Appendix B - User's Manual

Please see attached document(s).

SecuwayGate 100(Model : FGT100)

Install/Administrator Guide

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

INFORMATION TO THE USER

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.

WARNING

Modifications not expressly approved by the manufacturer could void the user's authority to operated the equipment under FCC rules.

SecuwayGate 100 Install/ Admistrator Guide

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SecuwaySuite 2000
SecuwayCenter 2000
SecuwayGate 2000
SecuwayGate 6000
SecuwayGate 1000
SecuwayGate 100
RenoGate
SecuwayClient 2000

These are registered trademark of Future Systems, Inc.

All other product names or company names mentioned herein might be property of their respective companies.

Future Security Solutions

Future Systems, Inc. is an Internet/network security solution specialized company and provides total security solution service such as network security equipment, security software, and security consulting Future Systems, Inc. provides the following Security systems.

SecuwaySuite 2000 consists of **SecuwayCenter 2000**, **SecuwayGate 2000**, **SecuwayGate 6000, Secuway Gate 1000, SecuwayGate 100, RenoGate** and **SecuwayClient 2000**, which are interlinked with each other to provide VPN and firewall features. **SecuwaySuite 2000** is designed to have a low possibility that a source of threat with a medium level of expert knowledge, resources and motivation will discover vulnerabilities that can be abused, and a medium degree of security strength against attackers with a medium level of expert knowledge, resources and motivation. The following is a brief description of each product

SecuwayCenter 2000

SecuwayCenter 2000 is a total security management system that sends the security information via online and supports real time management working together with **Secu wayGate 2000, SecuwayGate 6000, SecuwayGate 1000, SecuwayGate 100, RenoGate, SecuwayClient 2000.**

SecuwayGate 2000

SecuwayGate 2000 is a hardware based security system that integrates security key solutions like VPN, Firewall, and intrusion detection system to minimize the overload of network speed due to adding the security system.

SecuwayGate 6000

SecuwayGate 6000 is a specialized hardware-based security system facilitated with the integrated features of VPN, firewall, and network intrusion detection. **SecuwayGate 6000** is a high-speed, high-capacity device specially designed for a large enterprise network in order to minimize the deterioration of network performance caused by the overload of the integrated security features.

SecuwayGate 1000

SecuwayGate 1000 is a hardware based security system that integrates security key solutions like VPN, Firewall, and intrusion detection system to minimize the overload of network speed due to adding the security system.

SecuwayGate 100

SecuwayGate 100 is a hardware based security system that integrates security key solutions like VPN, Firewall, and intrusion detection system to minimize the overload of network speed due to adding the security system.

RenoGate

RenoGate is a specialized hardware-based security system facilitated with the integrated features of VPN, firewall, and network intrusion detection. **RenoGate** is specially designed for a small enterprise network to provide optimal security and network management features while minimizing the deterioration of network performance caused by the overload of the integrated security features.

SecuwayClient 2000

SecuwayClient 2000 is security software that provides the system security and network communication security for Desktop PC and Note PC.

User Requirements and Cautions

Administrators who are authorized to use **SecuwayGate 100** must have no malicious intention. To be a qualified **SecuwayGate 100** administrator, you must have been trained to understand the administrative features of **SecuwayGate 100** and to perform various administrative tasks according to the instructions provided in this guide. Such administrative skills fundamentally require solid background knowledge and related experiences in secure networking environment, including computer, network terminology, security and general software installation procedures. If you are not familiar with using computers and/or security systems, please consult the Future Systems, Inc. or other experts about the installation and operation of **SecuwayGate 100**.

- **Password Security**

  A **SecuwayGate 100** administrator must change all of the passwords set in **SecuwayGate 100** at least every 12 month. Any personal information related to the administrator must not be included in the password. Passwords must not be shared with others or written down anywhere.

- **Access to this Document**

  It is strongly recommended to provide limited access to this guide, only to those who are authorized to manage network security or perform security related tasks. Special attention needs to be paid in the management of this document to prevent a user with malicious intention from misusing this document to acquire information for intruding the network and system resources.

- **Physical Security**

  SecuwayGate 100 must be installed in a physically secure environment, to where only authorized network security support staff has access. When selecting and maintaining such environment, the overall network stability, system stability against outside

intruders, and physical safety from external environmental factors must be considered

- **Maintain Security Policy**

  Whenever there is a change in the existing network environment (e. g. a modification of the network configuration, an increase or decrease of new hosts, etc.), you need to reflect the change immediately to the existing security policies of **SecuwayGate 100** to keep the equivalent level of security policy.

- **Single Connection Point for Secure Communication**

  All communication between the internal network and the external network must be controlled by **SecuwayGate 100**. Otherwise, the effect of the key security features such as VPN, firewall, and IDS, cannot be guaranteed.

- **Check the Validity of Certificate**

  The digital certificate of the **SecuwayGate 100** must be issued by **SecuwayCenter 2000** or by the Certificate Authority. Be sure to check the validity of all keys and digital certificates before you use them.

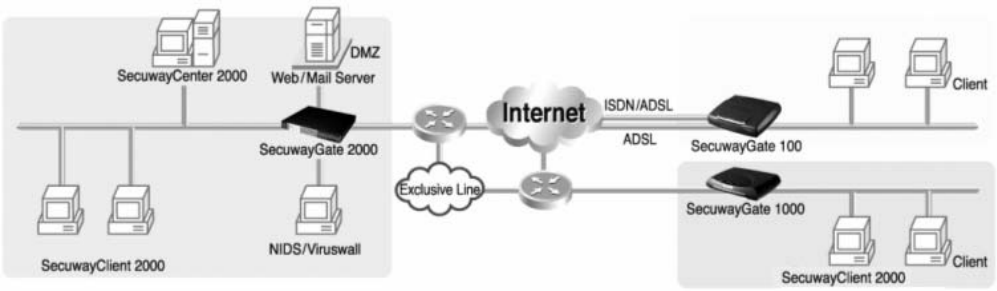
- **Operation Modes - SecuwayGate 100**

  SecuwayGate 100 can be operated in Initial, Normal, Administrator, or Error mode. Initial mode refers to the state in which the **SecuwayGate 100** administrator has initialized **SecuwayGate 100** using the smart card or file issued from **SecuwayCenter 2000**. Normal mode refers to the state in which all the functions are working properly after a set of security policies as been received from the **SecuwayCenter 2000**. Administrator mode is used to backup the audit log file or to stop and restart **SecuwayGate 100** during the normal operation mode. Error mode refers to the state in which **SecuwayGate 100** is not working properly, due to a program error or other problems.

SecuwaySuite 2000 Configuration Example

SecuwaySuite 2000 configures **SecuwayCenter 2000 SecuwayGate 2000/6000/1000/100**, **RenoGate, SecuwayClient 2000** like the following to provide the various security solutions.

- Intranet Server security
- Server access control by each Client and User authentication.
- Protect the intra network from extra network using intrusion detection.
- Provides the security for Mobile user and SOHO user.



Before You Begin

This Guide describes how to operate and manage the **SecuwayGate 100** system. The following explains what you need to know about reading this guide.

Who Should Read This Guide

This user guide is intended for users who have a fundamental understanding of computers, network terminology, security and general software installation procedures. If users are not familiar with computers, or security systems, please consult the Future Systems, Inc. or other experts about the installation and operation of this system.

About This Guide

This guide includes the overview, operation, and management of **SecuwayGate 100**. It has been organized according to the order of the job sequences so that you can also easily find and read only the most relevant section.

To install and operate **SecuwayGate 100**, users should refer to this guide, even if users are familiar with other security system similar to **SecuwayGate 100**.

CAUTION

Should you encounter any problems using **SecuwayGate 100**, consult your product distributor and let an expert help you.
If you encounter any problems or the product is damaged, please contact your product distributor.

Conventions Used In This User Guide

This user guide uses the following conventions to present information.

