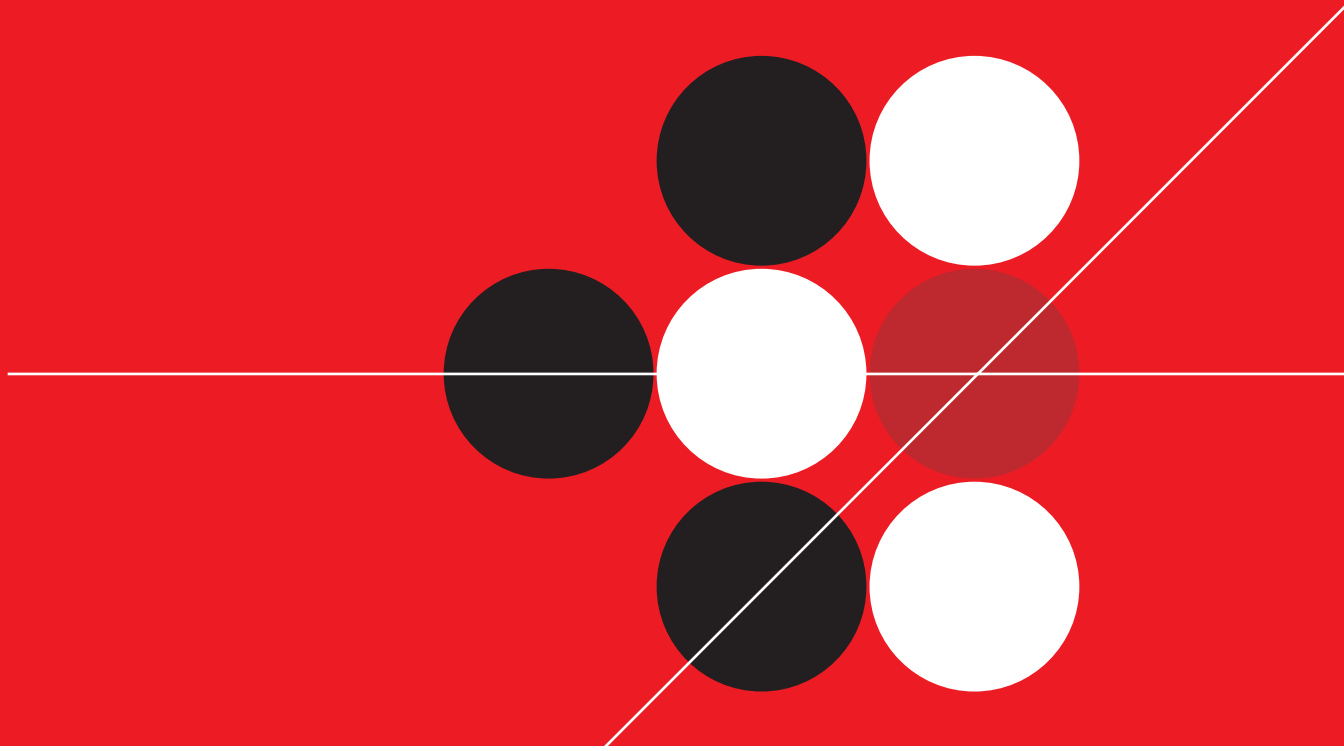
TREND MICRO™

InterScan™ Gateway Security Appliance

Firmware Update Guide



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The *Trend Micro™ InterScan Gateway Security Appliance Firmware Update Guide* is intended to provide instructions for your updating the device image, BMC firmware, or BIOS firmware of your InterScan Gateway Security Appliance in your production environment. Read it before updating the device image, BMC firmware, or BIOS firmware.

Detailed information about how to use specific features within the software is available in the online Knowledge Base at the Trend Micro Web site.

To contact Trend Micro Support, please visit:
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Introduction

The purpose of this document is to provide step-by-step instructions for updating the InterScan Gateway Security Appliance (IGSA) image (device image), the BMC (baseboard management controller) firmware, and the BIOS firmware using the Trend Micro Appliance Firmware Flash Utility (AFFU).

Chapter 1

Updating the InterScan Gateway Security Appliance Device Image

The chapter includes the following topics:

- *Preparing InterScan Gateway Security Appliance for the Device Image Update* on page 1-2
- *Uploading the New Device Image* on page 1-13
- *Completing the Process After the Device Image Is Uploaded* on page 1-27

Preparing InterScan Gateway Security Appliance for the Device Image Update

Before updating the InterScan Gateway Security Appliance (IGSA) device image, ensure that you are familiar with some basic information about your device, as explained below.

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
- Advanced Settings
- SSH Access Control
- Change Password
- Log off with saving
- Log off without saving

Examples of a terminal interface are HyperTerminal for Windows and Minicom for Linux.

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

Using the LCD Module

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

Before the Update

Before updating the device image, ensure that you have followed these steps:

TABLE 1-1. Pre-update checklist

- ☐ **Back up your configuration** (unless you have not yet configured anything) (See *Backing Up Your Configuration* on page 1-3)
- ☐ **Get the IGSA device image file** (See *Getting the IGSA Device Image from the Trend Micro Web site* on page 1-4)
- ☐ **Connect IGSA to a local computer** (See *Connecting a Local Computer to IGSA to Deliver the Update* on page 1-5)
- ☐ **Log in to IGSA using terminal software such as HyperTerminal** (See *Interfacing with the Preconfiguration Console for Device Image Updates* on page 1-6)
- ☐ **Verify that the local computer IP address matches that of the IGSA appliance** (See *Getting the IP Address of the Local PC* on page 1-10)
- ☐ **Put IGSA into rescue mode** (See *Putting IGSA Into Rescue Mode* on page 1-10)

Backing Up Your Configuration

When the device image updates, all information stored on the Compact Flash (CF) card will be overwritten. Therefore, if you wish to preserve your existing configuration, it is essential that you back up the IGSA configuration before updating the IGSA device image. This information is stored in a variety of logs, as listed below:

- Anti-pharming
- Anti-phishing
- Anti-spam: content scanning
- Anti-spam: Network Reputation Services
- Anti-spyware/grayware
- Content filtering
- Damage Cleanup
- File blocking
- IntelliTrap
- System
- Update

- URL filtering
- Viruses/malware

To back up the IGSA configuration information:

1. Log on to the IGSA Web console by pointing an Internet Explorer Web browser to the IP address that you assigned to your IGSA when you installed it. (For example, https://10.1.151.5)

   Note: Remember to use secure http, that is `https://` and not `http://`.

2. From the main menu, click **Administration** > **Configuration Backup.** The Configuration Backup screen appears.
3. In the Backup Current Configuration section, click **Backup.** A screen appears asking you where to save the file (on your network or on the PC you are using to access the Web console). The default configuration file name is ***igsa_config.dat***, but you can change it to anything you like.
4. Click **Save.** A Save As screen opens. Navigate to the directory where you wish to store the configuration backup file.
5. Click **Save.** Internet Explorer downloads the configuration backup file to your chosen location.

Getting the IGSA Device Image from the Trend Micro Web site

You can download the IGSA device image from the Trend Micro Web site.

To download the file:

1. Visit the following URL:

   `http://www.trendmicro.com/download/product.asp?productid=73`

2. Click the link for Appliance Firmware Flash Utility (AFFU). The file will have a name similar to:
   phoenix_image_XXXXX.R

   A screen appears asking where to store the file.
3. Save the file locally.

Connecting a Local Computer to IGSA to Deliver the Update

Before you upload the device image to IGSA, designate a computer to interface with the IGSA console port. Use a computer that has terminal configuration software such as HyperTerminal for Windows and a DB9 port.

You will be uploading the new device image using this computer that is physically connected to the IGSA appliance by means of the (serial) console port.

