



InformaCast Virtual Appliance Basic Paging[®]

Administration Guide for a Cisco[®] Unified Communications Manager Environment
September 18, 2013

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InformaCast Virtual Appliance Basic Paging

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CHAPTER 1

Overview

InformaCast Virtual Appliance, Singlewire's virtual appliance, contains InformaCast Basic Paging.

Intended Audience

This guide is intended to walk you through the administration of InformaCast Virtual Appliance, which runs in virtualized environments. It is written with two audiences in mind, the administrators and users of InformaCast Virtual Appliance.

There are also two versions of this guide: one for environments using Basic InformaCast functionality and another for Advanced InformaCast functionality. Please make sure you have the right version by looking at the environment type printed at the bottom of every page.

When you install InformaCast in a Cisco Unified Communications Manager environment, you should:

- Be familiar with Communications Manager administration
- Have multicast and networking knowledge

Prerequisites

InformaCast Virtual Appliance has the following system prerequisites:

- Use of one of the following supported browsers: Firefox 15, Chrome 18, or Internet Explorer 9
- A VMware ESXi server 4.0 and later (80 GB hard drive, 4 GB RAM, 1 CPU)
- Compliance with the prerequisites and hardware/system requirements for each of the included applications

As a virtual machine (VM), InformaCast Virtual Appliance becomes one machine among the others that are running on a VMware host. Please use the following guidelines for allocating host resources for InformaCast Virtual Appliance:

- **Do not oversubscribe the CPU or memory.** It is possible to run more virtual machines than the VMware host physically supports. If this is done with InformaCast Virtual Appliance, audio quality and phone activation performance will be adversely affected.
- **Plan the placement of your InformaCast Virtual Appliance VM carefully.** Cisco has released recommendations on how to run third-party VMs, such as InformaCast Virtual Appliance, co-resident with other Cisco virtual machines, such as those that run Cisco Unified Communications Manager. If you choose to run InformaCast Virtual Appliance as co-resident with Communications Manager, please note that you may be required to either move or suspend the InformaCast Virtual Appliance VM during troubleshooting with Cisco TAC. If you are running

InformaCast Virtual Appliance to support emergency communication, this may not be acceptable to you, and you should not run InformaCast Virtual Appliance as co-resident with Cisco UC applications.

- **Choose the proper environment.** InformaCast Virtual Appliance can run off of either local disk or Storage Area Network (SAN), whichever is convenient for your installation. InformaCast Virtual Appliance in a default logging and load configuration performs a lower number of disk I/Os.
- **Do not use NAT'd connections.** InformaCast Virtual Appliance must run on a VMware vNIC configured for bridging, not NAT. InformaCast Virtual Appliance will not work with NAT'd connections.

A Note on Ports

When configuring your firewall for compatibility with Singlewire's applications, use the following tables, which depend on the direction of your traffic.

Table 1: Inbound Traffic

Port	Protocol	Application and/or Purpose
22	TCP	Secure shell (SSH) for server management
80	TCP	Singlewire Start page's non-secure web interface
123	UDP	Network Time Protocol (NTP)
427	TCP and UDP	InformaCast SLP
443	TCP	Singlewire Start page's secure web interface
1161	UDP	InformaCast SNMP
8081	TCP	InformaCast's non-secure web interface
8101	TCP	Toolbox's non-secure web interface
8444	TCP	InformaCast's secure web interface
8460	TCP	The LPI's secure web interface
8463	TCP	Toolbox's secure web interface
10000	TCP	Webmin interface
32068-32268	UDP	InformaCast's inbound RTP streams (inbound calls to CTI ports, route points by dialcast, inbound SIP)
5060-1	TCP	InformaCast's SIP

Table 2: Outbound Traffic

Port	Protocol	Application and/or Purpose
80T	TCP	InformaCast's outbound connections to IP phones
161	UDP	Communications Manager SNMP phone data
427	UDP and TCP	InformaCast SLP

Table 2: Outbound Traffic

Port	Protocol	Application and/or Purpose
443	TCP	Secure web interface for: <ul style="list-style-type: none"> webservices.singlewire.com Communications Manager AXL web services
2748	TCP	Communications Manager's CTI ports/route points
20480-21080	UDP	Default multicast ports to which InformaCast sends audio

A Note on Usage

Specific fonts are used to represent specific kinds of information in this guide. The fonts and their meaning are listed here:

- **Bold fonts** indicate the name of a button, text field, or other element with which you interact and any text that you must enter.
- *Italic fonts* indicate the name of an area or section on one of an application's pages.
- Angled brackets enclose text that varies with your specific environment, i.e. `http://<Your IP Address>` means that you would enter your specific IP address instead of the brackets and what they enclose.
- [Blue, underlined](#) text indicates a hyperlink.
- Underlined text indicates a tooltip in the user interface. Hover your mouse over the tooltip to see an explanation of the underlined text.

There are several kinds of notification boxes used in this guide:

- **Tip.** These offer advice or “best practices.”
- **Note.** These contain additional information, usually relevant in special cases.
- **Caution.** These contain information about a procedure that may reduce the performance of your system.
- **Warning.** These contain information about a procedure that can impair or disable your system.

Where to Start

InformaCast Virtual Appliance has multiple user interfaces:

- Start page
- Applications' web interfaces
- Toolbox
- Virtual machine administrative web interface (Webmin)
- Command line interface (CLI)


Note

The initial login credentials for InformaCast are **admin** (login) and **changeMe** (password).

This guide deals only with administration of your server environment, and will focus on the Webmin and CLI interfaces. When installing and configuring InformaCast Virtual Appliance, there are many steps to ensuring that your application works correctly. Please follow the steps for implementation in the InformaCast Virtual Appliance Installation and User Guide.

Start Page

The InformaCast Start page is accessible through a web browser addressed with the IP address of your Virtual Appliance server, and it contains links to InformaCast's user interface, the Toolbox, and Webmin.

Web Interface

The InformaCast application has its own web interface. Please consult its guide for further information on how its web interface works.

Toolbox

The Toolbox is designed to be an inclusive destination for application-level accessories. Here, you can access the License Manager to see all of your Singlewire applications' licenses, review the functionality they encompass, and update those licenses with newer versions. You can also migrate from a Windows installation to the Virtual Appliance. For Basic InformaCast users, the Toolbox is of limited use since your license is contained within InformaCast itself; you will only use the License Manager if you upgrade to Advanced InformaCast.

Virtual Machine Administrative Web Interface (Webmin)

The virtual machine administrative web interface is used for administering the underlying operating system of the virtual machine, e.g. configuring the network interface, stopping and starting applications and shutting down the virtual machine.

Command Line Interface

The command line interface is a text-based interface used for support issues and some configuration procedures (e.g. those that require manual editing of files or the running of scripts). The command line interface uses the bash command line shell, and can be accessed via a virtual machine console window or over the network through the use of an SSH (Secure Shell) client.



Note

Rudimentary knowledge of bash is required to use the command line interface. If files are to be edited on the virtual machine itself, knowledge of the nano text editor is also required. If you are not familiar with the nano editor, you can optionally transfer files that need to be modified to another machine, edit them there, and then transfer the modified file back to the InformaCast Virtual Appliance virtual machine. The transfer process can be achieved via an SCP (Secure Copy) client, such as PSCP on Windows. PuTTY, available as a free download (<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>) contains all the necessary tools for transferring files.

Technical Support

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly What's New in Cisco Product Documentation, which also lists all new and revised Cisco technical documentation, at: <http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>.



CHAPTER 2

Manage InformaCast Virtual Appliance

The following sections detail how to manage InformaCast Virtual Appliance from the server side.

Log into InformaCast Virtual Appliance's Interfaces

When using InformaCast Virtual Appliance, you will need to log into its different interfaces: InformaCast, CallAware, the Legacy Paging Interface (LPI), the Toolbox, and Webmin. All of these interfaces are accessible through the Singlewire Start page, which is the IP address of your InformaCast Virtual Appliance server.



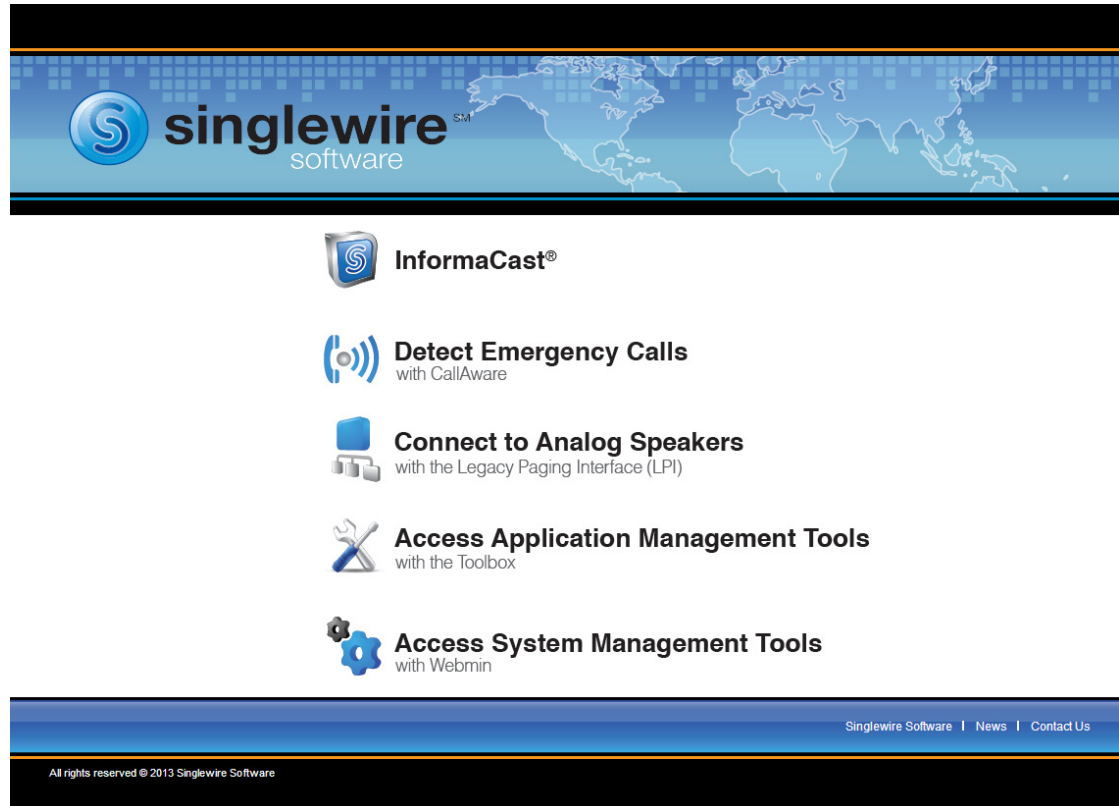
Note

CallAware and the LPI are not supported by InformaCast Basic Paging. Please [contact Singlewire Sales](#) for an upgrade to Advanced Notification.

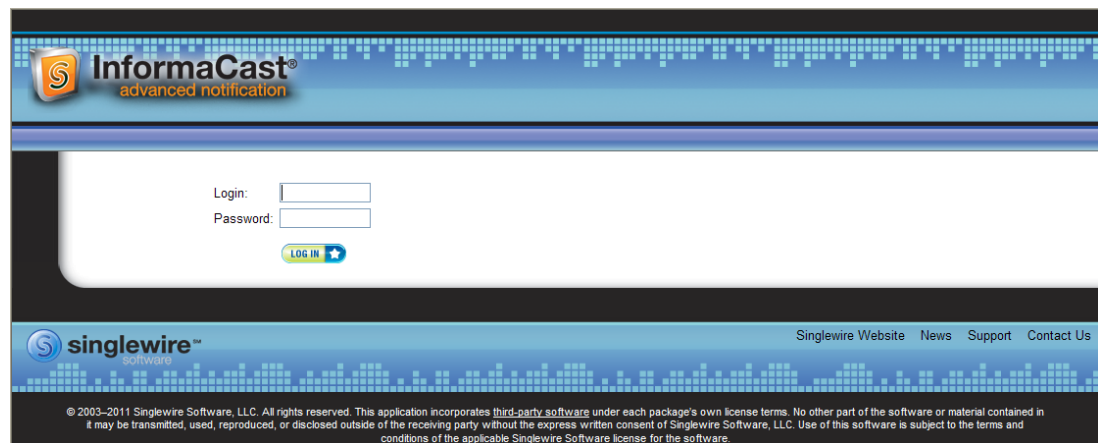
Log into InformaCast

InformaCast's web interface is where you will set up your InformaCast environment, e.g. messages, recipient groups, DialCasts, user roles, etc.

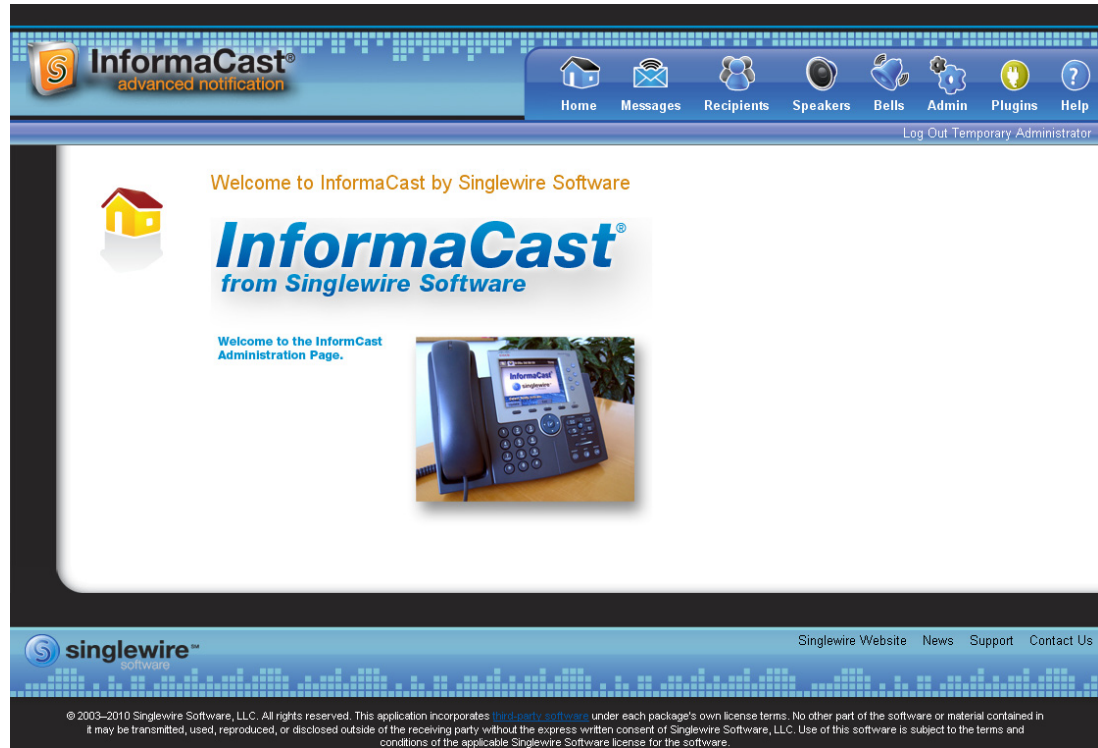
- Step 1** Open a web browser, enter the IP address of your InformaCast Virtual Appliance server, and press the **Enter** key. The Singlewire Start page appears.