Caution and Note

Caution and note marks in this guide have the following meanings respectively:

CAUTION A Caution indicates that failure to follow the directions could result in damage to the **SecuwayGate 100** system or cause the malfunction of **SecuwayGate 100**.

NOTE A Note provides helpful tips on easy use of various functions for the **SecuwayGate 100** system.

Contents of Administrator Guide

This guide consists of 6 chapters. Basically this guide is organized according to the order of each job sequence from a general summary to the actual use of the program. You may choose and read any appropriate sections first.

To use the **SecuwayGate 100** system properly, sequential reading of this guide is recommended. However, for users who only want to read individual sections, each chapter is summarized as follows.

Chapter 1 **SecuwayGate 100 Overview** introduces the features and the specifications of **SecuwayGate 100**, and describes LED's and ports on the front and the rear side of the system.

Chapter 2 **SecuwayGate 100 Installing** describes procedures to install **SecuwayGate 100**.

Chapter 3 **SecuwayGate 100 Connection Examples** describes by examples how to connect **SecuwayGate 100** to provide various security functions.

Chapter 4 **Operating SecuwayGate 100** describes procedures to operate **SecuwayGate 100**.

Chapter 5 **Console Commands** describes console commands that can be used when connecting to the console port of **SecuwayGate 100** or when configuring **SecuwayGate 100** to allow telnet connection.

Chapter 6 **Upgrading Firmware** describes how to upgrade the firmware of **SecuwayGate 100**.

Appendix **Q&A About SecuwayGate 100** answers the frequently asked questions about the problems encountered while operating **SecuwayGate 100**.

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Chapter 1
SecuwayGate 100 Overview

SecuwayGate 100 maintains its original network speed with special hardware exclusively made for security purpose, which integrates the key security features (e.g. VPN, firewall, and network intrusion detection) and the exclusive system developed by Future System Inc. In addition, it outperforms the existing **SecuwayGate 100,** which uses the proxy, by adopting the hardware-based state analysis mechanism, and therefore can be securely applied to a medium site with over 6,000 concurrent sessions.

1.1 SecuwayGate 100 Features

SecuwayGate 100 has the following functional features:

A hardware based security system

SecuwayGate 100 is a specialized hardware based security system that not only enables physical equipment protection and internal security information but also provides a virtual private network(VPN). It is designed to minimize any overload in the speed of the network due to the addition of the security system.

Integrates key security functions

SecuwayGate 100 consists of fundamental security equipment that integrates firewall functions, packet authentication and encryption, preventing intrusions from external networks, a virtual private network (VPN), network monitoring, and a network intrusion detection system (NIDS).

Supports various encryption/authentication algorithms

For enhanced communication security, **SecuwayGate 100** supports various encryption algorithms (e.g. AES, SEED, 3DES.) and user authentication algorithms (e.g. HMAC-SHA1, HMAC-HAS160).

Access Control

As the Internet has developed on a foundation of openness to all, access control plays an important role in the access and protection of restricted information. Access control is a basic function of any firewall system, which inspects the packets that are sent to the intranet. Only authorized packets are allowed to access permitted services, or access the user's network, and all unauthorized packets

are blocked.

Stateful Inspection (Packet filtering with condition analysis)

SecuwayGate 100 does not filter packets by simply applying rules to packets being sent and received. It intelligently filters packets by the use of a state table that manages changing sessions according to the network condition.

URL, Content, FTP and SMTP Filtering

SecuwayGate 100 can control access from specific sites or application programs according to the security policy. This function prevents both unauthorized intrusions from any external network and the unauthorized exposure of information on the internal network.

NAT

The **SecuwayGate 100** NAT function enables the internal IP address to be hidden from other external networks. It also enables unofficial IP addresses to be used as official IP addresses by converting these IP addresses and ports when there is a shortage of official IP addresses. This function enables the administrator to manage IP addresses more efficiently.

Easy Installation

You can automatically install and configure **SecuwayGate 100** by simply inserting the initial setup smart card issued from **SecuwayCenter 2000** into **SecuwayGate 100.**

Multi/ Black Zone ports

Besides the ports connected to the internal and external networks, **SecuwayGate 100** provides two additional ports: Multi port and Black Zone port. Multi port may physically separate the internal network from the external network to control the incoming and outgoing packets according to a set of security policies. Black Zone port is used for network monitoring purpose. All packets received at the Black Zone port are transmitted to the IDS (Intrusion Detection System) to enable statistical analysis of the packets.

High Availability

SecuwayGate 100 allows you to implement Active/Standby Failover feature between the devices, eliminating the need to bring a separate network device to implement a fault tolerant system.

ADSL-level Load balancing

SecuwayGate 100 supports load balancing and failover between two WAN lines.

Server-level Load balancing

SecuwayGate 100 supports NAT-employed Server Load Balancing to control the system loads between the target servers.

Multi WAN link support

SecuwayGate 100 not only supports general WAN, ADSL, wireless modem, and PSTN environment, but also acts as a DHCP client, which enables you to install **SecuwayGate 100** in a cable modem environment.

Tamperproof function: Patent No. 0314409 (Only Type 4-port)

As a protective security feature, a tamperproof function is facilitated in **SecuwayGate 100**. When an unauthorized agent attempts to disassemble the **SecuwayGate 100** system, the tamperproof function identifies it as a malicious security intrusion attempt and purges all security related information automatically.

1.2 SecuwayGate 100 System Specifications

1.2.1 Hardware Specifications

The table below gives the hardware specifications of **Secuway Gate 100**.

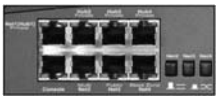
CPU	Architecture	IBM PPC	
Main Memory		SDRAM 32 MB(Upgradable up to 128MB)	
ROM		Flash ROM type 16MB	
LAN	Spec.	IEEE/ANSI 802.3 (CSMA/CD)	
	Speed	10/100Mbps Full duplex,	
	Interface	TCP/IP, 10/100BASE-TX, RJ-45	
	Port	·Type 3-port(Private, Multi, Public) ·Type 4 -port(Private, Multi, Public, Black Zone) ·Type 7 -port(Private<4ea>, Multi, Public, Black Zone)	
Consol e port	Speed	38,400 bps	
	Interface	RJ-45 (RS-232C)	
LED		·Type 3-port(Power, Alarm, Secure, Admin, Net1, Net2, Net3) ·Type 4-port(Power, Alarm, Secure, Net1, Net2, Net3, Net4) ·Type 7-port(Power, Alarm, Secure, Hub, Net1, Net2, Net3)	
Real Time Clock		Built-in	
Buzzer		Built-in	
Battery		Built-in	
Dimension		294X215X68[mm] (HeightxWidthxDepth)	
Power		External	85~264V
		Internal	DC 3.3V (15A MAX) DC 5V (2A MAX)
		Power usage	15 W (typical)
Physical security		Tamperproof (Only Type 4-port)	
Emergency Erase Switch		Support	
Encryption accelerator		Equipped with a specialized encryption ASIC chip	

board	(Optional)

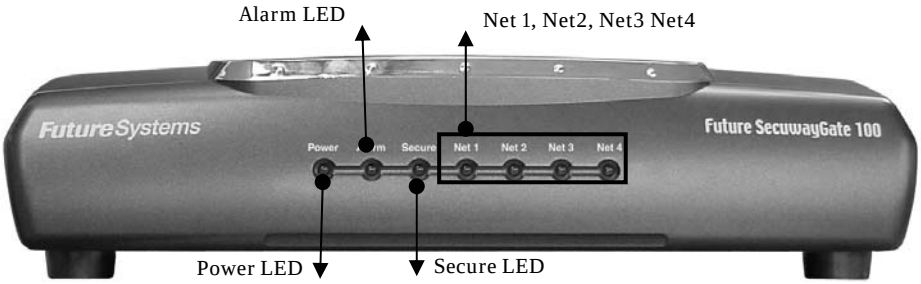
1.2.2 Front and Rear Side of SecuwayGate 100

This section describes LEDs and ports on the front and rear side of the **SecuwayGate 100** module.

