WiZ-Knight (On-Prem)

Quantum Safe Portable Encryptor



WiZ-Knight (On-Prem) is a dual component solution comprising of a portable Wireless encryption device and a high performance gateway appliance. Purpose built for classified and enterprise environments, it enforces a Zero Trust Architecture (ZTA) to ensure device posture verification and authentication of both device and end user identities before granting access to enterprise resources.

Through a policy granting server, a short term access token is issued once the device posture is validated. Seamless integration with Active Directory enables system administrators to efficiently manage employee onboarding and offboarding in line with functional roles. By linking remote user identity notifications with firewall key exchange establishment, granular firewall rules can be enforced based on user identity.

The gateway delivers 10Gbps aggregated throughput and supports up to 5,000 concurrent users. It features cryptographic agility, supporting AES-256, HMAC-SHA2/3, and hybrid post quantum key exchange (ECDH + ML-KEM 1024). The robust IKEv2 key exchange enhances multi-layered defences and resilience against (D)DoS attacks.

When connected to untrusted networks such as public Wi-Fi, WiZ-Knight isolates and conceals the endpoint from the local network, significantly reducing the attack surface. It offers 50 Mbps performance, verified boot and runtime integrity monitoring, Over the Air (OTA) firmware updates, and remote quarantine capabilities.

Seamless integration with Active Directory, PKI backends (CRL/OCSP), firewalls, and enterprise policy engines positions WiZ-Knight as a new benchmark in Zero Trust and quantum resilient remote access.

KEY CAPABILITIES

Zero Trust Access
Verifies device posture and authenticates users and devices before granting access.

Endpoint Isolation
Isolates endpoints from untrusted networks and keeps them invisible to network-based threats.

Quantum Resilient Security
Supports hybrid post quantum key exchange using ECDH + ML-KEM-1024.

Identity Based Access Control
Enables granular access policies through Active Directory and certificate-based controls.

Enterprise Integration
Integrates with AD, PKI backends, firewalls and enterprise policy engines.

Centralised Management
Supports Over the Air (OTA) updates and remote quarantine capabilities.

TECHNICAL HIGHLIGHTS

Data Protection
AES-256-CBC with HMAC-SHA2/3; AES-256-OCB.

Gateway Performance
10 Gbps aggregated.

Data Protection
AES-256-CBC with HMAC-SHA2/3; AES-256-OCB.

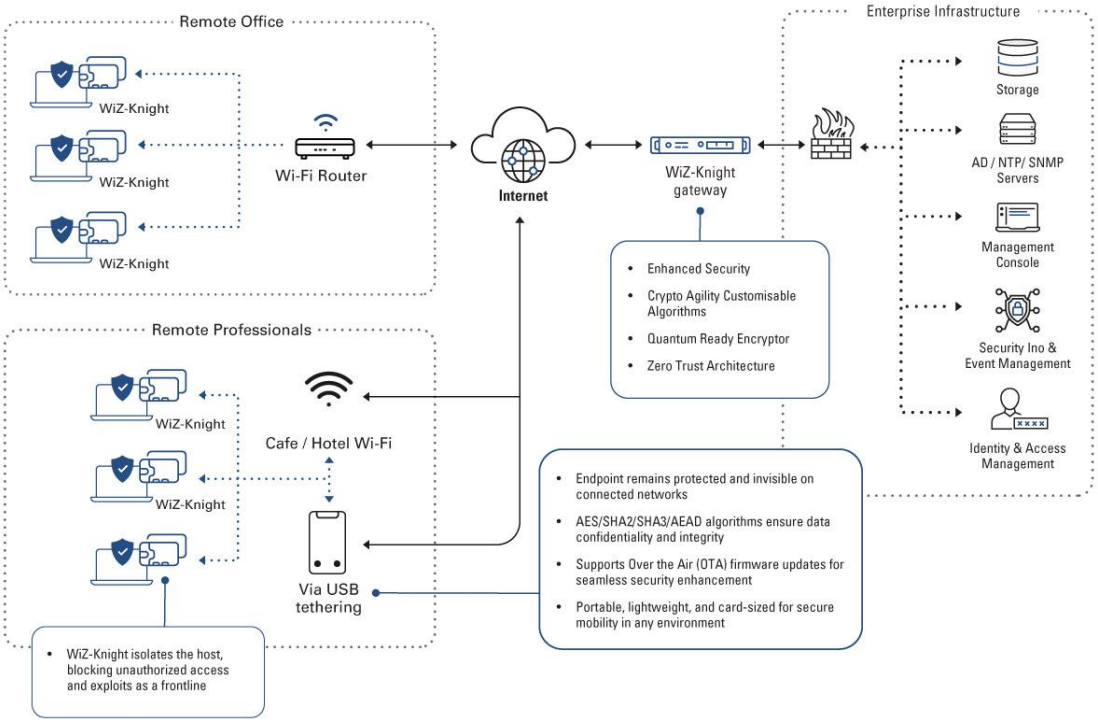
WiZ-Knight Device Performance
50 Mbps aggregated.

