Less Hardware. More Software. The Key to Modernizing the Financial Services Data Center

How Financial Services Organizations are Driving Top-Line Revenue and Lowering TCO
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Digital Demands More of Financial Services Infrastructure

It’s no secret financial services organizations own and operate legacy solutions. Some of these core processes are front and center, meeting customer needs; others are in the middle, supporting account handling operations; and still many more are in the back-office, handling data and managing analytics. The challenge for financial leaders is to ensure these traditional systems don’t prevent the delivery of great digital experiences now and into the future.

Boost Efficiency and Time to Market

Against a backdrop of flat revenues and stagnating IT budgets, issues such as streamlining and modernizing data centers and consolidating IT in branches are of critical significance as ways of boosting organizational efficiency and time to market for new innovation. That’s why professionals overseeing financial services enterprise architectures, solution architectures, and business technology strategies are choosing to evolve the foundation underlying their traditional apps and systems. And the less hardware, more software-defined approach they’re taking is accelerating the modernization of their data centers.

Seamlessly Connect Systems and Protect Data

Robust digital transformation strategies now include hyper-converged infrastructure (HCI)—a software-defined solution designed to both better connect systems and protect data—because HCI increases agility. With greater IT agility, financial services organizations can drive top-line growth and lower TCO.
What’s HCI and Why Are Financial Firms Going All In on HCI?

Hyper-converged infrastructure, abbreviated as HCI, allows the convergence of physical infrastructure onto industry-standard x86 servers, enabling a building block approach with scale-out capabilities. The special ingredient of HCI lies in the hypervisor (the source of the hyper in hyper-convergence). Key data center functions—compute, storage, networking, and management—previously provided via hardware are now running as software on the hypervisor, enabling efficient operations, streamlined and speedy provisioning, and cost-effective growth.¹

HCI originally included just virtual compute and virtual storage, but it now can be extended with fully virtualized networking for a complete software-defined data center. This flexible, software approach is well suited for today’s IT challenges.

4 Reasons Financial Firms are Adopting HCI

Financial firms are choosing HCI to drive agility and lower costs for the following strategic initiatives:
1. Distributed IT and Remote Offices/Branch Offices
2. Virtual Desktop Deployment
3. Business-Critical Applications
4. Disaster Recovery

1. Distributed IT and Remote Offices/Branch Offices

Financial institutions, especially banks with distributed computing and branch offices, frequently rely on local IT infrastructure managed by IT staff at another location. This remote, distributed architecture presents a host of challenges that range from limited cooling capacities and space and few, if any, IT employees available to handle unpredictable performance, management complexity, poor reliability, and low availability.

IT teams need better visibility from a distance—along with tools that will make administration and management simpler and less time consuming. Moreover, as their businesses grow, they also need the ability to scale without breaking the bank.

HCI is a perfect match for edge computing and remote office/branch office deployment: It delivers a single, low-cost infrastructure solution with integrated compute, storage, management, and networking. In addition, the right HCI solution can be easily scaled up or down and is flexible enough to accommodate changing needs—exactly what financial firms with remote offices and banks need.

2. Virtual Desktop Deployment

Banks challenged to maintain performance and scale their virtual desktop infrastructure (VDI) are considering hyper-convergence as a next-logical step.

VDI requires a combination of high IOPs and low latency to ensure a “just-like-physical” user experience. To achieve targeted ROI, it also needs to keep capital and operational costs low. In traditional VDI settings, banks often buy more resources than they need in anticipation of scaling up or they wait until virtual desktops use the allocated space and network, then add infrastructure.

HCI allows financial institutions to scale quickly without significant added expense. If they need more storage, they simply attach it to the stack. Now, firms can scale up in the time it takes for them to deploy another box—rather than going through a reassessment and reconfiguration of in-house infrastructure. HCI provides a high-performance, low-cost solution for a more consistent, predictable user experience with a lower CapEx requirement and simpler operational model.

As more banks transition from physical PCs to virtual desktops, they have to ensure processing power is equal to what users expect. HCI, because it includes flash, optimizes virtual desktop performance. It improves I/O. HCI also reduces the effects of boot storms, and lets teams run virus and other scans in the background without employees ever knowing.
3. Business-Critical Applications

Most hyper-converged deployments initially focused on virtual desktop environments. Today, adoption is growing across a variety of virtualized workloads. These include mission- and business-critical applications, as well as a range of emerging apps, such as financial data analytics.

