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MAGAZINE

ACHIEVING RESILIENCY IN THE MODERN VIRTUALIZED DATA CENTER

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Based on a webcast featuring Brian Maher, Senior Product Marketing Manager at Veeam Software, and Andrew Dickerson, Senior Manager Marketing at Hewlett Packard Enterprise (HPE), moderated by Nick Cavalancia of Techvangelism.

Pretty reliable isn't good enough anymore.

That is the brave new world IT departments face as the businesses they support strive to provide partners and customers with 24/7/365 access to applications and data regardless of where in the world they are located.

In the 21st Century economy, it is not enough for the data center to be up and running most of the time with frequent backups to ensure recovery in case of a natural or human-caused disaster.

The key word for IT today is resilience, says Nick Cavalancia of Techvangelism, pointing to the definition of resilience as "the ability of a substance or object to spring back into shape ..."

"That's what we're trying to do with the data center," he explains. The goal of resilience is to take the traditional concepts of disaster recovery and business continuity are evolving to the point where in some cases it's not about going through a recovery process if at all possible. Instead IT pros will create an infrastructure where recovery happens automatically.

Cavalancia offers an example of the difference between traditional disaster recovery and the emerging concept of resiliency. If you had a storage infrastructure that wasn't very resilient and it was to go down, you have to go through the process of recovering everything to a different set of hardware and rebuild it there. If you have a resiliency strategy making use of the latest technologies that provide continuous data protection, so your hardware in the beginning is resilient enough, then that disaster recovery situation is never going to happen in the first place.

"So you start to see the idea of resiliency and availability and disaster recovery, all those things are not so much about a process for when bad things happen, it's really about proactively trying to figure out how do I build an environment in such a way that I got layered sets of protection so maybe I'm not going to lose data ever but if I do I have the ability to recover it very, very, quickly in a matter of minutes or even less should it happen," Cavalancia

explains. "All of this becomes part of this expectation of digital transformation."

PRESSURE ON IT

As businesses move from bricks and mortar, nine to five, workers in cubicles to being web based with expectations for apps and data by mobile workers who may be located anywhere but want everything to be always available everywhere, pressure on IT is growing, Cavalancia said. "That's the expectations of customers, partners and employees,

The Organization Sets the Expectations: This starts with accelerated deployment, which includes not just maintaining the applications you have but upgrading to a new version, rolling out a new application, spinning up new VMs and doing all the testing.

Flash Storage Is Becoming the Norm: This is something IT is familiar with but other members of the organization may not understand the potential of flash storage. But they want this kind of technology for greater performance, and high-speed. So

"FLASH STORAGE IS THE BIG TREND AT THE MOMENT." —ANDREW DICKERSON, SENIOR MANAGER MARKETING AT HEWLETT PACKARD ENTERPRISE

so IT gets dumped on if it's not providing 24/7 service. The organization ends up putting pressure on IT to provide the always-on services."

To turn the situation around IT needs to get ahead of the curve by embracing not only the cloud but also flash drives and storage. Moving forward with modernization will put IT departments in a position to meet or exceed the demands coming from the organizations they support.

RESILIENCY CHANGES EVERYTHING

To meet always-on always-available goals, Cavalancia said businesses are going to demand IT modernize in a way that supports resiliency and availability. Here is what is about to change if it hasn't changed already:

the answer is going to be flash because we need performance that is measured in nanoseconds not milliseconds.

Intensified Retention: This is a double-edge sword. On the one hand you're trying to keep information for an extended period of time or for compliance purposes or for legal requirements or maybe it's some kind of retention policy that has been put on you based on your industry vertical. Intensified Retention means you need to keep data for a longer time and you may need to keep multiple copies of the same sets of data.

Increase leveraging of the cloud: To do all this you need to start leveraging the cloud more. Right now data centers range all the way across the spectrum from completely on-prem to completely in the cloud to somewhere in the middle.

