



Ingate® Quality of Service

Today, more and more companies deploy VoIP and other forms of realtime communications, not only for internal communications, but also for working with those sitting outside the network whether by connecting the IP-PBX to a carrier's SIP trunk, or allowing remote workers or branch offices to connect to the main IP-PBX. At the same time companies provide Internet access and e-mail to nearly every employee. At certain periods of the day Internet capacity might not be enough for all Internet-based activities - even for the most important traffic. Instead of buying more capacity Ingate® Systems offers a Quality of Service (QoS) module.

Available and efficient

Availability is a key aspect of today's business life. VoIP is a mission-critical application; it is also more vulnerable to packet loss and delays than other traffic between the LAN and the Internet.

There is, quite clearly, a need to prioritize voice and other realtime communications over Web browsing, email and ftp. The Ingate QoS module can handle dynamic prioritization and allocate bandwidth for e.g. VoIP. At all other times the capacity may be used for other types of traffic as well.

In another scenario, you have a public Web server on your LAN, and want to be sure that every visitor can access it with the greatest possible bandwidth. Priority must be given to the traffic leaving the Web server over all other communications. For these purposes – and many others – Ingate QoS lets you easily select and prioritize different types of traffic, optimizing the usage of available bandwidth for your specific needs.

Control the distribution of bandwidth

The Ingate QoS module can handle dynamic prioritization and bandwidth allocation so that bandwidth is reserved for voice traffic only when needed. At all other times the capacity may be used for other types of traffic as well. This offers maximum flexibility and allows enterprises to make full use of the available bandwidth.

Bandwidth limitations

Bandwidth can be limited for every interface in the firewall for both the entire traffic stream and for each type of traffic. A lower limit can also be set for each type of traffic, in order to guarantee a minimum level of service.

Traffic shaping

Each interface in the Ingate Firewall can have its own set of priorities for both incoming and outgoing traffic.

Priorities in external network equipment

Ingate QoS will allow the prioritization of communications outside of your own LAN. By setting the TOS and DiffServ bits in the header of the IP packet, equipment further up the network

can be assigned priorities. In practice, this means that network equipment further up the network – assuming they support the technology – will also give a higher priority to your most time-sensitive traffic.

This can be done for any kind of traffic.

Call Admission Control

The Ingate QoS module controls all calls traversing the Ingate Firewall.

If there is not enough bandwidth or traversal licenses the call will not be allowed and the caller will get a “service unavailable” message.

However, the QoS module can be set to always let emergency calls through.

Specifications

The QoS module supports:

- Outgoing and incoming traffic shaping
- Prioritization and limit setting for the following types of network traffic:
 - services (protocol and port)
 - packet size
 - SIP traffic
 - IP addresses and segments
- Identification of traffic types according to: sender, receiver, application (e-mail, ftp, www, etc.), TOS-value, DSCP-value
- Admission control: Only allow as many calls as permitted – “service unavailable” will be returned if the call is not allowed. Separately allocated bandwidth for emergency calls.
- The ability to set priorities for network equipment further up the network

QoS for the Ingate SIParator

Ingate QoS is included in all Ingate SIParators.

When used with a SIParator, the module can handle call admission control and set priorities for SIP traffic for network equipment further up the network.