- Step 2** Click the **InformaCast** link. A separate tab/window opens to InformaCast's Login page.



- Step 3** Enter your username and password in the **Login** and **Password** fields, respectively. By default, these are **admin** and **changeMe**.
- Step 4** Click the **Log In** button. InformaCast's homepage appears.



From InformaCast's homepage, you can access any of its web features through the icons at the top of the page.

Log into CallAware

CallAware is a Singlewire application that is primarily used to detect when a 911 call has been dialed, which then triggers an InformaCast broadcast. It can also be used to detect calls to numbers other than 911 and monitor the calls that have been detected. For example, you could use it to trigger an InformaCast broadcast whenever someone calls the Front Desk, and a supervisor could elect to monitor those calls for quality assurance.

CallAware's web interface is where you will set up your CallAware environment, e.g. call redirects, InformaCast messages, etc.



Note

CallAware is not supported by InformaCast Basic Paging. Please [contact Singlewire Sales](#) for an upgrade to Advanced Notification.

Log into the Legacy Paging Interface (LPI)

Singlewire's Legacy Paging Interface (LPI) allows you to incorporate your existing paging system with the InformaCast application by working as a liaison between the two. When you configure your speakers with the LPI, they can be integrated with InformaCast, and you can add them to recipient groups, create paging zones modeled after your existing zones, and send audio broadcasts out to any combination of speakers/zones.

The Legacy Paging Interface's web interface is where you will set up your LPI environment, e.g. paging devices, zones, etc.

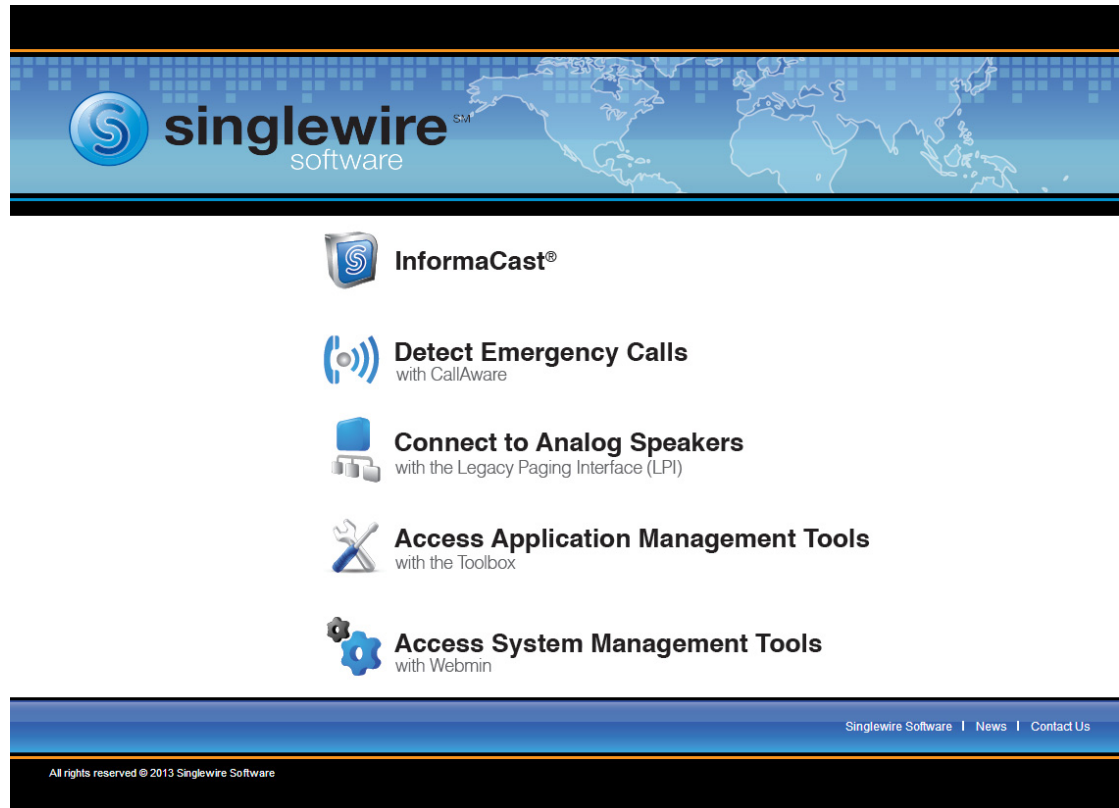
**Note**

The LPI is not supported by InformaCast Basic Paging. Please [contact Singlewire Sales](#) for an upgrade to Advanced Notification.

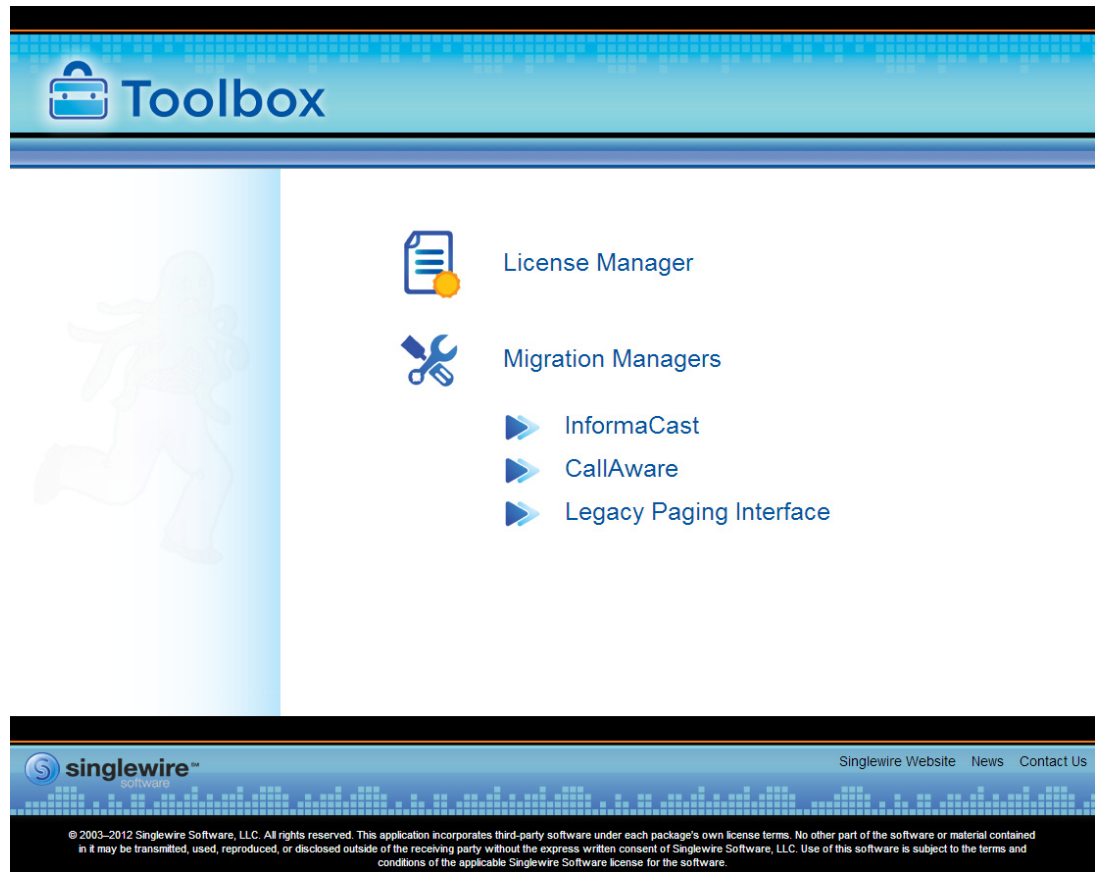
Log into the Toolbox

The Singlewire Toolbox is designed to be an inclusive destination for application-level accessories, e.g. licensing, migrating platforms, etc.

- Step 1** Open a web browser, enter the IP address of your InformaCast Virtual Appliance server, and press the **Enter** key. The Singlewire Start page appears.



Step 2 Click the **Access Application Management Tools with the Toolbox** link. A separate tab/window opens to the Toolbox homepage.



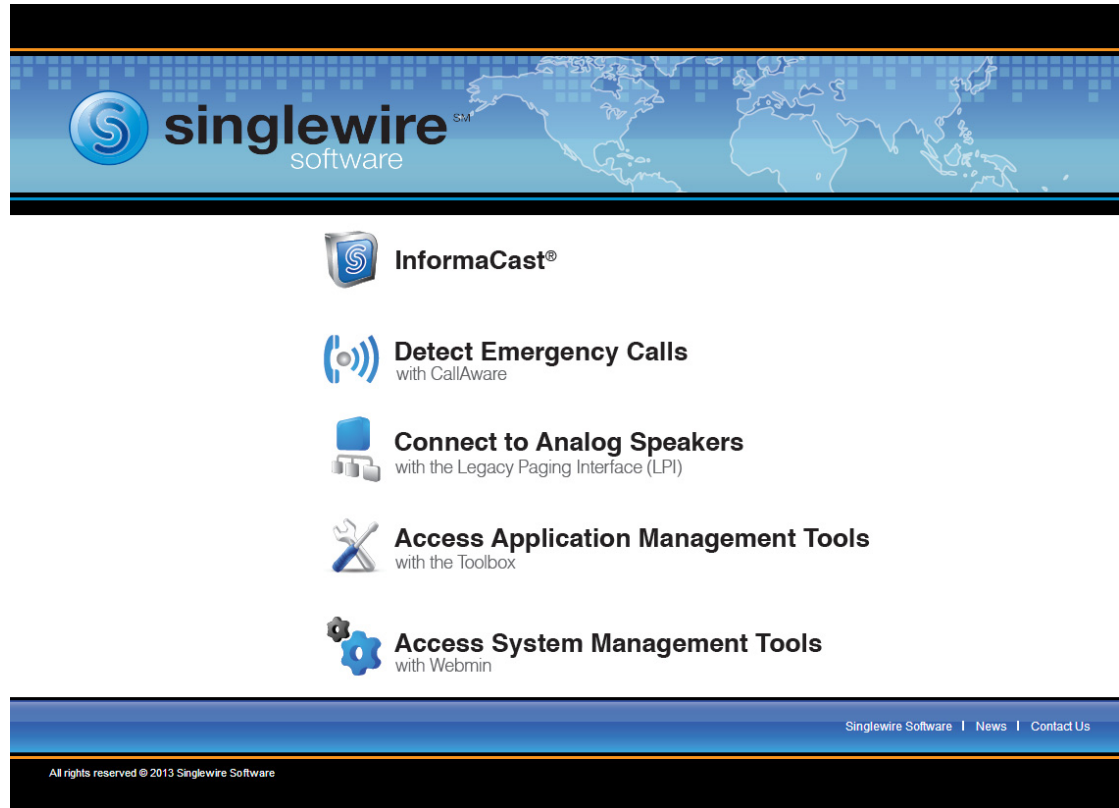
Note You may have to accept a warning from your web browser about the security of this page's content.

From the Toolbox homepage, you can access Singlewire's application-level tools.

Log into Webmin

Webmin's interface is used primarily for installing new software packages, starting/stopping/restarting Singlewire's applications, and rebooting the InformaCast Virtual Appliance virtual machine.

- Step 1** Open a web browser, enter the IP address of your InformaCast Virtual Appliance server, and press the **Enter** key. The Singlewire Start page appears.



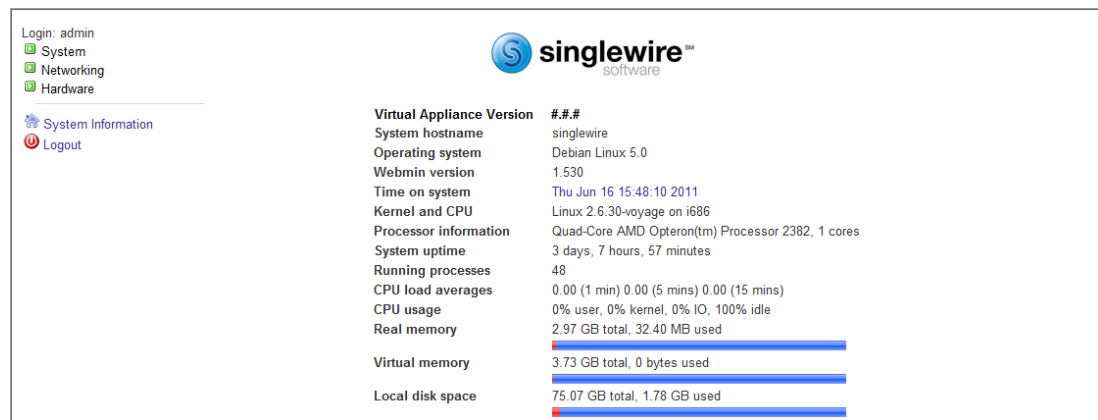
- Step 2** Click the **Access System Management Tools with Webmin** link. A separate tab/window opens to the Login to Webmin page.



Note

You may have to accept a warning from your web browser about the security of this page's content.

Step 3 Enter your login credentials and click the **Login** button. By default, your username is **admin** and your password is **changeMe**. The Webmin homepage appears.



The screenshot shows the Webmin interface for a Singlewire virtual appliance. On the left, there is a navigation menu with options like System, Networking, Hardware, System Information, and Logout. The main content area displays system statistics:

Virtual Appliance Version	###
System hostname	singlewire
Operating system	Debian Linux 5.0
Webmin version	1.530
Time on system	Thu Jun 16 15:48:10 2011
Kernel and CPU	Linux 2.6.30-voyage on i686
Processor information	Quad-Core AMD Opteron(tm) Processor 2382, 1 cores
System uptime	3 days, 7 hours, 57 minutes
Running processes	48
CPU load averages	0.00 (1 min) 0.00 (5 mins) 0.00 (15 mins)
CPU usage	0% user, 0% kernel, 0% IO, 100% idle
Real memory	2.97 GB total, 32.40 MB used
Virtual memory	3.73 GB total, 0 bytes used
Local disk space	75.07 GB total, 1.78 GB used

The Webmin homepage displays versioning information and statistics about the Virtual Appliance.

From the Webmin homepage, you can install a new software package (see “Install a Software Package” on page 2-7), start/stop/restart Singlewire’s applications, and reboot the InformaCast virtual machine (see the sections on stopping/starting/rebooting starting with “Stop an Application on InformaCast Virtual Appliance” on page 2-21 for more information).

Install a Software Package

InformaCast Virtual Appliance is a software package that must be deployed as an OVA on your virtual server. Singlewire supports InformaCast Virtual Appliance on the VMware ESXi 4.0 and later platform. This platform is managed through the vSphere client. This section describes how to import InformaCast Virtual Appliance using the vSphere client. Your client can be downloaded from your VMware server.



Note

This guide deals only with administration of your server environment. When initially installing and configuring InformaCast Virtual Appliance, there are many steps to ensuring that your application works correctly. Please follow the steps for implementation in the InformaCast Virtual Appliance Installation and User guide.

