

Daegu Metropolitan City builds cloud platform for resident services with Red Hat



Software and services

Red Hat® Enterprise Linux®
 Red Hat JBoss® Enterprise
 Application Platform
 Red Hat Virtualization
 Red Hat OpenStack® Platform
 Red Hat Consulting

To deliver timely, relevant services to 2.5 million residents, Daegu Metropolitan City began a three-phase project to create the Daegu City Cloud (D-Cloud). To gain the scalable yet stable infrastructure for D-Cloud, the city adopted enterprise open source platform and virtualization technology from Red Hat. With a central, standardized environment, Daegu Metropolitan City has reduced infrastructure operating costs by 36% and simplified resident access to information on its services.



Government

Around **13,000**
 government officials
2.5 million residents

Benefits

- ▶ Reduced operating costs by 36%
- ▶ Simplified infrastructure operations and management
- ▶ Created foundation for easier resident access to information and services

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Yoon Chan

Team Leader, Information & System,
 Daegu Metropolitan City

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Delivering relevant, timely services to city residents

With 2.5 million residents, Daegu is the third-largest city in the Republic of Korea. In this vital transportation hub and center of the regional economy, residents rely on the city government for regulations, public notices, and a variety of services—from healthcare to financial assistance and more.

Recently, the city decided to modernize its decades-old IT infrastructure, comprised of hardware from various vendors, with cloud computing. This new environment could help Daegu standardize its hardware and software solutions to reduce operating costs (OpEx) and support public-facing online service systems and applications.

Starting in 2015, several government bodies collaborated to build a roadmap for cloud adoption. After establishing an internal-focused model, G-Cloud, Daegu sought to build an environment for public-facing services, the Daegu City Cloud (D-Cloud).

Building central, standardized IT infrastructure with Red Hat

Daegu Metropolitan City chose to adopt Red Hat technology to create a stable yet responsive foundation for D-Cloud.

“Key factors in our decision to work with Red Hat included product stability, a strong partner ecosystem, and favorable industry references,” said Yoon Chan, Team Leader, Information & System, Daegu Metropolitan City. “The availability of enterprise support also made Red Hat a compelling alternative to community open source software for such an important business use.”

The city initially adopted Red Hat Enterprise Linux, Red Hat JBoss Enterprise Application Platform (EAP), and Red Hat Virtualization to build its new cloud-based service environment. Red Hat Enterprise Linux is an enterprise open source operating system that provides a consistent, security-focused, and reliable foundation for innovative development across on-premise, cloud, and hybrid environments. Based on this solution, Red Hat Virtualization provides a central infrastructure for virtualized and cloud-native workloads. Red Hat JBoss EAP helps Daegu control deployment and management of these existing and new applications, enforce data and user security, and achieve high performance at scale.

Initially piloted with 14 workflows, Daegu Metropolitan City quickly expanded D-Cloud to additional security and network functions. The second phase of the project, D-Cloud 2.0, included migrating 15 back-end systems to Red Hat OpenStack Platform, a modular platform that simplifies IT operations and application delivery with unified management. In 2020 and 2021, Daegu Metropolitan City expanded D-Cloud to 16 additional businesses and also began a pilot of a Platform-as-a-Service (PaaS), adopted of software-define storage (SDS) and software-defined networking (SDN) for easier data and software management, and completed several portal enhancements.

The city’s teams worked closely with Red Hat Consulting throughout the project, from implementation to migration and enhancement. “Any hardware dependency issues during the migration process were quickly overcome with Red Hat’s expert guidance,” said Yoon. “The result is the successful creation of a cloud-based infrastructure, supported by a strong vendor relationship.”

Optimizing IT costs and performance with cloud, application, and virtualization platforms

Reduced operating costs by 36%




Operating effectively with the lowest possible budget is often a strategic imperative for local



About Red Hat Innovators in the Open

Innovation is the core of open source. Red Hat customers use open source technologies to change not only their own organizations, but also entire industries and markets. Red Hat Innovators in the Open proudly showcases how our customers use enterprise open source solutions to solve their toughest business challenges. Want to share your story? [Learn more.](#)



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governments around the world. With an enterprise open source infrastructure foundation that supports Daegu Metropolitan City's choice of technology, the city has significantly reduced operating costs for D-Cloud.

"With Red Hat Virtualization and Red Hat Enterprise Linux, we can share equipment and resources through our virtual environment," said Yoon. "As a result, resource acquisition costs are now 36% lower compared to our more complex legacy system and approach that locked us in with proprietary vendors and lacked the necessary scalability."

Simplified infrastructure operations and management

With around 97 workflows and more than 50% of its IT systems now cloud-based, Daegu Metropolitan City has centralized the D-Cloud environment and reduced duplicate tasks and processes. Standardizing on Red Hat OpenStack Platform across departments means administrators can more efficiently manage infrastructure resources.

Enhancing cloud infrastructure with new management and backup capabilities

The city's developers and business users can now access the information and resources they need to provide timely, relevant services to Daegu's citizens through D-Cloud. Planning for the next phase of Daegu Metropolitan City's D-Cloud enhancements is now underway. The city also recently adopted Red Hat OpenShift®, a Kubernetes-based container platform, to optimize its IT service management (ITSM) capabilities, gain cloud-based backup capabilities, and establish a software-defined, automated datacenter.

"We have successfully laid the foundation for new, innovative, cloud services and future integration with other cloud infrastructure, thanks to the benefits delivered by Red Hat's enterprise open source technology and expert support," said Yoon.

About Daegu Metropolitan City

Daegu Metropolitan City has eight internal administrative districts and is the third-largest metropolitan city in South Korea, with a population of 2.5 million. In line with the municipal slogan "Happy Citizens & Proud Daegu", around 13,000 public officials aim to provide opportunity, warmth, comfort, and enjoyment to city residents. <https://www.daegu.go.kr/>

About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers develop cloud-native applications, integrate existing and new IT applications, and automate and manage complex environments. A [trusted adviser to the Fortune 500](#), Red Hat provides [award-winning](#) support, training, and consulting services that bring the benefits of open innovation to any industry. Red Hat is a connective hub in a global network of enterprises, partners, and communities, helping organizations grow, transform, and prepare for the digital future.

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