Navigating the Future:
Technology Priorities in a Post-COVID World

The new presidential administration has charted an ambitious course to address many of the profound issues facing state and local governments and the people they serve. Goals include passing new economic stimulus measures, orchestrating the nationwide effort to vaccinate the public against COVID-19 and addressing IT infrastructure challenges to improve government operations and constituent services. These and other goals will impact technology decisions and spending for years to come.

Revenue Losses, Stimulus Funding and Hard Decisions

Money — where it's coming from and how to spend it — is top of mind. Revenue and budget shortfalls are a resounding theme across state and local governments.

"Depending on where you look, the budget shortfalls may be as much as $900 billion over a multi-year period," says Joe Morris, vice president of research for e.Republic.[1]

The American Rescue Plan, enacted in March 2021, includes $350 billion in fiscal relief for state and local governments. While this relief — along with CARES Act funding and the $900 billion stimulus package approved in December 2020 — will help organizations address the worst of the spending cuts required to balance budgets, organizations will still have to be creative about how they use stimulus funds and extract maximum value from existing resources.

Time is of the essence — supply chains are bogged down and stimulus funding has an expiration date. Organizations need to make decisions now to take advantage of these opportunities.

Greg Lotko, senior vice president and general manager of Broadcom's Mainframe business unit, anticipates a lot more investment in improving the user experience with digital services and remote work.

"Agencies must be adaptable and flexible in a highly time-sensitive manner to meet these enormous challenges. They need an

infrastructure that can securely handle the massive influx of traffic and still be able to pivot to address new demands without breaking existing services," he says.[2]

For many organizations that means building on existing resources such as mainframes and using them as foundational technologies to extend their capabilities.

Agency Priorities for the Coming Year

Based on research, observations and conversations with government leaders across the United States, Morris and his team anticipate the following priorities will dominate state and local government agendas in the coming year.

1 **Modernizing infrastructure and processes.** Enabling remote work and digital constituent services is not just about modernizing user-facing systems. It's about marrying front-end systems with the wealth of data and processing power that resides on the mainframe. Modernizing back-end processes and systems to enable these synergies is a top priority.

2 **Controlling costs.** "Pre-pandemic, budget and cost control were seventh or eighth on the list of CIOs' top 10 priorities; now they're at number two," says Morris (cybersecurity is No.1). Instead of "ripping and replacing" to advance their agendas, many organizations will build on existing investments in mainframes and other foundational technologies.

3 **Supporting the new hybrid workforce.** A significant portion of the government workforce will not return to a traditional office environment. Besides having secure, appropriate access to the network and business productivity tools, workers need support to adapt culturally, use new technologies, and communicate efficiently and effectively with peers and constituents.

