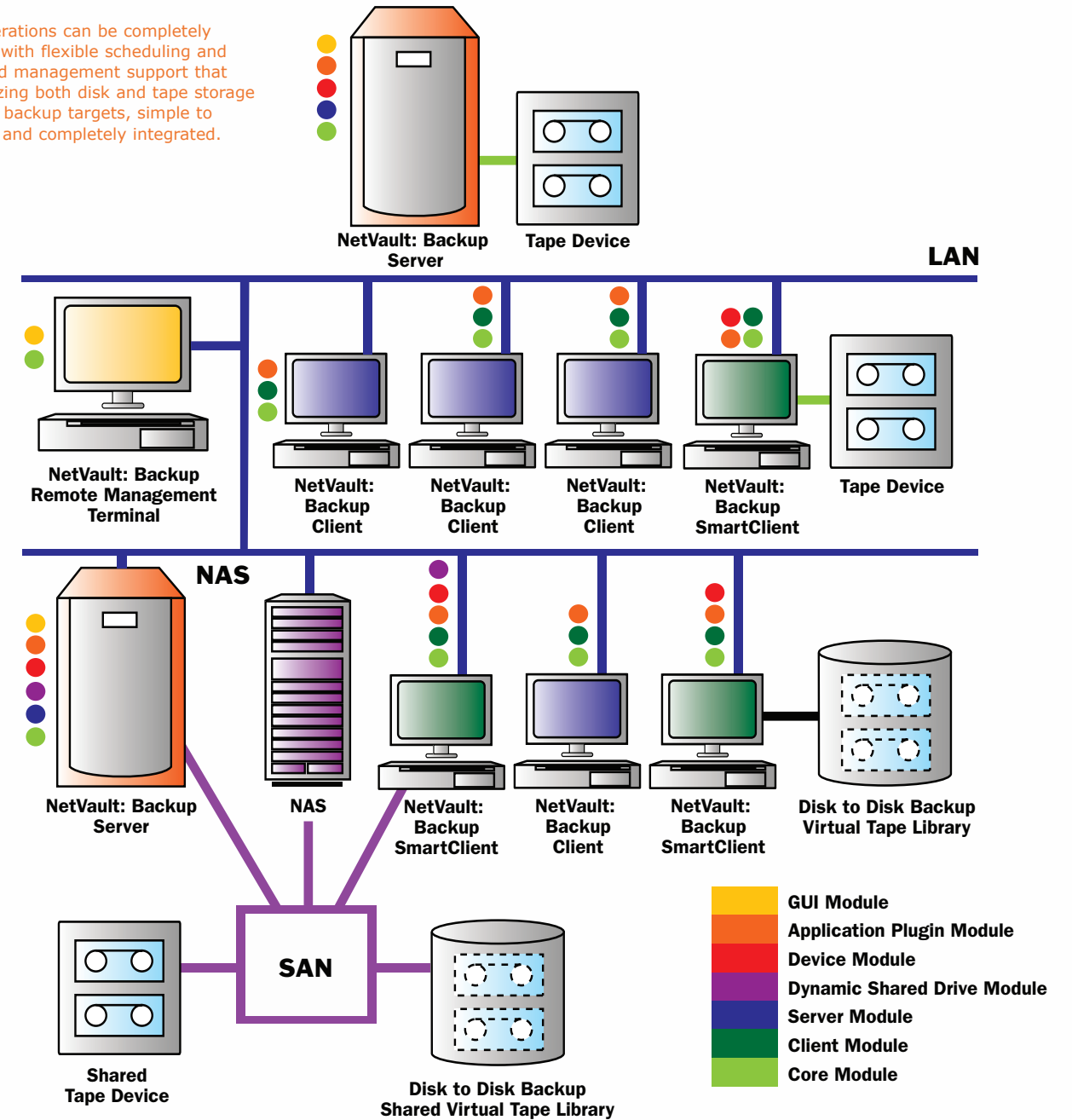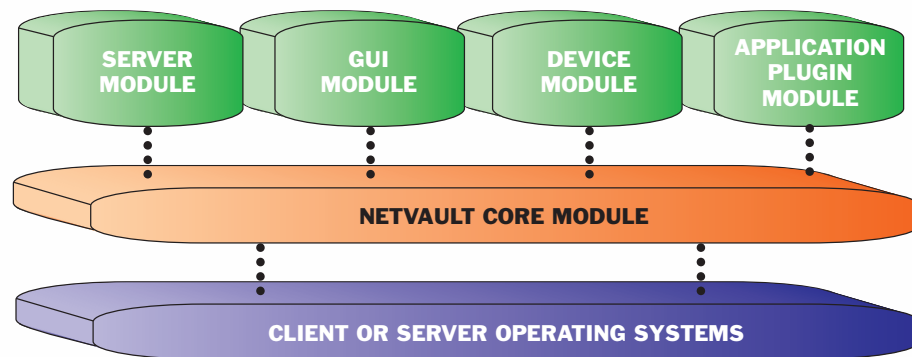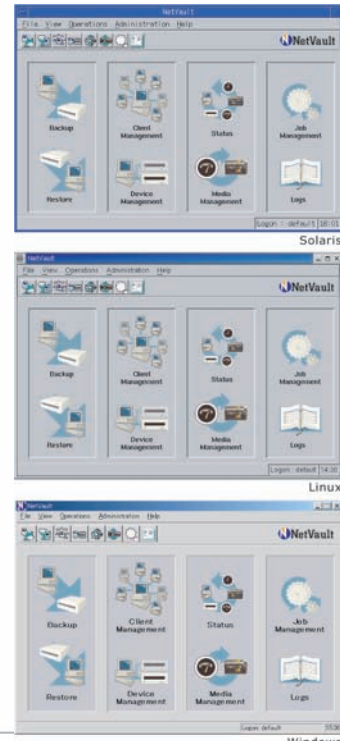
Reduction of Management / Cost-of-Ownership