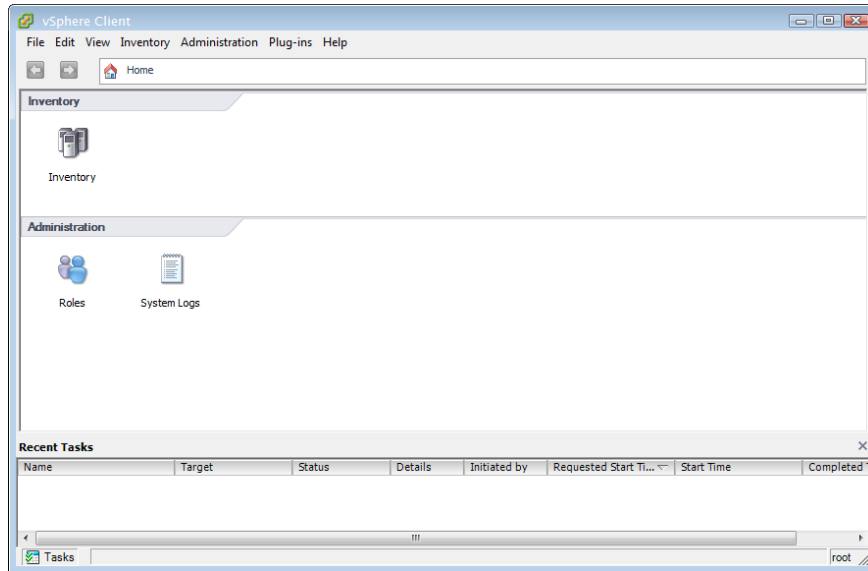
Step 1 Download the OVA file from the [Singlewire website](#) or [Cisco’s website](#).



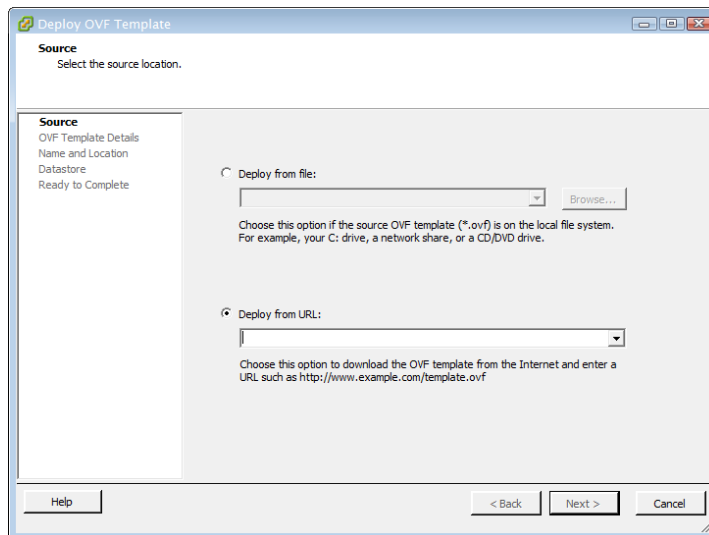
Note

If you are using InformaCast on the Communications Manager Business Edition 6000, you will be supplied with a DVD in a package with an OVA on it (physical media).

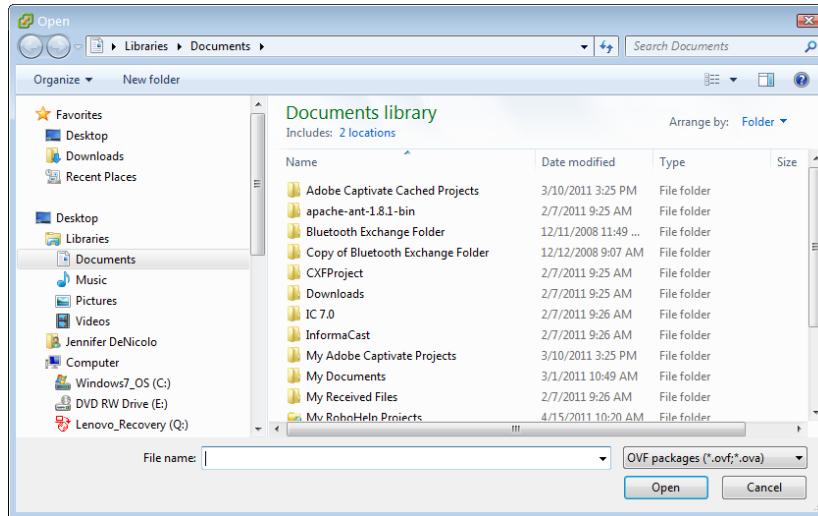
Step 2 Open and log into the vSphere client. The vSphere Client window appears.



Step 3 Go to **File | Deploy OVF Template**. The Deploy OVF Template dialog box appears.

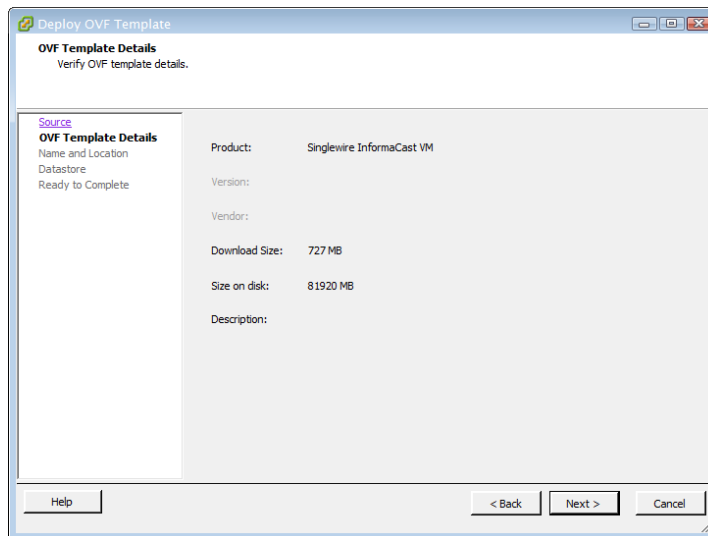


Step 4 Click the **Deploy from File** radio button and click its **Browse** button. The Open dialog box appears.

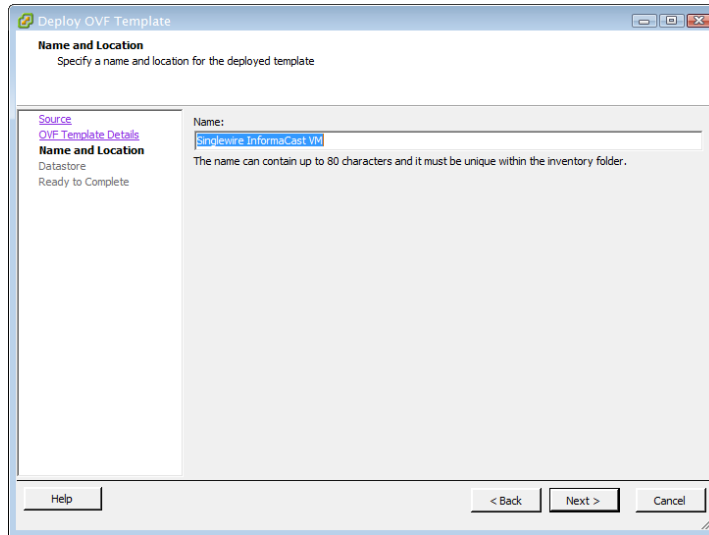


Step 5 Navigate to where you saved the Singlewire-InformaCast-VM.ova file (or to the OVA file on the supplied DVD), select it, and click the **Open** button.

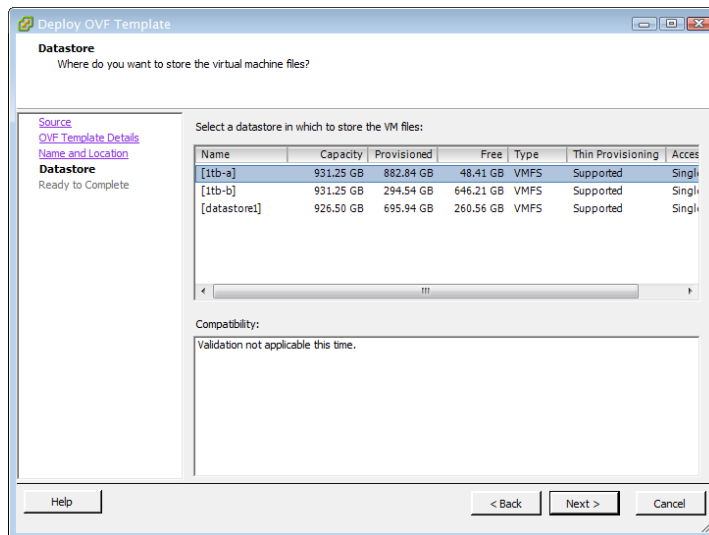
Step 6 Click the **Next** button. The Deploy OVF Template dialog box refreshes.



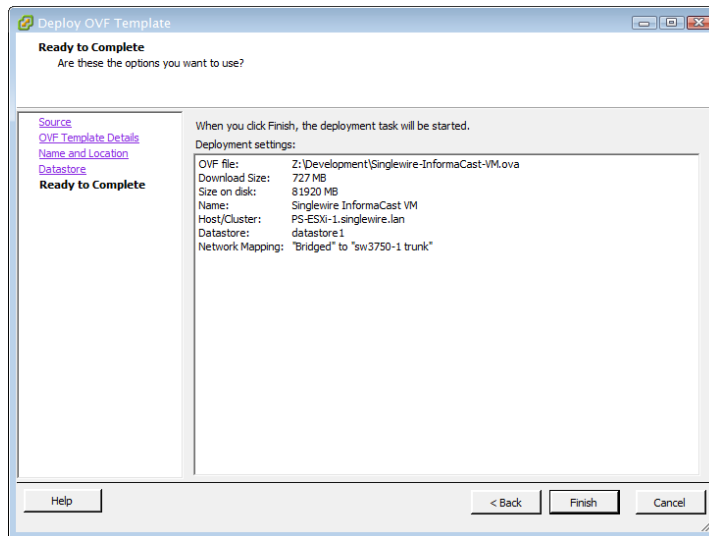
Step 7 Click the **Next** button. The Deploy OVF Template dialog box refreshes.



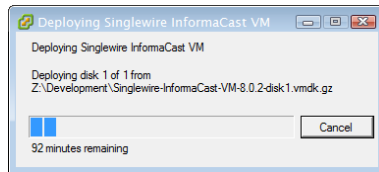
Step 8 Click the **Next** button. The Deploy OVF Template dialog box refreshes.



- Step 9** Select the datastore on which the new virtual machine will reside and click the **Next** button. The Deploy OVF template dialog box refreshes.

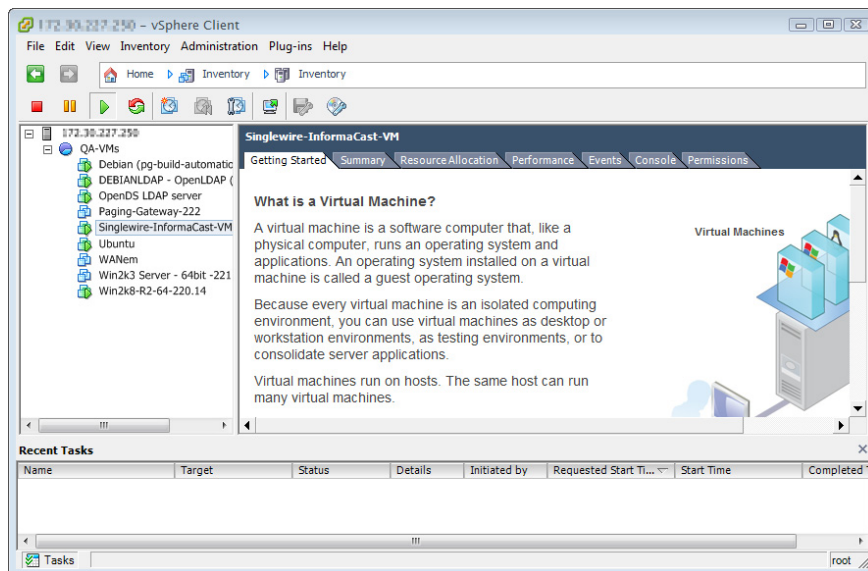


- Step 10** Click the **Finish** button. InformaCast Virtual Appliance will begin importing.



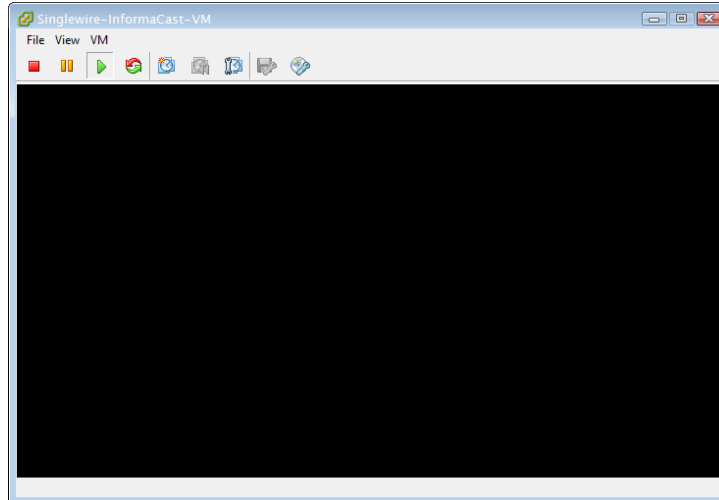
When it's finished, click the **Close** button.


- Step 11** Click the **Inventory** icon (📁) on the vSphere Client window. The vSphere Client window refreshes.

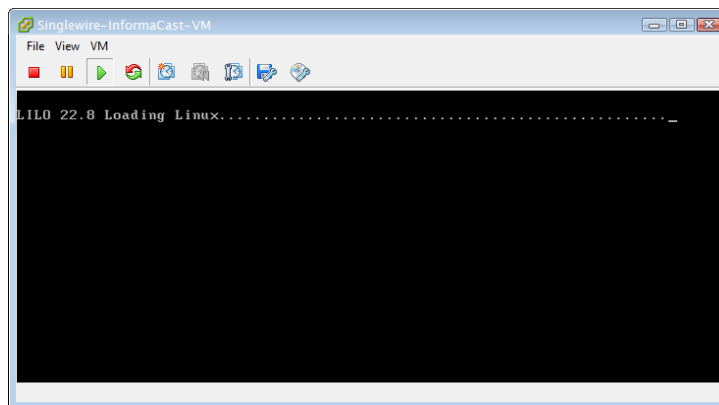


Step 12 Select your virtual machine (by default, this is Singlewire InformaCast VM).

Step 13 Go to **Inventory** | **Virtual Machine** | **Open Console**. The Singlewire InformaCast VM console window appears.

