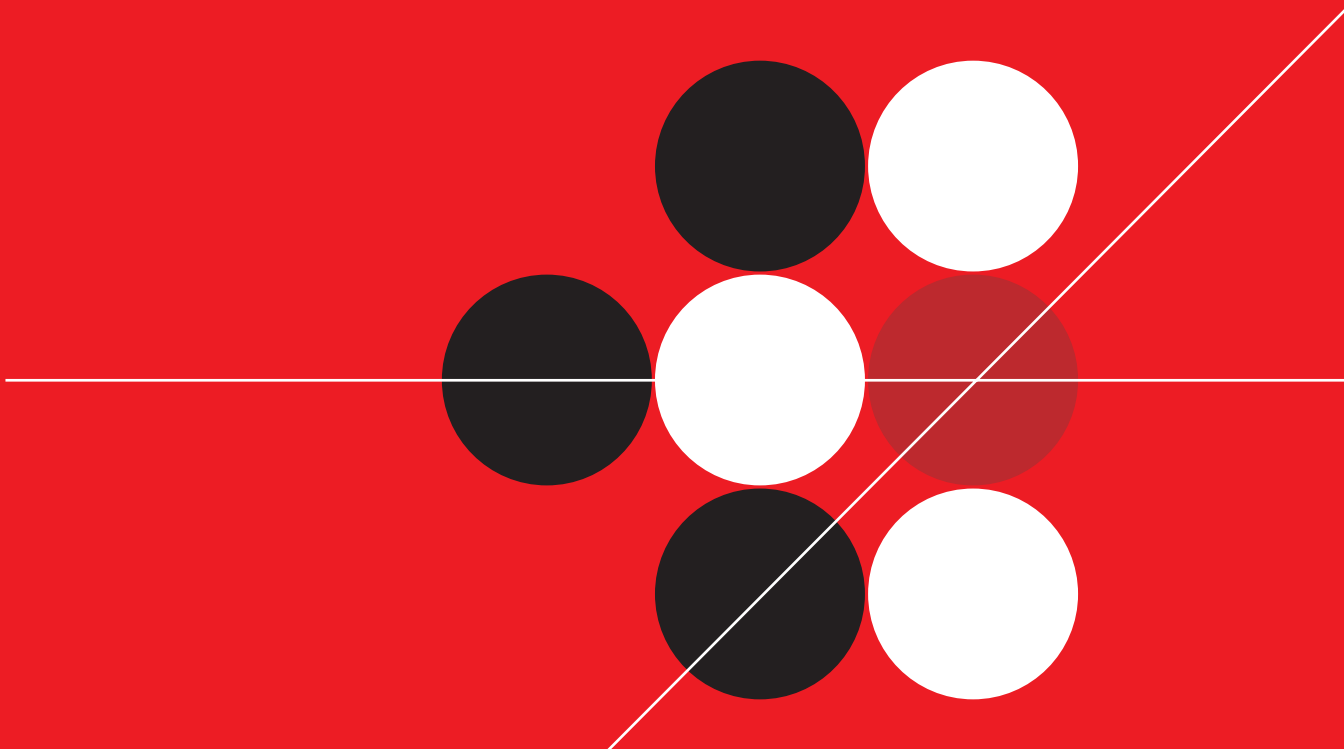
TREND MICRO™

InterScan™ Gateway Security Appliance M-Series

Deployment Guide



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The *Trend Micro InterScan Gateway Security Appliance M-Series Deployment Guide* is intended to provide detailed information about deploying the hardware device in your network. Read it before using the hardware.

Additional information about how to use specific features within the software is available in the online help file, in the *Trend Micro InterScan Gateway Security Appliance M-Series Administrator's Guide*, and the online Knowledge Base at the Trend Micro Web site.

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Contents

Preface

Welcome to the *Trend Micro InterScan Gateway Security Appliance M-Series Deployment Guide*. This book contains information about the tasks involved in mounting and deploying the Trend Micro InterScan Gateway Security Appliance (IGSA). This book is intended for novice and advanced users who want to plan, deploy, and configure IGSA. Use it in conjunction with the *Trend Micro InterScan Gateway Security Appliance M-Series Administrator's Guide*, which contains guidance on administering the appliance.

Audience

This book is intended for network administrators who are preparing to mount and deploy the InterScan Gateway Security Appliance. The manual assumes a working knowledge of security systems and devices, as well as network administration.

About This Deployment Guide

The *InterScan™ Gateway Security Appliance M-Series Deployment Guide* discusses the following topics:

Chapters

Appendixes

Document Conventions

To help you locate and interpret information easily, this guide uses the following conventions:

TABLE 1. Conventions used in the Trend Micro InterScan Gateway Security Appliance M-Series documentation

CONVENTION	DESCRIPTION
ALL CAPS	Acronyms, abbreviations, and names of certain commands and keys on the keyboard
Bold	Menus and menu commands, command buttons, tabs, options, and ScanMail tasks
Italics	References to other documentation
`Monospace`	Examples, sample command lines, program code, Web URL, file name, and program output
Note:	Configuration notes
Tip:	Recommendations
WARNING!	Reminders about actions or configurations to avoid
INT	InterScan Gateway Security Appliance interface connected to the protected network
EXT	InterScan Gateway Security Appliance interface connected to the external or public network (usually the Internet)

Terms and Concepts

Before continuing, Trend Micro recommends that you familiarize yourself with some of the important terms that are used in this document. These are listed in the table below.

TABLE 2. IGSA appliance-specific terms

Term	Definition
INT port (RJ-45)	IGSA port/interface that connects to the protected network
EXT port (RJ-45)	IGSA port that connects to the public network
Management (MNG) port (RJ-45)	IGSA port that connects to another computer used for updating the InterScan Gateway Security Appliance firmware and BIOS
Internal network	The network segment separated and protected by IGSA. It is the part of the network that is connected to **INT port**
External network	The network segment that is not protected by IGSA. A public network is usually the Internet. This term is strictly relative to a specific IGSA device. It is the part of the network that is connected to **EXT port**
Failopen	A fault-tolerant solution, also known as LAN bypass, that allows IGSA to continue to pass traffic if a software or hardware failure occurs within the device
INT-EXT	Refers to traffic coming from a host/machine in the protected network and going to the public network
EXT-INT	Refers to traffic coming from the public network and going to a host/machine in the protected network

Chapter 1

Introducing InterScan Gateway Security Appliance

This chapter introduces InterScan™ Gateway Security Appliance and provides a description of its components.

The topics discussed in this chapter include:

Trend Micro InterScan Gateway Security Appliance

Trend Micro™ InterScan™ Gateway Security Appliance delivers the most complete all-in-one protection from viruses, spyware, spam and other threats at the Internet gateway. The leading gateway antivirus vendor, Trend Micro, provides this easy-to-deploy, worry-free appliance to block malware, stop inappropriate content or email, and filter harmful URLs.

The appliance saves you time and money by:

- Providing the tools to assist you to more effectively achieve regulatory compliance
- Preserving network resource availability and reducing spam so your employees can be more productive
- Integrating multiple products into one management console

Damage Cleanup Services dramatically reduces administrative effort, cost, and downtime caused by spyware and viruses. Additionally, IntelliTrap heuristic detection and Outbreak Prevention Services provide increased defense against emerging threats.

Features and Benefits

InterScan Gateway Security Appliance provides the following features and benefits:

TABLE 1-1. Important Features and Benefits

Features	Description
All-in-one defense	Antivirus, anti-spam, anti-spyware/grayware, anti-phishing, anti-pharming, IntelliTrap™ (Bot threats), content filtering, Outbreak Prevention Services (OPS), URL blocking, and URL filtering IntelliTrap detects malicious code such as bots in compressed files. Virus writers often attempt to circumvent virus filtering by using different file compression schemes. IntelliTrap is a real-time, rule-based pattern-recognition scan-engine technology that detects and removes known viruses in files compressed up to 20 layers deep using any of 16 popular compression types.
Automatic threat protection	Outbreak Defense — An integral part of Trend Micro's Enterprise Protection Strategy (EPS), which enables Trend Micro devices to proactively defend against threats in their insurgency before traditional pattern files are available.
Gateway protection	Protection from malware right at the Internet gateway
Flexible configuration	Specify files to scan. Specify the action to take on infected files/messages. Specify file types to block in HTTP and FTP traffic. Specify messages and files to filter in SMTP and POP3 traffic based on message size, text in message header and body, attachment name, and true file type. Specify the types of notifications to send or display and who to send notifications to when InterScan Gateway Security Appliance detects a threat.
Centralized management	A Web-based console, accessible from a local or remote computer, that enforces companywide Internet security policies Web browser support for Microsoft Internet Explorer 6.x and Mozilla Firefox 1.x
Automated maintenance	You can automate maintenance tasks, such as updating InterScan Gateway Security Appliance components and maintaining log files, to save time.

TABLE 1-1. Important Features and Benefits (Continued)

SMTP, POP3, FTP and HTTP scanning capabilities	SMTP and POP3 scanning support: antivirus, IntelliTrap, spyware/grayware detection, anti-spam (Email Reputation and Content Scanning), anti-phishing, content filtering, and blocking of messages that contain malicious URLs (Web Reputation). SMTP and POP3 scanning also provides notification messages to the administrator and users upon detection of phishing any other malicious messages. FTP scanning support: antivirus and spyware/grayware detection, and file blocking HTTP scanning support: antivirus, IntelliTrap, spyware/grayware detection, file blocking, blocking of pharming and phishing URLs, and blocking of URLs that are identified as a Web threat (Web Reputation).
Anti-Spam - Content Scanning	Allows the administrator to do the following: Set the spam threshold to high, medium, or low. Specify approved and blocked senders. Define certain categories of mail as spam.
Anti-Spam - Email Reputation Services (ERS)	ERS blocks spam by validating the IP addresses of incoming mail against databases of known spam sources — the Standard Reputation database (previously called Real-Time Blackhole List or RBL+) and the Dynamic Reputation database (previously called Quick IP List or QIL).
URL filtering	URL filtering for the HTTP protocol Allows the administrator to define and configure URL filtering policies for work time and leisure time Allows the administrator to define global lists of blocked and approved URLs Local cache support to reduce network traffic Notifies users if URL filtering disallows the URL that they want to access
URL file blocking	URL file blocking for HTTP and FTP Allows the administrator to block selected file types Provides a notification to users when a file type is blocked

Package Contents

Use the package contents checklist that came with the appliance to verify that the box contains the complete set of components. Figure 1-1 displays the contents of the shipping box.

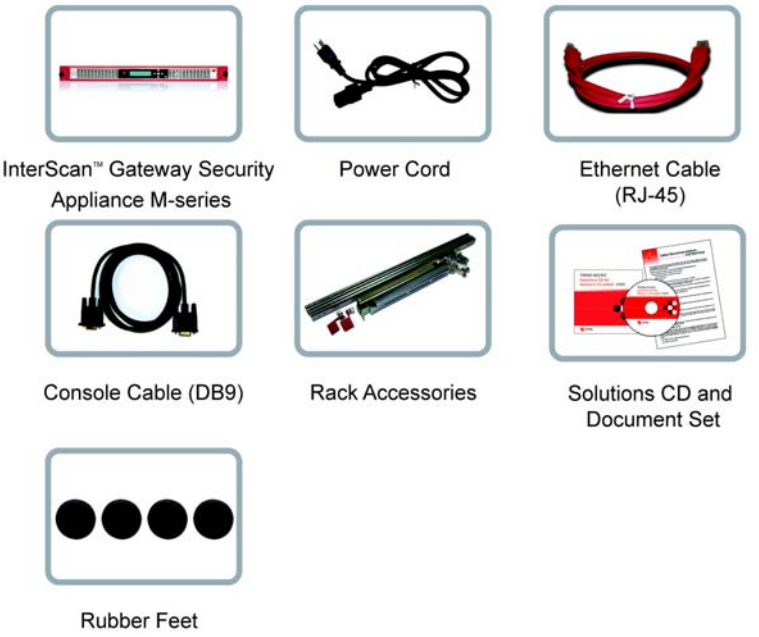

FIGURE 1-1. InterScan Gateway Security Appliance package contents

TABLE 1-2. The appliance package contents and descriptions

Quantity	Item	Description
1 unit	InterScan Gateway Security Appliance	The InterScan Gateway Security Appliance
1 piece	Power cord	Supplies power to an InterScan Gateway Security Appliance device (length is 79in/200cm)

TABLE 1-2. The appliance package contents and descriptions (Continued)

Quantity	Item	Description
1 piece	Ethernet cable (RJ-45 cable)	Connects a device to a computer used during Rescue Mode (length is 39in/100cm)
1 piece	Console cable (DB9)	Connects the appliance to the computer used during preconfiguration (length is 79in/200cm)
1 set	Rack accessories	Mounts the appliance to a standard 19-inch rack cabinet
4 each	Rubber Mounting Feet	The four (4) rubber feet are used for a freestanding installation of the appliance. The rubber feet come pre-die-cut on an adhesive sheet.
1 CD	Trend Micro Solutions CD for InterScan Gateway Security Appliance	The CD containing the appliance tools and available documentation The PDF documentation includes the: • *This Deployment Guide* • *Trend Micro InterScan Gateway Security Appliance Administrator's Guide* The appliance tools include the: • Application Firmware Flash Utility
1 book	InterScan Gateway Security Appliance Deployment Guide	Printed versions of the documents
1 sheet	InterScan Gateway Security Appliance Quick Start Card	
1 sheet	InterScan Gateway Security Appliance Safety Sheet	
1 sheet	InterScan Gateway Security Appliance Item Checklist Card	
2 sheets	Product Support Information Stickers	

The Appliance Hardware

The Front Panel

The front panel of the InterScan Gateway Security Appliance contains two (2) thumb screws and a removable bezel for holding it in a fixed position in a rack cabinet. Use these screws only in conjunction with the rail mounting kit. (See *Chapter 4, "Mounting InterScan Gateway Security Appliance"* for details on mounting the device.) These screws alone will not support the weight of the device. At the center of the bezel is the Liquid Crystal Display (LCD) Module.

