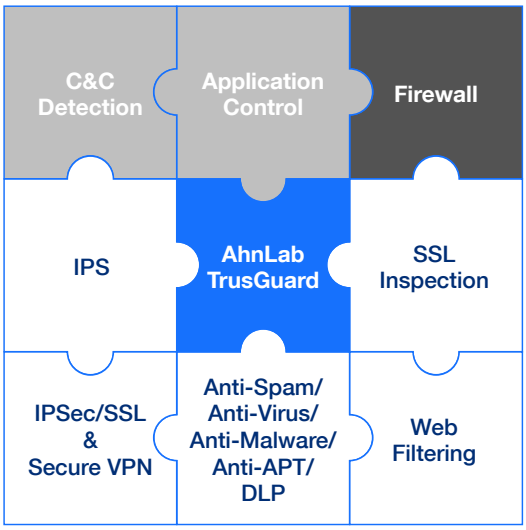
# AhnLab TrusGuard

## Next Generation Network Security Platform

TrusGuard is the next generation firewall to protect the organization from ever-evolving threats.

## Overview

The NGFW TrusGuard has been acknowledged by a thorough market assessment for its technology, performance and stability. TrusGuard's firewall, IPS, application control, VPN, C&C detection & block, Anti-Virus/Anti-Spam and DLP protect the customers' business environment. TrusGuard has full lineup from the low-end to data center level models, allowing customers to flexibly choose the solution considering their network environment.




### Differentiated NGFW Platform

- Thorough protection for the global/local applications
- User and device based policies settings/control
- SSL Inspection
- Interoperation with APT-exclusive MDS

### Unmatched Threat Detection & Block Technology

- Multi-layered engine specialized for threat detection
- Security Intelligence based threat detection
- In-house threat analysis and infrastructure
- Reflecting a real-time threat information for fast response

### High Firewall Throughput and Performance

- Advanced hardware platform
- High-performing multi-core distribution

### User Interface with Accumulated Know-how

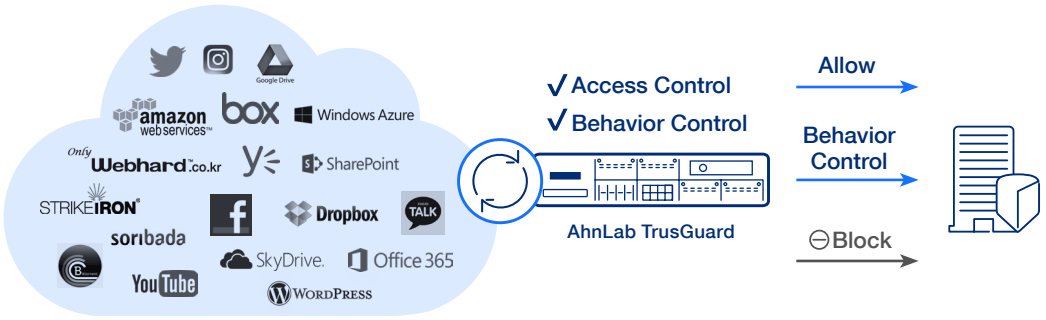
- Seamless flow of policies settings/control
- Flexible user interface with a drag & drop format

| | |
|---|---|
| Volumounous Traffic Throughput<br>High Performance Firewall | Differentiated Next Generation Security<br>against Various Threats |
| User Interface<br>Fully Reflecting Market Demand | Exclusive Threat Detection and Response |

