City Transforms Economic Sustainability with Public Cloud

Busan Metropolitan Government stimulates job creation and business growth through smart city cloud and government data service.

EXECUTIVE SUMMARY

BUSAN METROPOLITAN GOVERNMENT

- Industry: Government
- Location: Busan, South Korea
- Number of Citizens: 3.6 million

CHALLENGE

- Grow city's economic base
- Create new jobs and business opportunities
- Improve city services to citizens

SOLUTION

- Cisco Smart+Connected Communities
- Cisco public cloud infrastructure

RESULTS

- Registered 3150 individuals as professional mobile application developers
- Provided convenient access to government data for use in mobile application development
- Connected city government with universities, partners, and citizens to enhance participation and engagement

Challenge

Busan is South Korea's second largest city and the fifth-largest container-handling port in the world. With an economy based on heavy industry, Busan confronts challenges similar to those of other large, industrial cities. A primary challenge for Busan is creating job opportunities for its 60,000 annual university graduates and retaining a high-quality workforce.

The Busan Metropolitan Government recognized the potential for growing its economic base through the use of information and communication technology (ICT). By connecting citizens, educational institutions, government agencies, and industry, the city could drive sustainable urban development while providing citizens with easy access to city services.

A 10GB broadband infrastructure, the Busan Information Highway, was already deployed and linked 319 public institutions. This infrastructure gave the Busan government a strong foundation for expansion. For assistance, Busan turned to Cisco and the Cisco

Internet Business Solutions Group (IBSG). Beginning in 2009, the teams worked with the Busan Metropolitan Government to develop plans for the new Ganseo city where connectivity is ubiquitous, a “u-City,” and existing “brownfield” communities are transformed into Cisco Smart+Connected Communities™.

Cisco® Smart+Connected Communities use intelligent networking capabilities to weave together people, services, community assets, and information into a single pervasive solution. Cisco works with customers from idea to execution, taking advantage of industry solutions built on the network as an open, integrated platform, a broad ecosystem of partners, and innovative business models to change how communities are designed, built, managed, and renewed. Cisco Smart+Connected Communities enables citizens, mayors, developers, urban planners, and other community stakeholders to drive economic, social, and environmental sustainability.

> “When the implementation of the Busan u-City is complete, it will usher in a new era in urban mobility around the city, with education, medical service, and public welfare all benefiting from the creation of a smart community environment. This is Busan’s chance to cement its reputation as a world-class city that the whole world can learn from, in its simultaneous achievements of local economic growth and green growth.”
>
> **– Young-Sik Kim, Director General, Planning and Financing of Busan Metropolitan City**

Solution

Busan Smart+Connected Communities solutions are delivered using a cloud infrastructure based on Cisco UCS™ Unified Computing System™ (UCS®). Today the cloud connects the Busan Metropolitan Government, the Busan Mobile Application Center (BMAC), and five local universities. Eventually, it will deliver services to citizens through kiosks, citywide digital interactive displays, home-based access, and mobile access.

One of the first major cloud-based initiatives is designed to create 3500 job opportunities and 300 start-up companies focused on mobile application development by 2014. Spearheaded by the Busan IT Industry Promotion Agency (BIPA), the project will create an open innovation ecosystem that fuels the app economy of Busan. The Busan Metropolitan Government funds ICT development and provides training and education through the BMAC. Software developers, entrepreneurs, and small businesses can register and gain access to tools, training, and testing resources for developing smart applications and mobile app-based services for citizens. Revenue generated is returned to developers through BIPA.

BMAC offers physical workspaces, such as project and meeting rooms, shared application development, cloud platforms for Windows and Mac operating systems, an applications library, a consulting center for startups and small office/home office professionals, testing tools, smart devices, application programming interfaces for access to municipal data, an application developer’s forum, and marketing resources.

The shared development platform as a service (PaaS) provides developers with convenient access to municipal data from the city’s geographic information and intelligent transportation systems. Using this data, developers can create innovative applications that help improve city operations, quality of life, and citizen access to services.

