Hewlett Packard Enterprise

Liberating the cloud storage world

Key Information Systems builds an object storage offering with HPE cloud, server, and networking solutions

Objective
Create a flexible, enterprise-grade open-systems offering for storage customers

Approach
Collaborate with HPE Networking, HPE Helion, and HPE Pointnext to design a next-generation cloud storage platform

IT Matters
• Delivers single pane-of-glass resource management for customers

• Creates a storage solution for backup, recovery, and disaster recovery regardless of location

• Enables future expansion of services based on open systems for increased autonomy

Business Matters
• Drives innovation with 3x faster deployment

• Repurposes 1.4 PB of proprietary IBM storage for flexible customer environment

• Delivers up to 9x cost savings for customer object storage vs. AWS

Bridging the gap

There's an epic battle being waged in IT departments across the globe, and it's been going on for decades. It's the war between proprietary and open standards (generally associated with open-source), and while both factions continue to build their strategies and arsenals, only one thing is clear: Nobody is going to declare victory any time soon.

So in this great debate, it's good to know there are thinkers dedicating themselves to peaceful solutions—technologies that can bridge the gap and give customers the best of both worlds.

Key Information Systems is one such entity. Based in Agoura Hills, CA, Key Information Systems is a Hewlett Packard Enterprise (HPE) reseller and a HPE Partner Ready Program service provider that specializes in systems integration, as well as compute, storage, and networking solutions and services for advanced software-defined data centers.

And its leaders have a deep understanding of both proprietary and open systems. For its first 20-years, the company sold primarily IBM solutions around mainframes, AIX operating system, and AS/400 system. When the IT market began shifting toward cloud, Key Information Systems needed to adapt, so it created an open-systems offering that it could host on KeyCloud that could inter-operate with proprietary systems, the company's services portfolio that it resells to customers.

Case study
Key Information
Systems

Industry
Service Provider

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>
> — Clayton Weise, director of Cloud Services, Key Information Systems

Focus on the customer

"We found ourselves in a situation where we were trying to deliver a broader set of services to our customers, and didn't want to be constricted by proprietary technology any longer," recalls Clayton Weise, director of cloud services for Key Information Systems.

Specifically, the team at Key Information Systems had acquired a massive amount of IBM storage—1.4 petabytes—that it wanted to free up to make available as an object storage offering.

"The ways businesses and their customers are creating and consuming data has actually created demand for a new kind of storage architecture. Because 80% of our data these days is unstructured, organizations are struggling to find reliable, less complex, and more cost-efficient strategies for storage," Weise says. "Looking around at other offerings in the market, we saw a need for cloud-based DR, backup and recovery to compete with the enterprise-level vendors. We thought if we could make it work, we could come in with a great product at a lower price."

Breaking boundaries

Weise and team knew the offering was dependent on finding the right networking solution. "In the IT world, you've got compute, you've got storage—the network is how you present all that to your customer," Weise explains. "Because we wanted to do

something very flexible with a product that was fairly proprietary, we knew our network choices could make or break our solution."

While pursuing the concept of modernizing the current datacenter, Weise and team initially purchased an integrated hardware and software network technology from another leading vendor, but the solution failed to deliver. "Our previous solution required us to run 25 separate actions to provision a network the way we needed, introduced an enormous amount of complexity, and ultimately didn't do what we wanted it to do," Weise recalls.

Soon after, Weise attended HPE Discover in Las Vegas and found himself in a conversation about HPE OpenStack, HPE Helion cloud storage, and HPE open-source networking solutions. "We really wanted to find a way to present this storage so it could be carved up in any way the customer wanted to use it," recalls Weise. "If they want to use it for VMware® backups, they should be able to do that—even though the VMware software suite wants you to stay inside their proprietary ecosystem. If they want to use it for recovery or DR, our philosophy is that our customers should be able to do that, too. Our previous solution didn't allow us to make that a reality that followed our OpenStack methodology."

Weise knew there had to be a way to bring his idea to fruition. "There are so many options for businesses to take advantage of right now: cloud storage, infrastructure-as-a-service, containers, hybrid cloud. But the reality is that there's not a good way for most people

to connect all those things in an integrated manner," Weise says. "It's a huge nightmare, managing governance of all that because networking in the cloud is incredibly complex. The traditional way of doing it is to have silos for everything. Nothing really brings it all together. Most SDN solutions stop at the hypervisor, or bypass the capabilities of an intelligent network switching and routing architecture."

Building the right mix

That conversation at Discover ultimately provided the answer Weise was looking for. An HPE solution architect engineered a groundbreaking technology stack—based on HPE Distributed Cloud Networking, HPE Altoline Switch Series, and HPE Helion OpenStack—that would finally enable the flexible, multitenant network environment Key Information Systems had envisioned.

