



Pivotal

Pivotal Software Chooses Hybrid Cloud Platform to Connect Far-Flung Global Startup

As a joint venture of EMC and VMware, Pivotal Software was created with 1,400 employees, global operations, multiple mature business units and development projects, and no shared systems or facilities. The firm's new IT group chose to deploy its core IT infrastructure on the VMware vCloud® Air™ platform, connecting disparate parts and providing a foundation for shared systems and services.

Pivotal Software enables the creation of modern, cloud-native software applications that leverage big data and agile development practices. The company's products combine apps, data, and analytics on an enterprise platform as a service powered by Cloud Foundry. Launched in 2013, Pivotal is a joint venture of EMC Corporation and VMware that brings together products, open source development projects, employees, and business units from both parent companies.

The Challenge

When Pivotal was called into existence by a joint announcement from EMC and VMware, the company-to-be was a globally distributed collection of organizational parts with few shared facilities or common infrastructure. Some of the business units and development teams spun off by the parent companies include the following:

- Cloud Foundry, an open source platform-as-a-service project
- Greenplum, a big data analytics company
- SpringSource (now Spring IO), developers of the open source application framework for the Java platform and a host of related projects
- Pivotal Labs, specialists in agile development of scalable Web and mobile software
- GemFire, a distributed in-memory data management platform

The first challenge for Pivotal's new IT team was to quickly establish a core of shared infrastructure services for an organization with 1,400 employees, global operations, multiple mature business organizations, and no shared systems or facilities. The highest priorities were Domain Name Service (DNS), Lightweight Directory Access Protocol (LDAP), and other core networking services that would support higher-level connections and services as dictated by Pivotal's evolving business strategy.

Because there was no existing network hub to host such services and no central location in which to deploy a physical platform, Mike Culbertson, director of IT infrastructure and networking (and Pivotal's first IT employee), preferred to launch his core services in the cloud. Unfortunately, most public cloud platforms are designed for application delivery, not for services such as DNS and LDAP. "When you're talking about running core IT infrastructure, you need a little more control and a level of standardization that most infrastructure-as-a-service platforms just aren't geared toward," Culbertson says.

INDUSTRY

Information technology:
Software and application
development services

LOCATION

Palo Alto, California

KEY CHALLENGES

- Core IT services needed for a global startup
- No shared facilities or infrastructure to host services
- No central location in which to deploy a physical platform

SOLUTION

Pivotal Software chose the VMware vCloud Air platform as a neutral, abstracted location in which to deploy core IT services (DNS, LDAP, etc.) as the initial links between its globally distributed facilities, and then as the target platform for new shared systems and services.

BUSINESS BENEFITS

- Faster speed to service
- Versatile delivery platform for any type of service
- Built-in geographic distribution for business continuity
- Flexible toolkit for better business solutions

FIVE USE CASES FOR VMWARE VCLLOUD AIR

- 1. Development and testing** – Move bursty test and development workloads to the public cloud for affordable capacity, consistent environment, distributed development, and convenient collaboration.
- 2. Extend existing apps** – Extend existing applications on vCloud Air to accommodate seasonal peaks, gain geographic reach, reduce latency, free up data center capacity, or drive consolidation.
- 3. Disaster recovery** – Use the vCloud Air platform as a secondary data center to store backup copies of applications and data.
- 4. Modernize enterprise apps** – Evolve existing applications by breaking them into tiers, creating new Web and mobile front ends, making them service oriented, or leveraging infrastructure APIs to add scalability or context.
- 5. Build next-generation apps** – Build new cloud-native applications using next-generation application frameworks, platform services, mobile back-end services, Spring Framework, or Linux Containers.

The Solution

Fortunately, there is one hybrid cloud platform that supports core IT services as capably as any other workload: the VMware vCloud Air solution. The vCloud Air platform is built on the VMware stack, including the VMware vSphere® virtualization platform, which were purpose-built to be an internal virtualized infrastructure. “It’s not geared specifically to application development or to serving applications out to the Internet. It’s geared to running IT infrastructure for whatever service you may be deploying,” Culbertson explains.

“When you work with vSphere enough, you just know that there were systems and network guys in the room when the product was designed. You can see that fingerprint right down to the configuration options that you have inside the stack. Networking is a big part of it. The core of vCloud Air is built to do exactly what we needed. The other cloud platforms aren’t.”

For example, Culbertson’s team likes to run their own network components in every virtual data center. “We run our own routers and firewalls alongside our virtual servers. It gives us the consistent network control we need to interconnect multiple virtual data centers. That’s something you can’t do on most public clouds, just based on the platform architectures.”

The team realized they could leverage the vCloud Air platform as an abstracted location in which to begin building an IT core for the new company, without increasing their dependency on any legacy systems or locations. “It became a neutral territory where we could spin up the core services we had to host ourselves,” Culbertson explains. “Then we could use those services as a glue to begin bringing all our organizational pieces together.”

Business Benefits

In selecting the VMware vCloud Air platform to deploy its core IT services, the Pivotal team realized a variety of technical and operational benefits.

Faster Speed to Service

By establishing its core IT services on the vCloud Air platform, Pivotal was able to deliver those services in a fraction of the time compared to a conventional approach. “If we had followed the traditional model of building our own physical infrastructure first, it would have diverted far too much time, talent, and capital from the more important tasks of building the company,” Culbertson says. “We were able to spin up the core IT infrastructure for a global organization very quickly, with a minimal IT staff.”

Versatile Delivery Platform for Any Type of Service

With its core IT services running on the vCloud Air platform, Pivotal can now quickly build and deploy additional services on the same platform as needed. “Once the core infrastructure was established, the flexibility and neutrality of that terrain lent itself to allocating chunks of the resource to practically any purpose you can come up with,” Culbertson explains. “Now we have everything from public-facing Web services to internal R&D initiatives running on vCloud.” To cite just one example, Pivotal’s field engineering organization uses a globally distributed set of eight virtual data centers, all running on the vCloud Air platform, to deliver customer demonstrations of Pivotal CF, the company’s enterprise platform-as-a-service solution.

Built-in Geographic Distribution for Business Continuity

Building core IT services on the vCloud Air platform also helped Pivotal to begin addressing business continuity requirements that are usually complicated, time consuming, and expensive. “We were able to spin up instances of all our core services initially in three different regions—now four—to allow for business continuity planning,” Culbertson says. “We’ve actually become globally distributed with relative ease.”

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Mike Culbertson
Director of IT Infrastructure
and Networking,
Pivotal Software

VMWARE FOOTPRINT

- VMware vCloud Air

APPLICATIONS VIRTUALIZED

- Core IT services: DNS, LDAP, Intranet Web services, etc.

Flexible Toolkit for Better Business Solutions

As a global startup, Pivotal has faced unusual business challenges and responded with unconventional solutions, but an aversion to orthodoxy is part of the culture. “We do like to challenge conventional ideas of how things are done,” Culbertson says. “We look at historical approaches and conventional solutions, then we look for the next way of doing things. Not change for change’s sake but because there is always a better way to do things. That means we need technical building blocks that are extremely flexible and adaptable.

“vCloud Air fills those needs very well. It allows us to address the conventional needs of a large organization in very unconventional ways. It allowed us to take the cloud service model for delivering software to customers and turn it inside out, to deliver core IT services to our own company. vCloud has become part of our toolkit for finding that better way of doing things.”

For more information, please visit [VMware vCloud Air](#).

