NetEnforcer®

QoS/SLA Enforcement for Service Providers

P2P throttling

URL filtering

virtual bandwidth monitoring

tiered services   DoS protection

- • **Increase revenue from existing infrastructure**

- • **Enforce service level agreements**

- • **Rapidly provision new subscribers**

- • **Bandwidth monitoring, accounting and reporting**

S ervice providers (xSPs) made large investments in infrastructure only to have the price of bandwidth become commoditized. Your profitability hinges on your ability to increase revenue from existing resources through over-subscribing network bandwidth and offering new lucrative services. These services may include tiered (differentiated) services such as "gold", "silver", or "bronze", and classes of service that deliver guaranteed bandwidth to support specific business-critical applications such as VoIP, Oracle, and Citrix.

Allot®
Communications

Empowering Networks for Business

NetEnforcer

Policy-Powered Networking

Allot Communications NetEnforcer® policy enforcement devices offer service providers a complete suite of bandwidth management tools for better managing network resources, enabling over-subscription, and enforcing service level agreements (SLAs). The NetEnforcer lets service providers immediately identify and limit excessive bandwidth consumers and put "recovered" bandwidth to profitable use.
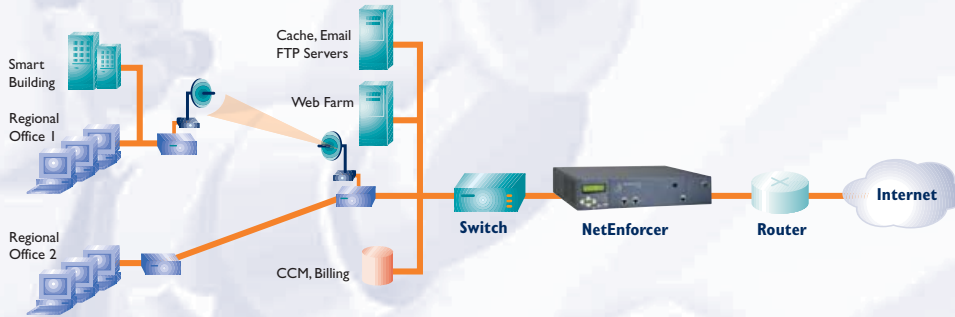
NetEnforcer on a service provider network.

Three Steps to Policy-Powered Networking

Policy-Powered Networking lets you efficiently manage subscriber traffic accessing the service provider network. The process of implementing a Policy-Powered Networking solution includes three steps:

1. Provision new subscribers

Use the NetEnforcer to retrieve customer information from your Customer Care and Billing system (CCB) or text-based customer list. This process automatically retrieves the subscriber's SLA type and defines the minimum and maximum bandwidth limits on the NetEnforcer.

2. Enforce the rules

Upon matching a traffic session with a subscriber, NetEnforcer forwards the packets according to the bandwidth parameters outlined in its SLA.

3. Verify/Bill

The NetEnforcer sends detailed traffic information to the billing/reporting systems, including addresses, applications used, and the quantity of traffic sent. This allows you to create advanced invoicing schemes such as usage-based billing.

Features and Benefits

Increase Revenue from Existing Infrastructure

The NetEnforcer allows service providers to offer profitable new services that attract new customers and retain existing ones. For example, you may charge higher monthly fees for guaranteed levels of bandwidth or for enabling customers to control and monitor their own bandwidth without on-site equipment.

Enforce and Verify Service Level Agreements

The NetEnforcer enables you to enforce SLAs by assigning fixed minimum and maximum amounts of bandwidth to your customers so that they receive exactly the bandwidth they pay for—no more and no less. No longer do they pay for 256 Kbps and receive 1 Mbps.

Rapidly Provision New Subscribers

The NetEnforcer enables rapid customer provisioning with its superior GUIs for policy setting and integration with customer care and billing (CCB) systems and support for LDAP-based directories and text files. Save time by defining each customer only once in your customer care directory and NetEnforcer will automatically retrieve the subscriber's SLA type and apply the guaranteed minimum and maximum bandwidth limits.

### Intelligently Manage Over-Subscription

On many networks as little as 5% of the subscribers use up to 80% of the bandwidth. Use the NetEnforcer to discover and throttle these bandwidth abusers who download KaZaA and other P2P files that negatively impact your network's performance and profitability. Define policies that limit excessive consumption so you can safely over-subscribe your services.

