

CIGNA FUELS INNOVATION WITH SELF-SERVICE INFRASTRUCTURE PROVISIONING POWERED BY RED HAT



SOFTWARE

Red Hat Enterprise Linux
Red Hat JBoss Web Server
Red Hat JBoss Enterprise
Application Platform
Red Hat
Enterprise Virtualization
Red Hat Satellite Server

HARDWARE

16-core, 256GB blade servers

Cigna needed to improve its IT provisioning processes in order to keep up with the innovations of its developers. The company created an entrepreneurial team to experiment with building an Infrastructure-as-a-Service (IaaS) self-service provisioning capability. Deploying Red Hat and Red Hat-supported open source projects, Cigna's initial proof of concept was so successful that it immediately spread throughout the IT organization. Today, Cigna's development and infrastructure teams are seamlessly aligned and able to speed business applications to customers while carving out costs from the provisioning process to boost Cigna's bottom line.



HEALTHCARE INDUSTRY

**CUSTOMER SINCE
2004**

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AWARD WINNER**



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JOHN DEFEO
VICE PRESIDENT OF INFRASTRUCTURE, CIGNA



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“By providing them with the ability to rapidly prototype and test ideas, we’ve gained significant speed developing business applications.”

JOHN DEFEO
VICE PRESIDENT OF INFRASTRUCTURE,
CIGNA

NEEDED: AN IT INFRASTRUCTURE AGILE ENOUGH TO KEEP PACE WITH THE HEALTHCARE INDUSTRY

Health care reform is dramatically changing the health care industry, with new regulations requiring health care companies to become exceedingly agile.

“On a day-to-day basis, it’s all about keeping our customers connected,” said John DeFeo, Vice President of Infrastructure Services at Cigna. “To support business agility, the IT organization must be agile as well. Our systems and networks have to be available 24x7, whether it’s our contact centers, web presence, or mobile portal. We are committed to ensuring that our customers can reach us, gain access to the information they need to interact with their physicians, and maintain their health every minute of every day.”

To meet the growing demands of their business and to be able to respond more quickly to changing requirements, Cigna’s application development teams had adopted agile development methodologies. While this helped them develop and modify their applications more quickly and efficiently, the infrastructure organization was not prepared to respond in kind. The faster servers could be prepared with appropriate systems and software, the sooner the new applications could be deployed.

To address this, Cigna decided to evolve its internal capabilities to an Infrastructure-as-a-Service (IaaS) model. The goal was to enable IT self-service via truly automated IT infrastructure provisioning.

When undertaking a major business and IT transformation project, organizations sometimes find it difficult to reach a consensus on moving forward. The more radical the transformation, the more difficult the process. Acknowledging this reality, DeFeo started a “skunkworks” project team in 2011 to work outside the traditional walls of IT. These teams are known for their no-holds-barred approach to research and radical innovation.

“We structured it very much as a startup entity inside Cigna,” said DeFeo. “We put together a small team of highly specialized, highly skilled engineers, gave them a little bit of investment capital, set a target for them, and let them run off and innovate. Their mission was to develop a solution to the agility challenges that we’ve been working to solve.”

The team was also given freedom to choose the best technologies for their purposes without worrying about legacy infrastructure. The idea—at first—was to simply come up with a proof of concept for self-service infrastructure provisioning.

CIGNA ON DEMAND PROOF OF CONCEPT GOES VIRAL

The team immediately looked to open source innovations to build the core scaffolding of their prototype solution. Where there were gaps in the available technology, the team wrote custom code. The Proof of Concept (POC) for the “Cigna On Demand” effort became operational in April 2012 and was first offered to a select group of five developers and testers. However, Cigna On Demand’s ease of use, concise architecture, and robustness in providing real self-service and fully automated provisioning quickly garnered it a reputation within IT as an invaluable resource. As more and more developers began clamoring for access to Cigna On Demand the team started work on a second version that could scale to meet the needs of Cigna’s large IT community.

“Cigna On Demand initially started off as just a proof of concept to demonstrate what IaaS capabilities we might be able to provide,” said Chris Stetson, cloud orchestration leader, Cigna. “It was very, very interesting to watch it quickly evolve into something that was being used broadly across the enterprise.”

“We’re positioning our project and our team to enable anyone who wants to contribute or participate—either officially or unofficially—to do so,” said Stetson. “If somebody has an idea that will benefit what we’re doing, we have processes in place that allow them to contribute.”

JOHN DEFEO
VICE PRESIDENT OF INFRASTRUCTURE,
CIGNA

ABOUT CIGNA

Cigna is a global health service company and one of the largest health service companies in the United States. Cigna also operates internationally in 30 countries, and has more than 80 million customer relationships worldwide. Headquartered in Bloomfield, Connecticut, Cigna serves its customers with more than 35,000 dedicated employees.

“As we started building the second version, we realized that the scope needed to be a lot larger than just offering self-service servers or basic automation. We needed to build a framework for providing automation as a service,” said Rob Starr, architecture manager, Cigna.