The port that you connect to on the back panel of IGSA depends on which option you are planning on choosing:

- Uploading the device image and keeping the existing configuration (option 3 on the IGSA Preconfiguration rescue mode main menu), as detailed in *Uploading with Existing Configuration (Option 3)* on page 1-13
- Uploading the device image and restoring the default IGSA configuration (option 5 on the IGSA Preconfiguration rescue mode main menu), as detailed in *Uploading with the Restored, Default Configuration (Option 5)* on page 1-19

To connect the local computer to IGSA:

1. Connect an Ethernet cable to the IGSA Management port (for option 5) or the INT port (for option 3) on the back of the device, as shown in the figure below, and connect the other end of the cable the the local computer.

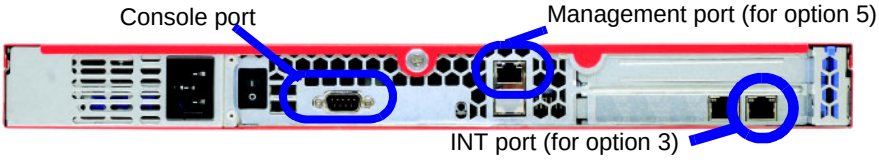

FIGURE 1-1. Back panel of IGSA appliance showing console port, management port, and INT port

2. If uploading with option 5, change the IP address of the local computer to 192.168.252.x and the subnet mask to 255.255.255.0, while being careful to avoid the IP addresses 192.168.252.1 and 192.168.252.2 to avoid an IP conflict, as these are the default IP addresses for IGSA rescue mode and for the IGSA BMC (baseboard management controller) respectively. (See *Getting the IP Address of the Local PC* on page 1-10.)

3. If uploading with option 3, ensure that the IP address of the local computer is in the same segment as the IGSA IP address. (See *Getting the IP Address of the Local PC* on page 1-10.)
4. Connect a serial (RS 232) cable from the local computer to the serial port on the back panel of the IGSA device. (See figure 1-1, “Back panel of IGSA appliance showing console port, management port, and INT port,” on page 1-5 for location of the serial port.

Interfacing with the Preconfiguration Console for Device Image Updates

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 a computer. (See figure 1-1, *Back panel of IGSA appliance showing console port, management port, and INT port*.)

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 the terminal emulation to `VT100J`, as shown below.

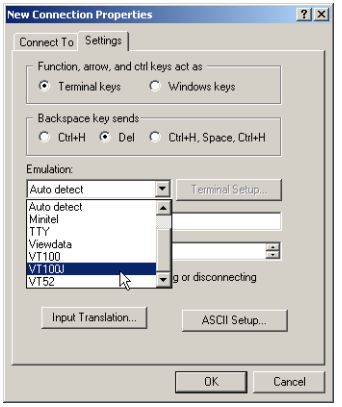

FIGURE 1-2. HyperTerminal display settings

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 1-3. 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 IGSA box.
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

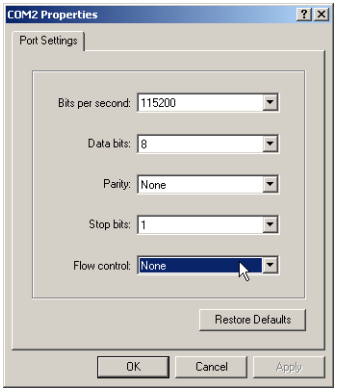

FIGURE 1-4. HyperTerminal COM Properties screen

6. Click **OK**. The COM Properties screen disappears and the screen is blank.
7. At the blank HyperTerminal screen, type the IGSA 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.

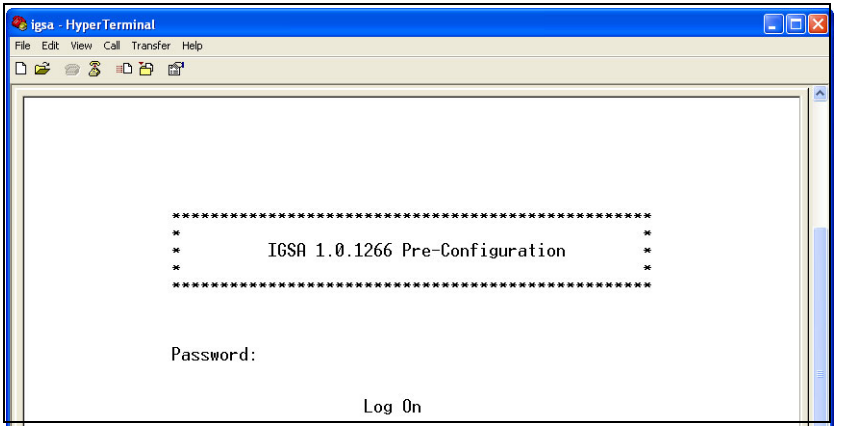

FIGURE 1-5. IGSA Preconfiguration console login screen

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

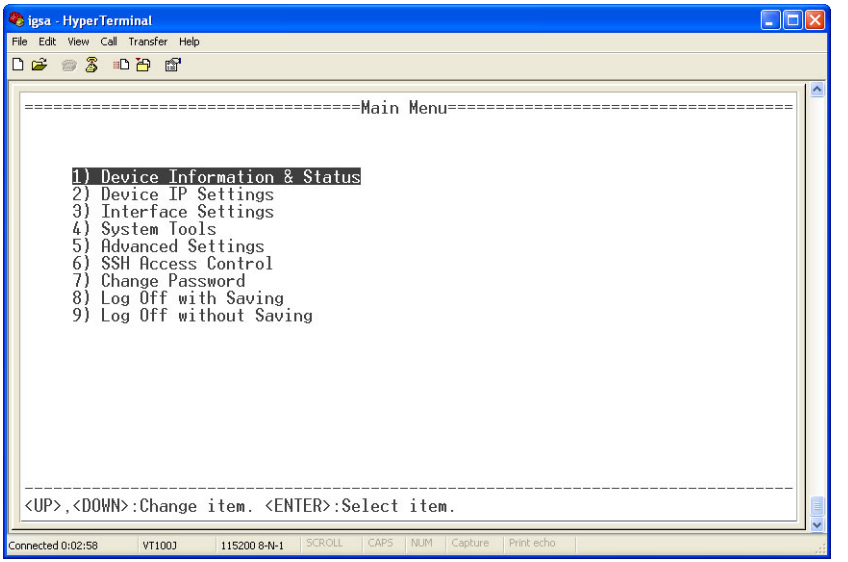

FIGURE 1-6. IGSA Preconfiguration console main menu, accessed via HyperTerminal

Getting the IP Address of the Local PC

For Windows, you can either use the **ipconfig** command to verify the IP address of your PC or you can ping the IGSA IP address that is displayed in HyperTerminal.

Putting IGSA Into Rescue Mode

In order to update the device image, first put IGSA into rescue mode. With the local PC still connected to IGSA, and with the Preconfiguration console still displaying in HyperTerminal, do the following.

To put IGSA into rescue mode:

1. Turn off the device by pressing and holding the on/off switch in the ON position for at least 4 seconds. The device powers down.

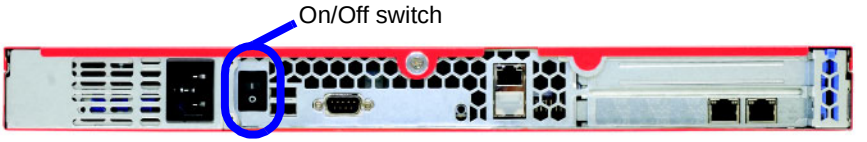

FIGURE 1-7. IGSA back panel showing on/off switch

2. Turn IGSA back on, by pressing the on/off switch in the ON position for only a second. The device begins to reboot, displaying the boot-up sequence on the HyperTerminal screen of your local computer.
3. Closely watch this display in the HyperTerminal window. As soon as you see the **Press ESC to enter the menu...** prompt, firmly press **ESC** (the Escape key). IGSA goes into rescue mode, and the rescue mode main menu displays, as shown below.