Traditional infrastructure makes business-critical applications, including branch banking apps, slow to provision and complicated to manage. Tasks such as Oracle database processing, for example, require high levels of performance, availability, and reliability. Older architectures simply can’t deliver without overprovisioned storage, expensive purpose-built hardware, and management tools designed for silos.

In contrast, HCI offers a simple, distributed scale-out architecture, often optimized for high-performance flash devices, that puts IT back in charge of the applications most important to the business.

4. Disaster Recovery

Uptime and availability are must-have capabilities when it comes to financial services day-to-day operations. That also makes disaster recovery (DR) critical. Banks, insurance companies, and other financial firms have to guarantee customer portals and applications will not be negatively impacted if an incident (e.g., site loss, equipment loss, component or connectivity failure) should bring down an environment.

Disaster recovery is often part of a deeper business continuity strategy that includes specific recovery times and recovery points, dictated by cost and application requirements. Traditionally, IT has deployed redundant equipment (typically at a backup site) to implement DR, enabling fast recovery but incurring the expense of secondary IT systems infrastructure from server hardware to storage and replication software. Now, financial organizations are deploying HCI for DR because it provides a complete, natively integrated platform—consisting of compute, network, and storage resources—with built-in backup and recovery.

HCI’s scale-out capability enables financial organizations to grow their infrastructure with much finer granularity; in many cases a single node at a time. It also allows workloads to be distributed across nodes, providing resiliency in the event of hardware failure. Applications are spread across a cluster of nodes, with individual node or storage device failure managed automatically through the HCI software. Moreover, with features like data deduplication, applications can be recovered very easily to another location, without shipping lots of data. In the case of virtual machines, software-based replication can provide virtual machine replication with low recovery point objectives.

“20% of mission-critical applications will transition to hyper-converged by 2020.”

- AMERICAN BANKER

What’s HCI and Why Are Financial Firms Going All In on HCI? (cont’d)

Transform, Simplify, Scale: HCI Delivers Advantages to Financial Services Organizations

Financial firms undergoing transformation are turning to HCI to meet top transformation goals including faster response times, reduced costs, improved reliability/availability, improved security, and the ability to expand/deploy new capacity. All of these goals align well to the business benefits achieved by HCI.

Flexibility & Agility

Given competitive pressures and demands to service new customer segments with unique and customized products and services, agility is critical in financial services. Business expects IT to respond quickly as new needs arise, yet legacy environments force IT to employ a myriad of resources to meet rapidly changing requests.

HCI improves flexibility and agility by

• Enabling a future-proof IT environment, with support for today’s traditional applications, as well as new cloud-native apps and container technologies
• Allowing IT to scale up and scale out to easily meet specific application needs
• Offering broad deployment choices—no hardware vendor lock-in

High Availability

Always on, 24/7 service availability, is a financial services requirement. For millions of customers accessing their financial accounts daily through multiple online channels, downtime and service disruptions are simply unacceptable. Practically, that means financial services infrastructure must be resilient.

HCI improves availability, minimizing risk with a proven, secure platform that

• Ensures predictable performance with quality of service (QoS)
• Delivers high availability and resiliency with no single point of failure
• Builds confidence on a foundation of the proven, industry-leading hypervisor
Lower Costs

Declining profits and tighter margins are forcing financial services leaders to take a fresh look at the way they run critical infrastructure. HCI leverages commodity hardware, lowering costs. The software layer is designed to accommodate the reality that hardware will eventually fail. Financial organizations get the benefit of both failure avoidance and high availability without additional capital expenditure. HCI greatly reduces infrastructure spend across the data center by

• Generating cost and storage efficiency
• Leveraging technical resources and expertise that teams already have
• Eliminating overprovisioning with granular grow-as-you-go scaling

Increased Data Protection & Security

As the richest source of personally identifiable information (PII), both general and financial, the financial services industry is a primary breach target. This bull's eye on financial organizations creates an urgency for comprehensive data protection—a strategy encompassing more than regulatory compliance.

HCI delivers native, software-based security to address growing requirements to protect business-critical data, including

• Protecting information with native data-at-rest encryption that eliminates drive disposal risks and overhead
• Eliminating the costs and complexities of deploying specialized hardware, such as self-encrypting drives
• Meeting strict compliance & security regulations with backup, recovery, and disaster recovery built in as part of the infrastructure

Established Foundation for Hybrid Cloud

As financial organizations begin to shift workloads to public cloud, for example Amazon Web Services, a software-defined foundation streamlines and simplifies the path to and from the public cloud. With its modular architecture, HCI helps ensure a common operating environment and seamless experience.

