

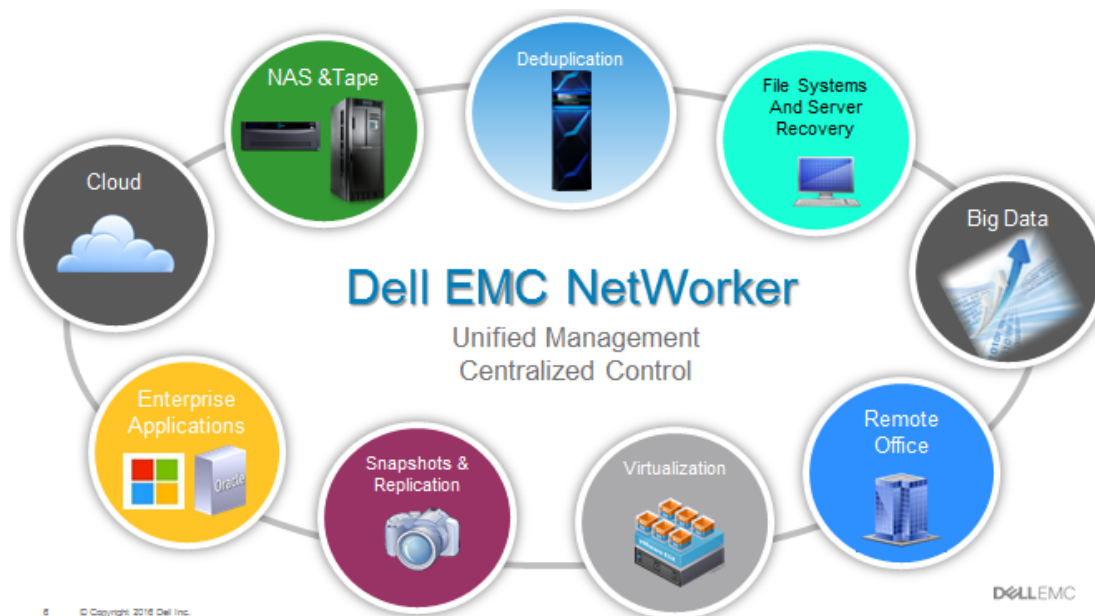
## NetWorker

Dell NetWorker delivers all the qualities that successful organizations require, allowing Customer to centralize, automate, and accelerate backup and recovery. With NetWorker, you gain superior manageability, performance, and scalability. It provides fast, reliable, complete data backup and recovery for all systems, databases, and enterprise servers running critical applications. Other key features include:

- Centralized protection in a heterogeneous environment, with minimal impact to production systems. NetWorker provides comprehensive protection to simplify backup, recovery, and reporting across all operating systems, applications, and topologies.
- Whether you're protecting applications and data residing within your data center or the public cloud, NetWorker provides the same enterprise-level user experience. With Dell CloudBoost and Dell Cloud Tier, NetWorker delivers highly efficient and secure long-term retention of backups in leading private or public cloud offerings, as well as backups of data and applications within the public cloud with Dell CloudBoost. With CloudBoost, NetWorker delivers highly-efficient and secure long-term retention of backups in private cloud through Elastic Cloud Storage, or leading public cloud offerings, as well as backups and applications within the public cloud.
- Ease of configuration through client and device configuration wizards - automatically detects the environment and populates the appropriate fields.
- Enables multi-tenant backup and recovery environments for all supported file systems, databases and applications supported by NetWorker.
- Industry-leading capabilities to protect and recover virtual environments including integration with Hyper-V and VMware vCenter – delivering 3x faster backup and 30x faster recovery than VMware data protection competition. Enhanced self-service management, empowering DBAs, VMware, and Hyper-V administrators to take control of data protection for their respective applications and environments.
- Global data deduplication for file systems and applications, including Microsoft Exchange, SQL Server, and SharePoint, SAP, SAP HANA, Oracle, Sybase, IBM Domino (Lotus), Informix, MySQL, MEDITECH, and DB2. This includes client/application side deduplication through integration with PowerProtect DD Boost.
- Broad backup-to-disk capabilities, including SAN and NAS backup and Dell PowerProtect DD deduplication systems. Capabilities include concurrent read/write/clone on disk volumes, and concurrent access to disk volumes across multiple servers.
- Integration with PowerProtect DD Boost provides client side deduplication of all supported file systems, applications and databases. NetWorker Client Direct with DD Boost reduces required infrastructure and, thus both CapEx and OpEx, by sending backups directly to the PowerProtect DD system without the requirement of a storage node.
- Block Based Backup for Windows and Linux file systems, Exchange, and Hyper-V delivers high performance image backups using a tight integration with Microsoft VSS.
- Bare Metal Recovery for Windows including a single pass backup of file system and system state data and P2V support for vSphere and Hyper-V
- Integrated, wizard-based snapshot management enabling customers to meet strict RTO/RPO's for mission critical SAN and NAS environments

