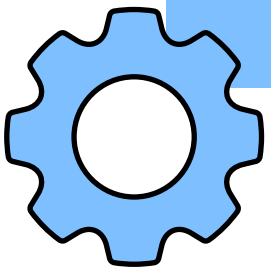
How to Build Better Community Engagement Through **Modernization**



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Introduction

Modernization efforts typically focus on updating or replacing legacy technology — network, security, voice, etc. — often one piece at a time. But it's important to keep in mind that modernization is a means, not an end. The end goal should be the creation of a robust digital ecosystem that serves the community effectively, offering user-friendly engagement, uninterrupted service, secure data and fostering trust and involvement with the agency.

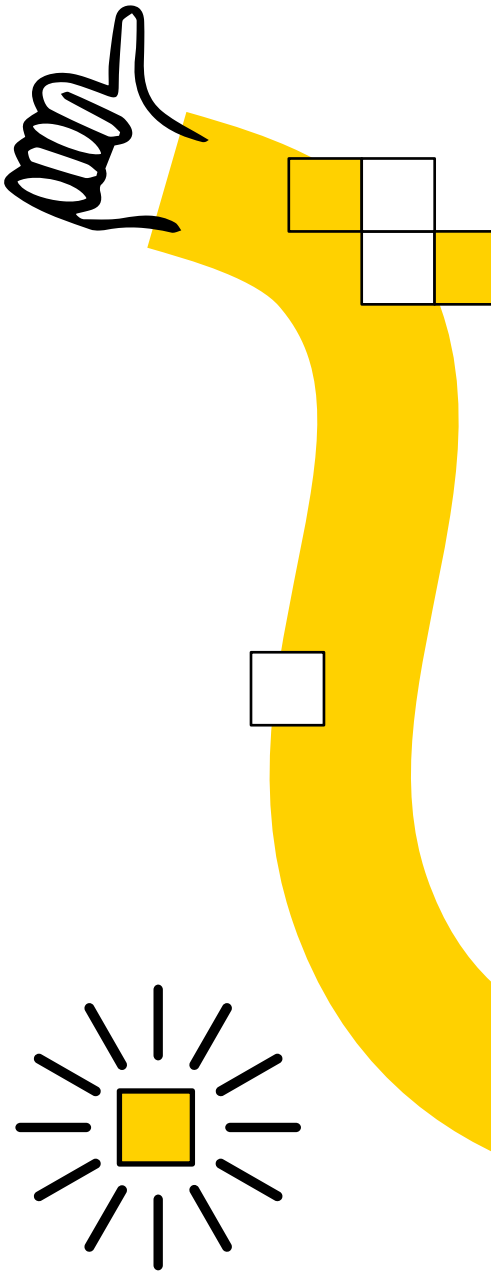
A modernized ecosystem in government needs to:

- **Optimize investments:** With the fiduciary duty to manage tax funds responsibly, agencies need to maximize their available budgets to solve multiple concerns at the same time while enabling long-term success.
- **Improve the user experience:** A robust modernization strategy needs to leverage technology to elevate community engagement and help employees be as effective as possible in their jobs.
- **Deliver security for both agencies and communities:** As agencies look to update their IT infrastructure, leaders need to ensure they are protecting and securing critical data and complying with all relevant regulations and mandates.

To achieve these complex outcomes, agencies must reframe their approach to modernization. Rather than implementing singular solutions to achieve one-off improvements, they need to step back and take a more holistic approach.

"As they address their legacy systems, their initiatives should be tied to a larger understanding of transformation," said Rohit Kumar, Director of Public Sector Product Management at Lumen. "There needs to be a planned phase-out of legacy systems over time, and they need to do that while ensuring they are meeting the highest standards around security and compliance."

In this playbook, we'll explore how reframing government's approach to digital transformation can help address common challenges across modernization efforts.