Devices for **SecuwayGate 100** are divided into 7-port and 3-port, 4-port. ❸The 7-port device is composed of Hub1 ~ Hub4 and Net2 ~ Net4 ports, while ❷the 4-port device has Net1 ~ Net4 ports and ❶the 3-port device has Net1~Net3 ports.

	❶3-port	❷4-port	❸7-port
Front			
Rear Side			

Front Side of SecuwayGate 100



(Type 4- port)

- **Power LED**

  The Power LED is green while the power supply for **SecuwayGate 100** is normal.

- **Alarm LED**

  The Alarm LED may light on before installation or during operation. When the Alarm LED is on before installation, that is, before inserting the smart card for initial configuration, this means that there is no configured security information. The Alarm LED will turn off after initial configuration. When the Alarm LED is on during operation, this signals abnormal operation due to defective **SecuwayGate 100** hardware. For example, when the battery for saving internal information in **SecuwayGate 100** is depleted, the Alarm LED lights on. In this case, **SecuwayGate 100** will operate properly even if the Alarm LED is on, as long as the power is supplied. However, once the power is turned off and turned on again, **SecuwayGate 100** will not operate properly since internal security information has not been saved, and cannot be saved. If the Alarm LED is on during operation, contact the service center or your product provider.

- **Secure LED**

  When the Secure LED is green, this means that **SecuwayGate 100** internal Security information is properly saved, and that the intrusion interruption function and the virtual private network function are available. The Secure LED does not come on before installation, and only lights when the initial configuration is completed using the smart card for initial configuration. If the emergency erase switch is pressed, this deletes the **SecuwayGate 100** internal Security information, which turns off the Secure LED.

- **Admin LED (Only 3-port)**

  The Admin LED is on when **SecuwayCenter 1000** is in operation. **SecuwayGate 100** may receive changed Secure information from **SecuwayCenter 1000**, or **SecuwayCenter 2000** may transmit messages to **SecuwayGate 100** in order to periodically check its status. The Admin LED is on when **SecuwayGate 100** communicates properly with **SecuwayCenter 1000**. Since the Admin LED is not always on,

but intermittently blinks when transmitting or receiving information, the administrator may not notice its activity.

- **Net1, Net2, Net3, Net4 LED**

The Net LED represents the current state of the communication that occurs through **SecuwayGate 100**. Each Net LED blinks during the communication if the incoming and outgoing packets are transmitted at the moment. There are 4 Net LEDs, and each of the LED is connected to the Net1 port (Private), Net2 port (Multi), Net3 port (Public), or Net4 port (Black Zone), on the back.

- Type 3-port

Front-side LEDs		Rear-side Ports
Net1	↔	Private
Net2	↔	Multi
Net3	↔	Public

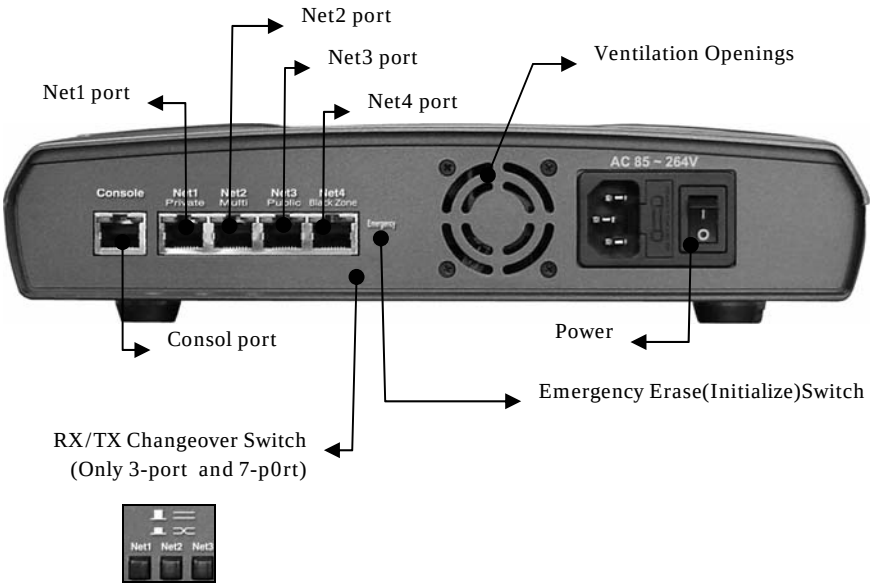
- Type 4-port

Front-side LEDs		Rear-side Ports
Net1	↔	Private
Net2	↔	Multi
Net3	↔	Public
Net4	↔	Black Zone

- Type 7-port

Front-side LEDs		Rear-side Ports
Net1	↔	Private(Hub1~Hub4)
Net2	↔	Multi
Net3	↔	Public
Net4	↔	Black Zone

Rear Side of **SecuwayGate 100**



(Type 4-port)

Console Port

The Console Port is a serial port for debugging or management purposes. You can connect to **SecuwayGate 100** using the serial communication program (HyperTerminal). To connect using the HyperTerminal program, select the communication port to connect in the terminal mode, set the Bits Per Second field to “38400”, and set the Flow Control field to “Does not exist.”

Communication Ports

- **Net1 Port (Private Port)**

  The Net 1 port is used to connect the internal network you wish to protect. Connect the server or network equipment such as switching equipment and the hub(s) you want to protect, to this port

- **Net2 Port (Multi Port)**

The Multi port physically separates the intranet from the external network and is usually used to connect a web server, FTP server or mail server which is open to the public. If the Multi port is connected to a web server, you can prevent unnecessary access to the intranet from the external network by applying the security policy so that access is only allowed through port 80.

- **Net3 Port (Public Port)**

The Net 3 port is used to receive packets from an external network or the Internet. The IP address of this Net 3 port (Public port) is used as the **SecuwayGate 100** IP address which a user on an external network uses to connect to the intranet. Network equipment connected to the external network, such as a router or switching equipment, can be connected to this port

- **Net4 Port (Black Zone Port)**

Black Zone port is used for network security monitoring. If you set the Net4 port of the **SecuwayGate 100** to be used as Black Zone port in the **SecuwayCenter 2000** console, **SecuwayGate 100** copies all the inbound and outbound packets of the Net1 and Net3 ports to the Net4 port.

The IDS solution connected to the Net4 (Black Zone) port statistically analyzes the packets received from the Net4 port and reports the results. If the IDS solution found a packet that contains an illegal intrusion or an access attempt from a harmful site, the IDS system immediately sends a request to **SecuwayGate 100** to disconnect the session.

NOTE For an example of how to set the IDS system, refer to "3.7 IDS".

Power

Standard input voltage is AC 85~264V (Free Voltage), and standard power consumption is 25W.

Ventilation openings

Ventilation openings are used to cool the internal temperature of the **SecuwayGate 100** due to the heat generated inside. Make sure that the openings are not blocked by other equipment or devices.

Emergency Erase(Initialize) Switch

The Emergency Erase Switch deletes internal key information in case of emergencies and restores the factory setting. However, the Emergency Erase Switch looks similar to the General Reset Button on the network equipment hardware, which erases all internal key information. Therefore, it has to be handled with care. Once the information is erased by pressing emergency erase switch, the **SecuwayGate 100** has to be configured again with the smart card for initial configuration. In order to intentionally delete security information configured in **SecuwayGate 100**, the Emergency Erase Switch has to be pressed while no power is supplied.

RX/TX Changeover Switch

Using this switch, you can conveniently connect cables to the Net port regardless of their types (direct cable or cross-over cable).

Chapter 2
SecuwayGate 100 Installing

『Chapter 2. Installing **SecuwayGate 100**』 describes ways to install **SecuwayGate 100** and cautions for installation. There are two ways to install the **SecuwayGate 100** using **SecuwayCenter 2000**: through a smart card or a file issuance.

