

Pivotal grows its PaaS and big-data play with hybrid cloud use

Analyst: Jay Lyman

29 Jun, 2015

Pivotal is growing the capability and enterprise audience of its Pivotal Cloud Foundry 1.4 with hybrid cloud infrastructure support for Amazon Web Services, in addition to OpenStack and VMware vSphere and vCloud Air, which were already supported. Other Pivotal Cloud Foundry 1.4 highlights include enhanced auto-scaling, usage tracking, notifications and integration with Microsoft Windows Active Directory management. Pivotal says it is responding to customer demand for portability of applications and services between public and private clouds, as well as between test and development and production. The company continues to deepen its application development and deployment capability as it grows its enterprise business. With its new Diego workload scheduler and upcoming Docker support, Pivotal is also competing with PaaS rivals and others to support Docker and containers as extensively as the key languages, other application components and infrastructures of polyglot programming.

The 451 Take

Pivotal is focused on the right demands of enterprise customers, with an emphasis on more simply managing PaaS and big data on top of existing cloud infrastructure deployments – particularly AWS. Its simplified AWS integration, allowing customers to effectively leverage what's been done on AWS for their new and future-facing application development and deployment needs, which is critical. Pivotal's maturity, infrastructure integration and big-data support all help to differentiate its PaaS, but some pieces just now gaining support from Pivotal, such as .NET and Azure, are already deeply supported by some rivals. Pivotal must also compete against a broader range of vendors in the space as Docker and containers grow in significance and use.

Context

Pivotal is among the most visible commercial backers of the open source Cloud Foundry PaaS. Since its spinoff from EMC and VMware in 2013, Pivotal has been a leader in forming and fostering the Cloud Foundry Foundation, which recently held its summit highlighting use cases and customers, including new foundation member JPMorgan Chase. Pivotal offers commercial subscriptions and support for the open source Cloud Foundry, which consists of an elastic runtime and application container scheduler, as well as support for BOSH services and automation of VMs, networking, storage and command-line interface for APIs.

Pivotal is responding to the convergence of IaaS and PaaS, whereby M&A, vendor strategy and customer needs are pushing PaaS to be a feature of IaaS. It says IaaS operational capability is critical to its PaaS offering and customers, as well as wider as-a-service aspirations, whereby the company envisions everything running as services. Pivotal reports that large customers tend to be focused on flexibility, leveraging public multi-tenant cloud infrastructure with single-tenant private cloud. The company says future-leaning use cases include microservices and support for the Internet of Things. Although it just released its first commercial product in 2015, Pivotal ranks among the top 20 PaaS vendors in terms of revenue, according to the Market Monitor service of 451 Research. Our Market Monitor estimates for the total enterprise PaaS market come in at nearly \$3bn for 2015, \$3.8bn for 2016 and \$4.7bn for 2017.

Products

Pivotal recently updated its Pivotal Cloud Foundry PaaS with enhanced hybrid cloud support for portability across multi-tenant public cloud and single-tenant private cloud infrastructures. The Pivotal Cloud Foundry 1.4 release features streamlined AWS installation integration, simplifying the use of Pivotal Cloud Foundry (including private PaaS) on Amazon's public cloud. Pivotal Cloud Foundry already supported other private clouds, including VMware vSphere and vCloud Air, and OpenStack infrastructures. Pivotal also recently introduced enterprise support for its Pivotal Web Services, which is now included in Pivotal Cloud Foundry subscriptions through shared license entitlement. The company says this also helps to enable hybrid cloud scenarios that support application and service portability between private and public clouds.

Additional Pivotal Cloud Foundry updates include operational improvements such as integrated auto-scaling; logging and usage tracking, with real-time streaming and billing capability; user-notifications API and service; identity integration with Active Directory and LDAP; increased SAML support; feature flags to turn features on or off; and the ability to change process plans

during runtime. Additionally, Pivotal Cloud Foundry 1.4 features a new DBaaS with high-availability MySQL service and session-state caching with GemFire.

Pivotal supports the provisioning, deployment and management of applications written in Java, Ruby, Python, Go, PHP or Node.js. Users are able to connect production-ready databases, messaging, mobile and data services, as well as to provision servers, networks and storage with policies. Pivotal Cloud Foundry also supports automated application deployment using containers and instrumenting for central logging, monitoring, and recovery. Monitoring, scaling and upgrade capabilities allow users to manage applications and services from a central dashboard. Other capabilities include auto-scaling and HA across multiple regions, and policy-based application lifecycle management. While Pivotal has supported containers for some time, it is now introducing support for the ability to pull Docker images from a repository and run them. The company is also deepening container support with Diego, a workload scheduler that is used increasingly for containers as well as VMs and unikernels. As part of the Diego work, the Warden container software written in Ruby was rewritten as Garden in Go, although the container management APIs remain the same. Pivotal also supports Lattice, a stand-alone version of Diego without services intended for smaller teams.

