WebFORCE™ Internet Gateway Installation Guide

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WebFORCE™ Internet Gateway Installation Guide
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About This Guide

This guide describes how to set up a Silicon Graphics® WebFORCE™ Internet Gateway server so that you can connect your network to the world-wide Internet. It contains the following chapters:

- Chapter 1, "Overview," provides an overview of setting up a WebFORCE Internet Gateway server, describes what parts are included with WebFORCE Internet Gateway, and tells what information you need to obtain from your *Internet service provider* (ISP) and vice-versa.

- Chapter 2, "Connecting the Cables," describes how to connect the cables provided with WebFORCE Internet Gateway to different types of computers, such as personal computers running Windows® or MS-DOS®, or Macintosh® computers.

- Chapter 3, "Setting Up the Terminal Emulator and Starting WebFORCE Internet Gateway," provides general instructions on configuring your personal computer or Macintosh computer so that you can communicate with the WebFORCE Internet Gateway server, and specific steps to initialize and start WebFORCE Internet Gateway.

This manual focuses on setting up your server and attaching it to the local area network (LAN). Once you are able to access the server from other computers on your local area network, the WebFORCE Internet Gateway software contains further documentation to help you through the process of attaching the server to the Internet.

For additional, specific information about your CHALLENGE® S server, see the *CHALLENGE S Server Owner's Guide*.

Finding More Information

Information about Silicon Graphics hardware and software is available from a variety of sources, including printed documentation, online documentation (including manuals that you can view with the InSight viewer and online reference pages), and documents

available via the World-Wide Web. Consult your *CHALLENGE S Server Owner's Guide* for a list of available documentation.

Conventions Used in This Guide

This *WebFORCE Internet Gateway Installation Guide* uses these conventions:

- References to documents are in *italics*.

- References to other chapters and sections within this guide are in quotation marks.

- References to commands that you can enter at the shell prompt are in *italics*.

- Input that you type literally is in **bold**. For example: "To log in as root, type **root**."

- Names of IRIX reference (manual) pages are in the default font and are followed by the section number of the reference page. For example "who(1)" refers to the *who* command, which is found in section 1 of the IRIX reference.

- Names of menu choices are in quotation marks.

- Steps to perform tasks are in numbered sentences. When a numbered step needs more explanation, the explanation follows the step and is preceded by a square bullet. For example:

  ...

1. Connect the Ethernet AUI cable to the Ethernet AUI port on the back of the server.

   - Make sure the sliding bracket on the Ethernet port on the system is pushed all the way left.

   - Plug the cable into the port.

   - Slide the bracket right to hold it in place.

Overview

This chapter provides an overview of connecting to the Internet with the WebFORCE Internet Gateway product It provides an overview of the basic steps to setting up a WebFORCE Internet Gateway server, a list of the basic parts of the WebFORCE Internet Gateway package, information you may need to provide to your Internet service provider (ISP), and information your ISP may require from you.

About the WebFORCE Internet Gateway

WebFORCE Internet Gateway connects hosts on a local area network (LAN) to the Internet, a network cooperative that allows several million network users to publish and exchange information easily. In addition to providing access to the Internet, the WebFORCE Internet Gateway acts as an applications server, providing Internet mail, news, and other services to client hosts on the LAN.

Hosts on the Internet operate by a common standard, formally known as Transport Control Protocol, Internet Protocol (TCP/IP). This means that the Internet Gateway system and its clients, such as personal computers and workstations, must also run the TCP/IP stack (so called because of its layered, or stacked, software architecture). The Gateway and its clients must also be assigned an Internet address (IP address), which uniquely identifies each host on the Internet.

A specialized private or public agency, known as an Internet service provider (ISP), handles membership for new Internet members. An ISP assists with obtaining a registered network address from the Network Information Center, which maintains the Internet database. It also issues blocks of Internet addresses for clients in the new network and may recommend addressing and routing schemes.

Because direct connections to the Internet backbone are limited, all hosts must connect to the Internet through an ISP. The WebFORCE Internet Gateway is designed to help you do this (see Figure 1-1). The Gateway and the ISP host are connected by either a standard telephone line and modem, an ISDN line, or a T1 line. The PPP protocol (an

implementation of the TCP/IP stack for remote hosts with a single point of connection) supports communications between computers that are attached by these types of lines.

The Internet is organized into a hierarchy of administrative areas known as *domains*. Each network on the Internet is assigned a *domain name* that uniquely identifies the network and the hosts that reside on it. This domain name is used to transfer Internet messages to a destination that might be anywhere in the world. Special servers, called *name servers*, contain a domain name database that is used to locate the correct destination.

