

genuscreen 40G VPN

Facts & Features



VPN Appliance

Definition

Field-programmable gate arrays (FPGA) make exceptionally fast signal processing possible. genua's new VPN gateway for securely encrypted high-speed transfers of larger quantities of data makes use of this advantage.

genuscreen 40G VPN is based on the Firewall & VPN Appliance genuscreen. The dedicated 40G VPN interface focuses solely on throughput and latency.

As a VPN concentrator, genuscreen 40G VPN ensures that – especially in complex VPN structures – branch locations, offices and external properties can be connected to an appliance in the data center with very low latency and very high speed.

Reasons to Choose genuscreen 40G VPN

- True 2 x 40 Gbit/s, low latency ($\leq 20 \mu\text{s}$)
- Arbitrary packet mix
- Full-duplex line speed
- Up to 1024 simultaneous connections
- Approved for classification levels German VS-NfD, NATO RESTRICTED, and RESTREINT UE/EU RESTRICTED
- Simple and fast integration in existing ecosystems

genua.



Typical Use

Interconnection of data centers

- Interconnection with 2 x 40 Gbit/sec high-speed
- Encryption on layer 3 in accordance with IPsec standard

VPN concentrator

- Use in central data centers for the termination of up to 512 bidirectional VPN connections
- Connection of branch offices

Customer Service

- Customer service directly from the manufacturer
- Security system management
- Hotline service/update service
- Comprehensive training courses

Excellence in Digital Security.

High-Performance Ports

Operation Modes

Tunnel mode	The entire IP packet is encrypted and encapsulated
Layer 2 bridging	Use IPsec to connect two locations on layer 2

Algorithms

Encryption	AES256-GCM with full 16 byte integrity check
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Performance / Speed

2 x 40 Gbit/s	Full-duplex line rate (constant throughput for all packet mixes)
Clients	Can act as a high-speed concentrator for up to 512 bidirectional connections

Standard Ports

NAT traversal (NAT-T)	Supports connections between NATed devices
NAT for VPN	Connect locations with overlapping network ranges
High availability (sasync)	Synchronize security associations between multiple appliances to minimize downtime
High-performance replay protection	Increased replay windows

Operation Modes

Tunnel mode	The entire IP packet is encrypted and encapsulated
Network mode	Supports routing protocols such as OSPF over VPN connections
Transparent IPsec router	Encrypt your WAN traffic without changing your topology
L2TP	Support for Android, Windows, iOS, Mac OS X (layer 2)

Algorithms

Encryption	AES-128, AES-192, AES-256, 3DES, Blowfish, CAST
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Performance / Speed

10G	Full-duplex line rate
2048 clients	Capability to concentrate of up to 2048 remote clients using one appliance in the data center, providing complete protocol support from geniuscreen

General

Authentication

RSA	De facto public-key standard
Elliptic curves	Fast key exchange
Pre-shared keys	Manually exchange secret pair of keys
PKI (X.509)	Use a certificate authority (CA) to verify keys
IKEv2	Connect mobile or third-party devices

Networking

Redundant network access	Multiple uplinks on standard ports
DNS	Enable local DNS caching
UMTS/WLAN option	External UMTS or WLAN interface
NTP client	Obtain time from NTP servers
DHCP server	Automatically assign IP address to clients
DHCP relay	Forward DHCP queries to central DHCP server
VLAN	Support virtual LANs to separate networks on the standard ports
Trunking	Aggregate multiple network interfaces on one virtual interface on the standard ports
PPPoE	DSL uplinks on the standard ports

High Availability

Active-active with load balancing	Distribute load on several appliances depending on the source/destination IP address
Link aggregation	LACP: easy integration in a redundant/high-performance switch setup on the standard ports
Hot standby	Reserve appliance for automatic failover on the standard ports

Monitoring

System	System status (memory, load)
VPN	Supervise VPN connection status
NetFlow export	Monitor network traffic with the NetFlow protocol
SNMP, SNMPv3	Retrieve information via SNMP GET requests, or send SNMP TRAPs

Extensibility

Optional modules	Cache (DNS, HTTP), URL filter
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Administration

Web GUI	Powerful web-based user interface secured with TLS/SSL (HTTPS)
Online help	Instant help via user interface
Shell access	Local access using console or serial interface, remotely using SSH
Cronjobs	Schedule jobs at specific times
Flexible configuration	Easily modify/add files to the system
USB update	Fix inaccessible systems with a USB stick

