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SigmaUptime

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IS YOUR DATA SAFE?

A look at how Dell EMC's portfolio of solutions provides end-to-end protection for your physical, virtual and cloud workloads.

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Editorial Correspondence:

10221 East 61st Street, Tulsa, OK 74133

Phone (800) 726-7667 • Fax (918) 270-7134

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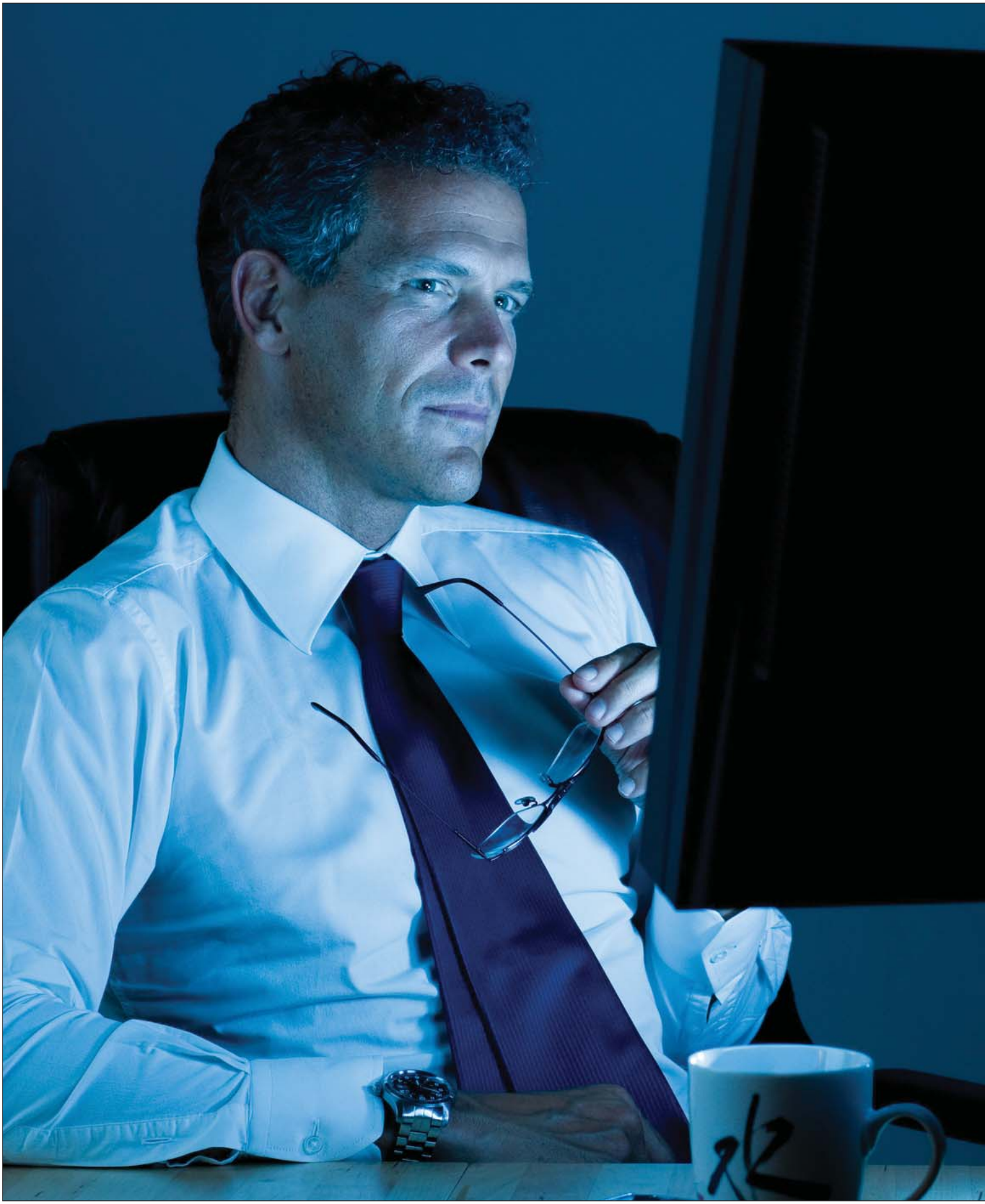

