UNITED STATES SENATE FEDERAL CREDIT UNION

The [United States Senate Federal Credit Union](#) (USSFCU) provides financial services for the U.S. Senate and Capitol Hill communities. With assets of more than $1.5 billion, the member-owned nonprofit credit union also serves members affiliated with more than 100 Select Employee Groups (SEGs) in Washington, D.C. and across the country.

Industry
Financial Services

VMware footprint
- VMware® Cloud Foundation®
- VMware Private AI Foundation with NVIDIA
- VMware Avi™ Load Balancer
- VMware vDefend™ Advanced Threat Prevention
- VMware vDefend Distributed Firewall
- VMware Tanzu® Greenplum®

USSFCU Enhances Financial Wellness with a VMware Private Cloud and Private AI Environment

The United States Senate Federal Credit Union (USSFCU) provides its members with top-tier financial products and services. The company laid a foundation for innovation with solutions from Broadcom, including VMware Cloud Foundation and VMware Private AI Foundation with NVIDIA. This modern private cloud environment makes it safer and more efficient for USSFCU to develop AI-powered, enhanced services bolstered by advanced VMware solutions for security, load balancing and data warehousing.

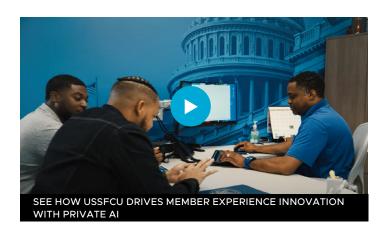## Investing in innovation and putting members first

Founded 90 years ago, USSFCU serves members across the U.S. Senate, Capitol Hill and affiliated employee groups in Washington, D.C. and nationwide. As a member-owned non-profit, the credit union prioritizes improving its members' financial wellness.

Beyond offering highly competitive loan rates, USSFCU distinguishes itself with an enhanced online banking platform and mobile app. These allow members to easily access accounts, payment solutions and other offerings with high levels of service, performance and security.

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Mark Fournier, CIO/CTO, United States Senate Federal Credit Union

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SEE HOW USSFCU DRIVES MEMBER EXPERIENCE INNOVATION WITH PRIVATE AI

With assets of more than $1.5 billion, safeguarding member financial data and sensitive information is a priority for USSFCU. When Mark Fournier, CIO/CTO of USSFCU, joined the organization 11 years ago, he helped spearhead the credit union's IT infrastructure modernization and virtualization initiatives.

USSFCU needed greater infrastructure scalability and security to meet the growing demands of its members. "On our decade-long journey to build out a secure private cloud, VMware has always been one step ahead of us with solutions offering superior agility, efficiency and protection," says Fournier.

Enabling faster private cloud deployment and streamlined, centralized operations

The credit union deployed VMware Cloud Foundation to establish a unified private cloud platform with integrated compute, networking, storage, management and security. This year, USSFCU joined the VMware Cloud Foundation 9.0 Beta Program.

VMware Cloud Foundation 9.0 will streamline implementation and operations for Fournier's team with advanced capabilities for automation and security, all managed from a new centralized console. "Once you have everything plugged in, you can deploy an entire VMware Cloud Foundation 9.0 environment in less than an hour, including your workload domains, virtual networking and security features," says Fournier. "I've never seen a simpler way to deploy the operations piece for infrastructure observability, which is integrated to be part of day one."

Fournier is even more excited about the platform's consolidated operations visibility. "VMware Cloud Foundation 9.0 provides a cohesive one-stop shop for managing our private cloud. Our admins don't need to jump around to eight different places to track down issues and check routine performance metrics. It's all right here," says Fournier.

Empowering smarter member experiences through AI, without compromising data security

With VMware Cloud Foundation in place, Fournier's team implemented VMware Private AI Foundation with NVIDIA within a matter of days. The USSFCU approach offers high-level security for sensitive data, eliminating privacy concerns associated with alternative AI tools and public cloud environments. Today more than half of the credit union's employees regularly use the AI solution to assist with their work—with up to 30% using it on a daily basis.

"Our members are our priority and AI is enabling us to push toward personalized, real-time financial solutions. With VMware Cloud Foundation and VMware Private AI Foundation with NVIDIA, we've built a secure, private cloud environment that allows us to quickly and efficiently implement AI technologies—whether it's for powering knowledge-based chatbots that assist staff or innovating new ways to deliver financial answers directly to our members across multiple devices. AI in banking drives us to automate everyday transactions, streamline loan processing and proactively identify member needs, ensuring that our services are both intuitive and secure," says Fournier.

Enabling personalized services with high performance, flexibility and uncompromising protections

One of the major upgrades USSFCU has made to its VCF environment in recent years included shifting to VMware vSAN Express Storage Architecture. The architecture is optimized for high performance using NVMe-based TLC flash devices. In the past, Fournier's team spent time on additional steps to enable optimization of tiers for storage caching, drives for various tiers and workload calculations. Using vSAN Express Storage Architecture eliminated that work while providing valuable standardization, reliability and performance benefits.

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"vSAN Express Storage Architecture is really fast, period. It uses very performant drives. And while there's a cost differential for that, we found it to be minimal. The trade-off of a slight cost increase for a standardized hard drive configuration across the entire fleet, plus an incredible boost in performance, was a no-brainer," says Fournier.

The infrastructure team uses VMware Avi Load Balancer to manage network traffic and load balancing. The solution is particularly helpful for bringing visibility to traffic patterns across the USSFCU virtual desktop environment. It also helps to further secure the private cloud components—with VMware Avi Web Application Firewall (WAF)—against web attacks and traffic from a Microsoft Azure environment.

"With VMware Avi Load Balancer, we can easily see all the components that play into traffic flows. It helps us quickly identify what might be causing latency or other things, monitoring for and translating those into actionable items. Plus, the platform scales out natively as the rest of our environment expands in the future," Fournier says.

VMware vDefend Advanced Threat Prevention and VMware vDefend Distributed Firewall allow USSFCU to boost its Zero Trust strategies with hypervisor-integrated protection features. Fournier and his team appreciate the solution's advanced Intrusion Detection/Prevention System (IDS/IPS), malware prevention and machine learning-enabled, zero day detection capabilities.

"We assume the bad guys are already inside, and we just haven't found them yet," says Fournier. "VMware vDefend allows us to fill the gaps of where a threat could be hiding and do it in a way that doesn't overload us with too many signals. That simplicity is crucial."

USSFCU uses VMware Tanzu Greenplum to unify its disparate internal data so it can quickly tap into it to support emerging business initiatives. As a massively parallel processing system (MPP) system built on Postgres, Tanzu Greenplum allows seamless integration of business intelligence (BI) and AI/ML capabilities to help the credit union enhance its services with faster, more personalized features.

The technology team appreciates how the centralized data warehouse eliminates the need to create custom connectors between data sources and destinations for each new business request. "VMware Tanzu Greenplum is incredibly fast. We can pull millions of rows of data in a fraction of a second. It's flexible and non-disruptive," says Fournier. "We love that we can run it ourselves, in our private environment, without compromising the security envelope that we've invested in."

The integrated VMware Cloud Foundation environment allows the USSFCU technology team to quickly recover from problems, adapt to changing conditions, respond to demands from the business and deploy new services. "VMware solutions afford us a great deal of flexibility and room for opportunity," Fournier says.

Looking ahead

As part of USSFCU's strategic plan, the technology team continues working to expand the credit union's digital services and product offerings using AI. The initiatives have included improving the online loan application process, enhancing the membership application process for instant access and exploring the use of an AI avatar to provide enhanced 24x7 service for members.

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