

Veritas NetBackup 9

Unified data protection for the cloud-ready enterprise.

VERITAS™

ENTERPRISE-CLASS DATA PROTECTION

Long recognized as the market share leader in enterprise backup and recovery software, Veritas NetBackup™ eliminates the cost and complexity of point products while keeping your data secure, compliant and available—regardless of where it lives. Offering rapid recovery of business-critical data across hybrid, physical, virtual and multicloud environments, NetBackup scales to any size workload and delivers breakthrough capabilities for virtualized and cloud-based deployments that go well beyond what traditional backup practices can achieve. From threats such as a ransomware attack to unplanned downtime, NetBackup empowers you to protect your enterprise from the unforeseen and offers these key benefits:

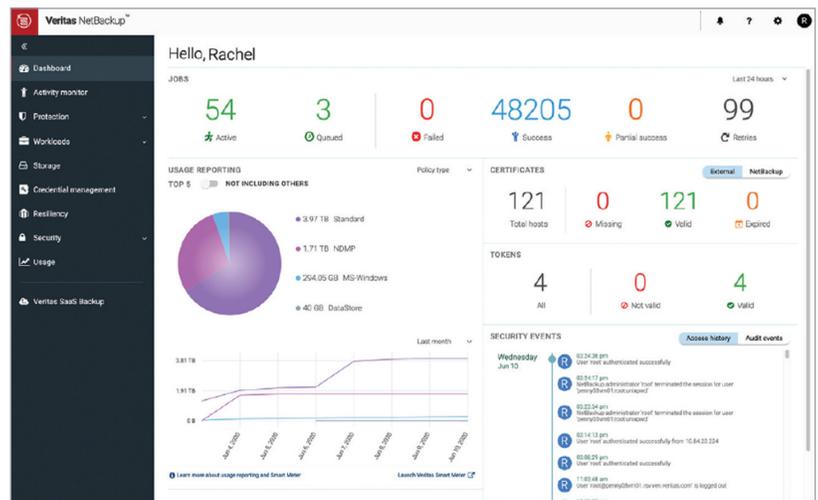


Figure 1. The NetBackup web UI dashboard conveniently displays a single, aggregated view of the most important information in one place.

Trust that “it just works”—For over a decade, NetBackup

has led the industry as the most popular enterprise data protection software by market share, is used by the largest enterprises on the planet and has been named a Leader 15 times in the Gartner Magic Quadrant (MQ). We have a global team and community around the world to assist our customers and partners on their journey to keeping their data safe, accessible and compliant. Veritas gives you the choice to use the technologies your business needs and to keep your data resilient while also providing the freedom to choose any deployment mode for NetBackup—NetBackup Flex, NetBackup Flex Scale, NetBackup Appliances, a cloud instance or build-your-own (BYO). With 2,000+ developers worldwide, 2,140+ global patents and 800+ supported workloads as well as 1,400+ storage targets and 60+ cloud providers, Veritas is the embodiment of innovation.

Prepare for the future—With hundreds of patents awarded to Veritas in areas including cloud, containers, backup, recovery, virtualization, I/O optimization, deduplication and snapshot management, NetBackup continues the company’s long tradition of bringing advanced technologies to market first. Our solution provides the infrastructure to integrate with future technologies, allowing you the freedom to adapt to your changing environment. Through automation and orchestration, NetBackup lets you efficiently manage current workloads and confidently migrate to future workloads.

Reduce cost and complexity—As a single, unified solution to protect all your data assets, NetBackup provides support for virtually every server, storage, hypervisor, database, application and cloud platform used by enterprises today. Featuring high performance, intelligent automation and centralized management, this unified data protection platform can protect any workload at scale, eliminating the need for point products (see Figure 1.) NetBackup provides an integrated experience for workload disaster recovery and migration as well as cloud workload snapshots through the integration of NetBackup CloudPoint™ and Veritas Resiliency Platform, providing simplified licensing with a single SKU and meter with access to complete the NetBackup data protection platform.

