Outdated IT Leave Agencies Vulnerable to Waves of Trouble

When it comes to managing the IT enterprise, agencies face a number of challenges that can't be met with their existing infrastructure. That infrastructure is fragmented, difficult to secure and costly to manage.

As agencies face wave after wave of problems – from the rising threat of cyberattacks to increasing requirements for better, more cost-effective performance – the cracks are beginning to show. Agencies need to rethink their approach to withstand both current and future challenges.

An Ocean of Trouble

Wave #1: Increasingly damaging cyberattacks

Recent high-profile cyberattacks show what agencies are up against.

- The Russian Foreign Intelligence Service **injected malicious code** into network management software widely used in both the public and private sectors. More than 18,000 organizations, including numerous federal agencies, downloaded the infected code, which created a backdoor into their systems that the malicious actors could exploit.
- In one of the highest profile attacks on the nation's critical infrastructure, malicious actors disrupted the delivery of gasoline and related products across the southeast United States. Rather than attacking the pipeline itself, the group known as DarkSide used **one stolen password** to launch a ransomware attack targeting the business systems of Colonial Pipeline.



0 out of 23 is the number of civilian agencies that had fully implemented key foundational practices for IT supply chain security, **according to the Government Accountability Office (GAO)**

Wave #2: Too many products, too many patches

The IT enterprise is growing increasingly complex, and that complexity is making it difficult for agencies to keep up with patches and other aspects of basic cyber hygiene. And malicious actors know it.

60% **of breach victims** have said they were breached due to **an unpatched known vulnerability** where the patch was not applied

62% were unaware that their organizations were vulnerable prior to the data breach

78% of organizations use **more than 50 cybersecurity products** to address security issues where the patch was not applied, and Gartner reports that the pandemic led to increased nation-state activity from advanced persistent threat groups targeting healthcare and essential services – and that these actors are **exploiting unpatched vulnerabilities.**

Wave #3: Tough competition for cyber talent

Federal agencies are facing increasingly tough competition for cybersecurity professionals as demand for cyber talent continues to surge.

350% – The growth in the number of **unfilled cybersecurity jobs** over the last eight years, from one million positions in 2013 to 3.5 million in 2021

950,000 – The number of positions in the **U.S. cybersecurity workforce**, of which approximately 465,000 remain unfilled

50 – The number of NFL stadiums that could be filled by **the world's open cybersecurity positions** in 2021



Wave #4: A public cloud reality check

Organizations are beginning to realize that the public cloud is not necessarily the best option for mission-critical data. A hybrid cloud approach is becoming the default.



81% of federal agencies are already **using multiple cloud platforms**

72% of cloud users have **a mix of on-and off-premises clouds**

11.1% is the expected **compounded annual growth rate** through 2024 for on-premises systems, despite continuing growth in public cloud spending

"Hybrid cloud has become central to successful digital transformation efforts by defining an IT architectural approach, an IT investment strategy, and an IT staffing model that ensures the enterprise can achieve the optimal balance across dimensions without sacrificing performance, reliability, or control."

- International Data Corp.

Wave #5: A data explosion

The volume of data organizations are using continues to grow exponentially, with a lot of that growth involving unstructured data. Agencies need to figure out how to ensure that data is both accessible and protected.

60-73% of enterprise data **goes unused** for analytics

80% of data will be **unstructured** by 2025

33-175 is the amount, measured in zettabytes, that **global data** is expected to grow between 2018 and 2025



A New Foundation

To overcome these challenges, agencies need to build a new foundation for the IT enterprise. Agencies need to base its operations on a modern architecture that delivers better performance, heightened security and consistent management.

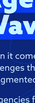
Here are the five building blocks of the modern enterprise:



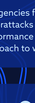
Hyperconverged infrastructure (HCI) – An HCI appliance replaced the traditional three-tier infrastructure with an integrated stack of compute, network and storage resources, which is easier to manage and easier to expand as your requirements grow.



Virtualization – HCI, in turn, serves as the foundation for an enterprise virtualization environment, improving the ease of deployment, performance and manageability of virtual servers and desktops.



Full integration with the cloud – Next, build the foundation for a seamless hybrid cloud environment by integrating virtualization and cloud operations, making it easier to move workloads back and forth between the on-premises systems and the cloud.



Single-pane-of-glass management – With that tightly integrated infrastructure in place, agencies can centrally manage the entire environment, ensuring systems are up to date and fully patched.



Data center to the edge – The combination of HCI, virtualization and cloud also provides an unprecedented to extend core IT services to wherever users or services are required, whether in home offices or in the field.

Outcomes of the Modern Enterprise

In a study of its customers, **Dell Technologies** found that HCI delivered on key bottom-line metrics, including:

- **452%** ROI over five years
- **10** months to payback
- **92%** less unplanned downtime
- **72%** lower operational costs, IT staff time and lost productivity, unplanned downtime
- **51%** lower five-year cost of operations



Meanwhile, **a recent study** conducted by the Enterprise Strategy Group (ESG) highlighted how this new foundation can deliver on strategic outcomes:

- HCI users were 6.7x more likely to have hybrid cloud initiatives underway that were "highly effective" at driving value for the organization
- They also were more likely to have moved at least one mission-critical workload from the cloud back to the data center (83% for HCI users, 69% for others)
- In general, organizations with the most mature on-premises data storage and protection environments complete 57% more of their cloud projects ahead of schedule
- They are also 2.3x more likely to be very confident in their ability to meet their organization's hybrid cloud goals

The modern enterprise – built on a foundation with HCI at its base – provides agencies with an opportunity to strengthen the performance, security and manageability of their operations, and to position themselves to address both current and future requirements.

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