## Next Generation Firewall

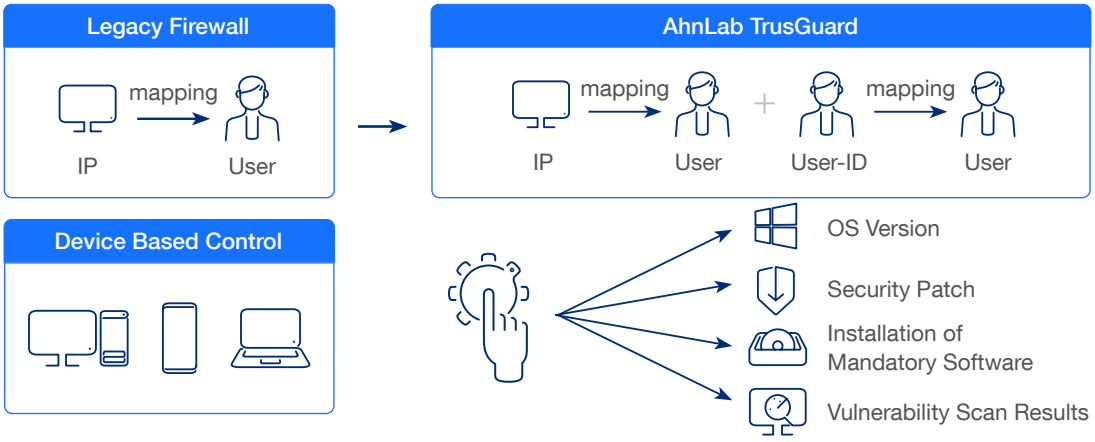
### Application Control

TrusGuard is equipped with the application control feature, which is next-generation security technology. This enables real-time analysis, block, allow and control on thousands of global and local applications. By identifying the unknown application, TrusGuard enhances the security as it permits communication only with allowed applications.




### User & Device Based Control

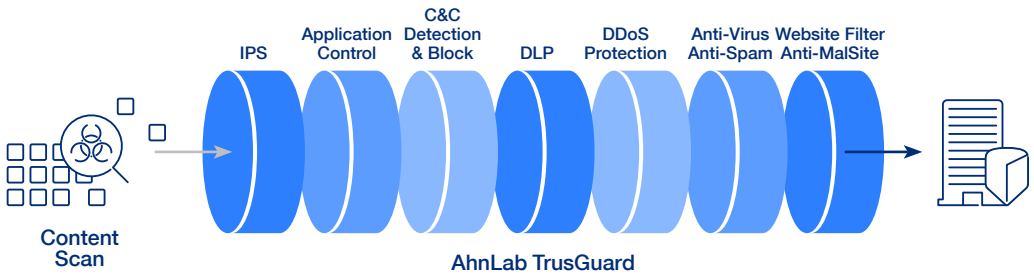
TrusGuard enables a quick threat response and efficient security management by identifying the user based on IP address, providing ID-based user identification and behavior control features. In addition, it can control network access by checking a device status, such as OS version, security patch, installation of required software, and vulnerability.




### Exclusive Threat Detection and Response

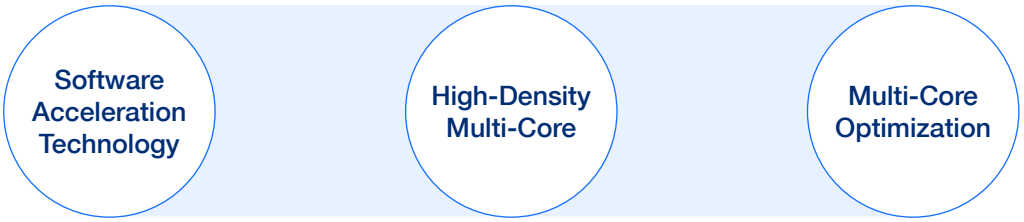
TrusGuard protects the customers from zero-day attacks and unknown threats by conducting a real-time inspection on contents inflowing to the network.

