

REPORT REPRINT

Cloud Foundry showcases impressive growth and multi-cloud use

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According to the latest user survey, over 50% of the Fortune 500 are now using the Cloud Foundry Application Runtime. And over half of all users run it in a multi-cloud environment.

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Cloud Foundry recently held its European Summit in Basel, Switzerland. The event showcased impressive growth and momentum within the Cloud Foundry community, as well as a commitment to promoting developer diversity. It also introduced The Foundry, a new portal for accessing distributions, services, add-ons and information.

THE 451 TAKE

Cloud Foundry's community of users is growing, and, importantly, it is now beginning to reach the mid-market - meaning it's no longer the preserve of large enterprises. It is still predominantly supported by the tech sector itself among enterprise users, although the level of support in the financial services sector bodes well for broader market adoption beyond tech. The introduction of 'The Foundry' portal is a good move, and could help support and grow a much larger community. It would benefit Cloud Foundry to find a way to classify consultants and systems integrators to enable midmarket and enterprise buyers in different regions to easily find partners. Building on its market positioning, it would also be helpful for the industry if Cloud Foundry began tracking developer diversity within its surveys.

CONTEXT

Cloud Foundry is a complex distributed platform that takes advantage of 25 open source tools to create portable applications. It describes itself as an application runtime environment, which makes it easier for organizations to run their applications on different cloud infrastructures. There are currently seven certified distributions of the code available: Atos Cloud Foundry, Huawei FusionStorage, IBM Bluemix, Pivotal, SAP HANA Cloud Platform, Swisscom Application Cloud and, the latest to join the fold, Fujitsu K5.

Cloud Foundry Application Runtime users span the globe, although about half are located in the US, with a third in Europe (with the largest communities in Germany, the UK and Switzerland) and 15% in Asia. There are now nearly 2,800 contributors to the code base, and in August comSysto joined the Cloud Foundry Foundation. The Cloud Foundry community now has 200 self-organized groups with more than 70,000 members.

In recognition of the fact that this community needs a single resource to access Cloud Foundry's 600 services, add-ons and various distributions, at the European Summit, Cloud Foundry Executive Director Abby Kearns unveiled 'The Foundry' as the digital embodiment of the ecosystem - billed as a 'web-based marketplace' for accessing and exchanging information and technology. For now, the Foundry is arranged around six categories: training partners, distributions, services, infrastructure providers, consulting & integrators, and 'other' integrations.

Cloud Foundry launched its developer certification program earlier this year, and reports that so far 10,000 developers have enrolled. Perhaps aiming to raise the issue of diversity in the development community, at the Basel event Cloud Foundry showed a promotional video prominently featuring women, followed by the opening keynote conversation between Kearns and Sara Novotny of Google, two women insiders talking about technology from positions of authority. Given the backdrop (women did not get the vote in Switzerland until 1971), the event kickoff seemed to us a thoughtful and effective piece of marketing.

CONTAINER CRUSADES

There is a popular view that Cloud Foundry (which is application-centric in approach) is engaged in a 'religious war' with Kubernetes (much more container-centric in approach), and that one approach must ultimately prevail over the other. In fact, most developers concede that each has its uses, depending on specific requirements. Although it must be said there are very few developers that are outwardly neutral - they typically prefer one approach over the other.

Cloud Foundry is seeking to address this 'schism' by renaming Kubo as 'Container Runtime' for deploying Kubernetes apps, while Diego is now a component of 'Application Runtime,' which takes a more PaaS-like approach. Both runtimes actually run on containers, but they bring different development perspectives to the app dev party. The idea is that developers use the right tool for the right job.