Manage business risks—At the core of our Enterprise Data Services Platform (EDSP), NetBackup is designed to strengthen an organization's resiliency in the face of the unknown and unexpected by providing rapid recovery from catastrophic business events—from lost files to ransomware attacks to data center downtime. Gain confidence in data integrity using identity and access management, data encryption and immutable\indelible storage security controls that help backup files remain safe and untouched from malicious invaders. NetBackup supports disaster recovery (DR) at scale across on-premises, hybrid and multicloud environments to meet specific recovery time objectives (RTOs) and recovery point objectives (RPOs). And because NetBackup supports a wide range of recovery options, you can choose the methods that best suit your recovery needs, such as recovery at scale with NetBackup Resiliency™. Prevent any gaps or siloed work with visibility into and reporting of your entire data infrastructure with APTARE™ IT Analytics. From backup appliances to cloud storage, NetBackup integrates at every point in the technology stack to maximize reliability and performance.

PROTECT ANY WORKLOAD

One of the hallmarks of enterprise IT is its heterogeneity. The wide variety of platforms, applications and infrastructure often grows with the size of the enterprise. NetBackup supports a vast array of environments and integrates with every layer of the infrastructure stack to unify your entire data protection strategy all while managing your workloads from an intuitive web user interface (UI).

Operating systems—NetBackup integrates with dozens of server operating system (OS) versions, including Microsoft Windows, Linux and Unix files.

Virtual systems—NetBackup integrates with leading hypervisors including VMware vSphere, Microsoft Hyper-V, Nutanix AHV, Red Hat Virtualization, Docker, Azure Stack and OpenStack.

Databases and applications—NetBackup integrates with leading relational database and application platforms, including IBM DB2, Microsoft Exchange Server, Microsoft SQL Server, MySQL™, Oracle, Oracle RAC and SAP.

SQL self-service—NetBackup provides separation of duties between the backup administrator and the database administrator. The database admin can independently discover, manage credentials, schedule backups and perform restores of Microsoft SQL and can also use Instant Access to quickly browse or mount a database.

Universal shares—New form-factor support for CIFS/NFS shares backed by MSDP storage is now available for both appliances and BYO media servers. Enhanced management includes user quota support, AD integration, NetBackup HA Appliances support and part of the web UI for centralized management as well as full API support.

Storage systems—NetBackup protects data at the storage system level by integrating with various snapshots and the Network Data Management Protocol (NDMP) supported on Pure Storage, Dell EMC, HPE, Hitachi, IBM, NetApp and others. Using snapshots enables a fast point-in-time recovery and helps perform efficient backups. NetBackup Snapshot Manager includes support for Dell EMC PowerScale and Qumulo, providing a consistent tool for managing snapshots across multiple storage vendor platforms. NetBackup uses Dynamic NAS (DNAS) data protection to ensure automated protection of business-critical data on NAS storage with the ability to restore data anywhere (cloud, physical or virtual) as well as resume a backup or restore a job at a specific point in time without starting over with Checkpoint Restart.

Cloud platforms—NetBackup supports the backup and recovery of workloads within cloud environments by leveraging cloud-native snapshot technology on Google Cloud Platform (GCP), Microsoft Azure and Amazon Web Services (AWS). Use the NetBackup web UI to configure an MSDP cloud recovery server for image sharing to instantly recover (see figure 2). Lower cost savings and optimize cloud storage by only backing up data, snapshots, through Azure incremental snapshots. NetBackup for OpenStack, is a cloud-native, API-driven solution that provides policy-based, comprehensive backup and recovery that integrates with the NetBackup web UI, and Horizon interface. NetBackup 9 supports significantly more functionality including incremental backups with backup to NFS and S3. You can easily test these backups before recovery, optimizing your RTOs and RPOs. With NetBackup for OpenStack, you can efficiently restore an entire environment, a single virtual machine (VM), file, or an instant mount, or migrate to a new cloud.

