



## **Dialogic® 1004 Integrated Media Gateway**

### **Using an SD Card**

#### **Printer-Friendly Documentation**

This version of the IMG 1004 documentation is formatted specifically for printing. Dialogic's primary format for documentation is a web-based help and is available from the Dialogic support site: <http://excelsupport.dialogic.com>

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## ***Technical Support***

Technical Support Number: 781-433-9600

Technical Support Fax: 781-449-9520

## ***Industry Standards***

This documentation contains many references to ITU-T standards. Originally, the CCITT made international standards for modulation, data transfer, and data compression protocols. The CCITT later became the ITU-T, or International Telecommunications Union Telecommunication Standardization Sector. CCITT standards are synonymous with ITU-T standards. For more details on these standards, go to [www.itu.org](http://www.itu.org).

This documentation also refers to American National Standards Institute (ANSI) standards. ANSI administers and coordinates the U.S. voluntary standardization and conformity assessment system for the telecommunications industry. More details on these standards may be viewed at [www.ansi.org](http://www.ansi.org).

## ***Related Training***

Dialogic offers a variety of training courses for the IMG 1004 Integrated Media Gateway and IMG 1004 Integrated Media Gateway. Instructors present a comprehensive description of hardware and software components and their interaction. Laboratory sessions provide hands-on experience for developing efficient, robust telecommunication.

For information, call 1-508-862-3000 and ask for a Training representative.

## ***Contacting Technical Support for Hardware Failures***

To expedite the process of returning defective hardware, please provide the serial number of the IMG and a shipping address.

Technical Support will investigate to determine whether the IMG may be defective, or if it is instead exhibiting a software issue that can be confused as a hardware problem. An example of an indication of a hardware defect would be an LED that fails to display any status.

## ***Recommendations for System Supportability***

The following are key elements we have identified across our customer base that have made them successful in their development and deployment of solutions incorporating Dialogic® products. We are passing these onto you as suggestions to consider when designing and building solutions. Not all of these suggestions are appropriate for all customers, but we hope you consider them carefully.

### ***If Your Solution Requires High Availability:***

- Order redundant configurations
- Purchase onsite spares
- Follow the limitations for power and configurations as noted in the Dialogic® Product Documentation
- Have your developers and technicians trained on the Dialogic® IMG 1010 Integrated Media Gateway
- Have your developers and technicians trained on the Dialogic® IMG 1004 Integrated Media Gateway
- Enable Logging in your application so that problems can be diagnosed and corrected
- Develop test scripts, environments, and systems that best simulate the environment of intended use for each release and each fix you deliver to your customers
- Implement Software Configuration Management to track every revision and change that you release to your customers
- Review your call flows and APIs with Dialogic Technical Support to identify opportunities to optimize your solution with regard to our product capabilities
- Purchase a support agreement from Dialogic

If you are running a network with Dialogic® Products in them, in addition to the above suggestions, also:

- Have backup systems for power
- Review your network design with Dialogic Technical Support to identify opportunities to optimize your solution with respect to our product capabilities
- Design your network to allow for alternative routes and logical assignments to more quickly address any service affecting issues.
- Control your system environment and configuration changes
- Plan your network management and monitoring strategy
- Ensure that your technicians are trained in all network elements and interfaces
- Monitor your network every day, around the clock.
- Have the ability to get someone to every site without delay
- Have a complete list of contact information for the support arm of each network element you deploy
- Provide for supplier remote access if required to diagnose and resolve an issue

All of us at Dialogic want you, our valued customer, to be successful. For additional information regarding our support services and how we can work more closely together for our mutual success, contact us at our support website at <http://excelsupport.dialogic.com>.