Figure 1-1 illustrates how the WebFORCE Internet Gateway connects a local area network to the Internet.
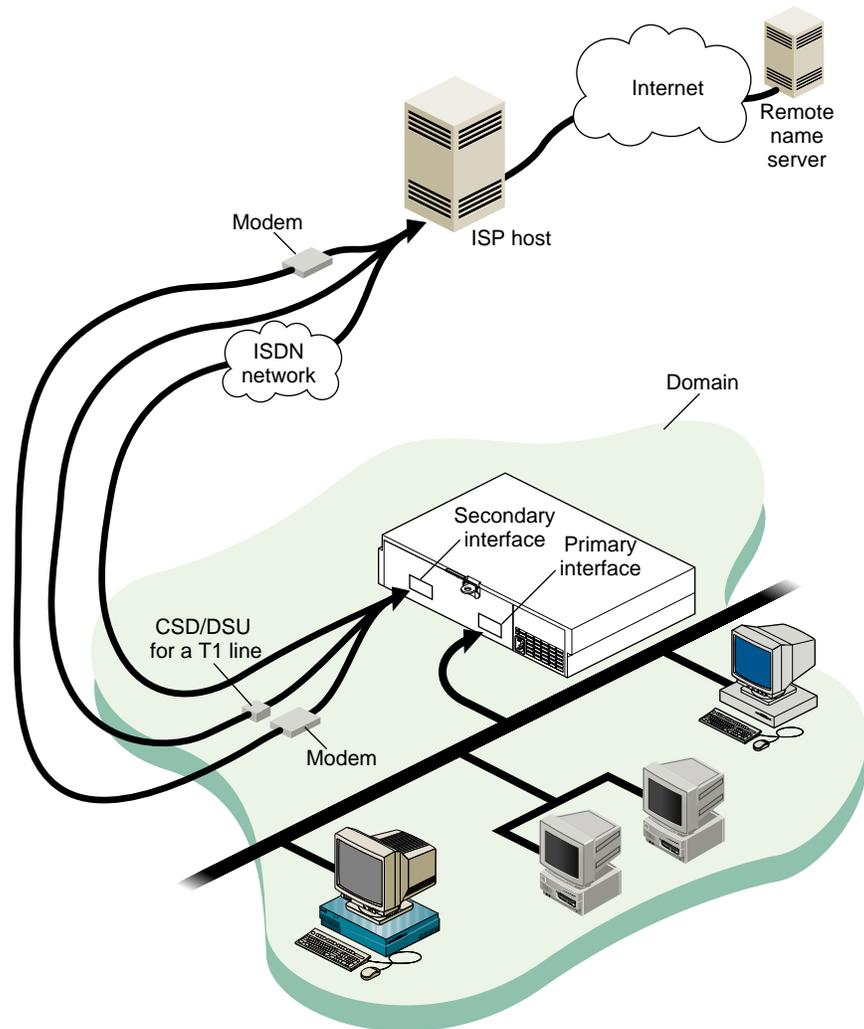
Figure 1-1   WebFORCE Internet Gateway Connection to the Internet

The Basic Steps

To set up your Silicon Graphics WebFORCE Internet Gateway server, perform the following steps:

1. Unpack and assemble the Challenge S server (described in the *CHALLENGE S Server Owner's Guide*).

2. Attach a *system console* to the server using the cables provided. The system console can be a character (ASCII) terminal, an IBM compatible computer, a Macintosh computer, or another workstation.

3. Configure the server so that you can access it over your local network with a World Wide Web browser (such as Netscape™).

4. Use the Web browser to configure the server to connect to the Internet.

Checking the Parts of the WebFORCE Internet Gateway Shipment

WebFORCE Internet Gateway ships with the following components:

*   a Challenge S server, including documentation (the *CHALLENGE S Server Owner's Guide* plus online reference pages) and an 8-pin-to-25-pin serial cable

*   WebFORCE Internet Gateway software, installed on the server's system disk and provided on a separate CD-ROM

*   two adapter cables: a 25-pin-to-9-pin cable for IBM compatible personal computers and a 25-pin-to-8-pin adapter cable for Macintosh computers