Simply put, NetVault: Backup's deployment time is not recorded in number of days, but rather numbers of minutes. Costly implementation consulting services are unnecessary, further reducing the TCO of NetVault: Backup. When new devices are added to the backup system, NetVault: Backup can automatically detect and configure many devices allowing administrators to easily add and configure them within minutes, without the need to call or rely on third party consultants to schedule time on-site.

NetVault: Backup supports a wide variety of operating systems: Linux, Solaris, Windows, MAC OS X and more, all with complete cross-platform support.

A single NetVault: Backup server with a number of NetVault: Backup Clients managed by that server, comprises a NetVault: Backup Domain. Management of multiple domains can be accomplished by accessing the NetVault: Backup Server directly, or via a Domain Management interface that can be located anywhere on the network.

Backup operations can be completely automated with flexible scheduling and policy based management support that makes utilizing both disk and tape storage systems as backup targets, simple to accomplish and completely integrated.

NetVault: Backup Server — **Tape Device**

LAN

NetVault: Backup Remote Management Terminal

NetVault: Backup Client — **NetVault: Backup Client** — **NetVault: Backup Client** — **NetVault: Backup SmartClient** — **Tape Device**

NAS

NetVault: Backup Server — **NAS** — **NetVault: Backup SmartClient** — **NetVault: Backup Client** — **NetVault: Backup SmartClient** — **Disk to Disk Backup Virtual Tape Library**

SAN

Shared Tape Device — **Disk to Disk Backup Shared Virtual Tape Library**

Solaris

Linux

Windows

SERVER MODULE — **GUI MODULE** — **DEVICE MODULE** — **APPLICATION PLUGIN MODULE**

NETVAULT CORE MODULE

CLIENT OR SERVER OPERATING SYSTEMS

- **GUI Module**
- **Application Plugin Module**
- **Device Module**
- **Dynamic Shared Drive Module**
- **Server Module**
- **Client Module**
- **Core Module**

Multi-platform support:
Linux, UNIX, Windows, MAC OS X, etc. — covering nearly every major computing platform.

Common GUI across all platforms:
Linux, Solaris, Windows or MAC — NetVault: Backup has the same user interface across all platforms — reducing training time and money when using NetVault: Backup across different platforms. Plus NetVault: Backup for MAC OS X comes complete with a new Aqua UI with the MAC "look and feel".

Centralized Management:
A single NetVault: Backup GUI using the Domain Management feature can manage multiple NetVault: Backup servers running on different operating systems with disparate client backup scheduling and all their devices.

Shared Memory:
Improving performance, NetVault: Backup's shared memory feature allows administrators to determine how much I/O buffer cache to use while backing up or recovering data — By supporting simultaneous read and write operations to the shared buffer NetVault: Backup ensures the backup process will keep even the most sophisticated tape devices streaming and reduce backup windows.

