



## Hillstone SA-5000 Series

### Hillstone SA-5050/5040/5050

Hillstone SA-5000 series product is the dedicated high performance security appliance designed for large enterprises, Telecom, and data center. It can be applied to:

- Backbone network of large enterprises
- Backbone network of Telecom
- Data center & ICP

# Hillstone SA-5000 Series High-performance Security Appliance

## Innovative System Architecture

Hillstone SA-5000 Series Security Appliance adopts multi-core processor technology, proprietary ASIC, and high speed switch fabric up to 48Gbps. The architecture greatly enhances the Hillstone SA-5000 Series Security Appliance's capability in application layer security processing, providing a professional and high-performance security platform for enterprises. The network dedicated, 64-bit, up to 16-core, parallel processor of Hillstone SA-5000 Series Security Appliance avoids the weakness of pure ASIC and NP based platforms in processor intensive tasks, such as session establishment and traffic control. It also provides a capacity assurance for VPN and application layer security with ample processing power of over 24GOPS.

## Robust Real-time Operating System

StoneOS, Hillstone's proprietary 64-bit real-time parallel operating system, has a modularized parallel packet processing engine. Fully optimized and security hardened for next-generation multi-core processor; StoneOS greatly improves system processing efficiency, stability and security. Modularized nature of the parallel multi-task processing mechanism provides strong extension capability for Hillstone next-generation network security system, including performance scalability and supporting for more security and networking functionalities.

## Strong Attack Defense Ability

Hillstone SA-5000 series security appliance, with its multi-core processing architecture and next generation security operating system StoneOS, can provide high-performance application security processing and strong attack defense capability at the application layer. Hillstone SA-5000 series products can handle over 200,000 TCP session requests per second, which is 5 to 10 times of that of other competing products, and capable of defending against high volume DDoS attacks.

## Precise Traffic Control

With high performance multi-core processor and patented ASIC, Hillstone SA-5000 series security appliance can implement precise traffic control that is user specific or application specific. Hillstone SA-5000 security appliance can control traffic bandwidth of up to 20,000 users, at a precision of 1kbps, while maintaining normal system operation. The traffic control based on applications can identify various P2P applications and IM protocols, and with the help of scheduler function, and help you flexibly manage the network bandwidth.

## VPN

Hillstone SA-5000 series security appliance supports IPsec and SSL VPN, and the two functions can be mixed and match under different topologies to resolve your remote connection and remote access problems. Access control based on users and roles can perform fine-grain security monitor and control, meeting your security demands. All the Hillstone platforms support hardware acceleration of VPN functionality. The hardware acceleration together with multi-core processing, provide you with high-capacity, high-performance VPN solutions.

## Application Security

StoneOS supports analysis and control to many kinds of application protocols. In HTTP protocol, Hillstone SA-5000 series security appliance can block Java-Applet, Active-X, and transfer of various sensitive files to guard the end user's security. StoneOS, regularly released can analyze the latest P2P protocol and its variation, help customers block illegal file transfer in IM communication, protect the confidential files inside the network, and increase the utilization of bandwidth.

## High Reliability and Stability

Based on the accumulated experience in security and networking platforms development, Hillstone network security products have achieved a new level of stability and reliability in both hardware and software. Carrier grade reliability and the fully optimized software and hardware system provide a powerful guarantee for enterprises in face of increasing network traffics and attacks. Hillstone products through its HA (High Availability) features support sub-second failover and ensure uninterrupted operation for key businesses applications.

