

# Tech Outlook

October 2017

PROSYS 



*Integrated backup appliance from Dell EMC reduces risk, cost and complexity.*

**T**he recent string of natural disasters illustrate once again that data protection is arguably the most critical function in IT. However, backup and restore continue to be problematic for most organizations. Industry surveys reveal that organizations of all sizes persistently encounter significant backup issues related to cost, complexity and reliability.

“Data backup is more complex than ever because organizations must protect physical, virtual and cloud environments,” said Michael Renner, Business Development Manager, ProSys. “In today’s backup environment, there are often multiple point solutions for different applications, platforms or data silos. Organizations commonly have multiple systems with overlapping processes operating at the same time.

“This complexity creates risk. It’s becoming harder to complete backups within an acceptable timeframe, and organizations often can’t be sure they can reliably restore data in the event of a disaster or some other unforeseen incident.”

Dell EMC has introduced a portfolio of new data backup and protection solutions designed to eliminate complexity and ensure that data is secure,

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backed up and protected against disasters and outages. The new Dell EMC Integrated Data Protection Appliances (IDPAs) provide data protection across a wide range of applications and platforms with coverage that seamlessly extends to public and private clouds through native cloud tiering.

## Better Together

The purpose-built and pre-integrated appliances integrate data storage, backup software, search and analytics in a single solution to enable simple and effective data backup. Other built-in features include 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.

“When organizations must manage a variety of independent backup applications, storage and media servers, they often wind up with siloed environments that are difficult to deploy and manage,” said Renner. “Integrated data backup appliances such as the IDPA remove the need for media servers and the need to buy backup software separate from the hardware. They are also simpler to set up and manage.”

The Dell EMC IDPA appliances significantly accelerate time to value while boosting performance. The company says the appliances deliver 90 percent faster box-to-backup than a traditional build-your-own solution, while delivering 20 percent faster performance than the closest competitor.

IDPA 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. Additionally, IDPA offers the simplicity of a single user interface for typical daily operations. Through this interface, users can schedule and manage protection jobs, set up policies for long-term retention in the cloud, and comply with protection SLAs.

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.

## The VM Challenge

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 CPUs were available to the backup application. Server virtualization changed all that by allowing multiple virtual machines (VMs) 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 featuring consolidated workloads and extreme data redundancy. If a hypervisor runs out of memory, it can cause a server crash that can bring down multiple applications.

At the same time, there is more data to be backed up and backups need to be completed more frequently to meet recovery point objectives (RPOs). The problem becomes worse as the environment scales to hundreds or thousands of VMs sharing a common resource pool. In a recent survey of organizations with VMware environments, Enterprise Strategy Group found that only 18 percent were confident in their organization’s ability to protect VMs and recover what they needed within their SLAs.

Dell EMC IDPAs are optimized for VMware, providing instant access and restore of VMs and enabling compliance with stringent RPO/RTO requirements for VMware environments. IDPA provides single-step recovery of individual files as well as complete VMware images, and it speeds backup and recovery with flash-enabled metadata and direct application integration. Dell EMC says IDPA can restore up to 32 VMs without any impact on regular backup windows.

IDPA also incorporates the Dell EMC Data Protection Suite for VMware, which combines virtualized versions of Dell EMC backup and recovery, replication, monitoring, and search solutions — all of which can be managed within native VM interfaces.

Backup technologies and processes have not kept pace with growing data volumes, making it difficult to reliably complete backups. Increased adoption of server virtualization and cloud-based services have only exacerbated the problem. Making matters worse, technology vendors have generally taken a fragmented approach to the problem with storage, backup, recovery, archival and business continuity products typically developed, marketed and sold as separate and distinct solutions rather than as complementary elements of a data protection continuum.

“With a holistic approach that tightly integrates best-of-breed components, Dell EMC’s IDPA will allow customers to greatly simplify and lower the overall cost of data protection,” said Renner. “With faster deployment, better performance and simplified management, these appliances will give you the peace of mind that your essential data is fully protected across physical, virtual and cloud environments.”