About the IGSA On/Off Switch

The IGSA on/off switch is designed using industry standards that safeguard against the accidental shutdown of such devices. Although the rocker button is marked with the international symbols for "on" and "off," it always appears to be in the "off" position when the appliance is running.

To turn IGSA off, press and hold down the "on" side of the switch *for at least four seconds*. When you see the lights for any ports turn off, you know that the device has powered down.

To turn IGSA on, press and hold down the "on" side of the switch for about one second. IGSA powers on.

Tip: The **Press ESC to enter the menu...** prompt displays for only a very short time, so you must be quick. Be sure to firmly press **Esc** as soon as you see the prompt.

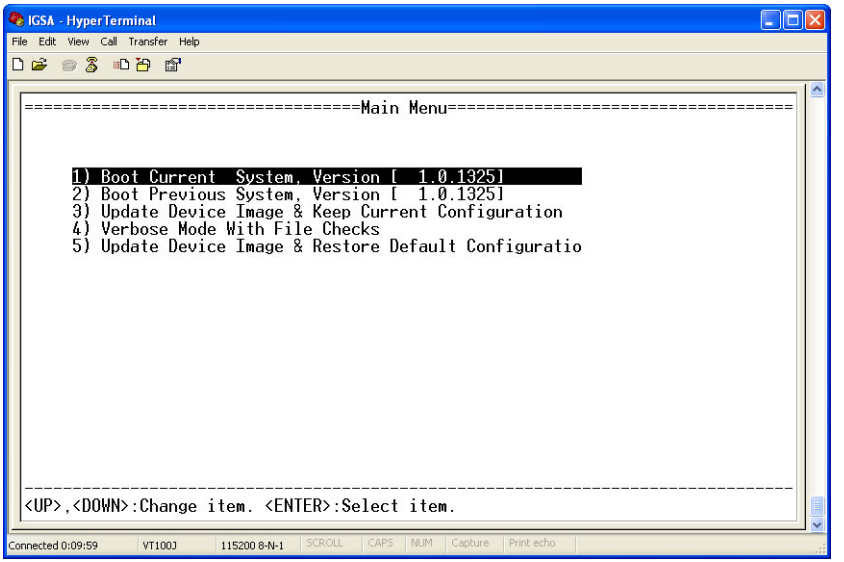

FIGURE 1-8. IGSA rescue mode main menu

Uploading the New Device Image

The steps for uploading the new device image vary based on whether you plan to keep the existing IGSA configuration (option 3) or to restore the default configuration (option 5).

Depending on which option you are using, you will see different data in the IGSA Preconfiguration console and in the Application Flash Utility (AFFU).

Uploading with Existing Configuration (Option 3)

You can either use up and down arrow keys on your keyboard to move to the choice that you want, or you can simply press the number of that option. The option for uploading with the existing configuration is:

```
3 - Update Device Image & Keep Current Configuration
```

When using this option, only the system partition will be updated.

To upload the new device image using existing configuration:

1. Choose option 3, `Update Device Image & Keep Current Configuration`.The following screen appears:

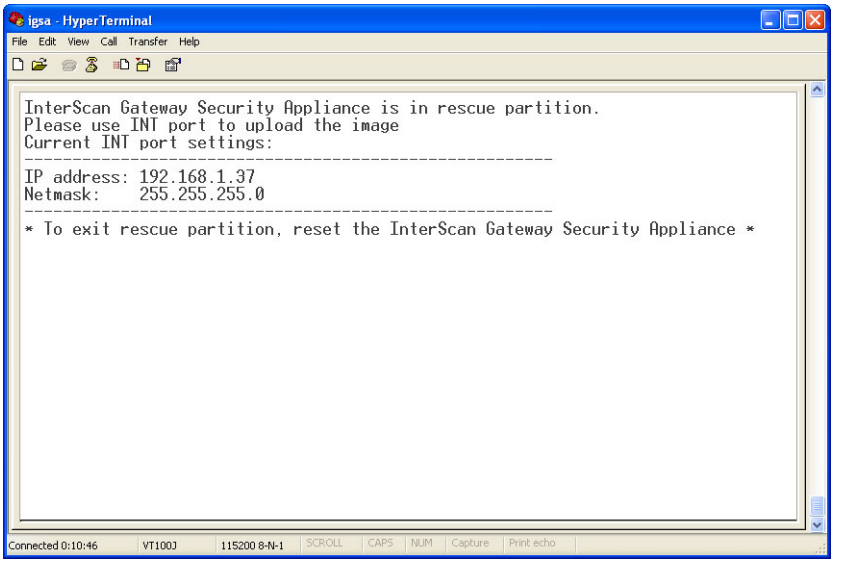

FIGURE 1-9. Preconfiguration console screen that appears when you select option 3 in rescue mode

2. Connect an RJ45 Ethernet cable from your local computer to the **INT** port of IGSA, as shown below.

FIGURE 1-10. IGSA back panel showing location of internal (INT) port

3. Upload the new device image by using the Trend Micro Appliance Firmware Flash Utility as described in *Using the Appliance Firmware Flash Utility with Option 3* on page 1-15.

Using the Appliance Firmware Flash Utility with Option 3

Before launching the Appliance Firmware Flash Utility (AFFU), ensure that the IP of your PC is within the same segment as the IP of the IGSA device.The IGSA IP address appears on the preconfiguration console screen that appears when you select option 3 - `Update Device Image & Keep Current Configuration` (see figure 1-9, *Preconfiguration console screen that appears when you select option 3 in rescue mode*).

To upload the device image update with option 3 using the AFFU:

1. Put the IGSA Solutions CD into the local computer. The following screen appears:

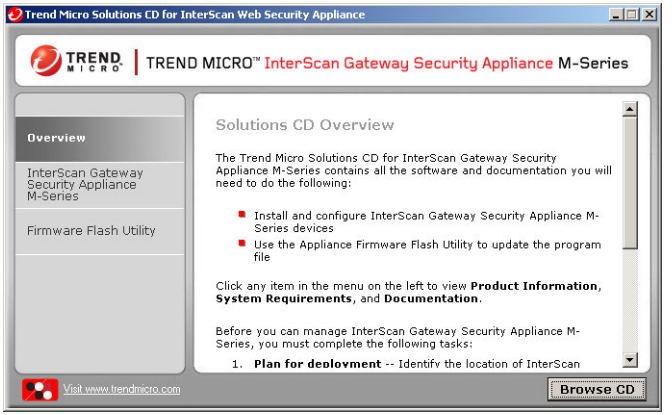

FIGURE 1-11. IGSA Solutions CD splash screen

Note: If for some reason the above screen does not appear after you put the CD in the CD-ROM drive, locate the file ***`setup.exe`*** and click it. The screen will appear.