With this expanded vision, the Cigna Private Cloud (CPC), as it is now formally known, will eventually deliver a platform that provides data and applications as services. Developers will then be given tools to build their own automations and services on top of that platform.

Red Hat products, including Red Hat® Enterprise Linux®, Red Hat JBoss® Web Server, Red Hat JBoss Enterprise Application Platform, Red Hat Enterprise Virtualization, and Red Hat Satellite Server, were key components in the Cigna on Demand POC implementation. Additionally, Red Hat-supported projects such as Foreman, OpenStack, and FreeIPA were critical to the initiative’s success. The CPC will use other Red Hat technologies such as Red Hat JBoss BRMS, and, eventually, Red Hat JBoss Data Grid as cloud services become a reality. Finally, the CPC is being built with an eye on “pluggability” so it can introduce Platform-as-a-Service (PaaS) technologies such as OpenShift by Red Hat in the near future.

The initial deployment for the CPC consisted of a handful of 16-core, 256GB blades running Red Hat Enterprise Virtualization, with Red Hat Enterprise Linux-based virtual machines acting as the core components of the system.

Cigna also took advantage of Red Hat Consulting services to assist with the architecture and implementation of both Cigna On Demand POC and the CPC design. Red Hat consultants played key roles in building the prototype and are now helping define future capabilities for inclusion in the CPC as well.

OPEN SOURCE TECHNOLOGY IMPROVES FLEXIBILITY, BOTTOM LINE

With its partnership with Red Hat, Cigna was able to balance the trade-offs associated with traditional commercial packaged software offerings. “Open source allows you to make a minimal investment while you try things out,” said Starr. If it doesn’t work, you can go in a different direction. And Red Hat doesn’t hinder or restrict us with complex licensing or cumbersome policies, which enables us to quickly deliver value to our user community.”

The CPC initiative is also helping Cigna’s bottom line by carving out significant costs associated with delivering IT infrastructure to the people who need it.

“To further enable our U.S. growth as well as our international expansion, we need to manage our costs more closely than ever,” said DeFeo. “The combination of Red Hat technologies, the innovations taking place inside our organization, and developments in the health care industry are all converging at exactly the right time for us to do that.”

ADOPTING THE RED HAT COMMUNITY MODEL TO SPUR INTERNAL INNOVATION

Red Hat has been a great partner with Cigna from the start, according to Cigna executives. “As we started down this path, we were always looking at the differences between commercial products and open source products. We found our Red Hat consultants to be invaluable partners during our evaluation and early-stage development activities,” said DeFeo.



ABOUT RED HAT

Red Hat is the world's leading provider of open source solutions, using a community-powered approach to provide reliable and high-performing cloud, virtualization, storage, Linux, and middleware technologies. Red Hat also offers award-winning support, training, and consulting services.

Red Hat is an S&P company with more than 70 offices spanning the globe, empowering its customers' businesses.

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Chief among the benefits of implementing the CPC is that Cigna's infrastructure group can now deliver services to internal customers much more quickly. "Our ability to quickly stand up infrastructure has now caught up with the rapid application development and agile methodologies that are being used in our development organizations. So that's a significant change," said DeFeo. "At the end of the day, our business partners and customers see the benefit."

The core user group of the CPC consists of developers, testers, and engineers. Provisioning time for a development environment has been slashed from several weeks to just minutes.

The CPC has also helped eliminate barriers and foster harmony between development and infrastructure groups. Today, interactions between those two groups are nearly seamless. "We married agile development methodologies with agile infrastructure and operations methodologies," said Stetson. "That's how to achieve true agility."

Red Hat's go-to-market methodology of pioneering innovation through open source community projects and then using them to create hardened enterprise products has resulted in high-value solutions, according to Starr. "By working with these upstream Red Hat community projects, our developers have been able to rapidly prototype and deliver new solutions to the Cigna businesses," he said.

In fact, Cigna is trying to incubate and reproduce Red Hat's community approach to development.

Cigna is also looking into establishing internal community-based support. Rather than putting a specific support organization in place to handle infrastructure problems that arise, it will encourage people to ask questions of the community, and let the community respond.

For DeFeo, however, the most dramatic effect of the CPC On Demand initiative wasn't technical, but organizational. "The greatest impact was the energy and collaboration across the IT organization. I've never seen better alignment between the development and infrastructure teams. This helps immensely in providing a unified IT face to our business partners, and keeps everyone very much focused on our customers."

Going forward, DeFeo sees Cigna becoming more in tune not only with its customers, but with the health care professional community—the doctors, urgent-care centers, and hospitals that deliver health care services to Cigna customers.

"The innovations, agility, and seamless interaction between the development and operations teams are crucial to our success going forward," he said. "Red Hat has played a very, very important part in this. We think of Red Hat as one of just a handful of superior engineering and support organizations in the United States."

"Red Hat and open source innovation is what made this all possible," said Stetson.



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