In any hybrid cloud implementation the two infrastructures need to work as one if you are going to guarantee resiliency.

MOMENTUM BUILD FOR FLASH

All talk about resiliency for always-on applications and always-available data revolves around flash storage.

Techopedia explains the advantages of flash over traditional "spinning disks"

efficient performance of the flash storage. Additionally, compared to hard drives or similar options, flash storage does not require much power, which can result in reduced energy costs.

"Flash storage is the big trend at the moment," says Andrew Dickerson, Senior Manager Marketing at Hewlett Packard Enterprise. "There's a lot of momentum behind it. There are a lot of organizations

"THE NEW FLASH ARRAY GIVES US FAR BETTER RELIABILITY AND RESILIENCE AS WELL AS FAR BETTER AVAILABILITY. —ANDREW DICKERSON

on its flash storage definition page this way: Compared to hard drives, flash storage provides many advantages. They have better performance capabilities as the speed to access data is less in the case of flash storage. In other words, it removes rotational delay and seek time. Their fast processing capabilities for applications and quick access to stored data make it more business friendly than traditional storage options. As they can handle large workloads better and more quickly, they are good while working on complex data sets and operations. Another key advantage of flash storage is that it offers more durability. Unlike hard disks or other storage techniques which make use of moving parts, flash storage does not have any, and as such users need not worry about damage to storage units due to mishandling of the moving parts. This also helps in better and more

dipping their toes in the water. It's still fairly early days. We've always needed reliable resilient systems. The new flash array gives us far better reliability and resilience as well as far better availability. These things were not possible with spinning disks."

While flash is currently more expensive than disks, the cost issues surrounding the move from disks to flash is changing in favor of flash and is becoming a huge driver in its adoption, Dickerson explains.

"The cost of solid state storage is coming down really rapidly," he says. "If you do deduplication the effective cost of these arrays is probably below spinning disks right now. That's a really big thing. It is why you are starting to see this increasing trend to flash storage."

IT is perceived as a cost center, explains Brian Maher, Senior Product Marketing Manager at Veeam Software. While the

initial purchase price of flash might be higher at the moment, flash lowers operating costs because it doesn't require the maintenance and electricity that spinning drives do. And because there are no moving parts to breakdown, flash is more reliable.

He pointed out that the reason businesses invest in the latest and greatest technology for data centers is to drive business value and that is what flash offers in the new era of resiliency.

"As we move towards flash the response time is almost instantaneous," Maher says.

process that covers everything from creating new apps to handling the massive amounts of data created by IoT to having a process for instantly recovering data if it is corrupted. This means designing everything with flexibility in mind because the business may need one app today and another app tomorrow. It includes melding of cloud capabilities and both on premise and off premise capabilities that is transparent giving IT the best of both those worlds. That's why hybrid IT is one of the key things in assuring resiliency.

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—BRIAN MAHER, SENIOR PRODUCT MARKETING MANAGER AT VEEAM SOFTWARE

With the improved speed, you don't have customers or end users complaining that an application is not responding. Expectations have changed. Just five years ago if a page didn't build on the web, you would probably wait a few minutes and then maybe leave and come back later. Today, if something isn't responding, the user just goes to another site and buys from another vendor.

DESIGNING FOR FLEXIBILITY

Resiliency is about more than just a shift to flash, Cavalancia notes.

Beyond adoption of flash technology, leading edge IT organizations are designing resiliency into an end-to-end

"It's a new way of doing things really," Dickerson explains. "Think about data growth. It is something like 50 percent year over year globally. Just having a flash array is great for performance. It provides impressive increases in reliability and resilience. But just coping with all this is a real struggle. If you look at an end-to-end solution, you really need to look at the end-to-end problems you experience. You face things like hardware failure. It doesn't matter how reliable the hardware, it may not be the array that fails it could be a connector or a table. How do you cope with that? That's the availability issue. How do you deal with file deletion? What if there's a human error causing a number of virtual

machines to fail? That's a recoverability issue. What happens if you get file corruption? What about malware and ransomware? What about compliance?"