- Extensive Security, including full integration with external authentication sources and role-based authorization for administration and end users, plus a centralized logging mechanism to log security related events that occur within NetWorker.
- Centralized policy management for virtual and physical environments, including applications, databases, Dell ProtectPoint backups, snapshot managed backups and file systems.
- Advanced indexing architecture that dramatically increases performance and scalability in backup and recovery operations.
- Enabling of server-less backup, library sharing, dynamic drive sharing, and disk volume sharing for high performance backup and recovery.
- Online, impact-free backup and granular recovery for leading databases, Microsoft applications, Block Based Backups, Dell ProtectPoint backups, snapshot managed backups and ERP applications.
- Simplified recovery of Block Based Backups, Dell ProtectPoint backups, snapshots, and file systems through an integrated wizard driven Recovery UI.
- Fast, reliable disaster recovery management, plus future-proofed Open Tape Format with better recoverability from damaged tape media.
- End-to-end tape media management.

NetWorker enables you to tie protection levels together in a single solution. This “tiered protection” means you can match your investment and protection level to the value of data, all within a single backup application for centralized control and command. While applications and organizational divisions may require different recovery-time and recovery-point objectives (RTO and RPO), Customer can support them all using Dell NetWorker. This results in simpler management and easier introduction of next-generation technologies, and enables administrators to more quickly identify and analyze problems for system optimization.



## Supported Environments:

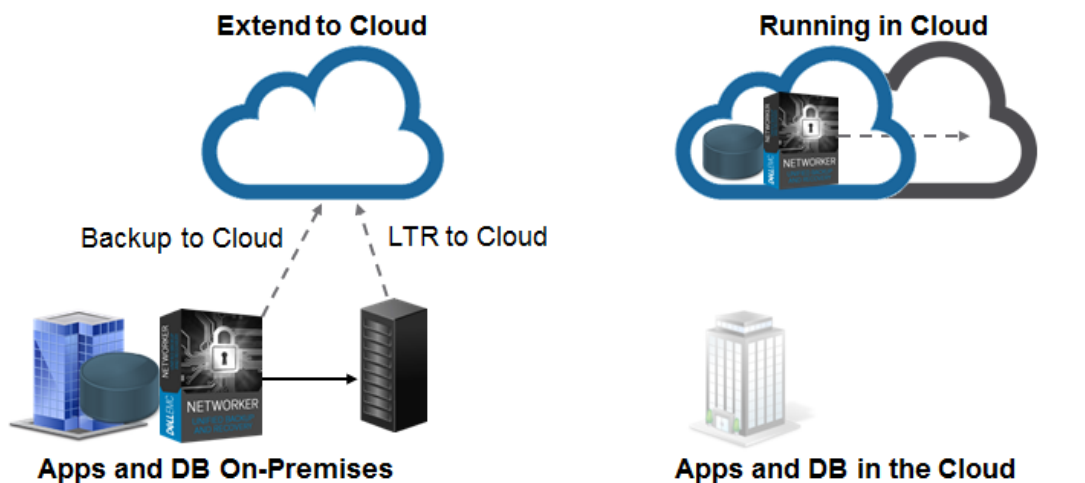
- Virtualization support including VMware and Hyper-V
- Supports industry leading Operating Systems and Cluster Configurations
- Unparalleled protection for NDMP-compliant NAS file servers
- Oracle, DB2, Informix, SQL Server, Sybase, SharePoint, Exchange, IBM Domino (Lotus), SAP, SAP HANA, MySQL, MEDITECH

