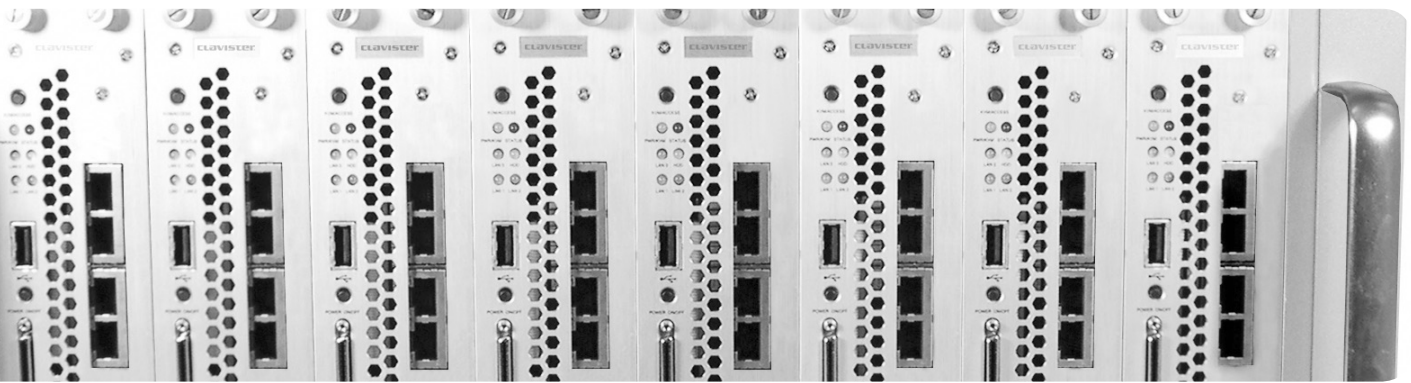


# Security Gateway 5500 Series



## **Clavister SSP™ Security Services Platform**

firewall • VPN termination • intrusion prevention • anti-virus  
anti-spam • content filtering • traffic shaping • authentication

# **CLAVISTER®**

**Protecting Values**



- **Element-Based, High-Density Security Gateway System**
- **Extensive Value-Adding Features, including Virtual Routing, Stateful Inspection Firewalling and Bandwidth Management**
- **Built on Proven and Stable Swedish Technology**
- **High Uptime and Service Availability**
- **Seamless Scalable Licensing**
- **Fully GAN Compliant Tunnel Terminating Gateway**
- **Extreme GAN Subscriber Density**

## Clavister Security Gateway 5500 Series

The Clavister Security Gateway 5500 Series is the first commercial network security product purpose-built for the emerging FMC (Fixed Mobile Convergence) networks. Its high performance, unique set of features in combination with super configurability and seamless scalability makes it the perfect solution for any mobile operator.

With an aggregated performance of up to 24 Gbit/s of plain-text traffic and 16 Gbit/s of VPN throughput the Clavister Security Gateway 5500 Series sets a new standard for high performance IP security products.

The 5500 Series is a chassis based system capable of maintaining up to eight (8) secure blade modules, seven (7) hot-swappable power supplies, four (4) fan modules, Rear Transition Modules and Chassis Management Modules for out-of-band management.

## Ready for the Fixed Mobile Convergence Networks

The Clavister Security Gateway 5500 Series is designed to deliver high performance and uninterrupted service in even the most demanding network.

The architecture of the system, which includes redundancy of every vital component, ensures that crucial services are available at all times.

In addition to the robust design, extreme performance and flawless security, the Clavister Security Gateway 5500 Series includes extensive monitoring, auditing, fail-safe remote operations and complete revision history of configurations. This makes the Clavister Security Gateway 5500 Series one of the world's most core-network adapted security systems.