Functionality	SA-5050	SA-5040	SA-5020
<b>Performance index and max. capacity</b>			
Throughput	8Gbps	4Gbps	2Gbps
IPSec VPN throughput (AES256+SHA-1)	8Gbps	4Gbps	2Gbps
AV Throughput	1200Mbps	750Mbps	400Mbps
Max. concurrent session number	5Million	2Million/4Million	1Million/2Million
New connections per second	200,000	100,000	65,000
IPSec tunnel number	30,000	10,000	5,000
SSL user number (standard/max.)	128/10,000	64/4,000	32/2,000
Max. policy rule number	50,000	40,000	30,000
<b>Application mode</b>			
Transparent mode	•	•	•
Route/NAT mode	•	•	•
L2/L3 mixed mode	•	•	•
<b>Firewall</b>			
NAT	•	•	•
PAT	•	•	•
MIP/VIP/DIP	•	•	•
<b>Attack defense</b>			
Network layer protection	•	•	•
DoS and DDoS protection	•	•	•
SYN flood attack defense	•	•	•
TCP/UDP/ICMP Flood attack defense	•	•	•
Malformed packet attack defense	•	•	•
IP fragment attack defense	•	•	•
IP option anomalies attack defense	•	•	•
TCP option anomalies attack defense	•	•	•
IP address spoofing attack defense	•	•	•
IP address scan attack defense	•	•	•
Port scan attack defense	•	•	•
Static and dynamic black list	•	•	•
Session control (source/destination address)	•	•	•
Zone based security protection	•	•	•
Profile based security protection	•	•	•
Link layer • ARP attack defense	•	•	•
IP/MAC/port binding	•	•	•
Reverse Query	•	•	•
ARP packet detection	•	•	•
IP number check to same MAC	•	•	•
ARP broadcasting	•	•	•

Functionality	SA-5050	SA-5040	SA-5020
ARP client authentication	•	•	•
Application layer protection	•	•	•
Sensitive files filter	•	•	•
Java Applet block	•	•	•
ActiveX block	•	•	•
URL filter	•	•	•
URL keyword filter	•	•	•
URL exclude list	•	•	•
URL list upload and download	•	•	•
<b>IPSec VPN</b>			
Site-to-site IPSec VPN	•	•	•
DES, 3DES, and AES256	•	•	•
MD-5 and SHA-1 authentication	•	•	•
Manual key, IKE, PKI (X.509)	•	•	•
IPSec NAT traverse	•	•	•
Policy/Route based VPN	•	•	•
Dialup VPN	•	•	•
Star-topology for VPN	•	•	•
<b>SSL VPN</b>			
Two factors authentication (user name/password + USB-Key)	•	•	•
Role based access control	•	•	•
<b>Security Management</b>			
Security management access	•	•	•
Read & Write vs. Read-only access method	•	•	•
Trusted host control list	•	•	•
Access method control	•	•	•
SSH/SSL	•	•	•
Radius/LDAP access authentication	•	•	•
<b>Management method</b>			
RS-232 serial port	•	•	•
Telnet	•	•	•
SSH	•	•	•
HTTP/HTTPS	•	•	•
Firmware backup	•	•	•
SNMP v1/v2c	•	•	•
<b>P2P/IM</b>			
Classification of P2P and IM traffic	•	•	•
Block of P2P and IM traffic	•	•	•
Traffic control of P2P traffic	•	•	•

Functionality	SA-5050	SA-5040	SA-5020
Bit Torrent	•	•	•
eMule/ eDonkey	•	•	•
Thunder	•	•	•
Baidu/ POCO/ PPlive	•	•	•
KuGou/Vagaa	•	•	•
MSN/Windows Messenger	•	•	•
Skype/QQ/Sina UC/NetEasy POPO/Sohu Sou Q/ Yahoo! Messenger	•	•	•
<b>User authentication</b>			
Local user authentication	•	•	•
RADIUS	•	•	•
LDAP	•	•	•
MS Active Directory	•	•	•
Web authentication	•	•	•
<b>ALG</b>			
H.323	•	•	•
SIP	•	•	•
FTP	•	•	•
TFTP	•	•	•
RSH	•	•	•
RTSP	•	•	•
SQL Net	•	•	•
HTTP	•	•	•
MS-RPC	•	•	•
PPTP/GRE	•	•	•
SUN-RPC	•	•	•
<b>Network</b>			
802.1Q VLAN relay	•	•	•
802.3ad link aggregation	•	•	•
PPPoE client	•	•	•
DHCP relay, server, and client	•	•	•
DNS proxy	•	•	•
DDNS	•	•	•
NTP	•	•	•
Static routing	•	•	•
RIP v1/v2	•	•	•
OSPF	•	•	•
Policy based routing (based on source and destination address and service)	•	•	•
ECMP, WCMP	•	•	•