*   this installation guide

Figure 1-2 shows the basic items included in the WebFORCE Internet Gateway package.
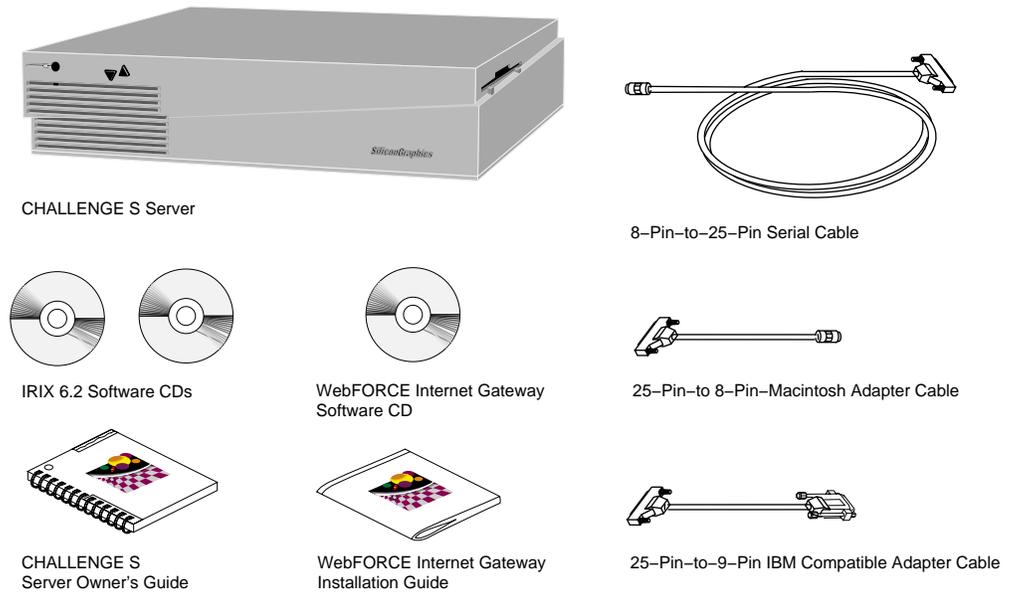
Figure 1-2   Basic Parts of the WebFORCE Internet Gateway Package

Before You Start

Before you start, you may wish to contact your Internet service provider (ISP). Your ISP will need some basic information about your network and WebFORCE Internet Gateway server, and should provide you with information that you need to configure the WebFORCE Internet Gateway server to communicate with the Internet.

Information Your ISP May Require

Table 1-1 describes some of the general information your ISP may require.

Table 1-1 General Information Your ISP May Require

Type of Information	Value
Name of gateway machine (server)	Whatever you decide to name the machine; for example, the name of your company or organization. Typically, it is a good idea to keep the name short, easy to type, and easy to remember.
Type of machine	Silicon Graphics CHALLENGE S server.
Type operating system	IRIX.
Ethernet address	Unique for each system on a network; the Ethernet address of your Challenge S server is the same as the serial number of the machine. Both are imprinted on the rear of the machine and printed on the shipping label for the server. One example is 08:00:69:08:19:24. You can also find the Ethernet address of the system once it is booted by entering the following command at a shell prompt: nvram eaddr
Maximum baud rate for your modem (if you are using a modem)	The maximum speed at which your modem can communicate with the ISP, often 14.4 Kbaud or 28.8 Kbaud.

Information Your ISP May Provide

Table 1-2 shows some of the information your ISP may provide.

Table 1-2 Information Your ISP May Provide

Type of Information	Value
Account name	The name of the account you will use to access the ISP. This is similar to an IRIX (UNIX) login account name; it might be an abbreviated name of your company or organization, or it could be some other series of letters or numbers.
Account password	The password your software uses to access the account you have with your ISP.

Table 1-2 (continued)   Information Your ISP May Provide

Type of Information	Value
Phone number	If you are using ISDN or a dial-up (modem) connection, this is the phone number the Challenge S server calls to connect to your ISP.
Baud rate for your modem	If you are using a modem, the maximum baud rate at which the ISP accept data from your modem.
IP address of your gateway	Your ISP may assign an Internet protocol (IP) address to your gateway machine. This address number is how other systems on both the Internet and on your local area network (LAN) identify your Challenge S server. The address is a series of numbers separated by decimal points, for example 151.166.96.36.
IP address of a name server	This is the IP address of another machine, probably located at the ISP, that provides Internet name services for you. When your Challenge S server needs to locate another system on the Internet, it contacts this machine. Conversely, when other systems try to locate your server they contact this machine.
Domain name	This is the name of the Internet domain in which your Challenge S server resides. It can be the name of your company (for example, toyparts.com), the name of your organization (freestuff.org), or some part of your geographic location (for example, janedoe.sf.ca.us, which would indicate a server located in San Francisco, California, in the United States of America.)

Connecting the Cables

This chapter describes how to connect a serial console to the server. Possible types of serial consoles include

- an IBM compatible personal computer, described in "Connecting an IBM Compatible Personal Computer As the Serial Console"

- a Macintosh computer, described in "Connecting a Macintosh Computer As the Serial Console"

In addition, you can use the following as system consoles for your server:

- an character (ASCII) terminal

- another Silicon Graphics workstation (such as Indy®, Indigo®, Indigo^{2TM}, or Onyx®)

Unpacking and Setting Up the Server

Follow the instructions in the *CHALLENGE S Server Owner's Guide* to unpack and set up the server. Install any memory, peripheral, or other options shipped with the system, and connect the power and network cables. Next

- if you are using a character (ASCII) terminal or another Silicon Graphics workstation as the serial console for your server, follow the instructions in the *CHALLENGE S Server Owner's Guide* to set up the server and the terminal, then turn to "Accessing the Server" in Chapter 3, "Setting Up the Terminal Emulator and Starting WebFORCE Internet Gateway"

- if you are using an IBM compatible computer as the serial console, proceed with the next section, "Connecting an IBM Compatible Personal Computer As the Serial Console"