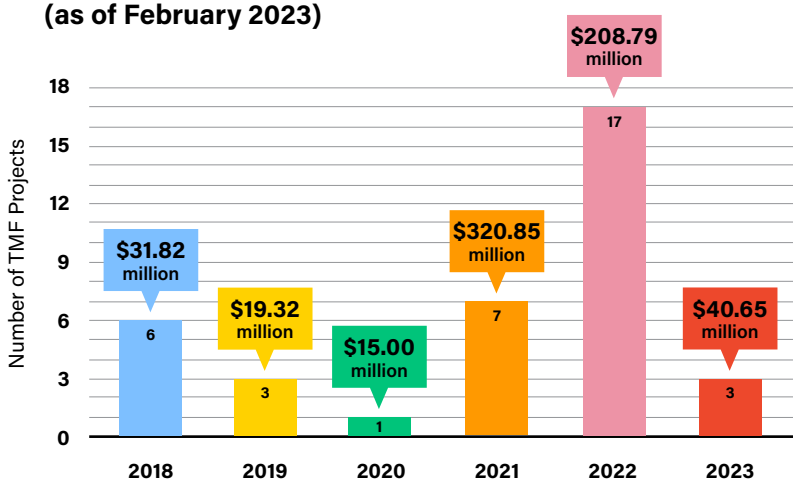


Need to Know

Feds Invest in Modernization

Congress has appropriated $1.23 billion to the Technology Modernization Fund (TMF) since its creation in 2018, of which $636 million has been awarded to 37 projects.

Project Awards Each Year (as of February 2023)



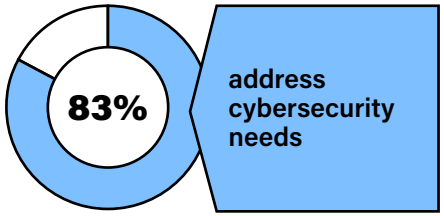
The Cost of Outdated Tech

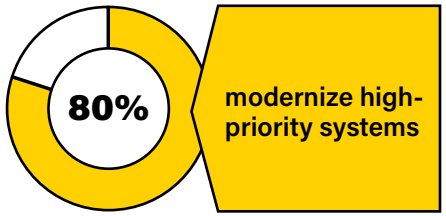
According to the Government Accountability Office (GAO), federal agencies typically spend about 80% of their annual IT budget on the operations and maintenance of existing IT investments, including legacy systems. GAO highlights four consequences of this reliance on legacy technology:

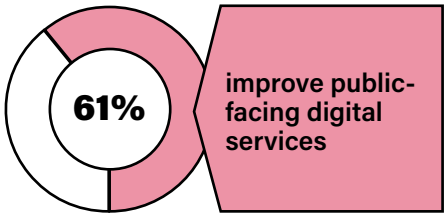
- **Security risks:** Legacy systems may operate with known security vulnerabilities that are either technically difficult or prohibitively expensive to address.
- **Unmet mission needs:** Legacy systems may not be able to reliably meet mission needs because they are outdated or obsolete.
- **Staffing issues:** Agencies have had difficulty finding employees with expertise in older technology and programming languages, such as COBOL.
- **Increased costs:** The cost of operating and maintaining legacy systems increases over time.

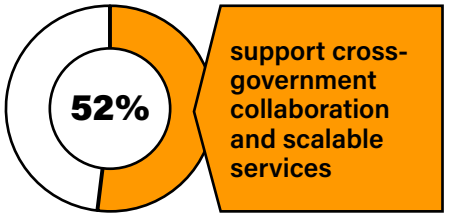
Modernization Priorities

TMF got a boost from the American Rescue Plan, resulting in 46 different investments, with a focus on four priorities:









Modernization in the News

"A majority of government leaders report significant barriers to tech modernization across the public sector," according to the 2024 Ernst & Young LLP Government and Public Sector trends survey. "To realize the full potential of modernization investments, government leaders should address the triple threat of legacy IT systems, siloed operations and a lack of skilled talent," said EY US Government and Public Sector Federal Leader Stacy Lindsay in releasing the report.

The TMF recently announced five new investments. At the National Transportation Safety Board, the Bureau of Land Management and the Department of Veterans Affairs, modernization will make it easier for people to access information and services. Two other projects will enhance cybersecurity in the Department of Labor and the Environmental Protection Agency, GSA reports.

Congressional leaders are concerned about the state of federal IT. In a hearing titled "Risky Business: Costly Inaction on Federal Legacy IT," the House Committee on Oversight and Accountability's Cybersecurity, Information Technology, and Government Innovation Subcommittee heard from experts on how legacy federal IT systems create security and operational risks and are costly to maintain. Subcommittee members explored ways in which Congress can refocus funding with an eye toward improving, retiring or replacing existing federal legacy IT systems.

