Time for a Tech Refresh: 5 Signs Your Federal Agency’s Legacy Systems Need an Upgrade
Federal technology leaders recognize the need for systems modernization. They are looking to move beyond legacy solutions, both in support of an improved employee experience, and in order to meet the call for improved citizen service, as embodied for example in the Executive Order on Transforming Federal Customer Experience.

Many have set their sights on cloud adoption, with federal cloud spending topping $11 billion in 2022. But cloud computing is not a one-size-fits-all solution, and the U.S. Government Accountability Office has highlighted several roadblocks to fully leveraging cloud computing, including potential gaps in cybersecurity, challenges around upskilling the workforce, and difficulties in accurately tracking costs and savings.

Despite the hurdles, GAO finds an urgent need to modernize. Legacy systems provide “vital support to agencies’ missions,” the Office reports, yet many are verging on ancient, ranging in age from 8 to 51 years old.

Of the federal government’s annual $100 billion IT spend, “agencies have typically spent about 80% on the operations and maintenance of existing IT investments, including legacy systems. However, federal legacy systems are becoming increasingly obsolete,” GAO reports. That’s a source of concern to many in government. As agencies look to the future, it will be important to regularly assess the status of these legacy and on-premise assets. To ensure their systems are modernized and optimized, they need to forge a data fabric that integrates the best of on-prem and cloud infrastructure.

Many will determine that a “tech refresh” offers the best avenue for steering toward modernized solutions. A periodic refresh of the technology infrastructure enables them to reduce costs while also increasing the productivity of IT, data science, and data management teams.

Here, we’ll explore the reasons why federal agencies need to be on top of legacy modernization. We’ll offer a checklist to help IT leaders know when it’s time for a tech refresh and explore how NetApp can help.
The Current Landscape

Given the aging nature of legacy systems, and the fast pace of technological change, agencies face a number of risks if they fail to move aggressively and systemically on their modernization efforts. Simply put: There’s too much at stake.

“The risks to excessive delays surrounding refresh and modernization are vast,” said Darrell Griffith, an Advanced Technical Specialist (ATS) working in the public sector space for NetApp. These may include:

- The financial cost, as well as the drain on time and talent, that comes with maintaining legacy systems;
- The increasing “fault domain” of legacy systems — the likelihood that multiple components will share a single potential point of failure;
- Performance issues, including an inability to scale in support of expanding mission requirements, as well as ever-expanding cybersecurity liabilities.

“Technology advances faster than ever these days, including fabrication methods, processor efficiency, platform engineering, and even aspects of operational resiliency and availability,” Griffith said. “Workloads only seem to increase, and the glut of data acquisition is never-ending.”

All this has an impact on agencies’ ability to meet their missions. “Federal service delivery has not kept pace with the needs and expectations of the public. The American people deserve a government that puts people at the center of everything it does,” said Federal Chief Information Officer Clare Martorana.

In this environment, platform adaptation is paramount to securing federal agencies’ mission objectives.

“When comparing today's platform improvements and technological advancements against aging, comparatively insecure equipment that continues to be pressed into service well beyond their optimal years,” a well-planned refresh is the obvious path forward, Griffith said.
Looking beyond these significant issues, modernization can also help agencies to address their regulatory and compliance obligations. In many cases, in fact, modernized solutions are required to meet the expectations and parameters for public sector entities, and to meet specific mandates.

It’s apparent that a “clearly defined federal IT strategy, paired with more money that's distributed through expanded dedicated IT funding channels, would help accelerate IT modernization in the federal government,” according to the Information Technology & Innovation Foundation.

But a tech refresh can be a major undertaking. How to know when it’s time to make the move?

5 Signs That It’s Time to Refresh

Experts point to the IT refresh as the means for advancing government efforts. “Modernization is the first step in adopting disruptive digital, cyber, and cloud technologies that are driving change across business sectors and government,” according to a Deloitte public-sector report. “IT modernization gives agencies the foundation they need to meet dynamic end-user requirements and stand up a modern enterprise.”

In the big picture, most IT leaders will have a strong sense of where they stand in terms of infrastructure lifestyle. “Obvious indicators are the ongoing cost of support and maintenance relative to the performance and delivery of the equipment at hand,” Griffith said.