- If you are using a Macintosh computer as the serial console, go to the section "Connecting a Macintosh Computer As the Serial Console" on page 11

- if you are using a workstation from a vendor other that Silicon Graphics as the serial console, go to "Connecting Other Types of Workstations As the Serial Console" on page 12

Connecting an IBM Compatible Personal Computer As the Serial Console

Follow these steps to connect an IBM compatible personal computer to your Challenge S server as the serial console:

1. Locate the 8-pin-to-25-pin serial cable.

2. Attach the 8-pin connector to port **1** of the Challenge S server, as shown in Figure 2-1.
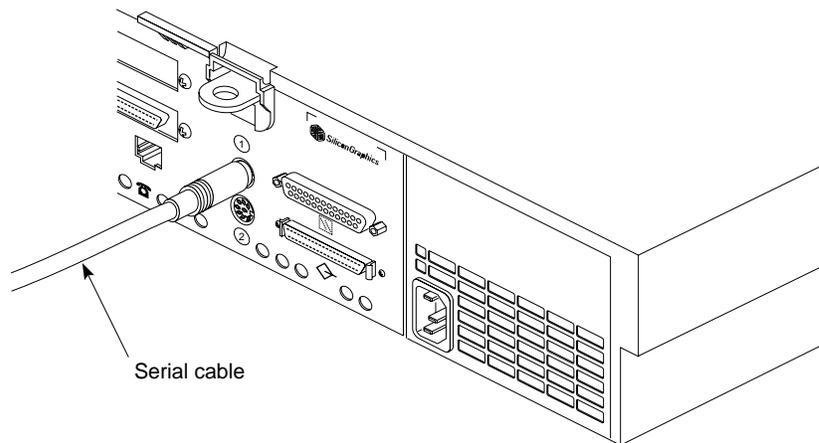
Serial cable

Figure 2-1   Attaching the 8-pin-to-25-pin Serial Cable to the Challenge S Server

3. Locate the 25-pin-to-9-pin adapter cable.

4. Connect the 25-pin connector of the adapter cable to the 25-pin connector of the first serial cable, attached to Port **1** of the Challenge S server.

5. Connect the 9-pin connector of the adapter cable to one of the COM ports of your IBM compatible personal computer.

- You can use either COM1 or COM2 on your personal computer.

- Make a note of which COM port you use. You will need this information later when you configure the terminal emulator on the personal computer in Chapter 3, "Setting Up the Terminal Emulator and Starting WebFORCE Internet Gateway."

You are now ready to configure your personal computer as a serial console for the Challenge S server. Turn to Chapter 3, "Setting Up the Terminal Emulator and Starting WebFORCE Internet Gateway."

Connecting a Macintosh Computer As the Serial Console

Follow these steps to connect a Macintosh computer as the serial console for your server:

1. Locate the 8-pin-to-25-pin serial cable.

2. Attach the 8-pin connector to Port **1** of the Challenge S server, as shown in Figure 2-2.
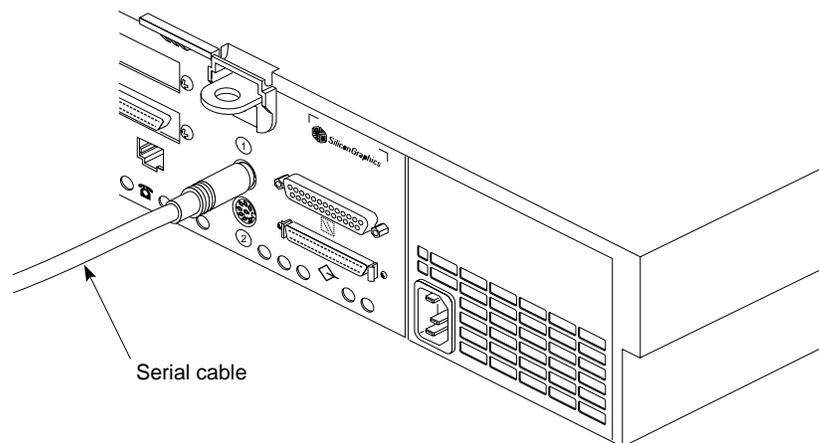
Serial cable

Figure 2-2   Attaching the 8-pin-to-25-pin Adapter Cable

3. Locate the 25-pin-to-8-pin adapter cable.

4. Connect the 25-pin-to-8-pin adapter cable to the 8-pin-to-25-pin serial cable.

■ Attach the 8-pin connector to a serial port on your Macintosh computer.

■ Make a note of which serial port you use on your Macintosh computer. You will need this information later when you configure the Macintosh as a serial console for the Challenge S server.

You are now ready to configure your Macintosh computer as a serial console for the Challenge S server. Turn to Chapter 3, "Setting Up the Terminal Emulator and Starting WebFORCE Internet Gateway."

