



Digital Broadcaster Embraces OpenStack Innovation to Build Rapidly Scalable Infrastructure and Improve Services Time-to-Market

Community Collaboration and Mirantis OpenStack Expertise Enable Modernized Systems and Software Development

The Business

With over 30 million subscribers in the Americas accessing 200 channels of video entertainment, this company is now a recognized leader in digital television. Fueling growth is the innovative streaming of premium content, exclusive concerts, and original series to PCs and mobile devices. And a recent merger has added wireless and broadband customers to an already competitive entertainment portfolio.

To maintain leadership and combat new market entrants, engineering teams use rapid innovation to deliver a superior customer experience. The company deploys leading-edge technologies to meet challenging advertiser and subscriber needs including instant access to live and on-demand content – anywhere, anytime – even in periods of peak demand such as sporting events.

In this demanding environment, the company requires massively scalable infrastructure that enables rapid and flexible application development. Important to meet this need is extensive use of open source solutions and innovation including those within the OpenStack community.

Challenges

The company's engineering teams build infrastructure and applications that allow the business to deliver market leading digital content to TVs, PCs, and mobile devices. This requires systems that rapidly scale, speed time-to-market, and protect valued intellectual property; all without exceeding target costs.

Agile and immediate expansion of infrastructure is especially important for comprehensive sports offerings. *“Demand spikes during important events can place a huge strain on our systems,”* says the company's Director of Cloud Solutions. *“To respond to large-scale online requests, we often need immediate and sizable increases in application capacity.”*

INDUSTRY

- Media and Entertainment



CHALLENGE

- Enable rapid, elastic infrastructure scalability
- Improve services time-to-market
- Prevent cyber attacks on intellectual property



SOLUTION

- Elastic, on-demand Mirantis OpenStack IaaS
- IaaS integration with existing systems
- Active OpenStack community participation



BENEFITS

- Fast development of OpenStack IaaS
- Rapid provisioning of VMs, from days to minutes
- Extensive learnings from OpenStack community



QUOTE

“OpenStack brings innovation to meet our needs better than private vendors. Cloud architectures in a closed ecosystem just don't allow for enough freedom of integration and customization.”



- Director of Cloud Solutions

Equally important to business success is enabling rapid development and deployment of new customer services. Continuous integration and deployment, now replacing waterfall programming methods, require elastic system architectures that allow for quick provisioning and de-provisioning of infrastructure based on developer needs.

“Some existing platforms are IT centric, not developer centric, and require two weeks and many people to deploy VMs,” says the company’s Principal Cloud Architect. *“These systems needed to transition to offer elastic, self-service infrastructure with rapid deployment.”*

In addition to scalability and speed of development, new systems require strong protection of intellectual property to prevent cyber attacks. This means integration with existing robust security solutions. New infrastructure must also integrate with existing network and storage frameworks, and accommodate software development processes with minimal impact on efficiency.

In comparing existing systems to upcoming needs, it became clear to the infrastructure team that it was time to search for modernized platform that would enable innovation and growth. Based on prior experience, the team expected the dynamic OpenStack community would be a good place to start.

In 2014, therefore, the company’s engineers attended OpenStack conferences and user groups, interacted with community members, and began to formulate strong ideas of how OpenStack technologies could drive a state-of-the-art Infrastructure as a Service (IaaS) deployment.

Solution

Initial contact with the OpenStack community included technology and solutions education as well as lessons learned from dozens of engineers now managing production environments.

At community events, the infrastructure team was introduced to Mirantis engineers with extensive knowledge of OpenStack architectures. After engaging conversations on architectural options, the team could clearly see how the rapid release of new technologies such as containers and microservices could spur innovation.

Of particular interest were developing integrations to existing legacy systems such as authentication, LDAP, and DNS, using OpenStack as a unified control plane with multiple hypervisors, and expediting the path to production.

In the fall of 2015, the company was ready to move forward and confidently engaged Mirantis for OpenStack distribution, training, and deployment support of their OpenStack IaaS platform.

“With Mirantis support, we went from zero to a functioning cloud in a matter of days. This quick progress got us off to a great start,” says the Principal Cloud Architect. *“Mirantis has deep and focused OpenStack engineering talent within a fast changing ecosystem. This allows us to leverage their expertise and concentrate on our core business.”*

With a successful proof-of-concept behind them, the team then deployed a pre-production cloud in their U.S. datacenter with the goal to meet all requirements for their intended production infrastructure and scale up to thousands of virtual machines.

The deployment is based on Mirantis OpenStack 7.0 with Ceph for ephemeral storage and Glance, as well as Active Directory and NetApp storage integration. For custom integration with existing security systems, the company again turned to Mirantis, successfully utilizing its 24 x 7 Enterprise Support subscription to address this need.

OpenStack rapidly enabled this integration due to the high velocity of contributions by the community including advanced development tools.

“The OpenStack community delivers innovative tools and limitless integrations that proprietary vendor platforms don’t offer,” says the Director of Cloud Solutions. *“Mirantis’ ability to understand, recommend, and quickly build drivers for custom integrations is very unique.”*

The company also uses the OpenStack Fuel tool, included in the Mirantis OpenStack distribution, to rapidly deploy and manage all components of their cloud, and has found it to be a tremendous help. Benefits received include dependable and quick deployments of the reference architecture, and consistent LDAP and NetApp integrations from Fuel plugins.



The team is now testing existing applications on their OpenStack IaaS and expects to be in production with thousands of VMs by the end of 2016.

Results

With significant OpenStack community participation and extensive deployment experience, the company is now actively involved with the engineers that helped them reach their goals with speed and innovation.

“OpenStack has really good momentum right now. The community is coming together and driving towards a common goal of faster innovation,” says the Principal Cloud Architect. *“The velocity of OpenStack feature additions is simply amazing.”*

“We’ve leveraged the OpenStack community’s work to quickly build a more robust offering and are happy to contribute back to its members.”

Furthermore, the pre-production deployment is showing great progress. The team has thoroughly tested the OpenStack environment and is confident developers will experience little disruption to their existing processes. Speed of provisioning has increased from days to minutes. And the company expects the customer experience will rise with higher availability and faster response times due to the quick growth of their OpenStack IaaS.

“OpenStack brings innovation to meet our needs better than private vendors. Cloud architectures in a closed ecosystem just don’t allow for enough freedom of integration and customization,” says the Director of Cloud Solutions. *“No other vendor solutions can match the rapid innovation of the OpenStack community combined with Mirantis expertise.”*