2. On the main menu click **Firmware Flash Utility.** The following screen appears:

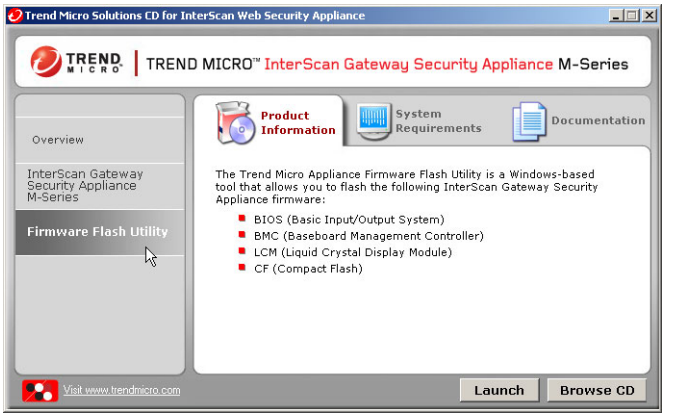

FIGURE 1-12. The IGSA Solutions CD Firmware Flash Utility section

3. On the Product Information tab, click **Launch.** The Trend Micro Appliance Firmware Flash Utility opens, and the following screen appears:

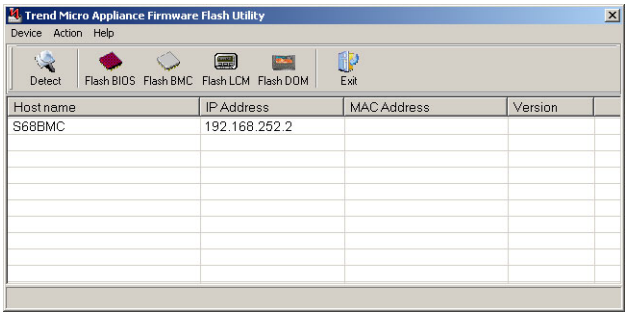

FIGURE 1-13. Trend Micro Appliance Firmware Flash Utility, opening screen, when uploading with option 3

4. Click **Flash DOM** (disk-on-module), as shown below.

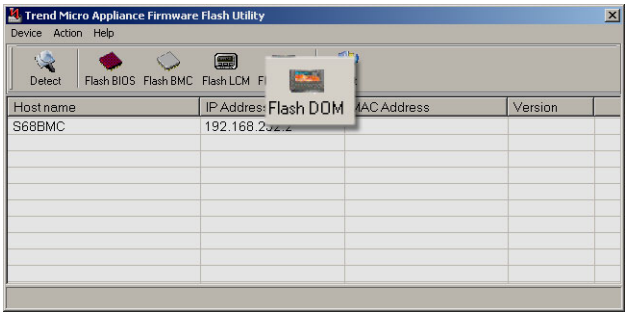

FIGURE 1-14. AFFU opening screen when uploading with option 3, emphasizing the Flash DOM button

5. After you click the Flash DOM button, the Appliance Firmware Flash Utility - DOM screen appears, as shown below.

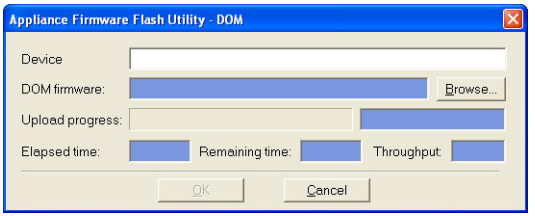

FIGURE 1-15. AFFU DOM screen

6. Because IGSA uses the 192.168.252.1 as the default rescue mode IP address, type *192.168.252.1* in the **Device** field.

7. Click **Browse** (next to the DOM firmware field) and browse to the device image in the file navigation screen that opens, as shown below.

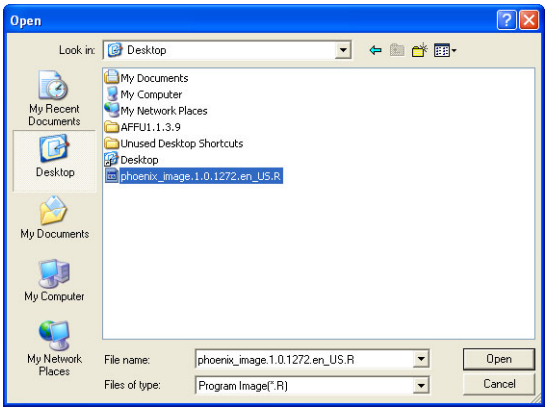

FIGURE 1-16. AFFU - browse to device image

8. Click **Open** to select the device image. The AFFU DOM screen reappears, with the full path to the device image in the **DOM firmware** field.
9. Click **OK** to start the device image update. The AFFU begins uploading the new device image to IGSA, and the AFFU DOM screen displays the progress of the update.

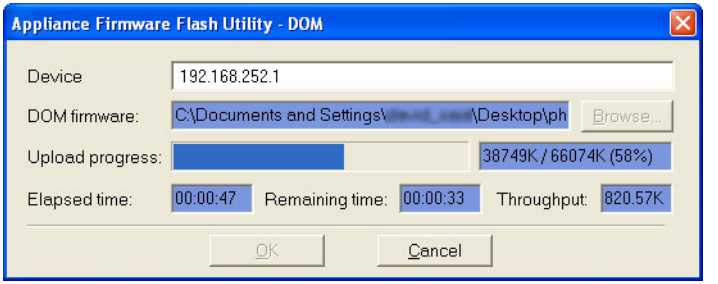

FIGURE 1-17. AFFU DOM screen showing progress of the update

When the update is complete, the AFFU displays a message stating that the device image uploaded successfully.

FIGURE 1-18. AFFU "flash DOM successfully uploaded" message

Troubleshooting Device Image Upload with Option 3

If you are unable to upload the IGSA device image in rescue mode using option 3, verify the following:

- Make sure that IGSA can get an IP address dynamically from your DHCP server or that you have assigned a static IP address.
- Make sure that the Ethernet cable is connected to the **INT** (internal) port (see figure 1-10, *IGSA back panel showing location of internal (INT) port,* on page 1-14).
- Make sure that the uploading client is in the same IP segment as the IGSA IP address, which you can see on the IGSA rescue mode console.You can use the **ping** command to check the IGSA connection.
- Make sure that TFTP traffic is not being blocked by an application on the uploading client or by some intermediate device. (TFTP is the protocol that IGSA uses to communicate with the uploading client.)

Uploading with the Restored, Default Configuration (Option 5)

You can either use up and down arrow keys on your keyboard to move to the choice that you want, or you can simply press the number of that option. The option for uploading with the existing configuration is:

```
5 - Update Device Image & Restore Default Configuration
```

When using this option, all the partitions on the Compact Flash (CF) card will be erased. Upload the image to the management port, and not the INT port, as with option 3.

Note: If you are using this option and have already entered your IGSA Activation Code (AC), you will need to re-enter your AC in the Web console after the IGSA image upload is complete and the device has rebooted.

To upload the new image file and restore the default configuration:

1. Choose option 5, `Update Device Image & Restore Default Configuration`.The following screen appears:

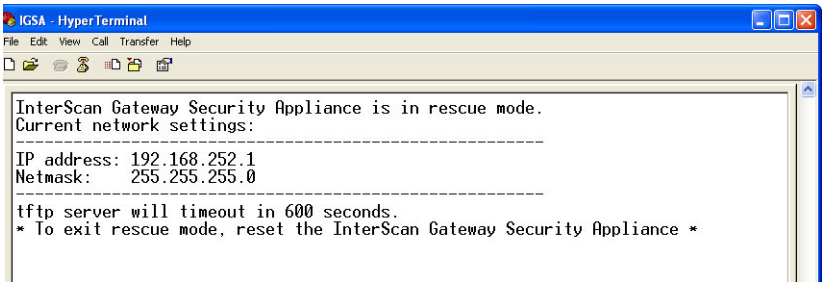

FIGURE 1-19. Preconfiguration console screen that appears when you select option 5 in rescue mode

2. Connect an RJ45 Ethernet cable from your local computer to the Management port of IGSA, as shown below.

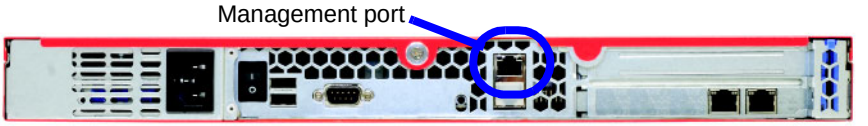

FIGURE 1-20. IGSA back panel showing location of management port

3. Upload the new image file by using the Trend Micro Appliance Firmware Flash Utility as described in *Using the Appliance Firmware Flash Utility with Option 5* on page 1-21.