Connecting Other Types of Workstations As the Serial Console

If you have a workstation that was not manufactured by Silicon Graphics, you can attach it to your WebFORCE Internet Gateway server in much the same way that you would attach a personal computer or Macintosh computer. Because of the different possible serial port configurations of various workstations, we cannot provide all possible adapters. However, you can use the pin and signal descriptions in Table 2-1, below, to obtain or create the necessary adapter cable.

Table 2-1   Serial Connector Pin and Signal Descriptions

25-Pin Connector Pin Number (From Server)	Signal Type	Signal Type of Corresponding Workstation Connector Pin
2	TXD (Transmit Data)	RXD (Receive Data)
3	RXD (Receive Data)	TXD (Transmit Data)
7	GND (Ground)	GND (Ground)

The specific connector type and pin numbers of the connector vary, depending upon the workstation you wish to connect. See your workstation documentation.

For additional information about the connector pins and signals on the server, see your *CHALLENGE S Server Owner's Guide*.

Once you have connected your workstation to the server, you are ready to start the server and configure WebFORCE Internet Gateway. Turn to Chapter 3, "Setting Up the Terminal Emulator and Starting WebFORCE Internet Gateway."

Setting Up the Terminal Emulator and Starting WebFORCE Internet Gateway

This chapter provides a general overview of how to configure the terminal emulator software on your IBM compatible personal computer or Macintosh computer for use as a system console with the Challenge S server. It also describes the steps to start WebFORCE Internet Gateway.

Types of Terminal Emulators

To communicate with the Challenge S server, you need a terminal emulator for your IBM compatible or Macintosh computer. Many operating systems, such as Microsoft® Windows, ship with a terminal emulator package (also known as modem or communications software.) Some examples of terminal emulator software include.

- Term

- HyperTerm

- TERMINAL.EXE

- Bitcom

- Procomm

- ZTerm

- SITcomm

- Macterm

On UNIX based systems, two common utilities are *cu* and *ct*. The *CHALLENGE S Server Owner's Guide* provides basic instructions for using cu on a Silicon Graphics workstation to communicate with a Challenge S server. The steps are similar for other UNIX based systems. Also, see the cu(1) and ct(1) reference pages.

Configuring Your Terminal Emulator

Table 3-1 shows the basic settings for terminal emulator software running on IBM compatible or Macintosh computers:

Table 3-1   Terminal Emulator Settings

Setting	Value
Baud rate	9600
Data bits	8
Stop bits	1
Parity	None
Local echo	Off
Terminal type	Any of the following: DEC VT100, VT102, Wyse 60, ANSI, or dumb
Flow control	None or XON/XOFF

To configure your terminal emulator, follow these general steps:

1. Power on your IBM compatible or Macintosh computer.

2. When the system has booted, locate and start the terminal emulator.

3. Adjust the settings for your terminal emulator as indicated in Table 3-1.

   - Be sure the terminal emulator software is configured to use the serial port on your computer to which you attached the serial cable.

   - Note which terminal type (such as VT100 or ANSI) you choose to emulate. You will need this information when you log in to the Challenge S server.

   - Other settings, such as upload and download protocol, initialization strings, and file transfer settings do not matter for this procedure. You can leave them set to their defaults.

Accessing the Server

Follow these steps to access the Challenge S server:

1. Turn on the Challenge S server, if you have not done so already, as shown in Figure 3-1.

Power button
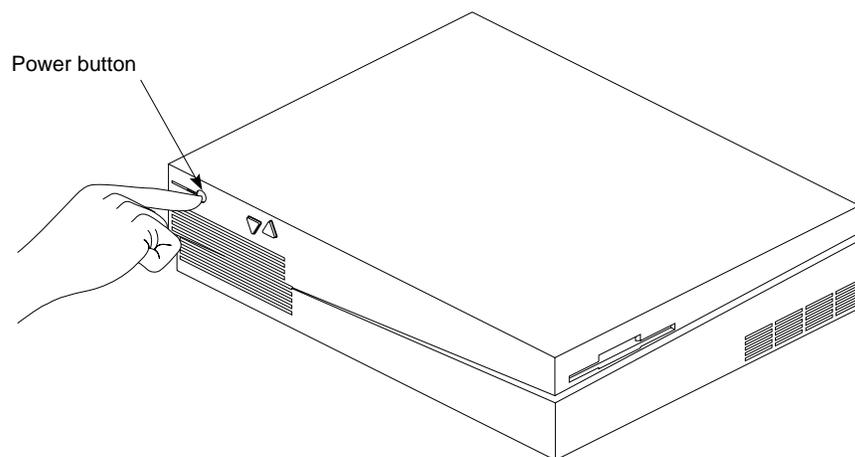
Figure 3-1   Turning On the Challenge S Server

2. Press <**Enter**> once or twice on your computer or terminal. You should see a power-on diagnostics message, followed by a menu similar to the following:

```
Running power-on diagnostics...

System Maintenance Menu

1) Start System
2) Install Software
3) Run Diagnostics
4) Recover System
5) Enter Command Monitor


Option?
```

- If you do not see the System Maintenance Menu, and nothing happens when you press <**Enter**>, make sure the cables are correctly attached. The 8-pin connector on the long serial cable must be in port **1** of the Challenge S server.