Definitions

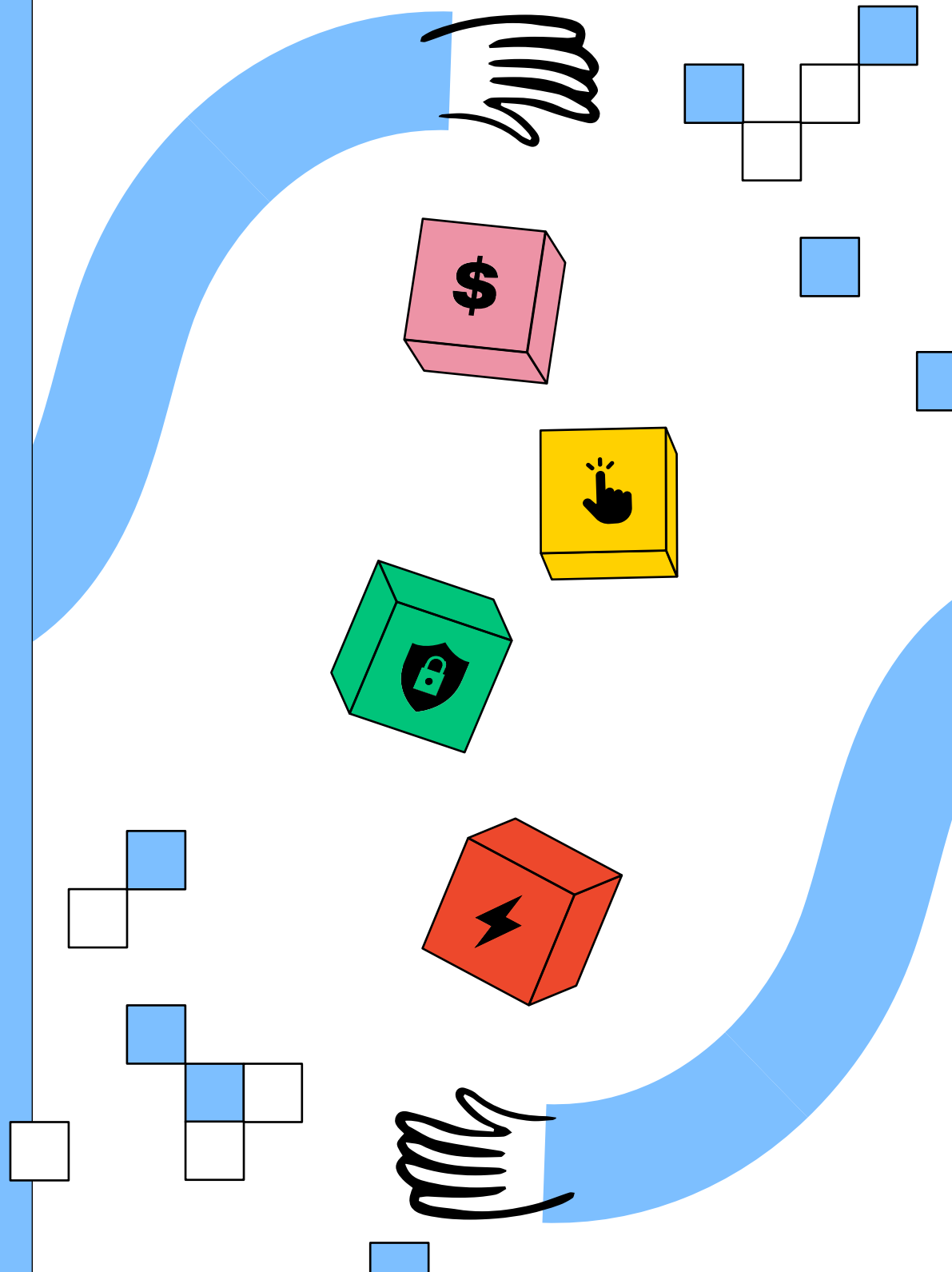
Legacy system: An information system that may be based on outdated technologies but is critical to day-to-day operations. (Gartner)

Digital modernization: Adopting new or upgrading current technology to meet organizational objectives. Often, this means improving response time, how long it takes to resolve an issue, up-time, security and end-user experiences. By focusing on digital modernization, an organization improves its chances of remaining relevant far into the future. (ATARC)

The Playbook: Four Pillars of a Robust Digital Ecosystem

As agencies rethink their approach to modernization, it makes sense to envision the end result as a robust digital ecosystem that serves the community as it expects to be served. And what community members expect is to interact with the government the way they do with business: through easy-to-navigate systems or portals, with quick, reliable, mobile-friendly and secure services.

