# Features & Specifications

## SSL VPN

### Capabilities

BiGuard S5
- Recommended for small organizations starting to manage remote Intranet access and seeking a solution of minimal IT investment for future expansion
- 5 concurrent user access, up to 20 user access*2

BiGuard S10
- Recommended for organizations with up to 50 employees
- 10 concurrent user access, up to 20 user access*2

BiGuard S20
- Recommended for organizations with up to 200 employees
- Concurrent user access: maximum 20

### Access Connections

- Network Extender
- Standalone Network Extender client
- Transport Extender
- Application Proxy
- Personalized Web Portal
- Single Sign-On (SSO)

### Applications & Management

- My Network Places (Web CIFS)
- SSL event log and monitor
- Citrix client
- Terminal services (RDP5, RDP6)
- File Transfer Protocol (FTP)
- Telnet
- Virtual Network Computing (VNC)
- Secure Shell (SSH) support
- Web based data (HTTP, HTTPS)
- Granular User Policy Management
- Supports mobile devices (Microsoft Windows Mobile 5.0 compatible)

### Security

- SSL encryption
- Web cache cleaner
- Local Database
- Digital Certificate
- Self-Signed Certificate
- User Access Control
- Authentication Domains: RADIUS, LDAP, Active Directory, NT Domain
- Host Security Checking

### Compatible Web Browsers*1

- Microsoft Internet Explorer 7.0 and newer versions
- Netscape 7.0 and newer versions
- Opera 9.0 and newer versions
- Firefox 1.5 and newer versions
- Safari 2.0 and newer versions
- Mozilla 1.7 and newer versions
- Sun JRE 1.3 and newer versions

### Supported Operating Systems*1

- Microsoft Windows, Linux, and Macintosh

## Firewall & Content Filtering

- Stateful Packet Inspection (SPI)
- Denial of Service (DoS) prevention
- Packet Filter
- Intrusion Detection
- URL Filter
- Java Applet/Active X/Cookie Blocking

## Quality of Service Control

- Supports DiffServ approach
- Traffic prioritization and bandwidth management based on IP protocol, port number and IP address

## Web-Based Management

- Easy-to-use web-based interface
- Firmware upgrade through web-based interface
- Local and remote management through HTTP and HTTPS
- Multi-language web interface
- Remote dial-in configuration (CLI for RS-232 port) (for BiGuard S20 only)

## IPSec VPN (only for BiGuard S10 and BiGuard S20)

- BiGuard S10 - 10 IPSec VPN tunnels
- BiGuard S20 - 30 IPSec VPN tunnels
- Manual key, Internet Key Exchange (IKE) authentication and Key Management
- Authentication (MD5 / SHA-1)
- DES/3DES encryption
- AES 128/192/256 encryption
- IP Authentication Header (AH)
- IP Encapsulating Security Payload (ESP)
- Dynamic VPN (FQDN) support
- Supports remote access and office-to-office IPSec connections

## Availability and Resilience (only for BiGuard S20)

- Load balancing
  - Traffic Management
  - Protocol binding
- Automatic failover and VPN failover

## Logging and Monitoring

- Centralized logs
- System log
- E-mail alerts and Intrusion logs
- System status monitoring

## Network Protocols and Features

- Static IP, PPPoE and DHCP client connection to ISP
- NAT, static routing and RIP1/2
- Dynamic Domain Name System (DDNS)
- Router mode
- Hardware DMZ
- SNTP
- Multi-NAT (for BiGuard S20 only)
- Virtual Server
- DHCP Server
- SNMP
- Transparent Bridging

## Hardware Specifications

### Physical Interface

BiGuard S5
- 1 x 10/100Mbps WAN port
- 4 x 10/100Mbps LAN ports (1 port configurable as DMZ)
- Power switch
- Reset button

BiGuard S10
- 1 x 10/100Mbps WAN port
- 4 x 10/100Mbps LAN ports (1 port configurable as DMZ)
- Power switch
- Reset button

BiGuard S20
- 2 x 10/100Mbps WAN ports
- 8 x 10/100Mbps LAN ports (1 port can be configured as DMZ)
- 1 x 10/100/1000Mbps Gigabit port
- 1 x RS232 Serial port
- Power switch
- Reset button

### Physical Specifications

BiGuard S5
- Dimensions: 19" x 6.93" x 1.65" (482 x 176 x 42mm with bracket) (250 x 176 x 33.8mm without bracket)

