Bandwidth Control Function

Efficient use of limited bandwidth and assuring response for mission-critical applications

- Allocate bandwidth by judging address, port #, applications or URLs
- Suited for VoIP applications or streaming applications (RTSP/RTP)
- Dynamically allocate bandwidth settings for dates, day of the week or time
- Bi-directional traffic control (BTC) achieves traffic control for inbound and outbound traffic.

QoS control for:
- DB/Application 50%
- Web 30%
- VoIP 20%

IPCOM S series

Even allocation of bandwidth

Network

IPCOM S1000/S1200

DB/Application server

Web server

VoIP
Traffic Monitoring & Analysis

Obtains traffic status, and supports bandwidth control setting

- support QoS (bandwidth control) policy creation, and make large reduction in introduction cost

Automatic detection of protocol & service in the network

Collected Information:
- Bandwidth usage
- Packet size distribution
- Protocol statistics
- Service/application statistics

Operation by bandwidth control policy

IPCOM S1000/S1200

traffic discovery function

obtain network status

Lifecycle on QoS control

traffic analysis

bandwidth control policy creation

IPCOM S1000/S1200
Link Load-balancing Function

- Distribution of bi-directional (outbound & inbound) traffic
- Supports various distribution method to select the most appropriate WAN
- WAN line status monitoring enables early detection of traffic route failure
- Stable line quality and highly reliable encryption communication provided by QoS control and IPSec-VPN function

[Diagram showing outbound and inbound load-balancing with IPCOM S1000/S1200]
Firewall Function

Protects internal network from illegal accesses

- Detection of illegal accesses and defense (discard) by access control
- Defense from service impairment (DoS/DDoS) attacks by IDP function
- Intranet protection by network address translation function

General users

Intrusion, or service operation impairment

Discard

IPCOM S1000/S1200

DMZ
VPN functionality for secure internet use

- Secure VPN environment by IPsec tunneling function
- High availability IPsec-VPN communication environment by 2 types of systems
  - Hub and spoke type, which connects branches through centers
  - Mesh type between branches
- Stable communication by avoiding path MTU problems using path MTU discovery function
- Quick restoration of communication by automatic recovery of SA at destination server reboot

* SA (Security Association) is a parameter definition required for IPsec communication.

IPCOM S1000/S1200
SSL-VPN Function

Low cost ‘anytime, anywhere’ connection solution for a secure traffic

- Special software not required at client. Low cost introduction and operation is enabled.
- By using encryption and authentication, secure remote access is realized on insecure networks such as internet.

SSL communication termination (decryption)
- Check access right to internal network based on client authentication / user authentication
- IPCOM connects to internal network on behalf of users

Achieves high security and convenience
Protect from the threat of tapping or tampering

IPCOM S1200
SSL Accelerator Function

Secure communication by Built-in SSL accelerator

- Improve performance of web servers by off-loading encryption / decryption processes of web servers to IPCOM
- Stable and highly reliable system with built-in SSL accelerator.
- Support SSLv2, SSLv3, and TLSv1

Diagram:
- Network
- SSL accelerator
- HTTPS (Encrypted data)
- HTTP
- Load-balancing
- Web server
- IPCOM S2000/S2200
Unit Redundancy Function

Resume communication by switching to standby unit when trouble happens on active side.

Monitoring each other by heartbeat message, while synchronizing connection and control information via synchronization path.

Method of monitoring other unit:
- Heartbeat
- Synchronization path monitoring
- Data synchronization

If trouble happens on active unit, service will be switched to standby unit and resumes a communication.
Operation Management

- Operation/Monitoring of IPCOM by a single PC
- Centralized monitoring by SNMP monitoring server
- Stores logging information (syslog) in an external server

**Operation status monitoring**

*Web browser* (QoS monitor function)

*Traffic monitoring* (Traffic detection function)

*Trouble monitoring* (Event monitor function)

**IPCOM S1000/S1200**