HCI is the fundamental building block for financial firms moving to hybrid cloud. HCI is

• Providing a path to utilize the same data management services across physical, virtual, and cloud environments
• Helping deliver new cloud features with a common set of application services available across hybrid clouds
HCI from VMware: Only Your Imagination Will Limit How Far You Can Scale

VMware provides a unique, software-defined approach to hyper-convergence, leveraging the hypervisor to deliver compute, storage, management, and even networking in a tightly integrated software stack.

Spotlight on VMware vSAN

VMware’s software-defined storage solution, VMware vSAN™, helps financial services organizations prepare for tomorrow’s IT demands—whether that requires expanding into the public cloud or rapidly deploying the latest flash and server technologies to gain competitive advantage. Organizations using vSAN report a 65 percent reduction in storage-related capital expenses and 50 percent reduction in TCO.\(^3\)

Spotlight on VMware NSX

VMware NSX® provides a virtual network overlay on top of physical network architecture. The security benefits NSX can help financial institutions achieve greatly surpass the capabilities of traditional firewall technology at the perimeter—all because of micro-segmentation. A feature of NSX, micro-segmentation isolates and segments resources logically and applies security policies to those segments. This can be down to an individual virtual machine workload. NSX integrates with other firewall and security appliance vendors that extend the NSX feature set to include filtering all the way up to layer 7 (the application layer).

Packaged for Financial Services Success

The VMware HCI solution, featuring the most streamlined deployment experience, is offered on the broadest set of consumption options, from a turnkey HCI appliance to more than 200 certified platforms, including the following:

- **The Dell EMC VxRail appliance**, exclusively available and jointly engineered by Dell EMC and VMware - The easiest and fastest way to implement a VMware powered HCI solution, VxRail enables financial firms to easily scale capacity and performance by non-disruptively adding appliances to a cluster without traditional infrastructure investment or up-front planning.

- **vSAN ReadyNode** - VMware has partnered with all of the leading x86 server vendors to provide a broad choice of pre-certified hardware, enabling financial services organizations to deploy HCI with maximum flexibility of hardware, software, licenses, and support.

Approximately 40% of all companies use HCI, according to the information technology research firm 451 Research.

In financial services, the percentage is slightly higher: 41.3% use the technology today with more than 25% planning to use it soon, according to the firm’s latest survey.4

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Winning with HCI: Oney Banque Accord Case Study

The Challenge
A subsidiary of Auchan Group, Oney Banque Accord is a stalwart in the field of consumer credit, insurance, and electronic banking. As part of its 2020 growth strategy, Oney Banque Accord committed to enrich and simplify the customer experience. How? Through diversification programs for innovation, digitalization, and electronic banking services expansion.

As a symbol of this transformation, the company brought together two locations into a new headquarters in Croix (Nord) France. The move included implementing a new technology infrastructure and taking a new approach to data storage, in service of its 7.7 million customers and about 2,000 employees.

The Solution
The hyper-converged solution simplifies storage operations in a single interface. It supports redundancy, but now through software rather than hardware, and lets the team focus on exactly what is needed. The solution has helped reduce storage costs significantly by facilitating resource management and administration, as well as managing virtual machines.

“...the market is moving more towards ‘software-defined’ solutions, so we studied alternatives that would allow us to reduce costs and complexity while maintaining a high level of security. With VMware, Oney Banque Accord ensures high availability of services."

SYLVAIN MONBORGNE
SUPPORT FOR SYSTEMS INFRASTRUCTURE AND STORAGE AT ONEY BANQUE ACCORD
Set and Achieve Your Financial Services Organization’s Goals

Digital advances in IT infrastructure are continuing to empower financial services organizations. Modernizing the data center is key to achieving growth goals.

HCI Simplifies Everything

VMware accelerates the delivery of new financial platforms by addressing the greatest need—the evolution of legacy apps and the data center foundation into a software-defined IT architecture. VMware HCI improves IT performance, availability, and scalability, increasing efficiencies while lowering costs and strengthening data protection.

HCI Powers Digital Transformation

With VMware leading in the HCI market, financial organizations can accelerate digital transformation with on-premises infrastructure that seamlessly supports the move to public cloud. It’s a complete package, enhancing IT agility while providing the enterprise security that gives business and IT leaders peace of mind.

Get Started with VMware

To learn more about the benefits of HCI for financial services organizations

> Test drive solutions in the VMware Hands-On Lab: Modernize Infrastructure
> Visit VMware Solutions for Financial Services on the web
> Join the conversation at @vmwarefinserv