Cavalancia suggests that resilience begins with optimizing your ability to protect your data. That includes some complex data retention and deletion issues. Besides the regulations and legal requirements for retaining data for specified times, Europe has the "right to be forgotten" where organizations face stiff fines if they don't delete data after a

recovering VMs, as well as thinking about having intelligent storage behind the scenes which will ensure that you get to resilience."

VEEAM AND HPE OFFER A SOLUTION

Veeam software provides advanced data availability for HPE's entire storage portfolio. Veeam can offer seamless integration and availability that reaches beyond the data center, to all the different environments of your customers' infrastruc-

"YOU NEED TO LOOK AT OPTIMIZING PERFORMANCE INCLUDING STORAGE." —NICK CAVALANCIA, TECHVANGELISM

specified time period.

"You need to look at optimizing performance including storage," Cavalancia says. "Or if you lose an application or array being able to get everything up and running again very quickly. You need to optimize performance both when the application is operating normally but also in the case of a disaster where you need to get everything going again."

To achieve resilience means going beyond the traditional approach of buying a black box that will magically provide everything you need. Flash is important. Cloud adoption is important. Having the right hardware and software is important. But today IT needs to employ it all to provide a flexible and resilient end-to-end solution.

"You need to think of this all together with an integrated approach," Cavalancia says. "Resilience is about recovering data,

ture. It can be leveraged to be the common replication solution to tie your customer's environment together, and to insure their data is always available with just one solution.

Industry-leading Veeam software integration with HPE storage solutions lets you create application-consistent backups from HPE storage snapshots for fast and efficient data protection.

For long-term external storage, HPE StoreOnce provides deduplication for efficient storage utilization and fault isolation for data.

Veeam can send backups to StoreEver tape storage or to the cloud for long-term off-site data archival.

Veeam software products are available from HPE via the HPE Complete program enabling you to source all components of the "3-2-1" best practice data protection ecosystem from a single vendor.

"VEEAM AND HPE STORAGE NOT ONLY SUPPORT OUR COMPANY'S GROWTH TRAJECTORY, THEY ALSO DELIVER EXPONENTIAL BENEFITS TO THE BUSINESS." —MICHAEL ANDERSON, DIRECTOR OF IT,

PGA TOUR SUPERSTORE

Key Veeam software benefits

• **High Speed Recovery** – rapid recovery of what you want, the way you want it

• **Verified Recoverability** - Guaranteed recovery of every file, application, or virtual server, every time

• **Complete Visibility** - Proactive monitoring and alerting of issues before operational impact

> **Data Loss Avoidance** - Low RPOs and streamlined disaster recovery

> **Leveraged Data** - Low-risk deployment with a production-like test environment

> **Advanced integration with HPE Secondary Storage** - StoreOnce supports Veeam's Instant VM Recovery, SureBackup and On-Demand Sandbox features—all from an in-line deduplication storage device, delivering a unique combination of deduplication to reduce storage costs for faster recovery.

WHAT CUSTOMER SAY

"Veeam and HPE integration checked every box on our list of requirements, giving us the confidence that we can provide 24x7 availability as new stores come online and e-commerce expands. Veeam and HPE storage not only support our company's growth trajectory, they also deliver exponential benefits to the business. The performance gains are tremendous." *Michael Anderson, Director of IT, PGA TOUR Superstore*

"We started with HPE 3PAR and StoreOnce, and opted to go with Veeam Software when our legacy backup software couldn't support our virtual environment. Then we had a real live test where we were able to restore five VMs within 15 minutes using Veeam. It was really quite impressive." *Eugene DePrez, Director IT Architecture and Engineering, 20th Century Fox*

FIND OUT MORE

https://www.veeam.com/hpe-storage-solutions.html

https://www.veeam.com/hpe-availability-solution.html