- Make sure you have configured the terminal emulator to use the correct serial port on your computer.

- If you are using a character (ASCII) terminal, make sure the baud rate setting is correct (9600 baud). Also, if the terminal has more than one connector on the back, make sure you are using the correct one. It should be the connector marked "Data," "Modem," or something similar. Make sure the terminal is configured to use that connector.

- If you see strange characters on your screen (such as xx``x`) when you press the return key, you may not have set the baud rate correctly in your terminal emulator or character terminal. It must be set to 9600 baud.

3. Type **1** and press <**Enter**>.

- The Challenge S server starts booting IRIX.

- You should see messages similar to the following:

```
Starting up the system...

IRIX Release 6.2 IP22 Version 02111257 System V
Copyright 1987-1996 Silicon Graphics Inc.
All Rights Reserved.

System is coming up...

IRIS login:
```

Once you see the IRIS login: prompt, you are ready to log in to the Challenge S server and initialize WebFORCE Internet Gateway.

Logging In to the Server and Initializing WebFORCE Internet Gateway

The next step in installing WebFORCE Internet Gateway is to log in to the Challenge S server and run the *start-gateway* program, which prompts you for some information that is necessary to configure your Internet gateway.

Take a moment to fill out this checklist so that you have ready all the information needed by *start-gateway*. Fill in the middle column of values in Table 3-2 below.

Table 3-2   Checklist of Information Needed to Initialize the Gateway Server

Information	Value For Your Internet Gateway Server	What It Is and Why It Is Needed
Hostname		Every system on the Internet needs a name. The name can be any number or alphabetic character in the 7-bit ASCII character set, and many non-alphabetic characters. Spaces, control characters, and characters used in internet addresses (such as periods, @ signs, and exclamation points) should not be used in the hostname. **Example:** donut-7
Domain name		Every system on the Internet belongs to a domain. Domains can include COM for commercial servers, EDU for educational servers, ORG for non-profit servers, and geographic domains like PORTLAND.OR.US (Portland, Oregon, U.S.A.) and SF.CA.US (San Francisco, California, U.S.A.) Domain names are not case-sensitive, so COM is the same as com. Your ISP may already have provided you with a domain name. If you have not yet contacted an ISP and obtained a domain name, you can pick any domain name you want for the time being, though you may have to change it later. **Example:** FREESTUFF.ORG **Example:** SANTA-CRUZ.CA.US

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Table 3-2 (continued)   Checklist of Information Needed to Initialize the Gateway Server

Information	Value For Your Internet Gateway Server	What It Is and Why It Is Needed
Internet address (or primary internet address)	————————	This is the Internet address (also known as an IP address) of your gateway server. Your ISP provides an IP address for your server. If you have not yet obtained an IP address, you can use the default test address that is assigned to the machine when it leaves the factory.
		See "Glossary" for a description of IP addresses.
		Example: 151.166.96.36
		Example: 192.0.2.1 (default test address)
Netmask	————————	

Follow these steps to log in to the server and initialize WebFORCE Internet Gateway:

1. At the IRIS login: prompt, type **root** and press <**Enter**>.

    ■   You see various boot-up messages followed by a login prompt similar to the following:

        ```
         IRIX Release 6.2 IP22 Version 02111257 IRIS
        Copyright 1987-1996 Silicon Graphics, Inc.
        TERM = (vt100)
        ```

    ■   If you set the terminal type in your emulator software to VT100, press <**Enter**>.

    ■   If you set the terminal type in your emulator software to another type of terminal, enter the name of the terminal type (for example, **vt102** or **ansi**) and press <**Enter**>. Be sure to use lowercase letters when entering the terminal type. Like all UNIX operating systems, IRIX is case sensitive, so VT102 is not the same as vt102.

    You should now see the root shell prompt, IRIS 1#.

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2. To start WebFORCE Internet Gateway, type **start-gateway** and press **<Enter>**. You see the following:

```
Welcome to your Silicon Graphics WebFORCE Internet Gateway server!
There are a few simple steps to connect your server to the Internet:
```

```
First, use this terminal window to configure your server to
communicate with your local network by means of an IP connection.
Currently, you are using a serial cable connection to communicate
between your server and a terminal device (such as a VT-100 terminal
or a PC-compatible, Macintosh, or Indy computer running terminal
emulation software), but the serial connection will be replaced.
```

```
After you configure your server using this terminal window, you will
configure your server to communicate with the Internet. For this
step, you will use a Web browser on your PC-compatible, Macintosh
or Indy computer. Your computer will communicate with your server
through an Ethernet cable.
```

```
The current configuration of your server is:
```

```
Hostname: IRIS
Domain name:
IP Address: 192.0.2.1
Netmask: 0xffffff00
```

```
You must change these factory settings to connect your server to the
Internet. Most of the information that you need to make these
changes is supplied by your Internet service provider (ISP). Make
sure you have the appropriate information from your ISP, and follow
the steps below.
```

```
A hostname uniquely identifies your Silicon Graphics Internet
Gateway server. By convention, hostnames contain only lowercase
letters.Enter the name you wish to assign to your Internet gateway
server (Challenge S).
```

```
Enter a hostname for this server: [IRIS]
```

■ Enter the hostname you wish to assign to the server at the prompt `Enter hostname for this machine: [IRIS]` and press **<Enter>**.

