



Revision  
1.000

Date  
2003/07/01

### Technologies

Operating System:	Custom Linux Distribution
Interface:	Web-Based Interface
Interface programming language:	html / php
Web Server:	Apache / php 4.2.3
Database Server:	PostgreSQL v 7.3.3
Bandwidth Management Technology:	Hierarchical Token Bucket Filtering
Software Updates:	Online Auto-Update via various Netsoft Update servers

### Recommended System Requirements

PIII 1GB or better  
256MB or more RAM  
5Gig or better HDD  
2 Network Cards, the following are supported  
Realtek 8139 A, B or C  
Intel Ether Express 100

### Licensing

AstroFlowGuard is licensed on a "per server" basis.

Licences are issued with respect to the amount of bandwidth to be managed with the following options available:

1 Megabit  
2 Megabit  
5 Megabit  
10 Megabit  
20 Megabit

For bandwidth upto 100Mb, you will need to use an AstroFlowGuard Appliance.

Additional modules:

Firewall  
IDS – Intrusion Detection System  
VPN – Virtual Private Network server  
DHCP

All modules included in the AstroFlowGuard appliance.

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**Technical Specifications****Technical Overview**

The Bandwidth Manager is a bandwidth control tool, firewall and intrusion detection system (IDS) bundled into one physical device. The solution will permit a total 'quantity' of incoming or outgoing bandwidth to be managed and will provide a stateful packet inspection firewall and an IDS feature. The solution is powered by the *AstroFlowGuard* software application. Main features are:

**Bandwidth Management**

Each network protocol or service or IP address / network can be assigned to a particular 'sub-class' within the device and allocated a certain guaranteed quantity of bandwidth with a burst capability. The total guaranteed bandwidth of all sub-classes cannot exceed the total bandwidth available (or the total bandwidth of the 'parent' class.) Bursting is optional and if set to zero is disabled. Once class limits are configured, the priority of classes can be set allocating highest priority to the top class and lowest to the bottom class. An autoconfigure mode is also available which 'discovers' protocols being used on the network and allows these to be allocated to classes accordingly.

**Firewall**

A complete stateful inspection (dynamic packet filtering) firewall is included with the product. The firewall tracks each connection traversing all interfaces of the firewall and makes sure they are valid. Filtering decisions are based not only on administrator-defined rules (as in static packet filtering) but also on context that has been established by prior packets that have passed through the firewall. As an added security measure against port scanning, stateful inspection firewalls close off ports until connection to the specific port is requested.

**Intrusion Detection System**

The Bandwidth Manager incorporates a completely customisable IDS utility with daily e-mail reports and IDS notifications.

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**Technical Specifications****Full System Details**

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<b>Technology type:</b>	Hardware plus software application running on custom based Linux OS
<b>AstroFlowGuard Features:</b>	Bandwidth management, IP policy routing, port forwarding/redirection, Network Address Translation, Virtual Private Network server, traffic classification. Auto configuration option features auto protocol discovery mode. Incorporates various Wizards for easy configuration.
<b>Traffic Management Techniques:</b>	Hierarchical Token Bucket Filtering.
<b>Queuing Disciplines:</b>	TBF (Token Bucket Filtering), BFIFO (Byte First In First Out), PFIFO (Packet First In First Out), SFQ (Sarcastic Fairness Queuing), RED (Random Early Detection)
<b>Traffic Classification:</b>	IP address, subnet, port, TCP flags, time-of-day, text string or hex string, presidence, top of service
<b>Supported Interfaces:</b>	10/100 BASE-T Ethernet (VLANs are supported)
<b>Supported Protocols:</b>	IP, HTTP, FTP, TCP, UDP, SMTP, ICMP, RDP, IGP, GRE, OSPF, L2TP, IGMP, TOS, P2P (Kazaa, Bit Torrent, Gnutella, Go Boogie, Morpheus, Napster)
<b>Management Features:</b>	Web based GUI (for IE 5.5 or higher only)
<b>Maximum Supported Bandwidth:</b>	Downloadable software up to 20 Mbps and appliance up to 100 Mbps
<b>Firewall:</b>	Stateful inspection firewall (dynamic packet filtering)
<b>IDS Features:</b>	IDS logging with periodic notification
<b>Redundancy and Availability:</b>	Automatic fail over for parallel devices. Requires two units.

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**Technical Specifications**

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<b>Reporting:</b>	Real Time Reporting per Class or Sub Class plus graphical representation of protocol usage on network. Ability to view statistics per filter packets/bytes. IP accounting information i.e. total amount of bandwidth per class over specified periods.
<b>Recommended Hardware specification (depending on bandwidth requirements):</b>	2GHz PIII Processor Motherboard with Intel chipsets 2 Intel Etherexpress Pro 100 Network Cards 512 MB RAM 20GB Hard drive
<b>Software Specification:</b>	Custom Linux distribution OS HTML and PHP Interface Programming Language Apache PHP 4.2.3 Web Server PostgresSQL Database Server
<b>Additional Information:</b>	Operating system patches are updated via a central distribution system. Application updates/fixes are provided but these updates do not include feature enhancements or additions.

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