2.1 Instructions for SecuwayGate 100 Installation

Please follow the instructions below to install **SecuwayGate 100**.

- Make sure to turn the power off and disconnect all communication cables and power cords before moving **SecuwayGate 100**.
- Do not install **SecuwayGate 100** at a location exposed to direct sunlight, wetness or any moisture.
- The power cord for **SecuwayGate 100** is designed for use with a grounded plug, so ensure that it is connected at a safe place where it is out of reach or touch.
- Only authorized personnel are allowed to disassemble **SecuwayGate 100** since it might discharge an electrical shock. If the housing case of **SecuwayGate 100** is removed, the TamperProof function activates and all security information is deleted. All normal operations of **SecuwayGate 100** will cease.
- Only the administrator responsible for the maintenance of **SecuwayCenter 2000** is authorized to manage the internal settings of **SecuwayGate 100**. No general user can change or edit any internal settings of **SecuwayGate 100.**.
- The internal and the external networks must be connected through **SecuwayGate 100**.

You can set up **SecuwayGate 100** by issuing the smart card or setup file.

- **Installation Option 1 - Smart Card**

First, register **SecuwayGate 100** in **SecuwayCenter 100,** and save the initial setup information in a smart card. Then insert the smart card into **SecuwayGate 100**.

- **Installation Option 2 – Setup File**

  First, register **SecuwayGate 100** in **SecuwayCenter 2000,** and save the initial setup information in a file. Then apply the file to **SecuwayGate 100**.

2.2 Verifying SecuwayGate 100 Integrity

All **SecuwayGate 100** products are tightly sealed when shipped. Upon delivery, the administrator must verify that the seal is not broken.

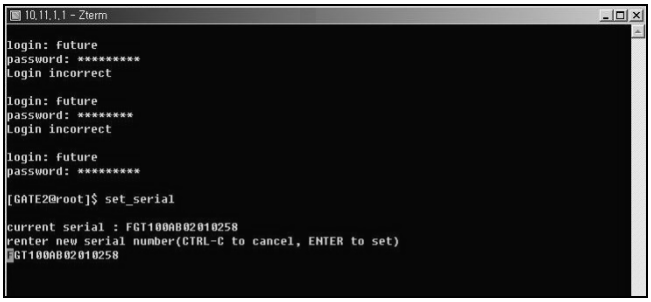
Also verify that the serial number written on the **SecuwayGate 100** package is identical to the one attached on the bottom of **SecuwayGate 100** device.

Package of **SecuwayGate 100**

bottom of **SecuwayGate 100**

Check the serial number recorded in the flash ROM after you boot **SecuwayGate 100**. The following procedures explain how to check the serial number recorded in the flash ROM.

1. Connect **SecuwayGate 100** to the administrator's PC using the console cable included in the package.
2. Start HyperTerminal program to log in to **SecuwayGate 100**. Enter the login ID and password registered in **SecuwayCenter 2000**. However, if you login for the first time, you only need to type in 'admin' for the login account.
3. Type 'set_serial' command. The serial number is displayed.



If the three serial numbers found on the package, on the rear panel,

and in the flash ROM of **SecuwayGate 100** are not identical to each other, security of the product is deemed violated. In this case, contact the **SecuwayGate 100** distributor for assistance.

2.3 How To Install Using a Smart Card

As a component of **SecuwaySuite 2000**, **RenoGate** can be installed along with **SecuwayCenter 2000**. The process of installing **RenoGate** using **SecuwayCenter 2000** is divided into the following three steps:

NOTE There is only Security Administrator account on each **RenoGate**.

- **Step 1. Connecting RenoGate Cable**

  Connect the internal and external network with a cable. Depending on the type of cable, select the switch to either direct or cross cable.

- **Step 2. Configuring Key By Inserting Smart Card For Initial Configuration**

  To complete configuration, insert the smart card for initial configuration, which has been issued by **SecuwayCenter 2000**, into **Renogate**. The smart card for initial configuration is issued by the administrator of **SecuwayCenter 2000**, and it includes configuration information. It is sent to the administrator of **RenoGate** for installation purposes.

  Since the configuration step is automatically performed once the smart card is inserted in **RenoGate**, additional external hardware operations of **RenoGate** is not necessary during installation.

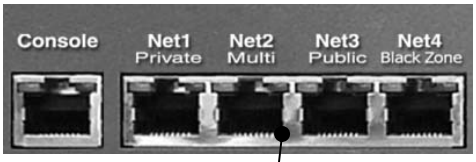
- **Step 3. Checking that the Installation is Complete**

  Checking that installation is complete can be done through the LED status of **SecuwayGate 100**. Also verifications can be made through check messages from **SecuwayCenter 2000**, checking that the security policy is transmitted by the information of the field, or checking after selecting the status information.

2.3.1 Connecting SecuwayGate 100 Cable

1. Connect the power supply to **SecuwayGate 100** and turn its switch on.

2. Check whether the LED above the port is lighted in yellow or green in order to make sure that it has normal physical connection with the other equipment. If no LED lights up, adjust the port selection switch.



The LED is lights up orange when connected to 10Mbps LAN, and green when connected to 100Mbps LAN

The cable type selecting switch supports all the ports from Net1 port Private to Net4 port Black Zone. When the switch is pressed, you can connect a crossover cable, and if it is not, you can just connect a general LAN cable as you do with usual network equipment.

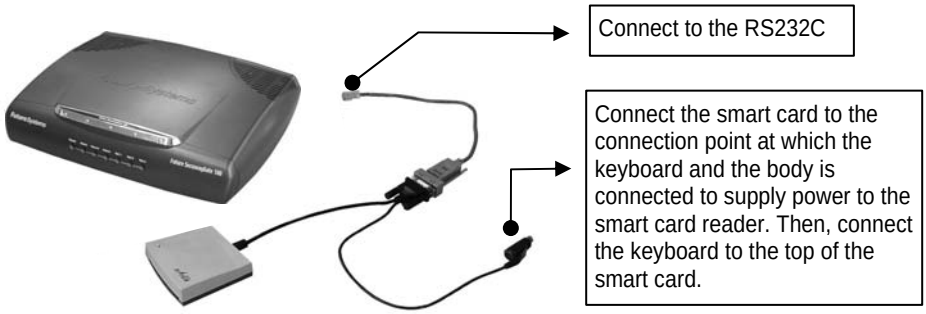
NOTE

If the LED does not light up even after adjusting the port selection switch, that means the system is not normally connected to the other equipment or there is an error in the cable. Therefore, you should check the connection status or replace the cable.

2.3.2 Inserting Smart Card

The following sequences describes how to do the initial setup of **SecuwayGate 100** by inserting the smart card issued by **SecuwayCenter 2000**.

1. As **SecuwayGate 100** has no built-in smart card reader, you need to connect an external smart card reader to the console port, in order to read the smart card issued by **SecuwayCenter 2000**.



CAUTION As **SecuwayGate 100** has no built-in smart card reader, you need to connect a smart card reader to the console port using a connection cable manufactured separately.

2. When **SecuwayGate 100** correctly reads the smart card, a buzzer sound is emitted and the safety LED turns on. After the reading has been completed, rebooting occurs automatically and the power LED turns off and on.

3. After **SecuwayGate 100** reboots, it attempts to communicate with **SecuwayCenter 2000** and download the security policy and any related information.

NOTE

To Check whether **SecuwayGate 100** is operating normally, **SecuwayCenter 2000** must be installed because **SecuwayGate 100** interacts with **SecuwayCenter 2000**, the security management center.

For information on setting up **SecuwayGate 100** from **SecuwayCenter 2000**, refer to the **SecuwayCenter 2000** Administrator Guide.

2.3.3 Checking Installation

By checking the front LEDs, you can confirm whether the **SecuwayGate 100** installation is completed.

