

Flash storage is becoming a game changer for agency data centers. Here's why.

5 Ways Storage is Holding You Back

Every day, government agencies grapple with new data challenges. Constrained resources, increased workloads, and the need to reduce the number of data centers require organizations to become more efficient in how they acquire, store, use, and analyze data.

At the same time, the public expects a new, higher level of service in which information is presented cleanly and quickly, as it would be from Google or any other private sector company.

To address these challenges, government IT departments are exploring a range of solutions, including more modern storage options. Many are finding that solid-state, flash storage—once prohibitively expensive—has become practical and, in many cases, a game changer for agency data centers.

Not convinced? Here are five reasons to consider upgrading to all-flash storage.

1 PERFORMANCE ISSUES More and more, the public measures their satisfaction with government against their online user experience. How quickly can I find information? How long does it take to complete a transaction? How long will I have to wait on hold if I contact a government call center? With more applications being hosted in the cloud, constituents expect flawless performance and no downtime from virtually all applications.

Citizen satisfaction with government services declined for the third consecutive year, dropping to a nine-year low in 2015, according to the American Customer Satisfaction Index¹. The ongoing transition to digital channels presents an opportunity for agencies to dramatically improve the citizen experience –

if they can deliver easy access to services and performance that's on par with the best consumer websites.

Given its ability to consolidate multiple applications on a single array while accelerating application performance, flash storage delivers the fast and seamless response that users expect. More responsive applications reduce the time required to perform online tasks, which contributes to a more satisfying user experience.

By replacing 30-year-old spinning disk technology with flash, agencies can deliver improved online services to constituents and internal stakeholders – as much as 10 times faster than with traditional storage. Even legacy applications, which are common in government agencies, will seem more modern due to improved performance.

Flash storage's ability to support virtualization further enhances the user experience. When multiple virtual machines reside on a single server or cluster, disk speed can become a limiting performance factor. Flash storage overcomes this limitation because flash drives operate at the speed of memory.

2 EXPONENTIAL INCREASE IN DATA

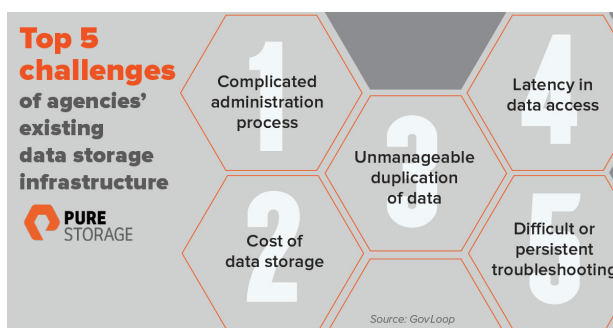
Multiple data sources, disparate data types, and sheer data set sizes come together in the big data phenomenon. The growth trajectory is almost incomprehensible: IDC predicts that the total amount of digital data created globally will more than double from fewer than 20 zettabytes in 2017 to 44 zettabytes by 2020, and then quadruple to 180 zettabytes by 2025².

While difficult to manage, big data promises to yield new and valuable insights when combined with the right analytical tools and of course, analysis happens faster on flash.

To manage all this data and analytics, an agency's IT infrastructure must be highly scalable, rapidly accessible to multiple applications,

and flexible. Of course, agencies must acquire these capabilities without exponentially expanding their operations budget. They cannot hire IT staff at the same rate that they're increasing data storage, nor can they expand the walls of the data center to add rack after rack of storage.

Because flash storage requires less labor and time to update and can be deployed without specialized training or costly vendor assistance, agencies can quickly and cost-effectively add capacity and performance whenever it's needed.



3 COMPLEXITY A 2015 IDG study found that IT spends more than two-thirds of its time on maintenance and operations (68%) vs. innovation (32%). Four in 10 organizations said maintaining legacy environments was a barrier to innovation³. Adding to the growing data center challenge, many governments have highly specialized resources (and sometimes outside contractors) focusing a significant amount of time on storage. Complex administration procedures, difficult or persistent troubleshooting, and unreliability of spinning-disk technology can disrupt workflows, disconnect users from agency services, and require longer shifts for an already overworked IT staff. While hybrid solutions emerged into the market to capitalize on the performance benefits of flash, they added even more layers of complexity to storage management and administration.

With all-flash storage, there's no need to spend time analyzing which applications will run on

5 things to look for in a flash-storage solution

The benefits of transitioning to flash storage are clear, but not all flash storage providers are equal. Here are five critical features to include on your flash-storage shopping list.