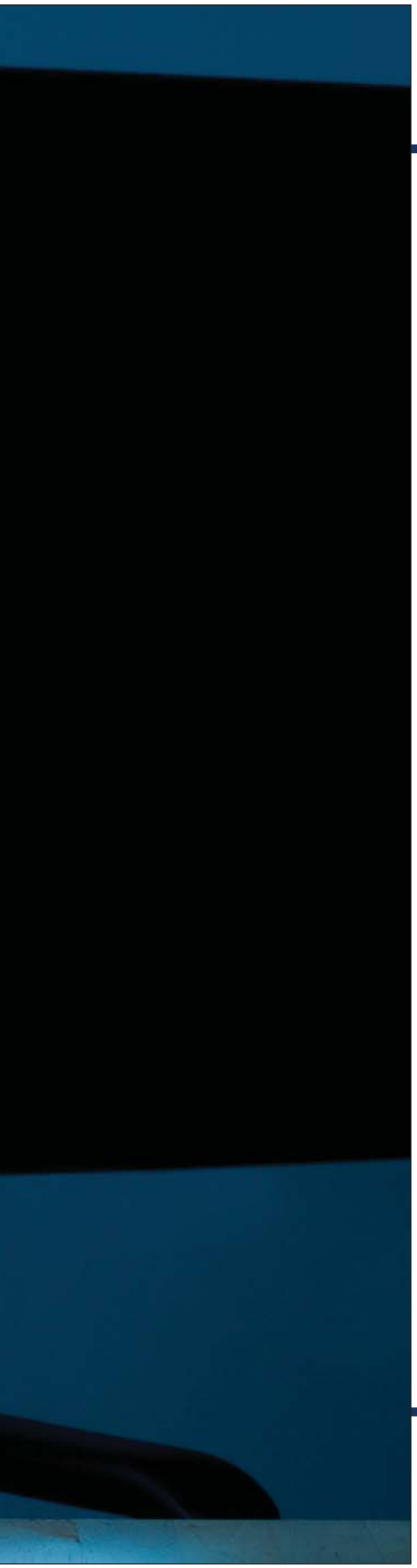

IS YOUR DATA SAFE?

Strong information security and governance are essential elements of any IT operation, yet a landmark 2016 study revealed that the vast majority of organizations are still behind the curve when it comes to sound data protection practices.

Vanson Bourne surveyed 2,200 IT decision-makers across 18 countries for the Dell EMC Global Data Protection Index 2016, and found that only about one in 10 companies have what would be considered a mature data protection strategy with short recovery times, solid backup infrastructure, modern backup systems and offsite replication.

This is leaving businesses unprepared for a range of emerging threats — not just to their primary data, but also to their backup and protection data. Data protection is becoming more complicated as organizations must implement a continuum of requirements, spanning continuous availability, replication, snapshots, backup and archiving. What's more, they are dealing with both physical and virtual workloads across on-premises, public, private and hybrid cloud environments.

In many cases, organizations have implemented data protection solutions from multiple vendors, which has created coverage gaps and accountability issues. According to the study, about two-thirds of respondents use two or more suppliers, despite evidence that data loss, costs and downtime rise as vendor numbers rise.

Standardization on a single, proven vendor platform can reduce risk and costs while easing IT workloads. In the following pages, we'll take a look at how Dell EMC's data protection portfolio can safeguard any workload, wherever it resides.

Suite Talk

Dell EMC's family of data protection solutions deliver industry-leading backup, recovery and archival across physical, virtual and cloud environments.

Companies today employ a variety of virtual, physical and cloud platforms in the ongoing effort to deliver continuous availability of essential applications, data and services. This increasingly dynamic environment creates data protection challenges. The need to use multiple solutions to accommodate on-premises, cloud and Software-as-a-Service requirements introduces high levels of complexity.

Traditional solutions are inefficient because they repeatedly backup everything — duplicate files and sub-file data segments that exist across servers, desktops, laptops and offices. When combined with traditional daily incremental and weekly full backups, the amount of duplicate data is staggering and often leads to decreased performance and increased costs. Searching for backups to recover data in large environments becomes a daunting task.

