

Sancheong County Office



South Korean nature-based tourism center calls on Riverbed Xirrus Wi-Fi to keep the JPEGs flowing.

Sancheong County Office is a local government agency that oversees the infrastructure in tourism-dependent Sancheong Province.

Visitors love South Korea's lush mountains in Sancheong, located in the northwestern corner of the Gyeongsangnam-do province. Rife with cultural and historical tourist attractions such as

Jirisan National Park, the region is heavily visited throughout the year. The modern tourist mania for sharing photos and videos in the moment brought a crushing burden to Sancheong's communications infrastructure, threatening to put a damper on tourism growth. With surrounding communities dependent on tourism, local government officials knew they needed a way to supply solid, secure, and affordable connectivity despite the challenges imposed by geography.

In Brief

Challenges

- Mountainous terrain in the area precludes the use of wired communication technology
- Peak tourist periods, especially during festivals, place high demand on communications infrastructure
- The highly public nature of the tourism industry

Solution

- Riverbed® Xirrus Wi-Fi "fully distributed architecture," including:
 - Intelligent APs directing traffic via a wireless LAN controller
- Xirrus Management System (XMS)

Benefits

- Business and IT agility
- Tourism industry revitalized thanks to fast, stable network availability
- Greater ease of technology management, with 75% fewer APs to manage than in competing solutions
- Tourism data (concentrations and movements of people, content consumption) aggregated to contribute to better planning
- Public Wi-Fi consumption data used to provide a base for Smart City planning, and resolve implementation problems

Challenge: Unlocking connectivity in the great but inhospitable outdoors

Local governments throughout South Korea have recently emphasized public wireless internet service in areas that are home to tourist attractions. With its dependence on tourism, the Sancheong district couldn't afford to be left behind.

The Sancheong local official in charge of Sancheong Smart City (the Wi-Fi deployment in the area), Hyun-Joong Cho saw that providing connectivity would be key to maintaining and developing tourism in the area. "We host the 'Sancheong Medicinal Herb Festival' every year," he explains. "Recently, we've seen increased foreign tourism as well as students at all grade levels from elementary to high school touring Sancheong attractions on school trips."

The district's vision was seamless internet connection for everyone—citizens as well as small, local governments demanded access not only at traditional tourism sites, but also in traditional markets and at campsites. Cho developed a checklist for the solution Sancheong needed. Uniform access was a key item on the list, but it was one of the most difficult requirements to get right throughout the extensive, mountainous area. The solution had to be underpinned by rugged technology to withstand extreme outdoor conditions. There was additional pressure: in the highly visible tourism arena, a misstep could be damaging to the local tourism industry, crucial to the livelihood of so many residents. The stakes were high.

Solution: Bringing wireless access to citizens and tourists across Sancheong

In 2017, the local government launched its Sancheong tourism public wireless network project. The public Wi-Fi previously in place was woefully inadequate, according to a spokesman from Bigsun, one of the Riverbed partners charged with working with the Sancheong government to create the solution. "The existing tourist infrastructure was not up to the standard the Sancheong area needed," he says. "Sancheong is a remote area with natural impediments to internet access. The high cost of providing cable infrastructure removes that option as a contender. With high-performance Wi-Fi, we were able to solve all of these issues."

Sancheong chose Riverbed Technology's Xirrus Wi-Fi for its quality and reliability. Xirrus is the first wireless local area network (LAN) to introduce a fully distributed architecture, combining several intelligent Access Points (APs) that don't rely on a centralized element to process traffic. Unlike centralized architectures that concentrate traffic

on a single LAN controller, distributed architecture distributes traffic according to a mix of factors such as the number of users and traffic conditions.

Driven to deliver a solid user experience, Cho tested every performance aspect of every point in the system himself. "I checked everything—distance sensitivity, internet quality, and performance changes under different weather conditions," says Cho. "I have complete confidence in the quality and reliability of the Xirrus Wi-Fi."

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Currently, Xirrus supports wireless internet infrastructure at all contact points of Sancheong, including Donguibogam Village, Namsa Yedamchon Village, Daewonsa Temple, Daepo Forest, Saengcho International Sculpture Park, Gyeongho River Rafting, SamJang Multipurpose Camping Ground, and Intercity Bus Terminal, to name a few. Xirrus Wi-Fi instances have also been installed in each Senior Recreational Center in Sancheong, providing internet service to expand communication avenues for these vulnerable senior populations.

The first business site remained stable after three thorough inspections, and Xirrus Wi-Fi was selected for a second business site in 2018, with a budget increased by two and a half times from the first. This second instance was selected by the Gyeongsangnam-do Municipal General Audit in 2017 as an outstanding example of management. It is now certified as a reference case for other local governments as a prime example of investment cost reduction, improvement in local resident welfare, and effective public relations.

Benefits: Providing an array of benefits from a single technology

Providing uniformly reliable, fast internet access on par with service available in large metropolitan areas is vital to nurturing Sancheong's tourist industry. Even at festivals attended by tens of thousands of people, and with high video transmission levels, quality remains high. The LAN APs are equipped with high-performance directional antennae that not only help achieve that level of performance—the efficiency achieved with this equipment reduces the number of APs needed overall, lowering costs. In fact, this solution uses 75% fewer APs than competing solutions.

Managing multiple sites scattered over a rugged area could be a huge challenge, but the Xirrus Management System (XMS) scales seamlessly from one to many locations and from small to large networks. It also provides help-desk functionality in addition to its management platform. XMS provides all the information network managers need to proactively manage critical infrastructure: AP status, traffic volumes, number of active users, type of access terminal, user application type, location information, and more. "In areas where we can't station network specialists, we can still effectively manage the entire public Wi-Fi network," says Cho. "We can also use XMS to determine AP failure causes."

Because the AP architecture features a built-in controller, data about the AP itself is aggregated, enabling network managers to identify geographical areas and qualitative data about tourist use of internet services. Until now, it was challenging to know where tourists were concentrated, what routes they traveled, or what information they required. "Before, we had to get usage information through a separate service," says Cho. "With Xirrus Wi-Fi, we can now collect important data about tourist travel patterns, enabling business intelligence analysis. Our wireless capability is the most important ICT infrastructure in Sancheong tourism."

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About Riverbed

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