## News Briefs

### Mobile Networks to Drive Economic Growth

Mobile technologies will add \$1 trillion to North America's economy and will create 3 million jobs by 2020, according to a new report from the GSMA, a trade body that represents the interests of mobile operators worldwide.

The group says that mobile technologies and services added \$790 billion in economic value in North America in 2016, representing 3.9 percent of GDP. By 2020, this contribution is expected to reach \$1.02 trillion, or 4.7 percent of GDP, driven by Internet of Things and machine-to-machine solutions. The mobile ecosystem in North America created 2.5 million jobs in 2016 and made a \$110 billion contribution to the public sector via taxation, the report stated.

The GSMA forecasts that commercial 5G networks will begin to be widely deployed at the start of the next decade and will provide coverage to a third of the world's population by 2025. 5G connections are forecast to reach 1.1 billion by 2025, accounting for approximately one in eight mobile connections worldwide by this time.

"The 5G era will usher in innovations that enable richer, smarter and more convenient living and working, making possible a huge array of new applications — everything from sensor-driven smart parking to holographic conference calls," said Mats Granryd, Director General of the GSMA.

### Security Strategies Shifting, Gartner Says

Worldwide spending on information security is expected to reach \$90 billion this year, up 7.6 percent over 2016, as organizations change their security focus to detection and response rather than prevention-only approaches, according to Gartner. The firm says this approach will drive spending to \$113 billion by 2020.

"The shift to detection and response spans people, process and technology elements and will drive a majority of security market growth over the next five years," said Sid Deshpande, principal research analyst at Gartner. "While this does not mean that prevention is unimportant or that chief information security officers are giving up on preventing security incidents, it sends a clear message that prevention is futile unless it is tied into a detection and response capability."

The need to better detect and respond to security incidents has also created new security product segments, such as deception, endpoint detection and response, software-defined segmentation, cloud access security brokers, and user- and entity-behavior analytics. These new segments are creating net-new spending, but are also taking spend away from existing segments such as data security, network security, enterprise protection platform, and security information and event management.

The emergence of specialized managed detection and response services is a threat to traditional managed security services providers. The rising number of point solutions in the security market that address detection and response is creating sprawl and manageability issues, driving spending for management platforms and services that are better integrated with adjacent markets.

## Tech Outlook

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# A New Look

*Emerging trends remove complexity and expand the possibilities of video conferencing.*

**T**he business case for video conferencing has been convincingly established. With workforces becoming more mobile and dispersed, video conferencing bridges geographic boundaries to reduce travel costs, improve collaboration and promote stronger business relationships. Beyond face-to-face communications, best-in-class solutions provide multiple ways to engage users and share ideas. Users can share screens, remotely access each other's desktops, exchange files and cooperatively work with digital whiteboards.

However, there has always been a bit of a gap between the technology's promise and its actual execution.

While business and IT leaders overwhelmingly agree about video's collaborative value, enthusiasm has been dampened by persistent cost, complexity and technical barriers. In a 2017 market update, the Frost & Sullivan research firm claims the global enterprise video conferencing market currently has a penetration rate of less than 10 percent.

## Degree of Difficulty

A common complaint is that video conferencing isn't easy enough. On average, nearly a third of a 30-minute meeting is eaten up just getting the technology to work. Technical glitches and bandwidth constraints can lead to dropped connections, garbled audio and frozen video.

As a measure of the complexity, consider one firm's suggestions for steps users should take when encountering problems with a conference call. It suggests adjusting bandwidth and resolution settings of the device and software.



Users are also advised to check for software updates and install any that are available. If those measures don't work, the firm says restarting the conference might help.

Clearly, those are time-consuming steps that will frustrate nontechnical business users who just want to confer with colleagues about onboarding a new customer or launching a new marketing campaign. Such issues create frustration that cause employees to either overwhelm IT with support calls or simply stop using the system altogether.