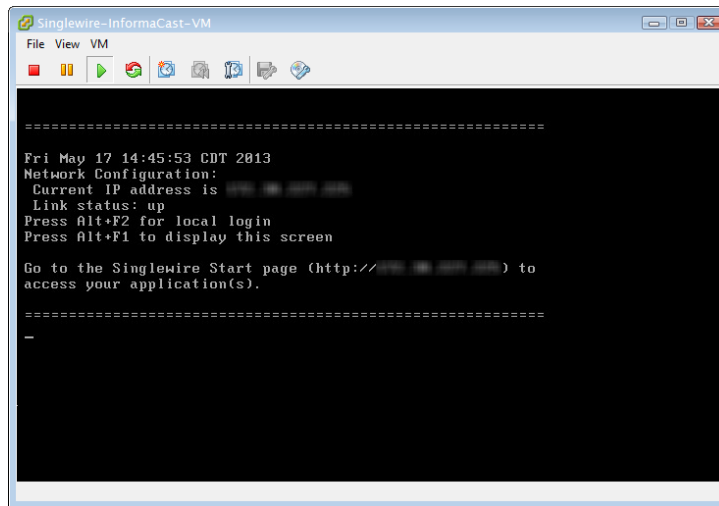


Step 14 Click the green arrow button () to turn on the virtual machine. The Singlewire InformaCast VM console window begins booting the virtual machine.



Note Depending on the hardware resources available to InformaCast Virtual Appliance, it will likely boot in less than a minute.

When InformaCast Virtual Appliance is done booting, it will acquire an IP address using DHCP (if there is a DHCP server available). The acquired DHCP address can be seen in the console.



```
=====
Fri May 17 14:45:53 CDT 2013
Network Configuration:
Current IP address is [redacted]
Link status: up
Press Alt+F2 for local login
Press Alt+F1 to display this screen

Go to the Singlewire Start page (http://[redacted]) to
access your application(s).
=====
```



Note You should configure a static IP address for InformaCast. For specifics on IP addresses and packet routing, please see your network administrator.

SwiftStart will then start automatically, and you will see the End User License Agreement (EULA) page.



End User License Agreement

I AGREE

IMPORTANT: PLEASE READ THIS END USER LICENSE AGREEMENT CAREFULLY. IT IS VERY IMPORTANT THAT YOU CHECK THAT YOU ARE PURCHASING CISCO SOFTWARE OR EQUIPMENT FROM AN APPROVED SOURCE AND THAT YOU, OR THE ENTITY YOU REPRESENT (COLLECTIVELY, THE "CUSTOMER") HAVE BEEN REGISTERED AS THE END USER FOR THE PURPOSES OF THIS CISCO END USER LICENSE AGREEMENT. IF YOU ARE NOT REGISTERED AS THE END USER YOU HAVE NO LICENSE TO USE THE SOFTWARE AND THE LIMITED WARRANTY IN THIS END USER LICENSE AGREEMENT DOES NOT APPLY. ASSUMING YOU HAVE PURCHASED FROM AN APPROVED SOURCE, DOWNLOADING, INSTALLING OR USING CISCO OR CISCO-SUPPLIED SOFTWARE CONSTITUTES ACCEPTANCE OF THIS AGREEMENT.

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Note SwiftStart will only automatically start on the initial boot of InformaCast Virtual Appliance.

Step 15 Click the **I Agree** button to accept the EULA.

If you have DHCP enabled on your network, you will see the following picture:

SwiftStart

Network Configuration

An IP address of 172.30.227.144 has been chosen by the DHCP server. Do you want to make this address permanent?

Parameter Method: Use DHCP Parameters
 Enter Manually

SUBMIT →

QUIT ✕

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software

You will be able to choose between the **Use DHCP Parameters** or **Enter Manually** radio buttons.

Clicking the **Submit** button with the **Use DHCP Parameters** radio button selected will allow SwiftStart to make static the IP address it has detected, pull the relevant network configuration information from this IP address, and configure your network to work with InformaCast. Skip to Step 16 on page 2-17.

Clicking the **Submit** button with the **Enter Manually** radio button selected will allow you to enter an IP address manually. Continue with the following steps.

If you do not have DHCP enabled on your network, you will see the following picture:

SwiftStart

Network Configuration

Please provide the following network parameters:

IP Address:

Netmask:

Gateway:

First DNS Server:

Second DNS Server:

SUBMIT

QUIT

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singlewire
software

Enter a routable IP address on your network that's not currently in use, a valid netmask for that IP address, its default gateway, the IP address(es) of a DNS server(s) on your network, and click the **Submit** button.

Clicking the **Submit** button will allow SwiftStart to make static the IP address you've entered, use the network configuration information you've entered about this IP address, and configure your network to work with InformaCast.

When your network configuration is successful, the Network Configuration page will refresh with a statement confirming the success.



Step 16 Click the **Finish** button. The SwiftStart window appears with a note about starting InformaCast.

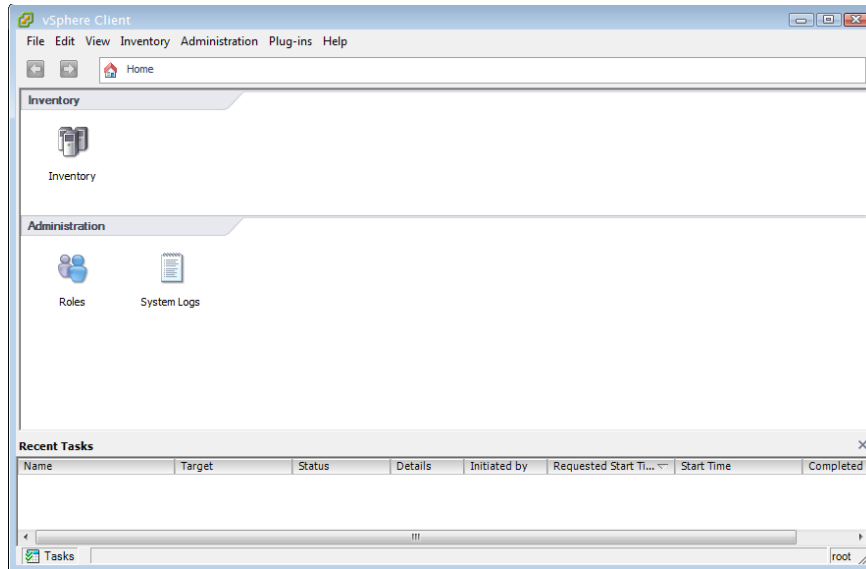


Step 17 Click the **OK** button and close your open console window.

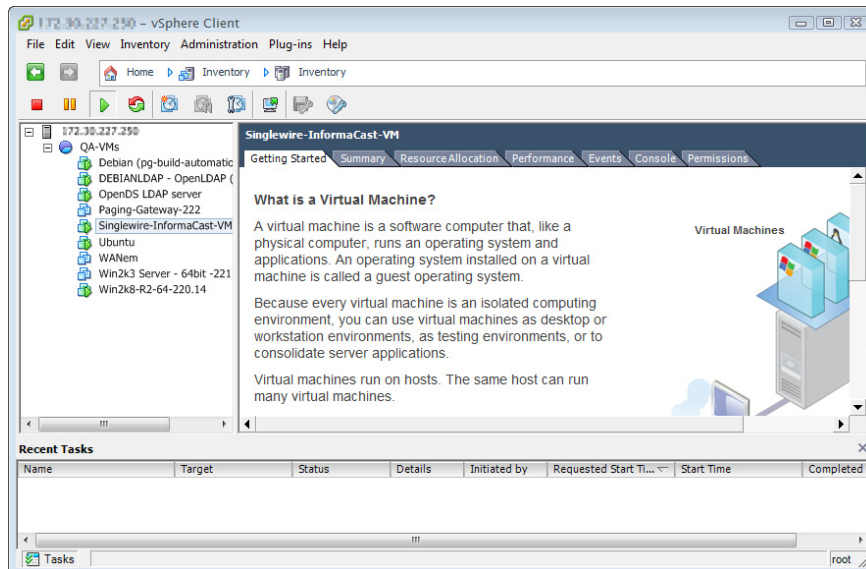
Change the InformaCast Virtual Appliance Server's Password

For tighter security, you may want to change the InformaCast Virtual Appliance server's default password.

Step 1 Open and log into the vSphere client. The vSphere Client window appears.

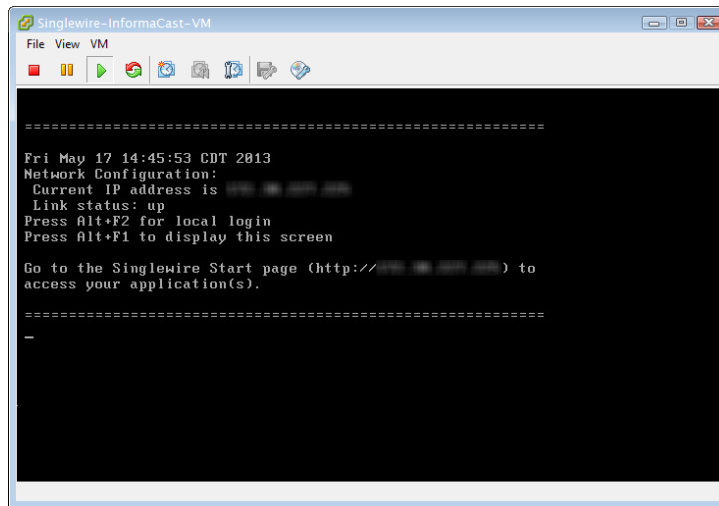


Step 2 Click the **Inventory** icon (📁) on the vSphere Client window. The vSphere Client window refreshes.

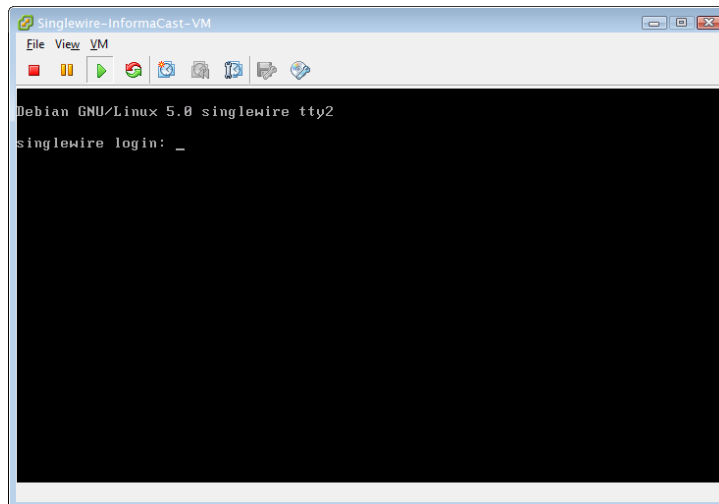


Step 3 Select your virtual machine (by default, this is Singlewire InformaCast VM).

- Step 4** Go to **Inventory** | **Virtual Machine** | **Open Console**. The Singlewire InformaCast VM console window appears.



- Step 5** Press **Alt + F2** in the Singlewire InformaCast VM console window. The Singlewire InformaCast VM console window refreshes.

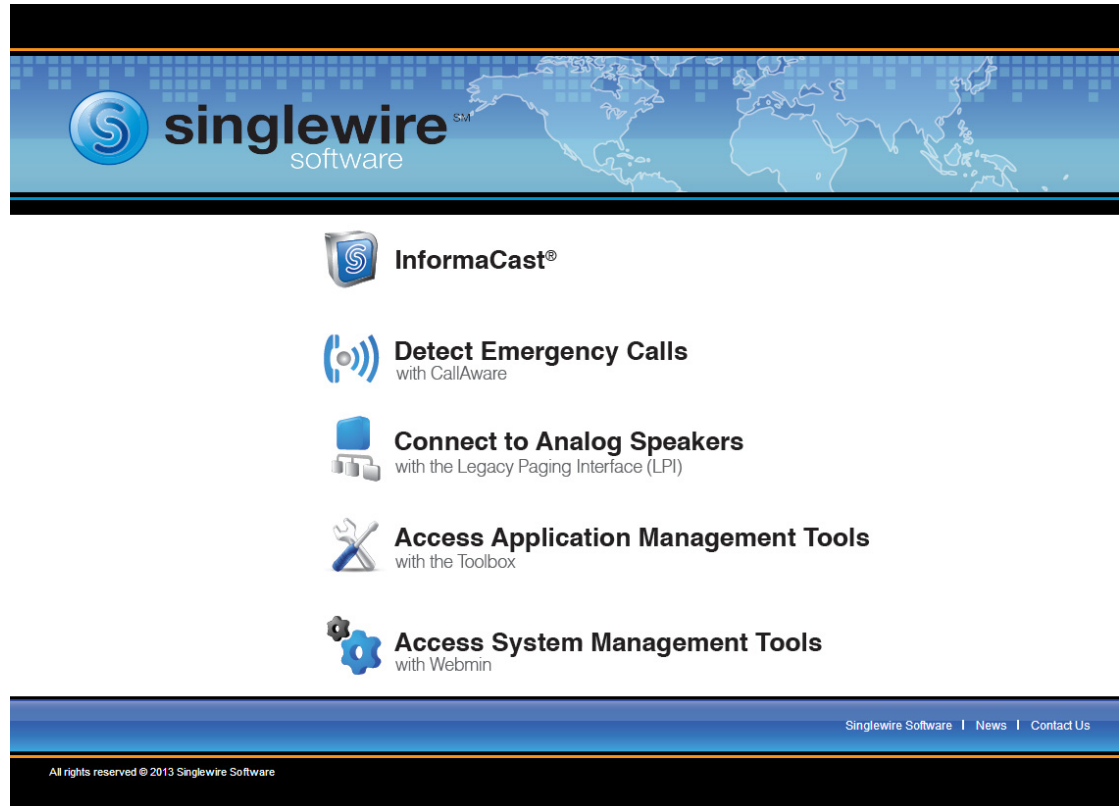


- Step 6** Enter **admin** at the **singlewire login** prompt and press **Enter**.

Stop an Application on InformaCast Virtual Appliance

Follow these steps to stop individual applications on InformaCast Virtual Appliance.

- Step 1** Open a web browser, enter the IP address of your InformaCast Virtual Appliance server, and press the **Enter** key. The Singlewire Start page appears.



- Step 2** Click the **Access System Management Tools with Webmin** link. A separate tab/window opens to the Login to Webmin page.



Note

You may have to accept a warning from your web browser about the security of this page's content.

Step 3 Enter your login credentials and click the **Login** button. By default, your username is **admin** and your password is **changeMe**. The InformaCast Virtual Appliance server's homepage appears.

The screenshot shows the InformaCast Virtual Appliance homepage. On the left is a navigation menu with 'System Information' selected. The main content area displays system details:

- Virtual Appliance Version**: #.#.#
- System hostname**: singlewire
- Operating system**: Debian Linux 5.0
- Webmin version**: 1.530
- Time on system**: Thu Jun 16 15:48:10 2011
- Kernel and CPU**: Linux 2.6.30-voyage on i686
- Processor information**: Quad-Core AMD Opteron(tm) Processor 2382, 1 cores
- System uptime**: 3 days, 7 hours, 57 minutes
- Running processes**: 48
- CPU load averages**: 0.00 (1 min) 0.00 (5 mins) 0.00 (15 mins)
- CPU usage**: 0% user, 0% kernel, 0% IO, 100% idle
- Real memory**: 2.97 GB total, 32.40 MB used
- Virtual memory**: 3.73 GB total, 0 bytes used
- Local disk space**: 75.07 GB total, 1.78 GB used

Step 4 Go to **System | Bootup and Shutdown**. The Bootup and Shutdown page appears.