Intuitive Java-based GUIs

The NetEnforcer has intuitive Java-based GUIs for securely editing and creating policies, configuring the device and monitoring traffic. Special emphasis has been placed on ease-of-use and ergonomics so you can quickly use NetEnforcer to rapidly provision subscribers and ease maintenance tasks that enforce multiple tiers of service.
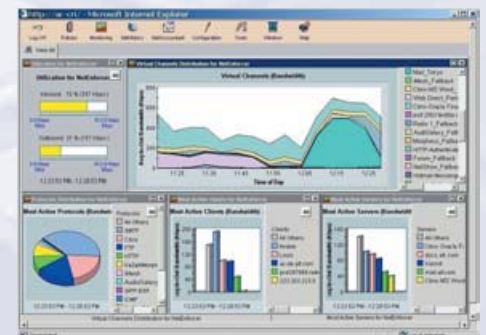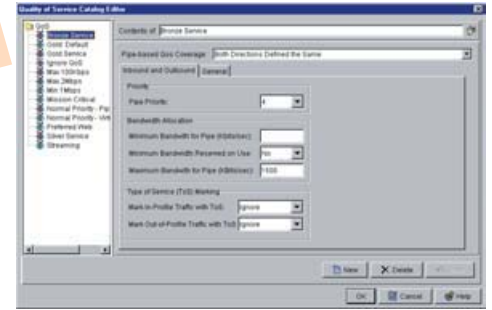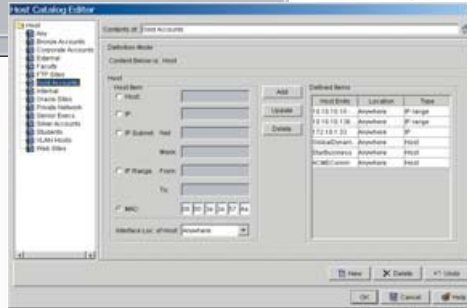
The Traffic Monitor
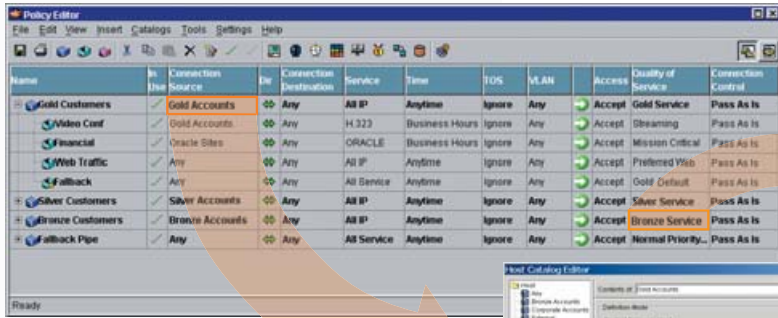
Policy Editor

The Policy Editor is used to set up QoS. Double-clicks conveniently launch editors for defining tiered services and hosts.

Multi-layer Policy Support

The NetEnforcer's multi-layer policy support was especially designed for the quality of service (QoS) needs of services providers. You can create a "Pipe" (super-policy) to define a customer and then define "Virtual Channels" (policies) that enable different levels of QoS for different types of traffic.

Monitor Network Activity

The Java-based NetEnforcer Traffic Monitor presents real-time macro and micro views of traffic and performance from a single, easy-to-read GUI.

The Virtual Bandwidth Monitor, available as part of the NetPolicy policy-based management suite, enables your customers to securely view their own bandwidth usage-by accessing bandwidth reports on your Web server.

The Virtual Bandwidth Monitor

Implement Application- and IP-Based Accounting

The NetAccountant software add-on for the NetEnforcer collects traffic data per session, gathering information on source address, destination address, application type and policy.

