



Redefining Security

Use Case: Telecommunications

Securing 48 government agencies' communication network

QKD deployment throughout South Korea



Customer: SK Broadband
Industry: Telecommunications
Country: South Korea



Business need



Protect sensitive information and communication between government agencies.

Solution



Add Quantum Key Distribution (QKD) and network management capabilities.

Results



Deployment of over 29 pairs of QKD on a network of 800 km long. Increased security, stability and efficiency.

Business need

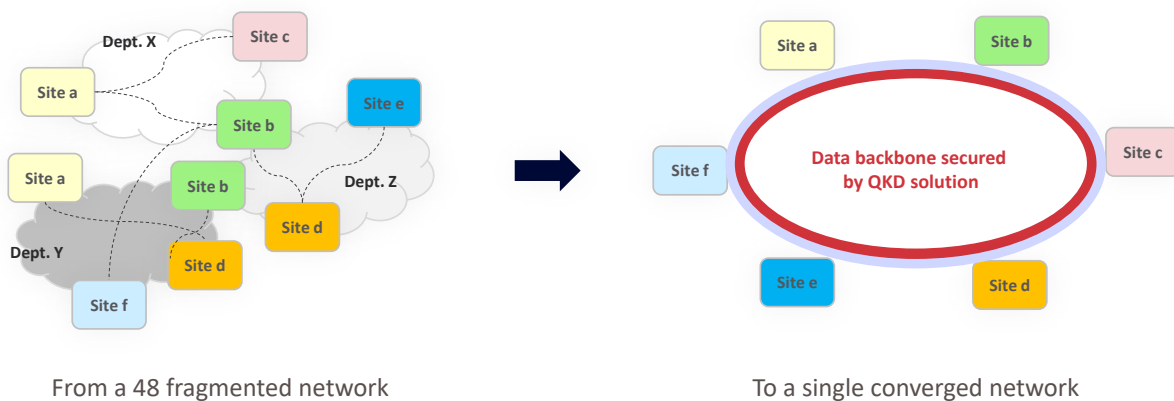
The Korean government planned to integrate each department's separate networks into a single convergence network for their operational efficiency. This project aimed at strengthening the security, as well as increasing the efficiency of the operation and budget of 48 government organizations. A differentiated and enhanced security solution was needed to satisfy the Korean Government requirement.

The project required the most advanced key management, configuration, and monitoring solution to handle the complex routing, state-of-the-art QKD appliances to ensure smooth point to point connection, as well as the agility to adapt to specific local regulations.

Solution

The government selected SK Broadband and its partner IDQ for their unique capability to provide five key elements to achieve a successful deployment:

1. A QKD framework that offers the most advanced and secured Trusted node solution to support the complex network infrastructure
2. A Key Management System (KMS) that meets any specific requirement for network segmentation, so that customers can freely include or exclude nodes to exchange key and even support the key exchange with third party QKD networks
3. A QMS, which can monitor and control dozens of QKD nodes in real time and respond to high and demanding requirements of telecom operators on Network Management System (NMS)
4. Capability to smoothly integrate Korean Government certified crypto libraries
5. Support of the standard interface ETSI QKD 014 with standard encryptor including Korean manufacturer encryptor



Results

At the end of June 2022, all the QKD systems have been installed. In most of the areas of the country, the government agencies will be able to use quantum cryptography services as End to End. The future plan is to extend the network to more agencies.

This is now the largest quantum cryptography network outside of China with a total length of 800 km.



Bringing a differentiated business proposal was decisive. Applying next-generation network technologies such as T-SDN and quantum cryptography while making the network's security future-proof, easy to manage and highly integrated with the current infrastructure has made the difference. SK Broadband is proud to consolidate its status of number 1 QKD network operator in South Korea.

Mr. J.H Jung, PM & account manager of G-project at SK Broadband