The screenshot shows the 'Bootup and Shutdown' configuration page. The left navigation menu has 'Bootup and Shutdown' selected. The main content area is titled 'Module Config' and 'Bootup and Shutdown'. It features a table of system services with checkboxes for configuration.

Action	At boot?	Description
<input type="checkbox"/> alsa-utils	No	This script stores and restores mixer levels on
<input type="checkbox"/> asterisk	No	Controls the Asterisk PBX
<input type="checkbox"/> atftpd	No	Launch atftpd server, a TFTP server useful
<input type="checkbox"/> awds	No	This script is used to start the AWDS daemon which provides
<input type="checkbox"/> batmand	No	/etc/init.d/batmand: start batmand
<input type="checkbox"/> bootlogd	No	Starts or stops the bootlogd log program
<input type="checkbox"/> bootmisc.sh	No	Some cleanup. Note, it need to run after mountnfs-bootclean.sh.
<input type="checkbox"/> checkfs.sh	No	Check all filesystems.
<input type="checkbox"/> checkroot.sh	No	Check to root file system.
<input type="checkbox"/> cron	Yes	cron is a standard UNIX program that runs user-specified
<input type="checkbox"/> dahdi	No	dahdi - load and configure DAHDI modules
<input type="checkbox"/> dnsmasq	No	DHCP and DNS server
<input type="checkbox"/> ebttables	No	Saves and restores the state of the ebttables rulesets.
<input type="checkbox"/> flashybrid	No	Flashybrid is a system to help in setting up and managing hybrid
<input type="checkbox"/> glibc.sh	No	
<input type="checkbox"/> gpsd	No	Start the GPS (Global Positioning System) daemon
<input type="checkbox"/> halt	No	
<input type="checkbox"/> hostapd	No	Userspace IEEE 802.11 AP and IEEE 802.1X/WPA/WPA2/EAP
<input type="checkbox"/> flashybrid	No	Flashybrid is a system to help in setting up and managing hybrid
<input type="checkbox"/> glibc.sh	No	
<input type="checkbox"/> gpsd	No	Start the GPS (Global Positioning System) daemon
<input type="checkbox"/> halt	No	
<input type="checkbox"/> single	No	executed by init(8) upon entering runlevel 1 (single).
<input type="checkbox"/> singlewireInformaCast	No	InformaCast application from Singlewire

Below the table are buttons for 'Start', 'Stop', 'Restart', 'Start On Boot', 'Disable On Boot', 'Start Now and On Boot', and 'Disable Now and On Boot'. At the bottom, there are buttons for 'Change to runlevel: 2', 'Reboot System', and 'Shutdown System', along with explanatory text for each.

- Step 5** Scroll down the list of actions until you come to your application's name (e.g. **singlewireInformaCast**). Click its link. The Edit Action page appears.

The screenshot shows the 'Edit Action' page for 'singlewireInformaCast'. The interface includes a sidebar with navigation options like System, Networking, and Hardware. The main content area displays the following details:

- Name:** singlewireInformaCast
- Action Script:**

```
#!/bin/sh
### BEGIN INIT INFO
# Short-Description: InformaCast
# Description: InformaCast application from Singlewire
### END INIT INFO

# Author: Jeff Ramin <jeff.ramin@singlewire.com>
#

# Do NOT "set -e"

# PATH should only include /usr/* if it runs after the mountnfs.sh script
PATH=/sbin:/usr/sbin:/bin:/usr/bin
DESC="InformaCast"
NAME=singlewireInformaCast
```
- Start at boot time?** Yes No

Buttons at the bottom include Save, Start Now, Show Status, Stop Now, and Delete. A link 'Return to bootup and shutdown actions' is also present.

- Step 6** Click the **Stop Now** button. It will take a minute or so for the application to stop.

The screenshot shows the 'Stop Action' page. The main content area displays the following text:

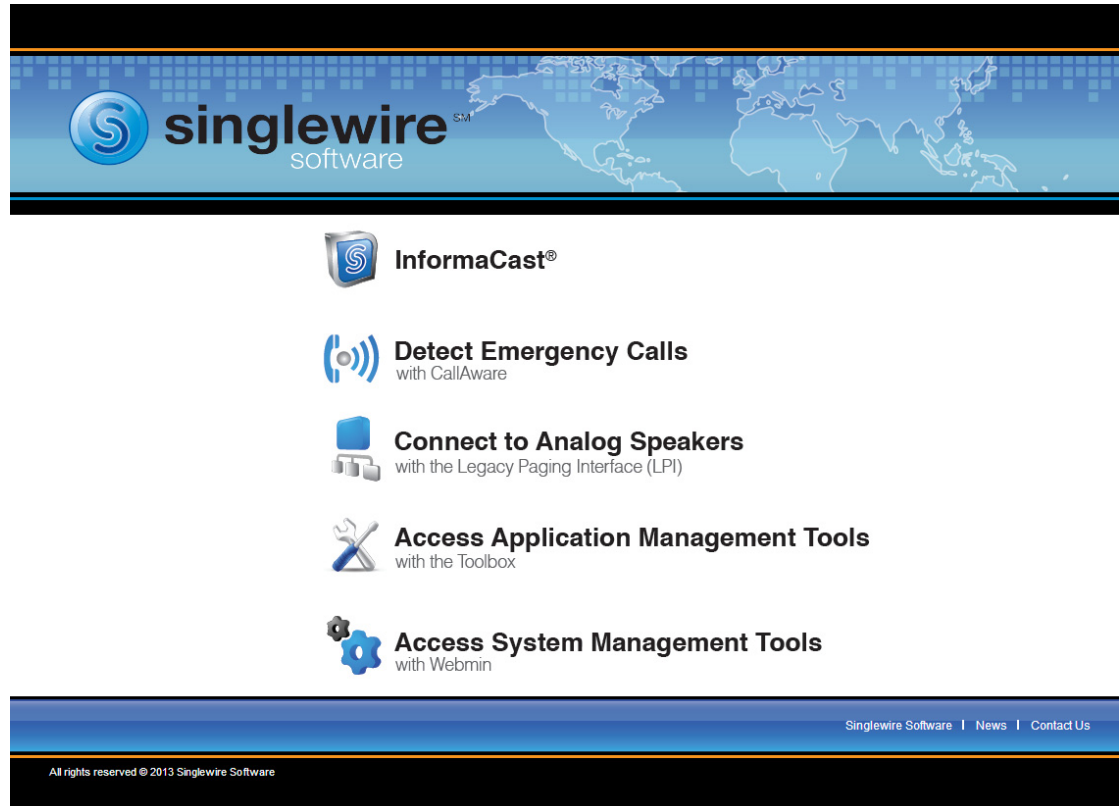
```
Executing /etc/init.d/singlewireInformaCast stop ..
```

The sidebar and navigation options are the same as in the previous screenshot.

Start an Application on InformaCast Virtual Appliance

Follow these steps to start individual applications on InformaCast Virtual Appliance.

- Step 1** Open a web browser, enter the IP address of your InformaCast Virtual Appliance server, and press the **Enter** key. The Singlewire Start page appears.



- Step 2** Click the **Access System Management Tools with Webmin** link. A separate tab/window opens to the Login to Webmin page.



Note

You may have to accept a warning from your web browser about the security of this page's content.

Step 3 Enter your login credentials and click the **Login** button. By default, your username is **admin** and your password is **changeMe**. The InformaCast Virtual Appliance server's homepage appears.

The screenshot shows the InformaCast Virtual Appliance homepage. On the left is a navigation menu with 'System Information' selected. The main content area displays system details:

- Virtual Appliance Version**: #.#.#
- System hostname**: singlewire
- Operating system**: Debian Linux 5.0
- Webmin version**: 1.530
- Time on system**: Thu Jun 16 15:48:10 2011
- Kernel and CPU**: Linux 2.6.30-vooyage on i686
- Processor information**: Quad-Core AMD Opteron(tm) Processor 2382, 1 cores
- System uptime**: 3 days, 7 hours, 57 minutes
- Running processes**: 48
- CPU load averages**: 0.00 (1 min) 0.00 (5 mins) 0.00 (15 mins)
- CPU usage**: 0% user, 0% kernel, 0% IO, 100% idle
- Real memory**: 2.97 GB total, 32.40 MB used
- Virtual memory**: 3.73 GB total, 0 bytes used
- Local disk space**: 75.07 GB total, 1.78 GB used

Step 4 Go to **System | Bootup and Shutdown**. The Bootup and Shutdown page appears.

The screenshot shows the 'Bootup and Shutdown' configuration page. The left navigation menu has 'System Time' selected. The main content area is titled 'Module Config' and 'Bootup and Shutdown'. It features a table of system services with checkboxes for configuration.

Action	At boot?	Description
<input type="checkbox"/> alsa-utils	No	This script stores and restores mixer levels on
<input type="checkbox"/> asterisk	No	Controls the Asterisk PBX
<input type="checkbox"/> atftpd	No	Launch atftpd server, a TFTP server useful
<input type="checkbox"/> awds	No	This script is used to start the AWDS daemon which provides
<input type="checkbox"/> batmand	No	/etc/init.d/batmand: start batmand
<input type="checkbox"/> bootlogd	No	Starts or stops the bootlogd log program
<input type="checkbox"/> bootmisc.sh	No	Some cleanup. Note, it need to run after mountnfs-bootclean.sh.
<input type="checkbox"/> checkfs.sh	No	Check all filesystems.
<input type="checkbox"/> checkroot.sh	No	Check to root file system.
<input type="checkbox"/> cron	Yes	cron is a standard UNIX program that runs user-specified
<input type="checkbox"/> dahdi	No	dahdi - load and configure DAHDI modules
<input type="checkbox"/> dnsmasq	No	DHCP and DNS server
<input type="checkbox"/> ebttables	No	Saves and restores the state of the ebttables rulesets.
<input type="checkbox"/> flashybrid	No	Flashybrid is a system to help in setting up and managing hybrid
<input type="checkbox"/> glibc.sh	No	
<input type="checkbox"/> gpsd	No	Start the GPS (Global Positioning System) daemon
<input type="checkbox"/> halt	No	
<input type="checkbox"/> hostapd	No	Userspace IEEE 802.11 AP and IEEE 802.1X/WPA/WPA2/EAP
<input type="checkbox"/> flashybrid	No	Flashybrid is a system to help in setting up and managing hybrid
<input type="checkbox"/> glibc.sh	No	
<input type="checkbox"/> gpsd	No	Start the GPS (Global Positioning System) daemon
<input type="checkbox"/> halt	No	
<input type="checkbox"/> single	No	executed by init(8) upon entering runlevel 1 (single).
<input type="checkbox"/> singlewireInformaCast	No	InformaCast application from Singlewire

Below the table are buttons for 'Start', 'Stop', 'Restart', 'Start On Boot', 'Disable On Boot', 'Start Now and On Boot', and 'Disable Now and On Boot'. At the bottom, there are controls for 'Change to runlevel:' (set to 2), 'Reboot System', and 'Shutdown System', each with a descriptive tooltip.

- Step 5** Scroll down the list of actions until you come to your application's name (e.g. **singlewireInformaCast**). Click its link. The Edit Action page appears.

The screenshot shows the 'Edit Action' page for 'singlewireInformaCast'. The interface includes a sidebar with navigation options like 'System', 'Networking', and 'Hardware'. The main content area displays the following details:

- Name:** singlewireInformaCast
- Action Script:**

```
#!/bin/sh
### BEGIN INIT INFO
# Short-Description: InformaCast
# Description: InformaCast application from Singlewire
### END INIT INFO

# Author: Jeff Ramin <jeff.ramin@singlewire.com>
#

# Do NOT "set -e"

# PATH should only include /usr/* if it runs after the mountnfs.sh script
PATH=/sbin:/usr/sbin:/bin:/usr/bin
DESC="InformaCast"
NAME=singlewireInformaCast
```
- Start at boot time?** Yes No

At the bottom, there are buttons for 'Save', 'Start Now', 'Show Status', 'Stop Now', and 'Delete'. A link 'Return to bootup and shutdown actions' is also present.

- Step 6** Click the **Start Now** button. It will take a minute or so for the application to start.

The screenshot shows the 'Start Action' page for 'singlewireInformaCast'. The interface includes the same sidebar as the previous screenshot. The main content area displays the following details:

- Module Index:** singlewireInformaCast
- Executing:** /etc/init.d/singlewireInformaCast start ..

At the bottom, there is a link 'Return to action'.

Restart an Application on InformaCast Virtual Appliance

Follow these steps to restart individual applications on InformaCast Virtual Appliance.

- Step 1** Open a web browser, enter the IP address of your InformaCast Virtual Appliance server, and press the **Enter** key. The Singlewire Start page appears.



- Step 2** Click the **Access System Management Tools with Webmin** link. A separate tab/window opens to the Login to Webmin page.

**Note**

You may have to accept a warning from your web browser about the security of this page's content.

Step 3 Enter your login credentials and click the **Login** button. By default, your username is **admin** and your password is **changeMe**. The InformaCast Virtual Appliance server's homepage appears.

The screenshot shows the Singlewire Virtual Appliance homepage. On the left is a navigation menu with options: System, Networking, Hardware, System Information, and Logout. The main content area displays system information for a virtual appliance named 'singlewire'. The information includes system hostname, operating system (Debian Linux 5.0), webmin version (1.530), time on system, kernel and CPU details, processor information (Quad-Core AMD Opteron), system uptime (3 days, 7 hours, 57 minutes), running processes (48), CPU load averages, CPU usage (0% user, 0% kernel, 0% IO, 100% idle), real memory (2.97 GB total, 32.40 MB used), virtual memory (3.73 GB total, 0 bytes used), and local disk space (75.07 GB total, 1.78 GB used). The Singlewire logo is at the top right.

Step 4 Go to **System | Bootup and Shutdown**. The Bootup and Shutdown page appears.

The screenshot shows the 'Bootup and Shutdown' configuration page. The left navigation menu is updated to include 'Bootup and Shutdown' under the 'System' category. The main content area is titled 'Module Config' and 'Bootup and Shutdown'. It features a table of system services with columns for 'Action', 'At boot?', and 'Description'. A search bar is located above the table. Below the table are buttons for 'Start', 'Stop', 'Restart', 'Start On Boot', 'Disable On Boot', 'Start Now and On Boot', and 'Disable Now and On Boot'. At the bottom, there are buttons for 'Change to runlevel:', 'Reboot System', and 'Shutdown System', along with explanatory text for each.