By taking a big-picture approach and focusing on four key pillars of success, agency leaders at all levels of government can help ensure they are maximizing the benefits of their digital transformation efforts.



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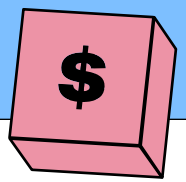

Investment Optimization and Budget Efficiency

With modernization comes the opportunity to reduce upfront investments and lower total cost of ownership, often through the use of cloud-based apps and on-demand consumption models.

"In networking, and across much of IT, modern technologies bring in new efficiencies as you shift from capital expenditure in a brick-and mortar setting to new pay-as-you-go consumption models," said Rohit Kumar, Director of Public Sector Product Management at Lumen.

From a fiscal point of view, modern networking tools enable agencies to reduce the costs associated with equipment redundancy. By shifting from hardware-based solutions to cloud-based capabilities, he said, "that is going to help you operate within budgetary constraints to be as efficient as possible in how you manage your resources."

These savings go beyond the initial procurement and processes. "You free up the expenses associated with maintaining and supporting a large IT resource, as well as costs tied to staffing resources," Kumar said. "Networking as-a-service (NaaS) should also have an impact on your energy consumption and costs related to that."

Often the stated goal of a modernization effort is to better serve the community and ease the burden on staff, but budgetary concerns naturally factor in as well. By reframing your approach to modernization and viewing cost factors as the underlying foundation to a more holistic approach, agencies are able to meet top-line goals in a way that aligns with their budgetary needs and supports the responsible and effective use of public funds.

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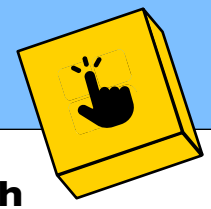

Improved User Experience Through Better App Performace

By and large, agencies recognize the importance of applications to deliver a modernized user experience to their constituents. But it isn't enough to just develop an "app for that." As they look to build a robust modern ecosystem, agency leaders need to think about what those apps require to best serve their communities.

This is a crucial part of the larger modernization conversation, since the ability of apps to respond instantly and ensure a seamless user experience depends greatly on the underlying network supporting the app. Agencies need ample bandwidth and the right type of network to deliver that quality experience to the end user.

"Everyone is concerned with 'community engagement,' and rightly so. Government entities are trying to create a more seamless user experience, and communities are demanding it," as they look to the public sector to deliver the same ease of use they encounter in their private lives, Kumar said.

"Bandwidth is a big part of the puzzle, along with server-side processing power, the efficiency of the code itself and of the application itself," he said. "All of this plays into creating a high-quality end-user experience, and it's something that governments must solve for as they look to enhance constituent engagements."

Here again, there's a real urgency to take a holistic approach. If agencies just modernize the interface — for example, offering a new app in support of mobile engagements — they've only solved part of the problem. IT leaders and other key decision-makers must be able to look at the bigger picture and consider how networks and other technology components support their short- and long-term goals.

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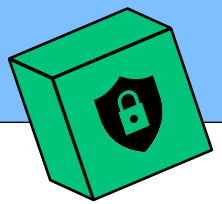

Security for Both Agencies and Citizens

As agencies look to transform the technology underpinning their operations, they'll need to do so with security top of mind. It's not just a matter of implementing better cyber safeguards: It requires truly understanding the constituent data on hand, and how the evolution of constituent touchpoints is reshaping trust boundaries.

"People increasingly are expecting online access to government services. Government is responding with new remote-access and mobile-access services, but that creates new attack vectors for cybercriminals," Kumar said.

"If online services are going to be front and center, you need to ensure you have robust security measures in place to protect sensitive data from unauthorized access," as well as to protect government from the liability and reputational damage that comes with a breach, he said.

