



Good to Go: Storage Where and When You Need It

Deployed troops rely on technology to make strategic decisions and get the job done. Whether onboard a ship, in the air, or at a FOB (Forward Operating Base), access to critical applications and data is non-negotiable.

Ensuring those resources are always available, without downtime or disruption, isn't always easy. If a mission requires standing up a data center on the fly, for example, simplicity and reliability are crucial. The components must be easy to set up and manage, and all the diverse systems have to interact for easy, fast, and reliable operations. There is no tolerance for downtime, and no leeway for service interruptions due to maintenance tasks and upgrades.

In the field, scalability and speed are just as critical. If, for example, a unit needs to plan for recurring war game drills, the unit will need a higher level of performance and capacity during those peak times. Buying and installing enough storage to meet that "high water mark" could require too high an investment for resources that will otherwise be idle the remainder of the time. Managing the cycle of rising and falling demands for resources needs to be done efficiently.

Ensuring that data and applications are always available,

fast, and protected as well as having data movement between Core and Edge automated, is a continuing challenge for deployed troops. For many, the solution is adopting a Storage as a Service (STaaS) model. With this model, units proactively receive the storage capacity needed without worrying about the delays or burden of a recurring procurement process. Not only does this improve the user experience and advance the mission by ensuring that resources are available, but can free up personnel to perform more essential tasks.

Consuming technology as a service is gaining steam throughout federal government. It's so prevalent, in fact, that some are probably using this model without even knowing it. One report, for example, found that more than 20 percent of government software is consumed as a service, and that number is growing. The DOD also is a big consumer of the as-a-service model, and most branches of the military are moving toward an enterprise infrastructure-as-a-service model.

Reliability and simplicity lead the way

Whether a unit needs additional capacity for an ongoing mission or the commander needs fast access to multiple data sources to make a critical decision, the keys to successful data and application storage in the field are reliability, scalability and simplicity. The STaaS model is a very effective way to get there.

"When you're in the field, you just need what you need. You shouldn't have to think twice about it, or be concerned about specifying what kind of storage houses the data," said Paul Napoli, DOD solutions architect and team lead at HPE. "With the storage-as-a-service model, you can be sure that data is always available, always performs at the level needed, and confident that data movement and protection are automated and therefore reliable."

If a unit needs backup or disaster recovery capabilities (Tier 2), for example, the STaaS model might provide an AI-based hybrid Flash array under the covers for that purpose. If a mission requires higher performance

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storage, the as-a-service model may supply AI-based all-flash high-performance storage (Tier 1). And if the utmost level of resiliency with zero service disruptions is needed for mission-critical applications carrying strict Service Level Agreements (SLA), the STaaS should be able to provide that Tier 0 experience as well.

In addition to getting the storage performance and capacity where and when you need it, the STaaS model ensures that units have modern technology on a pay-as-you-need basis, without having to commit capital resources to technology that can become obsolete over time. HPE GreenLake, for example, has shown a CapEx savings of up to 40 percent and an IT resource savings of up to 40 percent. Much of that savings is generated by eliminating the need to over-purchase equipment just to ensure enough capacity for peak periods. Proactive monitoring and AI assure that additional capacity is readily available, but paid for based only on what is consumed. When capacity is no longer needed, it's no longer paid for even though it remains readily available when/if needed again.

There are several ways to approach Storage as a Service. Many agencies find that the best model provides storage capacity to organizations with a comfortable buffer for growth. Once the storage is installed, it can be operated as if it were in the cloud, whether the hardware is physically in a centralized data center or at the edge. The service provider monitors how the organization is using the storage, billing only for what's actually used, and adding capacity as required without disrupting on-the-ground operations. As consumption increases, the service provider monitoring usage will proactively engage the customer to install

additional capacity to ensure smooth operations and available resources.

In addition to reliability, simplicity, and cost control, the STaaS model is much faster than acquiring or provisioning with most storage models, with little to no disruption. HPE GreenLake, for example, allows organizations to get the storage they need 75 percent faster than other methods, with 85 percent less unplanned downtime.

Intelligence is key

When choosing a STaaS model, it's important to make sure that the storage solution behind the scenes is as intelligent as possible. This allows the technology itself to predict and prevent disruptions across storage, servers and virtual machines. For example, the new HPE Primera has an embedded AI engine to optimize storage operations in real-time. For example, with application-aware resiliency, if the storage hardware becomes overtaxed, the system is able to determine what's needed to compensate and ensure enough resources are made available for critical applications.

While intelligent storage devices are important, don't overlook the importance of an intelligence-enhanced service model behind the scenes. With predictive analytics built into a service platform, most problems can be predicted and resolved before users are even aware issues were looming.

The analytics should be able to get more specific as well. With HPE InfoSight as part of the GreenLake offering, predictive analytics are so granular that the system could proactively note a performance problem with a specific storage array and recommend the specific upgrades that allow the array to continue operating at an optimal level. The value of this is obvious for a single array, but even more

so when managing infrastructures consisting of multiple arrays, even if they are distributed around the globe. The platform also monitors VMware virtual environments. It could, for example, automatically identify a problem causing a SQL Server to periodically slow down by determining that it shares a VMware data store with another virtual machine, a "noisy neighbor," which consumes too many shared resources when that VM initiates intensive tasks such as virus scans.

When it comes to analytics, the more insight offered across the entire data center stack, the better. If a vendor releases a new firmware patch that exposes a software bug with a specific network card driver, the platform should be able to identify the problem, then prevent that problem for any other data centers by black listing the suspect code, while the vendor issues a hot patch that remediates the problem. In the case of HPE InfoSight capabilities, a problem such as this experienced by one user would be identified and fixed, thus automatically preventing it from reoccurring for all other installations. A problem solved for one, is proactively avoided for all others.

"Today's troops have no time to deal with procurement, maintenance, upgrades or performance problems," Napoli said. "The Storage as a Service model, done right, takes care of all of those issues, while improving TCO and peace of mind."

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