"IT teams are finding it difficult to effectively protect data residing throughout the organization," said Jon Chappell, Vice President of Partner Alliances, Sigma. "Exponential data growth is chewing up storage capacity and making the backup window impossibly large. People are tired of buying point products from a slew of vendors and trying to make everything work together to address this situation. They are desperate for a single-source solution that protects virtual, physical and cloud workloads with high levels of automation and efficiency."

Dell EMC addresses those pain points with its Data Protection Suite Family of purpose-built software solutions that provide comprehensive protection for data and applications across

all consumption models. There are five different suites, designed to deliver best-of-breed backup, recovery and archival to fit any organization's specific needs.

Data Protection Suite Enterprise Edition is the most comprehensive offering. It includes all of Dell EMC's backup and recovery products, including those for continuous replication, snapshots, both traditional and deduplication backups, and archive. This suite gives organizations access to both Avamar and NetWorker backup and recovery software. Avamar features client-side deduplication for fast, daily full backups for virtual and physical environments. NetWorker is a complementary technology, delivering secure, long-term retention of backups to a variety of targeted cloud options. ProtectPoint enables direct backup from primary storage to industry-leading protection storage, eliminating performance impact on application servers. With access to all other Dell EMC data protection software, this edition allows organizations of all sizes to create a highly customized environment to protect up to 4PB of data.

Data Protection Suite for Backup supports many different deployment models, including deduplication backup, backup to disk, snapshot-based backup and backup to tape. It also includes both Avamar and NetWorker, and offers centralized data protection management with comprehensive reporting, monitoring, and analysis for physical and virtual environments. It is a cloud-enabled offering that enables organizations to deliver backups of data and applications within the public cloud, as well as securing long-term backup retention to targeted cloud options.

Data Protection Suite for Applications delivers unprecedented levels of efficiency and flexibility for mission-critical applications. It decouples backup software from the data path, allowing application owners to use na-

tive app interfaces to perform backups directly from the application server to protection storage for 20x faster backup and 10x faster recovery compared to traditional backup solutions. There is minimal impact on application performance during backup because there is little to no data flow through the application server.

As the name suggests, **Data Protection Suite for VMware** is tailored specifically for virtualized VMware environments. As organizations virtualize more and more of their workloads and infrastructure, virtual machine (VM) sprawl can be an issue. New VMs are provisioned rapidly, often without data protection. With this suite, administrators can use native VMware interfaces to provision, monitor and manage the protection of their virtual workloads. It provides backup and recovery, continuous data protection for any-point-in-time recovery, backup to the cloud, monitoring and analysis, as well as search capabilities. It also supports virtual and physical servers along with protection of network-attached storage (NAS).

Data Protection Suite for Archive enables organizations to efficiently capture, index, store, manage, retrieve and dispose of both structured and unstructured data to meet their needs. It provides seamless access to archive content from email, file and Microsoft SharePoint. It also provides tools to accelerate search of unstructured content, increasing accuracy of discovery against deduplicated, centralized archives. These tools ultimately help companies reduce IT, operational and labor costs, as well as meet both corporate management and regulatory compliance requirements.

Data protection is arguably the most critical function in IT, but it continues to be a troublesome process for most organizations. Organizations are shifting more and more data and applications into cloud and virtualized environments to improve their agility and flexibility, but these moves aren't without risk. Protecting data across physical, virtual and cloud platforms can be a difficult proposition, particularly when using multiple point solutions that don't integrate well.

"Very few companies today have all their data neatly residing in their physical data center, so that adds complexity to the data protection process," said Chappell. "Dell EMC simplifies things with its Data Protection Suite. Organizations of all sizes can get a single-source solution for ensuring the protection of files, applications and databases across all environments."