As part of a well-rounded approach to modernization, government needs solutions that deliver secure authentication, anonymize data and deliver other key protection. "You need strong network security, as well as data encryption and ongoing vulnerability management," he said. "And you need to put a lot of focus on authentication, which is a huge topic these days. We have to go beyond simple passwords with solutions that can implement and manage things like multifactor digital certificates."

While agencies have always taken security very seriously, they often address the protection of data and systems in isolation, bolting safeguards and solutions on to other modernization efforts. Instead, they need to treat security as an integral concern, locking down data in systems consistently, in tight coordination with their other modernization efforts.

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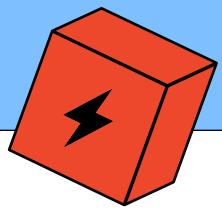


Better Performance Through Increased Granularity, Speed and Scale

With migration to the cloud, adoption of connectivity at the edge and the emergence of artificial intelligence-based capabilities, agencies should look to improve performance — that is, how effectively and efficiently their systems can support the needs of both constituents and employees trying to do their jobs. Cloud, edge connectivity and AI can work together toward that end, when viewed through the lens of speed, scale and granularity.

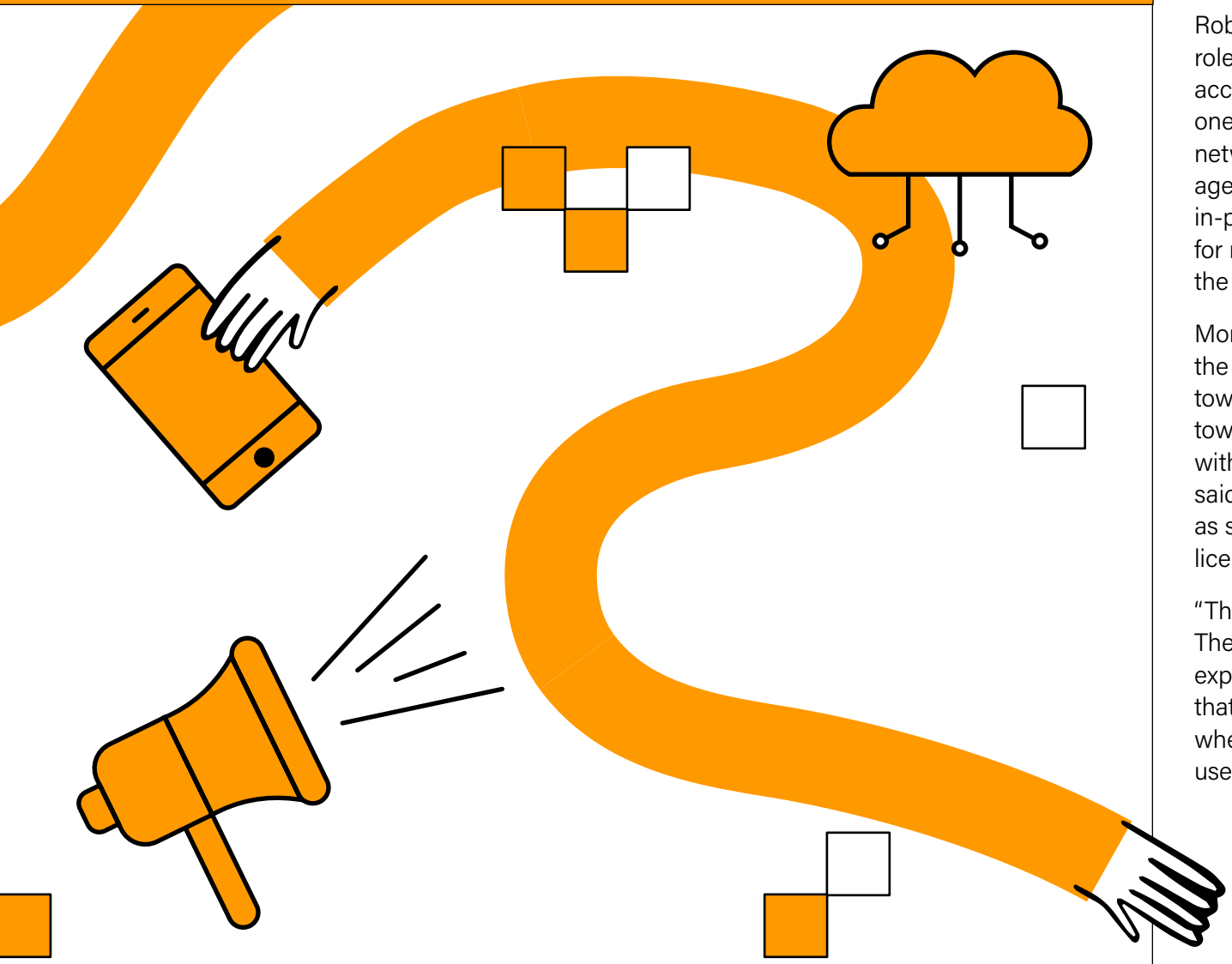
The massive compute capacity of cloud is built for speed, with the power to execute a vast volume of transactions at a blistering pace. And today's as-a-service business models answer the call for scale, giving agencies the ability to ramp their resource utilization up or down at the push of a button, especially during intermittent high-traffic periods such as filing taxes or election season.

