



AcuVault NexGen®

Deduplication backup software and system

ESSENTIALS

- Data is deduplicated at the client, before transfer across the network
- Reduces network bandwidth for backup by up to 99 percent
- Global deduplication reduces total backup storage up to 95 percent
- Reduces backup times up to 90 percent; single-step recovery
- Always a daily full backup in a fraction of the time
- Single-step recovery
- Ideal for protecting virtual environments, NAS systems, desktops/laptops, remote offices, and business-critical applications
- Secure backup and replication for disaster recovery via existing LAN/WAN links
- Redundant Array of Independent Nodes (RAIN) for high availability and reliability
- Daily server and data recoverability checks
- Export backup data to tape or VTL for long-term retention

Credit Unions are moving to next-generation backup and recovery as a result of exponential data growth, regulatory compliance, increased service-level agreement, and shrinking backup windows. The IT team faces additional challenges brought on by accelerated virtualization and the need to better protect data across the enterprise, including remote branches.

Developed to address the challenges associated with traditional backups, AcuVault NexGen® deduplication backup system provides fast, daily full backups for virtualized environments, NAS systems, desktops/laptops, remote branches, and business-critical applications.

Unlike traditional backup solutions, NexGen® eliminates redundant sub-file data segments at the client before backup data is transferred across the network and stored to the NexGen® data storage grid. As a result, the network bandwidth required for backup is reduced by up to 99 percent - delivering fast daily full backups across existing IP WAN/LAN links and virtual infrastructure. NexGen® also deduplicates backup data globally, across sites and servers, reducing the required total backup disk storage by up to 95 percent. NexGen® also provides efficient, daily asynchronous replication to the IMS data center to meet disaster recovery objectives. Backup data can be encrypted in flight and at rest, enabling secure, cost-effective, retention on disk.

DRAWBACKS OF CONVENTIONAL BACKUP AND RECOVERY

One of the key drivers impacting backup performance is the amount of data that must be protected within the available backup window. Traditional solutions are inefficient because they repeatedly backup everything - duplicate files and sub-file data segments that exist across servers, desktops, laptops, and branches. When combined with traditional daily incremental and weekly full backups, the quantity of duplicate data is staggering. The sheer amount of data that must cross already congested networks, backup servers, and infrastructure often makes meeting backup windows a challenge.

The impact is especially severe when dealing with virtual environments, branches, and NAS systems. In virtual environments, each virtual machine (VM) represents an individual backup job, often with overlapping backup windows, and includes redundant operating system, application, and file data. Consequently, backups for VMs often overrun backup windows and tax shared resources, leaving data unprotected and creating issues for backup administrators.

In branches, limited network bandwidth makes centralized, automated WAN-based backup nearly impossible. As a result, remote non-IT staff must handle backup tasks. Failure-prone, tape-based hardware and ad-hoc manual processes do not provide reliable remote branch data protection.

"With NexGen®, we get daily full backups in less than an hour across our existing network links with 99.7% data reduction. We restored an entire database in one and a half hours versus the many hours it would have taken with tape in the old environment."

Bill Meek

Senior Vice President and
Information Systems Manager
Broadway Bank

Protecting NAS systems can pose a significant challenge too, especially when full backups fail to complete within the allotted time frame, which can impact employee productivity and leave data unprotected. In many cases, NAS usage and consolidation is limited by the required backup window, not system capacity or performance. Traditional solutions also increase cost because extra storage is needed to retain duplicate backup data. This is often exacerbated by extended data retention requirements for regulatory compliance. In addition, traditional backups involve, the shipment of tapes offsite, which can result in exposure of confidential information, theft, or data loss.

NEVER BACKUP THE SAME DATA TWICE

NexGen® provides fast, efficient backup and recovery by reducing the size of backup data at the client – before it is transferred across the network and stored, NexGen® also deduplicates backup data globally across your servers, desktops, laptops and branches to reduce the total required disk storage by up to 95 percent. As a result, NexGen® provides benefits of efficient long-term retention of backup data on disk while dramatically lowering capital and operating expenses including floor space, power and cooling.