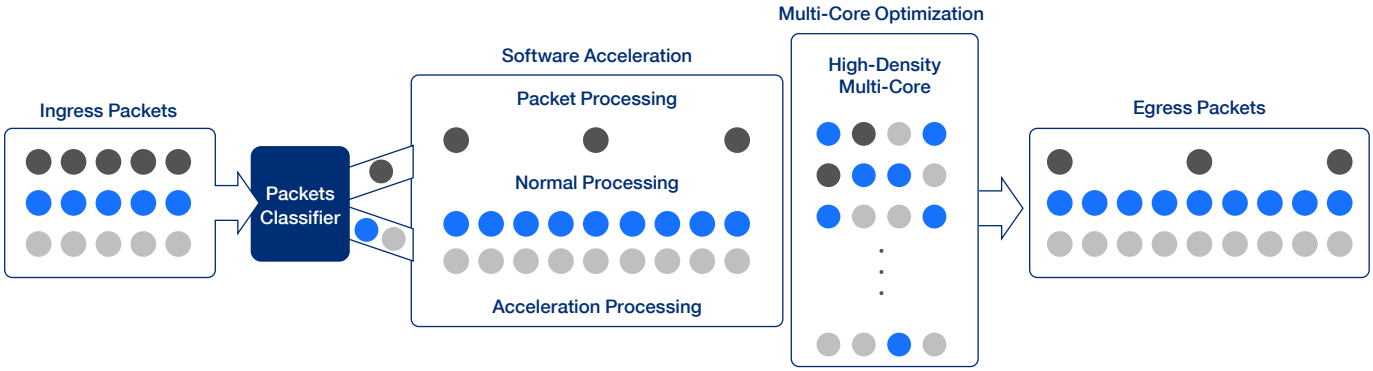
| | |
|---|---|
| Multi-layered Engine Structure Specialized for Threat Detection | Real-time Threat Information for Fast Response |
| Security Intelligence (Detecting C&C and Mal-site/Threat Detection Filter) | Response to Zero-Day and Unknown Threats |



## High-performance

TrusGuard maximized its packet processing by applying ‘Advanced A-TEAM’ architecture solely developed by AhnLab. Advanced A-TEAM is the architecture technology that expedites packet processing severalfold. It is built with multi-core optimization and software acceleration technology.

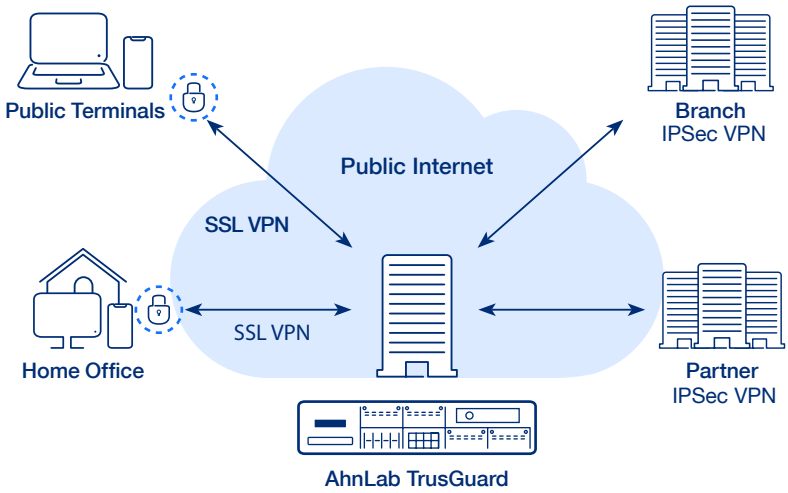



Advanced A-TEAM Architecture

## VPN (Virtual Private Network)

TrusGuard realizes the safe network connection anytime, anywhere by simultaneously providing IPSec and SSL VPN features. Also, it strictly controls the spread of malware via VPN tunnel with its IPS and application control.