Agencies are also evaluating the best ways to manage distributed teams and asking how employees' roles, responsibilities and skills need to change to support new ways of working.
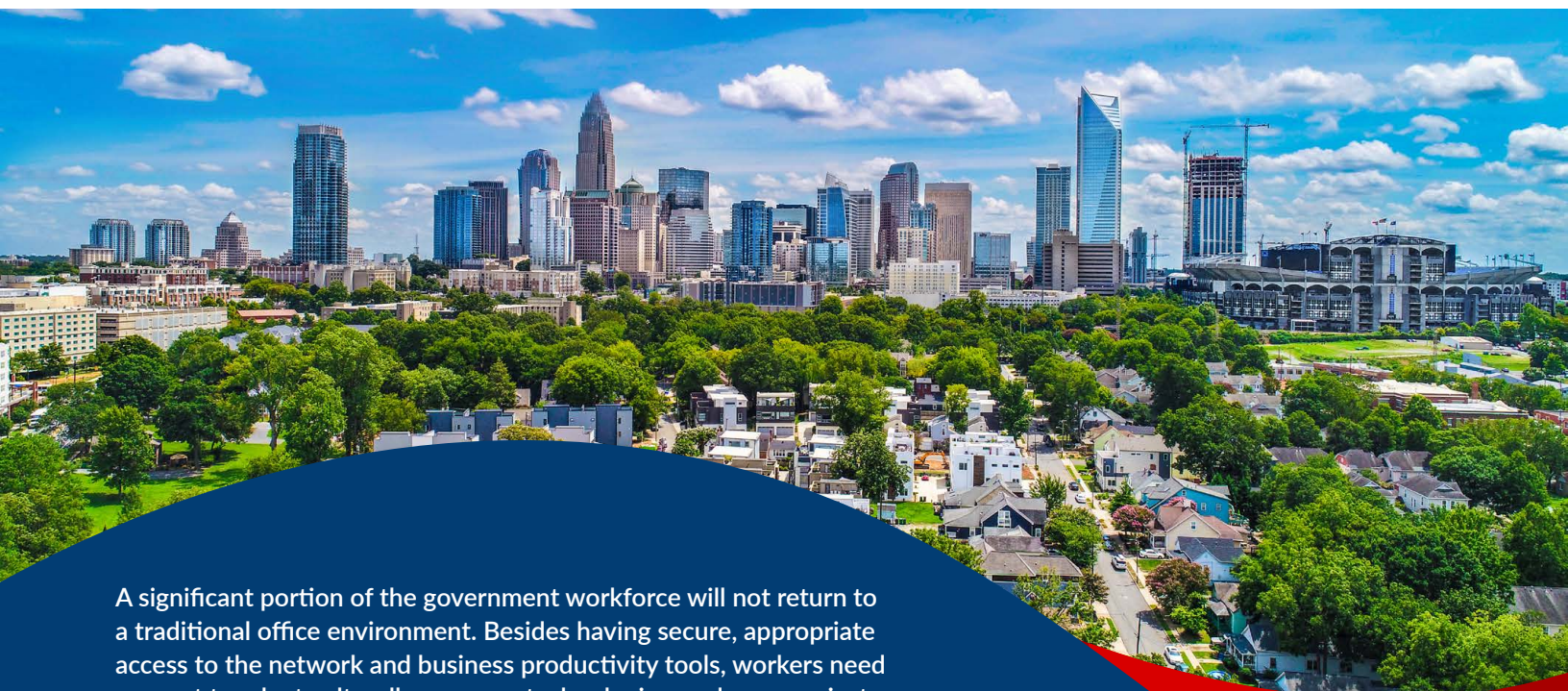
4 **Closing the digital divide.** With ubiquitous low-cost, high-speed connectivity, state and local governments can equitably deliver essential communications, information, education and services to constituents and their families. The American Rescue Plan adds impetus to digital equity initiatives by allocating billions of dollars to help get broadband to more areas and people — as does the recent re-introduction of the Accessible, Affordable Internet for All Act, a $94 billion proposal to bring broadband service to traditionally underserved communities.[3]

5 **Operationalizing and managing data.** Organizations recognize the value of their data, but they don't always store or manage it in a way that offers appropriate protection and supports easy retrieval, sharing, analysis or automation. Addressing these issues has become a higher priority in light of agencies' heavy reliance on — and challenges in leveraging — systems of record for unemployment and other services during the pandemic.

Creating a Springboard for Innovation and Resilience

The following strategies help establish a strong technology foundation that enables organizations to deliver services and perform operations more

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Mainframe Vitality Program — Accelerated Mainframe Training

When the New Jersey Office of Information Technology (OIT) faced a large number of retirements among its mainframe staff, Chief Operating Officer Roger Gibson made a strategic move to participate in Broadcom's Mainframe Vitality Program. OIT was able to meet ethical guidelines and take advantage of the free-of-charge program by using an existing procurement mechanism related to support services for technology investments.

The highly innovative program hires and trains individuals, at Broadcom's expense, with the intent of preparing them to work for a specific customer. After intensive instructor-led online training in mainframe infrastructure, programming languages and skills, the trainee then begins a residency at the customer's site. During the residency, Broadcom and customer-appointed mentors provide oversight, guidance and institutional knowledge. After three to six months, the customer has the option to hire the individual.