From that starting point, different agencies will take different approaches to technology, guided by a combination of strategic considerations and budgetary constraints. Across the board, though, a few specific considerations typically will indicate that it’s time for a refresh.

• Lack of future-proofing: “Does the equipment meet current workload and performance demands — not just today, but for projected, potentially parallel modernization efforts elsewhere that will impact and leverage this very same infrastructure?” Griffith said.

When present solutions don’t align with those bigger-picture efforts, it’s likely time for a system refresh.

• Budgetary considerations: In pondering a potential refresh, IT executives need to be thinking not just about the cost of upgrades, but also about the expense associated with inaction, as well as the potential for reducing costs with a more efficient, less labor-intensive infrastructure.

IT leaders need to consider “the OPEX cost of retention, versus the upside of CAPEX refresh,” including reduced costs around support and maintenance, Griffith said. Weighing those numbers will often indicate that a refresh can deliver overall savings.

• Security concerns: In a heightened threat environment, the cybersecurity liabilities inherent in a legacy solution need to be taken into consideration. The key question: “How well is the current infrastructure addressing threats reactively — and, even more so, how is it positioned to proactively adapt to new and pressing security threats?” Griffith said.

With the cyber landscape ever more perilous, government agencies cannot afford to risk the reputational risk that comes with a highly publicized breach. A thoughtful analysis typically will indicate that legacy architectures lack sufficient flexibility to adapt to emerging threats, an indication that it’s time for a refresh.

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- Darrell Griffith, Advanced Technical Specialist (ATS), NetApp
• **Opportunity cost:** Considering the benefits of modernization, from improved security to enhanced operational capacity, agencies need to consider what they’re missing by failing to refresh legacy systems.

Take into account what you stand to lose by not upgrading, in terms of partner engagement, citizen service and cyber readiness. In a careful analysis, many will find that the opportunity cost of sitting still outweighs whatever concerns may be holding back a move toward a more modernized architecture.

• **Cataclysmic failure:** IT infrastructure is the underlying mechanism supporting virtually aspect of government operations. Simply put: Agencies cannot afford to fall behind.

With insufficient IT infrastructure, agencies can find themselves unable to perform basic tasks, and will almost surely discover that they lack the scalability and flexibility to adapt to ever-growing mission requirements, fed by ever-larger data sets. The cyber risk only adds urgency to the equation.

**DEEP DIVE: Cloud Isn’t Always the Answer**

Many in federal government have turned to the vast scalability and flexibility of the cloud, including hybrid cloud and multi-cloud deployments, as the main avenue toward modernization. Nearly one in five government organizations now are operating fully in the cloud, KPMG reports, and many more are heading in that direction.

In considering a tech refresh, though, it’s important to remember that cloud isn’t the answer to everything.

“Several valid reasons remain for keeping data local, on-prem, and out of the realm of possible public exposure,” Griffith said. Security is the top consideration. “There are simply some functions, data and compute that are too sensitive to place anywhere but the most tightly controlled, secured, and monitored environments.”

In addition, cost is a consideration. “The cloud is simply cost-ineffective for select and specific workloads, data, and operational functions,” Griffith said. With this in mind, agencies need to conduct “a careful analysis of which workloads will truly benefit from the agility and speed of cloud and, candidly, which ones clearly will not.”

On-prem will never fully go away. Appropriately refreshed and well-architected, a modernized infrastructure that includes both on-prem and cloud deployments “will continue to bring excellent value and inarguable benefits” to some federal IT environments, he said.

**How NetApp Helps**

NetApp works closely with an ecosystem of well-equipped partners like immixGroup and other providers to bring to bear a wide range of expertise, experience, and talent in support of federal modernization efforts.

NetApp experts support federal agencies with engineering consultation services vital to sizing and architecting an IT refresh. Through listening, learning, and discovery, the NetApp team delivers crucial guidance and engineering advice.

NetApp can also bring to the table several tools, information-gathering facilities, and even zero-cost workshops in support of a refresh that supports improved operational outcomes and proactive positioning for net-new approaches to future models of hybrid and multi-cloud operations.

**Learn more** about how NetApp can help your agency modernize legacy infrastructure.