Network Compression:
For heavily utilized networks or for remote locations with limited data bandwidth, NetVault: Backup Clients can compress data blocks before sending them over the network, increasing throughput.

True Image Restore:
When restoring a set of files that have been changed, deleted or modified over time, NetVault: Backup will correctly restore a single file or an entire file system to the image seen on disk at the point in time when each backup was taken. Even if the backup instance used to select the restore of an entire volume included only incremental data, NetVault: Backup will carefully recover the complete set of files by automatically using the correct backup media.

A wide variety of Storage Options:

DAS/SAN/NAS Coverage:

NetVault: Backup supports the majority of popular tape drives, auto-loaders, and libraries on the market today. Backups can be performed whether the tape drives are connected to servers via local SCSI buses, iSCSI over an IP network or over a SAN. For NAS devices that support NDMP, backup data can be transferred to both locally attached devices or over a network to the backup server or a SmartClient®, thus optimizing data transfer rates and providing system redundancy.

Dynamically Sharing Drives on a SAN:

NetVault: Backup's DSD™ (Dynamically Shared Drive) technology allows more than one system to utilize a tape device connected to a Fibre Channel SAN, IP SAN using iSCSI, or through a local shared-SCSI chain. Backup data transfers are optimized and the number of "single points of failure" is reduced.

Support for Client-side backup:

● SmartClient™

With NetVault: Backup's SmartClient technology both real and virtual backup targets can be easily distributed throughout the backup domain. Backup data no longer needs to pass over the network and through a NetVault: Backup server in order to be written to a storage device. SmartClient's are an optimal solution for multiple clients with large amounts of data, or for remotely controlling backup operations of branch offices. While the SmartClient performs local backups to a DAS (virtual tape library, tape drive, or tape library), all the scheduling and "on-disk" indexing information is stored on the NetVault: Backup server — thus lowering the SmartClient system resource requirements.
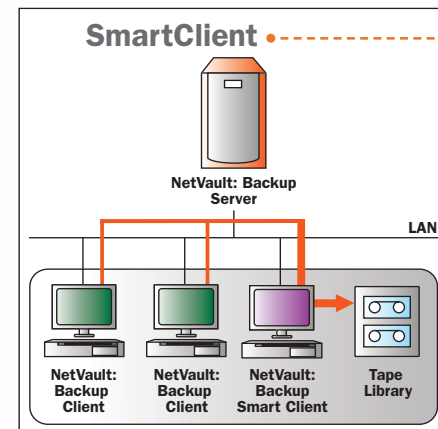
LAN Free Backup:

By combining SmartClient's with DSD's in a SAN, the NetVault: Backup administrator can create a LAN-free backup environment. Backup data does not need to traverse the LAN to be written to locally attached storage devices. This keeps the LAN free of backup traffic and more available for other application usage.

Disk-to-disk Backup

● Virtual Tape Library (VTL):

By creating a virtual tape library inside a disk file system, NetVault: Backup can backup data to this virtual pool of storage. Regardless of whether a real, physical tape drive or tape library exists, NetVault: Backup's VTL can operate as a stand-alone backup storage device. When creating a VTL, the user is free to select an arbitrary number of virtual tape drives, tape slots, and to specify the size of each tape. Each VTL can be constructed within minutes to "right-size" the necessary backup volume and work-load capacity. A VTL may be created to handle any number of concurrent client backups, vastly improving on the multi-plexing methods offered by other vendors.

Taking advantage of hard disk's low-cost and high-performance random access features, your backup windows can be shortened and backup operations can commence with or without the presence of a physical tape device. Backups can be kept online in a VTL and either migrated or duplicated to physical tape at a later time (during off-peak hours for example) for off-site storage. Recently, many customers have chosen this method to keep Recovery Time Objectives (RTO) as part of their SLA's to a minimum, keeping only the most recent set(s) of backups on VTL while moving older backup sets off to tape for offline, long-term storage.

● Shared Virtual Tape Library (SVTL):

With all of the benefits of a regular VTL, a variety of disparate operating systems can share a single VTL's resources residing on a SAN-attached disk system with NetVault: Backup's SVTL technology. A NetVault: Backup server and several SmartClients can simultaneously write backup streams and access restore data from a SVTL.