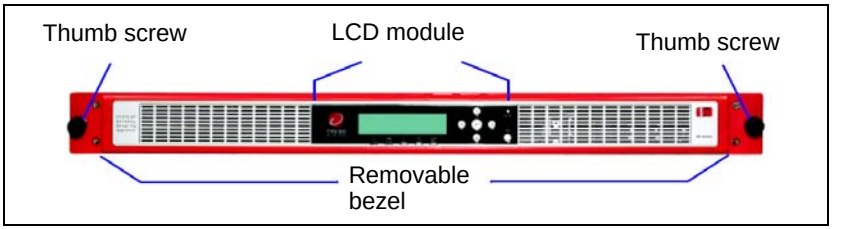

FIGURE 1-2. Front Pane

The following table describes each front panel element.

TABLE 1-3. Front panel elements

Front Panel Elements	Description
LCD Module	The LCD Module comprise the following items: • Liquid Crystal Display (LCD) • Control panel • Reset button • UID button • LED indicators The rest of the table contains the descriptions for each item
Liquid Crystal Display (LCD)	A 2.6in x 0.6in (65mm x 16mm) dot display LCD that is capable of displaying messages in two rows of 16 characters each. Displays device status and preconfiguration instructions
Control panel	One five-button control panel that provides LCD navigation. Used for inputting data during preconfiguration
Reset button	Restarts the device

TABLE 1-3. Front panel elements

Front Panel Elements	Description
LED Indicators 1 to 5	Indicates the Power, UID, System, Hard Disk, and Outbreak status Power and UID have one color each; System, Hard Disk, and Outbreak have two colors each
UID button	Unique ID button that illuminates a blue LED on the front and rear of the device, which helps administrators locate the device for trouble-shooting or maintenance
Bezel	Detachable casing that covers and protects the front panel
Thumb screws	Used for fixed mounting in any standard 19-inch rack

LCM Module

The LCD and control panel elements are collectively referred to as the LCM module.

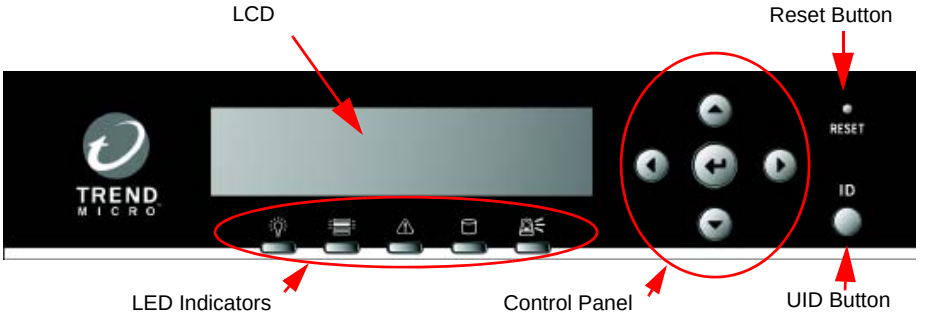

FIGURE 1-3. LCM module features

LED Indicators

InterScan Gateway Security Appliance has five (5) **l**ight-**e**mitting **d**iodes (LEDs) that indicate the **POWER**, **UID**, **SYSTEM**, **HARD DISK**, and **OUTBREAK** status.

The following table shows the possible behavior for each LED element:

TABLE 1-4. InterScan Gateway Security Appliance LED indicators

LED Name	Icon	State	Description
POWER		Yellow, steady	The appliance is operating normally
		Off (no color)	The appliance is off
UID		Blue, steady	The UID LED lights up when the UID button is pressed
		Off (no color)	The UID LED is not illuminated (default is off)
SYSTEM		Red, flashing	The appliance is booting
		Red, steady	Power-On Self-Test (POST) error
		Yellow, flashing	The appliance OS and applications are booting
		Yellow, steady	The appliance program file (firmware) encountered a critical error
		Green, steady	The appliance program file (firmware) is ready
HARD DISK		Green, steady	The appliance hard disk is operating normally
		Red, steady	Hard disk has failed and the appliance is operating in diskless mode
OUTBREAK		Green, steady	Outbreak Prevention Services (OPS) is disabled
		Red, flashing	OPS is enabled

The Back Panel

The back panel of the appliance contains a power receptacle, power switch, USB ports, serial connection, fan vent, and LAN ports.

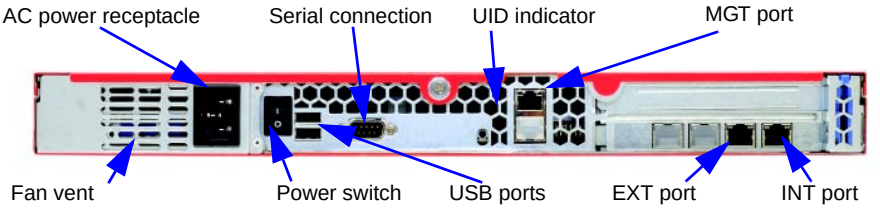

FIGURE 1-4. Back panel

The following table describes each back panel element.

TABLE 1-5. Back panel elements

	Description
AC power receptacle	Connects to a power outlet and InterScan Gateway Security Appliance using the power cord (included in the package)
Power switch	Turns the device on and off
DB9 Serial Connection	Connects to a computer's serial port with a DB9 type connection to perform preconfiguration
Ports MGT, EXT, INT	Copper Gigabit LAN port designated as the MANAGEMENT EXTERNAL or INTERNAL port depending on the Operation Mode
Fan Vent	Cooling vent for three (3) system fans
UID LED and UID Button	LED at the back panel of InterScan Gateway Security Appliance. When a user presses the UID button, the UID LED illuminates. The illuminated UID LED allows administrators to easily located InterScan Gateway Security Appliance for troubleshooting or maintenance
USB Ports	USB ports, reserved for future releases

Port Indicators

InterScan Gateway Security Appliance has three (3) user-configurable copper-based Ethernet ports. Each Ethernet port has two (2) indicator lights that allow you to determine the port's current state and duplex speed.

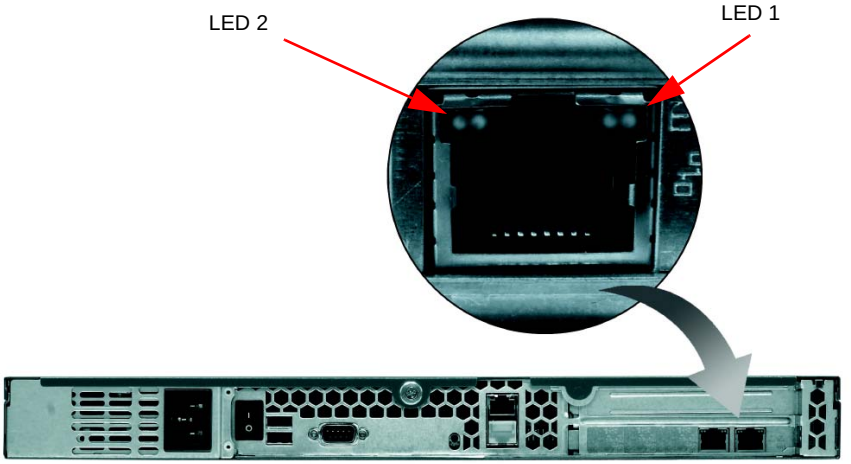

FIGURE 1-5. IGSA LAN port and LED indicator location

Overview of Deployment Stages

Follow the three stages of deployment to successfully install an InterScan appliance.

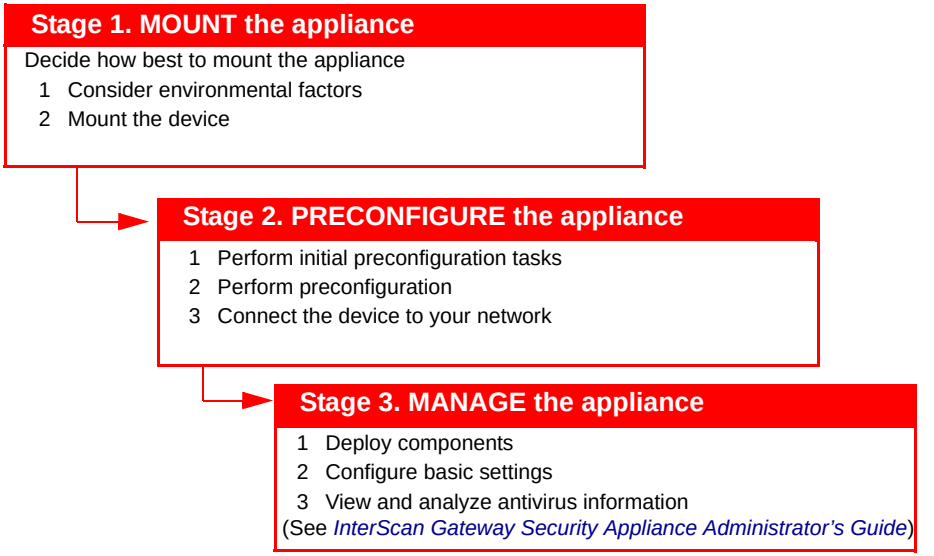

FIGURE 1-6. The appliance deployment overview chart

Stage 1. Mounting the Appliance

Decide how best to mount InterScan Gateway Security Appliance:

1. *Reviewing the Device Environmental Specifications* on page 4-2
2. *Deciding on the Type of Mounting* on page 4-2
3. *Mounting an InterScan Appliance with a Rack Kit* on page 4-2

Stage 2. Preconfiguring the Appliance

Perform the following preconfiguration tasks:

1. *Preparing for Preconfiguration* on page 5-2
2. *Choosing a Preconfiguration Method* on page 5-5

3. *Connecting to the Network* on page 5-18

Stage 3. Managing the Appliance

Manage the appliance from the Web console by performing the following tasks:

1. Configure basic settings, including scan options, Network Outbreak Monitor, exception lists, and component updates
2. View and analyze security content information, including detailed summaries of clients on the protected network, security logs, and event logs

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Note: This Deployment Guide discusses the first two stages of deployment. Stage 1, Mounting the Appliance, is covered in chapter 4, and stage 2, Preconfiguring the Appliance, is covered in chapter 3. Refer to the InterScan Gateway Security Appliance *Administrator's Guide* or *Online Help* for instructions relating to stage 3, Administering the Appliance.

The following table describes the status of the port indicators when the device is operating normally.

TABLE 1-6. Port indicator status

Indicator Number	Purpose	State	Description
LED 1	Port activity	Light off	The appliance is not receiving data
		Green, flashing	Receiving data
LED 2	Duplex speed	Light off	10mbps LED
		Green, steady	100mbps LED
		Yellow, steady	1000mbps LED

To understand how the port indicators work when InterScan Gateway Security Appliance is operating in LAN bypass mode, see “LAN Bypass” in the InterScan Gateway Security Appliance Online Help.

Note: Loss of power to the InterScan Gateway Security Appliance automatically resets the appliance to bypass mode, so that all data passes through.

Chapter 2

Basic Deployment Options

This chapter provides basic deployment scenarios to facilitate understanding of the various ways that the appliance can help protect the network.

This chapter contains the following topics:

Overview of Basic Deployment

As shown in figure 2-1, *Basic deployment scenario - single segment network,* on page 2-2, it is necessary to include a LAN switch, router, or hub after the appliance in the basic deployment scenario. Including a router or switch after the appliance is necessary because the appliance itself is not designed to work as a router or switch.

The appliance can be installed on a network that contains Ethernet devices such as hubs, switches, and routers. Trend Micro recommends deploying the appliance between a firewall that leads to the public network and a router, switch, or hub that leads to the protected segment of the Local Area Network (LAN).

A router, switch, or hub is connected to the appliance internal (**INT**) port, creating a protected network segment, and the connection to the external (**EXT**) port leads to the public network. You can deploy the appliance on a single segment or multiple segment network.

Single Segment Deployment

The image below describes just one example of how the appliance can be used to protect a network consisting of a single segment. For more advanced deployment, see see *Advanced Deployment Options* on page 3-1

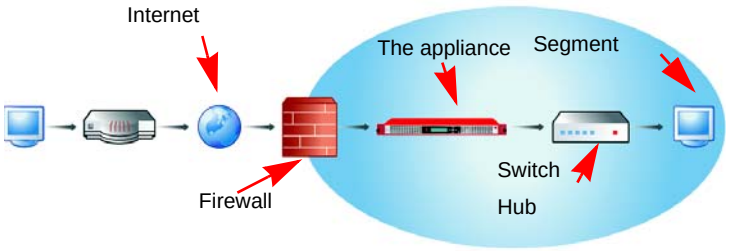

FIGURE 2-1. Basic deployment scenario - single segment network

Multiple Segment Deployment

The image below describes just one example of how the appliance can be used to protect a network with multiple segments.