Note: After you select the upload option, IGSA waits for the upload for up to 10 minutes, at which point it times out.

Using the Appliance Firmware Flash Utility with Option 5

Before launching the Appliance Firmware Flash Utility (AFFU), ensure that the IP of your PC is within the same segment as the IP of the IGSA device.The IGSA IP address appears on the preconfiguration console screen that appears when you select option 5 - `Update Device Image & Restore Default Configuration` (see figure 1-19, *Preconfiguration console screen that appears when you select option 5 in rescue mode*). (For more information on how to get the IP address of the local computer, see *Getting the IP Address of the Local PC* on page 1-10).

To upload the device image update using the Appliance Firmware Flash Utility:

1. Put the IGSA Solutions CD into the local computer. The following screen appears:

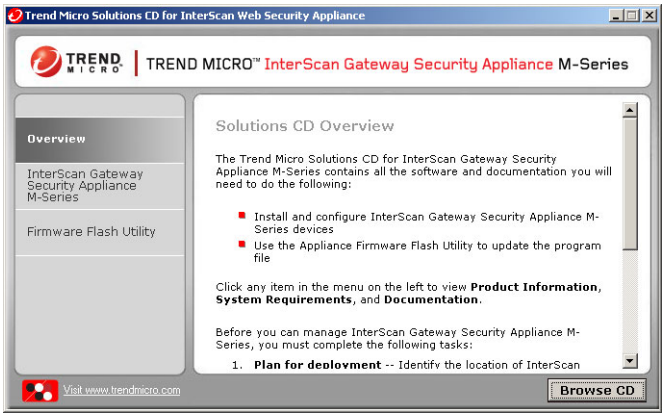

FIGURE 1-21. IGSA Solutions CD splash screen

Note: If for some reason the above screen does not appear after you put the CD in the CD-ROM drive, locate the file ***setup.exe*** and click it. The screen will appear.

2. On the main menu click **Firmware Flash Utility.** The following screen appears:

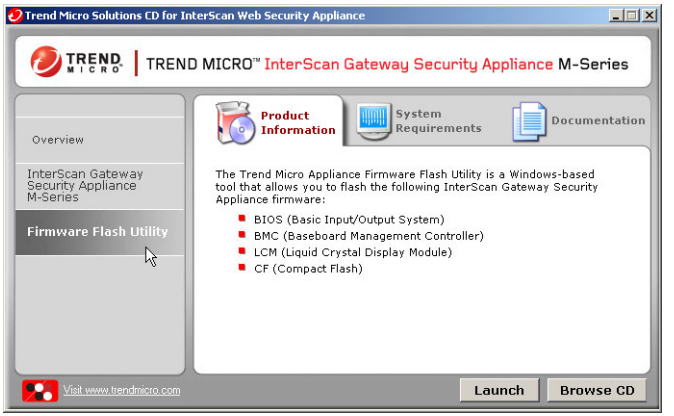

FIGURE 1-22. The IGSA Solutions CD Firmware Flash Utility section

3. On the Product Information tab, click **Launch.** The Trend Micro Appliance Firmware Flash Utility opens, and the following screen appears:

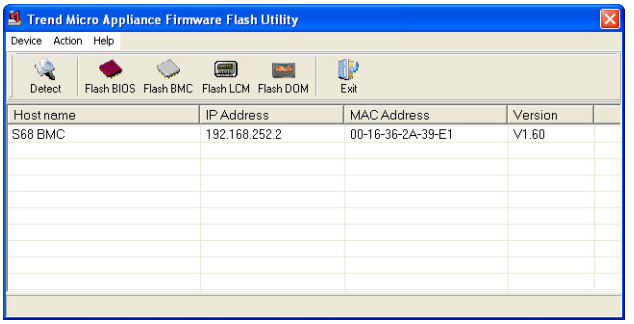

FIGURE 1-23. Trend Micro Appliance Firmware Flash Utility, opening screen when using option 5

4. Click **Flash DOM** (disk-on-module), as shown below.

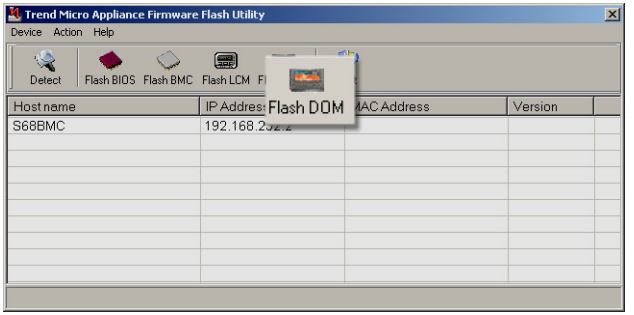

FIGURE 1-24. AFFU opening screen when using option 5, emphasizing the Flash DOM button

WARNING! *Do not click on the table row containing the IP address. If you do, AFFU will connect to the IP address of that entry, which is the IP address of IGSA's BMC, and an IP conflict will result. To upload the device image, IGSA needs to use the rescue mode IP address, which is always* `192.168.252.1`.

That is, do not do the following:

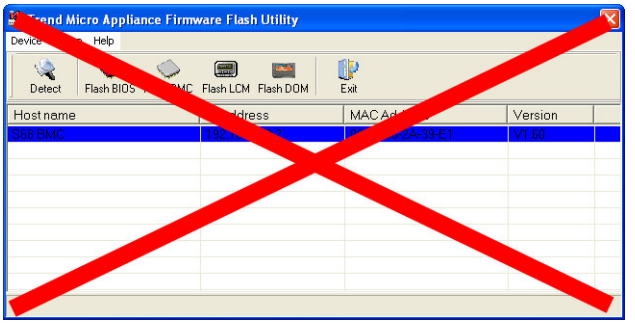

FIGURE 1-25. AFFU - Do not click the row displaying the IP address

5. After you click the Flash DOM button, the Appliance Firmware Flash Utility - DOM screen appears, as shown below.

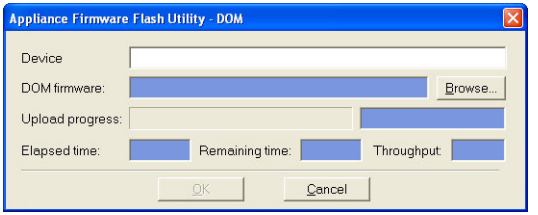

FIGURE 1-26. AFFU DOM screen

6. Because IGSA uses the 192.168.252.1 as the default rescue mode IP address, type *192.168.252.1* in the **Device** field.

7. Click **Browse** (next to the DOM firmware field) and browse to the device image file in the file navigation screen that opens.

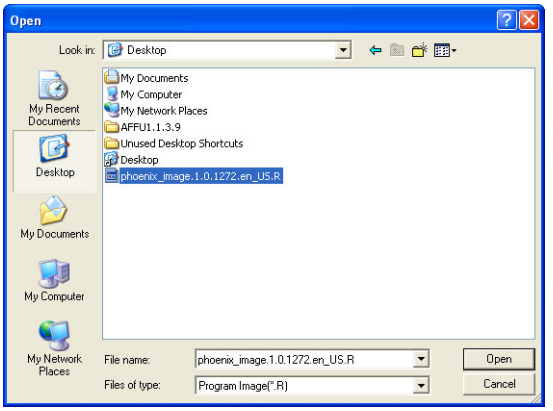

FIGURE 1-27. AFFU - browse to device image file

8. Click **Open** to select the device image file. The AFFU DOM screen reappears, with the full path to the device image in the **DOM firmware** field.
9. Click OK to start the device image update. The AFFU begins uploading the new device image to IGSA, and the AFFU DOM screen displays the progress of the update.