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## Using an SD Card

### Using an SD Card

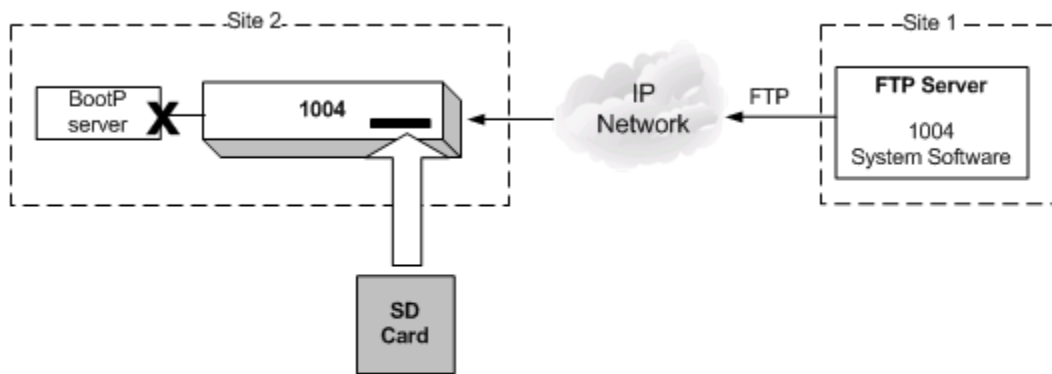
#### Downloading IMG 1004 System Software Using Boot File on an SD Card

**Topic Location:** *Installation and Setup Guide > Using an SD Card*

A BootP server is used to configure the following:

- IMG 1004 CTRL IP address
- subnet mask
- gateway address
- FTP server address
- FTP file name of the IMG 1004 system software

If a BootP server is not available but a remote FTP Server is available, the SD card can be used to configure the boot parameters so the IMG 1004 can retrieve the system software from the remote FTP Server. See Diagram Below



#### **Bootup.cfg**

Host Flag = Retrieve 1004 System Software from FTP server  
Server Address = Your FTP Server address

# Using an SD Card

## STEPS:

1. Insert the SD Card into an SD Writer connected to a PC.
2. On the SD Card is a file named bootup.cfg. Open this file
3. Below is what the SD Card bootup.cfg information should look like.

#####

```
# INSTRUCTIONS
#1. Edit values as required, as described below.
# Change IP Address, Subnet Mask, and Gateway IP Address to the actual #values for the IMG.
# If you change the version of IMG System Software on the FTP Server #or the SD card, make sure
you change the System Software Filename #value.
# Make sure Host Flag is set appropriately for your configuration and #Boot method
#
# Calculate boot flag by adding values based on desired system attributes
# For a T1 system: add 0
# For an E1 system: add 2
#
# To boot from a FTP Server: add 0
# To boot from a SD Card: add 32
#
# For LBR codecs (512 ch/mod): add 0
# For LBR + ILBC codecs (336 ch/mod): add 16
# For LBR + ILBC + Wireless codecs (336 ch/mod): add 24
#
# An example host flag for a T1 system booting from the SD card with LBR + iLBC codecs would =
48 (0+32+16)
# Change Server Address to the actual address of the FTP server.
# The Server Name is not used at this time.
#2. After editing this file: save file, remove SD card, insert SD card #in the IMG, power-up the IMG.
#
# IMG bootup configuration file
# IP Address
yiaddr=192.168.3.103
# Subnet Mask
subnet mask=255.255.255.0
# Gateway Address
giaddr=192.168.3.10
# System Software Filename
file=/excelsw/ftpBuilds
# Host Flag
host flag=0
# Server Address for File transfer and SNTP operation.
siaddr=192.168.1.100
# Server Name (Optional, not currently used)
sname=factorydefault
```

#####

4. Any line beginning with the # symbol is a comment and is not processed by the IMG 1004.

## Using an SD Card

5. Below is the information the user will edit for use in their network

- **yiaddr** --> IP Address of the IMG 1004 being loaded
- **subnetmask** --> Subnet mask of the IMG 1004 being loaded
- **giaddr** --> IP Address of the Gateway connected to the IMG 1004
- **file** --> If using the SD card to supply boot information but get the software load from the FTP Server the System Software Filename on the bootup.cfg file should be given a path to the IMG 1004 System Software file located on the ftp server. The default path is /excelsw/ftpBuilds or ftpBuilds/ as the IMG 1004 logs into the FTP server using the excelsw account.
- **Host flag** --> The Host Flag informs the IMG 1004 of configuration details such as T1 or E1, Boot from SD card or Boot from FTP Server, and a few other configuration details. See Setting Host Flags.
- **siaddr** --> IP Address of FTP server which provides the IMG 1004 System Software and NTP Server information
- **sname** --> Optional, not currently used. Do not edit or problems may occur

6. Change the Host Flag to "Retrieve IMG Build from SD Card".

Host Flag Values

32 = Boot from SD Card, T1 system

34 = Boot from SD Card, E1 system

### Example:

The following is a T1 system booting from SD Card. Refer to the file Setting Host Flags to follow the example