The NetAccountant Reporter uses the collected data to create tabular and graphical reports that assist in offering usage-based billing through third-party accounting tools from Allot partners. Reports can also be saved in a large variety of formats and customized by the service provider to give the reports their own corporate look-and-feel.
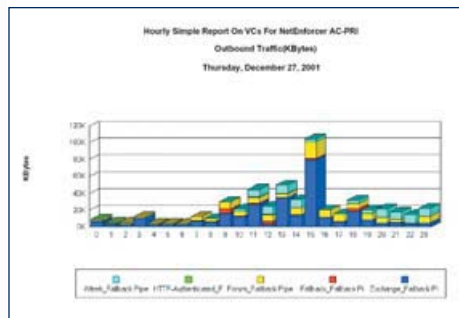

The NetAccountant Reporter

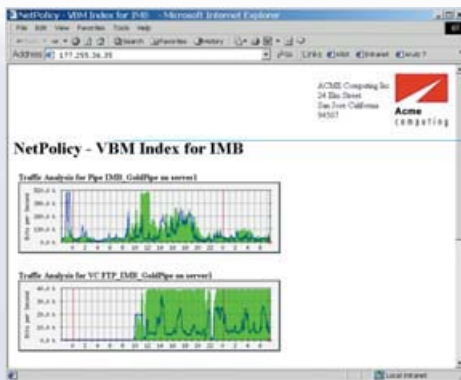### End-to-End QoS Delivery and MPLS Support

To achieve end-to-end QoS, NetEnforcer uses industry-standard Type of Service (ToS) and Differentiated Services (DiffServ) protocols. Based on its classification results, the NetEnforcer can mark the outgoing packets with DiffServ values such as "Assured" or "Best Effort" to signal the entire network of the desired QoS. You can also use the NetEnforcer as an edge device in MPLS networks for enhanced traffic classification and advanced monitoring and accounting.

DoS Protection

The NetEnforcer detects known types of DoS attacks and offers a first line of defense that enhances the performance of firewalls and internal network devices. By deploying NetEnforcer, you can monitor, record, and block malicious traffic flows and alert users of imminent attacks.

Secure Device Management

The NetEnforcer offers a dedicated management port that is physically separated from the ports that carry your subscribers' traffic. This prohibits unauthorized access to the device and enables out-of-band management.

LCD/Soft Key Configuration

An LCD and set of soft keys located on the front panel of the NetEnforcer speed the initial configuration of the device. Instructions on the LCD guide you through the process and all data is entered using the four-key keypad. The LCD also shows a variety of system status messages including the current inbound/outbound bandwidth.

Traffic Redirection Control (Optional)

The CacheEnforcer® and the NetBalancer® software add-ons enhance your network's performance by controlling traffic flows. The CacheEnforcer reduces WAN bandwidth consumption and simplifies caching administration in a single layout to manage multiple cache servers. The NetBalancer goes beyond traditional load balancing equipment by allowing you to define single policies that control both the prioritization of applications on the network and the distribution of those applications to servers.

Product Specifications

Interface Connections
- **AC-201:** Two 10/100BASE-T Half/Full duplex autosense Ethernet interfaces with RJ-45 connectors
- **AC-302/402/601:** Three 10/100BASE-T half/full duplex autosense Ethernet interfaces, including one management interface, all with RJ-45 connectors
- **AC-701/SP-C:** Two 1000BASE-T half/full duplex Ethernet interfaces and one 10/100BASE-T management interface, all with RJ-45 connectors
- **AC-701/SP-F:** Two 1000BASE-SX fiber interfaces with SC-type connectors and one 10/100BASE-T management interface with one RJ-45 connector

Traffic Classification (Per Flow)
- IP/MAC address (with IP range, list or subnet option, host name); retrieval via LDAP or text file
- Network protocols, IP protocols and applications
- Dynamic ports applications (e.g., H.323, FTP, AudioGalaxy, Oracle, RTSP and more)
- Application content for HTTP (URL, content type, method, host), Citrix (published application, user name), Oracle (database name, user name), and H.323 (audio/video, CODEC)
- Protocol Authentication (HTTP)
- VLAN (ID, priority)
- ToS byte - DiffServ or IP Precedence bits
- Time of day/week/month/year

QoS Enforcement
- Hierarchy of policy rules with outbound traffic management
- Minimum/maximum bandwidth enforcement per flow/VC/Pipe
- Ten levels of priorities for VCs/Pipes
- Per flow guaranteed bandwidth, burst rate, CBR (for connection)
- Maximum number of connections per VC/Pipe
- Fairness between traffic flows of equal priority
- Management for full/half duplex links
- Admission control
- ToS byte re-mark (in-profile byte/out profile bytes)
- "Reserve-on-Demand" bandwidth for very high priority traffic