Pivotal stresses the strong connections between the open source Cloud Foundry community – which backs projects such as NoSQL databases, Spring, Redis, RabbitMQ messaging and Jenkins continuous integration server – and its commercial offering, which is driven by the Cloud Foundry community of more than 40 vendors. Pivotal says it also works to build 'operational excellence' into its PaaS, to provide the right choices and best practices to users facing a complex and confusing landscape of tools and components (aka polyglot). This is consistent with what we hear from customers that demand flexibility and openness, yet want providers to make some of the choices for them.

Customers

Pivotal reports more than 45 Pivotal Cloud Foundry customers, as well as a healthy pipeline of large enterprise clients in energy, telecommunications, financial services, healthcare and other verticals. One large client leverages PCF for its IoT effort. A number of Cloud Foundry users were also highlighted at the recent Cloud Foundry Summit, with many of them – including Comcast, IBM, Intel and CenturyLink – focused on the transformation to agile processes and DevOps. Pivotal says most customers are either leveraging private clouds or Pivotal Web Services, but also want the flexibility and option to use multi-tenant public cloud infrastructure, as well. Pivotal also highlights service desk capabilities, such as auditing, logging, metrics, and the ability to review and report, as

important for customers. Consistent with our research on the PaaS market and customers, Pivotal also says that the movement of applications and services between test/development and production is paramount.

Integrations and partnerships

In addition to the various languages, frameworks, databases and infrastructures it supports, Pivotal says some of the most common software in customer deployments includes Jenkins and other continuous integration servers, Splunk log management, and monitoring with tools such as ServiceNow or NewRelic.

Pivotal has also more formally partnered with a number of vendors in other areas. Earlier this year, Pivotal partnered with Hortonworks on the Open Data Platform (ODP) Initiative, and in a strategic, commercial alliance for enterprise data management and analytics. More recently, Pivotal and OpenStack distribution vendor Mirantis announced a partnership for Pivotal Cloud Foundry to support Mirantis OpenStack, and for Mirantis to resell Pivotal Cloud Foundry. Pivotal also recently announced a deal with Dell Services where its Digital Business Services portfolio includes cloud application services based on Pivotal Cloud Foundry.

Competition

Pivotal's closest rival continues to be Red Hat with its OpenShift PaaS. Both Pivotal and Red Hat have expanded their application component and infrastructure support, but both also started from a core Java-centric enterprise offering that remains significant today. Additional PaaS rivals include polyglot providers Apprenda, Engine Yard, Jelastic, Joyent, Microsoft with Azure, Progress Software, and salesforce.com with Force.com and Heroku. Amazon and Google are also Pivotal rivals that are leveraging the convergence of IaaS and PaaS to strengthen their enterprise plays with Amazon Elastic Beanstalk and Google App Engine.

Container-based PaaS providers such as Engine Yard with Deis and WaveMaker also represent competition for Pivotal. Within Cloud Foundry, Pivotal must also compete to some extent with Cloud Foundry-based PaaS software, such as ActiveState's Stackato and IBM's Bluemix, although these are also fellow members of the Cloud Foundry Foundation. Configuration and provisioning automation vendors such as Ansible, Chef, Puppet Labs and SaltStack also represent competition for Pivotal, given their broader infrastructure automation aspirations, although we also see their tools sometimes used along with Pivotal's software.

SWOT Analysis

Strengths

Pivotal benefits from the technical and credible maturity of Cloud Foundry, an open source PaaS that is a favorite among developers and, increasingly, enterprise clients.

Opportunities

Its focus on IaaS and PaaS management, along with big data and Hadoop, comprehensively addresses top large enterprise and service-provider customer needs.

Weaknesses

Some key application languages and infrastructures just now gaining support from Pivotal are already supported by some rivals.

Threats

Pivotal's adoption and support of Docker and containers – of growing importance in the PaaS space and to end users – may not be as aggressive or deep as some counterparts on a growing list of rivals.

Reproduced by permission of The 451 Group; © 2015. This report was originally published within 451 Research's Market Insight Service. For additional information on 451 Research or to apply for trial access, go to: www.451research.com