EXCEPTIONAL PERFORMANCE
Make sure you're getting the level of performance necessary to run disparate, virtualized, resource-intensive applications. Flash arrays should provide consistent sub-millisecond latency across your enterprise.

AUTOMATED + SERVICE-CENTRIC
Storage technology should be simple to manage and use. Look for a solution that eliminates the knob turning, tweaking and architectural design challenges that data storage teams typically face.

ALWAYS ON
Don't settle for lower performance during maintenance. Look for an architecture that will allow applications to continue to run at the full speed employees expect, and eliminate maintenance windows.

SUPERIOR DATA REDUCTION
Data-reduction technologies can combat capacity constraints. The industry average for data reduction is 2 to 1, but superior flash arrays can achieve >5 to 1. A Proof of Concept can help determine what levels of data reduction you can expect.

BUILT TO SHARE + SCALE
Agencies don't have to commit to a solution that outstrips their needs. Look for a solution that provides the flexibility to start small and grow capacity and performance as your needs dictate.

SHARE NOW!
f in t

PURE STORAGE

flash, no ongoing performance tuning, and no performance trade-offs. Due to a modular architecture, some flash arrays can even be upgraded non-disruptively during business hours. This, in itself, can be hugely beneficial to government agencies that support emergency management or other critical services that have no tolerance for downtime.

Flash-based storage also decreases concerns over physical space to house storage servers because flash stacks are physically smaller. Additionally, flash requires significantly less electricity not just to power the flash arrays, but to cool the data center. This makes the investment in flash a wise and environmental-friendly choice not just for today, but for the future, as agencies' data storage needs continue to grow.

4 THE RISE OF MOBILITY The mobility revolution has not bypassed government, and IT organizations struggle to deliver mobile solutions at the rate and quality that it's expected. Nearly half of public sector employees say the increased use of mobile devices is leading them to re-evaluate their storage strategy⁴.

Increasingly, telework solutions with virtualized desktops are needed to support flexible work schedules for public sector staff. Government inspection workers need to be productive while working offsite. Whatever their roles, government employees want to be as productive at work as they are managing their personal lives, leveraging mobile technology.

While VDI is a common solution that enables mobile access from any form factor, IT veterans know that many VDI projects have had a high failure rate, either because of performance issues or because the storage has proven to be cost-prohibitive. However, all-flash storage has changed the game for VDI. With 10:1 data reduction, the cost of storage becomes truly affordable. VDI solutions can not only accommodate more users but can scale quickly. All-flash storage reduces latency and ensure fast service for mobile users, providing a seamless and efficient user experience.

5 SECURITY CONCERNS Data is the last, but arguably the most important, piece of the security architecture. As the amount of data sets and information access points increase, the potential targets for cyber

attacks continue to grow. U.S. state CIOs have ranked security and risk management as their No. 1 priority for the past four years⁵.

To safeguard sensitive information, government organizations must secure every component of their IT infrastructure.

In particular, attention should be given to protect storage solutions. Storage is connected to nearly all other agency applications and can compromise security at all levels of an organization. Agencies should purchase storage solu-

48% of public sector employees say the increased use of mobile devices is leading them to re-evaluate their storage strategy.



tions that are not just encrypted with AES-256, but that are hardened by default. This protects government IT organizations from both internal threats and also human error.

Using flash under a security software suite is also recommended as it allows agencies to enhance the capabilities of threat detection and prevention. It not only increases their ability to identify attacks but allows them to identify a breach sooner to limit its potential damage.

CONCLUSION

Agencies attempting to meet new demands for increased performance, analytics, and mobility often find that their IT infrastructures aren't up to the task. A primary stumbling block is the current state of storage solutions. With the price of flash coming down, there's no good reason to continue to invest in 30-year-old technology that is inefficient and burdensome to your IT staff.

Having the right storage platform is key to modernizing the infrastructure and meeting not just the increasing demands you face today, but those of the future. Agencies need an architecture that will not just deliver speed and performance, but will enable a simpler management experience, deliver a lower TCO, and that will scale to support long term goals.

For more information, visit
Storing the Data to Power your Agency

1 ACSI Federal Government Report, 2015

2 "IDC Outlines The Future of Smart Things," March 2016, Forbes

3 Market Pulse, June 2015, IDG Research Services

4 "Storing the Data to Power your Agency," GovLoop/Pure Storage

5 State CIO Priorities, November 2015, National Association of State Chief Information Officers