- Integrated snapshot management for Dell XtremIO, VMAX, UNITY, Isilon, RecoverPoint and NetApp Filers
- Integrated orchestration of Dell ProtectPoint backups
- Support for extensive list of tape drives and libraries
- Integration with deduplication hardware, including PowerProtect DD and Avamar

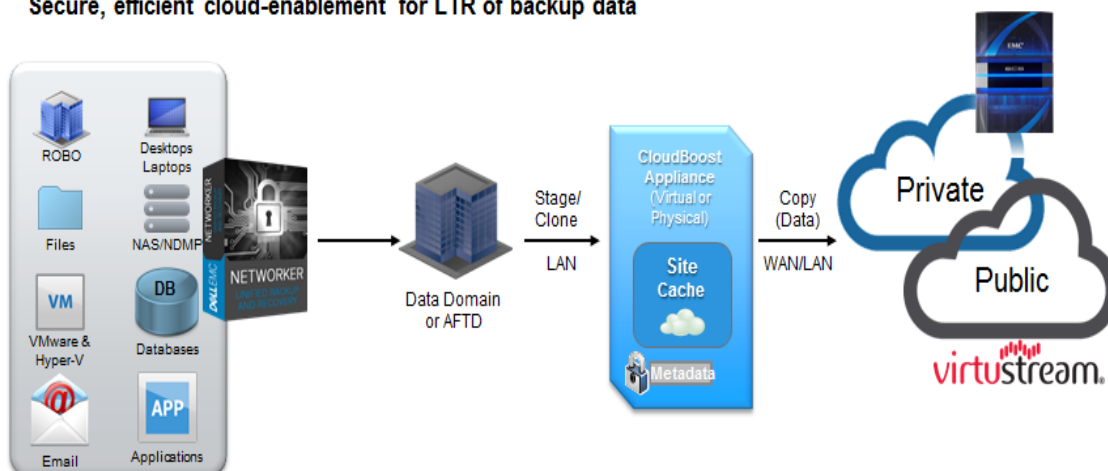
By standardizing on Dell NetWorker, Customer can gain fast, reliable data protection while reducing management overhead in DAS, NAS, SAN and PowerProtect DD topologies.

## Dell NetWorker Cloud Experience

Whether you're protecting applications and data residing within your data center or the public cloud, NetWorker provides the same enterprise-level user experience. With Dell CloudBoost and Dell Cloud Tier, NetWorker delivers highly efficient and secure long-term retention of backups in leading private or public cloud offerings, as well as backups of data and applications within the public cloud with Dell CloudBoost. CloudBoost enables customers who are looking to reduce CapEx while also eliminating tape in their environments by using a private, public, or hybrid cloud for long-term retention. CloudBoost is installed as a virtual appliance in the local data center and enables secure connections to clouds including Dell ECS, VMware vCloud Air, Atmos-powered AT&T Synaptic Storage, OpenStack Swift, and third-party clouds including Microsoft Azure Storage, Google Cloud Storage and Amazon S3. All workloads supported by NetWorker can be protected with CloudBoost, including file systems, applications, databases, NAS data, and snapshots.



### Secure, efficient cloud-enablement for LTR of backup data



CloudBoost provides numerous benefits to customers using cloud such as seamless integration, network efficiency, source-side deduplication, security using AES-256 encryption, and the flexibility to

use a variety of public and private clouds. In addition, by separating data from metadata, CloudBoost’s split-plane architecture enhances performance by removing a key bottleneck. It improves security and enables cloud-agnostic operation by centralizing metadata storage regardless of where data is hosted. CloudBoost is licensed at no additional charge as part of the Data Protection Suite Family.

With Dell Cloud Tier, PowerProtect DD is the only protection storage to natively tier deduplicated data to the cloud. No separate cloud gateway or virtual appliance is required. So, you do not have to worry about any additional physical footprint or management overhead. Data is sent directly from the PowerProtect DD system to the cloud.

With NetWorker, administrators can orchestrate DD Cloud Tier from the NetWorker console. Specifically, administrators can natively control data movement policies from within NetWorker through clone policies or actions, thereby managing which clients are backed up on-premises, and which are tiered off-premises. Admins can create a policy to copy data from a PowerProtect DD Active Tier to a Dell Cloud Tier, then off to cloud after a specified period, and set to expire on-premises. They can also streamline recovery of a cloud-based object via the NetWorker UI.