Patch Management

GUI	Retrieve and install patches via GUI
Automatic updates	Automate the process of fetching updates for the appliance

Logging

Syslog	Use a third-party syslog server to store logs
Hard drive	Use appliance's hard drive for storage, if available
Memory	Logs are recorded in memory
Central	Use genucenter to consolidate the logs on one system

Debugging

Network	Powerful command-line tools: tcpdump, traceroute, ping, etc.
VPN	VPN connection status overview and problem analysis
Root shell	The shell offers full root access

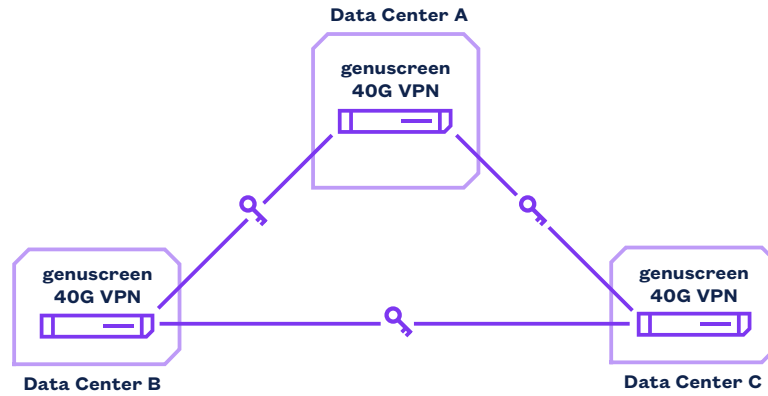
Central Management

Central Management	Easy administration of several (hundred) systems with Central Management Station genucenter
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More product information

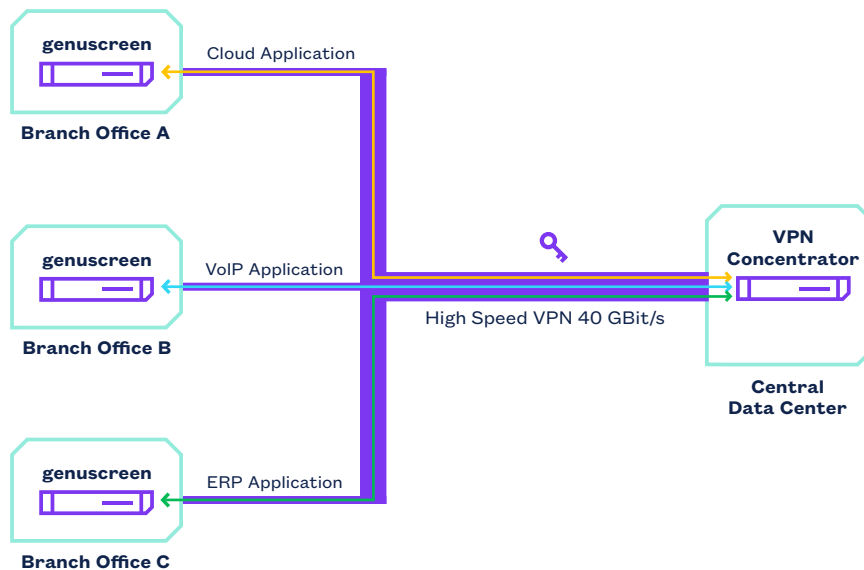


Use Cases



Secure, High-Speed Interconnection of Data Centers

- Interconnection of data centers or locations with 2 x 40 Gbit/sec
- IPsec-standard-compliant encryption on layer 3 (network layer)
- If necessary, two networks can be bridged on layer 2 (data link layer); encrypted frames remain routable thanks to encapsulation in IP and IPsec ESP header
- Connection and backup of two data centers or locations
- Connection of external backup data centers in separate fire zones across property lines
- High-availability and geo-redundant data centers must be 200 km apart according to the directive of the German Federal Office for Information Security (BSI)



High-Speed Location Connection with VPN Concentrator

- Use in central data centers for the termination of a large number of VPN connections
- Connection of external properties, offices or locations with 2 x 40 Gbit/sec high-speed and very low latency

Further Information:

www.genua.eu/genuscreen-40g-vpn

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