AI and other new technologies deliver additional granularity and visibility. "You now have access to a plethora of analytical tools and options, allowing agencies to explore large data sets and uncover potential insights and patterns that may have been missed with legacy approaches," Kumar said. "What types of interactions happen with this data? How does the data move around? Now they can answer those questions."

With better insights at this more granular level, agencies can optimize the performance of their applications, helping improve outcomes for constituents and streamlining work for government employees. Granularity likewise supports regulatory compliance, giving agencies the tools they need to meet their obligations, and the insights required to do so effectively and efficiently.

All this, in turn, will help agencies reach the big-picture organizational-improvement goals inherent in any modernization effort. "By leveraging the output of these tools, and being able to generate timely reports, it's going to help the overall decision-making process," Kumar said.

The Robust Digital Ecosystem: Use Cases



Constituent Experience

Taking a holistic approach to modernization can help agencies deliver a better constituent experience. Kumar describes this as a push toward "digital inclusion," the idea that government services should be fully and readily available to all.

Robust networking capabilities "play a key role here, as government looks to improve access and convenience, and ensure no one is left behind," he said. With a strong network supporting government applications, agencies are better positioned to move from in-person to digital interactions — a key goal for many government agencies, especially in the wake of the pandemic.

Moreover, robust network capabilities "create the potential for government entities to evolve toward delivering communications targeted toward people's individual needs, for example with emergency alerts and notifications," he said. This applies to routine matters too, such as sending electronic renewal notices when licenses or benefits expire.

"This all speaks to the question of equity. The more you can personalize the user experience, the closer you get to closing that equity-and-access gap, meeting people where they live using the tools they prefer to use," he said.

Health Care Experience

The health care experience in America remains unbalanced, especially for people in rural areas, who may encounter long wait times or travel long distances to get to medical services. Many lack access to remote care, or even to nearby emergency care.

"There is a lot of frustration there, with delayed treatments and missed opportunities," Kumar said. Providers struggle too with archaic payment systems that are difficult to access and complicated to use.

Many government agencies are looking to address these issues through regulatory changes that allow for remote care and IT upgrades to smooth out and simplify interactions between patients and doctors and between doctors and payment systems.

"In order to achieve those ends, they need not only new and improved applications but also resilient networks with embedded security to support those applications," Kumar said.

Network security is a key concern, given the sensitive nature of health care information and associated regulatory constraints. You can build a great health care application, "but if you don't have the networking and security to support it, it's not going to achieve what you want," Kumar said.

A big-picture approach to modernization can help ensure that digital enhancements meet their intended purpose, improving the health care experience for all patients and empowering doctors to be more effective in the delivery of care.

Student Experience

For educational institutions, digital transformation is very much about improving the student experience. This is especially true in the wake of the pandemic, during which many students encountered learning setbacks due to unreliable connections frequently caused by limited bandwidth availability.

As government agencies rethink modernization in the education space, they must address these types of obstacles — not just for students learning at home, but also for faculty and staff for whom technology has become an integral part of their work experience.

"Students need reliable connectivity to take advantage of online learning materials, educational apps, interactive platforms and teacher interactions," Kumar said.

With technology representing such a critical part of the learning landscape, in-school network and communication solutions have become a must-have. "In the local school district where my children live, the school system lost internet connectivity in a recent incident — and there was online testing going on at the time," he said. That's a setback schools cannot afford.