Another limiting factor is that the video conferencing market has long targeted large enterprise organizations with powerful and expensive room-based

systems that require advance scheduling and the support of IT staff in order to conduct meetings. The chief issue with these monolithic, hardware-based systems is that they simply aren't very agile. They don't lend themselves to the type of rapid, impromptu conversations that often drive key business decisions.

Despite these challenges, several new developments are helping to lower the technical barriers and drive the power of video collaboration into all corners of the workforce. The following trends are expected to boost user satisfaction with video collaboration and make it easier for people to conduct informal and unscheduled meetings, often within the framework of their workflow.

## Cloud-Based Platforms

Cloud-based video can come in the form of fully outsourced Video-Conferencing-as-a-Service (VCaaS) platforms, as well as all-in-one integration platforms. In either case, the cloud masks much of the typical complexity involved in running video conferencing.

VCaaS solutions allow users to access a feature-rich platform without investing in capital equipment or the technical resources to maintain and support that equipment. Most services allow users to quickly set up a virtual meeting room to which they can invite meeting participants.

Cloud-based integration platforms also create tight integration between video and unified communications and collaboration platforms. Such integration widens communication to mobile devices, room-based conferencing systems, chat clients and third-party video clients, and even allows audio-bridging for mobile and landlines.

## WebRTC

Web Real-Time Communication is an open-source application programming interface (API) that enables real-time voice, video and data communications through a web browser. This dramatically simplifies cross-platform communications.

Platform interoperability has always been an issue with video conferencing. Participants are often on disparate systems that use a variety of video coding and decoding (codec) formats. Typically, these various media streams must be translated and converted to a common language through the use of a gateway. However, this is a resource-intensive process that can affect video and voice quality.

WebRTC eliminates all that because the browser contains all the underlying codecs as well as all the required encryption, bandwidth management and NAT/firewall traversal tools.

## Software Codecs

Hardware codecs are dedicated chips that encode and decode a digital media stream. For a long time, it was really the only way to ensure a quality video session. However, these chips vary from vendor to vendor — there can even be variables between chipsets from the same vendor. That limits customization and creates platform compatibility issues.

Software codecs run on the CPU, but they were long considered to be too slow for heavy-duty video. However, dramatic improvements in graphics and CPU processing power over the past few years have altered the dynamic. Software codecs now offer more flexibility and more customization at a better price point with no discernible performance penalty.

## Social Collaboration

Solutions such as Slack, HipChat, and Glip mark a significant shift. These

free or low-priced team collaboration products have attracted a significant customer base, making it likely that conferencing will increasingly be built into team collaboration solutions. Frost & Sullivan says this will diminish the distinction between video and web conferencing, with most web conferencing solutions integrating rich video conferencing while video-centric vendors enhance content sharing and collaboration. It is expected the two solutions will soon look almost identical in features and price.

These advances and more are transforming the way video will be used to enhance business. Conducting a video conference no longer has to be a rigid process that requires a complex setup to connect participants at a predetermined time. Improvements in software, processing power and interoperability are democratizing the technology and extending its reach to the entire workforce.

## TOO MUCH OF A GOOD THING?

Collaboration applications that combine voice, video, chat and file-sharing are experiencing significant grassroots growth in the workplace because they allow far-flung team members to come together on a common platform to share ideas, solve problems and accomplish tasks.

However, this user-driven growth does have drawbacks, according to a recent Spiceworks survey of more than 400 IT professionals. While 70 percent said collaboration is a high priority or even essential to their organizations, a lack of standardization is making the process more complicated and chaotic than it ought to be.

The survey finds that organizations are using, on average, 4.4 different solutions across three different providers. Managing multiple solutions from multiple vendors typically results in feature overlap, inconsistent experiences, slow adoption and reduced productivity.

The problem is that there is no way to bridge multiple solutions with a single user interface. These applications are built with a walled-garden approach to boost security, but that prevents information in one app from being accessed by another. As a result, people wind up using different apps for different audiences.