When Vitality resident Sean O'Dowd arrived at OIT, he hit the ground running. Working alongside mentors, he was writing JCL and submitting to the mainframe on day one. "When you hire somebody off the street, you've usually got a year of training before you even let them near a keyboard," says Gibson. In addition, Broadcom prepared O'Dowd with skills that were specific to OIT's needs. "Sean had the baseline mainframe experience as well as knowledge of the distributed environment, which is where the world is going. The mainframe is not an island unto itself. It ends up being a system of record that has to communicate and be the brain for all these other systems that citizens or employees are interacting with in a hybrid model. Sean came in knowing all that. We are extremely happy and grateful, and he is now an OIT employee," says Gibson.[4]

quickly, flexibly, securely and cost-effectively. These strategies revolve around building incrementally on mainframes and other foundational technologies to meet organizational goals and priorities now and in the coming years.

Implement flexible infrastructure to empower employees and serve citizens.

To flexibly deliver time-sensitive services securely and at massive scale — whether for vaccine scheduling, unemployment services or other use cases — organizations need an infrastructure that can handle high volumes of data and diverse workloads, as well as share data in a compliant and secure way across many different users and environments.

In government organizations, the mainframe (which stores the most important data and can handle millions of transactions per day) is often a crucial workhorse behind the scenes. To seamlessly integrate front-end interfaces and hybrid IT environments with the mainframe's processing power and data, organizations will need to modernize their applications, application development environment, processes and security approaches.

An important aspect of modernization is an "open-first" approach to DevOps, as enabled by the Open Mainframe Project. This project supports the use of open source-based tools to simplify development and mainframe

integration into a hybrid environment. By using open source APIs and services that mask the underlying hardware infrastructure, developers can easily use the mainframe-native and off-platform tools of their choice to create applications and services that work with a wide range of systems.

Renew focus on cybersecurity and data privacy.

Cybersecurity and data privacy are crucial to ensure service availability, protect citizens' personal information, comply with privacy regulations like HIPAA and more. In the rush to move people to remote work, organizations may have relaxed security testing and enforcement. It's time to revisit and assess systems that

may have been rapidly deployed at the start of the pandemic.

Pervasive deployment of devices used for remote work, IoT sensors, cloud edge servers and other endpoints has expanded the threat surface. In addition, the recently discovered nation-state attacks involving SolarWinds, Microsoft and other vendors' software — described as the largest and most sophisticated hack ever — have underscored the need to re-evaluate access controls and better manage vulnerabilities in infrastructure and applications with an eye toward a zero trust strategy.[5]

To enhance security posture and protect important data, it's crucial to apply best practices across all platforms, remediate gaps in security requirements to address the changing landscape, protect data from the edge all the way through to the mainframe, and review mainframe configurations and processes.

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Flatten the (learning) curve.
Government IT organizations face a number of challenges as their most skilled IT staff retires. Job applicants with security and operations skills, mainframe skills and experience are in short supply, and traditional training programs can take years. Even if an organization wants to extend employees' skills to include mainframe management or security, or simply wants to keep staff skills sharp and up to date, it likely lacks training resources or experienced mentors who can coach employees as they learn and master the complexities of today's IT infrastructures.

To overcome these challenges, state and local governments are turning to innovative training and skills programs, such as Broadcom's Vitality Training Program. These initiatives can tailor their training and skills programs to an organization's specific needs, provide on-the-job mentoring and augment staff rather than taking valuable time away from existing staff whose time is already stretched thin.

Building Incrementally
The past year forced government leaders to shift their priorities for 2021 and beyond. While federal stimulus funds are a welcome boon, organizations must spend wisely and creatively. Building incrementally and extending the value of mainframes and other foundational technology is critical. Given the learning curve associated with this new terrain, it's ideal to work with a technology partner that can provide deep expertise and innovative solutions to advance an organization's agenda.

This piece was written and produced by the Government Technology Content Studio, with information and input from Broadcom.

Endnotes
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2. Ibid.
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