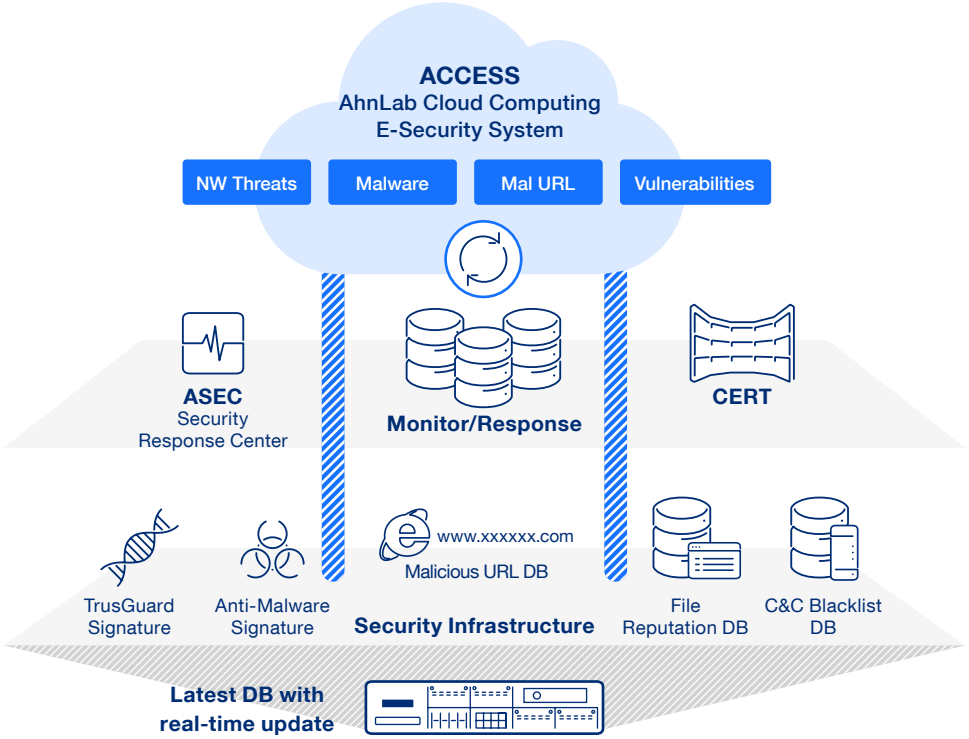

**Stability** **Security**

- Simultaneously Suppport IPSec/SSL VPN
- Mobile SSL VPN
- Supports multiple clients(Windows, Mac, Linux, and etc.)
- Strong Central Protection on HQ/Branches

## Security Intelligence

AhnLab has the best and largest threat response organization and infrastructure in APAC. We offer a real-time monitoring and response capability against ever-evolving threats with our comprehensive cloud-based threat analysis system.

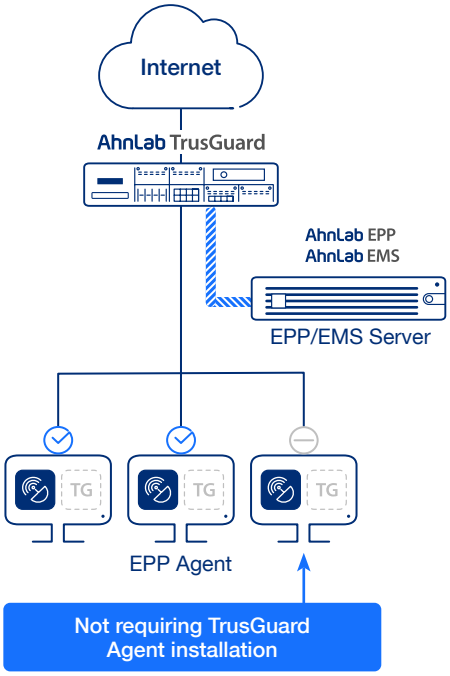
In particular, TrusGuard is equipped with C&C blacklist, DB of URL spreading malware, file reputation DB, and the latest vulnerability information. This unified security solution is optimized for enterprises in need of preventing advanced network threats.

