Cloud-smart strategies for IT infrastructure modernization

Introduction

The need to update digital infrastructure is more urgent than ever. To improve cybersecurity, meet residents' evolving expectations, and alleviate workforce pressures, local governments must have modern, efficient systems.

IT decision-makers know the value of modernizing digital infrastructure and moving to the cloud, but prioritizing cloud migration can sometimes be challenging.

"Government leaders recognize that modernization to the cloud gives you a better return on investment," says Russell Gainford, chief cloud officer with Tyler Technologies.[1] "You can substantially lower your total cost of ownership and improve your cybersecurity posture. But it's an investment to get there and you're submitting that funding request against many other priorities."

This paper outlines four steps that will help guide your modernization efforts and simplify cloud adoption.

More than two-thirds of surveyed governments cited budget constraints as their top modernization challenge.

Top modernization challenges for local governments

Limited budget **70%**

Cybersecurity/data privacy concerns **53%**

Balancing the needs of multiple departments **50%**

Resistance to change **50%**

Source: Center for Digital Government survey. July 2024.

Step 1:
Prioritize modernization based on your business goals

Start by clarifying your overall vision and goals. Then you can identify the technology and processes that will help achieve them.

According to a July 2024 Center for Digital Government (CDG) survey of 141 local government leaders, the following drivers most strongly influence jurisdictions' prioritization of IT modernization projects: cybersecurity risk assessments (59%), critical infrastructure needs (57%), and potential cost savings or efficiency gains (50%).

Cybersecurity risk. Legacy infrastructure was not designed with today's cybersecurity threats in mind. Encryption and other controls are not built in. Poor network segmentation creates a wider risk radius.

When prioritizing modernization, consider which legacy systems are most critical to operations and most vulnerable to attack, how a breach would impact constituents and continuity of services, and what the recovery costs would be.

Critical infrastructure needs. Strategies for critical infrastructure should factor in capital expenses as well as operational expenses and staff resources for maintenance, updates, and other ongoing management of on-premises solutions.

Cost savings and efficiency gains. "One of the nice things about putting workloads, applications, and infrastructure in the cloud is you get fine-grained accounting, along with flexibility and elasticity to meet your unique needs," says Arun Krishnaswamy, a senior solutions architect at Amazon Web Services.[2] "You get a best-in-breed security environment as well."

Setting up solutions in a cloud environment is extremely fast, making it efficient and affordable for organizations to develop applications, run pilot projects, and accelerate innovation.

"If you're running a proof of concept, you could spin that up in an afternoon, run it for a week, get some data out of it, and spin everything down. You'll only pay for the time that you're running the project," says Krishnaswamy. "An on-premises environment cannot match that."

Setting up solutions in a cloud environment is extremely fast, making it efficient and affordable to develop applications.

Step 2:
Build cybersecurity into infrastructure modernization

When it comes to cybersecurity, the CDG survey found that rapidly evolving threats (62%), limited budget (53%), outdated technology/systems (45%), and insufficient cybersecurity staff and training (38%) are top challenges.

Cloud environments are engineered to be highly secure. For example, AWS encrypts data, storage disks, and network traffic by default. Specialized hardware helps run AWS infrastructure, so even the most privileged administrators at AWS cannot access your data on AWS infrastructure.

Extensive intelligence and threat monitoring, a strong bench of highly trained cybersecurity specialists, and finely tuned best practices also contribute to a strong security posture in the cloud. Organizations with limited cybersecurity staff and resources gain all these benefits from a cloud provider at a fraction of the cost of in-house solutions.

"There's a misconception that if a server is in my data center, it must be more secure than out in someone's cloud," says John Matelski, executive director for the Center for Digital Government and former CIO of DeKalb County, Georgia.[3] "The reality is many cloud providers invest so much more in research, expertise, and security capabilities in a day than government agencies could hope to budget for a decade."

Working with a cloud provider gives organizations multiple benefits at a fraction of the cost of in-house solutions.

Step 3:
Engage with cloud providers for effective solutions

Cloud provider support is essential to modernization.

Quality of ongoing support and maintenance (60%), total lifetime cost of the solution (55%), compatibility of the solution with existing systems (50%), and provider technical expertise (49%) are jurisdictions' most important requirements when selecting a technology provider, according to the CDG survey.

Jurisdictions must meet complex, ever-changing requirements. At the same time, the systems they invest in must serve them well over time while remaining cost-effective.

"You need partners that are with you for the long term — for the full modernization strategy, as well as for ongoing support for growth, needed changes, and future initiatives," says Tyler Technologies' Gainford.

Leading cloud infrastructure providers build for the long term and have extensive experience working with state and local government agencies. Their solutions architects and professional services staff have years of experience modernizing legacy solutions, moving government workloads to the cloud, and integrating them with on-premises solutions.

Partners such as Tyler Technologies, which exclusively serves the public sector, can assist local governments in overcoming modernization challenges by proposing products and solutions that consider costs and maximize ROI.

"When you work with a cloud provider and a partner like Tyler that do this day in and day out, you can significantly accelerate and de-risk modernization," says Krishnaswamy.

Step 4:
Make a plan and take action

To overcome challenges with modernizing IT infrastructure, more than half of jurisdictions rely on phased implementations (57%) and engagement with providers (51%), according to the CDG survey.

With a multi-year strategic plan and strong governance, you can pace modernization according to your budget and staffing constraints, rack up wins along the way, and still reach your modernization goals.

"As you go through those phases, make sure the new things you purchase align with your strategy," Gainford says. "For example, purchase SaaS rather than something for the current infrastructure environment if you want technology that will scale with your needs."

It's also important to train your staff to support new technologies. Consider building initial training into your implementation budget.

Finally, remember there is a risk in *not* creating a plan and taking action. A shrinking workforce, increasing technical debt, evolving cyber threats, and expiring support contracts all contribute to risk.

"Even if your project takes time, plan it out and get started, because the time and the cost to delay modernization can impact your jurisdiction," says Gainford.

With a multi-year strategic plan and strong governance, you can pace modernization according to your budget and staffing constraints.

1. https://webinars.govtech.com/The-Modernization-Balancing-Act%3A-Prioritizing-the-Move-to-the-Cloud-142823.html
2. Ibid.
3. Ibid.

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Tyler Technologies and AWS have a strategic collaboration that enables the public sector to experience all of the great benefits of the cloud, such as business continuity, continuous delivery, enhanced security, and technology that is always up to date. **Learn more here**.