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High-Assurance Encryption Of Man Infrastructure For Smart City

A major municipality is making a multi-million-dollar investment in a secure, encrypted Metro Area Networking solution that supports the communications needs of more than 20 separate agencies.

Overview

In a move to improve service performance, availability and security, the large-scale networking solution will deliver essential voice, video and data services to police, fire, healthcare, waste management agencies and more.

In essence, the new metro area network solution makes the concept of the digital city a reality. Stakeholder data security was an essential component of the project from the outset. The municipality specified the need for a high-assurance encryption solution and chose Thales high speed encryptors as they offered the best combination of security and performance

Business Need

The effective delivery of services for a modern municipality are as dependent upon its IT and communications infrastructure as any commercial organization.

The seamless integration of network services across multiple service agencies and departments generates significant cost savings, process efficiencies and performance improvements; helping the municipality deliver a better experience for its citizens.

While cost is always a consideration, a public services network also must always feature robust network data security to ensure the integrity and privacy of large volumes of potentially sensitive citizen data.

Challenge

Deliver an integrated high-performance voice and data network with state-of-the-art security.

The solution would need to support 20 individual agencies across a major metropolitan area and ensure government-grade encryption while minimizing any impact on network performance.

Considerations

Any organization planning a major infrastructure project will have a range of networking solutions to choose from, and our client considered technologies from all the leading vendors.

A Software Defined Network (SDN) infrastructure was the technology of choice, because of its inherent simplicity, scalability, flexibility and costeffectiveness.

Other solutions were ruled out because of what was seen as unnecessary complexity or capital expenditure.

Solution

The SDN infrastructure, featuring high-assurance network data encryption from Thales.

Key benefits of the Thales high-assurance encryption solution included:

- Simplified communications infrastructure
- Seamless and end-to-end network encryption
- Converged voice and data network
- High-assurance data encryption standards
- Scalable, low-latency, fully compatible
- Proven certified security performance

Why Thales Network Encryption

Although the networks' data security requirements were implicit, both the network systems vendor and its customer demanded the encryption solution be high-assurance.

It was also essential that the encryption devices themselves should be transparent to the network and not compromise network performance by adding latency or data overhead.

Security First

Given the plethora of public sector data breaches over the past few years, our client placed a premium on network data security.

Data encryption was seen as a must-have to ensure the security and integrity of citizen data as it moved across the network. However, the client would not accept a solution less than high-assurance.

Embedded encryption network devices were ruled out almost immediately as they were seen as a potential point of vulnerability and would require on-going management to affect software updates and patches. Such devices also have future compatibility issues.

MACSec was seen as a low-assurance option, one with vulnerabilities or weaknesses that may expose network data to unnecessary risk.

The network provider selected high-assurance encryption solution from Thales that had recently completed systems integration trials with SDNs.

The client was immediately sold on the benefits of truly robust encryption that did not impact on network performance or add any unnecessary management overhead.

The choice is also future-proof, due to Thales CN encryptors' interoperability and network device compatibility.

High-Assurance Encryption

In order to be truly robust, high-assurance encryption needs to feature:

- Secure, dedicated, tamper-proof encryption hardware
- State-of-the-art, automatic zero touch key management
- End-to-end, authenticated network encryption
- AES standards-based encryption algorithms

Key Benefits

Seamless integration with the chosen network architecture – with identical performance and management efficiency.

Maximum network security without compromising on performance or availability – near-zero latency and zero impact on network devices and operations.

Set and forget simplicity – all Thales encryptors are fully interoperable and are managed both locally and remotely.

Peace of mind that comes from a genuinely robust encryption solution (what the FBI refers to as unbreakable encryption).

In summary the Thales CN Series encryptors provide the municipality with high-assurance network encryption security:

- Maximum network performance for Big Data applications and analytics
- Ultra-secure, client-side encryption key management
- Ease of deployment, configuration and management
- <6 microsecond latency and near zero data overheads
- FIPS Level 3 140-2 certification meeting government requirements
- 100% compatibility across network protocols and topologies
- 100% interoperability among all Thales CN devices
- Long-term return on investment and low total cost of ownership

About Thales

The people you rely on to protect your privacy rely on Thales to protect their data. When it comes to data security, organizations are faced with an increasing number of decisive moments. Whether the moment is building an encryption strategy, moving to the cloud, or meeting compliance mandates, you can rely on Thales to secure your digital transformation.

Decisive technology for decisive moments.

Contact us – For all office locations and contact information, please visit cpl.thalesgroup.com/contact-us