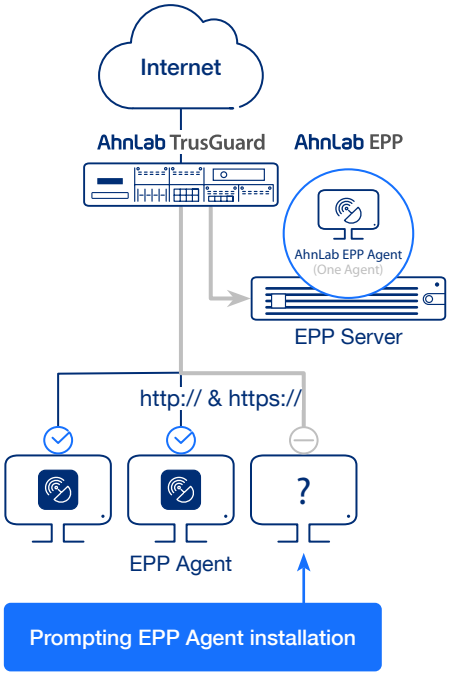


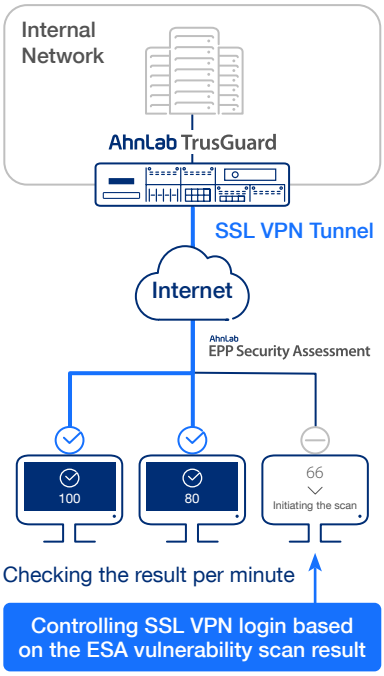

## Interoperation with Endpoint Solution

AhnLab TrusGuard offers various features via the interoperation with our endpoint solutions.

1) Allowing agentless device based control via the interoperation with AhnLab EPP and EMS.
2) Prompting the installation of AhnLab EPP Agent. (http, https)
3) Controlling TrusGuard's SSL VPN login based on the vulnerability scan result of AhnLab ESA.



## Main Features

| Network |
|---|
| Route/Bridge Mode |
| Static/Policy based Routing |
| Dynamic Routing (RIP/OSPF/BGP) |
| Multi-cast Routing (PIM-SM/ IGMP) |
| Port Aggregation/VLAN |
| DHCP Server/Client/Relay/SNMP |
| IPv4 & IPv6 Dual Stack/IPv6 Routing/Transition |
| VoIP (H.323/SIP) |
| **IPS** |
| Pre-defined Signatures (More than 6000) |
| Daily Signature Update |
| Zero-day Defense (ACCESS/MAPP) |
| Signature/Anomaly based |
| Vulnerability based Attack Prevention (Web/OS/Network/Application) |
| Malware based Attack Prevention (Worm/Bot/Trojan/Downloader) |
| Zone-based Policies |
| **Application Control** |
| Global/Local Application Detection and Block |
| Control Application Behavior Detail |
| Unknown Application Control |
| **NAC** |
| Anti-Virus(V3) Interoperation |
| Detect and Control the Installation of AV Agent for PC |
| Detect and Control the Infected PC |
| Device Based Control via EPP Interoperation(Agentless) |
| EPP Agent Redirection |
| Control SSL VPN Conection based on ESA Vulnerability Scan |
| **SSL Inspection** |
| Encrypted Traffic Inspection |
| **Geo-Location Block** |
| Country and Continent Block |

| Firewall |
|---|
| Stateful Inspection |
| HA (A-A/A-S without L4) |
| Policy/Sessions Synch |
| QoS (Min/Max) |
| Blacklist Filtering |
| Exceptions (Whitelist) |
| Duplicate Object/Policy Filtering |
| Policy Expiration Check |
| Various NAT (Static/Dynamic/Policy based NAT) |
| Auth Server User Authentication (LDAP etc.) |
| Proxy Control |
| Session Control per Policies |
| IP-Mac /IPv6 Filtering |
| User and Device Based Policy Settings/Control |
| Virtual System |
| Log-based Policy/Object Creation |
| Checking effectiveness of virtual packet policy |
| **C&C Detection/Block** |
| Cloud-based C&C Detection & Block |
| Unknown Suspicious File/PUP Detection |
| **Anti-DDoS** |
| UDP/ICMP/TCP Flooding |
| Spoofed TCP Attack |
| HTTP Vulnerabilities |
| CC Attack |
| **Website Filtering** |
| Korea Communications Standards Commission DB |
| AhnLab Anti-malsite DB |
| Global Categorized URL DB |
| **Anti-Virus** |
| AhnLab AV Engine (V3) |
| AhnLab Signature Team |
| Attached Compressed Files |
| Anti-Spam |
| Stream-based Detection |