"You need diverse fiber-based connectivity with cellular, wireless and satellite communications as potential backup options. Network redundancy is critical to guarantee that reliable connection," he said. A comprehensive view of modernization can certify the appropriate network is in place to ensure connectivity is always available.

Beyond the practical concerns, such reliability also helps maintain residents' trust in government. If services are unreliable, users will begin to have misgivings about using them and question their viability.

Solution Spotlight:
Building Your Digital Ecosystem

To reap the benefits of modernization, government agencies need to evolve toward building a robust digital ecosystem. They need an approach that empowers them to optimize their budgets, elevate the constituent and employee experience, and apply rigorous security controls. These innovative solutions can help support government's efforts to modernize.

Adaptive networking: To support digital transformation, agencies need to ensure optimal network performance that can adapt to changing requirements and growing user demand. Capabilities such as software-defined networking and internet on demand help deliver needed flexibility, with Lumen expertise and consulting available to help agencies determine the connectivity needed to solve for their unique use cases.

Adaptive networking enables significant self-service functionality, from procurement to activation and billing. Delivered as-a-service, this flexible approach to network management also helps agencies work around budgetary constraints through resource optimization.

Managed and professional services: Through its managed and professional services, Lumen brings the expertise, skill sets and solutions essential to any digital transformation. Expert consultants can help assess your agency's needs — a critical first step in successful modernization efforts. With Lumen, you can design solutions to meet your specific networking needs, with tailored support for managed network requirements.

These services can support everything from planning, analysis and costing to delivery, implementation and ongoing maintenance. And Lumen can follow up, as agencies require, with monitoring, management, lifecycle and sunsetting.

Cybersecurity: Lumen also offers a range of security solutions to support government agencies looking to deliver needed security controls, from zero-trust enablers to professional and managed security services. Through its partnership with additional security providers, Lumen can deliver a wide range of impactful security measures.

Lumen's Black Lotus Labs tracks threat activity across the vast majority of the world's internet traffic, which runs across our IP backbone, delivering deep visibility into bad actors' exploits and potential security threats. With advanced threat technology, Lumen can leverage those insights in support of government agencies, strengthening their defenses in an era of increasing cyber threats.

Secure access service edge (SASE): SASE solutions provide a solid foundation for digital transformation, enabling agencies to combine and simplify network access, security and management.

Unified communications and contact center: To improve constituent interactions and employee collaboration, agencies need to unify communications and elevate their contact center operations. With partners like Genesys, Talkdesk and Zoom, Lumen has key relationships in place to help agencies achieve both of these desired outcomes.

Agencies can use a variety of FedRAMP-certified, cloud-based contact center offerings to improve their responsiveness, take the pressure off in-house teams and manage their budgets more effectively.

"We have several different collaboration solutions, so we don't try to put a square peg in a round hole. As a consultative partner, we can help agencies find the solution that works best for their specific needs," Kumar said.