Boot From SD card = 32

T1 system = add + 00

Host Flag Value = 32

The Host Flag for a T1 system booting from SD Card = 32

7. Edit the bootup.cfg file to reflect the new Host Flag value
8. Edit the System Software Filename in the bootup.cfg file to reflect the new software file being loaded. (Ex: file=/excelsw/ftpBuilds)
9. Edit the rest of the bootup.cfg file to reflect your network values.
10. Save the bootup.cfg file.
11. Remove the SD card from the SD Writer.
12. Insert the SD card into the SD slot on the Front Panel of the IMG 1004.
13. Power-up the IMG 1004. Software will now load. Refer to the topic **Hardware Reference > Front Panel Status LEDs 1004** in the online documentation for information on LED sequencing and error codes that might occur during the bootup process.

### Next Task

Starting GateControl EMS

## Using an SD Card

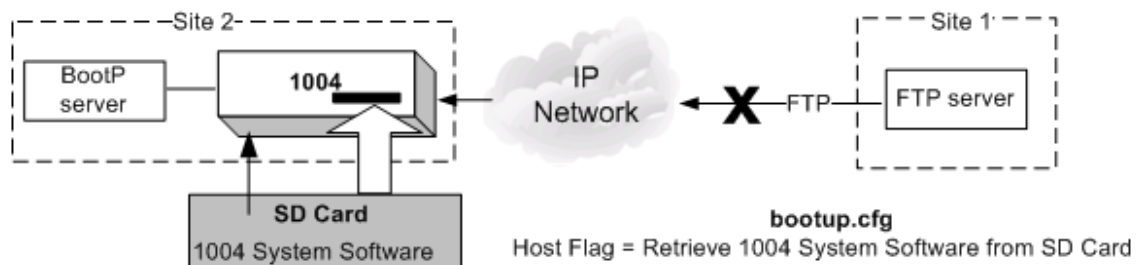
### Downloading IMG 1004 System Software From an SD Card

**Topic Location:** *Installation and Setup Guide > Using an SD Card*

#### Overview of SD Card

If the IMG 1004 does not have access to an FTP server then the IMG 1004 System Software and IP information can be loaded through the use of an SD Card. The SD Card is a small memory card much like the memory cards used in digital cameras and other devices. The IMG 1004 has an SD card slot positioned on the right hand side of the front panel just below the USB port. The SD card holds the `bootup.cfg` file and the IMG 1004 System Software file. The procedure below will explain how to load the IMG 1004 System Software and IP addresses using just the SD Card.

NOTE: The process below explains how to load software onto the SD Card using an SD writer. In software 10.5.0 the IMG 1004 has the ability to load software using ftp. See SD Card Remote Provisioning further down in this document on how this is accomplished.



#### Steps

1. Insert the SD Card into an SD Writer.
2. Load the System Software File onto the SD Card.
3. On the SD Card provided with the IMG 1004 is a file named *bootup.cfg*.
4. Below is what the SD Card *bootup.cfg* information will look like.

## Using an SD Card

#####

### # INSTRUCTIONS

#1. Edit values as required, as described below.

# Change IP Address, Subnet Mask, and Gateway IP Address to the actual #values for the IMG.

# If you change the version of IMG System Software on the FTP Server #or the SD card, make sure you change the System Software Filename #value.

# Make sure Host Flag is set appropriately for your configuration and #Boot method

#

# Calculate boot flag by adding values based on desired system attributes

# For a T1 system: add 0

# For an E1 system: add 2

#

# To boot from a FTP Server: add 0

# To boot from a SD Card: add 32

#

# For LBR codecs (512 ch/mod): add 0

# For LBR + ILBC codecs (336 ch/mod): add 16

# For LBR + ILBC + Wireless codecs (336 ch/mod): add 24

#

# An example host flag for a T1 system booting from the SD card with LBR + iLBC codecs would = 48 (0+32+16)

# Change Server Address to the actual address of the FTP server.

# The Server Name is not used at this time.

#2. After editing this file: save file, remove SD card, insert SD card #in the IMG, power-up the IMG.