| IPSec VPN |
|---|
| Hub&Spoke/Star/Mesh |
| Various Encryption and Hash Algorithm |
| Center VPN Dual (A-A/A-S) |
| Multi-line Load Balancing |
| DPD/PFS/Replay Defense |
| **SSL VPN** |
| Gateway-to-Client |
| 2 Factor Authentication (ID/PW + Cert) |
| Endpoint Interoperation (PC Protection before and after) |
| Mobile SSL VPN (Android & iOS) |
| Client for Embedded |
| Multiple clients (Windows, Mac, Linux, and etc.) |
| Support FIDO |
| Provide Google Authenticator (OTP) |
| **Anti-Spam** |
| Exclusive Anti-Spam Engine |
| RBL/User-defined Filtering |
| Spam Quarantine |
| **Anti-APT** |
| Interoperate with AhnLab MDS |
| Suspicious File Behavior Analysis |
| Suspicious URL Prevention |
| **Data Leak Prevention** |
| Prevent Internal Information Loss |
| Block Content, Attachments, Exts. |
| **Monitoring/Log** |
| Internal HDD/Log |
| Widget-based Dashboard/Relation Analysis |
| Traffic Unified Log/Custom Report |
| **Management** |
| Multi-layer Admin Privilege |
| Web-based HTTPS |
| Open API |

## Specifications

### SMB/Branch Office

| | | TrusGuard 40B | TrusGuard 50B | TrusGuard 70B | TrusGuard 100B | TrusGuard 200E | TrusGuard 400C |
|---|---|---|---|---|---|---|---|
| **CPU** | | 2 Core | 4 Core | 4 Core | 8 Core | 8 Core | 4 Core |
| **RAM** | | 4GB | 8GB | 8GB | 8GB | 8GB | 8GB |
| **System Storage** | | 4GB | 4GB | 4GB | 4GB | SSD 32GB | SSD 64GB |
| **Log Storage** | | - | SATADOM 120GB (Option) | SATADOM 120GB (Option) | HDD 1TB or SSD 240GB/1TB | HDD 2TB | HDD 2TB/4TB or SSD 960GB/1.92TB |
| **NIC** | **1GC** | 8 | 8 | 8 | 8 | 6 | 9 (Including Mgmt) |
| | **1GF** | - | - | - | 2 (Max 6) | 4 | 8 |
| | **10GF** | - | - | - | - | - | - |
| **FW** | | 4G | 6G | 8G | 10G | 14G | 20G |
| **IPS** | | - | 1.5G | 2.5G | 3.5G | 8G | 8G |
| **VPN** | | 1G | 1.2G | 1.4G | 1.6G | 3.5G | 4G |
| **VPN Tunnel** | | 2,500 | 5,000 | 5,000 | 10,000 | 30,000 | 30,000 |
| **Concurrent Session** | | 1,000,000 | 1,500,000 | 2,000,000 | 3,000,000 | 3,500,000 | 5,000,000 |
| **Size(WxHxD)** | | 220x44x194.5 | 430x44x193 | 430x44x193 | 430x44x340 | 430x44x340 | 430x44x460 |
| **Power** | | Single | Single | Single | Single | Single | Redundant |

* TrusGuard 40B model supports only firewall/IPSec VPN.
* Performance may vary depending on the system configuration and network environment.