3. You are prompted to enter a domain name for your gateway server:

```
Each organization on the Internet is known by its domain name.
Domain names usually contain two (or three) segments, separated by
periods. Your ISP assigns domain names. (Example: aspen.com)
```

```
Enter the Domainname for this server: [ ]
```

Type in the name of the domain in which your gateway server resides. For example: freestuff.org or com.

4. You are prompted for the Internet address of the gateway server:

```
The primary network interface connects the server to your local
area network. Use an IP address that you obtained from your ISP as
the IP address for the primary network interface. (Example:
196.45.23.4)
```

```
Enter the IP Address of the primary network interface: [192.0.2.1]
```

Enter the Internet address that your ISP provided for your gateway server. If you have not obtained one yet, you can create a temporary one on the same subnet as your local network. For example, if your local network is 151.166.96, add a fourth number that is not already taken by some other machine. Such an address might be 151.166.96.36.

Note: You cannot connect to either the Internet or your LAN using the default IP address of 192.0.2.1. This is a temporary address that is used on all Silicon Graphics computers when they ship from the factory. You must change this address.

5. You are prompted for the netmask of your gateway server:

```
The netmask is used in conjunction with the IP address. In most
cases, you can use the default netmask.
```

```
Enter netmask for this interface: [0xffffff00]
```

Press <**Enter**> to use the default netmask of 0xffffff00.

6. You are prompted to verify the information you just entered:

```
Verify Configuration. You have entered:
Hostname: mymachine
Domainname: com
IP Address: 151.166.96.36
Netmask: 0xffffff00
```

```
Is this correct? [y/n]
```

- If the information is correct, type **y** and press <**Enter**>.

- If you wish to start over and change any of the information, type **n** and press <**Enter**>. The procedure begins again from step 2.

7. When you are satisfied with the gateway server configuration (you enter **y** in the preceding step), you are prompted to reboot the server:

```
You now need to reboot your server to put your changes in effect.
After your server reboots, complete these steps:

   1. Open a Web browser on your computer
   2. Open the URL "http://151.166.96.36:2077/" in the browser
   3. Select "Setup Tasks" on the WebFORCE Internet Gateway Web
      page to continue connecting to the internet.

After your server reboots, you can close this terminal window on
your terminal (or personal computer) window.

Reboot server now? [y|n]
```

To reboot the server, type **y** and press <**Enter**>. This not only reboots the server, but it causes the server to reconfigure itself with the new information you have provided in the preceding steps.

8. Once the server has rebooted, you see the following in your terminal emulator window or screen:

mymachine `login:`

Instead of *mymachine*, you see whatever name you assigned to the gateway server.

You can now do one of the following:

- Leave your terminal emulator session running and leave the serial cables connected from your client system (system console) to the gateway server. You may wish to do this at least until you are sure the server is running and configured properly.

- Quit the terminal emulator session and disconnect the serial cables between your client system (system console) and the gateway server. This is appropriate when you are sure your network and the gateway server are configured properly.

- If you are using a character (ASCII) terminal, you can leave it attached to the server.

9. Log in to the server again. At the prompt *mymachine* `login:` type **root** and press <**Enter**>.

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10. When you see the root shell prompt, `IRIS 1#`, you are ready to test the network connection between the server and other machines on your LAN.

   ■ Verify that the system on which you will use your Web browser can receive network packets from the gateway server. Type **/usr/etc/ping** *ip_address.* Replace *ip_address* with the IP address of the system on which you will run the Web browser. You should see output similar to the following:

   ```
   PING 151.166.96.20 (151.166.96.20): 56 data bytes
   64 bytes from 151.166.96.20: icmp_seq=0 ttl=255 time=1 ms
   64 bytes from 151.166.96.20: icmp_seq=1 ttl=255 time=1 ms
   64 bytes from 151.166.96.20: icmp_seq=2 ttl=255 time=1 ms
   64 bytes from 151.166.96.20: icmp_seq=3 ttl=255 time=1 ms
   64 bytes from 151.166.96.20: icmp_seq=4 ttl=255 time=1 ms
   ```

   After several lines of output from *ping*, press <**Ctrl-c**> to interrupt the program. You should see lines similar to the following:

   ```
   ----151.166.96.20 PING Statistics----
   5 packets transmitted, 5 packets received, 0% packet loss
   round-trip min/avg/max = 1/1/1 ms
   ```

   This indicates a properly-functioning connection between your gateway server and the other machine on your network.