Virtual Tape Library (VTL)

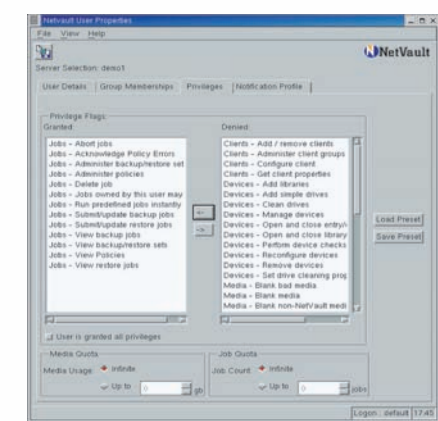Shared Virtual Tape Library (SVTL)

SmartClient
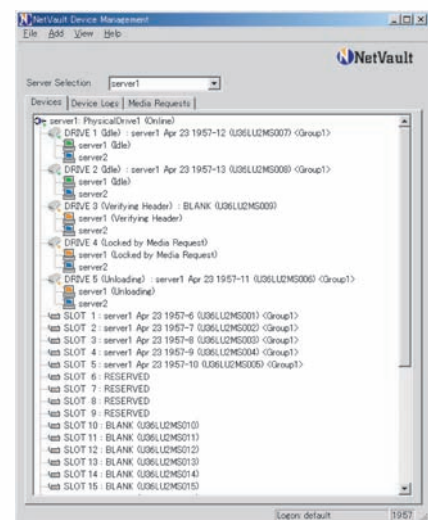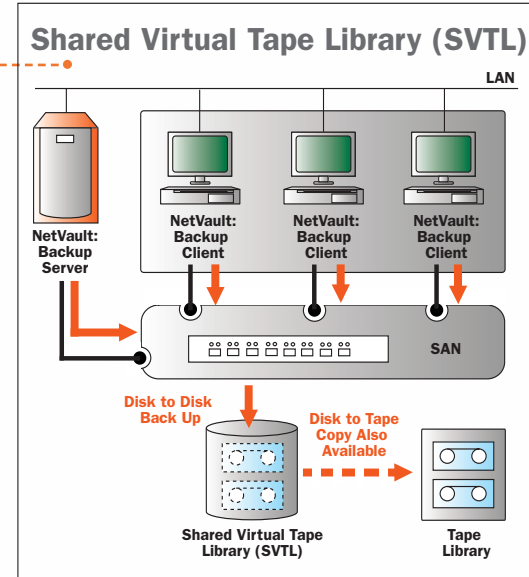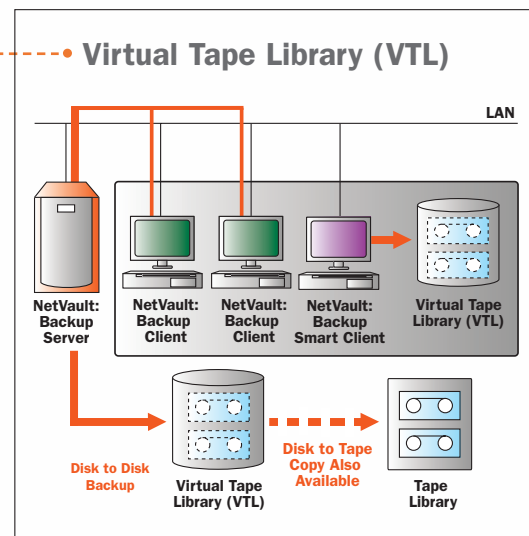
Centralized Management:

With NetVault: Backup's Network Controllable Server technology, an administrator with proper login rights can remotely administer any NetVault: Backup server on the network.
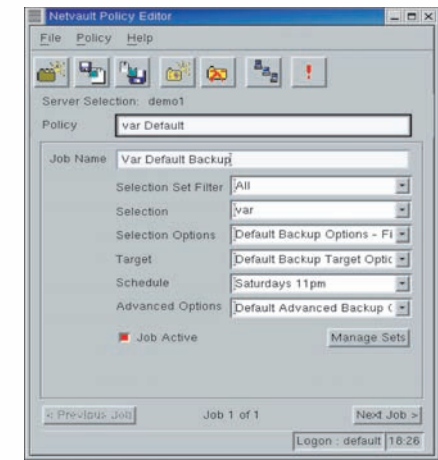
Policy-based Job Management:

Administrators can easily create a backup job template that can be applied to any number of like NetVault: Backup clients, with NetVault: Backup's Policy Editor. Changes to a well-designed backup strategy can be easily applied to jobs running on clients in the policy using the Policy Editor; in addition small modifications can easily be made to customize a policy for each NetVault: Backup client if necessary. NetVault: Backup's policy management functionality cuts down on administration overhead and human error in larger environments.