## Enterprise/Data Center and for Headquarter

| | | TrusGuard 500C | TrusGuard 2000B | TrusGuard 5000B | TrusGuard 10000B | TrusGuard 20000B |
|---|---|---|---|---|---|---|
| CPU | | 6 Core | 8 Core | 20 Core | 32 Core | 48 Core |
| RAM | | 16GB | 16GB | 64GB | 64GB | 256GB |
| System Storage | | SSD 64GB | SSD 64GB | SSD 64GB | SSD 64GB | SSD 64GB |
| Log Storage | | HDD 2TB/4TB or SSD 960GB/1.92TB | HDD 2TB/4TB or SSD 1TB/2TB (RAID-1/0) | HDD 2TB/4TB or SSD 1TB/2TB (RAID-1/0) | HDD 2TB/4TB or SSD 1TB/2TB (RAID-1/0) | HDD 2TB/4TB or SSD 1TB/2TB (RAID-1/0) |
| NIC | 1GC | 9 (Including Mgmt) | 10 (Max 34, including Mgmt) | 10 (Max 50, including Mgmt) | 10 (Max 50, including Mgmt) | 10 (Max 50, including Mgmt) |
| | 1GF | 8 | 8 (Max 32) | 8 (Max 48) | 8 (Max 48) | 8 (Max 48) |
| | 10GF | 0 (Max 4) | 0 (Max 12) | 4 (Max 28) | 4 (Max 28) | 4 (Max 28) |
| | 40GF | - | - | 0 (Max 8) | 0 (Max 12) | 0 (Max 12) |
| | 100GF | - | - | - | 0 (Max 2) | 0 (Max 4) |
| FW | | 30G | 60G | 120G | 200G | 240G |
| IPS | | 12G | 20G | 30G | 50G | 70G |
| VPN | | 6G | 10G | 13G | 19G | 19G |
| VPN Tunnel | | 40,000 | 40,000 | 50,000 | 60,000 | 60,000 |
| Concurrent Session | | 8,000,000 | 10,000,000 | 30,000,000 | 40,000,000 | 60,000,000 |
| Size(WxHxD) | | 430x44x460 | 438x88x571 | 438x88x571 | 438x88x571 | 438x88x571 |
| Power | | Redundant | Redundant | Redundant | Redundant | Redundant |

* Performance may vary depending on the system configuration and network environment.

## Q-VPN

| | | TrusGuard 2000BQ | TrusGuard 5000BQ | TrusGuard 10000BQ | TrusGuard 20000BQ |
|---|---|---|---|---|---|
| CPU | | 8 Core | 20 Core | 32 Core | 48 Core |
| RAM | | 16GB | 64GB | 64GB | 256GB |
| System Storage | | SSD 64GB | SSD 64GB | SSD 64GB | SSD 64GB |
| Log Storage | | HDD 2TB/4TB or SSD 1TB/2TB (RAID-1/0) | HDD 2TB/4TB or SSD 1TB/2TB (RAID-1/0) | HDD 2TB/4TB or SSD 1TB/2TB (RAID-1/0) | HDD 2TB/4TB or SSD 1TB/2TB (RAID-1/0) |
| NIC | 1GC | 10 (Max 34, including Mgmt) | 10 (Max 50, including Mgmt) | 10 (Max 50, including Mgmt) | 10 (Max 50, including Mgmt) |
| | 1GF | 8 (Max 32) | 8 (Max 48) | 8 (Max 48) | 8 (Max 48) |
| | 10GF | 0 (Max 12) | 4 (Max 28) | 4 (Max 28) | 4 (Max 28) |
| | 40GF | - | 0 (Max 8) | 0 (Max 12) | 0 (Max 12) |
| | 100GF | - | - | 0 (Max 2) | 0 (Max 4) |
| FW | | 60G | 120G | 200G | 240G |
| IPS | | 20G | 30G | 50G | 70G |
| VPN | | Upon a separte request | | | |
| QRNG | | USB | USB | USB | USB |
| VPN Tunnel | | 40,000 | 50,000 | 60,000 | 60,000 |
| Concurrent Session | | 10,000,000 | 30,000,000 | 40,000,000 | 60,000,000 |
| Size(WxHxD) | | 438x88x571 | 438x88x571 | 438x88x571 | 438x88x571 |
| Power | | Redundant | Redundant | Redundant | Redundant |

* Performance may vary depending on the system configuration and network environment.

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