### Product Highlights

#### Versatile Security

Clavister offers a complete set of uniquely integrated security features including:

- Virtual Private Networks
- GPRS Tunneling Protocol Support
- Bandwidth Management
- Virtualization Technologies
- RADIUS Accounting
- Proprietary firmware - no inherited vulnerabilities

#### Extreme Performance

- 24 Gbit/s Plaintext Throughput
- 16 Gbit/s VPN Throughput
- 400,000 Concurrent VPN tunnels

#### Unparalleled Resilience

- Hot-swappable redundant power supplies
- Hot-swappable redundant fans
- Hot-swappable redundant Rear Transition Modules
- Hot-swappable redundant Chassis Management Modules
- **Full** High Availability Clustering capabilities

#### Low Total Cost of Ownership

- No time-consuming maintenance tasks
- All operations conducted from central enterprise security management system
- Investment-friendly licensing model

## Feature List

## 5500 Series

### System Components and Capacity

Secure Blade Module Slots	8
Power Supply Module Slots	6 + 1
Cooling Fan Module Slots	3 + 1
Chassis Management Module Slots	2
Rear Transition Module Slots	2

### Blade Performance and Capacity

Plaintext Throughput (Gbps)	3
AES/3DES Throughput (Gbps)	2
Concurrent Connections	10,000,000
Concurrent VPN Tunnels	50,000
Ethernet Interfaces	4x1000BASE-TX + 2x1000BASE-TX
Virtual Interfaces (VLAN)	4,096
Virtual Systems & Routers	up to 1000 VSYS
Packets Per Second (pps)	550,000
Tunnel Establishment Ratio/Second	600

### Telecom/GAN Specific

IKEv2	Yes
EAP/SIM	Yes
EAP/AKA	Yes
GPRS Tunneling Protocol (GTP)*	Yes
GAN Network Ready	Yes
ToS/QoS	Yes

### Mode of Operation

Layer 2 Mode (Transparent Mode)	Yes
Layer 3 Mode (Route Mode)	Yes
Policy-based NAT	Yes
Policy-based PAT	Yes
Policy-based Server Load Balancing	Yes
Virtual IP	Yes

### Firewall

Statefull Packet Inspection (SPI)	Yes
Network Attack Detection/Prevention	Yes
DoS and DDoS Detection/Prevention	Yes

### VPN – Virtual Private Networking

Encryption	AES, 3DES, DES, CAST-128
Authentication	SHA-1, MD5, XCBC
IKEv2	Yes
IKE Config Mode	Yes
Perfect Forward Secrecy (DH Groups)	1, 2, 5
X.509 Certificates, Pre-Shared Keys	Yes
PKI Certificate Requests	PKCS#7, PKCS#11
IPsec NAT Traversal (NAT-T)	Yes
VPN Policy Selection Through	Firewall Rule Set, Routing, PBR
VPN Tunnel Keep-alive	Yes
Dead Peer Detection	Yes

### Bandwidth Management

Policy-based Bandwidth Management	Yes
Guaranteed/Maximum Bandwidth	Yes
Dynamic Bandwidth Balancing	Yes
Priority Levels	Yes

### IP Address Assignment

Static	Yes
DHCP Client, Server and Relay	Yes
Proxy ARP	Yes
PPPoE	Yes

## Feature List

### Routing

Static Routing	Yes
Policy-based Routing (PBR)	Yes
OSPF/OSPF over VPN	Yes
Source Base Routing	Yes
GRE	Yes

### High Availability\*

Firewall and VPN state Synchronization	Yes
ESP State Synchronization	Yes
Device Failure Detection	Yes
Dead Link, Gateway and Interface Detection	Yes
Interface Failover	Yes
Route Failover	Yes
Average Failover Time	< 800 ms

### Logging/Monitoring

Clavister Logger	Yes
Syslog	Yes
Real-time Log Viewer	Yes
Number of Log Recievers	8
Graphical Log Analyzer	Yes
Command-line Log Query Tools	Microsoft Windows, Linux
Log Export Format	CSV
Real-time Performance Monitoring	Yes
SNMP Polling	Yes
SNMP Traps	Yes

### Management

Local Console	RS232
Command-line based Remote Management	Microsoft Windows, Linux
Graphical Enterprise Remote Management	Included in all products
Multi-device Management	Yes
Number of Administrators	Unlimited
Remote Fail-safe Operation	Yes
Revision History	Complete Configurations
Centrally Archived Configurations	Yes
Remote Firmware Upgrades	Yes

### User Authentication

External RADIUS User Database	Yes, multiple servers
RADIUS Accounting	Yes
CHAP, PAP	Yes
Web-based Authentication	Yes
Customizable HTTP(s) Front-end	Yes
Microsoft Active Directory Integration	Yes

