



WEDBUSH SECURITIES TRANSFORMS BUSINESS SERVICES AND IT PERFORMANCE WITH HPE AND LUMEN

Leading financial services firm leverages cloud computing benefits for increased flexibility and scalability

Industry

Financial services

Objective

Meet increasingly rigorous financial regulations for more resilient IT systems, mitigate the threat of earthquakes in the Los Angeles area, and increase operational efficiency

Approach

Use an HPE and Lumen Private Cloud to transform IT services by replacing old, on-premises data center and DR facilities with high-performance, hyperconverged virtual computing resources

IT matters

- Deploy a modern IT infrastructure for performance, reliability, and efficiency improvement
- Remove the cost and resource demand of managing an on-premises data center
- Eliminate the need and cost of visiting and maintaining a remote DR facility
- Cut financial data processing time from five hours to 58 minutes
- Reduce time to deploy data center resources by 50%

Business matters

- Protect brand reputation and quality of service
- Reduce annual IT costs by 27%
- Increase business agility
- Develop new lines of business faster
- Mitigate the risk of IT outages impacting business performance
- Eliminate threat posed by earthquakes in the Los Angeles area
- Increase compliance for new FINRA financial regulations



In 1955, when Edward Wedbush and Robert Werner pooled their savings and invested \$10,000 into a start-up financial business, little did they realize what a financial powerhouse their company would become. Wedbush Securities is now one of the leading financial services firms in the U.S., providing private and institutional clients with securities brokerage, wealth management, and investment banking services. The company is headquartered in Los Angeles, California, and has 100 registered offices and nearly 900 colleagues across the U.S.

In today's financial industry where millions of dollars and shares are traded in microseconds, the efficacy and resilience of a firm's IT systems are business critical. Quality of service and brand reputation rely on fast, efficient, and reliable IT systems. For Wedbush, what started as infrastructure improvement was to become a strategic transformation.

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– Jonathan Jones, Senior Vice President, Chief Technology Officer, Wedbush Securities

NATURAL DISASTER THREAT

Wedbush's IT infrastructure comprised an on-premises data center at its Los Angeles headquarters office and a remote disaster recovery (DR) facility in Boston. While this setup had historically served the business well, it was becoming dated and a number of issues prompted the need for change. A recent earthquake in the area had rattled senior management about the safety and resilience of its IT systems. Managing the Boston DR site was also becoming a time and money burden.

Because the site was unmanned, a team from Los Angeles had to travel to Boston to update equipment and carry out regular maintenance. Recently, financial services regulations around maintaining robust IT systems have been coming into force. Financial Industry Regulatory Authority (FINRA), the not-for-profit organization dedicated to investor protection and market integrity, had reviewed the Wedbush infrastructure and recommended a more modern approach to its DR capability.

Although the DR site was able to support business-critical systems, new FINRA regulations required a new approach. Wedbush needed to ensure all business services—required to meet customer expectations and service-level agreements—could failover to the DR site and support full business operations for several days.

Added to this were advances in technologies such as cloud computing. This offered Wedbush an efficient IT infrastructure solution and the ability to respond to rapid and fluctuating changes in financial markets.

Wedbush made the decision to replace the Boston site with a cloud-based DR capability and one of its existing partners, Lumen Technologies, was approached to help develop the solution. Lumen was already providing some hosted services. However, as Wedbush started to plan and design the solution, it made a dramatic change to the strategy.

LEVERAGING CLOUD COMPUTING BENEFITS

“Initially it started as a DR and a need to meet new regulatory requirements,” says Jonathan Jones, Senior Vice President, Chief Technology Officer, Wedbush Securities. “But once we got into it and were able to see the benefits of a cloud solution and the metrics on how fast it would be compared to what we currently had in Los Angeles, it made sense to migrate our main production data center to the cloud rather than just DR.”

As well as solving the DR question, this solution offered Wedbush the opportunity to transform IT business services to deliver more resilience, better performance, and reduce costs. It provided more advanced computing equipment than the existing data center and provided integration to applications such as Amazon Web Services and Microsoft Azure that the business was looking to deploy. It also removed the need for resources needed to manage and maintain an in-house data center.

Wedbush partnered with Lumen to develop a new cloud-based data center using a Lumen Private Cloud on VMware Cloud Foundation™ solution. This was located in Lumen's Dallas hosting center using an HPE ProLiant DL360 Gen10, 4-node cluster with Skylake CPUs to create a hyperconverged, high-performance infrastructure with integrated software-defined security and networking. Significantly, the HPE technology integrates compute, storage, security, and networking services eliminating the need for additional data center resources.

Wedbush has migrated its entire production data center to the private cloud. There are around 72 virtual machines supporting a range of business applications including Refinitiv, Thompson Reuters, and FIS financial systems; Wedbush's in-house broker management tool; Amazon Web Services; Microsoft Azure; and Microsoft SQL Server and MongoDB. The cloud solution handles around 80 TB of data. Day-to-day, Wedbush uses Microsoft Office 365 and Office 2019 on-premises.