- **Before Installation**

  The Power LED at the front lights up green.
  The Alram LED at the front lights up red.

- **After Installation**

  Both of the Power and Secure LEDs light up green.

  If a cable is connected to a port at the rear, the corresponding Net LED flickers or lights up.

Another method of confirming the connection status is to send a test message from **SecuwayCenter 2000** and see if there is a response. You can also confirm the successful installation of **SecuwayGate 100** by viewing the contents of the field to see if the security policy has been transmitted or by viewing the status information.

2.3.4 Procedures to re-load smart card information into SecuwayGate 100 during operation

There may be an instance when the smart card information has to be read again while **SecuwayGate 100** is in operation, or a smart card issued for another **SecuwayGate 100** has been inserted and loaded. In this case, the existing **SecuwayGate 100** configuration needs to be erased, and the new smart card information needs to be loaded.

To erase the security configuration, turn off **SecuwayGate 100**, press the emergency erase switch for 4 to 5 seconds, and turn on the system. Insert the correct smart card.

SecuwayGate 100 does not automatically read the information of any inserted smart card for initial configuration, if it is already configured.

2.4 How To Install Using File Issuance

When importing initial setting information into **SecuwayGate 100**, you can use a file issued from **SecuwayCenter 2000** instead of using a smart card. If you connect a hyper-terminal program to **SecuwayGate 100** and send the file, **Secuway Gate 100** will be completely installed.

NOTE There is only Security Administrator account on each **SecuwayGate 100**

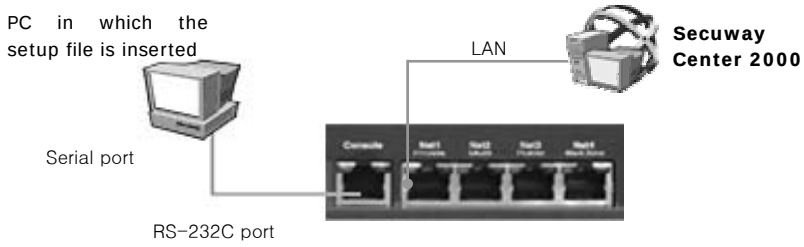
2.4.1 Running Hyper Terminal Program

Issue the **SecuwayGate 100** setup file from **SecuwayCenter 2000** and save it on a diskette. Insert the diskette into **SecuwayGate 100** and connect **SecuwayGate 100** to your PC using the Hyper Terminal to apply the file

- Running Hyper Terminal

Connect the console's connector to the serial port on the PC and then to the RS-232C port of **SecuwayGate 100** (using a LAN cable) as shown in the following figure.

Connect the actual network or **SecuwayCenter 2000** directly to the port, which will be connected to **SecuwayCenter 2000**. Once the initial setup is completed, be sure to receive the security policies from **SecuwayCenter 2000**.



After the connection is established run the Hyper Terminal program in the PC, where you inserted the initial setup file.

2.4.2 Imprting File into SecuwayGate 100

1. After running the hyper-terminal, enter the password as shown below to log on to **SecuwayGate 100**. When successfully connected, run " import init."

```
login: admin

[GATE2@root]$ import init
WARN: Load Gate init Configuration!! Continue(y/n)?
```

CAUTION The **SecuwayGate 100** will only accept 3 failed login attempts for the Security Administrator account, and will the deny login attempts for a period of five minutes.

CAUTION When the **SecuwayGate 100** Security Administrator account is inactive for 2 minutes, then it will logoff automatically. This functionality can be disabled by the Security Administrator for that **SecuwayGate 100,** if required.(see "sv command" in chapter 5 Console Commands)

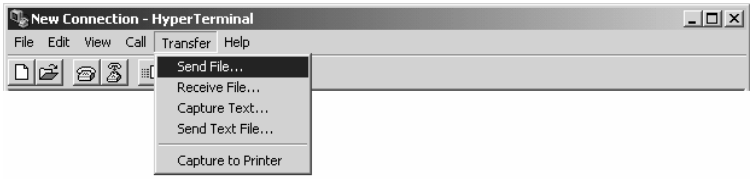
2. When the following message is displayed, type 'y'.

```
login: admin

[GATE2@root]$

[GATE2@root]$ import init
WARN: Load Gate init Configuration!! Continue(y/n)?
```

3 Select <Send File...> from the <Transfer> menu, and select the **SecuwayGate 100** authentication file (.gat) where the authentication information is saved.



4. When the file is completely imported to **SecuwayGate 100**, enter the password and type [y]. **SecuwayGate 100** will begin initial setup process and then automatically restart.

```
login: admin

[GATE2@root]$

[GATE2@root]$ import init
WARN: Load Gate Init Configuration!! Continue(y/n)?
##############################################################
password: *********
Load(y/n)?
Not exist Object id 0x11
Now Write Object
```

2.4.3 Checking Installation

Checking that installation is complete can be done through the LED status of **SecuwayGate 100**. Also verifications can be made through check messages from **SecuwayCenter 2000**, checking that the security policy is transmitted by the information of the field, or checking after selecting the status information.

- **Before installation**

  - The Power LED on the front side of the system is lit green.
  - The Alarm LED on the front side of the system is lit red.

- **After installation**

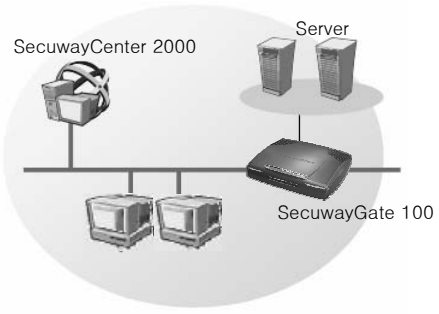
  - After reading the smart card for initial configuration, the Power and Secure LEDs turn on.
  - The Power and Secure LEDs are turned on in green.
  - The Alarm LED is turned off.
  - If there is a cable connected to the rear side of the system, the Net LED on front side blinks or is lit.

Chapter 3 **SecuwayGate 100** Connection Examples

『Chapter 3. SecuwayGate 100 Connection Examples』 describes ways to connect **SecuwayGate 100** in various network environments. The focus is laid on how to connect each port of **SecuwayGate 100** and how to configure the **SecuwayGate 100** information in **SecuwayCenter 2000**.

3.1 Connection Example To Secure Internal Server

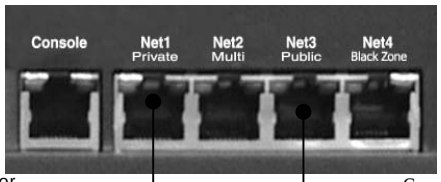
SecuwayGate 100 provides an intrusion interruption function based on the security policy to control access attempts to the server within the internal network. **SecuwayGate 100** provides a Stateful Inspection filtering function to cover various user environments. In addition, **SecuwayGate 100** provides inter-operability with **SecuwayClient 2000** in order to provide secure communication through encryption.



Internal Network

Port Connections

The following figure shows how to build a physical network connection for a secure internal server on the rear side of **SecuwayGate 100**.



Connect the server or hub cable to the Net1 port.

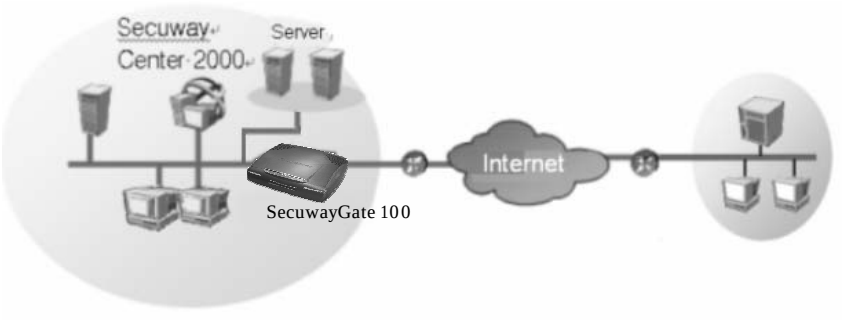
Connect to the external network or connect the hub or switching device to the Net3 port.

