

**INDUSTRY**

Energy

CHALLENGE

Aging IT infrastructure made it difficult to respond to business needs in a competitive environment

SOLUTION

EMC's Enterprise Hybrid Cloud that includes two Vblock® Systems 720, two Vblock® Systems 240, and EMC XtremIO storage arrays

RESULTS

- \$20 million investment is delivering a \$54 million return
- Total IT costs reduced by 25%
- Up to 50% improvement in performance
- 50% decrease in size of infrastructure footprint
- 100% system availability

ENERGY FUTURE HOLDINGS

EFH taps Dell EMC to power transformation of its IT infrastructure to meet competitive challenges and deliver business value

\$20M INVESTMENT IN ENTERPRISE HYBRID CLOUD AND CONVERGED INFRASTRUCTURE RETURNS \$54M AND IMPROVES PERFORMANCE BY 50%

Energy Future Holdings Corp. (EFH) is a privately held, Dallas-based energy company with a growing portfolio of competitive and regulated energy companies. These businesses operate in the expanding Texas energy market, one of the world's largest and most successful competitive markets.

Luminant is a competitive power generation business, including mining, wholesale marketing and trading, and development operations. The company generates nearly 17,000 megawatts of electricity driven by nuclear and coal power, as well as purchases of wind-generated electrical power.

TXU Energy is a market-leading competitive retail electricity provider with 1.7 million residential and business customers. It offers a variety of innovative products and solutions, including exceptional customer service, competitively priced plans, and innovative energy-efficiency and renewable-energy program options.

Technology provides key competitive advantage

Technology plays a critical role in the way EFH and its businesses compete in the marketplace, engage with customers, and innovate new products and services. For example, retail provider TXU Energy was recently featured in The Wall Street Journal for innovations it offers retail consumers—ranging from free nights and weekends to convenient mobile access.

On the generation side, Luminant is exploring ways to leverage the latest technologies—such as robotics, autonomies, and artificial intelligence—in mining as well as operations and maintenance in nuclear power plants to improve safety and efficiency.

All this has placed a premium on having an IT infrastructure that mitigates risk through exceptional availability and reliability, enhances performance and agility, simplifies management and operations, and reduces IT costs.

“We’re not a regulated utility. We don’t have a fixed customer base. We don’t have a guaranteed rate of return. Every day we’ve got to do things better than we did the day before and be even more competitive if we’re going to thrive in this competitive electric market. Because of that, it has required us to be more agile, bringing cost savings back to the business and investing those in new innovation. Dell EMC’s Enterprise Hybrid Cloud, including Vblock® Systems, had the best track record that ensured us the best outcome.”

— Kevin Chase, Senior VP and Chief Information Officer, Energy Future Holdings Corp.

THE CHALLENGE

One of the biggest challenges for energy companies is that power prices have recently remained at very low levels. At the same time, competition has continued to increase in the Texas retail electricity market with more than 50 providers competing for market share—often by using low prices to attract and retain customers.

“What that’s created is a need to think differently about how we run our operation,” said Kevin Chase, Senior VP and CIO for EFH. “On the generation side of our business, we have power plants that just five or six years ago were highly profitable, but today simply aren’t making money. We need to be more agile in how we run those plants.

“On the retail side, we need to create a distinct competitive advantage with our brand and the customer experience that will let us compete successfully with low-cost providers,” he continued. “In both instances, we look to technology to drive that distinct advantage.”

An aging IT infrastructure

Unfortunately, EFH was hampered by an aging, unreliable IT infrastructure. The company had three major data centers with approximately 300 physical servers, requiring a total of approximately 40,000 sq. ft. of space.

With the average tenure for its servers at seven years, EFH’s IT infrastructure required frequent, costly maintenance that tied up IT personnel and kept them from taking on projects to deliver additional business value to the firm. Power and cooling costs were through the roof as well. Also critically important, availability was only at around 97%—unacceptable for the portions of EFH’s business that must operate 24x365.

Lack of responsiveness to business needs

An even bigger issue in Texas's fast-moving energy market was IT's inability to respond quickly to the needs of internal customers for the provisioning of new systems and services.

"It had gotten to the point where our internal customers thought of IT as red tape," explained Paul Reyes, VP of Infrastructure and Security Services for EFH. "We weren't dynamic and couldn't compete with public cloud services. We needed to figure out how to become agile and responsive, so we could quickly and efficiently deliver what the business units needed."

THE SOLUTION

EFH turned to Dell EMC's [Enterprise Hybrid Cloud](#) built on converged infrastructure from the Converged Platforms and Solutions Division of Dell EMC. This included two Vblock® Systems 720 equipped with XtremIO storage arrays, in addition to a pair of Vblock Systems 240.

Enterprise Hybrid Cloud is a one-of-a-kind engineered solution that brings together best-in-class components to deliver IT-as-a-Service via a self-service catalog for rapid provisioning of new systems and services, as well as horizontal scaling. Running on the advanced [converged infrastructure](#) of Vblock® Systems, the Enterprise Hybrid Cloud provides EFH with all the agility and responsiveness it needs to meet any requirement—while ensuring extraordinary performance and availability, streamlined management and operations, and substantial cost savings.

THE RESULTS

When EFH decided to modernize its IT infrastructure, its goal was simple.