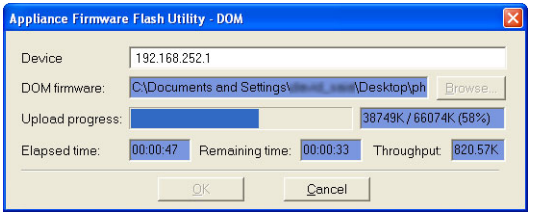

FIGURE 1-28. AFFU DOM screen showing progress of the update

When the update is complete, the AFFU displays a message stating that the device image uploaded successfully.

FIGURE 1-29. AFFU "flash DOM successfully uploaded" message

Troubleshooting Device Image Upload with Option 5

If you are unable to upload the IGSA device image in rescue mode using option 5, verify the following:

- Make sure that the Ethernet cable is connected to the IGSA management port. (See figure 1-20, *IGSA back panel showing location of management port*, on page 1-20.)
- Make sure that the uploading client is in IP range 192.168.252.x / 255.255.255.0.You can use the **ping** command to check the IGSA connection.
- Make sure that IGSA is still in rescue mode. You can verify that by viewing the IGSA Preconfiguration rescue mode console.(See *Putting IGSA Into Rescue Mode* on page 1-10.)
- Make sure that TFTP traffic is not being blocked by an application on the uploading client or by some intermediate device. (TFTP is the protocol that IGSA uses to communicate with the uploading client.)

Completing the Process After the Device Image Is Uploaded

After IGSA receives the image, IGSA automatically reboots.

Note: It can take 2 or 3 minutes for IGSA to finish updating its device image.

The Preconfiguration console display in the HyperTerminal window on the local computer displays the progress of the reboot, as shown below.

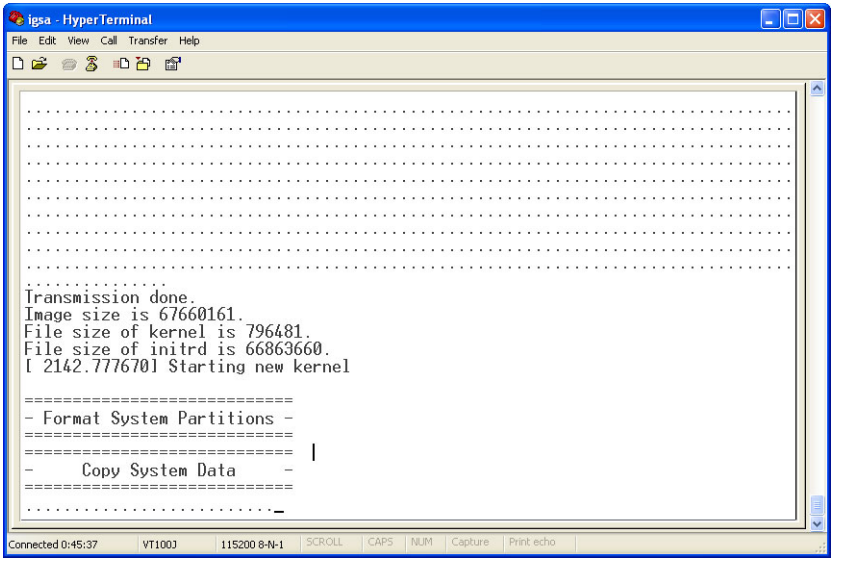

FIGURE 1-30. HyperTerminal window display as IGSA reboots

After IGSA has rebooted, confirm that IGSA has the new device image. You can do so by comparing the build number on the new Preconfiguration console opening screen to the previous build number, as shown below.

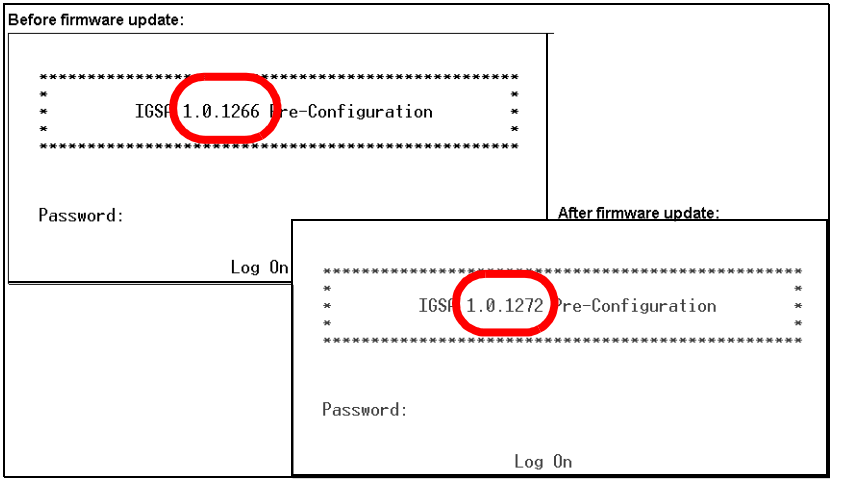

FIGURE 1-31. IGSA preconfiguration console login screens, before and after device image update

Chapter 2

BMC and BIOS Firmware Updates Using the AFFU

This chapter includes the following topics:

- *Updating the IGSA BMC Firmware* on page 2-2
- *Updating the IGSA BIOS Firmware* on page 2-11
- *Troubleshooting BMC or BIOS Firmware Upload* on page 2-15

Updating the IGSA BMC Firmware

The BMC (baseboard management controller) is a foreground/background embedded system. The current IGSA BMC implements the Intelligent Platform Management Interface specification v1.5 (IPMI 1.5), using all mandatory commands and some Trend Micro OEM (original equipment manufacturer) commands. BMC firmware provides the functionality and the communication interfaces between the physical hardware and the software system.

For firmware updates, that is, updates for BIOS, BMC, and LCM (LCD module), IGSA uses the IP address 192.168.252.2.

Preparing to Upload the BMC Firmware

Before uploading the BMC firmware, ensure that you have the following:

- Trend Micro Appliance Firmware Flash Utility (`AFFU.exe`)
- The BMC firmware file, which will have a name similar to `S68FWxxx.BIN`

Preparing the Local Computer for Uploading to IGSA

Before you upload the device image to IGSA, designate a computer to interface with the IGSA console port. Use a computer that has terminal configuration software such as HyperTerminal for Windows and a DB9 port.

You will be uploading the new device image using this computer that is physically connected to the IGSA appliance by means of the (serial) console port.

To connect the local computer to IGSA:

1. Connect an Ethernet cable to the IGSA Management port on the back of the device, as shown in the figure below, and connect the other end of the cable the the local computer.

FIGURE 2-1. Back panel of IGSA appliance showing console (serial) port and management port

2. Change the IP address of the local computer to 192.168.252.x and the subnet mask to 255.255.255.0, while being careful to avoid the IP addresses 192.168.252.1 and 192.168.252.2 to avoid an IP conflict, as these are the default IP addresses for IGSA rescue mode and for the IGSA BMC (baseboard management controller) respectively. (See *Getting the IP Address of the Local PC* on page 2-8.)
3. Follow the instructions in *Interfacing with the Preconfiguration Console for Firmware Updates* starting on page 2-4.
4. Connect a serial (RS 232) cable from the local computer to the serial port on the back panel of the IGSA device.

Interfacing with the Preconfiguration Console for Firmware Updates

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 a computer. (See figure 2-1, *Back panel of IGSA appliance showing console (serial) port and management port,* on page 2-3.)

> **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 the terminal emulation to `VT100J`, as shown below.

