

North American MSP uses security gateway and certificate manager to protect user data and core network

Results

>100M

security certificates
supported

500K

tunnels for small cells

448 Gb/s

throughput per security
gateway

Close the gate on security threats

Mobile subscribers expect an exceptional user experience, including security and privacy for their data.

To improve service quality, mobile service providers (MSPs) deploy LTE, 5G and Wi-Fi small cells. However, small cells are inherently unsecure because they can be installed in shopping malls, arenas and other areas where people can access them at the edge of the MSP's secure network.

To protect subscriber data as well as the core network, MSPs need a robust security solution.

Challenge

Protect data and the core network

A North American Tier-2 MSP was deploying LTE and Wi-Fi small cells in markets across its geographical area to enhance the reach and quality of its LTE and Wi-Fi services. The MSP wanted to protect subscriber data and prevent unauthorized access to the mobile core network from compromised field devices by using IPsec to encrypt customer data and control traffic.

The solution needed to be scalable because over 4,000 small cells were to be deployed. Multi-vendor interworking was crucial because the small cells were a mix of Nokia and non-Nokia equipment and the mobile core was non-Nokia. The MSP also required security gateway redundancy per city with ultra-low failover times.

How Nokia Helps

An IPsec solution

To help the MSP address the challenge, Nokia delivered its Security Gateway paired with the [Nokia NetGuard Certificate Manager](#) (NCM).

The Nokia Security Gateway provides redundant gateway nodes as well as multi-chassis stateful IPsec synchronization, which is essential to achieve fast failover times. This solution also enables the MSP to make configuration changes to security policies while the system is live.

The Nokia NCM provides secure certificate provisioning and life-cycle management of small cells, Wi-Fi cells and Security Gateway nodes. Based on a trusted certification authority, it manages the entire life cycle of a digital identity in a standardized and secure way.

Solutions

[Nokia Security Gateway >](#)

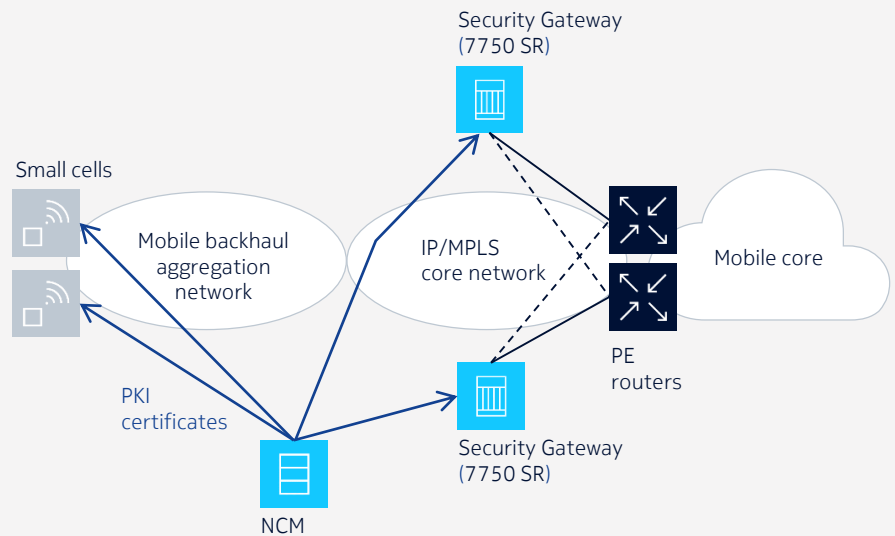
[Nokia NetGuard Certificate Manager >](#)

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The MSP deployed redundant security gateway nodes in each city using Nokia 7750 Service Routers (SRs) at the edge of the IP/MPLS core network



The Nokia Security Gateway provides the industry's highest capacity and throughput. Each security gateway can support 500,000 tunnels for small cells, including femtocells.

The distributed architecture of the Nokia NCM allows reliable, high-scale deployments of active security certificates—scaling up to over 100 million.

Unlike competitive products designed for IT environments, the Nokia solution provides carrier-grade certificate management. The solution supports a full public key infrastructure (PKI) and complies with all the PKI-related RFC and 3GPP standards.

The Outcome

Data and network security

The MSP now has a fully redundant and highly reliable solution for using IPsec tunnels between small cells and its mobile core to prevent unauthorized access to its core network and protect subscriber data from malicious intrusion. Other benefits include:

- Highest availability in the industry
- Multi-vendor interworking
- Lower CAPEX through use of Nokia 7750 SR
- Reduced sparing costs
- Ample capacity to scale for growth

About Nokia

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