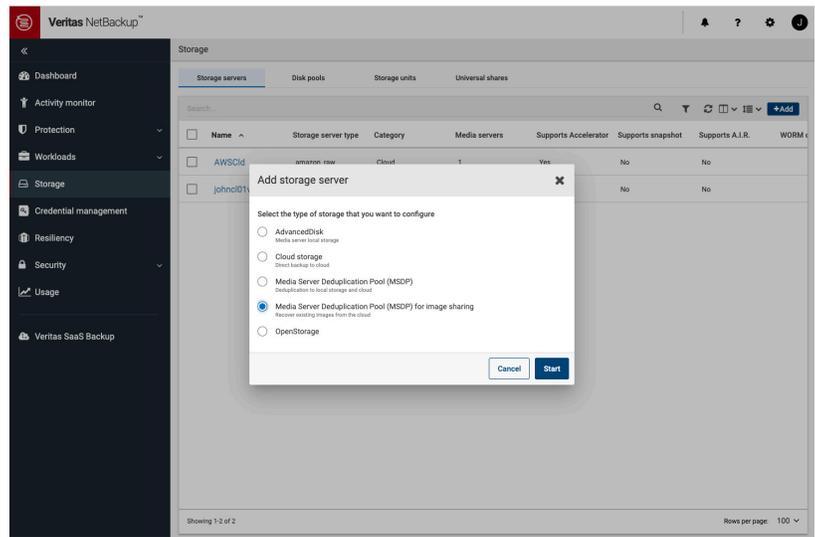


Figure 2. Configure a cloud recovery server through the web UI, introduced in NetBackup 9, using MSDP for image sharing to recover images from the cloud efficiently.

Big data systems—With NetBackup Parallel Streaming, you can protect large scale-out, multi-node systems such as Hadoop and HBase much more quickly by streaming data from every node simultaneously.

CHOOSE YOUR NETBACKUP DEPLOYMENT MODE AND QUICKLY DEPLOY

The modern enterprise must support a wide range of workloads and application owners with differing requirements and needs. In addition, the workloads and users will not only be in the core data center but in remote offices at the enterprise edge or working in hybrid cloud environments. NetBackup deployment mode options allow an enterprise to optimize its data protection infrastructure by choosing the right mix of deployment modes to support its breadth of workloads, users and environments to reduce data center footprint and minimize the total cost of ownership (TCO).

NetBackup Flex Scale and NetBackup Flex are offered as appliances; NetBackup can be used independently or as an integrated appliance.

NetBackup Flex Scale—Extend NetBackup with the simplicity, automation and scale-as-you grow features required by many organizations as they transform their data protection infrastructure with NetBackup Flex Scale. NetBackup Flex Scale's scale-out architecture delivers the economies of the cloud and the flexibility to easily expand capacity as an organization grows.

NetBackup Flex—Consolidate NetBackup domains, streamline the upgrade process and run multiple versions of NetBackup while reducing your data center footprint and minimizing TCO with NetBackup Flex. NetBackup Flex provides immutable and indelible storage that reduces the risk of malware or ransomware encrypting or deleting backup data, thereby making it unusable. To learn more about NetBackup ransomware resiliency solutions, visit the ransomware resiliency page on [Veritas.com](https://www.veritas.com).



Figure 3. The NetBackup 5250 Appliance is an integrated enterprise backup appliance with expandable storage and intelligent deduplication for physical, virtual and cloud environments.

NetBackup Appliance or software for BYO—For optimized performance and the fastest deployments, consider a NetBackup integrated Appliance (see Figure 3). Deploy NetBackup virtual or physical appliances or download NetBackup software for BYO or cloud instances. Utilize third-party configuration management tools like Chef or Microsoft SCCM to orchestrate custom enterprise deployments. For organizations expanding their NetBackup deployments, an integrated NetBackup Appliance is an ideal solution, that comes preinstalled with NetBackup software, hardened operating system, security software and all necessary hardware components, so you can set up in minutes. NetBackup Virtual Appliance provides a lower-cost alternative to existing NetBackup Appliance solutions for environments with smaller data protection requirements, and requires minimal on-site infrastructure management expertise. Veritas has also developed deployment templates for Chef & SCCM, so that customers can deploy NetBackup clients at scale.

CHOOSE YOUR STORAGE

Much has changed since the days of traditional tape backup. Enterprises now have many choices about where to store backups. NetBackup integrates this diverse collection of storage targets without compromising manageability.

Ransomware immutable storage target—Prevent ransomware from encrypting backup data with NetBackup and NetBackup Flex immutable and indelible storage. The NetBackup OpenStorage Technology (OST) API supports immutability image management that is vendor-agnostic. Veritas is collaborating with immutable storage vendors to update their OST plug-ins with NetBackup so organizations can manage immutable image policies in NetBackup and leverage third-party immutable appliances.

To learn more about how NetBackup data protection ensures ransomware resiliency, refer to the white paper [Ransomware Resiliency with the Veritas Enterprise Data Services Platform](#).

OpenStorage Technology (OST)—OST is used to integrate NetBackup with a wide range of Veritas and third-party purpose-built backup appliances and storage appliances.

