



Ingate Firewall 1500 1550 1650

Ingate Firewalls 1500, 1550 and 1650 represent the midrange firewalls in the Ingate Firewall® family from Ingate® Systems. They are powerful tools for enterprises and organizations looking for a complete data firewall with full support for Voice-over-IP (VoIP) and other forms of realtime communications based on SIP (Session Initiation Protocol).

The Firewalls solve the Network Address Translation (NAT) traversal issues with SIP. They enable enterprises to connect their IP-PBX to SIP trunks offered by ITSPs and to extend the VoIP capabilities within the corporate network to remote workers and branch offices. With Ingate Firewalls, businesses can benefit from reduced communications expenses by connecting to other VoIP-enabled enterprises without having to utilize the PSTN.

Ingate's SIP proxy-based solution delivers maximum control over SIP signaling, traffic, and network security. With Ingate products, enterprises can use VoIP and other live communications on the LAN and globally over the Internet or private IP networks.

Ingate Firewall 1500/1550/1650

The Ingate Firewalls 1500, 1550 and 1650 have four gigabit ports each. Ingate Firewall 1500 offers a capacity of 330 Mbit/s throughput, 28500 packets/second, and 150 concurrent RTP sessions (VoIP calls). The Ingate Firewall 1550 has 380 Mbit/s throughput, 75000 packets/second and up to 300 concurrent RTP sessions and the Ingate Firewall 1650 has 385 Mbit/s throughput, 126000 packets/second and 650 concurrent RTP sessions. The software upgrade module available for the Ingate Firewall 1500 and the Ingate Firewall 1550 gives enterprises the flexibility to buy only as much capacity as needed.

Included with the Ingate Firewalls 1500, 1550 and 1650 are five SIP traversal licenses, allowing up to five calls to traverse the firewall at the same time. Additional traversal licenses can be purchased at any time as well.

All Ingate Firewalls are fully featured, supporting stateful inspection and packet filtering with rules defined and maintained by the network security administrator. Ingate Firewalls include an encrypted Virtual Private Network (VPN) termination module. In addition to complete SIP support, Ingate Firewalls have a proxy for all standard protocols, including TCP, UDP, FTP and DHCP.

The management interface for the products is the same Web-based Graphical User Interface (GUI) that has been cited by Ingate customers and the media for ease-of-use. All models are in compliance with the European Union's Restriction of Hazardous Substances (RoHS) directive.

Trusted Network Security for VoIP

Ingate's SIP proxy architecture grants fully secure traversal of the SIP traffic. The ports for the media streams are only opened between the specific parties of a call and only for the duration of the call. The SIP proxy inspects the SIP packets before sending them on. TLS and SRTP encryption ensures privacy, making call eavesdropping, call hijacking and call spoofing harder to do. Ingate also supports authentication of users and servers.

Support for SIP Trunking

More and more Internet Service Providers offer a SIP trunk – a combined Internet and voice connection. For enterprises using an IP-PBX, SIP trunks are an ideal cost-saving solution as they no longer need local PSTN gateways or costly PRIs/BRIs. The service provider provides the PSTN connection. However, in order for SIP trunks to be successful, SIP traffic must be able to traverse the enterprise firewall. Ingate's SIP Trunking software module, available for Ingate Firewalls, enables firewall and NAT traversal using the built-in SIP proxy, allowing the enterprise to connect to the SIP trunk.

In addition, Ingate Firewalls and the Ingate SIP proxy deliver advanced security for all SIP communications, including those via a SIP trunk. Ingate products also help ease compatibility issues between the IP-PBX and Internet telephony service provider.

Choose the Right Features for Your Network

Ingate offers several other add-on software modules that allow you to tailor the Firewall to meet the specific demands of your business. Ingate Quality of Service (QoS) sets priorities to different kinds of data and allocates bandwidth for varied purposes – for instance, giving priority to VoIP.

Ingate Remote SIP Connectivity extends the SIP capabilities of the enterprise to employees working remotely. Remote SIP Connectivity manages the traversal of the remote NAT from the central Ingate Firewall and also includes a STUN server.

Ingate VoIP Survival adds a whole new dimension to hosted VoIP service by securing full redundancy in a SIP-based hosted IP-PBX environment all the way out to the customer premises. It serves as a backup to enhance the reliability and availability of a VoIP application platform.

Ingate Enhanced Security Module provides Intrusion Detection and Intrusion Prevention for SIP as well as encryption of the communication.

The SIP Registrar Module allows for making the Ingate Registrar the primary registration server.

Global VoIP Connectivity for your IP-PBX

Ingate Firewalls open up a world of possibilities and cost savings when used with a SIP-based IP-PBX. Businesses can not only connect to a SIP trunk, but also route telephone calls via IP, between branch offices, home workers, offices and others using SIP-based VoIP. With an Ingate Firewall, the enterprise is no longer limited to voice; communication can also include video, instant messaging, presence and more.

Why Ingate?