Only Dell EMC can cover all of your data protection needs in a single solution. The Dell EMC Protection Suite Family meets the needs of complex enterprise environments with multiple platforms and applications. It centralizes monitoring, analysis and reporting for even the most diverse environments. All your data is protected, including data that is on-premises, virtualized, stored in a public or hybrid cloud — even data born in the cloud. **Contact Sigma to learn more.**

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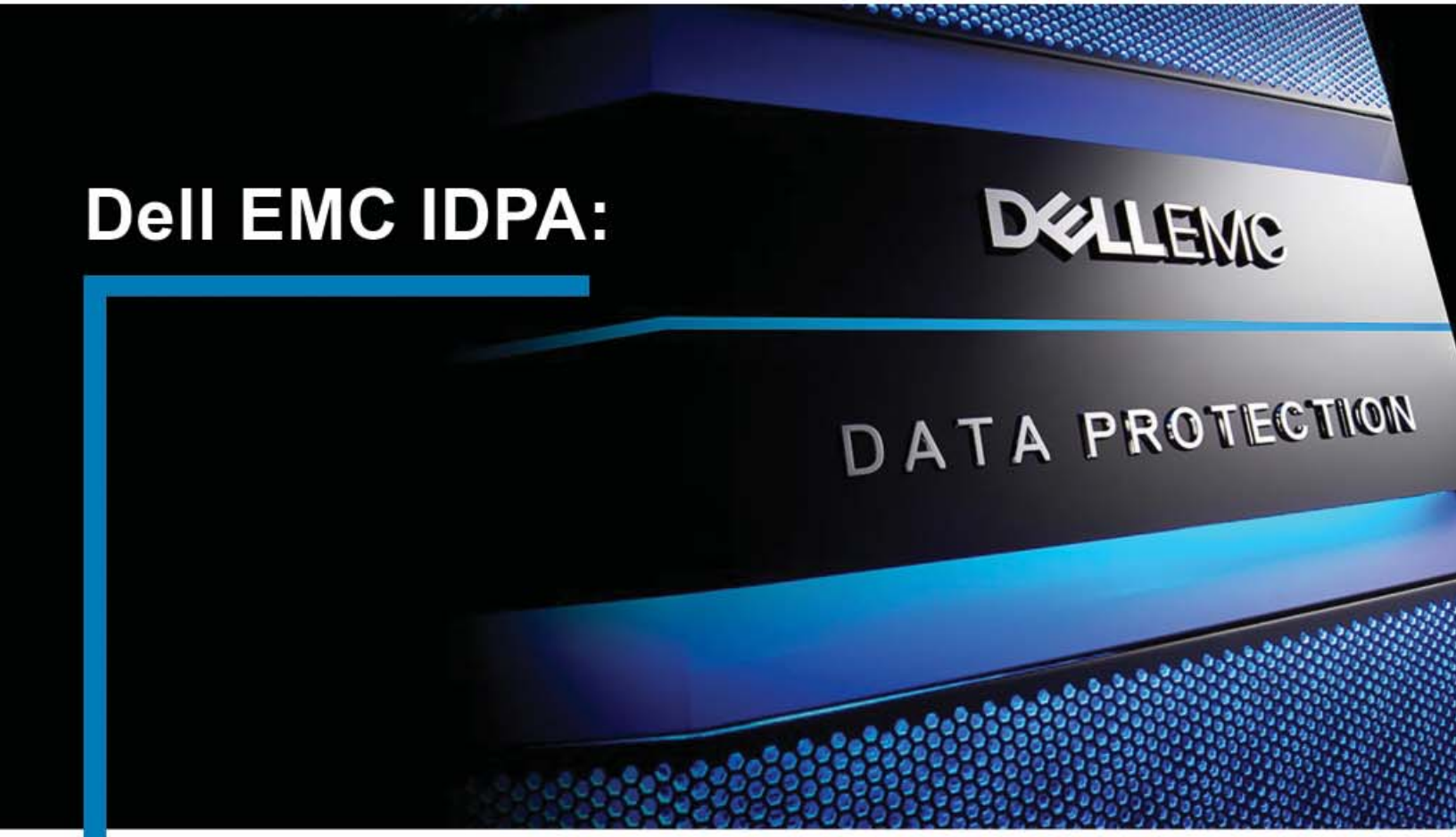

Dell EMC IDPA:

Data protection without compromise

Organizations need to efficiently and effectively protect an ever-increasing amount of data from a growing ecosystem of applications. Dell EMC Integrated Data Protection Appliance (IDPA) enables you to protect a diverse ecosystem of applications quickly with a single system, consolidating workload protection and eliminating infrastructure sprawl. IDPA combines protection storage, protection software, search, and analytics to reduce the complexity of managing multiple data silos, point solutions, and vendor relationships. **Contact Sigma to learn more about improving your data protection capabilities with Dell EMC IDPA.**

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Protecting Virtual Environments

In an effort to increase efficiency, resource utilization and cost savings, organizations are moving rapidly to make their data centers more virtualized, software-defined and cloud-enabled. This process often creates significant backup challenges, however.