Action	At boot?	Description
<input type="checkbox"/> alsa-utils	No	This script stores and restores mixer levels on
<input type="checkbox"/> asterisk	No	Controls the Asterisk PBX
<input type="checkbox"/> atftpd	No	Launch atftpd server, a TFTP server useful
<input type="checkbox"/> awds	No	This script is used to start the AWDS daemon which provides
<input type="checkbox"/> batmand	No	/etc/init.d/batmand: start batmand
<input type="checkbox"/> bootlogd	No	Starts or stops the bootlogd log program
<input type="checkbox"/> bootmisc.sh	No	Some cleanup. Note, it need to run after mountnfs-bootclean.sh.
<input type="checkbox"/> checkfs.sh	No	Check all filesystems.
<input type="checkbox"/> checkroot.sh	No	Check to root file system.
<input type="checkbox"/> cron	Yes	cron is a standard UNIX program that runs user-specified
<input type="checkbox"/> dahdi	No	dahdi - load and configure DAHDI modules
<input type="checkbox"/> dnsmasq	No	DHCP and DNS server
<input type="checkbox"/> ebttables	No	Saves and restores the state of the ebttables rulesets.
<input type="checkbox"/> flashybrid	No	Flashybrid is a system to help in setting up and managing hybrid
<input type="checkbox"/> glibc.sh	No	
<input type="checkbox"/> gpsd	No	Start the GPS (Global Positioning System) daemon
<input type="checkbox"/> halt	No	
<input type="checkbox"/> hostapd	No	Userspace IEEE 802.11 AP and IEEE 802.1X/WPA/WPA2/EAP
<input type="checkbox"/> flashybrid	No	Flashybrid is a system to help in setting up and managing hybrid
<input type="checkbox"/> glibc.sh	No	
<input type="checkbox"/> gpsd	No	Start the GPS (Global Positioning System) daemon
<input type="checkbox"/> halt	No	
<input type="checkbox"/> single	No	executed by init(8) upon entering runlevel 1 (single).
<input type="checkbox"/> singlewireInformaCast	No	InformaCast application from Singlewire

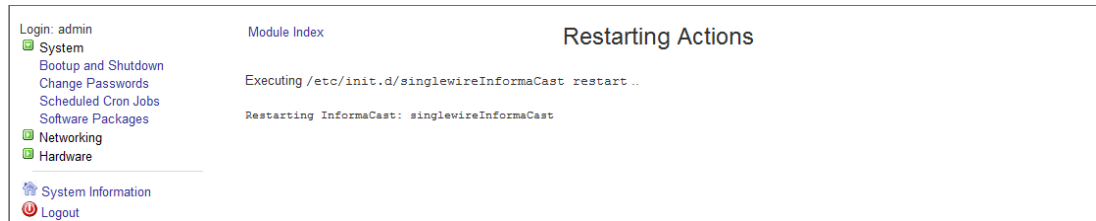
Change to runlevel: 2

Click this button to switch your system from the current runlevel to the selected one. This will cause all the actions in the current level to be stopped, and then all the actions in the new runlevel to be started.

Click on this button to immediately reboot the system. All currently logged in users will be disconnected and all services will be re-started.

Click on this button to immediately shutdown the system. All services will be stopped, all users disconnected and the system powered off (if your hardware supports it).

- Step 5** Scroll down the list of actions until you come to your application's name (e.g. **singlewireInformaCast**). Select it by placing a checkmark in its Action column and click the **Restart** button. The Restarting Actions page appears.

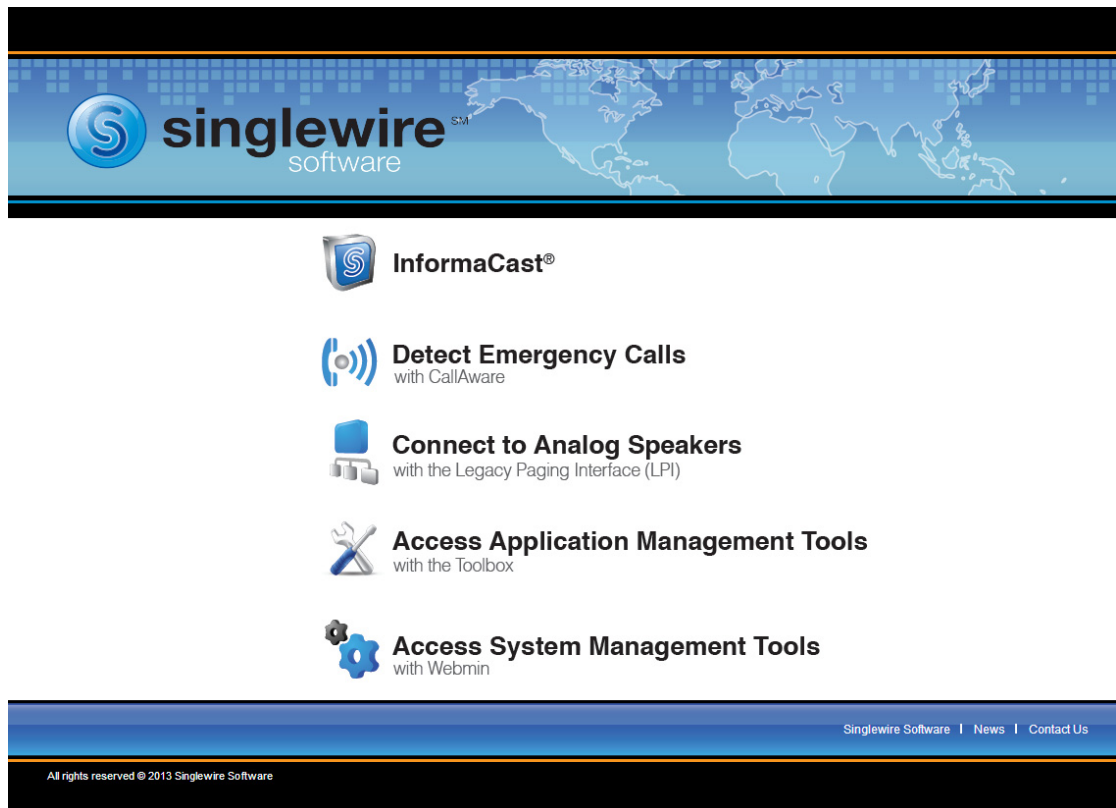


It will take a minute for your application to restart.

Reboot the InformaCast Virtual Appliance Server

Follow these steps to reboot the InformaCast Virtual Appliance server.

- Step 1** Open a web browser, enter the IP address of your InformaCast Virtual Appliance server, and press the **Enter** key. The Singlewire Start page appears.



Step 2 Click the **Access System Management Tools with Webmin** link. A separate tab/window opens to the Login to Webmin page.



Note You may have to accept a warning from your web browser about the security of this page's content.

Step 3 Enter your login credentials and click the **Login** button. By default, your username is **admin** and your password is **changeMe**. The InformaCast Virtual Appliance server's homepage appears.

Virtual Appliance Version	###
System hostname	singlewire
Operating system	Debian Linux 5.0
Webmin version	1.530
Time on system	Thu Jun 16 15:48:10 2011
Kernel and CPU	Linux 2.6.30-vooyage on i686
Processor information	Quad-Core AMD Opteron(tm) Processor 2382, 1 cores
System uptime	3 days, 7 hours, 57 minutes
Running processes	48
CPU load averages	0.00 (1 min) 0.00 (5 mins) 0.00 (15 mins)
CPU usage	0% user, 0% kernel, 0% IO, 100% idle
Real memory	2.97 GB total, 32.40 MB used
Virtual memory	3.73 GB total, 0 bytes used
Local disk space	75.07 GB total, 1.78 GB used

Step 4 Go to **System | Bootup and Shutdown**. The Bootup and Shutdown page appears.

Module Config **Bootup and Shutdown**

Create a new bootup and shutdown action.

Action	At boot?	Description
<input type="checkbox"/> alsa-utils	No	This script stores and restores mixer levels on
<input type="checkbox"/> asterisk	No	Controls the Asterisk PBX
<input type="checkbox"/> atftpd	No	Launch atftpd server, a TFTP server useful
<input type="checkbox"/> awds	No	This script is used to start the AWDS daemon which provides
<input type="checkbox"/> batmand	No	/etc/init.d/batmand: start batmand
<input type="checkbox"/> bootlogd	No	Starts or stops the bootlogd log program
<input type="checkbox"/> bootmisc.sh	No	Some cleanup. Note, it need to run after mountnfs-bootclean.sh.
<input type="checkbox"/> checkfs.sh	No	Check all filesystems.
<input type="checkbox"/> checkroot.sh	No	Check to root file system.
<input type="checkbox"/> cron	Yes	cron is a standard UNIX program that runs user-specified
<input type="checkbox"/> dahdi	No	dahdi - load and configure DAHDI modules
<input type="checkbox"/> dnsmasq	No	DHCP and DNS server
<input type="checkbox"/> ebttables	No	Saves and restores the state of the ebttables rulesets.
<input type="checkbox"/> flashybrid	No	Flashybrid is a system to help in setting up and managing hybrid
<input type="checkbox"/> glibc.sh	No	
<input type="checkbox"/> gpsd	No	Start the GPS (Global Positioning System) daemon
<input type="checkbox"/> halt	No	
<input type="checkbox"/> hostapd	No	Userspace IEEE 802.11 AP and IEEE 802.1X/WPA/WPA2/EAP
<input type="checkbox"/> flashybrid	No	Flashybrid is a system to help in setting up and managing hybrid
<input type="checkbox"/> glibc.sh	No	
<input type="checkbox"/> gpsd	No	Start the GPS (Global Positioning System) daemon
<input type="checkbox"/> halt	No	
<input type="checkbox"/> single	No	executed by init(8) upon entering runlevel 1 (single).
<input type="checkbox"/> singlewireInformaCast	No	InformaCast application from Singlewire

Create a new bootup and shutdown action.

Start Stop Restart Start On Boot Disable On Boot Start Now and On Boot Disable Now and On Boot

Change to runlevel: 2 Click this button to switch your system from the current runlevel to the selected one. This will cause all the actions in the current level to be stopped, and then all the actions in the new runlevel to be started.

Reboot System Click on this button to immediately reboot the system. All currently logged in users will be disconnected and all services will be re-started.

Shutdown System Click on this button to immediately shutdown the system. All services will be stopped, all users disconnected and the system powered off (if your hardware supports it).

Step 5 Scroll to the bottom of the page and click the **Reboot System** button. The Reboot page appears.

Module Index **Reboot**

Are you sure you want to reboot the system with the command `reboot` ?

RebootSystem

Return to bootup and shutdown actions

Step 6 Click the **Reboot System** button. The server will shutdown, then restart.

Change InformaCast Virtual Appliance's IP Address

When changing the IP address of the InformaCast Virtual Appliance server, use the following steps.



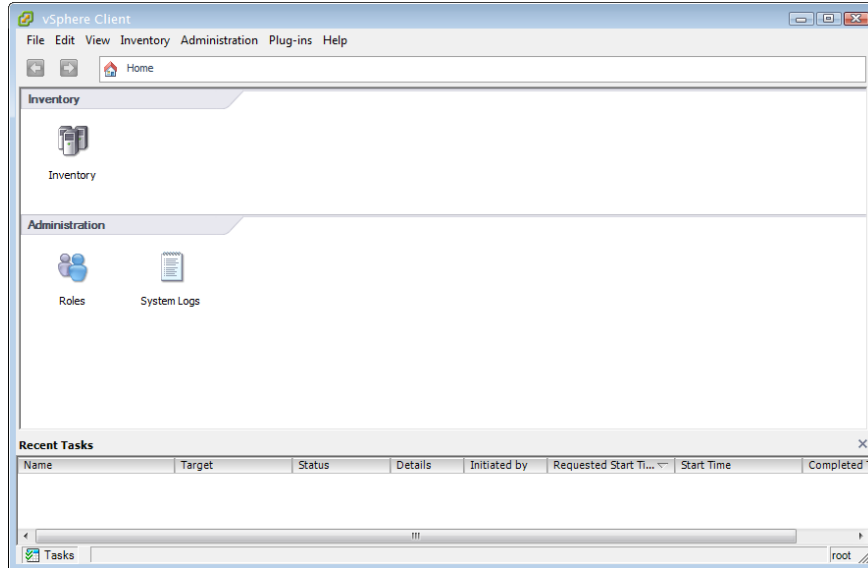
Note

Performing these steps will set all of your Singlewire applications to start when the server boots.

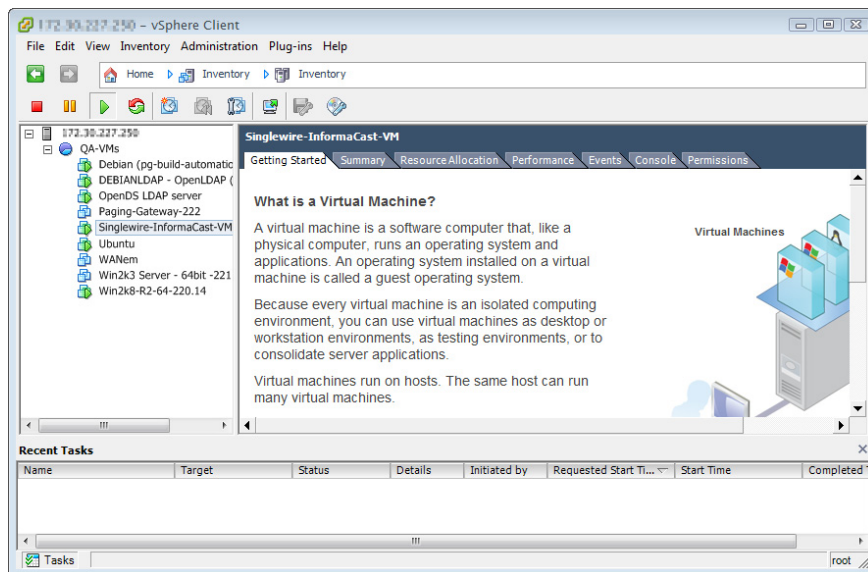
**Warning**

If you plan to switch between Basic and Advanced InformaCast and you change your IP address, you will need to redeploy the InformaCast OVA (see “Install a Software Package” on page 2-7).

- Step 1** Stop your Singlewire applications (see “Stop an Application on InformaCast Virtual Appliance” on page 2-21).
- Step 2** Open and log into the vSphere client. The vSphere Client window appears.

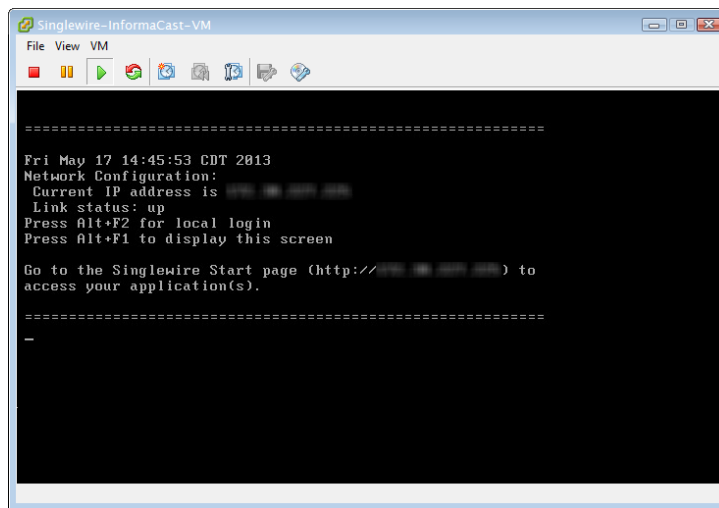


- Step 3** Click the **Inventory** icon () on the vSphere Client window. The vSphere Client window refreshes.