#

---

# IMG bootup configuration file

# IP Address

yiaddr=192.168.3.103

# Subnet Mask

subnet mask=255.255.255.0

# Gateway Address

giaddr=192.168.3.10

# System Software Filename

**file=img1004\_ver1050123\_id0106.bin**

# Host Flag

host flag=0

# Server Address for File transfer and SNTP operation.

siaddr=192.168.1.100

# Server Name (Optional, not currently used)

sname=factorydefault

#####

5. Any line beginning with the # symbol is a comment and is not processed by the IMG 1004.

## Using an SD Card

6. Below is the information the user will edit for use in their network
  - **yiaddr** --> IP Address of the IMG 1004 being loaded
  - **subnetmask** --> Subnet mask of the IMG 1004 being loaded
  - **giaddr** --> IP Address of the Gateway connected to the IMG 1004
  - **file** --> System Software Filename. If loading software from SD Card then this is the filename of the software being loaded. Load this file onto the SD Card.
  - **Host flag** --> The Host Flag informs the IMG 1004 of configuration details such as T1 or E1, Boot from SD card or Boot from FTP Server, and a few other configuration details. See Setting Host Flags.
  - **siaddr** --> IP Address of FTP server. Also used as an NTP server.
  - **sname** --> Optional, not currently used. Do not edit or problems may occur
7. Change the Host Flag to "Retrieve IMG 1004 Build from SD Card".

### Host Flag Values

32 = Boot from SD Card, T1 system

34 = Boot from SD Card, E1 system

Example: The following is a T1 system booting from SD Card. Refer to the file Setting Host Flags to follow the example

Boot From SD card = 32

T1 system = add + 00

Host Flag Value = 32

The Host Flag for a T1 system booting from SD Card = 32

8. Edit the bootup.cfg file to reflect the new Host Flag value
9. Edit the System Software Filename in the *bootup.cfg* file to reflect the new software file being loaded. (Ex: img1004\_ver1050123\_0106.bin)
10. Edit the rest of the bootup.cfg file to reflect your network values.
11. Save the bootup.cfg file.
12. Remove the SD card from the SD Writer.
13. Insert the SD card into the SD slot on the Front Panel of the IMG 1004.
14. Power-up the IMG 1004. Software will now load. Refer to the topic **Hardware Reference > Front Panel Status LEDs 1004** in the online documentation for information on LED sequencing and error codes that might occur during the bootup process.