Cloud storage—NetBackup supports a growing list of third-party cloud storage providers such as AWS, Microsoft Azure and Google Cloud Platform (GCP) that can be easily incorporated into NetBackup policies. NetBackup deduplicates data before it's transferred and stored in the cloud, which reduces backup times and lowers your cloud infrastructure costs. Optimized deduped data is sent directly to cloud tiering for long-term retention through the support of AWS Glacier and the added support for Azure Archive in NetBackup 9.

Disk—You can organize ordinary disk volumes into disk pools under NetBackup control.

Storage system snapshots—NetBackup can orchestrate hardware snapshots using proprietary capabilities from vendors such as NetApp, Dell EMC, HDS, HPE and Pure Storage. Recover NAS backups (NetApp and Nutanix files) anywhere with a backup copy or use rapid restore from a snapshot, which avoids vendor lock-in.

Tape—NetBackup brings enterprise-class media management to a massive selection of supported tape drive and robotic hardware configurations.

MEET THE SHRINKING BACKUP WINDOW

It's not uncommon for IT organizations to report data growth of 40–60 percent per year. To keep up, you need backups that run as fast as possible without disrupting production activity. NetBackup combines innovative design with the latest technical advancements to deliver impressive performance numbers with minimal impact.

Parallel Streaming—Eliminate performance bottlenecks and optimize storage for big data environments. NetBackup Parallel Streaming provides agentless, API-based backup and restore of multi-node, scale-out clusters such as Hadoop.

Accelerator—Eliminate full backups once and for all. With NetBackup Accelerator, only changed blocks are backed up each time. These blocks are combined with previous backups to synthesize a new full backup for quick recovery.

Snapshots—Let the storage system run backups for you. With NetBackup Snapshot Management, snapshots are orchestrated, cataloged and replicated using storage technologies from vendors such as NetApp and Dell EMC.

Agentless backup—NetBackup makes agents within VMs unnecessary for backups and restores, simplifying the deployment and maintenance of backup software across a virtual environment.

Automatic client updates—For systems that use client or agent software, NetBackup can automate the deployment of this software using built-in or third-party software distribution tools. For media server upgrades, VxUpdate is available as well.

RESCUE YOUR BUSINESS

The unthinkable happens. Services are down and the clock is ticking. There's no time to waste: It's time to recover from backup. NetBackup is ready with fast, reliable recovery options to get your systems up and running as quickly as possible.

Instant Access—Mount and browse VMware and Microsoft SQL images using a simple, web-based user interface, accessible by any user who has been granted access. These images are available directly from the MSDP storage without moving any data. Instant Access is available on both NetBackup Appliances and BYO media servers.

NetBackup Bare Metal Restore™—Quickly prepare a physical system for restore, eliminating the need for manual reconfiguration.

NetBackup Granular Recovery Technology (GRT)—NetBackup GRT indexes the contents of data sources, making it easy to restore specific items without endless trial-and-error restore attempts.

PREPARE FOR DISASTER RECOVERY

No business will survive if it keeps all its data in one place. Protect your business from natural disasters and site outages by keeping a copy off-site or in the cloud. NetBackup can help you automate DR readiness regardless of what storage or transport method you use.

NetBackup Auto Image Replication (AIR)—With NetBackup AIR, backup images and catalogs are automatically replicated over a network to other NetBackup domains on-premises or in the cloud, according to preset policies.

Snapshot replication—Hardware snapshots can be automatically replicated to other storage systems at off-site locations, all under the control of Resiliency Platform.

Tape vaulting—Vault automatically ejects the proper tapes from a robotic library, tracks the movement of tapes to and from off-site storage facilities and prints daily reports to include with the daily shipment or email to your records management vendor.