Busan's Integrated Operation Center (IOC) supports back-office operations and aggregates public and private data generated from traffic, facilities, safety and security, disaster prevention, and emergency management systems. The IOC data is used for analysis to improve management, simplify planning, increase operational efficiency, and support collaboration between public and private ecosystem partners.

Busan's Smart City Cloud Services Platform will deliver video-based services to help citizens find and reserve seats and resources at a nearby Smart Community Centers; access real-time transportation information and booking features; and gain visibility into their energy usage and impact. Through these Smart City Cloud services, developers will be able to deliver a growing number of innovative mobile applications to improve quality of life for citizens.

Results

BMAC makes it much easier and more cost-effective to support a large number of developers. Users share one cloud-based development platform, eliminating the need to individually purchase, maintain, and upgrade expensive development tools. It also makes it easy for the city to provide convenient access to government data for use in mobile application development.

Since BMAC's opening, cloud development community membership has grown from 500 to 1500, with 100-220 simultaneous users of the platform. The center held its first Mobile App Contest and received 115 apps or application development ideas. Awards totaling 26 million KRW were awarded for 14 new apps.

In the first year of operation, 840 people registered for professional development courses and seven new businesses registered as start-ups. As of February 2012, BMAC has trained 2350 people, and 3150 individuals registered as professional mobile application developers in the BMAC talent pool.

Busan also has implemented multiple projects to strengthen the city's core competencies. As part of its u-City initiative, it has invested US$106 million to implement and build the foundations of u-city domains, such as u-Port, u-Traffic, u-Convention, u-Health, and u-Safety. u-Safety and Security is designed to enhance public safety efforts. u-Traffic provides real-time, cohesive traffic information to drivers, pedestrians, and public transit users. u-Port provides integrated information for port processes, and u-Convention offers information for exhibition, convention, and tourism services. These services are based on the Busan Information Highway and additional metropolitan wireless networks. Cisco provided various networking technology and video solutions including routing, switching, and wireless access points.

PRODUCT LIST

Routing and Switching

- Cisco ONS 15454 SONET Multiservice Provisioning Platform
- Cisco ONS 15305 SONET Multiservice Provisioning Platform
- Cisco Catalyst® 6500 Series Switch
- Cisco Catalyst 4500 Series Switch
- Cisco Catalyst 3560 Series Switch
- Cisco Catalyst 4500 SAN Switching

Wireless Networking

- Cisco Aironet® 1500 Series Wireless Access Points
- Cisco Aironet 1200 Series Wireless Access Points
- Cisco Aironet 1142 Wireless Access Points

Computing System

- Cisco Unified Computing System

Next Steps

With a shared development platform, developers can work with the city to co-create Smart City services. Busan Metropolitan Government plans to establish a public-private collaboration company to create, deliver, and manage innovative urban services.

In addition, the city is encouraging a greener city environment through increased citizen engagement. The Smart City Cloud services enable citizens to make “green” choices, such as living in green buildings, taking walk/bike paths and public transportation, and recycling.

Busan Metropolitan City plans to reduce carbon emissions in the Gangseo New City area by 67.8 percent (2981 metric tons) by 2020, compared with other newly developed Korean cities that do not have Green u-City services. At the same time, IOC and the city management dashboard will help city leaders improve management of public assets and consume fewer resources.

“When the implementation of the Busan u-City is complete, it will usher in a new era in urban mobility around the city, with education, medical service and public welfare all benefiting from the creation of a smart community environment,” says Young-Sik Kim, director general, planning and financing of Busan Metropolitan City. “This is Busan’s chance to cement its reputation as a world-class city that the whole world can learn from, in its simultaneous achievements of local economic growth and green growth.”

For More Information

For more information about Cisco Smart+Connected Communities, visit www.cisco.com/web/strategy/smart_connected_communities.html.

For more information about Busan, visit english.busan.go.kr.

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Printed in USA DR/LW-18300 06/12