   ■ If there is a network problem, the *ping* command displays only the following line:

   ```
   PING 151.166.96.20 (151.166.96.20): 56 data bytes
   ```

   If this happens, press <**Ctrl-c**> to interrupt the program. You see lines similar to the following:

   ```
   ----151.166.96.20 PING Statistics----
   5 packets transmitted, 0 packets received, 100% packet loss
   ```

   If this happens, verify that both machines are attached to the network and that the cables are connected securely. Also, try using the *ping* command to check the connection to other machines on the network and compare the results. If you are connecting the two machines together directly (without using a hub or concentrator), make sure the cable is properly wired.

   You are now finished initializing WebFORCE Internet Gateway. You are ready to finish configuring your Internet gateway server using a Web browser.

Using WebFORCE Internet Gateway From Your Web Browser

To finish configuring WebFORCE Internet Gateway, use a Web browser (such as Netscape) on a workstation on your LAN. Access the Challenge S Internet gateway server with the Web browser, and fill out a series of forms that complete the configuration process.

Follow these steps:

1. Start your Web browser (for example, Netscape) from a computer or workstation on your LAN.

   ■ You can run the Web browser from any computer or workstation that is on the same LAN as the Challenge S server.

   ■ For best results, use Netscape Navigator 2.0 or later. You can use other browsers, but with Netscape Navigator 2.0 or later you can take advantage or advanced features, such as HTML frames.

   ■ Your browser must be able to support HTML fill-out forms.

2. Open the following uniform resource locator (URL):

   `http://`*server_ip_address*`:2077/`

   ■ In this URL, *server_ip_address* is the IP address you assigned to the Challenge S server. For example:

   `http://151.166.96.36:2077/`

   You see the screen shown in Figure 3-2 in your browser window.

Figure 3-2   WebFORCE Internet Gateway Welcome Screen

■   If you do not see the screen as shown in Figure 3-2, verify that you can open other URLs on your LAN with your Web browser.

■   If you cannot open other URLs on your LAN, there may be a configuration problem with your browser. In particular, if your browser is capable of using proxies, make sure they are turned off. (In Netscape, proxies are set in the Options menu.)

3. Click the icon shown in Figure 3-3 to finish the WebFORCE Internet Gateway configuration.

Figure 3-3   Setup Tasks Icon

4. On the next screen, select the icon or link for "Easy Setup of Your Internet Connection," as shown in Figure 3-4.

Figure 3-4   Connect to the Internet (Easy Setup) Icon

You can now follow the online instructions to continue setting up your server to act as an Internet gateway.

Glossary

datagram

Data sent over an internet. A datagram contains not only user data, but also all the necessary header information for the data to reach its intended destination.

firewall

A computer or router that blocks certain types of network datagrams from passing between networks. One example of a firewall is a computer that routes data between a local area network and the Internet, but disallows certain types of direct access from the Internet to computers on the local area network. *See also* gateway.

gateway

A computer or router through which data passes between networks. One example of a gateway is a computer located between a local area network (LAN) and the Internet. *See also* firewall.

intranet

An internal or limited network that uses the basic technologies of the Internet, including Transmission Control Protocol/Internet Protocol (TCP/IP) and World Wide Web servers and browsers. *See also* local area network, internet, and Internet.

Internet

When spelled with an upper case "I," the world-wide network of computers communicating via Internet protocol (IP) datagrams. *See also* internet.

internet

When spelled with a lower case "i," any network of computers that communicate using Internet protocol (IP) datagrams.

Internet service provider (ISP)

An organization or individual who provides the network access for you to connect to the Internet. The ISP relays data from your gateway computer or router to the Internet and vice-versa.

local area network (LAN)

A network of computers local to an organization, typically high-speed (such as 10 Base-T Ethernet, FDDI, Token Ring, and so forth), and typically in close proximity. *See also* intranet.

IP address

A number that identifies a computer on a TCP/IP. An IP address is made up of four numbers separated by decimal points, such as 192.26.4.89. Each individual number can be between 0 and 255 (with some exceptions, for example, for reserved IP addresses).

system console

A character (ASCII) terminal or other computer that is used to communicate with a workstation or server to set up the system, perform system maintenance, operate the system in PROM mode, and display system error messages. *See also* system console port.

system console port

The serial port to which a system console is attached. On Silicon Graphics workstations and servers, this is the first serial port (port **1**).

TCP/IP

Transmission control protocol used with the internet protocol. See *transmission control protocol*.

transmission control protocol (TCP)

A networking standard, typically used with the Internet Protocol (IP) standard. It forms the basis of an internet as well as the Internet. *See also* internet protocol.

wide area network (WAN)

A network of computers spanning a wider geographic area than a local area network, and typically using communication technologies designed for longer distances, such as microwave relay and leased (telephone) lines.

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