"We want to run IT for a lot less, so we can bring those savings back to the business and invest in new innovation," Chase remarked. "We believe this innovation for the business is going to enable leaner operation for the power plants. It's also going to enable and improve the customer experience on the retail side."

Because EFH was already invested in Dell EMC and VMware technology, Dell EMC's Enterprise Hybrid Cloud and converged infrastructure systems—with their proven track record and impressive accolades from industry analysts, such as Gartner and IDC—were the obvious answer.

EFH also has a significant investment in its enterprise-class SAP environment, so it was critical that its new infrastructure be able to run SAP applications efficiently and cost-effectively. The company also wanted a single solution that would be able to run not only SAP, but also Oracle and SQL applications and databases for a consistent IT environment companywide.

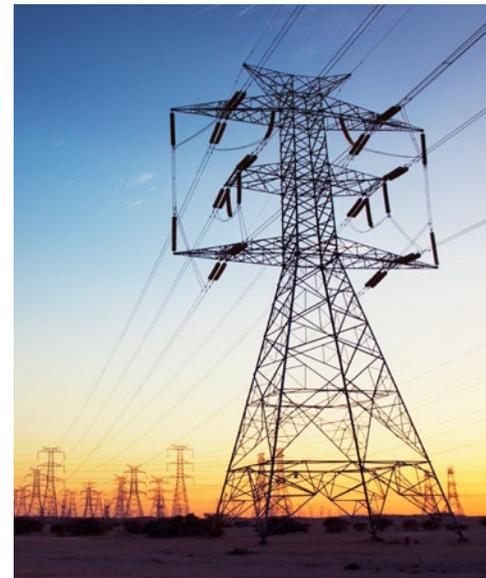
EFH deployed the Enterprise Hybrid Cloud on a Vblock Systems platform at both its production and backup data centers and quickly virtualized more than 99% of its infrastructure totaling approximately 3,000 VMs.

Immediate performance gains of 40% to 50%

Before the launch of the Enterprise Hybrid Cloud and new converged infrastructure, the EFH IT team tried to lower expectations—suggesting that the business units should be prepared for some initial negative impacts on operations, as would be anticipated with any large-scale deployment.

"Not only did the businesses not experience any negative impact, I think they felt like we were sandbagging because they came in on day one after go-live and they immediately felt a roughly 40% to 50% performance improvement," declared Chase. "We were getting emails that I hadn't seen in eight years of being CIO, telling us how much easier we've made their job on a day-to-day basis."

Provisioning that had previously taken 1 1/2 hours was completed in five minutes through the Enterprise Hybrid Cloud's self-service portal. Batch cycles that had been running for four to five hours were shrunk to two hours or less with the help of Dell EMC's industry-leading converged infrastructure. The latter was critically important because it allowed the business to push cutoff times several hours later, so more reads could be done daily and bills could be generated sooner—reducing the need for working capital by as much as \$8 million.



Among the other benefits EFH enjoyed were

- 25% reduction in the total cost of IT
- 50% decrease in the size of its infrastructure footprint—including closing one of its three data centers
- 33% reduction in IT personnel—with another 25% decrease expected over the next two years
- 100% availability since launch of its Vblock Systems

\$20 million investment provides \$54 million return

While the purchase and rollout of the Dell EMC Enterprise Hybrid Cloud and converged infrastructure required a major commitment with an investment approaching \$20 million, EFH anticipates receiving total benefits in excess of \$54 million through 2020. That includes

- \$31.5 million in avoided costs, including reduced expenses for hardware refreshes, database storage and software maintenance, and software licenses
- \$22.6 million in net operating savings, including decreased expenses for maintenance and outsourced IT resources

In addition, although EFH's entire business case was founded on the significant technology savings, the benefits of improved performance and responsiveness, as well as an increased focus on using technology to create new business value, has multiplied the compelling results.

"We had to figure out how to become more agile for the business," Reyes stated. "We are now able to answer and respond to business needs and deliver complete systems within as little as one hour. We have also changed the entire posture of IT from being just a cost center into a provider of real business value—driving cost efficiencies and time-to-market that our customers have never had before."

Leveraging even greater efficiencies in the future

While EFH hasn't yet had to scale out to the public cloud, the Enterprise Hybrid Cloud lets it look to either its private or public clouds to provide internal customers with any level of resources needed for dynamic services on-demand.

Further, to meet the requirements of business units for even more rapid deployment of applications and services going forward, EFH plans to use Dell EMC VxRail™ Appliances. As the only fully integrated, pre-configured, and pre-tested hyper-converged infrastructure appliances based on VMware, VxRail Appliances deliver a dynamic, simple-to-support, low-cost solution that's ideal for a range of applications and consolidated workloads, including dev/test.

Looking to the future, Reyes said that EFH would like to continue to build on its current automation and orchestration model.

"We'd like to make IT services more dynamic and agile—yet readily available and stable as needed," he explained. "We want to be able to provide our internal customers with on-demand services by dynamically provisioning through both our private and public clouds. And we want to accomplish this without IT being viewed as red tape—or even being visible at all. We believe Dell EMC's Converged Platforms and Solutions are best suited to meet the needs of both TXU Energy and Luminant."