Functionality	SA-5050	SA-5040	SA-5020
<b>PKI</b>			
PKI authentication request (PKCS 7 and PKCS 10)	●	●	●
Supported authentication authorities: Verisign, Entrust, Microsoft	●	●	●
<b>High availability</b>			
Active/Passive mode	●	●	●
Configuration synchronization	●	●	●
Firewall/VPN/DNS/DHCP/PKI session synchronization	●	●	●
Full mesh configuration support	●	●	●
<b>Traffic management</b>			
Traffic policy	●	●	●
Bandwidth guarantee	●	●	●
Max. bandwidth limitation	●	●	●
Priority	●	●	●
DiffServ mark	●	●	●
Speed limitation on physical port	●	●	●
Application based bandwidth limitation	●	●	●
Flexible QoS	●	●	●
Protocol based bandwidth limitation for each IP	●	●	●
IP based bandwidth limitation	●	●	●
<b>Syslog and monitor</b>			
Multiple Syslog servers ( TCP/UDP) support	●	●	●
Email	●	●	●
SNMP v1/v2c	●	●	●
VPN tunnel monitor	●	●	●
Hillstone private MIB	●	●	●
<b>Hardware</b>			
Processor	Multi-core 64-bit	Multi-core 64-bit	Multi-core 64-bit
DRAM	4GB	2GB/4GB	1GB/2GB
Flash	256MB	256MB	256MB
Internet port	6×GE+6×GE/SFP	6×GE+6×GE/SFP	6×GE+2×GE/SFP
USB port	2	2	2
Dimensions (W×D×H)	1U (442×367×44)	1U (442×367×44)	1U (442×367×44)
<b>Power supply</b>			
Power supply type	Redundant power supply	Redundant power supply	Single/Dual power supplies
Input voltage	AC 100-240V 50/60Hz	AC 100-240V 50/60Hz	AC 100-240V 50/60Hz
Power rating	120W×2	120W×2	75W
Operating temperature	0-45℃	0-45℃	0-45℃
Relative humidity (non-condensing)	10-95%	10-95%	10-95%
Weight	7kg	7kg	6kg

# Hillstone SA-5000 Series High-performance Security Appliance

## About Hillstone Networks

Hillstone Networks Inc., founded in 2006, is one of the pioneers in the network security field. The company is headquartered in Beijing, China, and has R&D center in Silicon Valley of U.S.A. Hillstone has accumulated many years of product development, sales and marketing experiences in network security area. Focusing on information security, Hillstone is established to be a new generation of professional network security equipment provider.

Currently, Hillstone has a staff of more than 150 people. Staff with doctor or master degrees accounts for more than 30 percent of the total workforce. The founders of the company are international security industry experts, including members of NetScreen early founding team. The company's core team members are all from well-known Chinese and foreign companies, such as NetScreen, Cisco, Juniper, Fortinet and H3C. They have brought along with them advanced technical background and rich experiences in business management. The company has established system architecture department, system operation department, software system department, channels and sales department, pre-sales and post-sales technical departments etc. It has also developed a sound sales and marketing network in the region through investment, holding and cooperation.

Since its inception, Hillstone always has the mission – "close to the market, close to the customer, rapidly grasp and meet customer demands", and achieves its own corporate values by ensuring customers' network security using its products and solutions. By virtue of its unique spirit of service and strong technical ability, Hillstone is dedicated to build cost-effective new generation network security solutions and services using world-class technology. Hillstone strives for innovation, its SA series of security appliance and SR series of security routers, have set a new quality standard of network security products. The products have already established a broad customer base including major domestic enterprises and universities and won the highly affirmation and appreciation from the customers.

In the Internet age of today, Hillstone is willing to cooperate with customers and partners in the exploration of new development in network security market, hoping to setup a win-win situation together.

### Warranty introduction of Hillstone Series Products

1. One-year software and hardware warranty will be provided for all Hillstone series products. \*
2. All Hillstone SA series products can only be used after applying and installing the license.
3. Services of all Hillstone SR series products can only be activated after the registering on the Internet.
4. Installing different licenses can add new features or improve the performance of the product.

The sentence with "\*" means that three years of warranty will provided for some modules of the products.



**Hillstone Networks, Inc.**

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