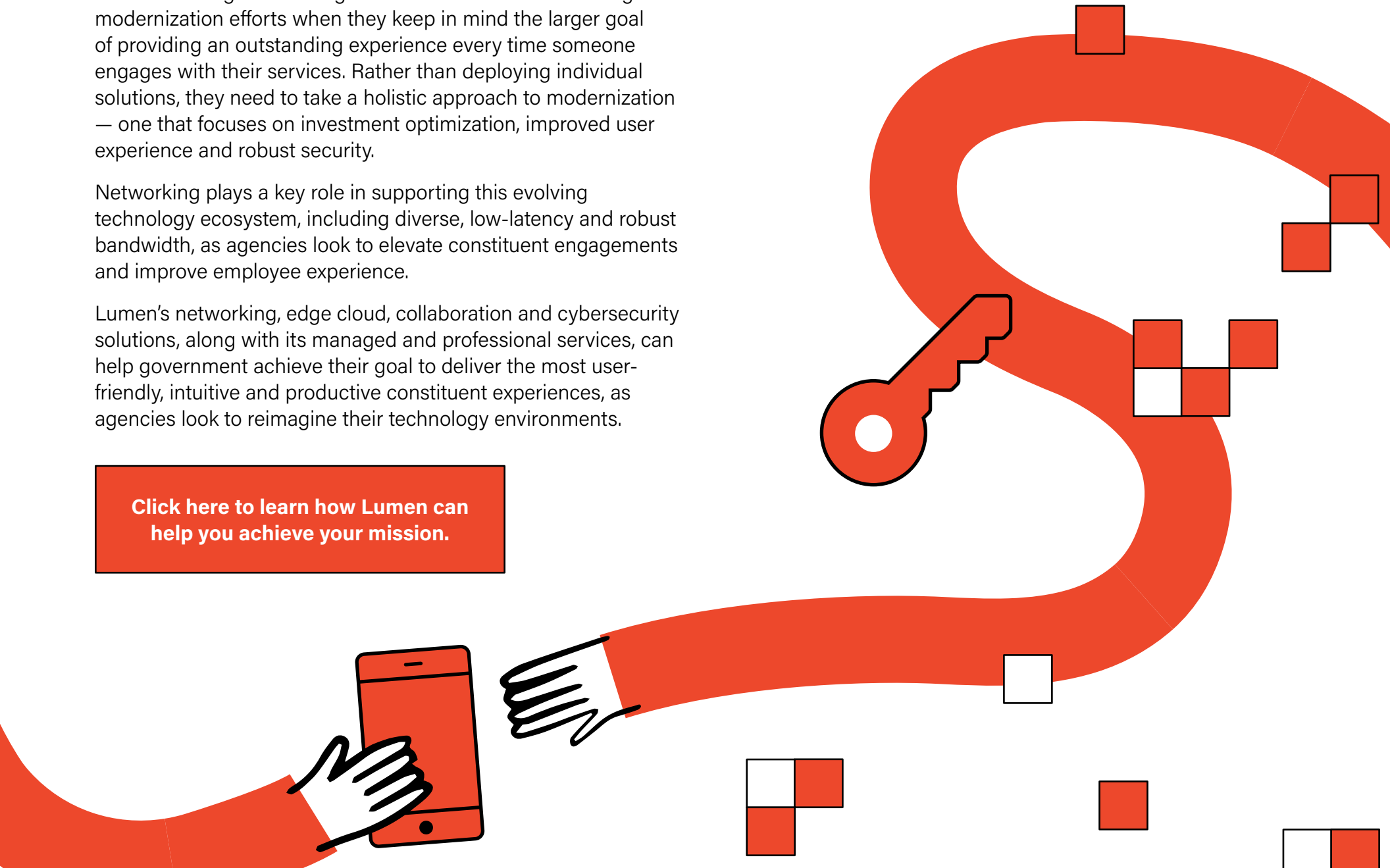
Conclusion

Government agencies will get the best results from their digital modernization efforts when they keep in mind the larger goal of providing an outstanding experience every time someone engages with their services. Rather than deploying individual solutions, they need to take a holistic approach to modernization — one that focuses on investment optimization, improved user experience and robust security.

Networking plays a key role in supporting this evolving technology ecosystem, including diverse, low-latency and robust bandwidth, as agencies look to elevate constituent engagements and improve employee experience.

Lumen's networking, edge cloud, collaboration and cybersecurity solutions, along with its managed and professional services, can help government achieve their goal to deliver the most user-friendly, intuitive and productive constituent experiences, as agencies look to reimagine their technology environments.

Click here to learn how Lumen can help you achieve your mission.



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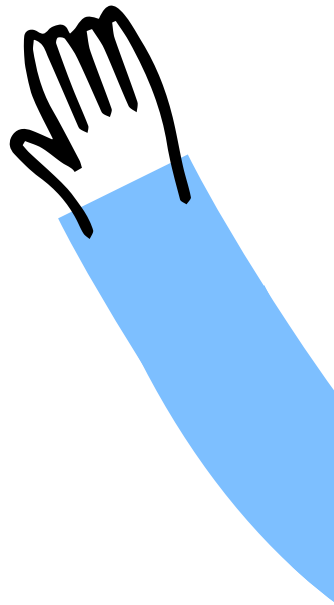

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GovLoop's mission is to inspire public sector professionals by serving as the knowledge network for government. GovLoop connects more than 300,000 members, fostering cross-government collaboration, solving common problems and advancing government careers. GovLoop is headquartered in Washington, D.C., with a team of dedicated professionals who share a commitment to the public sector.

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