

Solution Brief

Pivotal Melds Big Data and Platform-as-a-service

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Abstract: *One significant challenge with big data is the complexity of architecting and assembling a complete technology stack to support companies' analytics initiatives. Pivotal addresses this with its broad portfolio of interlocked data platform and agile development offerings, including alliances with strong connections to EMC, Isilon, and VMware, and participation in the Cloud Foundry community for a ready PaaS environment in their own version, Pivotal CF. Recently announced enhancements to its products go further in establishing Pivotal's position as a solution leader in the big data market. Although further integration is needed to realize the solution's full potential, the vision is compelling.*

New Products and Pricing Change the Picture

Pivotal is making significant progress on increasing the power of its individual big data products and more tightly integrating these together with its cloud services. The company has highlighted new features in its recent announcements, including:

- Pivotal HD 2.0 brings an updated Hadoop 2.2 distribution to Pivotal CF, enabling developers to more easily set up and connect applications in a robust platform-as-a-service approach. A Hadoop environment can be established and scaled quickly on demand. Underlying support of VMware vSphere and Amazon Web Services EC2 infrastructure-as-a-service provides choice of resources. Kerberos support for common Hadoop extensions improves security.
- HAWQ offers advanced database services including familiar SQL, analytics tools, a range of popular algorithms, and pipelining of data. The new Parquet storage format with both row and column indexing is also added here. GemFire XD, complementing HAWQ, has real-time analytics capabilities with in-memory performance and automated access to online and offline data, again with SQL querying.
- The Pivotal Big Data Suite brings the data lake concept to life, providing much needed commonality between the disparate components of a technology stack, and making it easier to price and consume. Greenplum DB, Pivotal HD, HAWQ, GemFire, and SQLFire are all bundled into a single SKU now, which is oriented around building a full solution, not individual pieces and parts. Pivotal is complementing its existing pricing schemes with a comprehensive bundle based on a "used cores and contract years" count, in which customers can use any of the technologies in the suite with their subscription.
- Pivotal has recently partnered with many top technology industry companies to create the Cloud Foundry Foundation, an open source, nonprofit foundation. The foundation initially includes the EMC Federation companies Pivotal, VMware, and EMC II as well as IBM and Rackspace as Platinum sponsors with more expected soon.

These moves, taken together, signal a real shift in Pivotal's commitment to winning the war for big data supremacy, not just individual battles over smaller tactical deals. Leveraging the big data solutions in the Cloud Foundry environment also combines momentum of two of the biggest trends in IT today. And it shows Pivotal's continued commitment to the open source community and the desire to make the Cloud Foundry technology a key enabler for a standardized PaaS for all companies and cloud technologies.

Responding to Common Customer Challenges

Most companies are short on the talent needed to implement big data solutions today, with ESG research showing one in five surveyed organizations having a critical lack of IT staff for business intelligence and analytics, and one in four

without enough people to architect and plan for new initiatives.¹ Compounding this is the multi-disciplinary nature of big data projects, which has an impact on everything from storage and servers to databases and applications. Even worse, many vendors' data tools are standalone components, all of which means extensive evaluation and integration efforts requiring intense collaboration. This scenario often leads to project delays and increased costs.

Pivotal is showing its understanding of this challenge by making a welcome effort to simplify matters and focus on getting to the value of big data. With a broad range of complementary products, a strong partner ecosystem, and a cloud platform, Pivotal is well positioned to offer a more complete, pretested, and pre-tuned approach to big data. Developers of new applications will be more productive and faster to market, and IT organizations will feel less burden to build a new infrastructure.

This more user-friendly strategy is directly supported by Pivotal's announcements:

- Big data in the cloud (Pivotal HD in Pivotal CF) means little on-premises infrastructure is needed to get started. Developers can spin up a new test and dev sandbox, leverage a broad set of updated Hadoop tools, and then convert to production scale seamlessly when they are ready to go live. Choice of underlying cloud infrastructure providers gives more flexibility and should reduce fears of "lock-in" to one service. ESG research shows that 32% of respondents are already doing some form of business intelligence and analytics in public clouds today, and ESG believes that this is bound to increase.²
- Both real-time and batch analytics (GemFire and HAWQ) are becoming more popular, and customers are looking for platforms that can deliver multiple approaches on the same stockpile of data. ESG research showed that the ability to gain strategic insights from historical results and the ability to respond faster tactically were virtually equal as cited business benefits sought from big data, at 35% and 34% respectively.³ Pivotal champions the concept of a multipurpose data lake, and this combined approach will reduce the time spent on extract-transform-load (ETL) operations.
- A bundled pricing model reorients the consumption around "cost per answer," not a multivariate calculus of storage volumes, server counts, processing power, and other hard-to-predict estimates of hardware utilization. Customers have high expectations for big data initiatives, and they should not be dissuaded by complex pricing schemes. The Big Data Suite subscription gives unlimited usage and support of Pivotal HD, too. Pivotal is reinventing the model and this simpler method will be appreciated by both developers and finance departments.

Although Pivotal is not unique in having a wide portfolio of data products, with these customer-oriented moves, it is showing great promise for bringing these products together into a unified solution to more readily deploy big data solutions in the enterprise.

Continuing in the Right Direction

The next phase of evolution will be important in order for Pivotal to see continued success in the crowded big data marketplace. While Pivotal should be applauded for assembling a strong portfolio of products and services, more is required to make this a truly unified and differentiated solution. Focus and future investments should be made toward:

- Marrying all products more tightly with PaaS services, and even supplementing customer skills with agile development of Pivotal Labs. The federation of EMC, Isilon, VMware, and Pivotal could be leveraged to build an even stronger, more differentiated technology stack for big data, but at a minimum, all Pivotal products should be fully functional in Pivotal CF. Today's gaps and asterisks should be removed so customers have complete flexibility between on-premises and cloud choices.
- Educating the market on Pivotal's data lake vision and future directions. Although pulling all of its products together and into the cloud is a great strategy, it needs awareness, understanding, and acceptance by

¹ Source: ESG Research Report, [2014 IT Spending Intentions Survey](#), February 2014.

² Ibid.

³ Ibid.

prospects and customers as well as channel and technology alliance partners. Pivotal should exert its influence by more boldly articulating the benefits of its approach.

- Avoiding getting out-positioned by either industry giants or more nimble competitors. Pivotal, with EMC's backing, has a good starting point, but is boxed in by a few much larger, more established database, business intelligence, and analytics players on one side, and pure play startups innovating to be best-of-breed in their niches. Pivotal will need to carefully cultivate more alliances while simultaneously building a more comprehensive platform.

The Bigger Truth

Pivotal understands that its strengths with a large assembled set of products, many from its EMC-led federation origins, could also be positioned as a weakness today by its competitors. While not organically developed together, many synergies are emerging, and these are important to Pivotal's customers. These announcements show rapid action aimed at realizing the vision of a more complete, single-source big data platform, and a commitment to building a developer-friendly solution for all clouds—whether in private, public, or hybrid environments. As the market continues to evolve and eventually consolidate, Pivotal will be a key player to watch, especially since it isn't afraid to reinvent the rules to mutually benefit customers and itself.