### Next Task

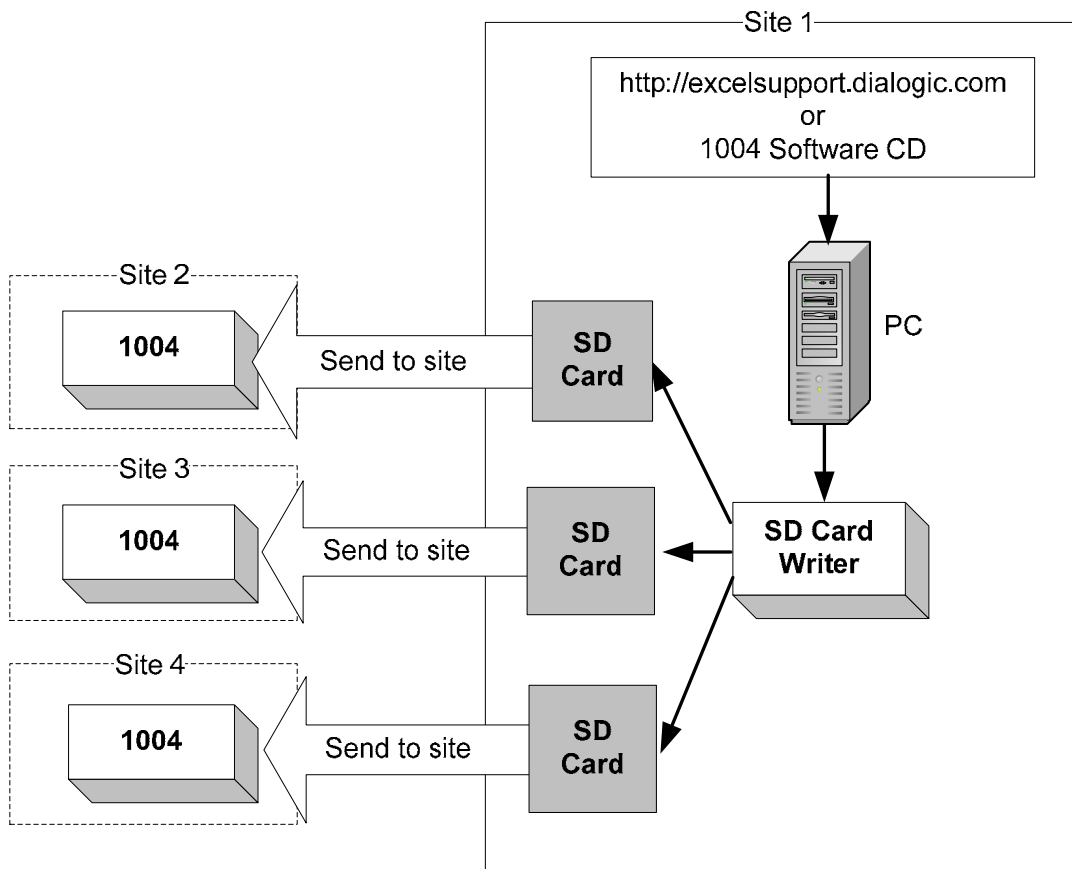
Starting GateControl EMS

## Using an SD Card

### Distributing IMG 1004 System Software Using an SD Card

**Topic Location:** *Installation and Setup Guide > Using an SD Card*

If you have remote IMG 1004's that cannot obtain an IMG 1004 System Software upgrade using FTP or BootP, you can transfer the file to SD cards and distribute the SD cards to remote sites. You can edit the Bootup.cfg file on each card with the Boot configuration information for the IMG 1004 to which it will be shipped.



## Using an SD Card

### Default bootup.cfg Configuration File

**Topic Location:** *Installation and Setup Guide > Using an SD Card*

#### # INSTRUCTIONS

#1. Edit values as required, as described below.

# Change **IP Address**, **Subnet Mask**, and **Gateway IP Address** to the actual values for the 1010.

# If you change the version of 1010 System Software on the FTP Server or the SD card, #make sure you change the **System Software Filename** value.

# Make sure **Host Flag** is set appropriately for your configuration and Boot method

# Calculate **Host Flag** by adding values based on desired system attributes

# For a T1 system: add 0

# For an E1 system: add 2

#

# To boot from a FTP Server: add 0

# To boot from a SD Card: add 32

#

# For LBR codecs (512 ch/mod): add 0

# For LBR + ILBC codecs (336 ch/mod): add 16

# For LBR + ILBC + Wireless codecs (336 ch/mod): add 24

#

# An example host flag for a T1 system booting from the SD card with LBR + iLBC codecs would = 48 (0+32+16)

# Change **Server Address** to the actual address of the FTP server.

# The **Server Name** is not used at this time.

#2. After editing this file: save file, remove SD card, insert SD card in the 1010, power-#up the 1010.

---

# 1010 bootup configuration file

# IP Address

yiaddr=192.168.0.101

# Subnet Mask

subnet mask=255.255.255.0

# Gateway Address

giaddr=192.168.0.1

# System Software Filename

**file=img1004\_id0106.bin**

# Host Flag

host flag=0x20

# Server Address for File transfer and SNTP operation.

siaddr=192.168.0.100

# Server Name (Optional, not currently used)

sname=factorydefault

# Using an SD Card

## SD Card Remote Provisioning

**Topic Location:** *Installation and Setup Guide > Using an SD Card*

### Overview

This feature provides a means for installing new versions of system software to IMG 1004's located at remote sites with no BOOTP server, by allowing remote access to the SD card on the IMG 1004. The SD Card is a small memory card much like the memory cards used in digital cameras and other devices. The IMG 1004 has an SD card slot positioned on the right hand side of the front panel just below the USB port. Up till software version 10.3.x the only way to access and edit information on the SD Card would be to physically go to the remote IMG 1004, pull the card out, insert it into an SD Reader, and edit the information on the SD Card. A new feature which has been implemented in software build 10.5.0 provisions the IMG 1004 as an FTP server instead of just an FTP client. This will give the user the ability to transfer files to and from the SD Card using the FTP utility. The FTP server functionality is disabled by default and would need to be enabled through ClientView in order for the remote provisioning to work.