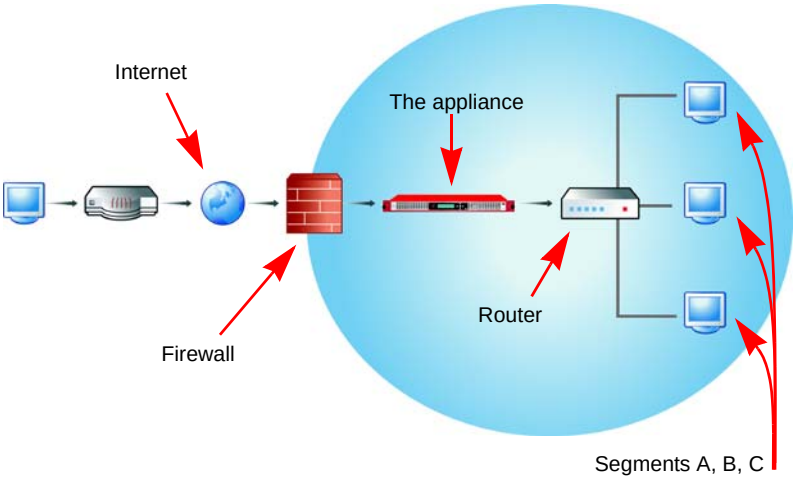

FIGURE 2-2. Basic deployment scenario - multiple segment network

Additional Considerations for Multiple Segment Networks

When deploying the appliance to a multiple segment network, consider the following:

- The default gateway must be located on the external (**EXT**) side of the appliance
- Use the same default gateway setting for both the appliance and the router that connects the device to the segments.
- Using the appliance Web console, add the static routes for each segment to the appliance.
- Disable the proxy settings from the HTTP URL Filtering screen if traffic is not passing through the appliance.

For more detailed information on deploying to a multi segment environment, see *Deploying in a Network with Multiple Segments* on page 3-5.

Deployment Notes

Consider the following when planning for to deploy the InterScan appliance:

- Configure all network devices to ensure that all traffic to and from the protected network goes through the appliance.

  To protect an organization from network threats, position appliances at key places on your network. The appliance should be able to scan all network traffic to prevent, detect, or contain threats.
- The appliance supports the following port speed and duplex mode settings:
  - 10Mbps x half-duplex
  - 10Mbps x full-duplex
  - 100Mbps x half-duplex
  - 100Mbps x full-duplex
  - 1000Mbps x full-duplex

The appliance supports Failopen (LAN bypass). If the appliance should lose power or become disabled for some reason, LAN bypass can be enabled to allow traffic to continue to pass through the device. LAN bypass is enabled by default. For more detailed information on configuring LAN bypass, see *Enabling or Disabling LAN Bypass and Link State Failover* on page 6-6.

Chapter 3

Advanced Deployment Options

This chapter addresses advanced deployment options. For instructions on mounting the physical device, see *Mounting InterScan Gateway Security Appliance* starting on page 4-1.

This chapter includes the following topics:

Overview of Advanced Deployment

This chapter provides guidance on deploying the InterScan Gateway Security Appliance in the most common network topology as well as in more advanced topologies.

Note: InterScan Gateway Security Appliance is not a firewall or a router. Always deploy the appliance behind a firewall or security device that provides adequate NAT and firewall-type protection.

A typical network topology, with no gateway protection is shown in figure 3-1.

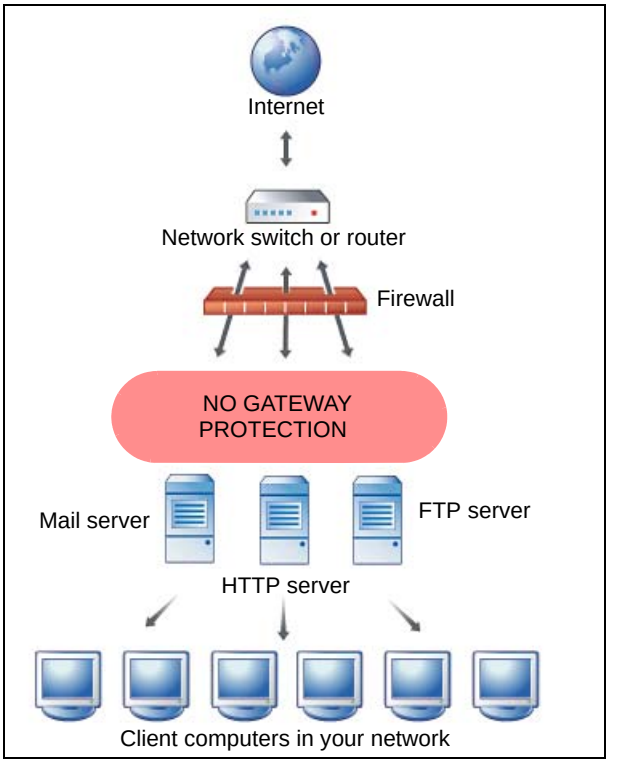

FIGURE 3-1. Typical network topology before deploying InterScan Gateway Security Appliance

In a basic deployment of the appliance in the most common network topology, the appliance sits between the network servers and the firewall, as shown in figure 3-2:

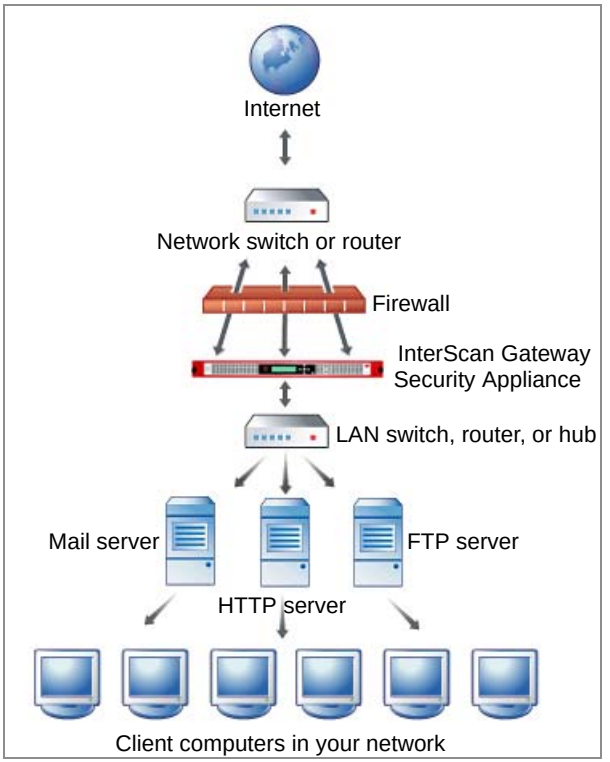

FIGURE 3-2. The most common deployment of InterScan Gateway Security Appliance

Deployment Topologies

This section discusses the following types of deployment topologies:

- Single network segment
- Multiple network segments

Deploying in a Single Network Segment

In *figure 3-3* on page 3-4, the network devices all belong in one network segment. All devices, including clients have Class A IP addresses. The core switch is the clients' default gateway. The router is the core switch and the default gateway of the appliance.

Note: If the appliance is not deployed between the router and the core switch, the connection will go through the core switch and then to its default gateway, which is the router. In return, the router redirects traffic to the intended server, thus bypassing the appliance altogether.

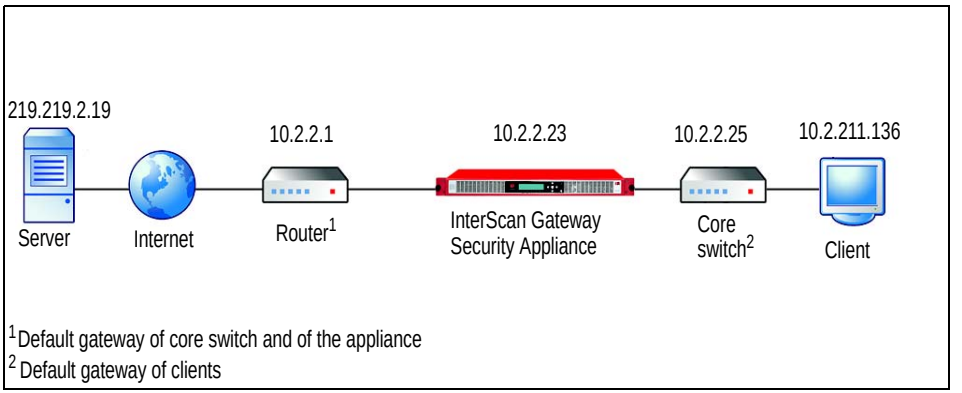

FIGURE 3-3. InterScan Gateway Security Appliance and clients deployed in the same network segment

If the appliance is deployed between a router and core switch within the same network segment, the appliance can directly connect to the router or clients. If a client issues a request to a server, the appliance receives the client's outgoing connection through TCP handshake. Because all devices are in the same segment, there are no problems relaying packets between network devices. The appliance passes the request to the router, which forwards it to the intended server.

Deploying in a Network with Multiple Segments

This section discusses deployment in a multiple-segment environment in which the default gateway of the appliance is a device handling the Internet connection (for example, a router or firewall).

In *figure 3-5* on page 3-7, the appliance and clients belong in different network segments. The core switch and the appliance belong in one segment using a Class A IP address. The core switch is the default gateway of the clients. The router is the core switch and is the default gateway of the appliance.

If the clients and the appliance are on different network segments, the router passes traffic to the Internet, but the appliance is unable to connect directly to the client. The packet passes to the default gateway of the appliance, which is the router.

In this topology, the appliance passes the packet to the router. The routing decision depends on the router. The SYN packet will be returned to the client through the router and the core switch. (See *figure 3-4* on page 3-6 for an illustration of this problem.)

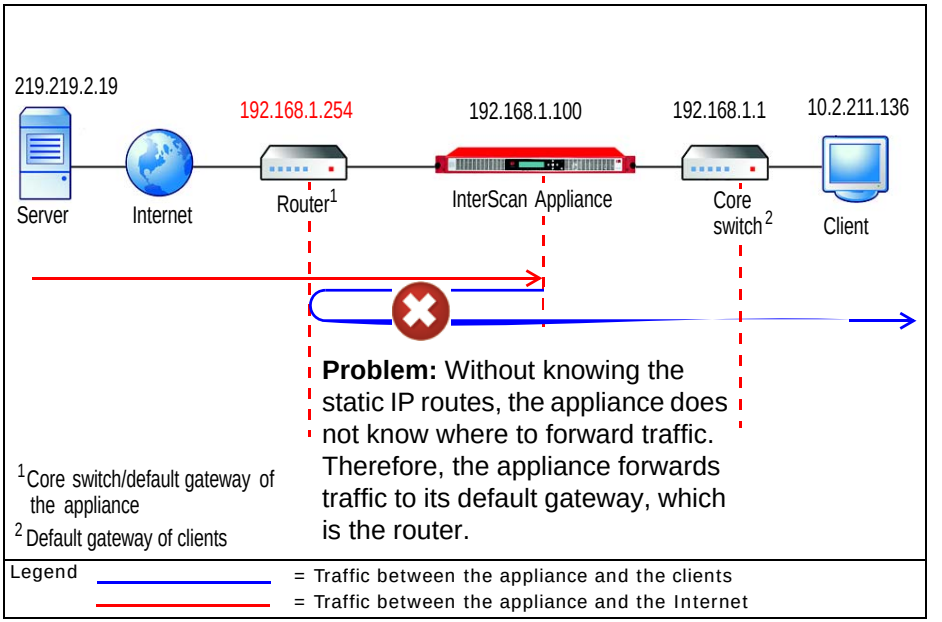

FIGURE 3-4. Problem: The appliance and clients deployed in different network segments, with router as default gateway of the appliance and no static routes set

A routing problem occurs whenever the router performs the following:

- Sending SYN/ACK packet back to clients
- Forwarding data to clients

These transactions lead to a decrease in the network throughput.

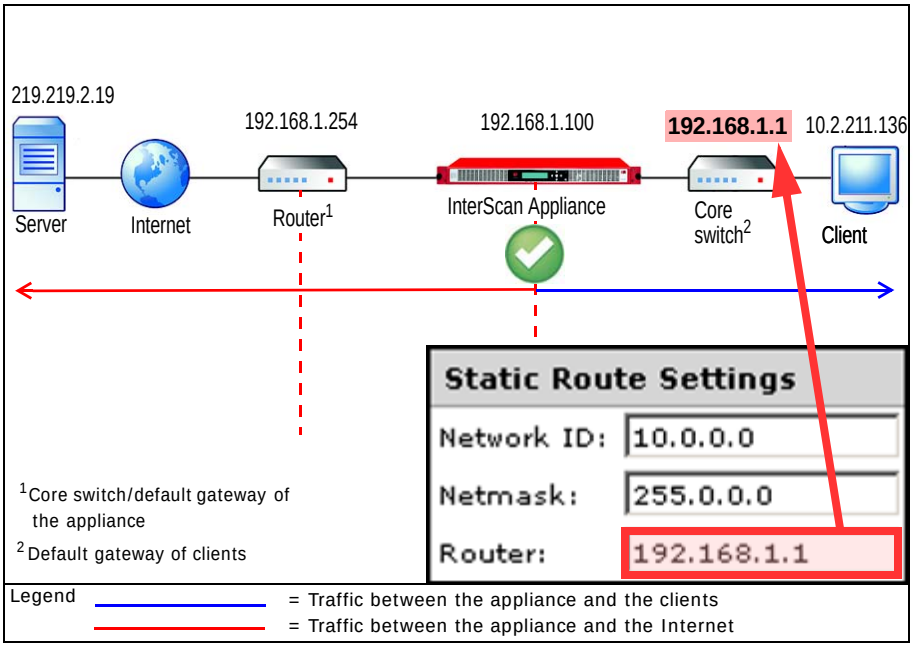

FIGURE 3-5. Solution: Static route settings tell the appliance where to forward traffic from clients deployed, even though they are in a different network segment

As a workaround, add static routing rules in the appliance. See *figure 3-5* on page 3-7 for an illustration of the solution to this problem and see *figure 3-6* on page 3-8 for instructions on how to add static routes.

