Digitally Transforming Government Networks, Cloud Platforms And Systems For The Future

The digital transformation journey is a multifaceted, multi-year, top-to-bottom initiative approach designed to transform how networks are built and operated, while modernizing target platforms and applications.

Digital transformation efforts affect nearly every aspect of how the federal government does business.

From cloud migrations and new network architectures to new business processes to new IT capabilities and changed workforce dynamics, the digital transformation journey is a multifaceted, multi-year, top-to-bottom initiative approach designed to transform how networks are built and operated, while modernizing target platforms and applications.

Secure cloud-based capabilities are essential if government is to achieve fast and plentiful bandwidth, intuitive and responsive network services, seamless digital interactions, intelligence and the personalization that comes from big data, and an agile software-centric workforce that can deliver it all.

William J. Bender
Chief Information Officer, US Air Force (retired)
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Continuous Learning

To meet these expectations, government must both accelerate its efforts to migrate legacy applications to the cloud while also ensuring new applications are cloud-enabled from the start.

Given the exploding demand for network services, coupled with the need to control costs, the only solution is to build capabilities on the flexibility and efficiency of software. To do so successfully, however, it's critical to remember numerous major IT advancements must work together.

An integrated cloud architecture that reduces complexity and increases efficiency must be built on a homogeneous foundation to land IT applications, virtualized network functions and services, and platforms that facilitate high reuse, lower cycle times and reduced cost of operations.

The "North Star" must be a seamless and predictive customer experience delivering the always-on digital interactions they prefer in a personalized and effortless way. Data must begin to drive better

mission and business outcomes, facilitating collaboration across disciplines, liberating data from siloed applications, providing key insights to decision makers and functional leaders. Finally, cloud capabilities allow government to organize differently and to develop a workforce for the future with the ability to break down traditional network and IT barriers, while facilitating improved employee skills through continuous learning.

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Continuous Reinvestment

While significant savings are possible from rationalizing and retiring applications, it's important to commit to continuous reinvestment if government is to digitally transform. Only by reinvesting in transformational initiatives can a new cost trajectory be achieved, one that yields year over year savings greater than the reinvestments made to achieve them.

More important than cost savings, however, the speed and agility gained from the digital transformation is key to remaining highly competitive in a world where change is the only constant.

Responding to rapidly changing industry and commercial IT trends, government is demanding technology platforms with open, service-based architecture, built with a digital-first mindset using agile and efficient delivery frameworks, running in a manageable cloud eco-system.

They are shifting from a purpose-built hardware network architecture to a software-centric autonomous networks, where advanced orchestration allows an ability to adjust capacity, remove failure points and address security concerns, and where virtualized control technologies give the government the ability to control speed, quality, and cost.

5 Digital Transformation Principles

Here are five key principles to follow when digitally transforming to a cloud platform.

Principle 1: Leverage Open Source.

Knock down traditional organizational boundaries, re-think technology solution sourcing, and evaluate existing cloud platforms both internally and in the marketplace.

Principle 2: Automate, Design, Deploy and Manage at Scale.

Automation minimizes human error, allocates cloud resources effectively and reduces manual activities and operational costs.

Principle 3: Target Strategic IT Applications for Migration to the Cloud.

Establish a programmatic approach to manage the migration of applications to the cloud and manage the process centrally to guide application teams through the migration process.

Principle 4: Extend the Cloud to be the Foundation for a Software Defined Network Transformation

The explosive growth in network traffic requires a software-centric approach to building and managing networks.

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Principle 5: Ask "how can I secure this application from a malicious person?" and "how can I make this more resilient to attack and outage?".

When developers and engineers ask these questions and include them in development and operations, they are living the "Resiliency by Design" philosophy by "baking in" resiliency and security starting at the design phase and continuing through development and operations.

As government IT leaders continue to consider how they should design and build the networks of the future, adherence to the above five principles will be critical to driving IT transformations that include virtualizing network functions; creating platforms that open up access to the network and applications via APIs and applying a new security and resiliency approach to make these platforms more secure and reliable in the cloud. ■

Lt. General William J. Bender (retired) most recently served as CIO for the Air Force, where he was responsible for 50,000 cyber operations and support personnel across the globe with oversight for the USAF's IT investment strategy and a portfolio valued at $17 billion.

After retiring from the Air Force following a 34-year career there, Lt. General Bender joined Leidos in September 2017. Now tasked with overseeing and managing the Strategic Account Executives, a group of customer-facing senior-level former government officials, Lt. General Bender aims to bolster customer relationships and advance strategic initiatives to foster organic growth.