### Related Topics:

[Downloading IMG System Software Using a Boot File on an SD Card](#)

[Downloading IMG System Software from an SD Card](#)

[Distributing IMG System Software Using an SD Card](#)

[Default bootup.cfg File](#)

### Configuring Remote provisioning on SD card

NOTE: To use the IMG 1004 as an FTP server the SD Card must be inserted into the SD Card socket. The IMG 1004 will have system software running on it which was originally loaded through use of the SD Card

1. Within ClientView under the IMG 1004 Physical node right click and select **New FTP Server**. Commit This. Below is a screen capture of the FTP Server Pane



| FTP Server Disable    |               |                |
|-----------------------|---------------|----------------|
| Property              | As-Configured | User-Specified |
| FTP Server            |               | Disable        |
| FTP Connection Status |               |                |
| Remote IP Address     |               |                |

2. In order to enable the IMG 1004 as an FTP server select enable in the drop down menu in the "FTP Server" field.



| FTP Server Disable    |               |                |
|-----------------------|---------------|----------------|
| Property              | As-Configured | User-Specified |
| FTP Server            |               | Enable         |
| FTP Connection Status |               | Enable         |
| Remote IP Address     |               | Disable        |

## Using an SD Card

3. If someone has FTP'd to the IMG 1004 the "FTP Connection Status" field and the "Remote IP Address" field will update. See screen capture below. Notice the Remote IP address field. This is the IP address of the PC that the user is FTP'ing from.

| FTP Server Enable     |               |                |
|-----------------------|---------------|----------------|
| Property              | As-Configured | User-Specified |
| FTP Server            | Enable        | Enable         |
| FTP Connection Status | Connected     |                |
| Remote IP Address     | 10.129.39.55  |                |

4. At this point files can be FTP'd to and from the IMG 1004. Below is an example of using FTP to change the version of software loaded on the SD card

### Procedure:

1. The following procedure will explain how to change the load on an SD Card and upgrade the IMG 1004 software. The procedure will assume a few things.
  - SD Card was previously used to load IMG 1004 software and the IMG 1004 is running with that software.
  - The FTP Server is configured and enabled in ClientView. See Steps 1-4 above

```
From a DOS or UNIX prompt
ftp <IP address of IMG>
User: excelsw
Password: excelsw
ftp>
```

**NOTE: FTP Applications such as WinSCP that use SFTP (Secure FTP) or SCP (Secure Copy) will not connect to the IMG 1004. Only the FTP Protocol is supported for transferring the files to the IMG 1004 SD Card.**

2. Once logged in you can transfer the new updated IMG 1004 software file. Transfer this file as binary.

```
ftp> dir (dir command will show what is loaded on SD Card)
ftp> bin (Set mode to transfer file as binary)
ftp> hash (enable hash printing)
ftp> put img1004_<software version>_id0106.bin (Transfer will
take approximately 2 to 3 minutes)
```

3. Verify the software file was successfully transferred by using the dir or ls command.

```
ftp> dir
```

4. Transfer the bootup.cfg file from the IMG 1004 with the SD Card to the PC.

```
ftp> dir (dir command will show what is loaded on SD Card)
ftp> ascii (Set mode to transfer file as ascii)
ftp> get bootup.cfg (Get copy of bootup.cfg from SD Card)
```

## Using an SD Card

5. Modify the "file=" line on the bootup.cfg file just transferred. Verify the changes to this file are correct. Below is the line in the bootup.cfg file that will need to be edited.

```
# System Software Filename
file=img1004_ver1050137_id0106.bin (Change ver1050137 to new
software build. Ex: ver1050140)
```

6. Before transferring the new bootup.cfg file to the SD rename the existing file on the SD card. This can be accomplished using the rename command in ftp. See Below

```
ftp> rename bootup.cfg bootup_old.cfg
```

7. Transfer the new bootup.cfg file to the IMG 1004. Transfer this file as Ascii text

```
ftp> ascii (Set to transfer an ascii text file)
ftp> put bootup.cfg (Transfer will take a few seconds)
```

8. Once the software is transferred verify both files were transferred successfully to the SD Card.
9. In order to load latest software into the IMG 1004 the IMG 1004 must be rebooted. Go to ClientView and under the IMG 1004 Physical Node right click and select **Clear Software**.
10. A box will pop up informing you that "This option could have significant effects on the system. Are you sure you want to clear software" Select YES button.
11. The IMG 1004 will now reboot and eventually Software will start loading. Refer to the topic **Hardware Reference > Front Panel Status LEDs 1004** in the online documentation for information on LED sequencing and error codes that might occur during the bootup process.
12. The loading of software through the SD Card will take approximately 4 minutes. Once software is loaded then GCEMS will configure the IMG 1004.