Scalability
Up to 5,000 concurrent users.

Security
Anti-(D)DoS, Zero Trust Architecture, hardened kernel and key exchange.

DEPLOYMENT ARCHITECTURE

Appliance-Based VPN Concentrator
Dedicated physical appliance for secure on-premises deployment.



SPECIFICATIONS

WiZ-Knight (Gateway)

Network Interfaces	• 1Gbps RJ45: Management Port, Clustering Port, System Integration Port • SFP+ (10Gbase/SR 850nm) for Trusted Ports & External Ports
Networking Features & Protocols	• Network Mode (Layer 3): Supports only Unicast IPv4 protocols
High Availability Features	• Load distribution through IKE redirection gateway within VPN gateway
Authentication	• Certificate-based digital signature (RSA / ECDSA) • Dual authentication (user and device)
Access Control	• Granular certificate criteria matching • Active Directory group-based access management
Key Management	• Support IKEv2 (PFS-enforced) • ECDH (up to P-521 bit) • ML-KEM-1024 (in hybrid PQC mode)
Data Protection	• AES-256-CBC with HMAC-SHA2/3 (256, 384, 512-bits) • AES-256-OCB (AEAD)
Performance	• 10Gbps aggregated
Management Security / Configuration	• Remote Device Management (via management port) • Mutual TLS 1.3, role-based (certificate authentication)
Security Features	• Anti-(D)DoS; Zero Trust Architecture; Hardened Kernel & Key Exchange
Dimension / Weight	• 44 x 430mm x 450mm | 6kg/10kg (net/gross)
Environmental	• Power: 400W (Dual Power Supply) | Power Connectors: 2xC14 to C13 cable provided | Heat: 1832 BTU/hr (At 240 VAC)

WiZ-Knight (Dongle)

Network Interfaces	• 1 x USB Type-C connector | Wi-Fi: Supports wireless LAN (dual band 2.4GHz & 5GHz) based on IEEE 802.11 standards (a/b/g/n/ac)
High Availability	• Registration of multiple alternate gateways with auto-switching functionality
Performance	• 50Mbps (aggregated)
Dimensions / Weight	• 66 x 42 x 11 mm / 20g
LEDs	• 3 x bi-colour LEDs
VPN Protocol	• IPSec / ESP (Encapsulating Security Payload) | Support Layer 3 Encryption
Authentication	• Certificate-based digital signature (ECDSA)
Key Management	• Support IKEv2 (with PFS-enforced) • ECDH (up to P-521 bit) • ML-KEM-1024 (in hybrid PQC mode)
Data Protection	• AES-256-CBC with HMAC-SHA2/3 (256, 384, 512-bits) • AES-256-OCB (AEAD)
Environmental	• Operating Temperature: 0°C ~ 40°C • Storage Temperature: -20°C ~ 70°C • Humidity: 40°C, relative Humidity 95%, non-condensing

WiZ-Knight (Cloud)

Quantum Safe Portable Encryptor



WiZ-Knight (Cloud) is a compact, USB-powered secure connectivity solution designed to protect mobile workers and enable secure remote access over untrusted Wi-Fi and 4G/5G networks. Hosted on AWS, it offers dedicated VPN servers for each client, combined with certificate-based authentication and secure device pairing.

