Data Center Modernization for the Hybrid Cloud Era

An agency within the Department of Commerce propels its digital transformation with hyperconverged infrastructure.

The Client
An agency within the Department of Commerce

The Need
With end-of-life and end-of-support dates approaching on much of their IT hardware infrastructure, an agency within the Department of Commerce needed to consolidate legacy bare metal servers and migrate to a software-defined data center solution—fast. However, they lacked the resources to plan and execute the migration without significant disruptions to their day-to-day operations. They needed a comprehensive data center solution installed quickly and easily, and to migrate data stored in the old center to the new solution with no disruptions to their daily mission-critical business.

The Solution
» Nutanix® hyperconverged infrastructure
» Palo Alto® firewalls
» Cisco® software-defined networking and enterprise networking equipment
» AppDynamics® application performance management and IT operations analytics solutions
» Cyxtera® Federal
» Sirius Federal services

Overview

In today's Cloud Smart environment, federal agencies are analyzing their current data centers and working to transition legacy environments to more agile, cost-effective, cloud-based solutions that can scale and adapt with the growing and changing needs of their missions.

With rising costs and security concerns, an agency within the Department of Commerce knew they needed to replace their aging IT infrastructure and move to a more modern environment with security and service agreements in place to ensure an optimized and modernized system. Such a substantial move would call for not only upfront investments, but also an agencywide commitment to switch from dated technologies to a cloud-based, software-driven infrastructure.

The agency's IT leadership understood the benefits that came with this technology transformation and were ready to fully embrace the combined functions of the campus network into a single platform—they just didn't know how to get there. They needed a trusted partner to help them with the strategy and execution of moving their legacy IT infrastructure to a modern data center so they could realize greater efficiency and scalability for their mission-critical operations.
The Solution
To provide a truly modernized data center, the team of engineers at Sirius Federal extensively interviewed and collaborated with the agency’s team to gain a complete understanding of the current data center conditions as well as the client’s exact needs and concerns. Through this discovery phase, Sirius Federal developed a comprehensive strategy that would migrate the agency’s outdated data center to a best-of-breed hyperconverged infrastructure solution to simplify and enhance their data center management in a new, best-in-class colocation site.

Sirius Federal partnered with Nutanix and Cisco to transform the agency’s infrastructure into a cloud-centric, modernized model. This user-friendly HCI solution not only reduces space and power requirements but can also be centrally managed entirely remotely to reduce the agency’s on-site IT footprint. The new hyperconverged data center enables non-disruptive software upgrades and seamless backup capabilities, pushing the agency’s infrastructure into the modern cloud age and making it easier to provision, deploy, monitor and maintain workloads.

The innovation didn’t stop there.

To fully customize and optimize the HCI solution to solve the unique needs of the client, Sirius Federal worked with its partners to implement a variety of additional solutions to further propel the agency’s digital transformation.

» AppDynamics: The agency had existing applications and enterprise networking equipment that needed to be updated and migrated to the new colo site. To help them streamline migration process and identify which apps were suitable to migrate to the cloud and which were not (and therefore needed to go on-premises at the new data center), Sirius Federal implemented AppDynamics. This solution allowed the agency to evaluate the performance of their apps, gauge the added performance once they were migrated, and monitor the performance of their apps and know when an anomaly was occurring—something they were unable to do before the AppDynamics solution. They no longer had to rely on end-users reporting bottlenecks or bugs to identify and address issues, which saves them time, manpower and money.

» Software-defined networking: With a high number of enterprise networking equipment in end-of-life (EOL) status, and increasingly limited resources available to maintain the network, the client was looking for a way to increase efficiency and simplify network operations and management. Sirius Federal recommended a Cisco software-defined networking (SDN) solution consisting of the latest Catalyst 9000 series switches and ISR 4K routers. The SDN environment will provide automation, policy-based segmentation, end-to-end visibility and accurate troubleshooting to provide more predictable performance reporting and less downtime. This new environment will streamline their workshare process and free their teams to focus on mission-critical activities. With this new hardware installed in their new data center and 13 remote sites, the agency will be able to make configuration changes instantaneously across their network with the push of a button.

Additionally, the Palo Alto firewalls will help the agency identify threats coming from multiple attack vectors and stop them before they become a problem. This modern data center structure provides automated recovery to support mission continuity, as well as around-the-clock monitoring and protection, allowing the agency to have constant visibility and access to its data and apps.

Sirius Federal will provide ongoing support services for every aspect of the new solution, giving the agency peace of mind that their equipment will be monitored and serviced consistently, while simultaneously saving them millions of dollars in increasing, recurring service charges.

The Outcome
Sirius Federal collaborated with Nutanix, Cisco, Palo Alto and Cyxtera Federal to provide the agency a cutting-edge public cloud experience in a software-defined approach that simplifies their data center operations and increases agility while utilizing a single platform for all workloads across private, public and hybrid cloud deployments.

The newly provisioned Nutanix HCI and Cisco components eliminate the pain points of outdated IT operations that led to infrastructure silos, and provide the agency with a wealth of benefits and operational enhancements including a better utilization of space with increased agility and performance of daily processes. The integrated control and visibility through a single pane of glass allows for increased resource performance and the ability to develop, deploy and maintain application infrastructure easily and on a scalable platform.