Connect the server or hub cable to the Net1 port and the external network to the Net3 port. In this way, **SecuwayGate 100** is topologically and physically located between the secure server and the external network to support the user access control, user authentication, and encrypted communication.

Connect **SecuwayCenter 2000** to the Net1 (Private) or Net2 (Multi) port of the **SecuwayGate 100**.

3.2 Internal Network Security Example (Firewall)

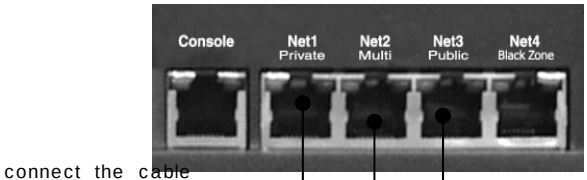
SecuwayGate 100 supports a firewall feature and lets your organization control inbound packets according to a set of predefined security policies.



Internal Network **External Network**

Port Connections

The following figure shows how to build a physical network connection for a firewall at the side panel of **SecuwayGate 100**.



connect the cable that connected the network and router.

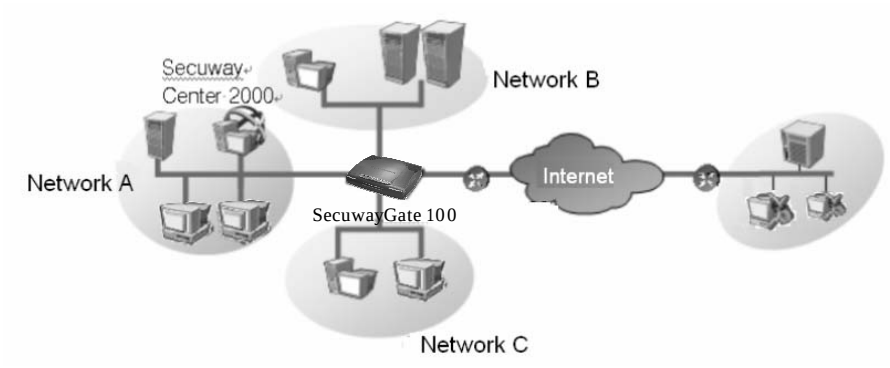
Connect to router

Connect to sever

Connect the internal network cable to the Net1 port and the router cable to the Net3 port, Net2 port connect server that are communicates with external network. In this way, **SecuwayGate 100** is topologically and physically located between the secure server and the external network to control accesses to the internal network.

3.3 Connecting as Gateway Mode

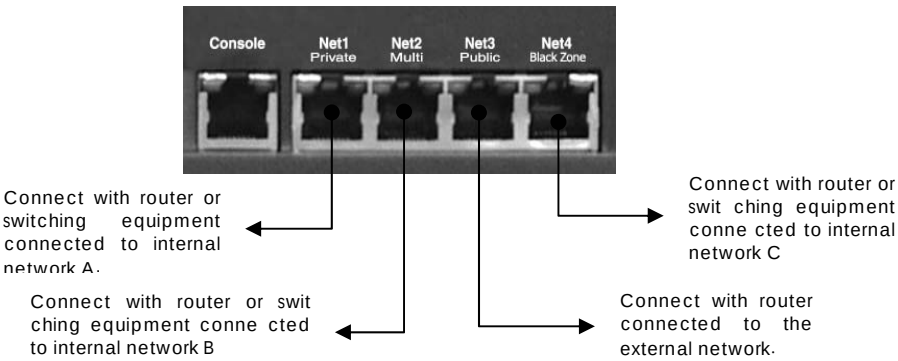
SecuwayGate 100 can be installed separating the internal network into 3 sub-networks of A and B,C. Using **SecuwayGate 100** installed following this example, communication between sub-networks as well as communication between the internal and external network can be controlled, based on valid network configuration and security policy.



Internal Network **External Network**

Port Connections

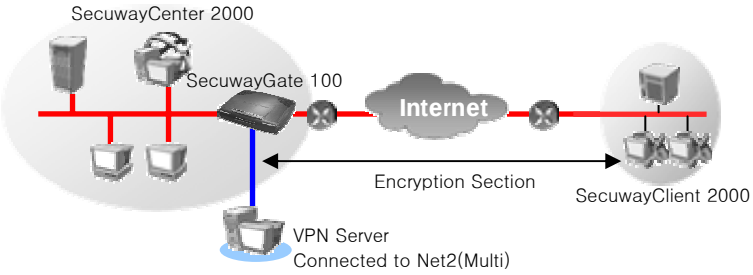
The following figure shows how to build a physical network connection for a gateway mode on the rear side of **SecuwayGate 100**.



You can connect by configuring it as different networks or segments at each of the port from Net1 ~ Net4.

3.4 Connecting to Provide VPN

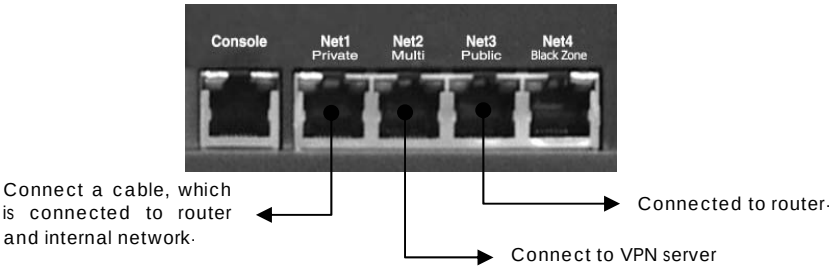
You can connect **SecuwayGate 100** of the headquarter and **SecuwayGate 100** of the branch office to perform the VPN function. To enable the VPN function, you need a pair of **SecuwayGate 100** devices working together or **SecuwayClient 2000** installed to support encrypted communication.



Main Office Network **Branch Office Network**

Port Connections

The following figure shows how to build a physical network connection for VPN on the rear side of **SecuwayGate 100**.



Connect the internal network cable to the Net1 port and the router cable to the Net3 port, Net2 port connect VPN server that are communicates with external network. In this way, **SecuwayGate 100** is topologically and physically located between the secure server and the external network to control accesses to the internal network.

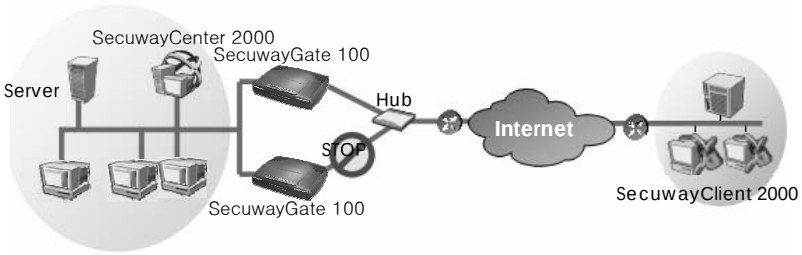
NOTE

To install **SecuwayGate 100** as a VPN gateway, the 'Security' properties of **SecuwayGate 100** must be set as shown in the following figure in **SecuwayCenter 2000**. For information on how to install, refer to the Administrator Guide

3.5 High Availability Example

3.5.1 Failover Example

If you install the system as a gate backup feature using the fail-over feature, which is the high availability feature of VPN itself, you can take backup measures without a separate L4 switch. This is used when there are too many VPN gates, or you are using a critical application during VPN communication.