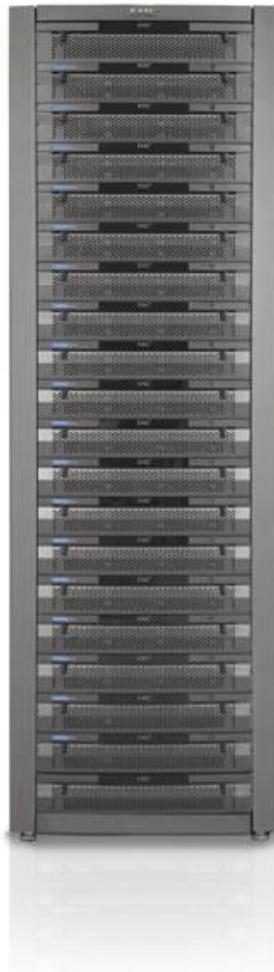
NexGen® backups can be quickly recovered in just one step – eliminating the hassle of restoring full and subsequent incremental backups to reach the desired recovery point. The backup data is 256 bit AES encrypted while in transit for added security. In addition, NexGen's centralized web-based management and at-a-glance dashboard view make it easy for you to protect several branches from a single location over existing network bandwidth.

HIGHLY EFFICIENT DATA DEDUPLICATION

The method for determining segment size is a key factor in eliminating redundant data at the sub-file level. Some solutions on the market used fixed-length segments when performing deduplication. With this approach, even small changes to a dataset (for example, inserting data in the beginning of a file) can change all subsequent fixed-length segments in a dataset. Despite the fact that very little of the data has actually changed, the entire file will appear as new data that must be backed-up again.

NexGen® solves this problem by examining the data to determine logical boundary points using variable-length data segments. NexGen® delivers the most-efficient global, client-side data deduplication on the market – dramatically reducing the amount of data sent and stored, while eliminating backup bottlenecks and reducing backup times.

SCALABILITY, HIGH AVAILABILITY, AND RELIABILITY



Unlike many server deployments, the NexGen® replication data store uses a grid architecture that facilitates linear performance increases by simply adding the storage nodes. Each incremental node increases CPU, memory, I/O, and disk capacity for the entire grid. When a storage node is added, data is automatically load-balanced without compromising system performance.

When traditional backup solutions fail, a credit union is exposed to potential data loss. NexGen® replication grid eliminates single points of failure by employing patented redundant array of independent nodes (RAIN) technology to provide high availability across nodes in the Replication Data Store. In addition, system and data integrity is verified daily to ensure recoverability.

OPTIMIZED PROTECTION FOR VIRTUAL INFRASTRUCTURE

"NexGen® is important to our IT transformation, it's enabling us to manage our growth, reduce our downtime, and dedicate resources to new, innovative projects. We can bring new and strategic initiatives to market efficiently, and these projects are providing more value to our customers."

Chas Thawley
Assistant Vice President
Virtua

NexGen® deduplicates your backup data globally, across your physical and virtual servers. For virtualized environments, flexible backup options include guest – and image-level backups that leverage the latest VMware® vSphere and Microsoft Hyper-V APIs. In all cases, only new, unique sub-file, variable length, data segments are transferred across the virtual/physical infrastructure. NexGen® leverages VMware's Change Block Tracking (CBT) for faster backups and restores. For image backup, only NexGen® maximizes throughput by load balancing across multiple proxy VMs. NexGen® provides fast, single-step recovery of individual files or complete VM images to the original VM, an existing VM, or a new VM. NexGen® is integrated into the VCE Vblock® Systems, and certified for VSPEX® Proven Infrastructure data protection.

FAST DESKTOP/LAPTOP BACKUP

NexGen® also delivers efficient desktop/laptop backup and recovery. It provides data deduplication, open-file backup, and CPU throttling. NexGen® leverages existing network links, and since it operates in the background, it is not disruptive to end-users. Data is automatically backed up when a user logs in during normal backup windows, or users can initiate their own backups on demand. NexGen® also enables end-users to quickly recover their data anywhere, anytime, via an intuitive interface and integrated search engine. And recovery is always just one step. As a result, end-users can easily recover their own data without lengthy calls to the IT help desk. This also frees the IT team to work on other projects.