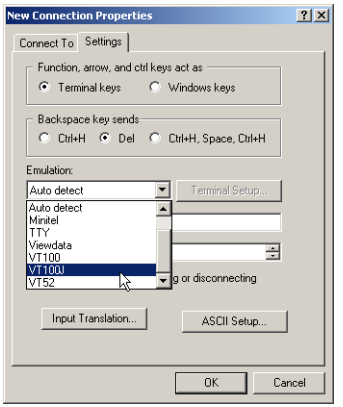

FIGURE 2-2. HyperTerminal display settings

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 2-3. 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 IGSA box.
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

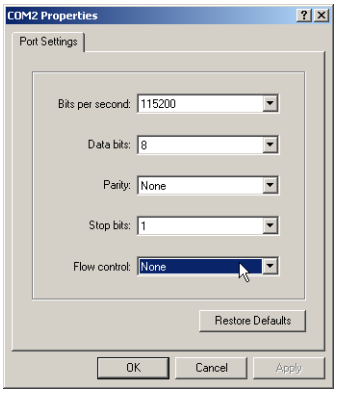

FIGURE 2-4. HyperTerminal COM Properties screen

6. Click **OK**. The COM Properties screen disappears and the screen is blank.
7. At the blank HyperTerminal screen, type the IGSA 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.

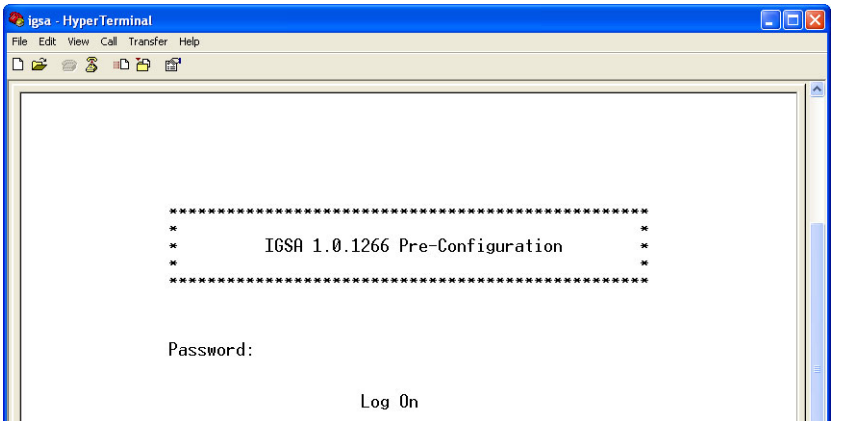

FIGURE 2-5. IGSA Preconfiguration console login screen

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

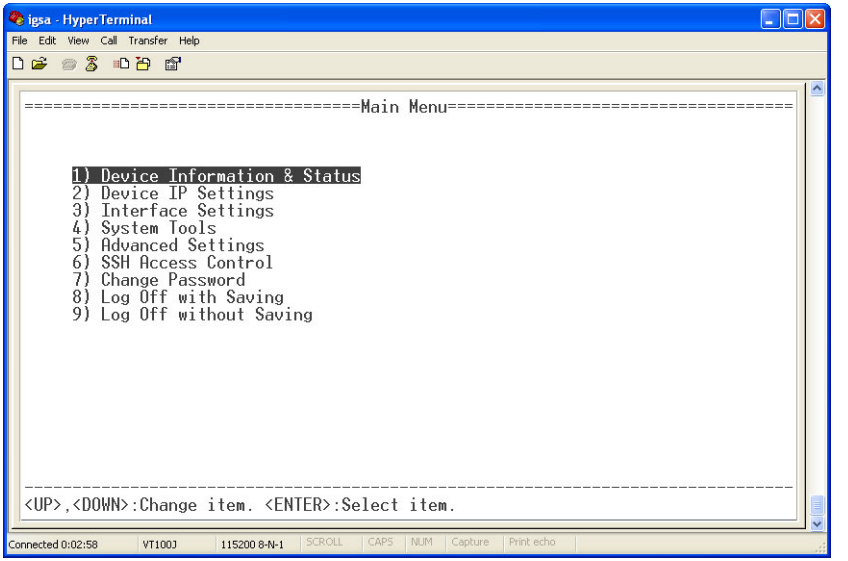

FIGURE 2-6. IGSA Preconfiguration console main menu, accessed via HyperTerminal

Getting the IP Address of the Local PC

For Windows, you can either use the **ipconfig** command to verify the IP address of your PC or you can ping the IGSA IP address that is displayed in HyperTerminal.

Uploading the BMC Firmware

To upload the BMC firmware to IGSA:

1. Power off IGSA, but keep the power cord plugged in. (DC off, AC on)

Note: Turn off the device by pressing and holding the on/off switch in the ON position for at least 4 seconds.

---

2. Put the IGSA Solutions CD into the local computer. The following screen appears:

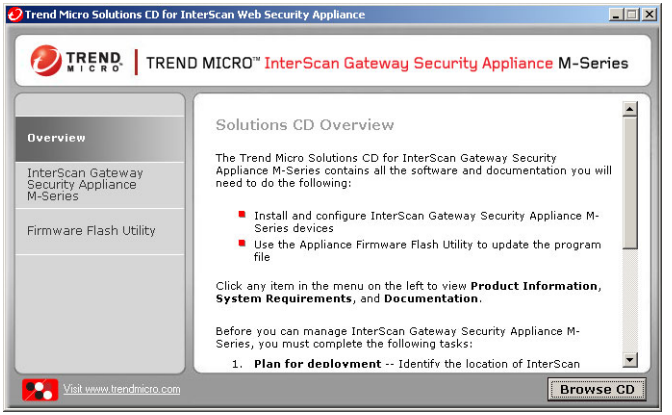

FIGURE 2-7. IGSA Solutions CD splash screen

3. On the main menu click **Firmware Flash Utility.** The following screen appears:

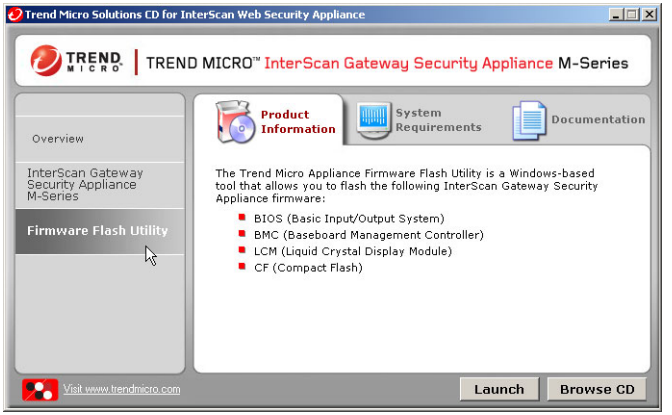

FIGURE 2-8. The IGSA Solutions CD Firmware Flash Utility section

4. On the Product Information tab, click **Launch.** The Trend Micro Appliance Firmware Flash Utility opens, and the following screen appears:

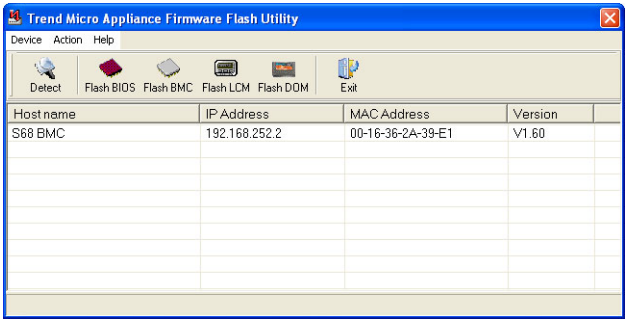

FIGURE 2-9. Trend Micro Appliance Firmware Flash Utility, opening screen

5. Click **Detect** to acquire the IP address of the IGSA BMC.

Note: For successful detection, configure the IP address of the local computer to be in the same segment as that of the IGSA BMC.