**Leverage the cloud of your choice for long-term retention of backups**



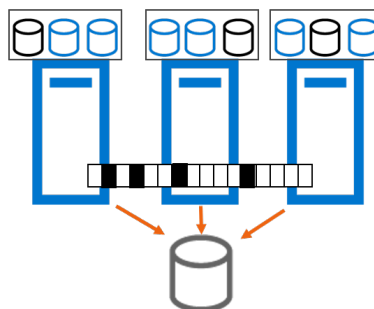
**Dell NetWorker Block Based Backup**

NetWorker offers Block Based Backups for Windows and Linux file systems, Microsoft Hyper-V, and Microsoft Exchange delivering high performance image backups with no index required for the backup. Value is brought during the backup of high density file systems and large files and databases that incur very minor or infrequent changes – achieving up to 5 times faster backup than file-based backup solutions.

**Block Based Backup**

Windows, Linux and Hyper-V

- Backup only the blocks that change
  - Efficient backup for large file servers
  - Full and incremental backup
  - Backup to disk and cloud to tape
  - Source-side deduplication with PowerProtect DD
  - No indexing required



Block Based Backup is included with the NetWorker client, and does not require separate licensing.

Configuring a client for Block Based Backup is easy. The configuration is completed using a check-box in the client configuration wizard of the NetWorker Management Console.

When configured for Block Based Backup, only the changed blocks on the client will be backed up.

Granular level recovery is also made simple by leveraging the NetWorker Management Console Recovery UI.

## Dell NetWorker DiskBackup

NetWorker DiskBackup Option (DBO) delivers faster recovery, faster backups, and lower TCO by leveraging reliable high-capacity, high-speed disk arrays – including deduplication storage devices. Users gain complete NetWorker functionality to perform backups to disk, and to automatically stage or clone backups from disk to tape.

### NetWorker DiskBackup Option

- Fast and reliable backup and recovery
- Leverage concurrent operations to enhance backup/recovery
- Policy-based staging and cloning



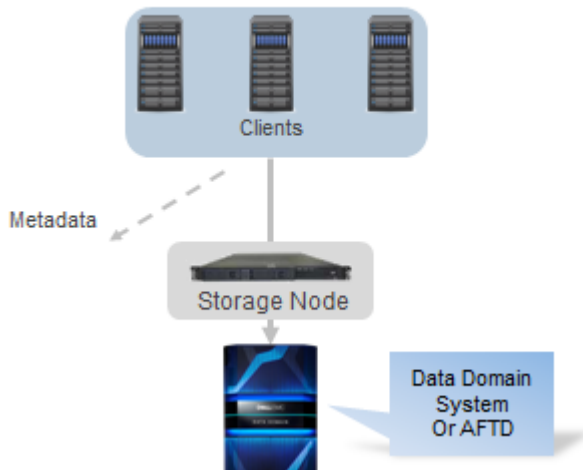
In addition, NetWorker's device level parallelism enables multiple clients to be backed up simultaneously to the same "file type" device, delivering faster protection performance. Administrators may specify as many devices as needed, enabling more data to be protected in less time. To ensure quick recovery, NetWorker's DiskBackup Option enables concurrent restore of data to multiple clients from disk simultaneously.

Disk volume sharing allows for optimal use of NetWorker storage nodes. A backup can occur on one storage node while cloning from another.

## Client Direct Backup

The NetWorker Client Direct feature allows for a point to point backup of data from the client directly to the backup target. When this feature is combined with PowerProtect DD Boost, it will provide client side deduplication, greatly reducing the network bandwidth required as well as backup times.

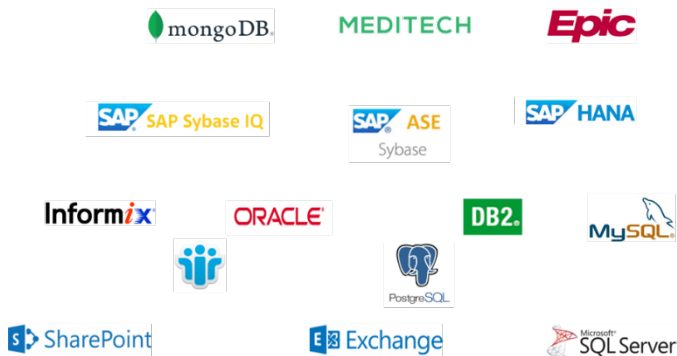
## Faster, more efficient backup to disk



## Dell NetWorker Module for Databases and Applications

Dell NetWorker Module for Databases and Applications delivers unified protection for DB2, Informix, IBM Domino (Lotus), Oracle, MySQL and Sybase. This single module provides high performance, online, database-aware protection for mission-critical databases and applications to increase productivity while simplifying licensing and maintenance.