When connected to untrusted networks such as public Wi-Fi, WiZ-Knight isolates and conceals the endpoint from the local network, significantly reducing the attack surface. All traffic is secured through an encrypted tunnel protected with AES-256 encryption and RSA-2048 key exchange. The platform also supports hybrid post-quantum cryptography (PQC), automated Over the Air (OTA) updates, device posture validation, and remote device wipe capabilities for enhanced security and operational control.

With 50 Mbps aggregate throughput, dual-band Wi-Fi (2.4GHz and 5GHz), tethering, and OpenVPN protocol support, WiZ-Knight is ideal for mobile professionals. It integrates with Active Directory and other IAM platforms, enabling seamless multi-factor authentication.

WiZ-Knight combines enterprise grade security with ultimate simplicity in a tamper evident, palm sized device. It shields endpoints from exposure on untrusted networks while enabling secure, policy-based access through WiZ-Knight Cloud, empowering employees to work confidently and securely from any location.

KEY CAPABILITIES

Endpoint Isolation
Isolates endpoints from untrusted networks and keeps them invisible to network-based threats.

Secure Cloud Access
Dedicated virtualized VPN gateway deployable on-premises or in private and public cloud environments.

Device & User Authentication
Combines certificate-based authentication, secure device pairing and MFA support.

Post Quantum Support
Supports hybrid PQC for enhanced cryptographic resilience.

Remote Management
Centrally provision, update, and manage or blacklist WiZ-Knight devices from a secure cloud console.

Real Time Monitoring
Gain instant visibility into device health, connectivity, security posture, and network activity.

OTA Updates
Remotely deploy firmware and security updates across all managed devices.

TECHNICAL HIGHLIGHTS

Data Protection
AES-256.

Authentication
RSA 2048-bit public-key signature.

VPN Protocol
OpenVPN.

Key Management
OpenSSL.

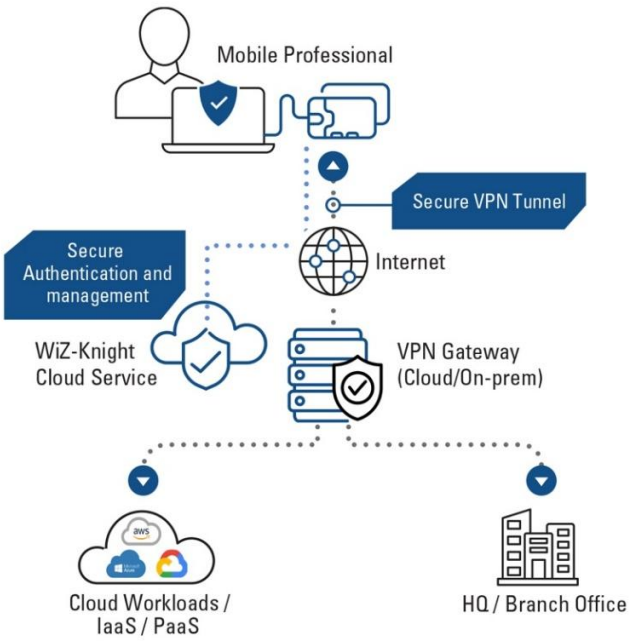
Performance
50 Mbps aggregated.

Connectivity
USB Type-C; dual-band 2.4 GHz / 5 GHz Wi-Fi.

High Availability
Multiple alternate VPN servers across availability zones.

DEPLOYMENT ARCHITECTURE

Virtualised VPN Server Gateway
Software-based gateway deployable on-premises or in cloud environments



SPECIFICATIONS

WiZ-Knight (Cloud)

Network Interfaces	• 1 x USB Type-C connector | Wi-Fi: Supports wireless LAN (Wi-Fi dual band 2.4GHz & 5GHz) based on IEEE 802.11 standards (a/b/g/n/ac)
High Availability	• Registration of multiple alternate VPN servers across different availability zones
Performance	• 50Mbps (aggregated)
Dimensions / Weight	• 66 x 42 x 11 mm / 20g
LEDs	• 3 x bi-colour LEDs
VPN Protocol	• OpenVPN
Authentication	• RSA public key signature (2048-bit)
Key Management	• OpenSSL
Data Protection	• AES-256
Environmental	• Operating Temperature: 0°C ~ 40°C • Storage Temperature: -20°C ~ 70°C • Humidity: 40°C, relative Humidity 95%, non-condensing