

REPORT REPRINT

Cloud Foundry and the philosophy of agility

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At its European Cloud Foundry Summit, users didn't just see Cloud Foundry as a PaaS, but as a philosophy and foundation upon which digital transformation can be built. With multi-cloud support at the forefront and containers being utilized in the back end, Cloud Foundry is being viewed as an enabler and a contributor to agile application development across multiple venues.

THE 451 TAKE

The fact that half of the Fortune 500 uses Cloud Foundry is a statement of the platform's success, and the enterprises we talked to (on the whole) have a positive view of it and its future. But it's not an easy option - there is huge complexity in its breadth of projects, integrated services, partners and distributions, which perhaps explains why CF is used more by large enterprises than small ones. Large enterprises have the budgets, the skills, and the desires to formalize development and invest in this philosophy of digital transformation. The new SI certification should help solve much of this complexity. Kubernetes and serverless services hang over Cloud Foundry, and the community has taken steps to make sure it remains relevant as these services grow in popularity.

CONTEXT

The beautiful Swiss city of Basel was turned into the European home of Cloud Foundry for a week as over a 1,000 end users, sponsors and developers attended the Cloud Foundry EMEA summit. Cloud Foundry is an open source, multi-cloud application PaaS governed by the Cloud Foundry Foundation since January 2015. Developed by VMware, Cloud Foundry was transferred to Pivotal, a joint venture of EMC, General Electric and VMware. Pivotal subsequently donated the project to the Cloud Foundry Foundation. Pivotal went public in May.

In a nutshell, Cloud Foundry provides continuous delivery of applications, from development to testing to deployment. Through Application and Container runtimes, developers can develop applications in a number of programming languages, and provision them to a range of cloud providers without refactoring code. In a PaaS, the infrastructure is invisible, but so is the underlying operating system and handler of the execution - the coder only needs to be concerned with their code, since it should move seamlessly between platforms. Just like IaaS removes the hassle of hardware, PaaS removes the hassle of the underlying operating system.

Rather than a big Vegas-style event, the summit was more low-key, with training sessions, practical demonstrations and content primarily designed for the DevOps audience that would be using CF in real-life - 'community' was the operative word. Announcements included a Certified Systems Integrator Program and the incubation of two new projects into the Foundation - CF Containerization and Eirini, which both aid Kubernetes use/integration with CF. More than 17,600 people are currently enrolled in training and certs, and 61% of deployments are from large enterprises (25% SMBs, 14% SMEs). The release of China's first homegrown industrial internet platform, INDICS, by CASICloud was also announced.

Analysts at the event were invited to an end-user panel consisting of large companies such as Air France-KLM, Boeing, the UK government, Cognizant and others. Analysts are generally used to hearing the same things at such panels - 'collaboration, partnership and commitment' are spouted by panelists that have, understandably, been chosen by a vendor or service provider to portray itself in a positive light. However, the users at this panel talked about Cloud Foundry as a belief system upon which it had built its application development. Comments included 'It's like a drug,' 'I chose to lock into Cloud Foundry so we wouldn't be distracted by the latest new technology and we could focus on development,' 'We need to deliver fast on a fixed platform' and even 'Will we ever move off Cloud Foundry? Probably not in our lifetime.'

The users we spoke with didn't just see it as a PaaS - it was the underlying philosophy of application delivery and management upon which future developments would be based. The Foundation claims Cloud Foundry saves, on average, 10 weeks of development time and \$100,000 per app development cycle. In fact, in its own survey, 92% of users cite cross-platform flexibility as important. If these panelists are gaining such benefits, it's easy to understand why they are so enamored with it.

Like a great philosophical text, however, Cloud Foundry is more than just a single chapter – Cloud Foundry is a complex distributed platform that takes advantage of open source tools to create portable applications. And like great philosophy, it can be sometimes quite difficult to get your head around.

There are currently eight certified distributions of the code available: Atos Cloud Foundry, Huawei FusionStorage, IBM, Pivotal, SAP Cloud Platform, Swisscom Application Cloud, SUSE Cloud Application Platform and the US Cloud.gov. Generally, distributions make money by providing support to ruggedized versions of the open source CF projects. There are 188 services and integrations, and 5,000 consulting and integration partners today. BOSH, a key CF project that manages platform lifecycles across multiple environments, supports Alibaba, AWS, Google Cloud Platform, Huawei Cloud, IBM Cloud, Microsoft Azure, OpenStack, Dell EMC, PhotonOS and VMware vSphere. This ecosystem of supporting players is called The Foundry. We asked panelists how they chose a distribution, and the answer was nearly always ‘We chose the distribution of the partner we are most engaged with.’ Being open source, customers should, in theory, find it easier to move from distributions if those distributions don’t add value.

The multi-cloud world enabled by BOSH is a key driver of adoption and CF’s longer-term relevance. The Foundation claims 48% of its users are using CF on multiple clouds, with AWS, VMware and OpenStack being the main choices. At the analyst panel, Foundation CEO Abby Kearns told us that Cloud Foundry would be one of many options in the long term – users would want a mixture of CF, containers and serverless running across multiple cloud environments. A number of container projects have been added to CF, including Container Runtime, which allows containers to be used as the PaaS environment for deployment, and CF Containerization, which packages the CF Application Runtime into a Kubernetes package.

COMPETITION

Other PaaS options include AWS Elastic Beanstalk, Heroku, Google App Engine, Cloudify, Microsoft Azure and Bitnami. Docker and Kubernetes provide similar continuous delivery capabilities with open source support, based upon containers; CF has developed a range of container-supporting technologies to counteract this competitive threat. Over all of these platforms loom serverless platforms, which totally abstract operating system resources in a pay-as-you-go, on-demand fashion on public cloud, including AWS Lambda, Google Functions and Azure Cloud Functions.

SWOT ANALYSIS

STRENGTHS

It has a substantial user base and big-name members, all of which seem heavily invested and committed to Cloud Foundry.

WEAKNESSES

CF isn’t for novices – it is a complex range of products that require expert guidance for their best use. The new SI certification program should help resolve this complexity.

OPPORTUNITIES

Multi-cloud is demanded by enterprises, but getting code to work across platforms isn’t easy – that’s where CF steps in.

THREATS

Kubernetes is well respected, open source and supported by big names. It is an opportunity for Cloud Foundry, but is also a threat – will enterprises see the value in CF+K8s, instead of just K8s alone? Serverless is another ongoing threat to PaaS services.