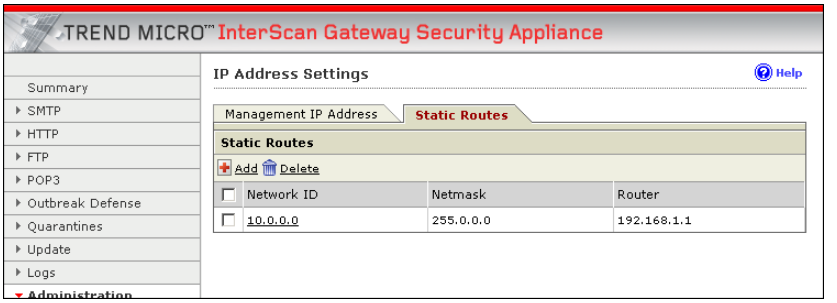

FIGURE 3-6. You can set static routes from the Web console (Administration > IP Address Settings, Static Routes tab)

Refer to *Deployment Recommendations* on page 3-17 for tips to help minimize issues in a multi-segment environment.

Advanced Deployment Scenarios

In addition to the basic deployment scenario, administrators can deploy InterScan Gateway Security Appliance:

- In two transparent proxy modes:
  - Transparent proxy mode
  - Fully transparent proxy mode
- In a DMZ environment
- In conjunction with a load-balancing device
- In a single-segment environment
- In a multi segment environment

Note: InterScan Gateway Security Appliance cannot be deployed in a tagged VLAN topology, because the appliance does not support VLAN tags.

Operation Modes

InterScan Gateway Security Appliance implements transparent proxy with bridging.

Note: The appliance can be deployed as an inline (pass-through) device only. It cannot be used as a router or proxy server.

All Ethernet packets are transferred between INT (eth0) and EXT (eth1) ports. In transparent proxy with bridging, the appliance is transparent to other computers (that is, clients, servers, network devices). Other network devices cannot address the appliance directly. However, they can address it at the network layer if an IP address is assigned to the virtual bridge interface (br0).

Bridging is a technique for creating a virtual, wide-area Ethernet LAN running on a single subnet. A network that uses Ethernet bridging combines an Ethernet interface with one or more virtual tap interfaces and brides them together under the umbrella of a single bridge interface. Ethernet bridges represent the software analog to a physical Ethernet switch. An Ethernet bridge is a kind of software switch that network administrators can use to connect multiple Ethernet interfaces (either physical or virtual) on a single computer while sharing a single IP subnet.

The appliance supports two transparent proxy modes ("operation modes"):

- Transparent proxy mode
- Fully transparent proxy mode

The major difference between transparent and fully transparent proxy modes is the "actual transparency" of the appliance with the destination server. The appliance creates an independent connection to the destination server. In transparent proxy mode, the destination server is aware of the IP address of the appliance.

In neither mode can the appliance keep the client's MAC address when delivering the request to the server.

Transparent Proxy Mode

InterScan Gateway Security Appliance enforces transparency through the following behavior:

- Clients do not see the presence of additional filters/scanners unless a violation is detected.
- Administrators do not need any additional configuration on the client side.
- The destination servers still see the appliance IP address as the requestor.

For an illustration of how the appliance processes HTTP, FTP, SMTP, or POP3 traffic in transparent proxy mode, see the figure below.

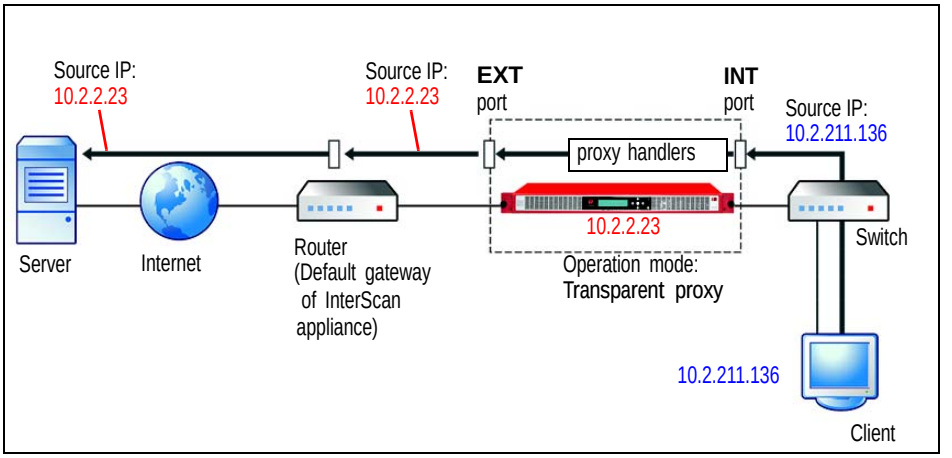

FIGURE 3-7. In transparent proxy mode, the client's IP address becomes that of the appliance

When a client initiates a request, the request passes through the switch that is the default gateway for clients in this segment. The appliance accepts the request through the INT port, which redirects traffic to the corresponding proxy handler. After the proxy handler processes the request, the appliance delivers the packet to the destination server through the router (the default gateway of the appliance).

WARNING! *The connection may be lost if the default gateway IP address of InterScan Gateway Security Appliance is deployed behind the appliance.*

In this mode, the source IP address is that of the InterScan Gateway Security Appliance and the destination IP address is that of the destination server. The appliance works in Layer 3 and has no knowledge of Layer 2 behavior.

Fully Transparent Proxy Mode

The appliance enforces full transparency through the following behaviors:

- Clients/destination servers do not see the presence of additional filters/scanners unless a violation is detected.
- Administrators do not need any additional configuration on the client side.

Figure 3-8 below illustrates how the appliance processes traffic in fully transparent proxy mode.

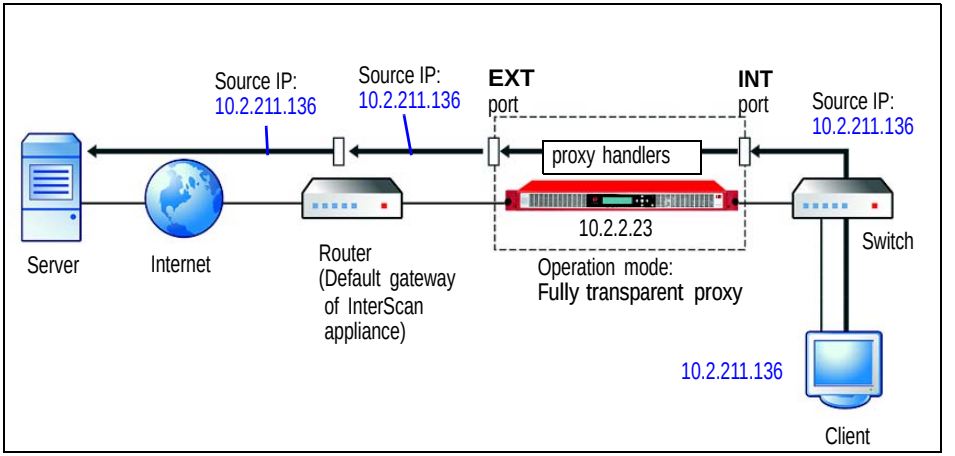

FIGURE 3-8. In fully transparent proxy mode, the IP address of the client is unchanged

When a client initiates a request, the request passes through the switch that is the default gateway for clients in this segment. The appliance accepts the request through the INT port, which redirects traffic to the corresponding proxy handler. After the proxy handler processes the request, the appliance delivers the packet to the destination server by way of the router (the default gateway of the appliance).

In this mode, the source IP address is the client's address and the destination IP address is that of the server. Bridge netfilter iptables is used to determine the route of the destination server.

Deployment in a DMZ Environment

To protect both a corporate network and a DMZ (*demilitarized zone* or perimeter network), you can deploy two appliances:

- One deployed to protect the corporate network
- One deployed to protect the DMZ

Because a DMZ is a network area (a subnetwork) that sits between an organization's internal network and an external network, two appliances are necessary to protect both areas.

See figure 3-9 for an illustration of a deployment with two appliances deployed as mentioned above. In the illustration, the company LAN is the area with a gray border and the DMZ is the area with a red border.

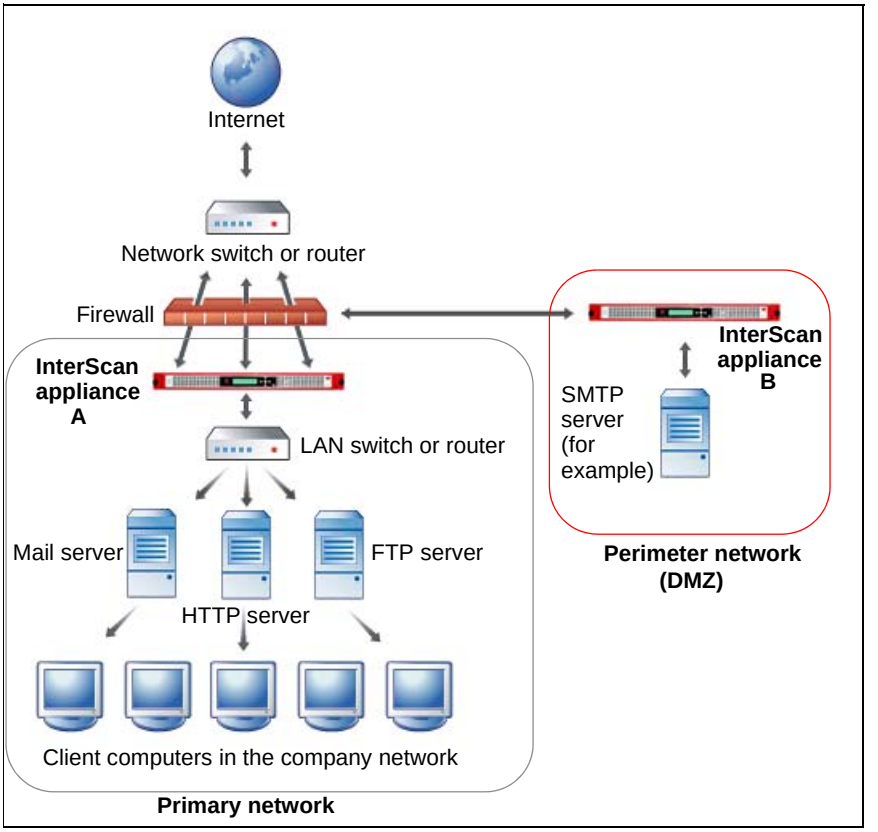

FIGURE 3-9. Deployment in a DMZ environment (requires two appliances)

Failover Deployment

If deploying two InterScan appliances, you can deploy them in such a way that if the connection to one appliance is broken, the second appliance takes over the load of the first appliance.

The basic steps for setting up a failover deployment are:

1. Deploy two appliances in your network (see *Failover Deployment Scenario* on page 3-15
2. Ensure that **LAN bypass**, an option in the Preconfiguration console, is disabled (disabled by default)
3. Enable **Link state failover**, another option in the Preconfiguration console (disabled by default)

   For instructions on how to set these options, see *Enabling or Disabling LAN Bypass and Link State Failover* on page 6-6.

Failover Deployment Scenario

To achieve such a function, deploy two InterScan appliances between two load-balancing devices, as shown in figure 3-10.

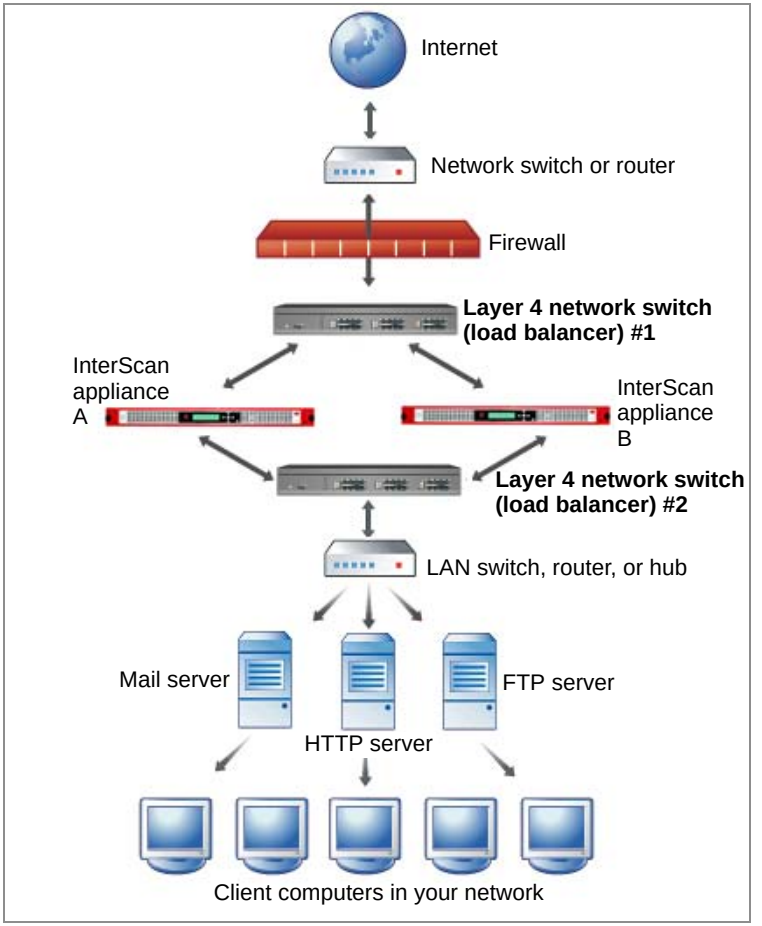

FIGURE 3-10. Two InterScan appliances arranged in a link state failover deployment

WARNING! *In order for this kind of "failover" to work,* **LAN bypass** *must be disabled and* **Link state failover** *must be enabled. They are both disabled by default.*

LAN Bypass and Link State Failover Settings

In the Preconfiguration console, **LAN bypass** must be disabled and **Link state failover** must be enabled in order for a load-balancing "failover" deployment to work.