EXTENDED RETENTION

NexGen® helps credit unions meet compliance regulations that require extended retention of data by sending backup data to a media access node, which then places the data on a VTL or tape. Data is stored in the original format maintaining all permissions and attributes, which supports offsite restores, for eDiscovery.

FLEXIBLE DEPLOYMENT OPTIONS

NexGen® provides flexibility in solution deployments depending upon your specific use case and recovery requirements. NexGen® Data Store is a turnkey backup and recovery solution that integrates NexGen® software with EMC-certified hardware for streamlined deployment and service onsite at your credit union for strict SLAs. A NexGen® grid resides at the IMS data center for an offsite storage replication target.

For credit unions that choose to not deploy the Data Store, lightweight, efficient NexGen® software agents can be deployed on servers with no hardware required. This allows data to be backed up directly to the IMS data center via a secure VPN tunnel, eliminating the need for local tape backups and offsite tape shipments risk.



NexGen Features	NexGen Benefit
Global, client-side variable length deduplication	Backup data reduced at the client and globally; reduces network bandwidth for backup by up to 99%; reduces cumulative backup storage by up to 95%; reduces daily full backup times by up to 90%.
Secure, efficient VPN tunnel to the IMS data center	Data is compressed and encrypted in-flight. Encryption at-rest is optional. Eliminates reliance and risk for off-site tape for DR.
High availability and data recoverability at the replication grid	Patented Redundant Array of Independent Nodes (RAIN) grid architecture for high availability across nodes.
Server health and data recoverability	NexGen® server integrity and backup data recoverability verified daily.
Centralized Management	Simplifies remote branch backup by leveraging data center expertise; Single pane of glass to manage the enterprise.
Fast single-step recovery	Recovers data (full or file-level) immediately; No need to stage full backup and daily incremental.
Export backup data to tape or VTL for extended retention	Meet regulatory compliance.
VMware vSphere and Microsoft Hyper-V backup and recovery	Fast efficient daily full backups for virtual machines; supports comprehensive Guest – and image-level backup and recovery.
Local Data Storage Node and Agent deployment options	Best in class solutions to meet specific needs; easy to use interface for all environments.
Integrated into VCE Vblock systems and certified with VSPEX Proven Infrastructure	Optimized data protection for highly virtualized environments

"We would not be able to meet our virtualization goals without the state-of-art backup and recovery that NexGen® provides."

Craig Wurzberger
System Engineer
Sub-Zero Wolf, Inc

"With NexGen®, we're able to take advantage of the systems' scale and high throughput for backing up our large databases. We finally have a true enterprise strategy for backup and recovery, grounded by leading-edge technology."

Ryan Fernandes
Chief Information Officer
Fulton County, GA

Hardware Options

"NexGen® enabled us to reduce administrative support requirements by 80 percent, reduce backup windows by 90 percent, and recover lost files and servers in minutes rather than hours."

Mike Dephillip
Backup Administrator
Virginia DMV

- NexGen® Data Store purpose-built backup appliance
- Media access node for extended retention

Client Environments Supported

Operating system

- Apple Macintosh OS X
- CentOS
- Debian
- Free BSD
- HP-UX
- IBM AIX
- Iomega
- Linux
- Microsoft Windows
- Red Hat Linux (RHEL)
- Novell Netware, OES 2, OES SP2
- Oracle Linux
- SCO UNIX
- Sun Solaris
- SUSE Linux
- Ubuntu

Operating system

- IBM DB2
- IBM Lotus Domino
- Microsoft Exchange
- Microsoft SharePoint
- Microsoft SQL Server
- Microsoft Hyper-V
- NDMP for NAS Filers
- Oracle, Oracle RAC
- SAP
- Sybase
- VMware vSphere

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Learn more about how IMS products, services, and solutions can help solve your Credit Union IT challenges.

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