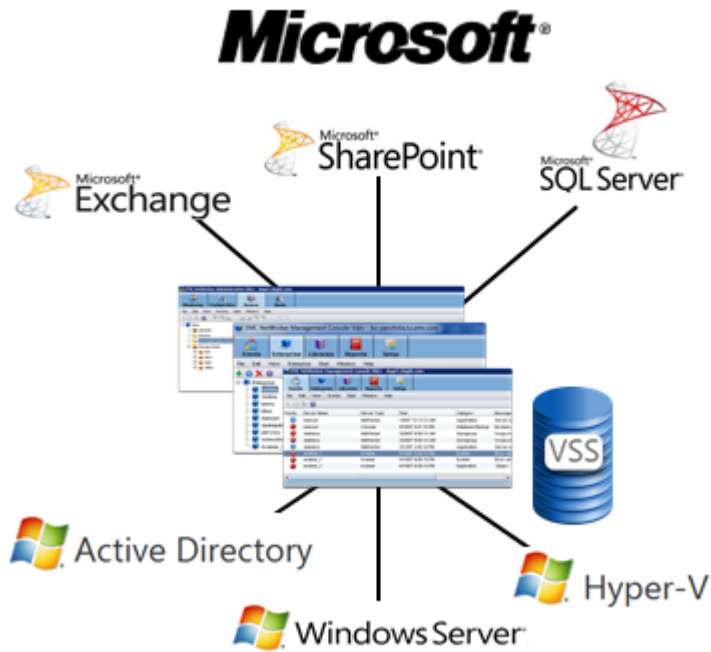
## Comprehensive application support



In addition to all standard NetWorker server functionality, the NetWorker Module for Databases and Applications supports deduplication (including PowerProtect DD Boost Software) and NetWorker's advanced VMware capabilities. The NetWorker Module for Databases and Applications ensures maximum recoverability with as little downtime as possible and helps you meet your most demanding SLAs.

## Dell NetWorker Module for Microsoft

Dell NetWorker Module for Microsoft (NMM) delivers a unified solution for protection of Microsoft Server applications including SharePoint, Exchange, SQL Server, Hyper-V, and Active Directory. It enables Dell NetWorker to leverage Microsoft's Volume Shadow Copy Service (VSS) feature to create and manage consistent point-in-time snapshot data copies for quick recovery and off-host backup as well as VDI for transaction log-based backup. This module also provides granular-level recovery for fast item-level restores, plus configuration wizards to simplify the backup configuration.



Featuring integrated PowerProtect DD deduplication support, including PowerProtect DD Boost on the application server, the NetWorker Module for Microsoft lessens the impact of data protection operations on production servers and networks, and significantly reduces the amount of backup storage required. NetWorker users can capture more frequent recovery points on disk and recover information in a fraction of the time it takes to restore from a tape, lessening the impact of data protection operations on physical and virtual production servers.

As with other file systems and applications, PowerProtect DD Boost provides application side deduplication when backing up to a PowerProtect DD system.

## Dell NetWorker Module for SAP

Dell NetWorker Module for SAP ensures availability of mission-critical enterprise resource planning (ERP) data and high performance, in-memory analytics by delivering fast, online backup and recovery for SAP and SAP HANA. With NetWorker Module for SAP, SAP administrators can centrally manage backup operations and schedules.