LAN Bypass

LAN bypass is a feature by which, if the appliance encounters an error that causes scanning to stop, network traffic will still flow through the appliance unscanned, so that network traffic is not interrupted (disabled by default).

Link State Failover

Link state failover is a feature by which, if either the **INT** or the **EXT** port stops functioning, both ports are automatically shut down (disabled by default).

Setting LAN Bypass and Link State Failover Options

If you have previously enabled LAN bypass, you can disable it through the InterScan Gateway Security Appliance Preconfiguration console. Likewise, you can enable link state failover on the same screen of the Preconfiguration console. See *Enabling or Disabling LAN Bypass and Link State Failover* on page 6-6 for details.

Deployment Recommendations

Figure 3-11 below shows the recommended deployment setup for the appliance.

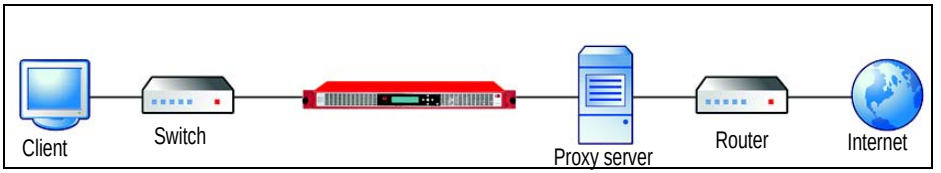

FIGURE 3-11. Recommended position of InterScan Gateway Security Appliance and other network devices in single- or multi-segment environments

To minimize issues and speedily complete deployment, deploy the appliance:

- Between a firewall that leads to the public network and a router, switch, or hub that leads to the protected segment of the local area network.

  Connect a router, switch, or hub to the **INT** port, thereby creating a protected network. Connect the **EXT** port to a device that leads to the public network or Internet.
- Before a proxy server leading to the public network.

If deploying in a multi-segment environment, take note of the following recommendations:

- Connect the default gateway to the **EXT** port.
- Use the same default gateway setting for both the appliance and the router that connects the appliance to the segments.
- Using the Web console, add the static routes for each segment to the appliance.
- Disable the proxy settings from the HTTP URL Filtering screen if traffic is not passing through the appliance.

Refer to *Deployment Issues* on page 3-18 to learn about the known deployment issues in this release. For details about single and multi-segment deployment topologies, see *Deploying in a Single Network Segment* on page 3-4 and *Deploying in a Network with Multiple Segments* on page 3-5.

Deployment Issues

This release has the following limitations:

- VLAN is not supported in either transparent or fully transparent proxy mode.

  Some network devices use VLAN to separate network layers. This use causes modified VLAN tags. The appliance cannot recognize VLAN tags. If deployed in a VLAN environment, the appliance is unable to scan any of the four protocols, and the Web console is inaccessible.

WARNING! *If the appliance is deployed in a VLAN environment, the LCM LEDs are unable to provide any indication that scanning is not working.*

- MAC address transparency is not supported in any operation mode.
- Original bridge forwarding processing may be disturbed in both operation modes. See *Deployment Issues* on page 3-18.
- If the link is broken on the external (Internet-facing) side of the appliance, the appliance cannot alert network devices on the external side. Likewise, if the broken link is on the internal side, the appliance cannot alert devices on that side.
- Packet looping may occur if packets pass through a proxy server before the appliance.

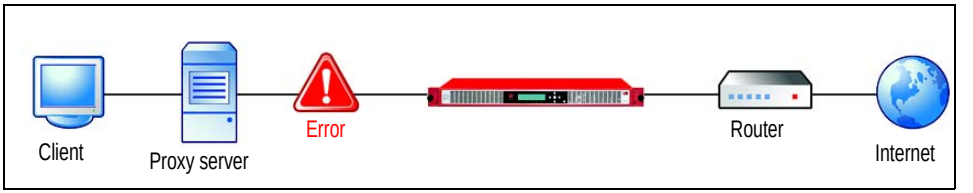

FIGURE 3-12. If the proxy server is deployed on the protected-network side of the appliance, packet looping may occur

Chapter 4

Mounting InterScan Gateway Security Appliance

Before beginning to configure an InterScan Gateway Security Appliance, plan how to integrate it into your network. Determine which topology it will support and the type of operation mode it will use.

This chapter explains how to plan for the deployment of the appliance based on supported operation modes. It also provides deployment scenarios to facilitate understanding of the various ways that the appliance can help protect the network.

This chapter contains the following topics:

Reviewing the Device Environmental Specifications

When deciding on a location for the device, consider the following:

- Device dimensions and weight, see *Appendix: Dimensions and Weight* page B-2
- Environmental considerations, see *Appendix: Power Requirements and Environment* page B-3

Deciding on the Type of Mounting

The appliance can be mounted on a rack or on any stable, flat surface. Decide what type of mounting works best for your environment.

- To mount the appliance on a 19-inch rack using the rack set, see *Mounting an InterScan Appliance with a Rack Kit* on page 4-2
- To mount the appliance on a flat surface using the rubber feet, See *Attaching the Rubber Feet for Freestanding Installation* on page 4-13

WARNING! *The appliance cannot be mounted on a two-post rack cabinet.*

Mounting an InterScan Appliance with a Rack Kit

If you are mounting more than one device, mount the first device in the lowest available position in the rack.

Mount the appliance:

- In a standard 19-inch four-post rack cabinet

  The appliance requires 1 rack unit (RU) of vertical space in the rack.

  WARNING! *Ensure that the fan vent is not blocked.*

Recommended Tools

Trend Micro recommends using the following tools to mount the appliance:

- #2 Phillips-head screwdriver
- Standard adjustable wrench or standard slip-joint pliers

Four-Post Rack Mounting

You can mount the appliance in a 19-inch standard cabinet rack.

Note: Ensure that the rack cabinet side panel is longer than 25 inches (635mm).

To mount the appliance in a four-post rack cabinet:

WARNING! *Do not install rack kit components designed for another system. Use only the rack kit for the appliance. Using the rack kit for another system may damage the device and cause injury to yourself and others.*

1. Verify the rack kit box contents.
2. Attach the rails to the sides of the appliance.
3. Attach the slide sets to the posts of the rack cabinet.
4. Mount the appliance in the rack.

Rack Kit

TABLE 4-1. InterScan appliance rack kit contents

Quantity	Item	Description
2 slide sets (1 slide and 1 rail per set)	Slide and rail sets	Secure the device (fixed mount) or use to secure and allow the device to slide in and out of a four-post rack (sliding mount) **Note:** The rail is assembled with the slide when the appliance is shipped. Remove the rail from the slide before mounting a device
8 pieces 10 pieces	Cage screws Cage nuts	Secures the slide sets to the front and back rack posts **Note:** Depending on the type of rack, the Cage nuts may not be needed
2 pieces	Rail screws	Secures the rails to the side panels of the device (one per side)

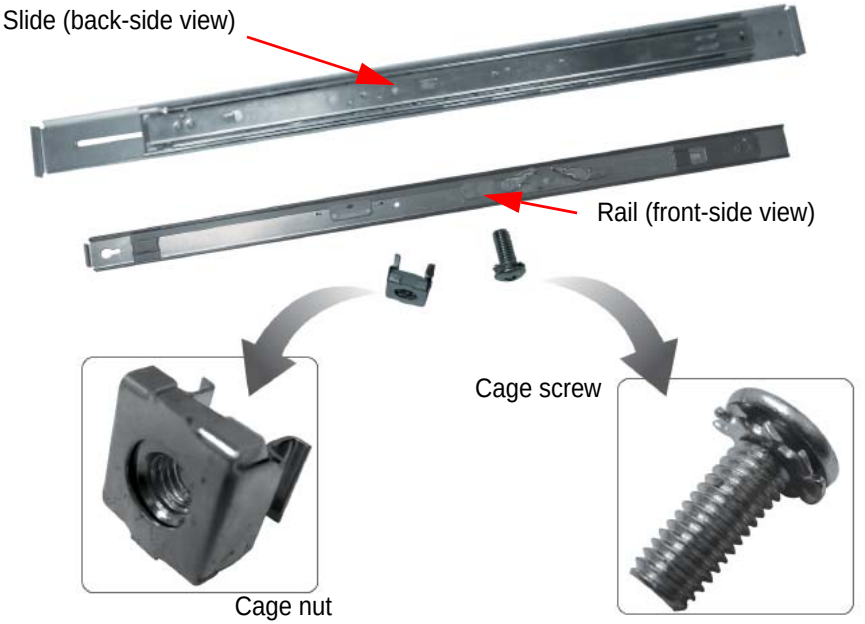

FIGURE 4-1. InterScan appliance rack kit components

Preparing and Attaching the Slide Rails to the Appliance

This task involves separating the rail from the slide set and attaching it to the side of the device.

To prepare and attach the slide rails to the device:

1. Holding the rail and slide set horizontally, with the back of the slide set facing you, detach the rail from the slide by pulling the rail lock to the right.

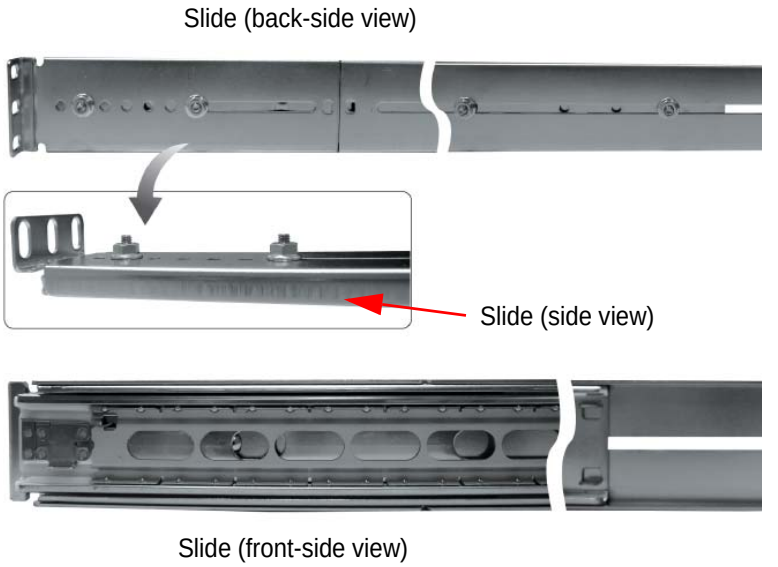

FIGURE 4-2. Slide front, back, and side view

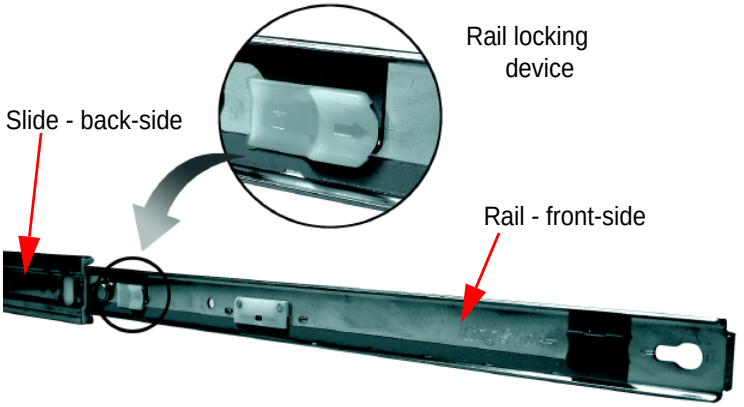

FIGURE 4-3. Rail lock device

Note: The rail lock is a white plastic sliding lever. The rail lock will be located on the left side of the rail, facing you.

2. Attach a rail to the device side panel by placing the backside of the rail against the side of the device.

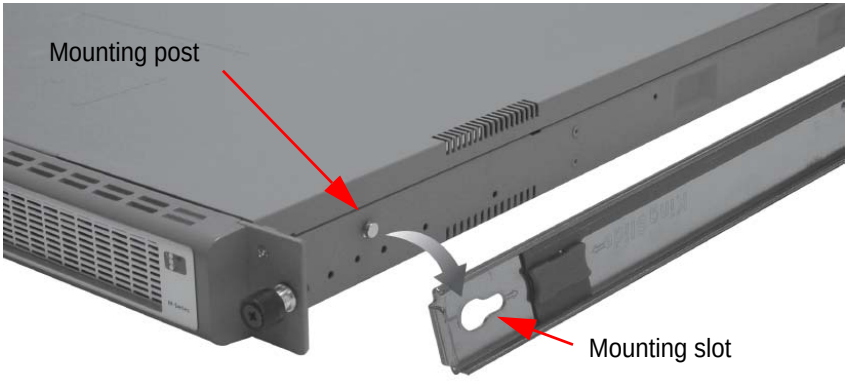

FIGURE 4-4. Connecting the rail to the device

There is a lip at one end of the rail. Make sure the end of the rail containing the lip is towards the front of the device.