---

6. Select the detected entry by clicking the table row with the detected information.
7. Click **Flash BMC.** AFFU prompts you for a user name and password.
8. Leave the user name field empty and type `root` in the password field. The AFFU-BMC screen appears as shown below.

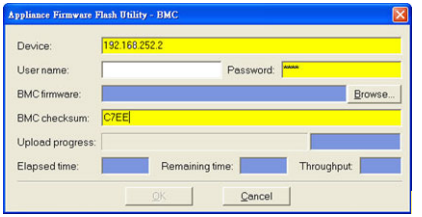

FIGURE 2-10. AFFU - BMC information entry screen

9. Click **Browse** (next to the BMC firmware field) and browse to the BMC firmware file in the file navigation screen that opens.
10. In the BMC checksum field, type the checksum value that you got from the the firmware release note.
11. Click **OK.** AFFU auto-powers on IGSA to begin to upload the BMC firmware and when the upload is complete, displays an information message stating that the BMC firmware uploaded successfully.

Note: During the BMC update, the IGSA CPU fans run at full speed.

After the BMC Upload

After the BMC has upgraded, BMC will auto-restart the IGSA to re-flash the BMC.

Updating the IGSA BIOS Firmware

On rare occasions, it may be necessary to update the IGSA BIOS. Follow the procedures below to complete this kind of update.

Preparing to Upload the IGSA BIOS

Before uploading the IGSA BIOS, ensure that you have the following:

- Trend Micro Appliance Firmware Flash Utility (`AFFU.exe`)
- The BIOS firmware, which will have a name similar to `S68_3AXX.ROM`

Preparing the Local Computer for Uploading to IGSA

The first two tasks when uploading new BIOS firmware (as detailed in *Updating the IGSA BMC Firmware* on page 2-2), are exactly the same as the procedures for connecting a local computer to IGSA to deliver the update and interfacing with the IGSA Preconfiguration console:

1. Follow the instructions in *Preparing to Upload the BMC Firmware* starting on page 2-2.
2. Follow the instructions in *Interfacing with the Preconfiguration Console for Firmware Updates* starting on page 2-4.

Note: When connecting the Ethernet cable from the local computer to the Management port, that port should be lit up green.

Uploading the IGSA BIOS Firmware

To upload the IGSA BIOS firmware to IGSA:

1. Power off IGSA, but keep the power cord plugged in. (DC off, AC on)

Note: Turn off the device by pressing and holding the on/off switch in the ON position for at least 4 seconds.

---

2. Put the IGSA Solutions CD into the local computer. The following screen appears:

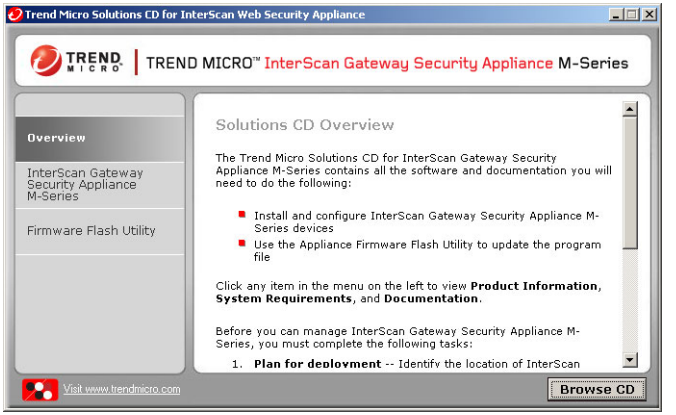

FIGURE 2-11. IGSA Solutions CD splash screen

3. On the main menu click **Firmware Flash Utility.** The following screen appears:

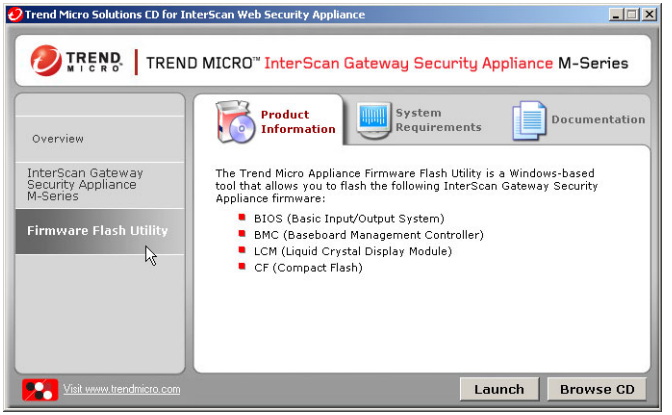

FIGURE 2-12. The IGSA Solutions CD Firmware Flash Utility section

4. On the Product Information tab, click **Launch.** The Trend Micro Appliance Firmware Flash Utility opens, and the following screen appears:

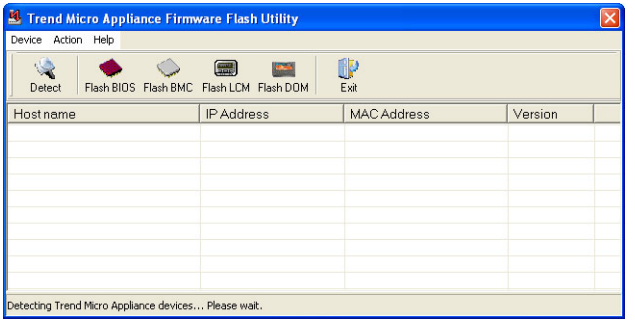

FIGURE 2-13. AFFU screen that appears initially

5. Click **Detect** to acquire the IP address of the IGSA BMC.

Note: For successful detection, configure the IP address of the local computer to be in the same segment as that of the IGSA BMC.

6. Select the detected entry by clicking the table row with the detected information.
7. Click **Flash BIOS.** AFFU prompts you for a user name and password.
8. Leave the user name field empty and type `root` in the password field. The AFFU-BIOS screen appears as shown below.

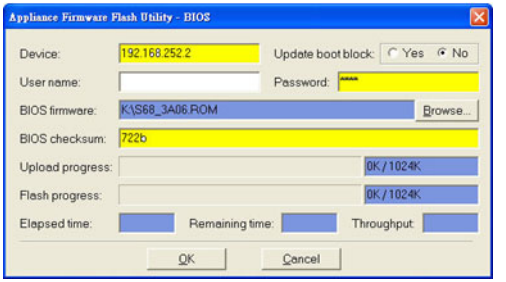

FIGURE 2-14. AFFU BIOS information entry screen

9. Click **Browse** (next to the BIOS firmware field) and browse to the BIOS firmware file in the file navigation screen that opens.
10. In the BIOS checksum field, type the checksum value that you got from the the BIOS release note.
11. Click **OK.** AFFU auto-powers on IGSA to begin to upload the BIOS firmware and, when the upload is complete, displays an information message stating the the BIOS firmware upgraded successfully.

After the BIOS Firmware Upload

After the BIOS has upgraded, IGSA will auto-restart and will then re-flash the BIOS.

Troubleshooting BMC or BIOS Firmware Upload

If the AFFU tool produces an error message saying "Can’t log in to device, or user privilege level is not administrator," verify the following:

- Make sure that the Ethernet cable is connected to the management port. (See figure 1-20, *IGSA back panel showing location of management port,* on page 1-20.)
- Make sure that the uploading client is in IP range `192.168.252.x/255.255.255.0` (You can use the AFFU detect function to verify the connection status between IGSA and the uploading client.)
- Make sure that you follow the correct update procedure to shut down the IGSA appliance before attempting to update the BMC/BIOS firmware. (See *Preparing to Upload the BMC Firmware* on page 2-2.)
- Verify that the IP address of the IGSA device is `192.168.252.2` and that the authenticated password information is correct.