User Level Access:

This unique functionality allows NetVault: Backup administrators to delegate backup and recovery responsibilities to other users on the network. A NetVault: Backup user can be assigned a set of roles and functions to administer. After entering proper login credentials, the user has access to ONLY those areas of NetVault: Backup for which they have been granted privileges. For example, certain IT staff may only be permitted to schedule backups for a specific group of sales machines, blocking access to other department's servers. Normal users can be given the right to schedule backups and run reports with restrictions to only a client where they have access rights — thus protecting backup resources for mission-critical systems.

Enhanced Reporting:

NetVault: Backup's reporting functionality includes the ability to generate reports in several formats: HTML, Text, and spreadsheet/database usable comma-delimited output. NetVault: Backup comes with 29 pre-defined reports on topics such as backup job completion status, tape drive status, tape storage utilization, backup performance, etc. Historical reports, showing backup performance or tape drive failures over a period of time for example, can also give an administrator unique views. Reports can be scheduled to run at a specified time and displayed on-screen or sent out via email. NetVault: Backup's reports are completely customizable — from field selection to field length, output size and ordering.
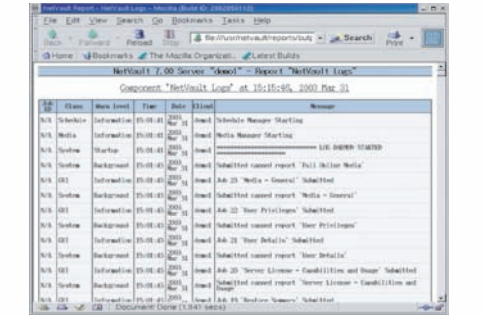

For advanced reporting capabilities, BakBone offers the NetVault: Report Manager for Backup product which allows consolidation of information from one or more NetVault: Backup servers to create a single view into enterprise-wide NetVault; Backup operations. The NetVault: Report Manager for Backup product also provides a visual monitoring and alerting capability to identify potential problems early and quickly. The NetVault: Report Manager for Backup product also includes additional pre-defined reports that are not available within NetVault: Backup's built-in reporting mechanisms.

Event Notification:

Pre-defined and user-defined events may be enabled to give administrators an early warning when failures or even successes occur. NetVault: Backup can notify administrators via various methods such as email or operator messages.

Automated Log Management:

NetVault: Backup will automatically purge old log files, preventing NetVault: Backup logs from taking up too much disk space.

NetVault: Backup Database (NVDB)

NetVault: Backup continues to lead the market with the smallest on-disk index footprint. Old backup index information can be automatically compressed or even archived to save space without deleting restore information.


Remote Management
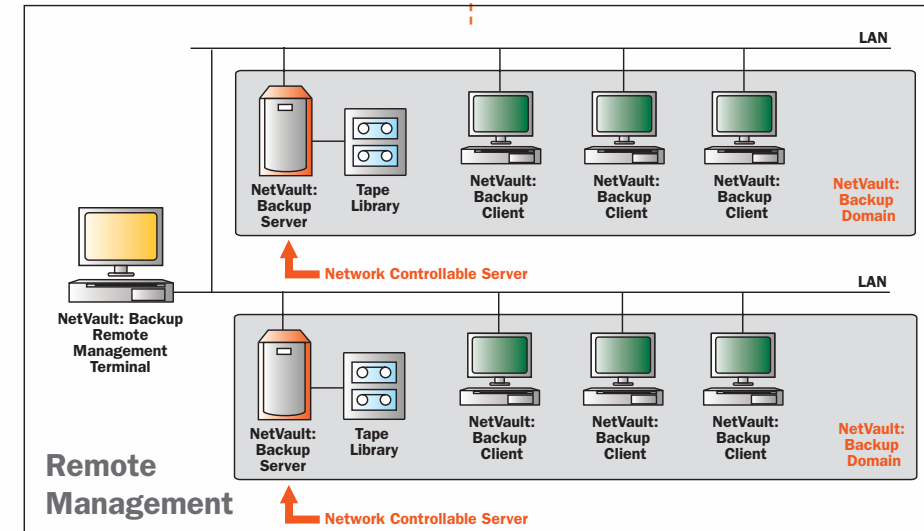
Backup Consolidation (Incremental Consolidation):

With Backup Consolidation, a NetVault: Backup administrator only needs to perform an initial Full Backup of a large departmental file server or Exchange database; from that point on, only incremental backups are needed. Afterwards, in an operation that does not affect the server from which the data came, consolidation synthetically creates a new full backup. Not only reducing the backup window, backup consolidation also preserves the ability to perform quick, full restores. Full backups may be created as often as incremental backups are taken.