- For secure SIP trunks, secure VoIP, secure network
- SIP normalization: resolving interoperability issues between IP-PBX and ITSP, for simplified installations
- Secure NAT traversal
- Proven, reliable

Technical Specifications Ingate Firewall

Features	Ingate Firewall 1190	Ingate Firewall 1500	Ingate Firewall 1550	Ingate Firewall 1650	Ingate Firewall 2950
Interfaces (10/100 Mbit/s)	3	0	0	0	0
Interfaces (10/100/1000 Mbit/s)	0	4	4	4	6
Redundant power supply	No	No	No	No	Yes
Type of disk	Flash	HD	HD	HD	RAID 1
Dimensions WxDxH (mm)	228x146x44	430x369x44	430x369x44	430x369x44	426x772x43
Certifications	CE, FCC, UL	CE, FCC, UL	CE, FCC, UL	CE, FCC, UL	CE, FCC, UL
Performance					
Throughput (Mbit/s) (1500 byte packets)	50	330	380	385	4 500
Packets per sekund (46 byte packets)	4500	28500	75000	125000	400000
VPN tunnels	25	100	200	400	1600
3DES (168-bit) (Mbit/s) (1438 byte packets)	10	45	55	65	130
AES (128-bit) (Mbit/s) (1438 byte packets)	15	60	80	85	270
SIP connection set up (SIP+RTP)	0.15 s	0.15 s	0.15 s	0.15 s	<0.15 s
RTP data delay (10 Mbit/s/100 Mbit/s)	0.19/0.08 ms	0.19/0.08 ms	0.19/0.08 ms	0.19/0.08 ms	0.19/0.08 ms
Number of concurrent RTP sessions (voice sessions G.711)	50	150	300	650	1800
Secure VoIP sessions (TLS + SRTP)	20	75	150	330	900
Busy hour call attempt	36000	72000	79200	79200	234000
Administration					
Automatic check for new releases	Yes	Yes	Yes	Yes	Yes
Configuration options: Web GUI (HTTP, HTTPS) and CLI (SSH, serial cable)	Yes	Yes	Yes	Yes	Yes
DHCP client and PPPoE	Yes	Yes	Yes	Yes	Yes
DHCP server	Yes	Yes	Yes	Yes	Yes
SNMP	Yes	Yes	Yes	Yes	Yes
Max number of VLANs (802.1q compliant)	16	32	64	128	512
Internal log to HD	No	Yes	Yes	Yes	Yes
Logging to PCAP file	Yes	Yes	Yes	Yes	Yes
Syslog	Yes	Yes	Yes	Yes	Yes
E-mail events	Yes	Yes	Yes	Yes	Yes
Support for failover multiple ISPs	Yes	Yes	Yes	Yes	Yes
External RADIUS server authentication for IPsec, GUI and SIP	Yes	Yes	Yes	Yes	Yes
Unlimited data users	Yes	Yes	Yes	Yes	Yes
Free software upgrades	First year	First year	First year	First year	First year
Firewall functionality					
Stateful inspection	Yes	Yes	Yes	Yes	Yes
Packet filtering	Yes	Yes	Yes	Yes	Yes
DHCP proxy	Yes	Yes	Yes	Yes	Yes
Proxies for TCP, UDP and FTP	Yes	Yes	Yes	Yes	Yes
Flexibel NAT and PAT	Yes	Yes	Yes	Yes	Yes
VPN functionality					
X.509 certificate or shared secret	Yes	Yes	Yes	Yes	Yes
Generating of X.509 certificates for clients	Yes	Yes	Yes	Yes	Yes
PPTP server	Yes	Yes	Yes	Yes	Yes
IPsec (3DES, AES, NULL, MD5 and SHA1)	Yes	Yes	Yes	Yes	Yes
SIP functionality					
SIP proxy	Yes	Yes	Yes	Yes	Yes
SIP registrar	Yes	Yes	Yes	Yes	Yes
SIP traffic to private IP addresses (NAT/PAT)	Yes	Yes	Yes	Yes	Yes
Billing and authentication for SIP users from external RADIUS server	Yes	Yes	Yes	Yes	Yes
SIPconnect compliance	Yes	Yes	Yes	Yes	Yes
Add-on modules					
SIP Trunking (connecting an IP-PBX to an ITSPs SIP-trunk)	Yes	Yes	Yes	Yes	Yes
Remote SIP Connectivity (Far-end NAT-passering incl STUN-server)	Yes	Yes	Yes	Yes	Yes
QoS (bandwidth limitation and prioritization)	Yes	Yes	Yes	Yes	Yes
Enhanced Security (IDS/IPS for SIP, SRTP and TLS)	Yes*	Yes	Yes	Yes	Yes
VoIP Survival (VoIP redundance if Internet connection fails)	Yes	Yes	Yes	Yes	Yes
SIP Registrar Module (Ingate is used as the primary SIP registrar)	Yes	Yes	Yes	Yes	Yes

*IDS/IPS is not available for the Ingate Firewall 1190