BiGuard S10
- Dimensions: 19" x 6.93" x 1.65" (482 x 176 x 42mm with bracket) (250 x 176 x 33.8mm without bracket)

BiGuard S20
- 1U rack-mount
- Dimensions: 15.35" x 7.44" x 1.73" (482 x 210 x 44mm with bracket) (390 x 210 x 44mm without bracket)

### Power Requirements

BiGuard S5
- Input: 12V DC, 1A

BiGuard S10
- Input: 12V DC, 1A

BiGuard S20
- Power Supply: 100 to 240V AC / 50 to 60Hz

## Operating Environment

- Operating temperature: 0 to 40°c
- Storage temperature: -20 to 70°c
- Humidity: 20 to 95% non-condensing

## Front and Rear Panels

▲BiGuard S5 Front Panel

▲BiGuard S5 Rear Panel

▲BiGuard S10 Front Panel

▲BiGuard S10 Rear Panel

▲BiGuard S20 Front Panel

▲BiGuard S20 Rear Panel

* Notes:
1. Please refer to http://www.billion.com/product/biguard/sslvpnbrowser.htm for updates of all supported browsers and OS platforms. Users are strongly recommended to register at www.biguard.com for updated firmware.
2. To be released. All the specifications are subject to change without prior notice.


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# BiGuard SSL VPN Security Appliance Series

**BiGuard S5**
SSL VPN Starter Pack

**BiGuard S10**
SSL/IPSec VPN Security Gateway

**BiGuard S20**
Dual-WAN SSL/IPSec VPN Security Gateway

In today's rapid and dynamic business environment, small and medium businesses (SMBs) have to be flexible and responsive to ever-changing issues in order to remain competitive. However, when it comes to IT infrastructure, SMBs often lack the budget and resources to implement IT solutions the way large corporations usually do. For SMBs it is even harder to manage remote access and security in a cost-effective way, especially when access to corporate resources is not limited to the same location, but includes mobile workers and partners in different locations. For these situations Billion's BiGuard SSL VPN Security Appliance series provide the perfect answer.


## Great Mobility and Productivity

Billion's BiGuard SSL VPN Security Appliance series integrate cutting-edge SSL VPN technology for small offices and SMBs to establish private encrypted tunnels, without VPN software pre-installation in client PCs, through the public Internet to securely access corporate resources from any location, such as a branch office, hotel, home, cyber café, or even a public kiosk. The BiGuard SSL VPN Security Appliance series offers industry-advanced SSL VPN applications such as Network Extender and supports a wide range of browsers, platforms and operating systems, providing remote users, mobile workers and external business partners with remote access to the corporate network to share files, check e-mail, and download documents as if they never left the office. A business traveler can log in via a mobile device like PDA, the SOHO or a graphic freelancer on Macintosh can even connect his Apple PC to customers' networks to remotely collaborate on a project. Secure remote Intranet access with BiGuard SSL VPN Security Appliance series is possible via any device from anywhere at anytime.

## Single Box Access Management Solution

Billion's BiGuard SSL VPN Security Appliance series is the world's first gateway series which fully integrates SSL VPN encryption as well as firewall and router functions in one box. It is very affordable for small and medium business operations. IT administrators no longer need to buy an extra device to manage remote Intranet access, nor install and maintain additional equipment for data security. The integrated router functions provide administrators with a perfect idea to manage all the connections and file sharing of remote access is easy just integrating into one BiGuard SSL VPN device. Instead of buying three independent networking devices, the fully integrated BiGuard SSL VPN series fulfills all your networking needs.

## Comprehensive Security

BiGuard SSL VPN Security Appliance series supports SSL encryption and authentication to ensure data transmission security and user authorization. The device supports SSL VPN concurrent sessions with remarkable performance. Simultaneously, Firewall, Stateful Packet Inspection (SPI), Denial of Service (DoS) prevention and URL filtering are all integrated to guard your network against malicious attacks. In addition the firewall features an e-mail alert service, activated whenever an attack occurs.

## Ease of Management

With the BiGuard SSL VPN Security Appliance series IT administrators can easily configure the gateway to control the resources and applications available to different groups of users. In addition, access policy, authorization, and authentication mechanisms can be set up as well. All this can be done through the easy-to-manage Personal Web Portal, which displays the applications by different groups of users.

## Scalability and Resilience

Dual WAN ports integrated into the BiGuard S20 for two broadband lines ensure optimal bandwidth sharing for multiple PCs in your office, or provide network redundancy in case one connection should fail. The load balancing feature is designed to provide the ability to balance the workload by distributing outgoing traffic across the two connections, and meet growing business needs requiring more bandwidth, network scalability and resilience for mission-critical or Internet-business applications. The auto failover feature can be configured for a second connection to assure redundant connectivity when the primary line fails.