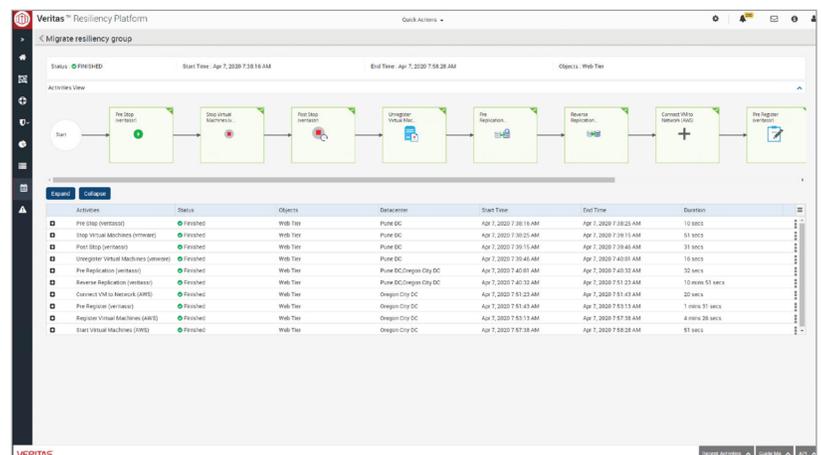


Figure 4. Resiliency Platform can orchestrate complex NetBackup site recovery operations with a single click.

NetBackup Resiliency—Meeting business uptime service-level objectives (SLAs) across hybrid clouds with multiple point products and different data sources can be complicated and costly. The integration of NetBackup and Resiliency Platform helps you proactively ensure resiliency for applications across your heterogeneous environments using both near-real-time data replication and a combination of replication and NetBackup AIR with orchestrated recovery. (See Figure 4.) Access NetBackup Resiliency directly from the NetBackup web UI and visualize all VMs associated with it. (See Figure 5.)

Name	RPO	State	Recovery readiness	Platform	Server	Protection	Resiliency group
rhel_small_19_cd		On	High	VMware	schepess@3.engba.ver	Backup (AIR)	test_13vm14
rhel_small_15_cd		On	High	VMware	schepess@4.engba.ver	Backup (AIR)	test_12vm14
rhel_small_20_cd		On	High	VMware	schepess@4.engba.ver	Backup (AIR)	test_13vm14
rhel_small_18_cd		On	High	VMware	schepess@3.engba.ver	Backup (AIR)	test_13vm14
rhel_small_16_cd		On	High	VMware	schepess@4.engba.ver	Backup (AIR)	test_13vm14
rhel_small_14_cd		On	High	VMware	schepess@4.engba.ver	Backup (AIR)	test_13vm14
rhel_small_11_cd		On	High	VMware	schepess@3.engba.ver	Backup (AIR)	test_13vm14
rhel_small_13_cd		On	High	VMware	schepess@4.engba.ver	Backup (AIR)	test_13vm14
rhel_small_17_cd		On	High	VMware	schepess@4.engba.ver	Backup (AIR)	test_13vm14
rhel_small_12_cd		On	High	VMware	schepess@4.engba.ver	Backup (AIR)	test_13vm14

Figure 5. Resiliency integration within the NetBackup web UI.

DR to the cloud—To achieve near-zero downtime and minimize ransomware threats.

Seamless workload and data portability in hybrid-cloud—Ensure workload mobility between physical or virtual on-premises systems to public cloud environments for maximum flexibility and optimized resource utilization. Enable resiliency and mobility between Azure Stack environments or between Azure regions.

STREAMLINE OPERATIONS

With the constant pressures of relentless data growth and escalating service requests, IT is always challenged to do more with less. NetBackup helps maximize staff productivity so you can invest more in your core business.

Centralized, policy-based management—All NetBackup policies are configured from a single management console enforced by the NetBackup master server. Intelligent policies for VMware, Oracle, SQL and NAS help optimize performance with continuous load balancing.

Identity and access management—Single sign-on (support for Active Directory and LDAP) and two-factor authentication functionality is provided through the NetBackup web UI via SAML 2.0, so organizations can use their existing authentication provider.

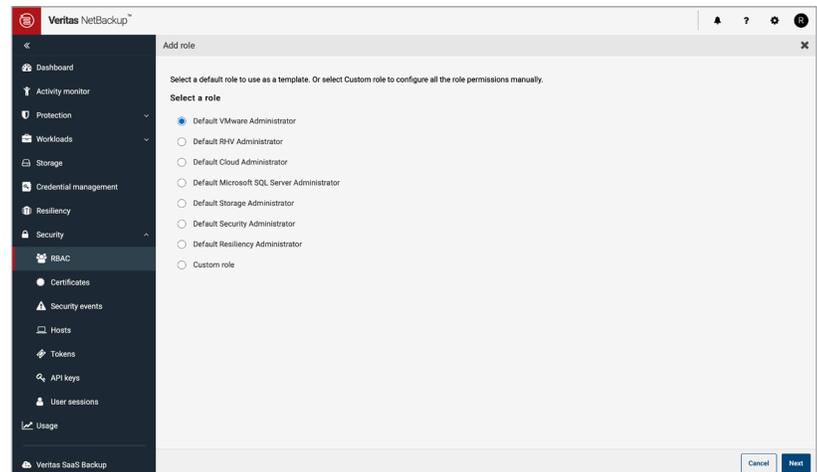


Figure 6. Select a default role to prepopulate permissions to optimize the creation of access roles or create a custom role.