Traditional backup processes simply aren't well suited to the virtualized environment, with consolidated workloads and extreme data redundancy. Because legacy backup applications are not virtualization-aware, administrators must install backup agents on individual virtual machines (VMs). This quickly becomes a management nightmare as VMs proliferate.

"Backup was a reasonably straightforward affair in the days when applications ran on dedicated servers. Once an application triggered a backup process, most of the server's memory, storage and CPU resources were available to the backup application," said Joe Barrett, Executive Vice President, Sigma. "Server virtualization changed all that by allowing multiple virtual machines to run on a single piece of hardware. Resource contention becomes a serious issue when an organization is simultaneously backing up physical, virtual and cloud environments.

"When multiple VMs share the same physical hardware, there's just not that much processing power left over for backup. In a virtualized environment, you run the risk of a hypervisor running out of memory and causing a server crash that brings down multiple applications."

A recent ESG survey found that most organizations are concerned about data protection in their VMware environments. Only 18 percent of those surveyed stated that they were very confident in their organization's ability to protect VMs and recover what they needed within their SLAs. Respondents were chiefly concerned about the recoverability of their data and their ability to monitor and understand the performance of their backup operations.

Strong, Simple and Scalable

Dell EMC has taken steps to ease these concerns with a range of data protection solutions optimized for VMware. Dell EMC's Data Protection Suite for VMware comprises multiple tools that enable extensive automation of backup and recovery processes, making it easier and more cost-effective to support diverse applications and scale to more VMs.

The Data Protection Suite for VMware provides backup and recovery, continuous data protection for any-point-in-time recovery, backup to the cloud, monitoring and analysis, as well as search capabilities. The suite supports virtual and physical servers and protects network-attached storage (NAS).

A key to Dell EMC's solutions for VMware is native integration with the vSphere virtualization platform, which allows VMware administrators to manage data protection directly within the vSphere user interface. Through this interface, administrators can schedule and manage protection jobs, set up policies for long-term retention in the cloud, comply with protection SLAs, and more.

"This simplifies and speeds up backup and recovery processes, and ensures that all VMs are protected when spun off," said Barrett. "Administrators are freed from many routine data protection tasks while still gaining high levels of oversight and governance. This level of cohesion, transparency and automation is critical to ensuring simplicity and performance for backup and recovery in VMware environments."

Among the more important tools in the Data Protection Suite for VMware are the complementary Networker and Avamar backup software products and the Data Domain deduplication system for physical, virtual and cloud-based storage. The suite also includes the Dell EMC Data Protection Advisor application, which automates monitoring, analysis and reporting across on-premises and cloud backup and recovery environments. Dell EMC Data Protection Search is a virtual appliance that enables fast, scalable search and analysis of backup files.

The Integrated Approach

Additionally, Dell EMC recently unveiled the Integrated Data Protection

Appliance (IDPA), a converged solution that combines the tools within Data Protection Suite for VMware with a number of other data protection solutions to improve reliability and ease of management. Along with storage, backup, search and analytics, this appliance integrates features such as encryption, fault detection, self-healing capabilities and industry-leading deduplication — an average 55:1 dedupe rate — for data residing both on-premises and in the cloud.

Dell EMC says the flash-enabled appliance significantly accelerates time to value by delivering 90 percent faster box-to-backup than a traditional build-your-own solution, while delivering 20 percent faster performance than the closest competitor. The flash-enabled capabilities of the appliance make it suitable for use as live storage in dev-test environments.

The IDPA is VMware-optimized for VM instant access and restore, helping to meet stringent RPO/RTO requirements for VMware environments. It also provides integration with key business-critical applications and platforms such as MongoDB, Hadoop and MySQL for improved performance and greater levels of control by data owners.