Wedbush wanted a private cloud solution because it offers the security a financial services business needs, as well as the flexibility and scalability to develop and deploy new services.

The old, on-premises data center comprising Dell and HPE ProLiant DL360/DL380 servers has been recommissioned as a development environment. The Boston site has been closed down.

Wedbush had chosen Lumen and HPE as its partners for the project because it wanted to remain within the same ecosystem. Lumen was already hosting other business applications, such as an SD WAN and hosted VoIP telephony. Wedbush was also familiar with HPE technology. Although Wedbush had been predominantly a Dell house, a year previously it had an outage and needed some servers quickly that HPE was able to deploy at short notice.

“The experience with Lumen has been really good. Whatever we requested, however difficult, has been addressed by Lumen quickly and efficiently. The company’s been very responsive to our needs,” says Jones. “The HPE technology comes as part of the Lumen solution. But nevertheless, I was very familiar with the equipment since we had already purchased it before, so it was a good fit.”

COST AND EFFICIENCY IMPROVEMENT

The new private cloud infrastructure has had a significant impact on the business, saving money, improving IT operations and business agility, and mitigating risk.

Wedbush carried out a cost benefit analysis of replacing hardware, removing the need to travel to the old Boston site, improved failover, and reducing people and resources needed to manage an on-premises data center. By comparing the old infrastructure with the new private cloud solution, Wedbush is saving 27% in annual costs.

The company has increased the value and productivity of its skilled and experienced staff by redeploying them away from basic IT administration tasks to new service and application development. “It has been a paradigm shift. From an operational standpoint, losing staff for two to three days to go out to the Boston DR site was time and resource costly. Also, application development was complex and resource heavy. Now our staff can function more productively on the core requirements here at our head office. That means we can implement things a lot quicker and pivot a lot faster,” says Jones.

RESILIENCE AND RISK MITIGATION

One of the biggest impacts has been reducing the threat of failure. “The IT resilience and risk mitigation that the Lumen and HPE solution has delivered is extremely important to our business,” says Jones. “It’s important from a regulatory, continuity of business, and branding standpoint and not being able to fulfill the needs of our clients. I would say it is absolutely critical to what we do at Wedbush.”

Jones adds, “Since I’ve been at Wedbush, I’ve seen in one day a fire and flood in our Los Angeles data center. By moving to a purposely built cloud-based infrastructure—that functions as a data center with the up-time that is required in the financial industry—it has been a huge mitigation of risk for the business.”

Business agility has improved, sometimes reducing operational processing time by up to 50%. “We have to spin up servers for new services and that used to involve a lot of work from a networking and provisioning perspective. In the new cloud environment, we can build new servers, move them to Dallas, enter production, do all the networking, and everything else using the templates that Lumen has created for us. As a result, time to build servers and components for our business has been cut in half. Then we’re off to the races,” says Jones.



Case study

Wedbush Securities

Industry

Financial services

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Customer at a glance

Application

A resilient and risk-free cloud-based data center that improves business agility and operational efficiency; it also replaces an on-premises production site and a remote DR facility.

Hardware

HPE ProLiant DL360 Gen10, which is VMware vSAN™ approved, 4-node cluster with Skylake CPUs in each of two data center locations.

Software

- VMware Cloud Foundation Software Suite front ended by VMware Cloud Director®
 - VMware vCenter®, VMware vSphere®, VMware NSX®, VMware vSAN, VMware SDDC Manager, and VMware Cloud Director
- Integrations:
 - Financial systems—Refinitiv, Thompson Reuters, FIS
 - In-house broker management application
 - Amazon Web Services
 - Microsoft Azure
 - Microsoft SQL Server
 - MongoDB

Services

- Lumen Private Cloud on VMware Cloud Foundation Managed Infrastructure as a Service (IaaS)
- Lumen Advanced Managed Services
- Ongoing support and data center administration

ACCESSING NEW MARKETS

Being able to deploy data center resources quickly and efficiently is helping Wedbush establish and develop new lines of business such as derivative markets in South America and futures and capital market networks in Chicago and New York.

Also, Wedbush now has more powerful and high-performance computing resources readily available to improve IT operations even more. For example, Wedbush regularly runs overnight file processing operations related to financial trading. With the old data, this typically used to take around

five hours. In the new infrastructure, it takes just 58 minutes. Jones adds, “It is the HPE equipment and a pretty ace infrastructure.”

The success of the project has spurred Wedbush on to strengthen its partnership with Lumen and HPE. Wedbush is now planning to support expanding business needs and mitigate risk further by building a second production data center and DR facility on an HPE-Lumen Private Cloud.

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