## Flexible Platform

Both SSL VPN and IPSec VPN are well-known remote access solutions. They are not competing, but complementary technologies. Both the BiGuard S10 and BiGuard S20 offer IPSec VPN and SSL VPN capabilities together on a single platform. This combination provides excellent deployment flexibility to small business operations for meeting the requirements of any remote access users. The need for, and additional cost of, deploying separate, extra platforms for both SSL and IPSec VPN is eliminated.

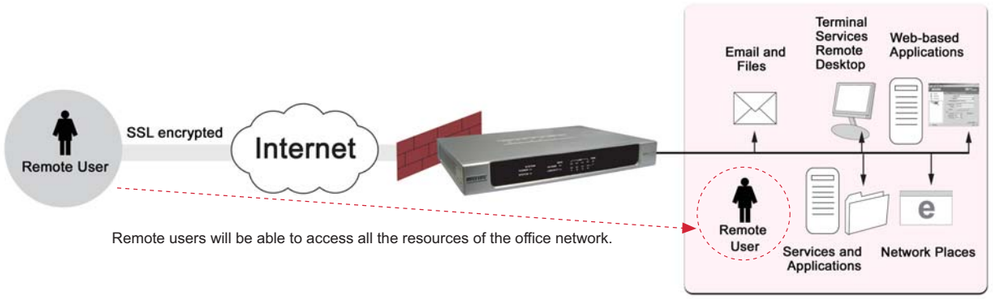
- SSL VPN gateway plus solid router functions
- Clientless connectivity
- Network / Transport Extender
- Windows / Linux / Macintosh supported
- Microsoft Windows Mobile 5.0 compatible mobile devices supported
- Granular Access Policy Management
- Personalized Web Portal
- Data encryption, user authentication and access control
- Host Security Checking
- Robust Firewall security
- Quality of Service Control
- Hardware DMZ
- IPSec VPN capabilities included (only for BiGuard S10 and BiGuard S20)
- Auto Fail-over and Load Balancing (BiGuard S20 only)

Powering communications with Security

# Technology & Applications

## Network Extender Technology

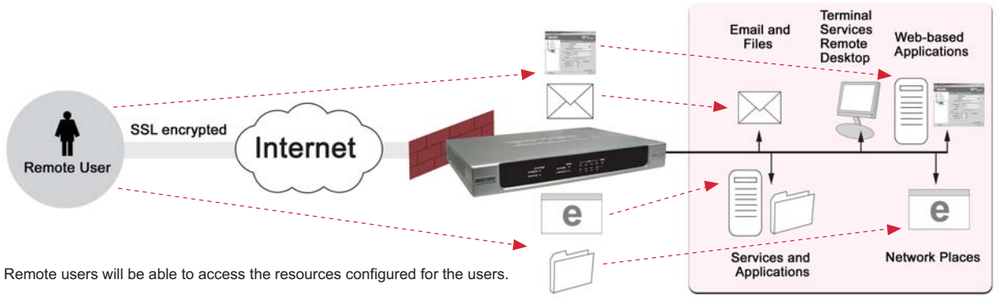
Virtually extending your connection to the central office network allows you to access your office resources seamlessly from anywhere — as if you'd never left the office. You can remotely access office files and applications through your computer, desktop or laptop, as if you were using a computer in your corporate network. A sales person on a business trip who needs to know the product inventory can use the Network Extender technology in BiGuard SSL VPN series, to connect to the corporate network and access the stock database to check, instead of phoning back to head office and asking.




Remote users will be able to access all the resources of the office network.