IDPA is available in four different models to fit the needs of midsize and enterprise customers, starting at 34TB usable capacity at entry level and scaling up to 1PB usable capacity at the high end. Services such as remote monitoring and auto-dispatch of parts from globally distributed service depots provide customers with additional confidence and peace of mind that their data and investment are protected and supported by enterprise-tested and proven serviceability from Dell EMC.

"Dell EMC takes a holistic approach to data protection with tightly integrated solutions for today's highly virtualized environments," Barrett said. "The solutions incorporate best-of-breed storage and software along with powerful search, monitoring, analytics and automation to deliver high levels of performance and efficiency."

Silver Lining

Cloud data is safer with Dell EMC's comprehensive solutions portfolio.

The cloud has become such an ingrained component of IT operations that organizations of all sizes are increasingly pursuing a "cloud-first" strategy in which they only deploy internal hardware and software resources when they can't find a suitable cloud option. In a recent Intel survey of more than 2000 IT managers and professionals worldwide, more than 80 percent said they follow such a policy.

That represents an astonishing reversal in just a few years. As recently as 2013, industry surveys routinely showed that up to 90 percent of IT decision-makers considered it important to keep core business applications and workloads running inside the data center.

"The cloud is the new normal because there are so many proven cost and operation benefits," said Jon Chappell, Vice President of Partner Alliances, Sigma Solutions. "By some accounts, more than half of all data now being creating is flowing into the cloud — and much of that is sensitive and business-critical data.

"Although organizations have much higher levels of trust in the cloud, risks remain. Data protection must be an important part of any cloud strategy."

Even as organizations shift more data and applications to the cloud, they must have the same level of data protection as they did when everything was onsite. They require application-aware backups with application-consistent restores that support other initiatives such as disaster recovery, business continuity, and test and development. This level of protection can't typically be achieved with the snapshot-only technology offered through cloud providers.

Getting a Boost

Dell EMC offers a comprehensive portfolio of cloud-enabled data protection solutions. Currently, more than 150PB of data in the cloud is managed by Dell EMC data protection technology — twice that of the nearest competitor. These solutions cover the entire continuum of data protection, including backup, long-term retention and disaster recovery.

With CloudBoost, Dell EMC has cloud-enabled its entire Data Protection Suite. Available as either a virtual or physical server, CloudBoost requires no in-cloud infrastructure to extend data protection to an organization's chosen public, private or hybrid cloud. When combined with Dell EMC NetWorker, Data Domain and Elastic Cloud Storage (ECS), CloudBoost creates a powerful, integrated solution that addresses both operational and long-term retention backup requirements.

CloudBoost installs in minutes and integrates seamlessly with NetWorker backup and recovery software to provide a common user experience whether backing up a private, public or hybrid cloud environment. CloudBoost clones NetWorker backups to a public, private or hybrid cloud, and provides a convenient web interface for system monitoring and managing cloud profiles. It includes client-side optimized backups, inline deduplication, encryption, compression and other network optimization tools.

NetWorker with CloudBoost enables organizations to leverage simple and scalable object storage for a variety of backup use cases, including backing up web applications and services in the cloud, backing up on-premises data to the cloud, and backing up workloads from multiple clouds to an alternate cloud.

Increasing Efficiency

NetWorker also integrates with Data Domain Boost, a software option that extends the capabilities of the Data Domain deduplication software. With DD Boost, the deduplication process is distributed to the NetWorker client, storage node or application host, enabling each to send only unique data segments to a Data Domain system. This reduces the amount of data transferred over the network by 99 percent and reduces backup times by up to 50 percent.

With NetWorker and DD Boost, administrators can track all backups through a single interface. Additionally, administrators can use the NetWorker management console to orchestrate a Data Domain Cloud Tier for long-term archival of up to 51PB of data, while also utilizing local active tiers for shorter-term backups. These capabilities effectively consolidate backup, archive and disaster recovery on a single system.

Dell EMC's cloud-enabled data protection solutions support a wide range of public and private object stores. Private clouds supported include Dell EMC Elastic Cloud Storage (ECS), Dell EMC Atmos and OpenStack Swift. Public clouds supported by CloudBoost include AT&T Synaptic, Amazon Web Services (AWS) S3, Google Cloud Storage and Microsoft Azure.

