



How Ransomware Prevention and COVID-19 Fast-tracked Modernization at Fairfax County

How partnering with best-in-class solutions improved ransomware protection and hybrid-cloud efficiency

The Challenge: Modern Initiatives, New Threats

About 250 technology employees at Fairfax County serve over 15,000 users. The team also manages a SQL server with 3000+ databases and multiple applications and supports SAP for a large business-critical financial system, libraries, public safety, tech and retirement systems, and 95% of the county's technology operations.

Even before COVID-19, management had begun other goal modernization initiatives, such as low-impact disaster and ransomware recovery. The county was working to use hybrid cloud resources for consolidated computing and storage.

When COVID-19 drove a "work-from-anywhere" approach, expanding the cybersecurity threat landscape, the older castle-and-moat security model was not up to the challenge.

The Solution: A Better Hybrid Fit

Nutanix offers a better fit for a complete hybrid cloud environment with a hyper-converged private cloud plus new workloads in the public cloud.

Before the transition to Nutanix, four people managed storage. Now, no one is needed to manage the storage as it's integrated into the computing platform. As a result, the local storage using both the SAP and SQL systems reduced operating costs and enhanced performance by about 50%.

For example, the old storage took almost 190 minutes to complete a job. Nutanix results in a 50% performance gain, which was similar to other applications, including memory-intensive applications like SAP.

Downsizing the brick-and-mortar footprint for Fairfax County with remote work has saved money with 60 to 70% of the workforce still remote and most county workers doing a hybrid model.

An advanced solution:

- Better fit for a complete hybrid cloud environment that enhanced performance and reduced costs
- Consolidated enterprise computing and storage via a hyper-converged environment, creating a modern foundation for other initiatives
- Secure remote transition despite an expanded cybersecurity threat landscape

A Consolidated Foundation

Consolidating enterprise computing and storage in a hyper-converged environment opened up the county's options with a modern foundation for other initiatives. These initiatives included a work-from-anywhere zero-trust (ZT) strategy, a ransomware recovery platform for large instructed new workloads, and relocating to a cloud-connected colocation facility.

With Zscaler, the county implemented a zero-trust next-gen VPN with advanced URL filtering and web security. They eliminated the Citrix environment and moved 3,000 users while adding 10,000 additional users.

Being in a strong position to recover from a ransomware incident is a top priority for the county. When determining how to back up large data types for new building security video and other big-data emerging applications, the county realized they could protect new workloads and provide a new level of ransomware resiliency with Rubrik's zero-trust data platform. Implementing the system increased big-data safeguards with 10x faster performance, while ensuring recovery in ransomware scenarios would have a limited impact to the organization.

With the consolidated on-prem environment, Fairfax County was able to relocate primary operations to a cloud-connected Uptime-Institute-certified Tier 4 datacenter. Cisco's multi-site VXLAN networking technology allowed the county to extend VLAN environments to both data centers, providing geo-diversity and the ability to rapidly move workloads and applications between datacenters with the VMware platform in an active-active state.

The Zscaler move went hand-in-hand with Microsoft Teams adoption, which skyrocketed during the pandemic. This enabled next-level collaboration in remote meetings and a new workflow for users.

These changes also helped the team deliver a multi-site, high-performance, cloud-connected network designed by Ashburn Consulting, enabling a new wave of citizen-facing applications. The county rolled out DocuSign to make documents more secure, automate approvals associated with document workflows, and help constituents at a distance.

The simpler operating environment also made it possible to advance the county's granular workload-level micro-segmentation solution. An advanced ransomware recovery platform was also implemented to reduce recovery times to seconds and minutes in the event of either a disaster or a ransomware event.

"We stopped a lot of attacks, and it was easy for us to see where the threats and attacks were coming from; we did a hundred percent SL inspection on Zscaler. ZWS prevented many instances of unauthorized accesses that would have happened otherwise." – Gulzar Khan, Enterprise Architect, Fairfax County

A Secure Remote Transition

Pivoting to remote work expanded the cybersecurity threat landscape; Fairfax County was not initially set up to protect people working at home but overnight deployed best-in-class solutions.

Using Zscaler Digital Experience, the county can monitor all traffic and application access inside the network. Zscaler uses a zero-trust technology to provide security without the traditional VPN, opening up direct access to internet applications – providing optimal performance and allowing users to avoid bottlenecks from backhauling web traffic.

Zscaler contains two components for a secure remote workforce: internet access and on-prem access. This offers authentication for users and visibility into who is using the network. The county also rolled out comprehensive multi-factor authentication, enabled in 2020 as part of the transition to Zscaler.

Summary

The county needed a modern environment to support modern work, such as remote access, digital workflows, and collaboration. The environment delivers resource efficiency and cost optimization and improves security. The ZT approach speeds recovery and protects workers and citizens from ransomware.

Fairfax leveraged CAS Severn's unique understanding of the technologies integrated to provide a completely remote work and hybrid cloud solution to get each project completed on budget and ahead of schedule.

