CISCO

BEXCO, a major exhibition and convention center, has adopted Wi-Fi 6 to provide a next-generation high-speed mobile network environment

Challenges

- Mobile traffic growing rapidly due to a soaring number of visitors and mobile device users on the premises
- Users continuing to complain about traffic failures and poor performance Mobile network infrastructure using outdated access points
- Delayed resolution of mobile communications failures

Results

- Now well prepared for future mobile network traffic through Wi-Fi 6
- High-speed wireless service ensured, 4X faster than previous Wi-Fi standard
- Stable network service provided to ensure higher customer satisfaction even with an increasing number of visitors
- Faster troubleshooting and proactive assurance of mobile network improves network uptime

Solutions

- Catalyst 9115 Access Points
- Cisco DNA Assurance
- 5520 Wireless Controller

Located in Haeundae, one of Korea's most popular tourist destinations, BEXCO has been breaking event records every year by hosting a range of gatherings from international exhibitions and conferences to medium-scale meetings and corporate events. The 2002 FIFA World Cup group draw, which was watched by 1.3 billion people worldwide, and an APEC summit attended by the heads of 21 countries are two of the many grand-scale international events successfully hosted by BEXCO. It accommodates approximately 1,300 events and is visited by an average of 4.5 million people every year.

As the number of visitors to BEXCO continues to soar, mobile data traffic volumes are constantly increasing. The existing infrastructure was unable to accommodate these massive fluctuations in mobile data traffic. Furthermore, network issues took a long time to identify, analyze, and resolve. In response, BEXCO replaced its former mobile network infrastructure with Cisco's Wi-Fi 6 access points and Cisco DNA Assurance solution.

Four Times Faster Mobile Network Environment

Wi-Fi 6 allows up to 9.6 Gbps speeds, a rate of four times faster than the previous Wi-Fi standard of 802.11ac. It ensures optimal connectivity, even in a public Wi-Fi environment, with multiple users connecting to the internet. In addition, it allows broader coverage and enables usage by more devices simultaneously.

Thanks to this new mobile infrastructure, BEXCO can now provide optimal mobile network services throughout its 46,500㎡ area without any dead zones. Since Wi-Fi 6 offers greater efficiency by segmenting existing channels and diversifying the delivery methods depending on the data characteristics, visitors to BEXCO can enjoy a stable connection with no downtime or slowdowns even when great numbers of people are using the internet. In particular, Wi-Fi 6 supports voice and video applications that otherwise can be prone to delay, leading to greater customer satisfaction.

AI and Machine Learning enable rapid troubleshooting.
Prevention features are also enhanced.

BEXCO introduced the Cisco DNA Assurance solution based on Artificial Intelligence (AI) and Machine Learning (ML) technologies paired together with its Wi-Fi 6. It can now easily view the entire network environment and remotely monitor the performance being experienced by users.

If a network error or downtime occurs unexpectedly, it can be easily addressed within minutes by following the simple guidelines provided by Cisco DNA Assurance instead of demanding a skilled network operator to analyze complicated logs.

In addition, difficulties can easily be prevented since data from all devices, applications, services, and clients within the network are automatically stored. Status trends are analyzed, and useful data is provided.

"Every year, BEXCO hosts more than 1,300 events and is visited by 4.5 million people. We adopted Cisco Wi-Fi 6 for our mobile network infrastructure to ensure that visitors don't experience any service failures or slowdowns even in a crowded exhibition hall. The network is four times faster than the previous gigabit Wi-Fi. Also, troubleshooting time is substantially reduced."

Smart Center Operation Department, BEXCO

Han Yoon Jong

Cisco eliminated communication crosstalk by minimizing interference between wireless devices; Wireless Coverage improved by 150%.

In a public Wi-Fi mobile network environment with multiple internet users, there is no way to completely avoid communications failures due to frequency interference. To address this, BEXCO minimized interference between wireless devices thanks to the introduction of the Wi-Fi 6 network. Even if multiple users occupy the same frequency within 2.4GHz, different colors are assigned to unique user groups to allow users to react more sensitively to traffic within the same group. In other words, people or groups communicating with each other can do so quickly and clearly without being interrupted by interference from nearby frequencies. As a result, wireless coverage is improved by 150%. To prepare for multiple simultaneous internet users, numerous access points are deployed throughout the facility. In addition, Wi-Fi 6 supports a new technology that minimizes the battery consumption of mobile devices. This allows BEXCO visitors to enjoy their time without having to worry about where to recharge their batteries.

Based on the newly-introduced Wi-Fi 6 mobile network infrastructure, BEXCO has solidified its position as a world-class convention center. No matter how many people visit each day, BEXCO can support each and every one of them with a stable connection and uninterrupted service.

BEXCO provides:

· Wi-Fi 6 mobile network infrastructure
· Four times faster wireless network service
· Stable communications even during a surge in number of visitors and users
· A communications environment with improved speed and accuracy and minimum interference
· Automatic operation of wireless infrastructure based on AI and ML
· Troubleshooting in minutes instead of days