With role-based access controls (RBAC) within the web UI, you can configure granular access tailored to meet specific persona needs, identifying who can access data and defining what actions they can perform. Introduced in NetBackup 9, role-based templates help you streamline the process of role creation and management (see Figure 6). Users can only manage workloads they have been assigned and can only perform the range of tasks you authorize.

Console plug-ins for Hyper-V and vSphere—Plug-ins for the VMware vSphere web client and Microsoft System Center Virtual Machine Manager (SCVMM) give VM admins direct control over backup and restore operations.

Extensive API library—Leverage NetBackup RESTful APIs to customize the user experience and integrate with third-party operations platforms such as ServiceNow to achieve a greater level of automation.

NetBackup self-service—Offers business users a single “store front” to perform self-service backups and restores using custom-designed interfaces. A single instance can register multiple tenants to allow secure separation. SLA measurement, notification and reporting make it easy to manage.

Data encryption—Organizations can leverage Veritas or third-party TLS certificates to support encryption in transit. For encryption at rest, use Veritas key management or third-party key management when a KMIP interface is supported. Data is protected from compromise within the network and ransomware or malicious invaders are prevented from stealing your data and using it for malicious intent. NetBackup provides the freedom to choose the encryption solution that works best for your environment.

PLAN FOR THE FUTURE

No successful organization stands still. There are always improvements to make, processes to optimize and costs to reduce. NetBackup provides extensive reporting and analytics to help you understand historical results and trends, which help paint a clear picture of the road ahead.

Point-and-click operational reporting—APTARE IT Analytics quickly identifies tape drive utilization, success rates and unprotected areas across NetBackup and provides contextual reporting based on line-of-business, geography or application across a heterogeneous environment.

Long-term trending and analysis—Better predict backup storage consumption by tracking growth rates over time, including pre- and post-deduplication, for easier ROI tracking and deduplication rates.

UNIFIED DATA PROTECTION FOR THE CLOUD-READY ENTERPRISE

NetBackup 9 reduces the staggering complexity of enterprise data protection with a unified solution built on converged infrastructure that easily scales while providing best-in-class performance for petabyte-level capacity and paves the way to IT as a service through convenient, self-service operation. It lays the foundation for universal data management, enabling rapid visualization of data and accelerated cloud adoption with minimal risk. NetBackup empowers organizations by improving the resiliency of their applications and infrastructure from edge to core to cloud. A unified solution, it protects data and enables recovery—at scale—anywhere it resides. Plus it provides the freedom to choose any NetBackup deployment mode that best suits business needs and requirements. As IT transforms from cost center to business enabler, NetBackup is engineered to solve the diverse challenges of today and tomorrow and ultimately give organizations the confidence to move faster and take bigger risks, trusting their information will be safe.

ABOUT VERITAS

Veritas Technologies is a global leader in data protection and availability. Over 50,000 enterprises—including 87 percent of the Fortune Global 500—rely on us to abstract IT complexity and simplify data management. The Veritas Enterprise Data Services Platform automates the protection and orchestrates the recovery of data everywhere it lives, ensures 24/7 availability of business-critical applications, and provides enterprises with the insights they need to comply with evolving data regulations. With a reputation for reliability at scale and a deployment model to fit any need, Veritas Enterprise Data Services Platform supports more than 800 different data sources, over 100 different operating systems, more than 1,400 storage targets, and more than 60 different cloud platforms. Learn more at www.veritas.com. Follow us on Twitter at [@veritastechllc](https://twitter.com/veritastechllc).

2625 Augustine Drive, Santa Clara, CA 95054
+1 (866) 837 4827
www.veritas.com

For specific country offices and contact numbers, please visit our website.
www.veritas.com/company/contact

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