

# Basejump Secure Edge Node 500

Enables Basejump key management at the edge, delivering quantum-safe keys to network equipment and applications.



## Key Benefits

- Meets the PQC compliance mandate today for critical infrastructure when used with BasejumpSKI
- Architecture supports cryptographic resilience supporting long-term security, cryptographic agility, and defense-in-depth against evolving threats.
- Integrates seamlessly into existing infrastructure without requiring costly replacement of network equipment, making it both practical and cost-effective.
- Future-adaptable, designed to evolve with emerging post-quantum and computational threats.

## Equipment Compatibility

The SEN-500 has been tested with network equipment from Nokia, Juniper, Cisco, Fortinet, and Palo Alto and QKD equipment from Toshiba, ID Quantique, Luxquanta, KETS, QTI, KeeQuant, ThinkQuantum, Quntescence Labs and Qbird.

## Overview

The Basejump Secure Edge Node 500 (SEN-500) is a tamper-resistant, high assurance edge computing device that enables Basejump quantum-safe key delivery to network equipment and applications.

- Runs the **Basejump Key Agent** on hardened hardware
- Delivers keys directly to routers, optical switches, servers, and applications using standard interfaces
- Provides lifecycle security, monitoring, and remote provisioning
- Supports **BasejumpSKI** and **BasejumpQDN**, ensuring interoperability and seamless upgrades

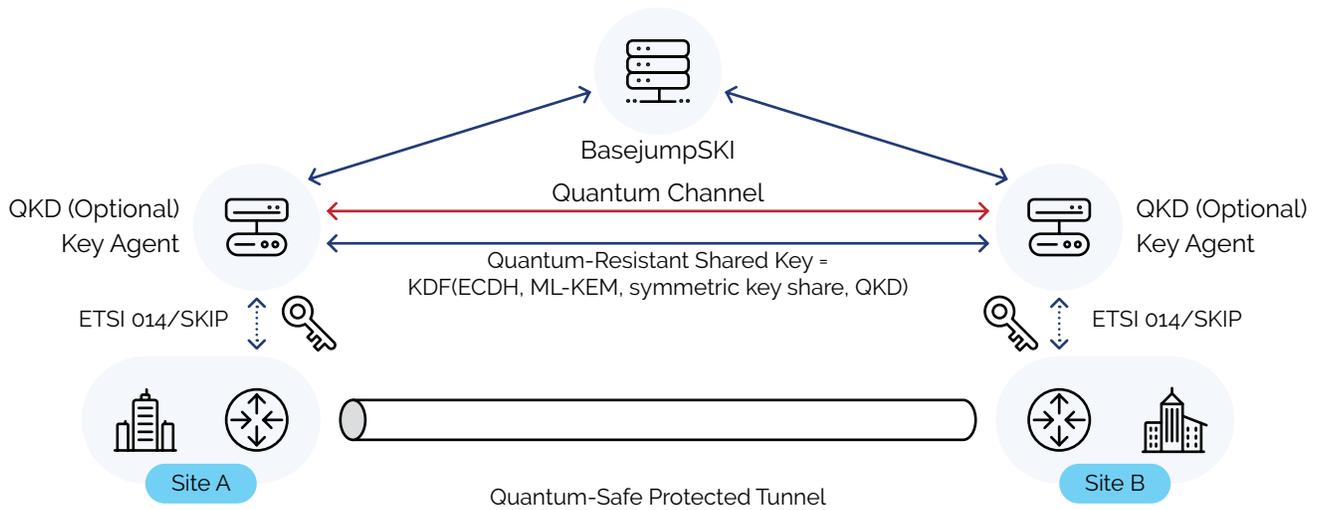
## Quantum-Safe and QKD-Enabled

The SEN-500 enables the full Basejump platform:

- **BasejumpSKI**: Symmetric Key Infrastructure using the Multimodal protocol based on classical asymmetric, PQC and symmetric keys
- **BasejumpQDN**: Quantum Delivery Network orchestrating/ supporting multi-vendor QKD, including satellite QKD
- Keys are served transparently — QKD keys if available, or Multimodal keys, or as a hybrid of QKD and Multimodal

## Application

The SEN-500 Basejump Key Agent delivers end-to-end keys for quantum-safe communications. They are delivered to devices such as optical switches, routers or firewalls over standard ETSI GS QKD 014 or Cisco SKIP interface. One SEN-500 can support multiple devices and applications.



## Key Features Hardware

Category	Description
Compute Resources	<ul style="list-style-type: none"> <li>Broadcom BCM2712 quad-core Cortex-A76 (ARM v8) 64-bit SoC @ 2.4GHz</li> <li>16GB LPDDR4-4267 SDRAM with ECC</li> <li>64GB eMMC Flash memory</li> </ul>
Security Module	<ul style="list-style-type: none"> <li>Hardware Security Supervisor</li> <li>Cryptographically and physically bonded with compute resources</li> <li>Supervised boot, file system encryption, measured system identity</li> </ul>
Tamper Sensors	<ul style="list-style-type: none"> <li>2 x Perimeter breach detection circuits</li> <li>Accelerometer shock &amp; orientation sensor</li> <li>Main power monitor</li> <li>Battery power &amp; removal monitor</li> </ul>
Battery backup	<ul style="list-style-type: none"> <li>Used for RTC and perimeter circuits</li> <li>Battery backup monitor</li> <li>Last Gasp battery removal detection</li> </ul>
Networking	<ul style="list-style-type: none"> <li>Gigabit Ethernet</li> </ul>
Power Supply	<ul style="list-style-type: none"> <li>PoE++ 802.3bt, 55W</li> <li>12VDC power (barrel jack)</li> </ul>
Enclosure	<ul style="list-style-type: none"> <li>Standard with Integrated heatsink</li> <li>36.1 x 100.3 x 148 mm, 1.42 x 3.96 x 5.80 Inches</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>Operating 0°C – 60°C non-condensing</li> </ul>
Warranty	<ul style="list-style-type: none"> <li>Standard: 12 months</li> <li>Optional extended warranty under support agreement</li> </ul>

## Key Features Software

Operating System	Hardened Linux (Ubuntu 24 LTS) signed and validated
Encrypted Storage	Fully encrypted root filesystem and runtime data with hardware enforcement
Secure Boot	Signed and verified boot chain
Application	Basejump Key Agent
Lifecycle Security	Basejump audit logging, key lifecycle visibility, cryptographic event monitoring
Remote provisioning	SSH