## NetWorker Module for SAP



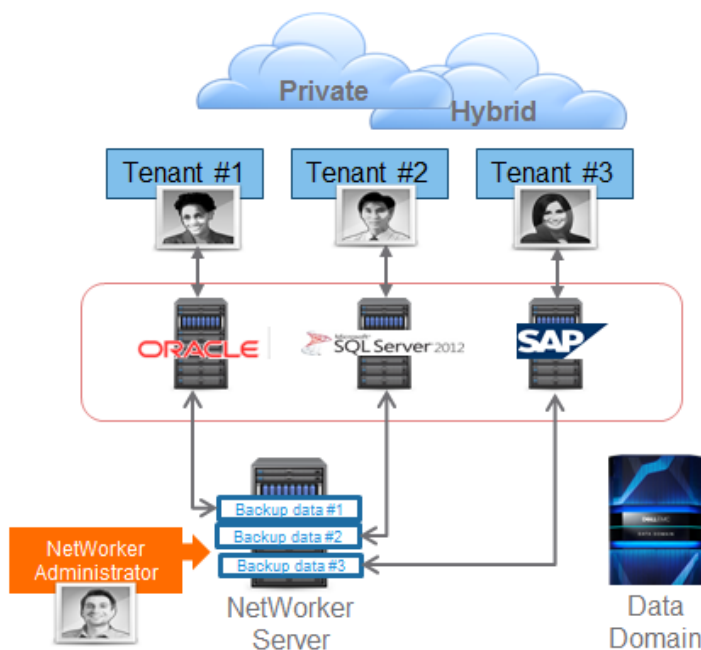
- Includes support for SAP HANA
- Integrated with SAP BR\*tools
  - SAP interface for managing and protecting SAP data in an Oracle database
- Certified by SAP
- Simplifies SAP backup and recovery
  - Wizard-driven configuration
  - Remote updates via push installation
- Integrated deduplication
- Snapshot management
- Event-based backup
- VMware integration

Featuring integrated deduplication support for PowerProtect DD, including PowerProtect DD Boost, and Avamar, the NetWorker Module for SAP lessens the impact of data protection operations on production servers and networks, and significantly reduces the amount of backup storage required.

Further, integrated support for snapshot management ensures better RTO/RPO's with no impact to the production server. NetWorker integration with Dell ProtectPoint enables 20x faster backup by sending backup data directly from primary storage to a PowerProtect DD system. By using NetWorker to orchestrate ProtectPoint backups, all backups, including those made using ProtectPoint, can be centrally configured, cataloged, scheduled, and managed through the NetWorker Management Console.

## Dell NetWorker Multi-Tenancy Facility

Dell NetWorker provides unified protection for customers that have the need to isolate data and separate users. The multi-tenancy facility provides autonomy for users or tenants in a hosted environment, simplifies the administration both globally and within each tenant environment.

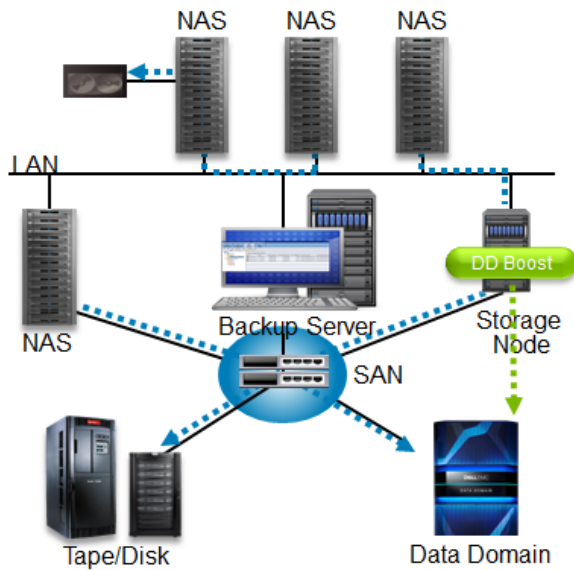


The multi-tenancy facility takes advantage of all standard NetWorker features, including robust security and authentication. This feature is standard with NetWorker, no additional licensing is required.

## Dell NetWorker NDMP Client Connection

Dell NetWorker NDMP Client Connection Option enables you to efficiently back up network-attached storage (NAS) devices in your environment. Checkpoint backups are possible when configured with Isilon and NetApp NAS devices. This feature allows a backup to be continued from the last checkpoint in the event of a failed backup - saving significant time and allowing backups to be completed within the backup window.





It uses the Network Data Management Protocol (NDMP), the industry standard for backup and recovery of NAS devices. NetWorker offers capabilities with NDMP including Direct Access Restore (DAR), Dynamic Drive Sharing with NDMP and non-NDMP backups, and NDMP cloning. This option, combined with NetWorker and the NetWorker Disk Backup Option, offers the unique capability to back up NAS devices to disk.