### Dimensions and Weight

H x W x D (mm)	177 x 426 x 670
Weight	33/80 kg**
Form Factor	4U
Rack Mountable 19"	Yes
Power Supply (AC)	7 x 100-240V 50 to 60 Hz AC

### Regulatory and Safety Standards

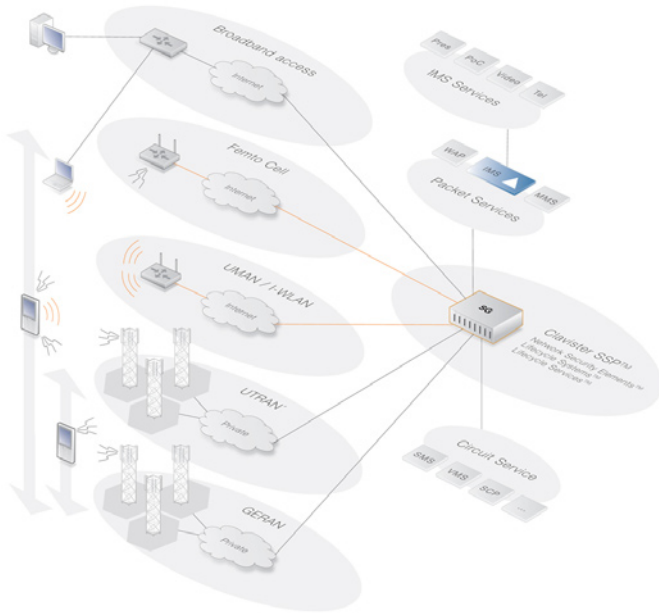
Safety:	UL 60950-1, EN/TÜV 60950-1, IEC/CB 60950-1, C-tick
Environmental:	FCC class A, FCC class B, CE, EN 300 386:2003 Class B, ETS 300 019-2-1 class 1.2, ETS 300 019-2-2 class 2.3, ETS 300 019-2-3 class 3.2

### Environmental

Humidity:	10% to 90% non-condensing
Operational Temperature:	5 to 50/55 C***

For detailed and current technical specifications, please visit: [www.clavister.com](http://www.clavister.com)  
 \* Introduced in CorePlus v8.67 \*\* Value applies to fully populated chassis \*\*\* Depending on CPU version

## FMC Network Diagram



The Clavister Security Gateway 5500 Series is the worlds first commercial network security product purpose-built for the unique requirements of converged Fixed and Mobile networks such as the Generic Access Networks (GAN), IWLAN and FemtoCell environments.

The Clavister Security Gateway 5500 Series provides secure connectivity for up to 400,000 concurrent mobile phone subscribers in one chassis, thus making it the most efficient solution available on the market.

## Warranty

All products in the Clavister Security Gateway 5500 Series come with a two (2) year standard RMA warranty and ninety (90) days Software Subscription covering all major and minor software releases counting from the Start Date.

Start Date means the earlier of Product registration or ninety (90) days following shipment from Clavister.

## Clavister Security Gateway 5500 Series Components



Clavister Security Gateway 5500 Series  
 - Rear Transition Module



Clavister Security Gateway 5500 Series  
 - Chassis Management Module



Clavister Security Gateway 5500 Series  
 - Cooling FAN Module



Clavister Security Gateway 5500 Series  
 - Power Supply Module



Clavister Security Gateway 5500 Series  
 - Secure Blade Module

## About Clavister

Clavister - a Swedish privately owned company developing IT security products, including its award-winning Clavister Security Service Platform (SSP™). This service-oriented framework enables organizations to monitor network traffic, protecting critical business assets and blocking undesirable surfing. It will also protect you against intrusion, viruses, worms, Trojans, and overload attacks. It requires minimal servicing, with central administration, and has exceptionally flexible configuration possibilities. Its seamless scalability makes it easy to provision the perfect solution for any customer; be it small organizations, large Internet Service Providers, Managed Security Service Providers, or multimedia-ready telecom operators.

Clavister was founded 1997 in Sweden, with R&D and headquarters based in Örn sköldsvik and Sales and Marketing based in Stockholm. Its solutions are marketed and sold through International sales offices, distributors, and resellers throughout EMEA and Asia. Clavister also offers its technology to OEM manufacturers.