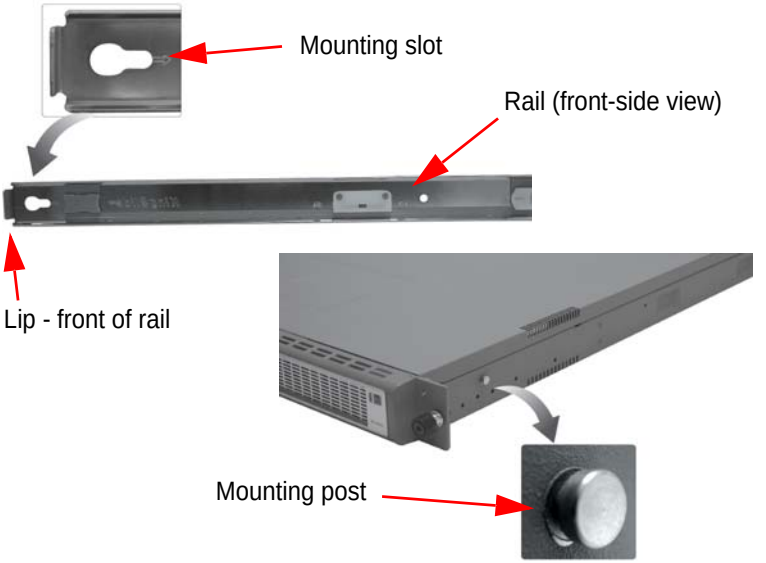

FIGURE 4-5. Image of the mounting post and slot

On each side of the device are two metal mounting posts. Make sure that the keyhole-shaped holes (mounting slots) in the rail match up with the mounting posts, and then firmly slide the rail until the mounting posts are securely locked into the mounting slots. See Figure 4-6. below.

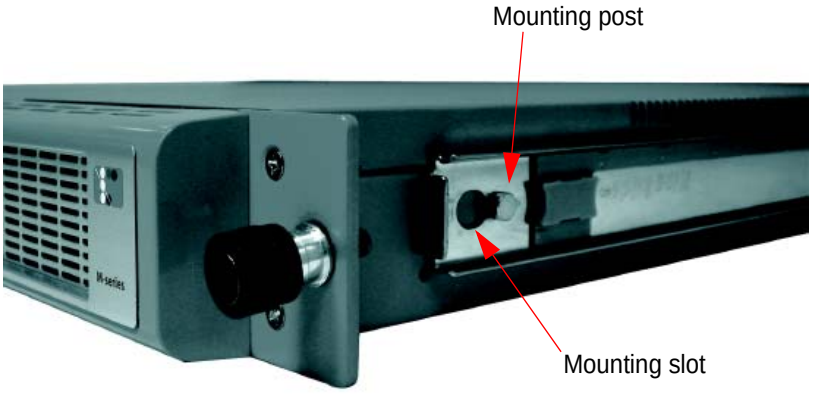

FIGURE 4-6. Mounting post inserted into mounting slot

3. Use one (1) slide screw to secure the rail to the device.
4. Repeat steps 1 through 3 for the other side.

Installing the Slide Sets

This task involves installation of the assembled slide sets to a four-post rack.

To install the slide sets:

1. Remove the rack doors if the rack doors are still covering the rack slots where you want to mount the appliance.

   Tip: Refer to the documentation provided with the rack cabinet for details on how to remove the rack doors.

2. Starting with the rack front post, hold and position the slide set lip to align with the holes of the cage nuts.

Figure 4-7. is an image of a slide set that has been lined up with the cage nuts and partially attached with one of the cage screws.

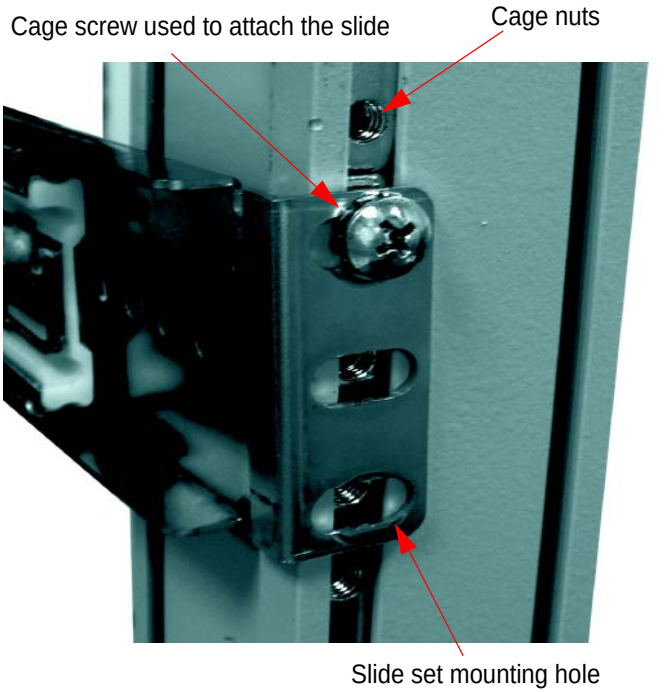

FIGURE 4-7. Slide set partially attached to the post of 4-post cabinet

Tip: An InterScan Gateway Security Appliance device occupies 1 RU (1.70in or 4.32cm, three rack holes) of vertical space in the rack.

3. Insert a cage screw into the top-most hole of the slide set and tighten.
4. Insert a cage screw into the bottom-most hole of the slide set and tighten.
5. At the back of the cabinet, pull back the slide set until the mounting holes align with their respective cage nut holes.

Figure 4-8. is an image of a slide set and a close-up of the slide nut and screw that can be loosened to adjust the length of the slide set.

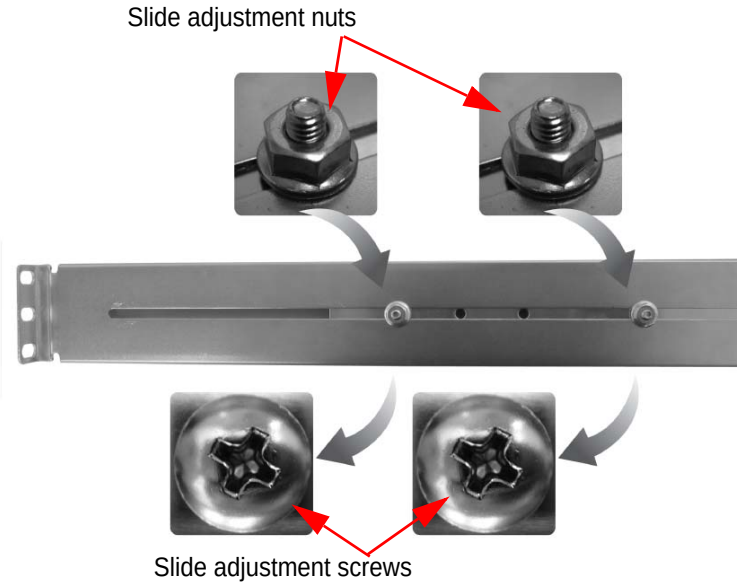

FIGURE 4-8. Slide adjustment screw and nut for adjusting slide length

6. Repeat steps 2 to 4 to secure the remaining slide set on the other side of the rack.
7. Ensure that the slide sets are installed at the same level on each side of the rack.

Mounting the Appliance on the Rack

This task involves installing the device on the four-post rack cabinet.

Note: Because of the size and weight of the appliance, never attempt to mount the device on the rack by yourself.

To mount the appliance on the rack:

1. Pull the two slides out of the rack until the release latches lock in a fully extended position.
2. Lift the device into position in front of the extended slides.
3. Holding the top and bottom panels, align and fit the side panel rails on the left and right slide sets.
4. Push the device, while holding the rail release open, into the rack until the front of the device is flush against the front rack posts.

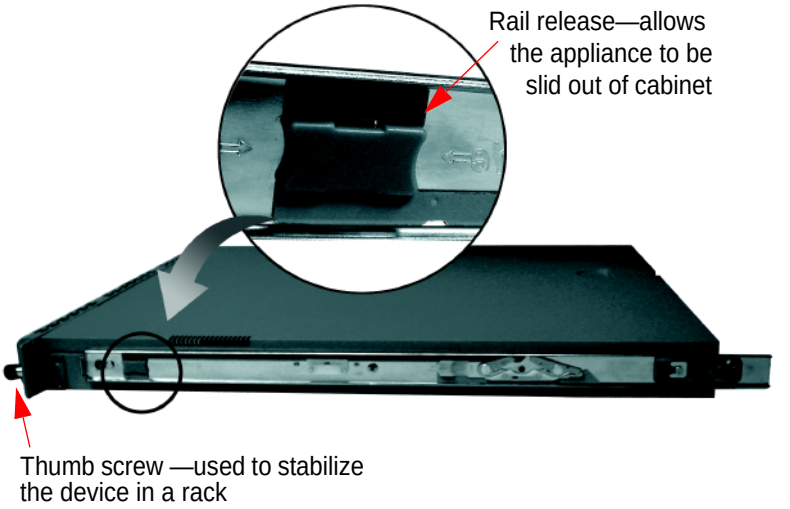

FIGURE 4-9. The appliance with rail attached

5. Twist the sun screws until tight to prevent the device from sliding in and out of the rack.

Attaching the Rubber Feet for Freestanding Installation

For freestanding installation, ensure that the device has at least 2-inch (5.08cm) of clearance on each side to allow for adequate airflow and cooling.

Use the pre-die-cut rubber feet that came with the device for a freestanding installation. The rubber feet come pre-die-cut on an adhesive sheet. Remove each rubber foot as needed being careful not to touch the adhesive surface. Stick the rubber feet to the bottom of the device within 1-inch of each corner.

Chapter 5

Preconfiguring InterScan Gateway Security Appliance

Preconfiguring InterScan™ Gateway Security Appliance requires the completion of the following tasks:

Preparing for Preconfiguration

Complete the following tasks before you preconfigure InterScan Gateway Security Appliance:

- Determine the administrator account password for the appliance.
- Determine the host name for the appliance.
- Prepare a machine that has terminal communications software, such as HyperTerminal for Windows and a DB9 port.

Failopen Considerations (LAN Bypass)

Failopen—also known as LAN bypass—is a fault-tolerant solution that allows the appliance to continue to allow traffic to pass if device failure occurs. Failopen is enabled by default. Use the preconfiguration console to disable or enable failopen. (See *Enabling or Disabling LAN Bypass and Link State Failover* on page 6-6 for detailed instructions.)

Tip: If there is a firewall between the appliance and the Internet and the appliance is operating in Transparent Proxy Mode, make sure that the appliance IP address is added to the firewall list.

Preconfiguring the Appliance

Preconfiguring the appliance requires the completion of the following tasks.

To perform preconfiguration:

1. Gather device network IP information.
2. Choose a preconfiguration method.
3. Perform preconfiguration.
4. Verify a successful deployment.

Your InterScan Gateway Security Appliance must have an IP address to operate in your network.

WARNING! *This appliance is a pass-through device. Therefore:*

1. Do not place InterScan Gateway Security Appliance in front of the network gateway *(the network firewall, for example).*

2. Do not reconfigure the network firewall to use the IP address of InterScan Gateway Security Appliance as its default gateway address.

Deployment in either of the above ways prevents the appliance from working.

Assigning an IP Address

Assign an IP address in any of three ways:

- **[Recommended]** A DHCP server automatically assigns a dynamic IP address to the appliance during deployment. This is the preferred method. Normally, there is one DHCP server per subnet; however, you can use a DHCP relay agent to support multiple subnets.
- Use a terminal communications program, such as HyperTerminal (for Windows) or Minicom (for Linux) to access the appliance Preconfiguration console and manually assign a dynamic or static IP address to the appliance during preconfiguration. If you choose to use a static IP address, you will need to set the netmask address, default gateway address, and primary DNS address.
- Using the LCD module, manually assign a dynamic or static IP address to the appliance after you have mounted it on your network. If you choose to use a static IP address, you will need to use the buttons on the LCD module to set the netmask address, default gateway address, and primary DNS address. You can also designate a host name in this way.

Note: It may be necessary to provide a secondary DNS server address.

Connecting to the Network

With a DHCP server, you can connect InterScan Gateway Security Appliance to your network right out of the box without having to undergo a preconfiguration process. Once connected, InterScan Gateway Security Appliance can handle various interface speeds and duplex mode network traffic.

To connect the InterScan Gateway Security Appliance to your network:

1. Connect one end of the Ethernet cable to the INT port (right side) and the other end to the segment of the network that InterScan Gateway Security Appliance will protect (the Protected Network).
2. Connect one end of another Ethernet cable to the EXT port (left side) and the other end to the part of the network that leads to the public network.
3. Using the power switch in the back of the appliance, power on the device.

Note: To prevent accidental shutdown of the appliance, the appliance power switch has been modified from the standard On/Off convention. To power on InterScan Gateway Security Appliance, simply press the Power Switch upward from the 0 to 1 position. To power off InterScan Gateway Security Appliance, press the power switch upward from 0 to 1 and **hold it in that position for a minimum of five seconds,** until the appliance powers off.

Gathering Device Network IP Information

To help the preconfiguration process proceed smoothly, gather the following network information before beginning:

Tip: Use the system checklist from Appendix A to record your network information

---

- IP address (static)

  For static IP, you will need the following additional information:

  - Primary DNS address
  - [Optional] Secondary DNS address
  - Gateway address
  - Netmask
- Hostname (recommended)

Choosing a Preconfiguration Method

Preconfigure the appliance using one of the following methods:

- Preconfiguration console (recommended)
- LCM module

The following table displays the differences between the LCM module and Preconfiguration Console.