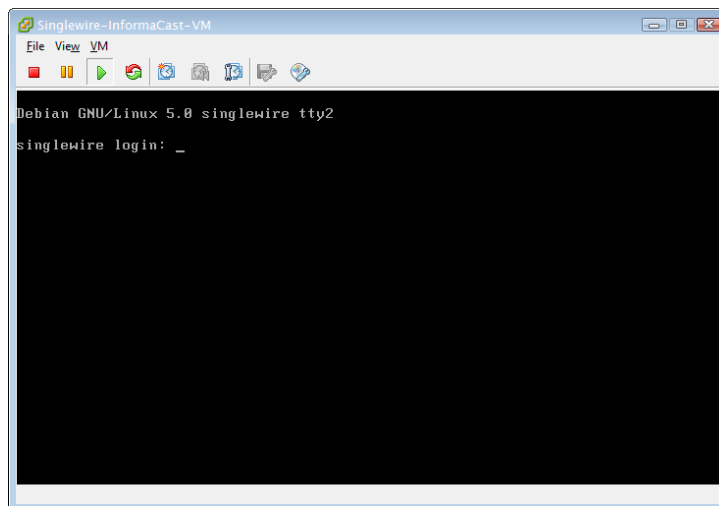


- Step 4** Select your virtual machine (by default, this is Singlewire InformaCast VM).

Step 5 Go to **Inventory** | **Virtual Machine** | **Open Console**. The Singlewire InformaCast VM console window appears.

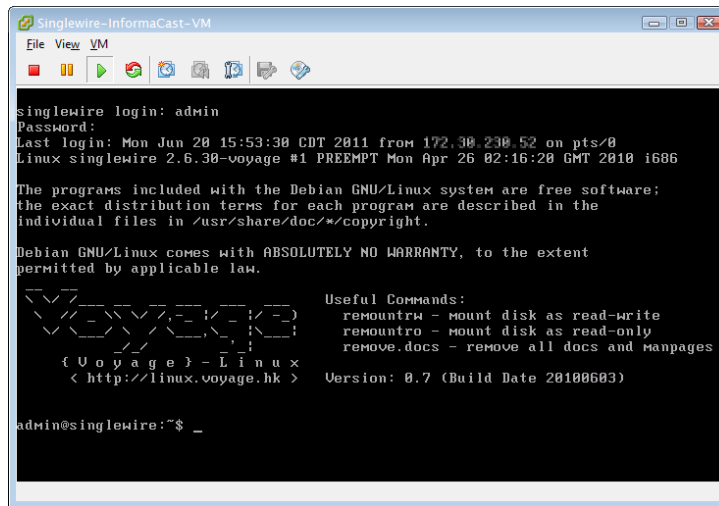


Step 6 Press **Alt + F2** in the Singlewire InformaCast VM console window. The Singlewire InformaCast VM console window refreshes.



Step 7 Enter **admin** at the **singlewire login** prompt and press **Enter**.

- Step 8** Enter **changeMe** at the **Password** prompt and press **Enter**. The Singlewire InformaCast VM console window refreshes.



```

Singlewire-InformaCast-VM
File View VM
singlewire login: admin
Password:
Last login: Mon Jun 20 15:53:30 CDT 2011 from 172.30.230.52 on pts/0
Linux singlewire 2.6.30-voyage #1 PREEMPT Mon Apr 26 02:16:20 GMT 2010 i686

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.

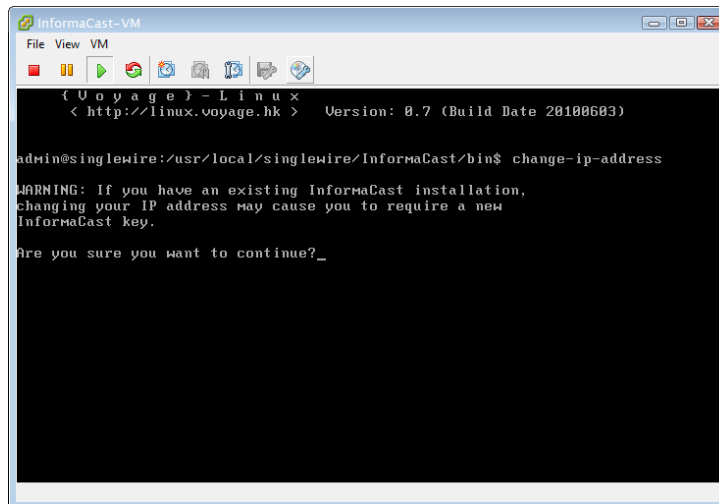
      _ _ _ _ _
     / _ _ _ _ _ \
    /  _ _ _ _ _  \
   /    _ _ _ _ _    \
  /      _ _ _ _ _      \
 /         _ _ _ _ _         \
/            _ _ _ _ _            \
{ U o y a g e } - L i n u x
< http://linux.voyage.hk >

Useful Commands:
remountw - mount disk as read-write
remountro - mount disk as read-only
remove.docs - remove all docs and manpages
Version: 0.7 (Build Date 20100603)

admin@singlewire:~$ _

```

- Step 9** Enter **change-ip-address** and press **Enter**. The Singlewire InformaCast VM console window refreshes.



```

InformaCast-VM
File View VM
{ U o y a g e } - L i n u x
< http://linux.voyage.hk > Version: 0.7 (Build Date 20100603)

admin@singlewire:/usr/local/singlewire/InformaCast/bin$ change-ip-address

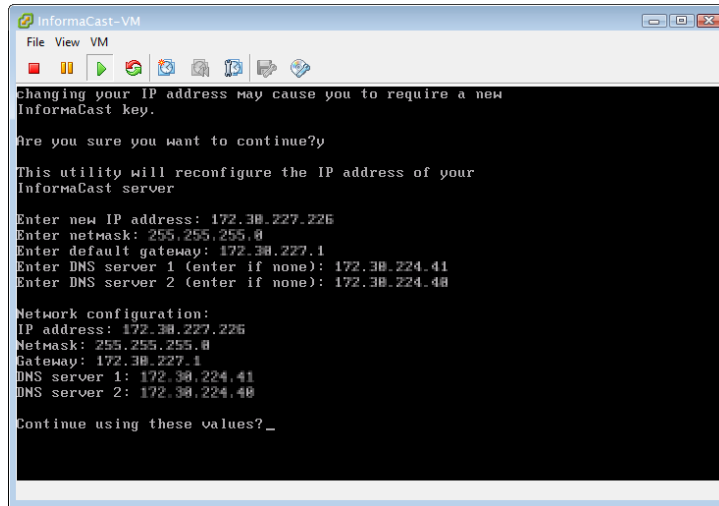
WARNING: If you have an existing InformaCast installation,
changing your IP address may cause you to require a new
InformaCast key.

Are you sure you want to continue?_

```

- Step 10** Enter **Y** and press **Enter**.
- Step 11** Enter a routable IP address on your network that's not currently in use and press **Enter**.
- Step 12** Enter a valid netmask for that IP address and press **Enter**.
- Step 13** Enter the default gateway for your specified IP address and press **Enter**.

Step 14 Enter the IP address(es) of a DNS server(s) on your network and press **Enter**.



```

InformaCast-VM
File View VM
changing your IP address may cause you to require a new
InformaCast key.
Are you sure you want to continue?y
This utility will reconfigure the IP address of your
InformaCast server
Enter new IP address: 172.30.227.226
Enter netmask: 255.255.255.0
Enter default gateway: 172.30.227.1
Enter DNS server 1 (enter if none): 172.30.224.41
Enter DNS server 2 (enter if none): 172.30.224.40

Network configuration:
IP address: 172.30.227.226
Netmask: 255.255.255.0
Gateway: 172.30.227.1
DNS server 1: 172.30.224.41
DNS server 2: 172.30.224.40
Continue using these values?_

```

Step 15 Enter **Y** and press **Enter**.

Step 16 Enter **Exit** and press **Enter**.

Step 17 For InformaCast, log into Communications Manager, go to **System | Enterprise Parameters**, and change the **URL Authentication** field to reflect your new IP address. Also, go to **Device | Device Settings | Phone Services**, and change the IP address for any InformaCast service URLs you have created.



Note If you are using Communications Manager 8.x, you will need to enter this IP address in the **Secured Authentication URL** field as well.



Note You need to use the **Update Subscriptions** button whenever you change service information, so that any subscribed phones are properly updated.



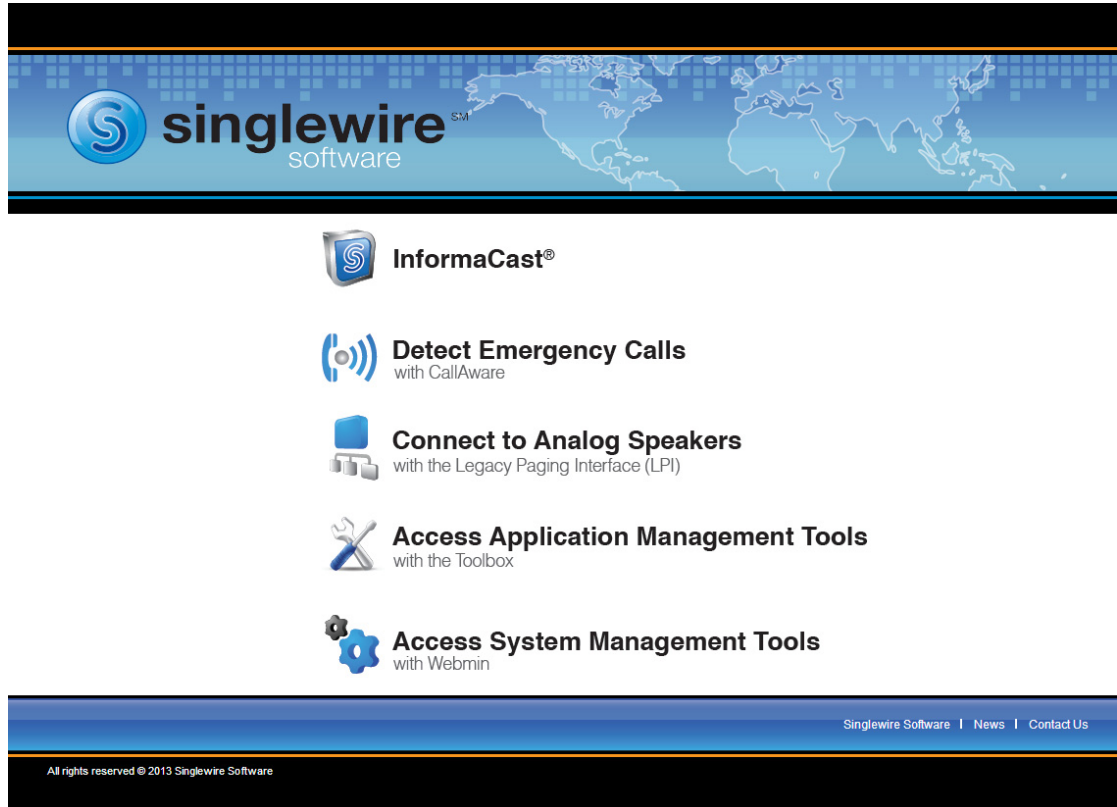
Note InformaCast SIP certificates are regenerated whenever InformaCast is installed or its IP address is changed, so if you are using TLS protocol with SIP, you will need to install the InformaCast SIP certificate on all Communications Managers in your InformaCast environment (see “Install the InformaCast SIP Certificate on a SIP Device” in the “InformaCast Installation and User Guide.”)

Step 18 Reset all of your phones.

Update JTAPI

When you initially install InformaCast Virtual Appliance or whenever you change versions of Communications Manager, you need to update the JTAPI library used by InformaCast Virtual Appliance to the same version used by your Communications Manager server.

- Step 1** Open a web browser, enter the IP address of your InformaCast Virtual Appliance server, and press the **Enter** key. The Singlewire Start page appears.



- Step 2** Click the **Access System Management Tools with Webmin** link. A separate tab/window opens to the Login to Webmin page.



Note

You may have to accept a warning from your web browser about the security of this page's content.

Step 3 Enter your login credentials and click the **Login** button. By default, your username is **admin** and your password is **changeMe**. The InformaCast Virtual Appliance server's homepage appears.

The screenshot shows the SingleWire Virtual Appliance homepage. On the left is a navigation menu with 'System Information' selected. The main content area displays system details:

Virtual Appliance Version	###
System hostname	singlewire
Operating system	Debian Linux 5.0
Webmin version	1.530
Time on system	Thu Jun 16 15:48:10 2011
Kernel and CPU	Linux 2.6.30-vooyage on i686
Processor information	Quad-Core AMD Opteron(tm) Processor 2382, 1 cores
System uptime	3 days, 7 hours, 57 minutes
Running processes	48
CPU load averages	0.00 (1 min) 0.00 (5 mins) 0.00 (15 mins)
CPU usage	0% user, 0% kernel, 0% IO, 100% idle
Real memory	2.97 GB total, 32.40 MB used
Virtual memory	3.73 GB total, 0 bytes used
Local disk space	75.07 GB total, 1.78 GB used

Step 4 Go to **System | Bootup and Shutdown**. The Bootup and Shutdown page appears.

The screenshot shows the 'Bootup and Shutdown' configuration page. The left navigation menu has 'System Time' selected. The main content area is titled 'Module Config' and 'Bootup and Shutdown'. It features a table of system services with checkboxes for configuration.

Action	At boot?	Description
<input type="checkbox"/> alsa-utils	No	This script stores and restores mixer levels on
<input type="checkbox"/> asterisk	No	Controls the Asterisk PBX
<input type="checkbox"/> atftpd	No	Launch atftpd server, a TFTP server useful
<input type="checkbox"/> awds	No	This script is used to start the AWDS daemon which provides
<input type="checkbox"/> batmand	No	/etc/init.d/batmand: start batmand
<input type="checkbox"/> bootlogd	No	Starts or stops the bootlogd log program
<input type="checkbox"/> bootmisc.sh	No	Some cleanup. Note, it need to run after mountnfs-bootclean.sh.
<input type="checkbox"/> checkfs.sh	No	Check all filesystems.
<input type="checkbox"/> checkroot.sh	No	Check to root file system.
<input type="checkbox"/> cron	Yes	cron is a standard UNIX program that runs user-specified
<input type="checkbox"/> dahdi	No	dahdi - load and configure DAHDI modules
<input type="checkbox"/> dnsmasq	No	DHCP and DNS server
<input type="checkbox"/> ebttables	No	Saves and restores the state of the ebttables rulesets.
<input type="checkbox"/> flashybrid	No	Flashybrid is a system to help in setting up and managing hybrid
<input type="checkbox"/> glibc.sh	No	
<input type="checkbox"/> gpsd	No	Start the GPS (Global Positioning System) daemon
<input type="checkbox"/> halt	No	
<input type="checkbox"/> hostapd	No	Userspace IEEE 802.11 AP and IEEE 802.1X/WPA/WPA2/EAP
<input type="checkbox"/> flashybrid	No	Flashybrid is a system to help in setting up and managing hybrid
<input type="checkbox"/> glibc.sh	No	
<input type="checkbox"/> gpsd	No	Start the GPS (Global Positioning System) daemon
<input type="checkbox"/> halt	No	
<input type="checkbox"/> single	No	executed by init(8) upon entering runlevel 1 (single).
<input type="checkbox"/> singlewireInformaCast	No	InformaCast application from Singlewire

Below the table are buttons for 'Start', 'Stop', 'Restart', 'Start On Boot', 'Disable On Boot', 'Start Now and On Boot', and 'Disable Now and On Boot'. At the bottom, there are controls for 'Change to runlevel:' (set to 2), 'Reboot System', and 'Shutdown System', along with explanatory text for each.