Featuring integrated deduplication with PowerProtect DD, including PowerProtect DD Boost, NetWorker lessens the impact of data protection operations on production servers and networks and significantly reduces the amount of backup storage required.

Easy configuration is made possible through the client configuration wizard within the NetWorker Management Console.

Dell NetWorker NDMP Client Connection Option is available with both traditional and capacity based licensing.

## Dell NetWorker Snapshot Management

Dell NetWorker Snapshot Management is a feature integrated with the NetWorker client -- no separate module is required. NetWorker Snapshot Management seamlessly integrates and manages snapshot and replication solutions within the NetWorker Management Console. With support for deduplication, VMware environments, Dell block-based storage arrays, RecoverPoint, Dell NAS storage devices, and NetApp Filers, Snapshot Management provides instant protection, rapid recovery, and non-disruptive off-host backup of data and applications in physical and virtual environments.

## Integrated Snapshot Management



- Improved Recovery Objectives using snapshots
  - Dell EMC XtremIO
  - Dell EMC VMAX, VNX block-based arrays
  - Dell EMC VNX and Isilon NAS
  - NetApp Filers
  - Dell EMC RecoverPoint
- Centralized Management
  - Discovery
  - Wizard-based configuration
  - Centralized catalog
  - Policy-based
  - Monitoring and reporting
- Flexible recovery options

DELL EMC

Configuring a file system client for Snapshot Management is easy through the client configuration wizard of the NetWorker Management Console. Also supported with Snapshot Management for Dell block-based arrays are DB2, Oracle, and SAP with Oracle. All are supported using the client configuration wizard, thus eliminating the need for error-prone complex scripting.

Recovery is made simple and consistent by using the NetWorker Management Console Recovery UI to restore file system data, including item level recovery.

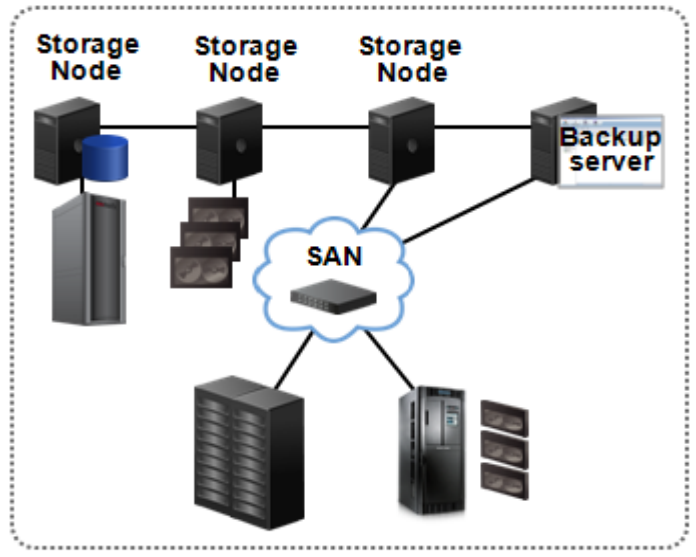
NetWorker Snapshot Management:

- Enables broad data protection with snapshot-based backup to a variety of supported backup targets, including Dell PowerProtect DD, disk, public or private cloud, and tape
- Simplifies tracking and restoring of snapshot-based backups
- Provides flexible backup/restore options, including rollover to and from conventional storage media (tape, backup appliances) or directly from a snapshot
- Can utilize an optional proxy server inserted in the workflow to offload backup processes from the production server in SAN deployments
- Automatically discovers snapshots created by storage administrators for NAS storage devices and adds them to the central catalog, enabling secondary actions, such as recovery or rollover to backup media
- Provides snap and replicate workflows (based on array) to add an extra layer of protection for superior RTO/RPO

## Dell NetWorker Storage Nodes

Dell NetWorker Storage Nodes enable load sharing within a NetWorker data zone and increase scalability as the backup environment grows.

NetWorker Storage Nodes take advantage of PowerProtect DD Boost, enabling deduplication on the Storage Node – improving backup performance and more efficient disaster recovery.



NetWorker Dedicated Storage Nodes deliver LAN-free protection of individual servers to improve network, backup, and recovery performance.