TABLE 5-1. Comparison of console preconfiguration features

What you can do	Preconfiguration console	LCD Module
Change passwords	x	
Set the appliance IP address, netmask, gateway address, and DNS addresses	x	x
View system logs		x
Initialize the appliance to the default settings	x	
Reset the appliance		x
Restore default settings (factory settings) **Note:** The product license will not be reset.	x	
Configure the interface speed and duplex mode	x	
Allow changes to take effect immediately	x	x

Using the Preconfiguration Console

The Preconfiguration console is a terminal communications program that allows you to configure or view any preconfiguration setting. These settings include:

- Device Information & Status
- Device IP Settings
- Interface Settings

- System Tools
- Change Password
- Log off with saving
- Log off without saving

Examples of a terminal interface are HyperTerminal for Windows and Minicom for Linux. For more information on how to access the Preconfiguration console, see *Interfacing with the Preconfiguration Console* on page 5-7.

The terminal interface allows basic preconfiguration of appliance settings. If you do not have access to a computer with terminal communications software, use the appliance LCM module to perform preconfiguration.

Using the LCM Module

Use the LCD and control panel on the front of the device to configure the appliance network settings, such as the IP address, hostname, netmask, gateway, and primary and secondary DNS addresses.

Using the Preconfiguration Console to Set Device Settings

Preconfiguring the appliance using the preconfiguration console requires the completion of the following tasks:

1. *Interfacing with the Preconfiguration Console* on page 5-7
2. *Logging On to the Preconfiguration Console* on page 5-12
3. *Configuring Device Settings* on page 5-13
4. *Setting the Interface Speed and Duplex Mode* on page 5-15
5. *Logging off the Preconfiguration Console* on page 5-15

Interfacing with the Preconfiguration Console

Before you set the device settings for IGSA, designate a local computer to interface with the appliance console port. Use a computer that has a serial port and terminal configuration software such as HyperTerminal for Windows.

To access the preconfiguration console:

1. Connect one end of the included console cable to the **CONSOLE** port on the back panel of the device and the other end to the serial port (COM1, COM2, or any other available COM port) on the designated local computer. (See Figure 1-4. *Back panel* on page 1-10.)

> **Tip:** Trend Micro recommends that you configure HyperTerminal properties so that the backspace key is set to delete and that you set the emulation type to `VT100J` for best display results.

2. Open HyperTerminal (**Start** > **Programs** > **Accessories** > **Communications** > **HyperTerminal**). For best display results, set the terminal emulation to `VT100J`, as shown below.

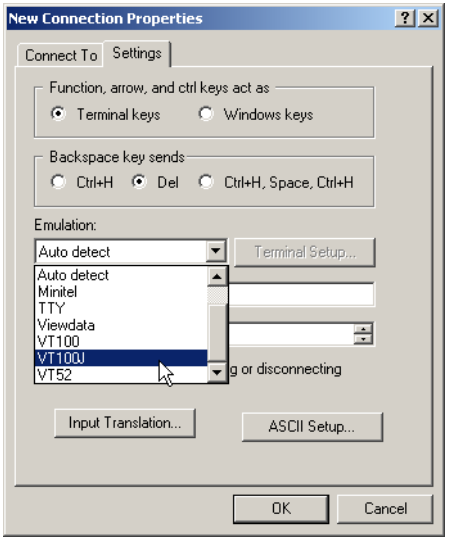

FIGURE 5-1. HyperTerminal display settings

3. Click **File > New Connection.** The Connection Description screen appears. Type a name for the connection profile and click **OK.** The Connect To screen appears:

FIGURE 5-2. The HyperTerminal Connect To screen

4. In the **Connect To** screen, using the drop-down menu, choose the COM port that your local computer has available and that is connected to the appliance.
5. Click **OK**. The COM Properties screen appears. Use the following communications properties:
   - **Bits per second:** 115200
   - **Data Bits:** 8
   - **Parity:** None
   - **Stop bits:** 1
   - **Flow control:** None

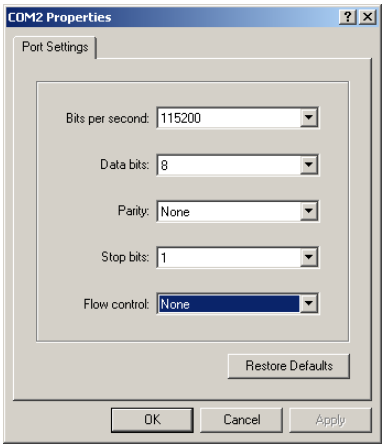

FIGURE 5-3. HyperTerminal COM Properties screen

6. Click **OK**. The COM Properties screen disappears and the screen is blank.
7. At the blank HyperTerminal screen, type the appliance Preconfiguration console password, or, if this is the first time you use the device, use the default password *admin* and press **ENTER**. The console accepts the password, displays the Login screen, and moves the cursor to the **Login** prompt.

Tip: Trend Micro recommends that you change the default password upon first use. You can do so through the Preconfiguration console.

FIGURE 5-4. The appliance Preconfiguration console login screen

8. Press **ENTER** again. The appliance Preconfiguration console Main Menu appears, as shown below.

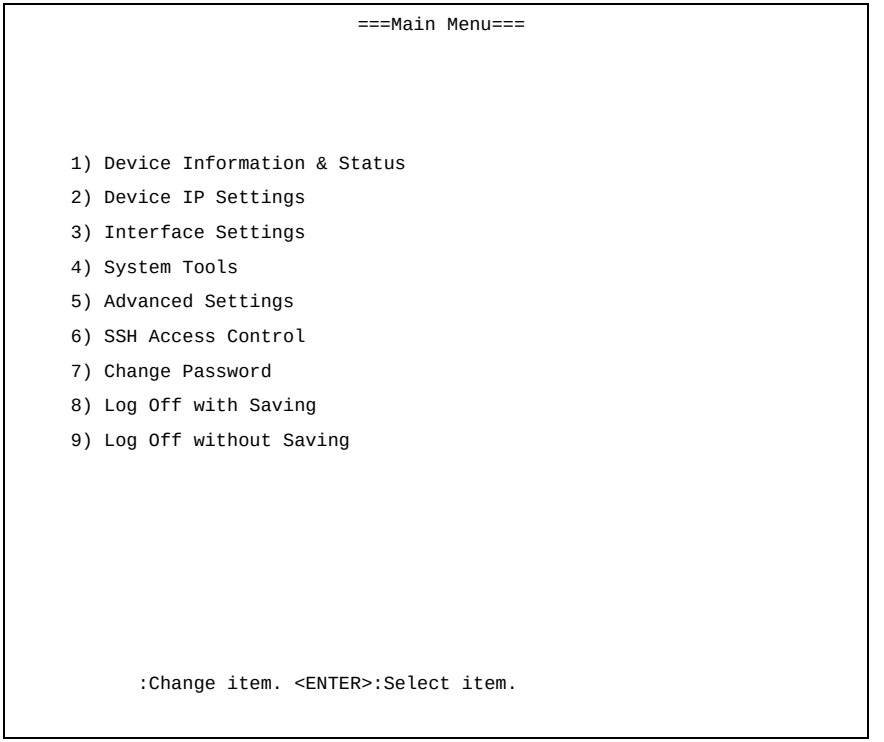

FIGURE 5-5. The appliance Preconfiguration console main menu, accessed with HyperTerminal

Logging On to the Preconfiguration Console

After preparing the terminal application, you are ready to use the preconfiguration console.

To access the preconfiguration console:

1. Power on the appliance (approximately 1-2 minutes) by completing the following tasks:
   a. Connect the power cord to the DC power receptacle.

b. Connect the power cord to an electrical outlet.

c. Push the power switch to turn on the device.

The Welcome message appears in the LCD module when the system is successfully powered on.

2. Press **Enter** when the terminal interface displays *InterScan Gateway Security Appliance preconfiguration, Press <ENTER> to continue...*

   After connection, the terminal screen appears blank.

3. Type the default administrator password:

   Password: `admin`

   Note: Change the default password to a secure password immediately after logging on for the first time.

   Use this logon password for full access to all appliance preconfiguration features.

4. After you log on, the **Main Menu** appears.

Note: The preconfiguration console has a timeout value of three (3) minutes. If the console is idle for three minutes, it automatically logs off the account.

Preconfiguration Console Controls

- To change fields, press the UP ARROW, DOWN ARROW, and TAB keys to jump from field to field.
- To change field values, press the SPACEBAR to navigate through a list of predefined values.
- To navigate between screens, press the ENTER key.

Configuring Device Settings

Immediately after logging on to the preconfiguration console for the first time, change the default password to a secure password. After changing the password, use the **Device Settings** menu to configure the appliance host name.

To configure the InterScan Gateway Security Appliance device IP settings:

1. On the **Main Menu** of the preconfiguration console, use the UP ARROW or DOWN ARROW and select **Device IP Settings**. The Device IP Settings screen appears.

   Note: When you configure the device for the first time, the factory default settings appear.

2. Use the UP ARROW or DOWN ARROW to navigate the Device IP Settings list.
   - **Type -** Choose whether to use a static or dynamic IP address (default is dynamic).

     If you select static, you will be required to set the netmask address, default gateway address, and primary DNS address.

     Note: You may be required to provide the address for the secondary DNS server address.

   - **Host name** - Type a host name that properly represents the appliance in the network and on the Web console.

   Trend Micro recommends that each InterScan appliance on your network have a unique host name.

   Tip: Host names may be up to 63 alphanumeric characters (spaces not allowed). Trend Micro recommends a unique descriptive host name to represent and identify the InterScan Gateway Security Appliance device.

   WARNING! *If there is a NAT device in your environment, Trend Micro recommends assigning a static IP address to InterScan appliance. Because different port settings are assigned from your NAT,* the appliance *may not work properly if dynamic IP addresses are used.*

3. After specifying the network settings, select **Return to the Main Menu**. The console returns to the **Main Menu** screen.
4. Select **Log off with saving**, to save settings and to log off.

Setting the Interface Speed and Duplex Mode

Use the preconfiguration console to configure the interface speed and duplex mode.

To set the interface speed and duplex mode:

1. Log on to the appliance preconfiguration console using the administrator password.
2. On the **Main Menu**, select **Interface Settings**.
3. On the **Interface Settings** screen, select the port to configure and use the space bar to navigate a list of options. For example, to configure the interface speed and duplex mode of the management (MGT) port, use the space bar to navigate through a list of options.
4. [Optional] **LAN bypass** - use the space bar to enable or disable LAN bypass.
5. Log off the preconfiguration console for changes to take effect.

Logging off the Preconfiguration Console

Log off from the preconfiguration console after completing preconfiguration or modifying settings (for example, device settings) that require logging off for changes to take effect.

To log off from the preconfiguration console:

1. On the **Main Menu** of the preconfiguration console, select **Log off with saving** or **Log off without saving**. A confirmation message appears.
2. Select **OK** to log off.

Note: To apply new settings, you must save before logging off.

Configuring the Appliance Using the LCM Module

With the LCM module, you can configure the appliance's IP network settings. Use the LCM module to access all configuration options.

There are five buttons on the LCM module:

- **Up arrow** – cycles forward through the alphanumeric characters displayed on the LCD
- **Down arrow** – cycles backward through the alphanumeric characters displayed on the LCD
- **Left arrow** – moves the focus or cursor to the left
- **Right arrow** – moves the focus or cursor to the right

Tip: Use the **Left** and **Right** arrows to read the logs displayed on the LCD.

- **Enter** – confirms selection or input

Note: The LCD and keypad do not work when the system is powered off (even if the device is plugged in to an AC power source).

To configure the appliance IP network settings through the LCM module:

1. Press **Enter**. The Main Menu appears.
2. Use the down arrow to select **Configure**.
3. Press **Enter** and a prompt displays asking if you want to change settings.

> **Tip:** The LCM module times out in three (3) minutes if there is no activity initiated using the control panel.

4. To continue, ensure that a asterisk (*) is next to `Yes`. To abort, move the asterisk (*) to the `No` position:

   ```
   (*) Yes  ( ) No
   ```

5. Press **Enter**.
6. If you selected `Yes`, a prompt appears asking to have the appliance IP address dynamically assigned. Choose from one of the following options for assigning the device and IP address:
   - To use a dynamic IP address, ensure that a asterisk (*) is next to `Yes` and press **Enter**.

     ```
     (*) Yes  ( ) No
     ```

   - To manually enter a static IP address, do the following:

     a. Ensure that a asterisk (*) is next to `No` and press Enter.

     ```
     ( ) Yes  (*) No
     ```

     b. Type the new **IP address**, **netmask**, **gateway address**, **primary DNS address**, and/or the **secondary DNS address**.
7. Press **Enter** to save the settings when prompted.

The appliance immediately applies the new settings.

After completing these tasks, the hostname and IP address will appear in the device LCD.

Connecting to the Network

Note: Be sure to preconfigure the appliance before attempting to connect to the network.

To connect the appliance **to your network:**

Note: After preconfiguration, switch off the device before connecting it to the network.

1. Connect one end of the Ethernet cable to the **INT** port and the other end to the segment of the network that the appliance will protect (the Protected Network).
2. Connect one end of another Ethernet cable to the **EXT** port and the other end to the part of the network that leads to the public network.
3. Power on the device.