In addition, IT professionals are in the dark about the true total cost of ownership (TCO) of these solutions. A surprising 56 percent of those surveyed said they do not know how much they are spending on subscriptions and licenses for conferencing and collaboration tools.



# The Business Value of Cloud-Based Databases

*Database-as-a-Service reduces the cost and administration headaches associated with traditional database platforms.*

**W**hile unstructured and semistructured data accounts for more than 80 percent of data volumes, the database still plays a vital role in business operations. In a recent survey by Datascout, 59 percent of IT professionals said the size of their organization's database could double within the next two years. Almost 25 percent expected their databases to grow even larger over the same period.

Traditionally, databases were installed on “bare metal” servers and carefully configured by expert administrators. Once the database was implemented — a process that could take week or even months — organizations dedicated significant resources and budget to ongoing maintenance and management.

The cloud is rapidly changing the way databases are implemented and maintained. In a Database-as-a-Service (DBaaS) model, the database is hosted in the service provider's cloud and accessed on subscription basis. The service provider is responsible for building and maintaining the physical infrastructure needed to support the database, and

for handling backups, installing security updates and scaling storage resources.

DBaaS delivers all the classic cloud benefits — minimal capital investments, reduced operational overhead and near-infinite scalability. Because it enables rapid deployment with limited risk, DBaaS offers a cost-effective platform for proofs of concept, application development and testing, and disaster recovery. Rampant data growth and demand for remote access to database resources is also driving uptake of DBaaS solutions.

## Supporting Today's Business Models

The rise of DBaaS reflects the overall evolution of database management. In the past, organizations tended to standardize on one database technology. Today, many organizations have adopted a “polyglot persistence” model, which simply means that they operate multiple databases to support various workloads and data types.

Virtualization and automation have facilitated this model, but database provisioning, configuration and management still require a significant amount of time, effort and expertise. DBaaS enables organizations to access database functionality without having to handle or even understand all the technical details.

DBaaS is similar to Platform-as-a-Service (PaaS), which provides organizations with a cloud-based environment for

application development and deployment. Many PaaS solutions use containers to isolate the environment from the operating system, so applications can run on any computing platform. Similarly, DBaaS uses a multitenant container model that can run multiple databases on a shared operating system.

Organizations can monitor CPU and storage utilization and network traffic through a centralized management console, and provision additional resources and database instances with a few clicks. The centralized console also enables midsize and large organizations to consolidate the management of multiple database instances under a single interface.

DBaaS helps organizations manage the explosive growth of data more efficiently, and accommodate user demand for mobile access to database resources. DBaaS also offers greater flexibility and elasticity to accommodate spikes in demand for database resources. Service providers typically offer service-level agreements (SLAs) specifying minimum response times and availability, and operate backup data center facilities with automated failover to ensure that availability requirements are met.

## Rapid Growth

Like other cloud-based solutions, DBaaS enables customers to take advantage of the latest technology — in order to remain competitive, service providers keep their environments up-to-date as database vendors introduce new features. Competition in the DBaaS market has also brought down pricing, giving organizations even greater incentive to migrate their databases to the cloud.

DBaaS was slow to take off when introduced several years ago, but the market is growing rapidly. MarketsandMarkets has forecast that the cloud database and DBaaS market will see a compound annual growth rate of more than 67 percent, reaching \$14 billion by 2019. The healthcare, government, and banking, financial services and insurance sectors have been leading adoptors of DBaaS.

Security concerns and a lack of appropriate security standards could hinder the growth of the DBaaS market, according to analysts with TMR Research. Data governance requirements may also limit adoption in certain industry sectors. And SLAs notwithstanding, DBaaS may not be appropriate for use cases that require very low latency and high availability.

Nevertheless, increasing demands for more flexible and cost-effective database solutions, coupled with a need for greater scalability, elasticity and automation, are driving rapid adoption of DBaaS. By moving their databases to the cloud, organizations can gain on-demand access to database resources while making management simpler and more cost-efficient.



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