In addition, Dell EMC announced it is extending data protection support to the VMware Cloud on AWS, an on-demand service that allows organizations to seamlessly run the vSphere software-defined data center on Amazon's public cloud platform. The Dell EMC data protection solutions will enable backup and recovery of vSphere workloads running in the cloud with just a few clicks. By leveraging Dell EMC's portfolio-wide native integration with VMware, organizations can manage data protection functions through a familiar VMware interface.

"As a verified industry leader in data protection, Dell EMC was a strong choice for our first data protection solution supporting VMware Cloud on AWS," said Rajiv Ramaswami, Chief Operating Officer, Products and Cloud Services, VMware. "The native integration across the VMware portfolio offers transparency and ease of use for our customers, especially those moving toward the software-defined data center. This is an exciting first step in partner support for VMware Cloud for AWS."

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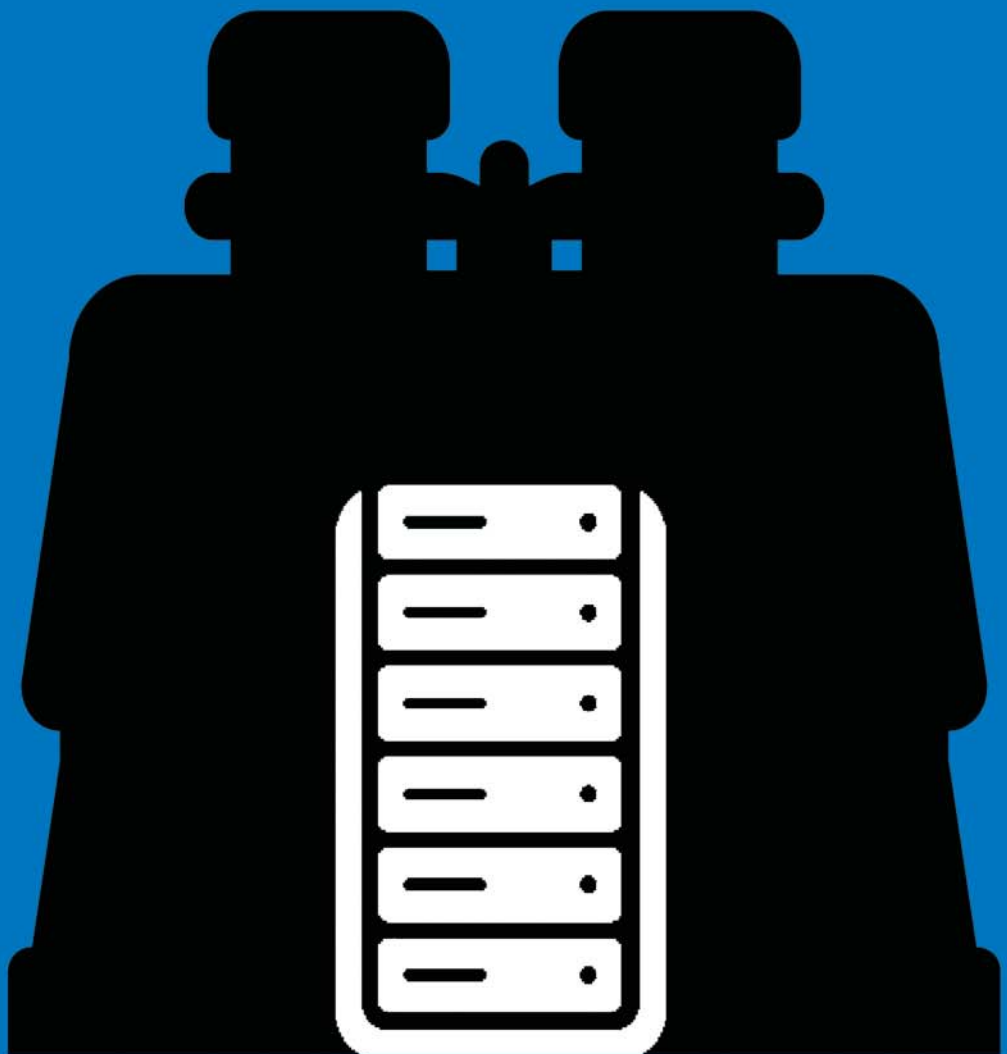
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