USER SURVEY

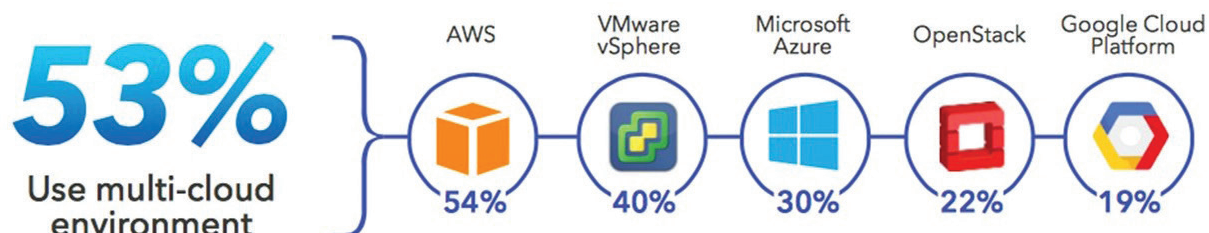
Cloud Foundry regularly runs user surveys, and its most recent reveals the growth of SMB organizations using the environment, with SMBs now forming 39% of the total. Many of these organizations are fairly new to the environment: around 45% of all Cloud Foundry Application Runtime users have been using the platform for less than a year, compared with 15% who have used it for more than three years. The engagement levels with the platform reflect this, with 61% of Application Runtime users in the early stages of deployment, while 39% are now deploying more broadly within their organizations. Over 50% of the Fortune 500 are now using the Cloud Foundry Application Runtime.

Around half of organizations using Cloud Foundry Application Runtime have more than 10 developers, and of those, a quarter have 50+ developers using the environment. Some organizations have far more – Comcast has over 1,500 developers using Cloud Foundry daily, while Home Depot has more than 2,500 doing so. With regard to the use of containers, about half of the Application Runtime users are using containers such as Docker or rkt, while another third are evaluating or deploying containers. Among Cloud Foundry Application Runtime users, 59% are using containers by virtue of managing their applications within a PaaS, either self- or provider-managed. However, around one-quarter of users manage them with tools such as Kubernetes or Mesos, and 15% manage them entirely DIY with in-house tools.

Among all users, an average of 30% of their cloud-native applications run on Cloud Foundry Application Runtime. They are running a variety of applications in the environment, with the primary use being microservices, but websites also score highly, as do internal business applications and SaaS use cases. Legacy software is the least likely to take advantage of the environment.

Just over half of Cloud Foundry Application Runtime users run it in a multi-cloud environment distributed across five main IaaS stacks (see figure below). In terms of users' industries, nearly half of the user base comes from within the tech sector itself (47%), while another fifth comes from financial services.

Cloud Foundry Application Runtime in Multi-Cloud



Source: Cloud Foundry Foundation User Survey

COMPETITION

Cloud Foundry's main competition comes from other PaaS providers, primarily the private enterprise PaaS players. These include Red Hat's OpenShift, which in 2015 added native Kubernetes container management support and is aligned with Red Hat's other cloud, development and IT operations software, including its CloudForms cloud management and OpenStack IaaS software. Another enterprise PaaS contender is Apprenda, which has broadened its language support beyond its core .NET roots and is integrating its PaaS with Kubernetes.

SWOT ANALYSIS

STRENGTHS

Unlike other PaaS offerings, Cloud Foundry is open source and not tied to any vendor's proprietary stack. It's a good choice for enterprises seeking a best-of-breed execution venue for different workloads, because it is reliable in its operational capabilities across different cloud environments, which helps meet requirements for flexibility and ease of deployment.

WEAKNESSES

One of the main weaknesses of Cloud Foundry is the complexity of installing the stack (there is a new release about every two weeks). Although Cloud Foundry has made progress in ease of adoption over the past few years, there is still a need for increased simplicity in ramp-up, with nearly two-thirds of users reporting some level of operational difficulty in its own survey.

OPPORTUNITIES

Although the platform is horizontal in its application development capabilities, the Foundation already recognizes that it will be helpful to build up stronger vertical-sector SIGs. Being able to create both vertical and local 'mini ecosystems' within the systems integrator community, attracting more specialist, smaller players alongside the global players, would help regional adoption of Cloud Foundry in markets beyond the US.

THREATS

One of the biggest threats facing organizations operating in a multi-cloud environment lies in the shortage of cloud developer skills. Cloud Foundry has begun to address this by setting up its certification program. It could go further in classifying and tiering the capabilities of its consulting and SI partners to help assure enterprises in sectors beyond tech and financial services that there is a growing third-party skills base available to them.