Network Security
- Access control - pass/reject/drop
- Protection from Denial of Service (DoS) attacks
- Filtering by URL and file extension (e.g., for NIMDA worm)
- Control number/rate of connections

Cache Redirection and Load Balancing
- Policy-based connection control including cache redirection and server load balancing (optional software packages)

Configuration
- IP configuration and setup via integrated LCD and keypad
- Remote policy configuration via CLI or Web browser

QoS Policy Management
- Easy-to-manage, single-table view based on catalogs

- Easy expansion of VCs/Pipes to multiple hosts
- Policy distribution from primary NetEnforcer to other units

Monitoring and Accounting
- **Monitoring** - Protocol distribution, top clients, top servers, top VCs, top Pipes, VC/Pipe distribution, number and rate of connections, utilization, bandwidth usage with 30-second granularity and storage of historical data
- **Accounting** (via optional NetAccountant) - In-box accounting of traffic per session for all sessions; accounting using RADIUS server; powerful reporter; ODBC interface
- **SNMP** - Support statistics collection per VC/Pipe

Fail-Safe Performance
- Hardware bypass
- Full redundancy support (dual configuration with hot-standby)

Network Standards Support
- COPS, LDAP, DiffServ/ToS (RFCs 2474, 2475, 2597, 2598), IP Precedence (RFC 791), SNMP, RADIUS and ODBC

Browser Support
- MS Internet Explorer 5.01, 5.5, 6.0
- Netscape Navigator 4.7

Dimensions
- **AC-201/302/402:**
  Standard 1U by 19-inch, rack mountable
  (H) 1.73 in. [43.3 mm], (W) 17.22 in. [437.5 mm], (D) 11.5 in. [292.8 mm]
- **AC-601/SP and AC-701/SP:**
  Standard 2U by 19-inch, rack mountable
  (H) 3.46 in. [86.6 mm], (W) 17.22 in. [437.5 mm], (D) 11.5 in. [292.8 mm]

Weight
- **AC-201:** 10.3 lbs. (4.68 Kg)
- **AC-302/402:** 12.1 lbs. (5.50 Kg)
- **AC-601/SP:** 21.83 lbs. (9.92 Kg)
- **AC-701/SP:** 22.26 lbs. (10.12 Kg)

Power Requirements
- **Input:** 100-240V AC, 50/60Hz, 2A
- **AC-601/SP and AC-701/SP:** -48VDC (optional) and dual hot-swappable power supplies

Environmental Standards Compliance & Certification
- EMC Directive 89/336/EEC; EN60950; ETS 300 019-2-2; ETS 300 019-2-3; IEC-68
- FCC-Part 15 Class B; UL 1950
- VCCI: 2002 Class B emission requirements

Americas
250 Prairie Center Drive, #335
Eden Prairie, MN 55344
USA
Tel: (952) 944-3100
Fax: (952) 944-3555

Europe
World Trade Center
1300 route des Crêtes
BP 255
Sophia Antipolis Cedex
France 06905
Tel: 33 (0)4 92 38 80 27
Fax: 33 (0)4 92 38 80 33

Asia Pacific
9 Raffles Place
Republic Plaza #27-01
Singapore 048619
Tel: 65 6832 5663
Fax: 65 6832 5662

Japan
Nishi Ginza Bldg. 2F
5-5-9 Ginza Chuo-ku
Tokyo 104-0061
Tel: 81 (0)3 5537 7114
Fax: 81 (0)3 5537 5281

Middle East and Africa
5 Hanagar Street
Industrial Zone
Hod Hasharon 45800
Israel
Tel: 972 (0)9 761 9200
Fax: 972 (0)9 744 3626

www.allot.com
info@allot.com

Ordering Information

Part No.	Model	Bandwidth	Pipes	Policies	Connections
K102000	AC-201/10M	10 Mbps	256	2,048	12,000
K103020	AC-302	45 Mbps	1,024	4,096	64,000
K104020	AC-402	100 Mbps	1,024	4,096	96,000
K1060SP	AC-601/SP	100 Mbps	4,096	28,000	256,000
K107SPC	AC-701/SP-C	155 Mbps	4,096	28,000	256,000
K107SPF	AC-701/SP-F	155 Mbps	4,096	28,000	256,000

Allot
Communications ®

Empowering Networks for Business