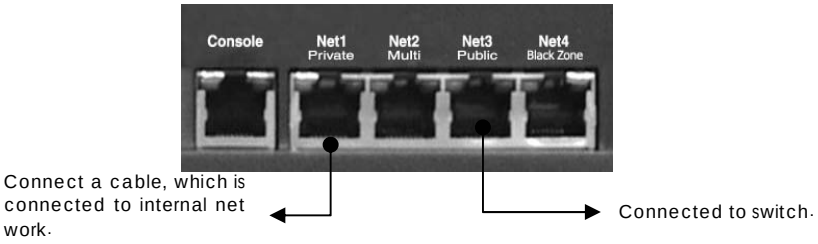


Internal Network **External Network**

Port Connections

The following figure shows how to build a physical network connection on the rear side of the **SecuwayGate 100** to enable the HA failover function.

The port connections of the main Gate and auxiliary Gate are identical



In the **SecuwayCenter 2000** setup window, configure the main gate and the auxiliary gate, and then register each other's IP address. Also set up the interface to connect the rear ports and the UDP port to communicate through, the two **SecuwayGate 100**

systems will operate correctly

NOTE

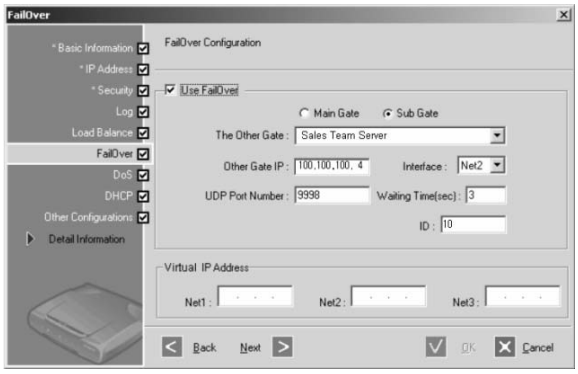
When configuring the two **SecuwayGate 100** as Failover feature, they should be in connected situation. If you use Net1 and Net3 ports, you don't have to connect Net2 port additionally. However, if the traffic volume of Net1 and Net3 ports is high, you can also use Net2 or Net4 port. . In such a case, the two **SecuwayGate 100** devices must be connected to a switching device.

NOTE

To install **SecuwayGate 100** as failover-enabled gates, the main and sub gates must be specified in the 'Failover' menu of **SecuwayCenter 2000**, as shown in the following figure. For more information about the failover configuration, refer to the Administrator Guide.

If the main and sub gates are connected through the Net2 (Multi) port, you may configure the main gates as shown in the following figure. First, when you register the IP address for main gate, set the 'Valid Network' as the Net2 port of the sub gate. Likewise, when you register the sub gate, you can simply set the Net2 port of the main gate as the 'Valid Network.

When configuring 'Failover', check the other gate and set each item as shown below.

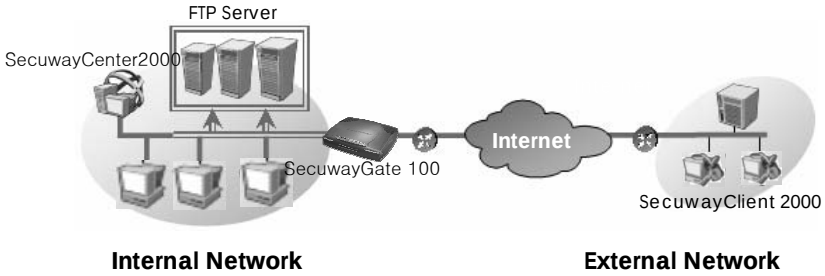


On the screen above, enter the IP address of the port that performs the Failover function at other gate in 'Other Gate IP', and select the port to perform Failover at the current gate in 'Interface'.

3.5.2 Server Load Balancing Example

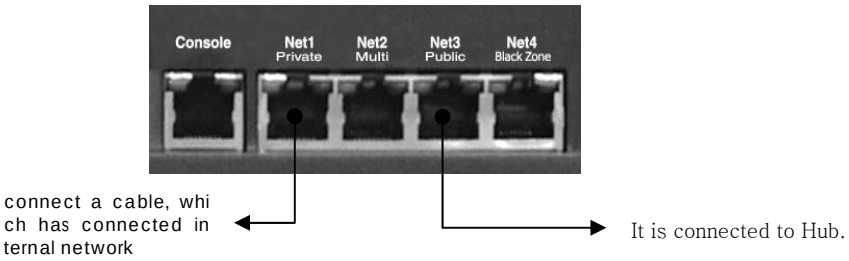
By using the server load-balancing feature, which is the high availability feature of the VPN itself, you can prevent communication traffic jam to one server that may cause overload in the server.

When an external or internal user tries to access the FTP servers that have the same features, the user must connect only through the representative virtual IP address that has been set in the **SecuwayGate 100**. Therefore, when a communication traffic jam occurs, the **SecuwayGate 100** can distribute the services among different servers.



Port Connections

The following figure shows how to build a physical network connection on the rear side of **SecuwayGate 100** to implement the server load-balancing

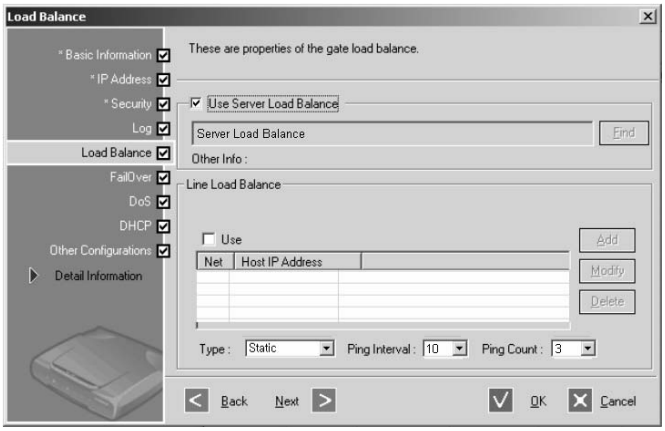


Connect Net1 port to the cable of the internal network, and Net3

port to the router. In other words, **SecuwayGate 100** is physically installed between the server in the internal network that performs the same function and internal/external network to support uniform communication to each server. Adjust the RX/TX changeover switch on the right of the ports according to the cable type

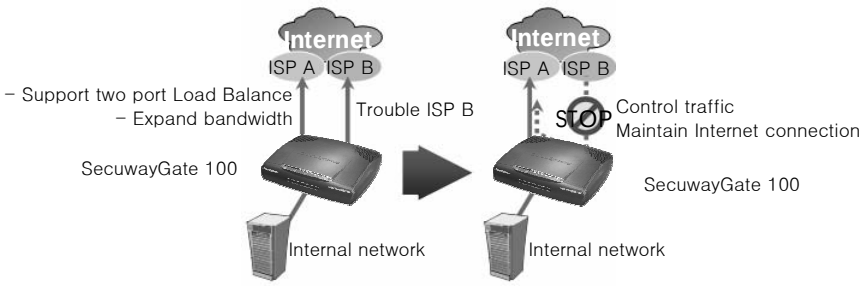
NOTE

To install **SecuwayGate 100** as a load balancing –enabled gate, the use of server load balancing feature must be set in the 'Load Balance' menu of **SecuwayCenter 2000**, as shown in the following figure. For more information, refer to **SecuwayCenter 2000** Administrator Guide.