Backup Clustering:

The enhanced cluster support in NetVault: Backup can be implemented in either Active/Passive or Active/Active clustered environments. File systems or supported applications can be configured for basic failover, eliminating scripting and other manual operations.

* Specific information on cluster support is available at www.bakbone.com/products/netvault7.3/
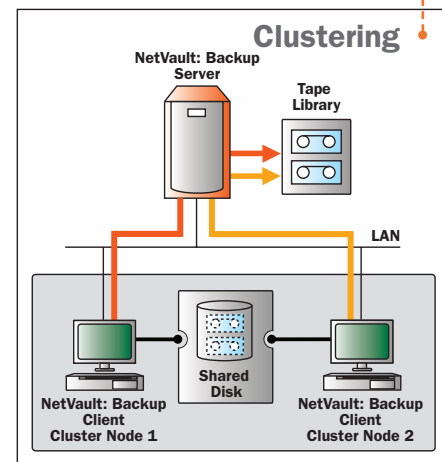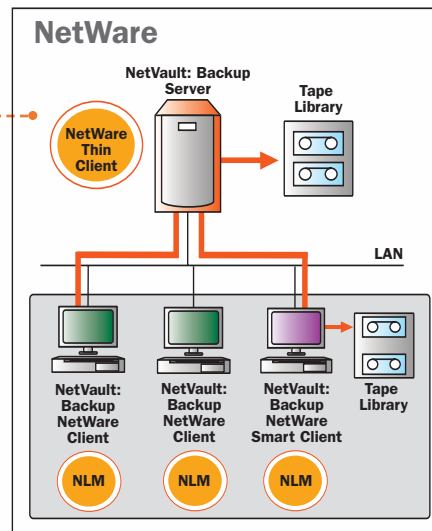
NetWare Backup:

NetVault's NetWare Loadable Module (NLM) supports the backup of NetWare via NetVault's Thin Client Application Plugin Module (APM) installed on a NetVault Server. Using NetVault's NLM, NetWare servers may be backed up over the LAN to storage devices (Virtual Tape Library or physical tape) connected to NetVault Servers or NetVault SmartClients. With the addition of the NetWare SmartClient option, NetVault can backup data directly to locally attached tape devices on a NetWare Server for LAN-less backups.

Consolidate Incremental Backup
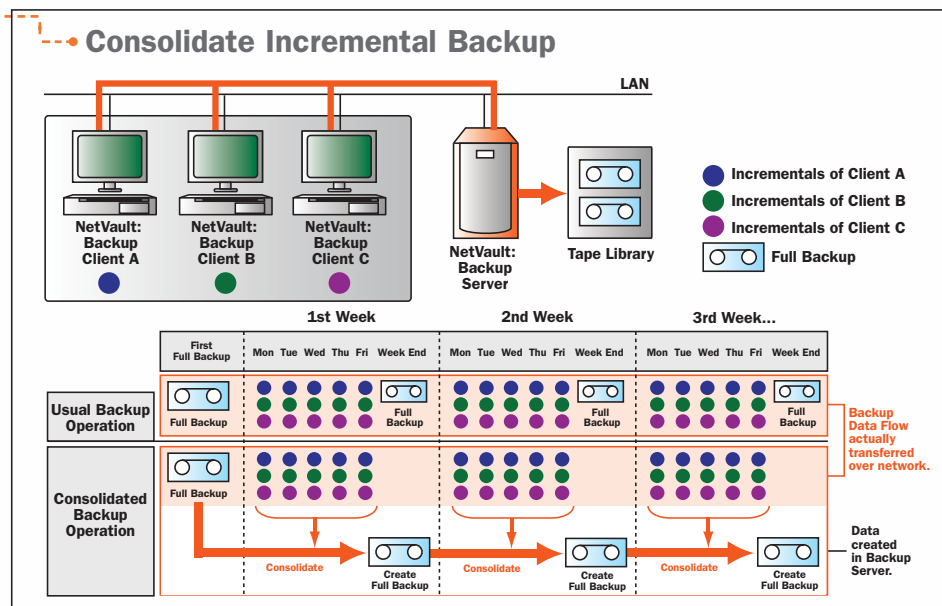
Encryption Option:

For systems with sensitive data, BakBone offers a 128-bit encryption plugin to NetVault: Backup that encodes backup data before it leaves the system and traverses the LAN or SAN. Each NetVault: Backup client using the Encryption plugin maintains its own individual key (not stored on the NetVault: Backup server), ensuring backups are only restorable to machines with the proper keys. The encryption algorithm encrypts at the client disk (source), and security is maintained over the network and while data is stored on tape.

Open File Backup (OFM):

For Windows and NetWare servers, BakBone offers an option to NetVault: Backup that backs up files in use by other processes (that would otherwise be locked and inaccessible to the backup process). Before a backup with OFM commences, the plugin synchronizes the disk write cache and creates a block-level image copy of all open files on the system.

VSS SnapShot Support Option:

By selecting the VSS SnapShot option within the NetVault: Backup GUI when defining a backup job, selected volumes and files from the 'frozen' snapshot images provided by Microsoft's Volume Shadow Copy Services (VSS), will be backed up without disrupting end user access to those files.

NetWare

Disaster Recovery Option:

NetVault: Backup's VaultDR option is a technology used for keeping disaster recovery images both complete and simple — saving administrator overhead and reducing hardware requirements. A VaultDR CD-R contains a self-booting operating system (VaultOS) and a disaster recovery specific NetVault: Backup client.All pertinent system information is kept on the backup media itself. VaultDR creates complete system copies — including operating system and application data — all in one backup image. A VaultDR backup can be kept in the same storage pool as regular backup data, thus eliminating the need to keep a separate set of tapes for backups and CD-R images for disaster recovery. Since the operating system is offline during the backup, not only is a complete recovery of both OS and application data guaranteed, but it also means NetVault: Backup can perform disaster recovery for any operating system that operates on standard VaultOS supported Intel hardware — including Linux, NetWare, Windows, Solaris and FreeBSD. (For Windows and Linux, BakBone also offers VaultDR Online, which performs online backups without the need to take the system offline or reboot the system.)

Application Online Backup:

NetVault: Backup supports APMs for online backups for a wide variety of database and messaging applications — such as DB2, Informix, Lotus Notes, Microsoft Exchange & SQL Server, Oracle, MySQL, PostgreSQL and Sybase, among others. With the APMs, NetVault: Backup servers and clients can be enhanced to perform application specific backups. Interfacing with the native APIs, NetVault: Backup draws data from the applications and catalogs backup data according to application type: all in a simple, point and click manner, within NetVault: Backup's GUI.

VaultDR
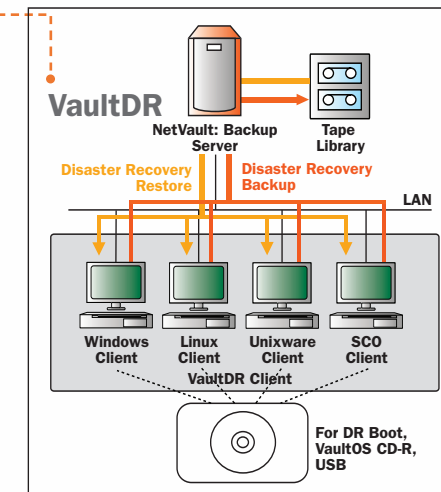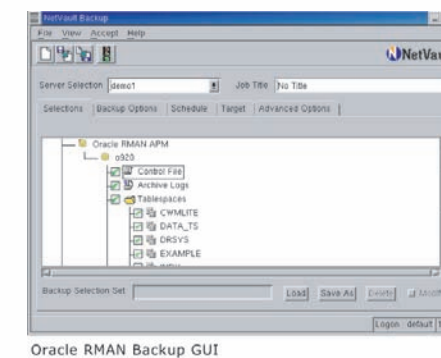
Network Data Management Protocol Option (NDMP):

NDMP was designed to efficiently transfer large blocks of data across a LAN or SAN to a storage device. For NAS devices utilizing NDMP, backups are performed via this secure, high-performance protocol, rather than using less efficient and less secure file sharing methods such as NFS or CIFS. NetVault: Backup can send NDMP data directly to a locally attached SCSI device, a SAN-attached storage device (tape or VTL) or to a storage device elsewhere on the network.