## Transport Extender Technology

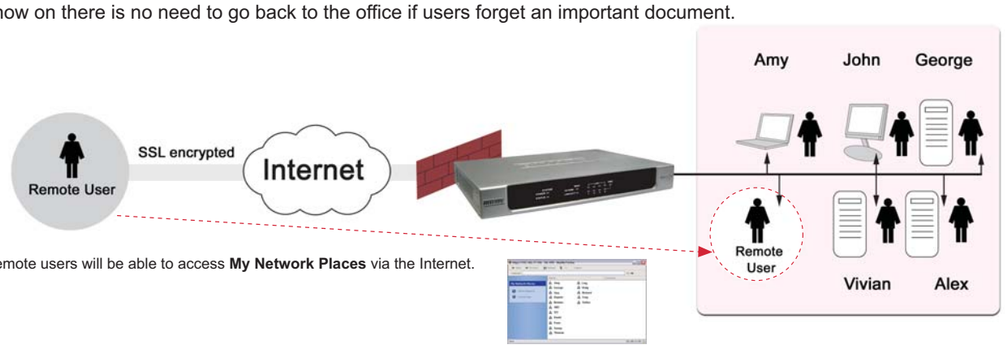
Enables specific remote users or specific remote groups of users to use the SSL VPN tunnel to connect to the corporate network to access the services as configured by IT administrators. Therefore the remote user does not have to change any specific settings in the web portal to make the service work. When a user remotely accesses MS Outlook e-mail, for instance, the Transport Extender technology will transport the e-mail service through the SSL VPN tunnel to the e-mail server in the corporate network, as configured by the IT administrator. Since the remote user doesn't have to modify any settings in the web portal, the remote user will feel as if they're using MS Outlook in the office.




Remote users will be able to access the resources configured for the users.

## My Network Places

Just like the Windows Network Neighborhood, My Network Places allows users to browse network files on the office network. From a home computer or PDA, users can connect directly to My Network Places and access information inside the office — from now on there is no need to go back to the office if users forget an important document.



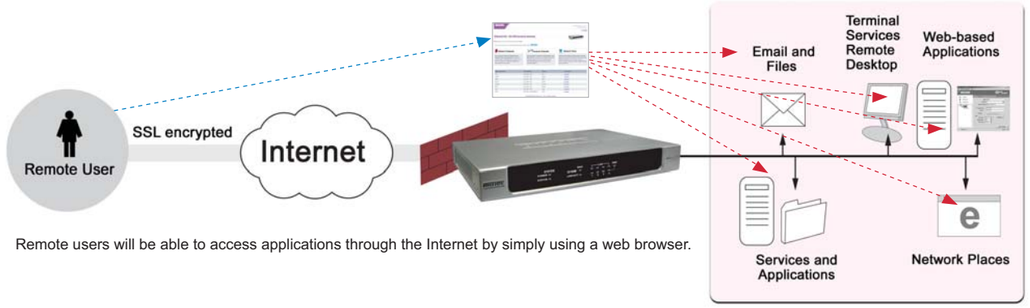

Remote users will be able to access **My Network Places** via the Internet.

## Application Proxy

Supports most commonly used applications through a web-based interface. The great advantage of the application proxy is that there is no need to pre-install any client software for the applications users intend to download and share.

The supported applications include:

- Remote desktop service such as Terminal Services (RDP5), VNC
- Web based data (HTTP, HTTPS)
- Remote control protocols: Telnet and SSH
- File Transfer Protocol (FTP)
- Network File sharing (CIFS)




Remote users will be able to access applications through the Internet by simply using a web browser.

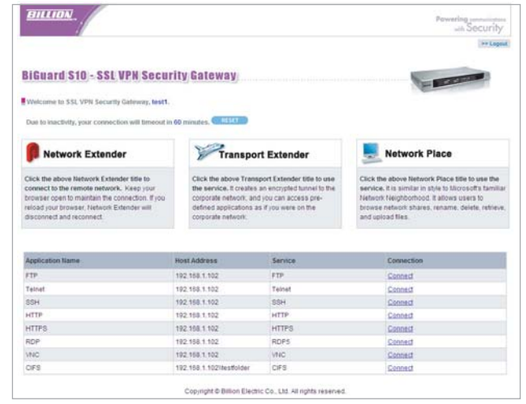
## Personalized Web Portal

### Easy Administration

Through the BiGuard SSL VPN series' web management interface, grouping users and customizing applications becomes quick and easy. The web portal interface enables administrators to configure the BiGuard S10 or BiGuard S20 and authorize application access to users according to different authorization levels. The Quick Start Wizard provides administrators with a simple step-by-step guide to create, manage, and delete SSL VPN user accounts for remote users. The BiGuard SSL VPN series also provides administrators with user-friendly tools such as SSL VPN logs to monitor remote users' access.

### Personalized Application Portal

Since the portal page is personalized for each individual, all the applications each individual is allowed to access are all shown via the web portal. A simply mouse click can start an application shown in the web portal. By using a standard web browser, remote users can access their personalized portal page.




**Notes:**

Some of the applications are available to Windows users only. The availability of applications and features stated varies according to browser and OS. Please refer to http://www.billion.com/product/biguard/sslvpnbrowser.htm for details.