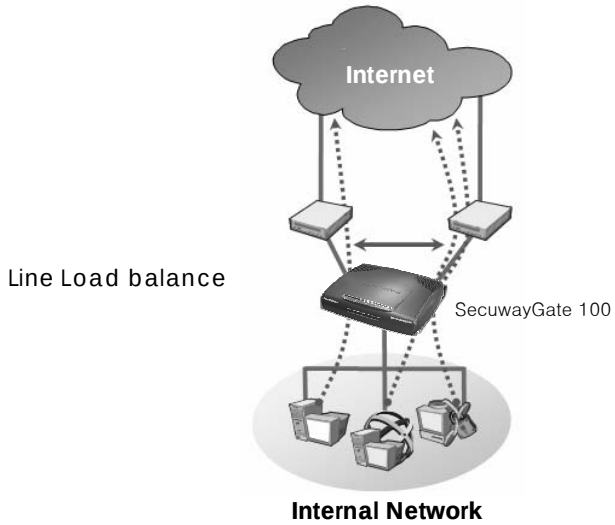
3.6 ADSL Line Load-Balancing Example

By connecting two WAN lines using the two ports of **Secuway Gate 100**, the system can be immediately switched to another line to enable communication when the communication is disabled due to an error in one line,



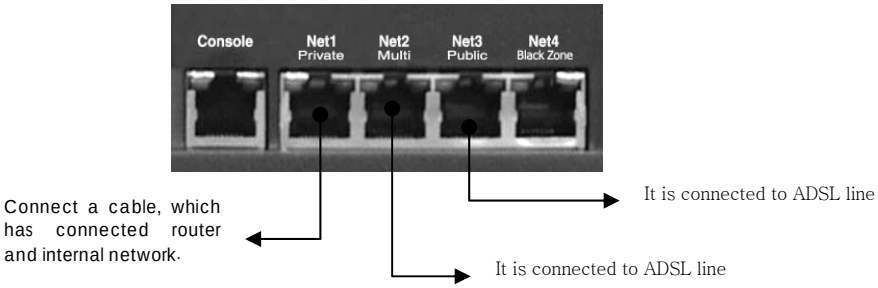
In addition, since **SecuwayGate 100** supports two ADSL lines simultaneously, concerns about ADSL quality can be eradicated and load balancing is provided for lines to ensure optimum Internet environment.

SecuwayGate 100 calculates the hash values for both source and destination IP addresses to select a line to transmit the relevant packets. If the selected line is currently down, the other line is automatically selected to forward the packets.



Port Connections

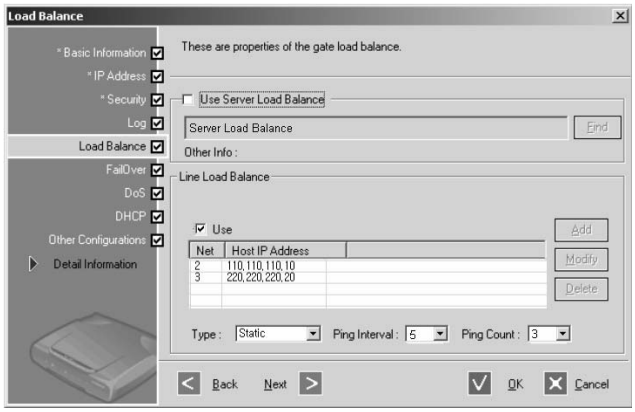
The following figure shows how to build a physical network connection on the rear side of **SecuwayGate 100** to implement the ADSL line load-balancing feature.



SecuwayGate 100 can connect two WAN lines using two ports. After connecting the ADSL lines to Net2 port and Net3 port of **SecuwayGate 100**, you can configure them in such a way as to prevent concentration in one line for the transmitted and received traffics and distribute the communication

NOTE For the connected ADSL lines, you can either use a fixed IP address (using an IP address in a fixed way), or a floating IP address (when IP address changes every time you connect). Choosing a fixed IP address or a floating IP address in modem type is the responsibility of the **SecuwayCenter 2000** administrator

To install **SecuwayCenter 2000** as an ADSL Line load balancing-enabled gate, the use of line load balancing feature must be set in the 'Load Balance' menu of **SecuwayCenter 2000** as shown in the following figure. Note that the IP address of each port and the modem type need to be specified as well. For more d information, refer to Administrator Guide.



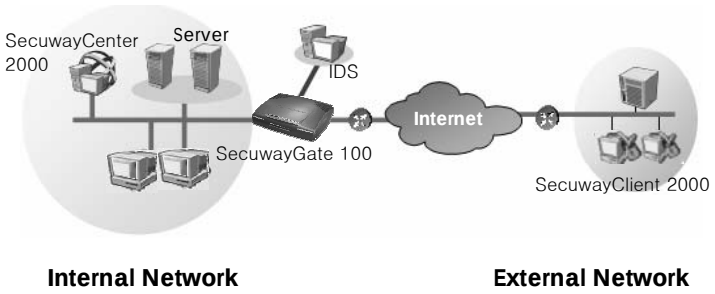
3.7 IDS (Intrusion Detection System) Connection Example

You can install an intrusion detection system using Net4 (Black Zone) port provided by **SecuwayGate 100** itself. The Net4 (Black Zone) port cannot be detected with its inherent characteristics, so the outside network doesn't know the existence of the intrusion detection system. Therefore, it can operate more effectively in a security management aspect. The following table shows the list of IDS solutions that are interoperable with **SecuwayGate 100**.

NOTE In the 3 Port, IDS using Net2(Multi) Port

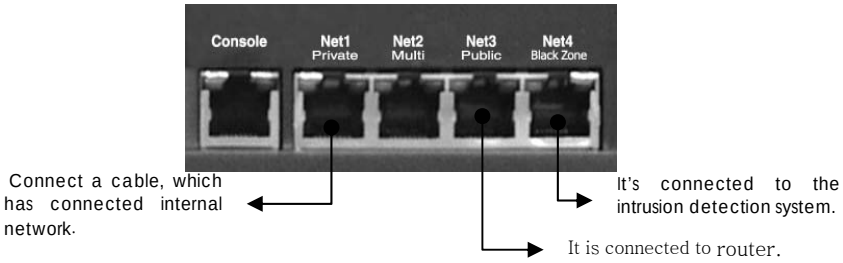
Product	Version	Company
SniPer	V 2.0	WINS Technet Co., Ltd
Siren	V 3.0	Penta Security Systems Inc
NetSpecter IDS	V 1.2	NetSecureTechnologie
NeoWatcher@ESM N-IDS	V 3.0	INZEN.Com

SecuwayGate 100 transmits the send/receive packets to Net4 (Black Zone) port at the same time, thus allowing the intrusion detection system to analyze them.



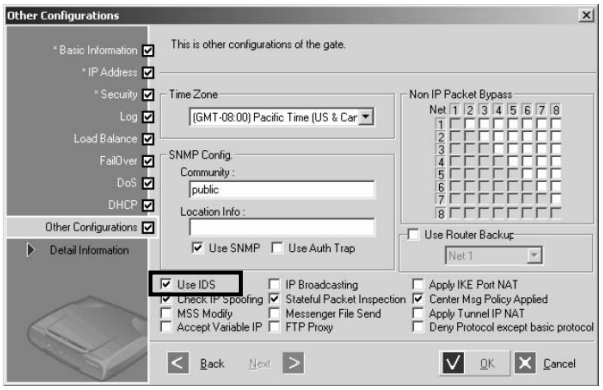
Port Connections

The following figure shows how to build a physical network connection for IDS-enabled configuration on the rear side of **SecuwayGate 100**.



Connect an IDS solution to the Net4 (Black Zone) port of **SecuwayGate 100** to enable the IDS solution to analyze the inbound and outbound packets. Connect the Web server to the Net2 (Multi) port of **SecuwayGate 100**. In this way, the internal network is technically separated from the external network and **SecuwayGate 100** is able to control the incoming and outgoing packets according to the security policies stored in the **SecuwayGate 100**.

NOTE To connect an IDS solution to the **SecuwayGate 100**, the 'Use IDS' must be selected in **SecuwayCenter 2000**, as shown in the following figure.



You can check the operation status when **SecuwayGate 100** and the IDS solution are interoperated in the 'Log' menu of

SecuwayCenter 2000.

	Warning	Packet Filtering	Drop Packets	10,11,101,253	10,27,1,1	Drop by IDS Notification
	Warning	Packet Filtering	Drop Packets	10,11,101,253	10,27,1,1	Drop by IDS Notification
	Warning	Packet Filtering	Drop Packets	10,11,101,253	10,27,1,1	Drop by IDS Notification
	Warning	MA	Receipt of a message from IDS	10,11,101,253	10,27,1,1	[ICMP Ping of Death