Note: InterScan Gateway Security Appliance can handle various interface speeds and duplex mode network traffic.

Testing for Device Connectivity

Perform either of the following tasks to test whether you have successfully configured the InterScan Gateway Security Appliance.

To test if the device is configured properly, do one of the following:

- Ping the device to verify connectivity. You can obtain the IP address by looking at the LCD panel on the front of the device.
- Browse the appliance Web interface by going to a PC on the protected network and opening an IE browser to https://(hostname or IPAddress)

Obtaining the Activation Code

The Trend Micro sales team or sales representative provides the Registration Key. Use the Registration Key to obtain a full version Activation Code.

To obtain the Activation Code:

1. Go to the Trend Micro Online Registration Web site (`https://olr.trendmicro.com/registration`). The Online Registration page of the Trend Micro Web site opens.
2. Perform one of the following:
   - If you are an existing Trend Micro customer, log on using your **logon ID** and **password**.
   - If you are a new customer, click **Register Your Product** under **New customer** registration.
3. On the Enter Registration Key page, type or copy the appliance **Registration Key**, and then click **Continue**.
4. On the Confirm License Terms page, read the license agreement and then click **I accept the terms of the license agreement**.
5. On the Confirm Product Information page, click **Continue Registration**.
6. Fill out the online registration form, and then click **Submit**.
7. Click **OK** twice.

After the registration is complete, Trend Micro sends an Activation Code by email, which you can then use to activate the appliance.

A Registration Key has 22 characters (including the hyphens) and looks like this:

```
xx-xxxx-xxxx-xxxx-xxxx
```

An Activation Code has 37 characters (including the hyphens) and looks like this:

```
xx-xxxx-xxxxx-xxxxx-xxxxx-xxxxx-xxxxx
```

Configuring InterScan Gateway Security Appliance

After preconfiguring the appliance, you are ready to configure the device and commence network protection. Configure the device using the appliance Web console.

Trend Micro recommends performing the following tasks after preconfiguring the appliance:

- Activate the product
- Configure notification settings including setting the administrator password
- Update scan engine and pattern files
- Change the Web console password

Refer to the following documentation for related instructions:

- InterScan Gateway Security Appliance Online Help–provides instructions on how to configure the appliance.

After the registration is complete, Trend Micro emails you an Activation Code, which you can then use to activate InterScan Gateway Security Appliance.

A Registration Key has 22 characters (including the hyphens) and looks like this:

```
xx-xxxx-xxxx-xxxx-xxxx
```

An Activation Code has 37 characters (including the hyphens) and looks like this:

```
xx-xxxx-xxxxx-xxxxx-xxxxx-xxxxx-xxxxx
```

Chapter 6

Troubleshooting and FAQs

This chapter addresses troubleshooting issues that may arise during the InterScan™ Gateway Security Appliance preconfiguration process.

This chapter contains the following topics:

Troubleshooting

Why Is the Summary Screen not Logging Any Events? Why Aren't Any Logs Being Created?

Cause—The appliance requires hard disk initialization and reformatting. It is necessary to re-initialize the hard disk under the following conditions:

- When upgrading InterScan Gateway Security Appliance to the latest build version
- When the Hard Disk LED in the front panel of the appliance is red, indicating that the hard disk failed and the unit is already operating in diskless mode

Solution—Follow the procedure below.

To initialize the hard disk:

1. Log on the appliance Preconfiguration console. (See *Interfacing with the Preconfiguration Console* on page 5-7.)
2. Select option **4) System Tools** from the Main Menu.
3. On the System Tasks menu, select option **1) Hard Disk Initialization.** The Hard Disk Initialization screen appears, displaying the current status of the hard disk.
4. Press any key. The appliance asks for confirmation.
5. Select **OK.** The appliance removes the contents of the original partition and then reboots.
6. After the appliance has rebooted, repeat steps 1 through 3 above to format the hard disk. The appliance formats the hard disk and then displays the following message:

FIGURE 6-1. Preconfiguration console output screen when initializing a hard disk that is not formatted or is improperly installed (the second part of the re-initialization process)

7. Press any key. The appliance formats the hard disk and displays the following screen when the formatting is complete:

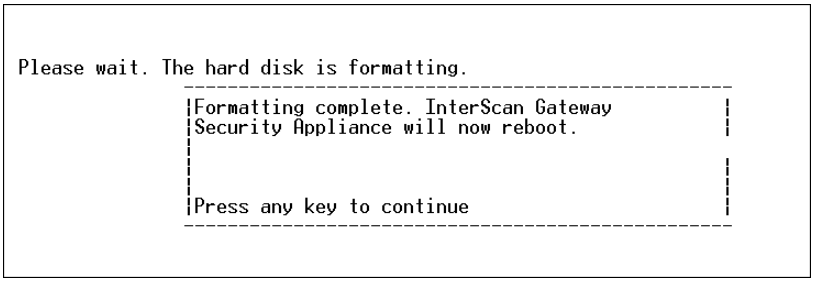

FIGURE 6-2. Preconfiguration console output screen when the appliance has finished formatting the hard disk

8. Press any key. The appliance reboots. The hard disk is ready when the Hard Disk LED in the appliance front panel turns green.

I Can See the Console Output on the HyperTerminal but Some Keystrokes Do Not Work

Cause—The HyperTerminal settings are incorrect or need refreshing.

Solution—Change the HyperTerminal emulation setting to something other than VT100J and then change it back. If the problem persists, you can close HyperTerminal and connect again.

The LCM Displays "[Error] No Connection"

Cause—InterScan Gateway Security Appliance is having a problem connecting to the DHCP server.

Solution—First, check that the Ethernet cables are connected. By default, InterScan Gateway Security Appliance uses a dynamic IP address from a DHCP server. Make sure that InterScan Gateway Security Appliance can connect to the DHCP server to get a valid IP address. Use another device and try to obtain an IP from the DHCP server, or change the InterScan Gateway Security Appliance IP address to static.

The Device Does Not Turn off When I Press the Power Switch

Cause—The power switch is not being held down long enough.

Solution—**The power switch has to be pressed for at least 5 seconds.** The switch is designed to function in this way to prevent an accidental shutdown.

LAN Bypass

LAN bypass is a fault-tolerance solution that allows InterScan Gateway Security Appliance to continue to pass traffic if a software, hardware, or electrical failure occurs.

InterScan Gateway Security Appliance has three (3) user-configurable Copper-based Ethernet ports. Each Ethernet port has two (2) indicator lights that allow you to determine the port's current state and duplex speed. View the port indicator lights to determine if LAN bypass is currently active.

The following table describes the different LAN bypass triggers and the associated LED indicator status.

	LED 1 Status	LED 2 Status
Software problems or system rebooting	Yellow	OFF
Power cord is plugged in but device is shutdown	Yellow	OFF
Power cord unplugged	OFF	OFF

LAN bypass is disabled by default. You can enable the feature through the InterScan Gateway Security Appliance Preconfiguration console. See *Enabling or Disabling LAN Bypass and Link State Failover* on page 6-6.

Link State Failover

Link state failover is a feature by which, if either the **INT** or the **EXT** port stops functioning, both ports are automatically shut down. This feature is disabled by default. You can enable it through the Preconfiguration console. For instructions on enabling or disabling this feature, see *Enabling or Disabling LAN Bypass and Link State Failover* on page 6-6.

Enabling or Disabling LAN Bypass and Link State Failover

Accessing the Preconfiguration Console

Follow the procedures below to access the appliance Preconfiguration console.

To enable or disable LAN bypass and Link state failover:

1. Access the Preconfiguration console as described in *Using the Preconfiguration Console to Set Device Settings* on page 5-7.
2. Select option **3**, **Interface Settings**. The following screen appears:

```
                                Interface Settings




        Current Interface Setting:

        Name                    MNG      EXT      INT
=========================================================================
        speed&duplex            auto     auto     auto

        Link state failover: [disable] Use Space to change the value
        LAN bypass: [disable] Use Space to change the value

        10H: 10 Mbps x half-duplex      1000F: 1000 Mbps x full-duplex
        10F: 10 Mbps x full-duplex      auto: automatically select the best
        100H: 100 Mbps x half-duplex
        100F: 100 Mbps x full-duplex

        Return to Main Menu




           ,<TAB>:Change field. <Space>:Change Value. <ENTER>:Select field.
```

FIGURE F-1. Preconfiguration console Interface Settings screen

3. Use the **TAB** key to select the **LAN bypass** field
4. Press the **SPACE** bar on your keyboard to choose between **disabled** and **enabled.** The **LAN bypass** value toggles between **disabled** and **enabled.**
5. Use the **TAB** key to select the **Link state failover** field
6. Press the **SPACE** bar on your keyboard to choose between **disabled** and **enabled.** The **Link state failover** value toggles between **disabled** and **enabled.**
7. Use the **TAB** key to select the **Return to Main Menu** field and press **ENTER.** The Main Menu screen appears.
8. Select option **8**, **Log Off with Saving** and press **ENTER.** The system saves your settings and logs you off from the Preconfiguration console.

Frequently Asked Questions

Review these frequently asked questions for insight into issues that many users ask about.

What Is the Purpose of the "ID" LED?

The ID LED helps users identify a specific InterScan Gateway Security Appliance in a rack containing many devices. There are two ID LEDs. One is at the front of the device, and the other is at the back of the device.

Can I Use the USB Ports to Transfer Files to and from InterScan Gateway Security Appliance?

No, the USB ports are not enabled in this version. They are for future hardware extensibility.

Will InterScan Gateway Security Appliance Still Operate If the Hard Disk Is Not Working?

Yes, when the hard disk is not working or not working properly, InterScan Gateway Security Appliance will reboot into diskless mode. In diskless mode, InterScan Gateway Security Appliance still scans for threats, but some features are disabled, for example, product updates, event logging, version rollbacks, item quarantine, and Outbreak Prevention Services. Additionally, InterScan Gateway Security Appliance scanning performance is decreased.

Does the "RESET" Pinhole Reset InterScan Gateway Security Appliance to the Factory Default Settings?

No, the "RESET" pinhole just restarts the device and does not modify any configuration settings.

Is a Crossover Network Cable Needed to Connect InterScan Gateway Security Appliance to Another Network Device?

No, a common RJ-45 Ethernet cable is enough because the device has an auto-switching/sensing capability.

Can I Ping InterScan Gateway Security Appliance?

Yes, InterScan Gateway Security Appliance accepts ping packets.

Why Am I Not Receiving Email Notifications?

Using the Web console left navigation menu, go to **Administration > Notification Settings** and verify that the information is complete and correct.

Why Is Traffic Not Passing Through the Device When the Power Is Off?

It is possible that the **DC OFF LAN Bypass** setting in the BIOS is disabled. To enable **DC OFF LAN Bypass**, prepare a computer with terminal communications software such as HyperTerminal. Connect the computer to the device. Reboot the device and, during the initialization process, enter the BIOS configuration by pressing the **DELETE** key. Enable **DC OFF LAN Bypass.** Doing so will allow traffic to pass through the device when there is no direct current. By default, both **DC ON LAN Bypass** and **DC OFF LAN Bypass** are enabled.

Contacting Technical Support

Trend Micro has sales and corporate offices in many cities around the globe. For global contact information, visit the Trend Micro Worldwide site:

www.trendmicro.com/en/about/contact/overview.htm

Note: The information on this Web site is subject to change without notice.

To contact Trend Micro Technical Support, visit the following URL:

http://esupport.trendmicro.com

System Checklists

Use the checklists in this appendix to record relevant system information as a reference.

Device Address Checklist

You must provide the following device address information during preconfiguration. The settings can be changed after preconfiguration.

TABLE A-1. Device Address Checklist

Information required	Sample	Your value
Trend Micro InterScan Gateway Security Appliance information		
IP address	10.1.104.50	
Subnet mask	255.255.254.0	
Host name	name.domain.com	
Gateway	10.1.104.60	
Primary DNS	10.1.107.40	
Secondary DNS	10.1.107.50	

Appendix B

Specifications and Environment

This appendix includes the following topics:

Hardware Specifications

InterScan Gateway Security Appliance uses the following components:

	Specification
CPU	LGA 775 Pentium 3.4GHz
Chipset	915GV
Memory	1GB (512MB x 2)
Compact Flash	512MB
HDD	80GB SATA I hard disk
LAN Devices	PCI LAN card x 1 (supports LAN Bypass) onboard LAN: (management port)

Dimensions and Weight

The following specifications apply to InterScan Gateway Security Appliance:

Element	Measurement
Chassis dimension with bezel (D x W x H)	Depth: 505 mm Width: 430 mm Height: 42.4 mm
System weight	9Kg (19.8lbs)

Power Requirements and Environment

The following power requirements and environmental specifications apply to InterScan Gateway Security Appliance::

Element	Specification
AC input voltage	90 to 264VAC (100 to 240 nominal)
AC input current (90VAC)	8.0A
AC input current (180VAC)	4.0A
Frequency	47 to 63Hz (50/60 nominal)
NORMAL OPERATING AMBIENT TEMPERATURE (AT SEA LEVEL)	
Minimum (operating and idle)	32°F (0°C)
Maximum (operating, power supply on)	104°F (40°C)
Maximum rate of change	50°F per hour (10°C per hour)
STORAGE TEMPERATURE (AT SEA LEVEL)	
Minimum	-4°F (-20°C)
Maximum	158°F (70°C)
Maximum rate of change	68°F per hour (15°C per hour)
HUMIDITY	
Maximum (operating)	80% non-condensing
Maximum (non-operating)	95% non-condensing

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