Beyond Docker: are containers here to stay? (Part III)

Ecosystem

Docker in itself, but also components and concepts popularized by it, are at the heart of a multitude of projects which try to build on it. Just as Docker put a friendly face around LXC, people and companies around the world try to use it to put friendly faces around other connected areas. For instance a consortium comprising of the technology behemoths Google, Microsoft and IBM as well as smaller companies, such as CoreOs, RedHat, Mesosphere and even the apparent Docker competitor VMWare, is supporting a project called Kubernetes (open-sourced earlier this year by Google) which tries to "dockerize" what happens above-and-beyond the container (i.e. defining logical components that run in different applications but are managed in a cluster as a single entity). Here is a non-exhaustive list of related (and sometime competitive) containerization projects:

• https://github.com/GoogleCloudPlatform/kubernetes – container cluster management.

• https://github.com/progrium/dokku – Docker powered mini-Heroku. The smallest PaaS implementation you've ever seen

• http://deis.io – open source PaaS that makes it easy to deploy and manage applications on your own servers

• https://github.com/signalfuse/maestro-ng – deployment and control of complex, multi-host environments using Docker containers possible and easy to use

• http://www.serfdom.io – Serf is a tool for cluster membership, failure detection, and orchestration that is decentralized, fault-tolerant and highly available

• https://mesosphere.github.io/marathon – Docker plus Mesosphere provides an easy way to automate and scale deployment of containers in a production environment. Marathon enables REST API for Mesos

• https://github.com/newrelic/centurion – A deployment tool for Docker. Takes containers from a Docker registry and runs them on a fleet of hosts with the correct environment variables, host volume mappings, and port mappings

• https://github.com/mesosphere/deimos – Mesos containerizer hooks for Docker

• http://www.fig.sh – Fast, isolated development environments using Docker (acquired by Docker Inc)

• http://shipyard-project.com – manage Docker resources including containers, hosts and more

• http://www.projectatomic.io – integrates the tools and patterns of container-based application and service deployment with trusted operating system platforms to deliver an end-to-end hosting architecture that's modern, reliable, and secure.

Is Docker ready for production?

Probably the largest user of containers (based on LXC, not necessarily Docker) in production is at Google, where "everything, from Search to Gmail, is packaged and run in a Linux container. Each week we launch more than 2 billion container instances across our global data centers, and the power of containers has enabled both more reliable services and higher, more-efficient scalability" (quote from Google Cloud Platform Blog).

Furthermore, as the decision power shifts (not entirely, but in significant amounts anyway) to the developers (see e.g. The New Kingmakers by RedMonk's Stephen O'Grady) and as Docker is a tool built by developers (primarily) for developers (although Docker Inc. only had approx 30 employees at the time of releasing 1.0, this release came through the shared effort of more than 460 people) the project stroke a chord with a lot of people leading to almost 3M downloads. Considering that Docker is not a consumer application, this is in itself a remarkable achievement.

Is Docker ready for production? All the signs seem to point to YES.

References and further reading

- About Docker
- Docker on Wikipedia
- Docker terms
- Project Atomic
- TechCrunch: Google, Microsoft, IBM And Others Collaborate To Make Managing Docker Containers Easier
- TechCrunch: VMware Partners With Docker, Pivotal And Google To Bring Container Support To Its Platform
- Docker Sells dotCloud to cloudControl To Focus On Core Container Business
- The Rumors Were True–Docker Funding Confirmed And $40 Million Enters The Coffers
- Open Platforms Fuel Startup Ecosystems
- StackEngine Emerges From Stealth, Adds Operational Layer To Docker
- What is the Atomic Unit of Computing?
- A Pivot that Worked: The Docker Story
- While Docker is not game changing, it is very disruptive
- Containers: What's New, What Isn't, What Matters?
- Why Docker and containerization is a boon to web software startups

These are guest posts written by Felix Crisan.

> **Felix Crisan** – CTO of Netopia (company behind mobilPay and web2sms services), has more than 15 years of experience in IT, payments and telecom. He went from startups to corporate and then back to startup life, building architectures for IBM and HP and as well as games like Moorhuhn. From employee to entrepreneur, his passion has always been the technology and programming, lately being quite a Big Data aficionado.

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