Oracle RMAN Backup GUI
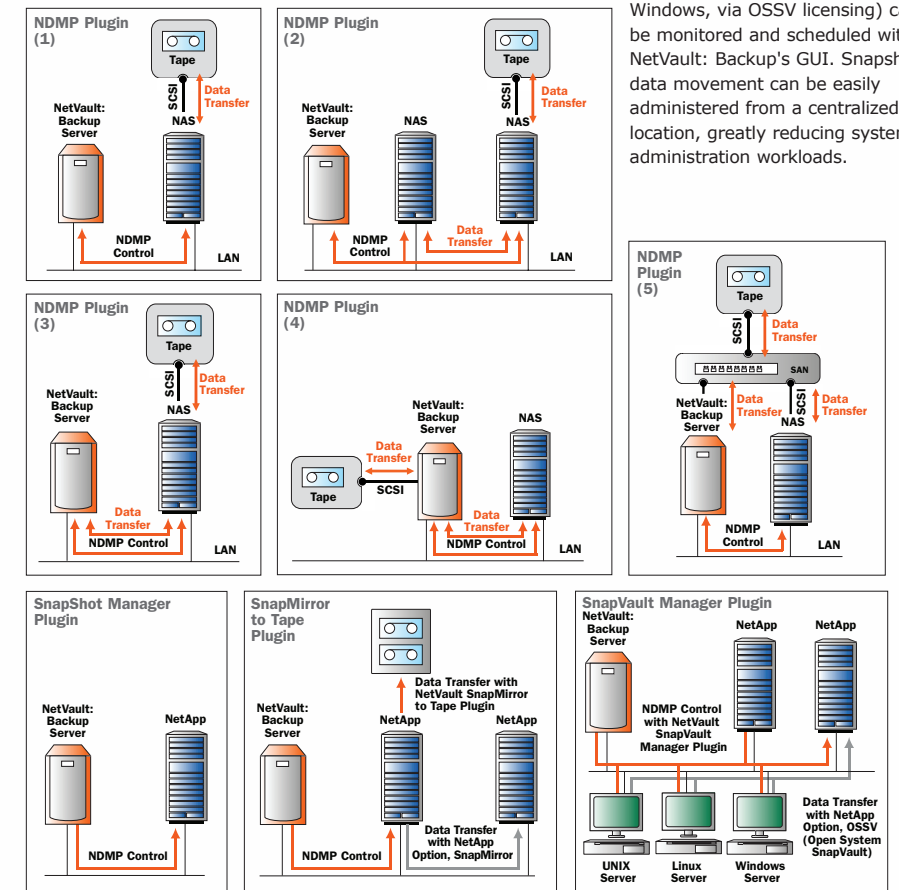
• NDMP Plugin:

NDMP data can be backed up in a variety of ways: [1] from the NAS box directly to SCSI or SAN-attached storage; [2] from one NAS to another NAS with direct-attached storage; [3] data from NetVault Servers and Clients can be backed up via LAN through the NAS box to direct-attached storage; [4] data from any number of NAS boxes may be sent over the LAN to storage devices connected to NetVault Servers or SmartClients on the network; and, [5] in a NAS / SAN environment, backup data from both open systems (Windows, Unix, Linux, FreeBSD, etc.) and NDMP data from NAS boxes may share the same NDMP storage devices (tapes and tape drives).

• NDMP Snapshot Manager Plugin:

For NetApp Filers with Snapshot licensing, NetVault:Backup offers a graphical interface and centralized scheduling capabilities to OnTap administrators. NetVault: Backup usurps OnTap's snapshot schedule and provides enhanced snapshot management.

• NDMP SnapMirror-to-Tape Plugin:

For NetApp Filers with a SnapMirror license, NetVault offers the ability to record a SnapMirror snapshot directly to tape for offline storage and disaster recovery purposes. SnapMirror images may be restored to other NetApp Filers for assisting with hardware upgrades or other disaster recovery tasks.

• NDMP SnapVault Manager Plugin:

Snapshots of NetApp Filers containing SnapVault licensing and open systems (Linux / UNIX/ Windows, via OSSV licensing) can be monitored and scheduled with NetVault: Backup's GUI. Snapshot data movement can be easily administered from a centralized location, greatly reducing system administration workloads.