The solution is united by HPE Distributed Cloud Networking—a software platform that enables service providers to build distributed, multi-data center environments in a simple, open, and agile way through Software-defined Networking and network virtualization. Delivered over HPE Altoline 6900 Switch Series, the platform allows Weise and team the freedom to choose whatever OS, orchestration, and management options they choose.

"This pioneering networking solution from HPE enables us to carve up our network however we want," Weise explains. "It allows us to reprovision our existing infrastructure to create the flexible, market-leading services that our customers need. It gives us the same flexibility in our physical network that we have had with server virtualization for years."

Open foundations

The company selected HPE ProLiant DL360 Gen9 servers to host the management control plane. HPE Apollo servers provide the compute portion of the environment, with HPE 3PAR StoreServ 8400 providing storage. For the software layer, the team chose HPE Helion OpenStack, with HPE Helion Software Services providing deployment support.

"We reviewed multiple open system platforms, but ultimately chose HPE Helion OpenStack because of its enterprise grade reliability and HPE's enterprise level support," Weise relates. "Another major reason for that choice is the fact that HPE has extensive expertise running its own OpenStack public cloud offering, which is similar to what we wanted to do with KeyCloud."

With early-stage deployment support provided by the HPE Helion Software Services team, Key Information Systems has been able to deliver on all client expectations for infrastructure-as-a-service in terms of automation, provisioning of instances, performance requirements for storage, and advanced services layered on top of the basic capabilities.

An integrated approach

When approaching a major deployment, it's not uncommon to allocate a significant amount of time for each phase of installation and configuration. But the Key Information Systems team wanted to install, configure, and integrate everything simultaneously.

"Normally, you'd take two weeks for the Altoline network, two weeks for Helion, and two weeks for Distributed Cloud Networking," Weise recalls. "So of course, we decided to do the whole thing in two weeks."

It's also noteworthy that Key Information Systems is the first HPE customer to deploy HPE Distributed Cloud Networking together with HPE Helion OpenStack. "We asked, theoretically, if it could be done, and the answer came back 'yes'."

3x faster deployment

In order to facilitate both the complexity of the deployment and the tight timeline, Weise and team turned to HPE Pointnext to manage the project. "We had a team from HPE that lived here for three weeks The end result is that we got more done than we would have on our own—and three times faster," Weise explains.

Customer at a glance

Application

A Southern California service provider stays ahead of the curve by combining HPE Helion OpenStack, HPE Altoline Networking, and HPE Distributed Cloud Networking to create the ultimate open-source object storage environment for its customers.

Hardware

- HPE Altoline 6900 Switch Series
- HPE ProLiant DL360 Gen9 servers
- HPE 3PAR StoreServ 8400 Storage

Software

- HPE Distributed Cloud Networking 4.0
- HPE Helion OpenStack

HP Services

- HPE Helion Software Services

HPE Pointnext

- HPE Cloud Consulting Services
- HPE Lifecycle Event Services
- HPE Network and Mobility Consulting Services

Standing up its object storage environment faster meant Weise and team could start bringing their solution to market ahead of the curve and competition. "I believe we set an internal record with this one," Weise says. "We expect a lot from our team. We always try to stay ahead of the curve, and with HPE Pointnext we got there faster than we ever have before."

Rolling out big

With the success of its object storage environment still fresh, Weise and team were already looking at ways to extend the benefits of its flexible storage solution beyond its data center. So Key Information Systems contracted with Switch, the massive operator of highly secure Tier IV Gold data centers across the United States and globally.

Since it gained the flexibility and scalability to deliver valuable storage resources to its customers through its Hewlett Packard Enterprise products: Altoline, Helion OpenStack and Distributed Cloud Networking (DCN) solution, the team knew it could provision its solution across multiple data centers and offer additional data security options to its customers.

"By leveraging the Switch data centers from within our solution, we can send our customers anywhere to do what they want with the service," Weise says. "It means our customers can choose where they back up their data, and where it gets replicated. DCN lets us take full advantage of the Switch Supernap fiber network."

Key Information Systems' investment in leading-edge technology from HPE means its customers have access to an enterprise solution at a market-leading price. "Amazon charges three cents a gigabyte to store and nine cents to retrieve. That's for one location," Weise explains. "We give you a pipeline into the object storage environment, and it's all you can eat. We charge three cents a gigabyte and store your data in three locations for up to 9x savings over AWS with the option of delivering on a high-speed, fully private network for a truly hybrid solution."

A pipeline to the future

The success of the project thus far has Weise and team smiling, but they're not resting on their laurels. "We're thinking, now that we have this flexible, fast connection to this environment, what else can we do with it?" Weise asks. He answers his own question: "Tier 2 storage. File servers. You name it. With this HPE stack, we can carve up our infrastructure to do whatever we want."

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