Step 5 Scroll down the list of actions until you come to **singlewireInformaCast**. Click its link. The Edit Action page appears.

The screenshot shows the 'Edit Action' page for 'singlewireInformaCast'. The left sidebar contains a navigation menu with categories like System, Networking, and Hardware. The main content area has a 'Module Index' and 'Action Details' section. The 'Action Script' is as follows:

```
#!/bin/sh
### BEGIN INIT INFO
# Short-Description: InformaCast
# Description: InformaCast application from Singlewire
### END INIT INFO

# Author: Jeff Ramin <jeff.ramin@singlewire.com>
#

# Do NOT "set -e"

# PATH should only include /usr/* if it runs after the mountnfs.sh script
PATH=/sbin:/usr/sbin:/bin:/usr/bin
DESC="InformaCast"
NAME=singlewireInformaCast
```

Below the script, the 'Start at boot time?' option is set to 'No'. At the bottom, there are buttons for 'Save', 'Start Now', 'Show Status', 'Stop Now', and 'Delete'. A link 'Return to bootup and shutdown actions' is also present.

Step 6 Click the **Stop Now** button. It will take a minute or so for InformaCast to stop.

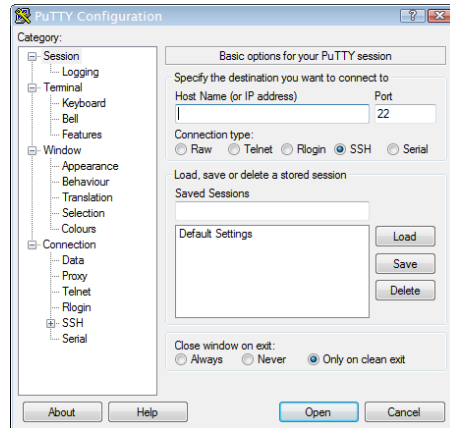
The screenshot shows the 'Stop Action' page for 'singlewireInformaCast'. The main content area displays the command being executed: 'Executing /etc/init.d/singlewireInformaCast stop ..'. The left sidebar and navigation menu are the same as in the previous screenshot.



Note Leave this window open. You will come back to it.

Step 7 Use an SSH client (e.g. PuTTY: <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>) to access InformaCast's command line interface.

Step 8 Open PuTTY. The PuTTY Configuration window appears.

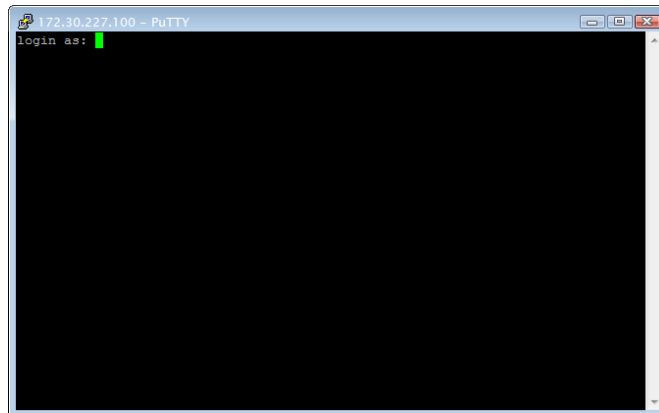


Step 9 Enter InformaCast's IP address in the **Host Name (or IP address)** field.

Step 10 Leave the **Port** field at its default of 22.

Step 11 Click the **SSH** radio button.

Step 12 Click the **Open** button. The command-line interface for InformaCast appears.

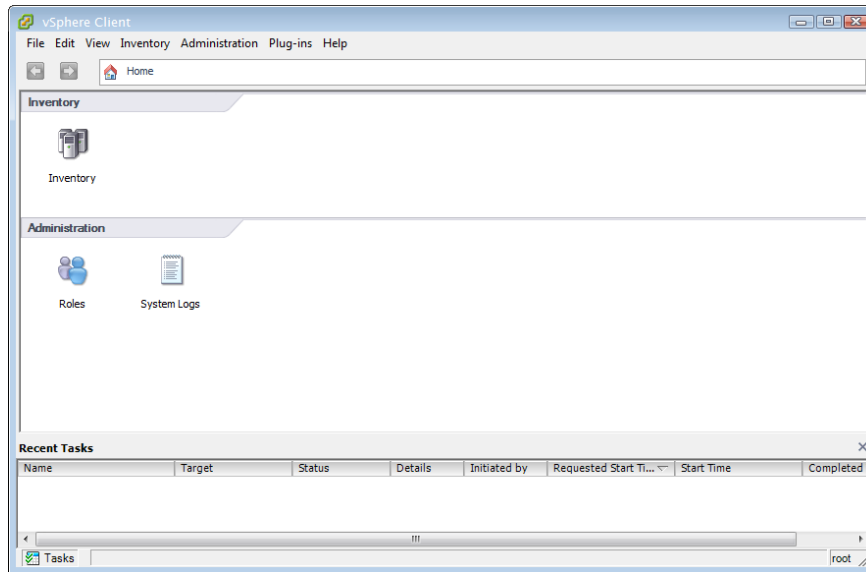


Step 13 Enter **admin** at the prompt and press **Enter**.

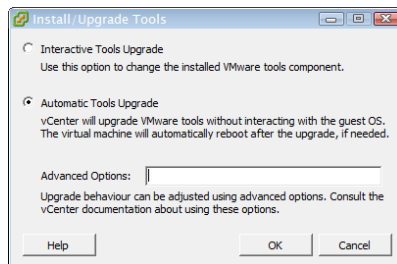
Upgrade your VMware Tools

If vSphere has an error flag that says that your version of VMware doesn't match your version of VMware tools, or if your CPU usage seems elevated, you should upgrade your VMware tools to match the level of your VMware version.

Step 1 Open and log into the vSphere client. The vSphere Client window appears.



Step 2 Select your virtual machine, and go to **Inventory | Virtual Machine | Guest | Install/Upgrade VMware Tools**. The Install/Upgrade Tools window appears.



Step 3 Select the **Automatic Tools** radio button and click the **OK** button. Your VMware tools are upgraded.

Upgrading InformaCast Virtual Appliance

Prior to upgrading InformaCast Virtual Appliance, create a snapshot of the Virtual Appliance in case you need to perform disaster recovery.

Note the Differences

If you are upgrading from an earlier version of InformaCast Virtual Appliance, please review InformaCast’s “Release Notes” chapter for a list of new features.

Obtain InformaCast Virtual Appliance Software Package

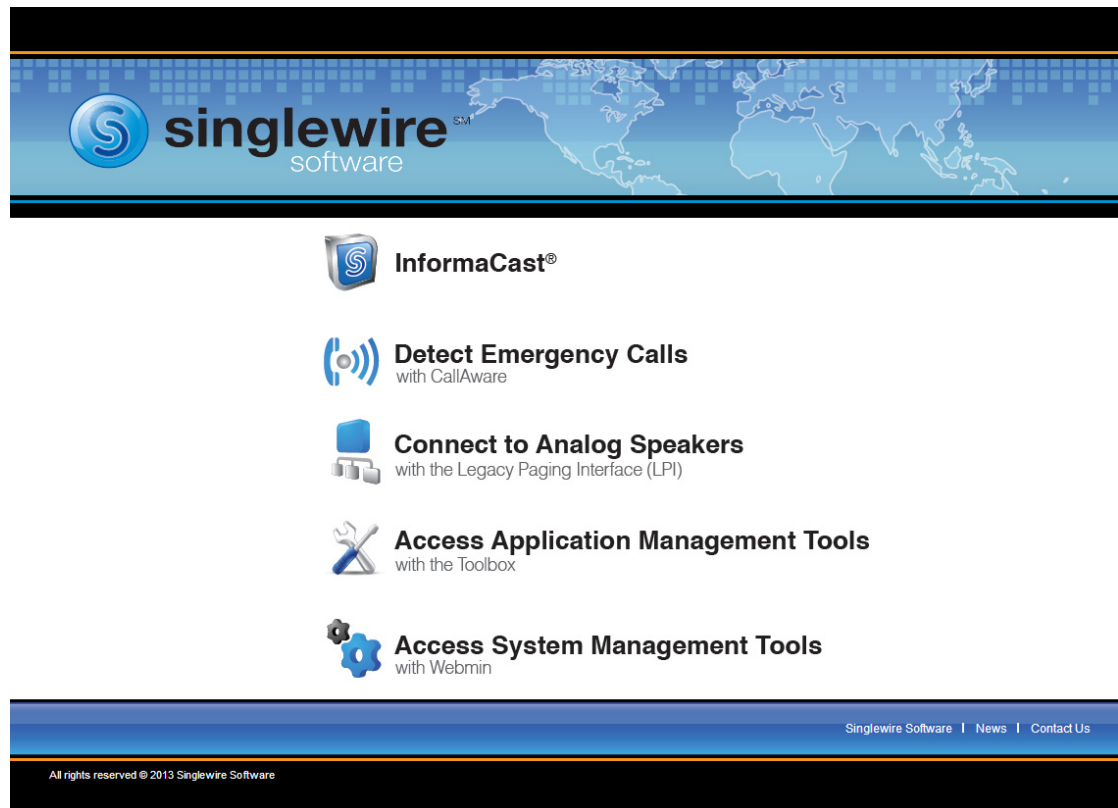
You can download the latest version of InformaCast Virtual Appliance from the Cisco website. Contact Cisco if you need help.

Your download should include one package file (singlewireVAUpgrade-1.4.deb); the upload process is detailed in the next section.

Install Upgraded Software Package

Once you’ve obtained your package file, you can install a new software package and update your version of InformaCast Virtual Appliance.

-
- Step 1** Create a snapshot of your current InformaCast Virtual Appliance installation.
 - Step 2** Open a web browser, enter the IP address of your InformaCast Virtual Appliance server, and press the **Enter** key. The Singlewire Start page appears.





Note For versions of InformaCast Virtual Appliance prior to Delphi, you will need to go to <https://<InformaCast Virtual Appliance IP Address>:10000>, where <InformaCast Virtual Appliance IP Address> is InformaCast Virtual Appliance's statically configured IP address. Skip to Step 4 on page 2-43.

Step 3 Click the **Access System Management Tools with Webmin** link. A separate tab/window opens to the Login to Webmin page.

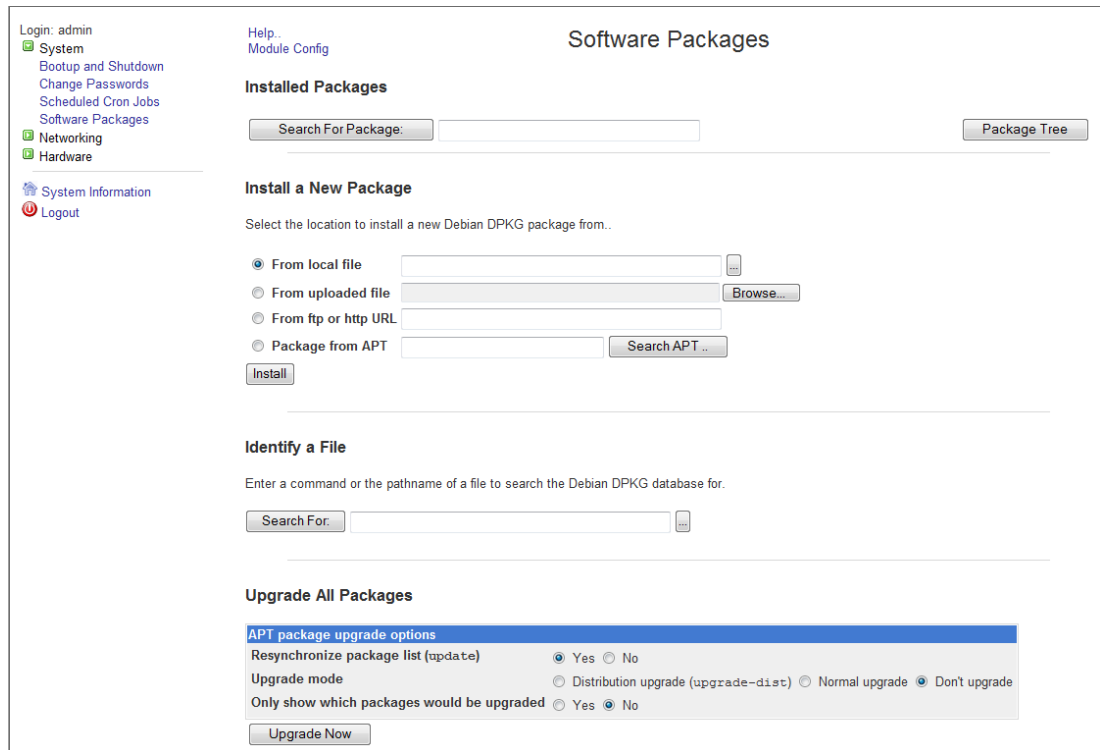


Note You may have to accept a warning from your web browser about the security of this page's content.

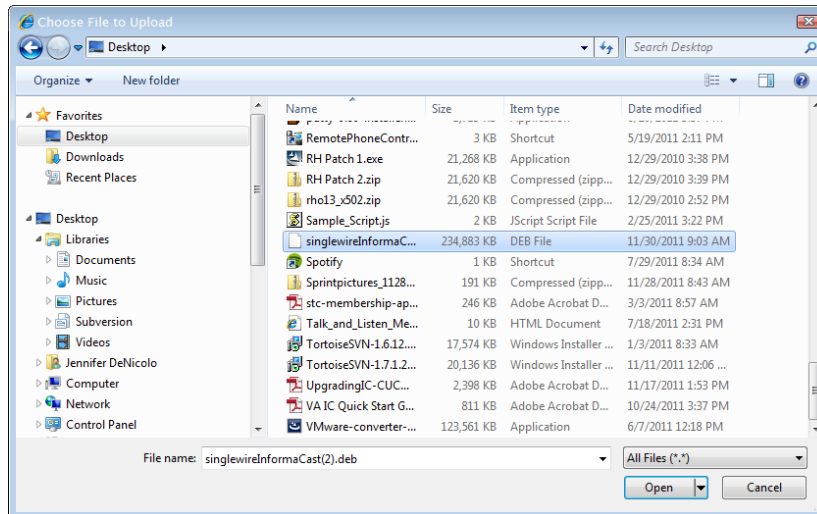
Step 4 Enter your login credentials and click the **Login** button. By default, your username is **admin** and your password is **changeMe**. The Webmin page appears.

Virtual Appliance Version	###
System hostname	singlewire
Operating system	Debian Linux 5.0
Webmin version	1.530
Time on system	Thu Jun 16 15:48:10 2011
Kernel and CPU	Linux 2.6.30-voyage on i686
Processor information	Quad-Core AMD Opteron(tm) Processor 2382, 1 cores
System uptime	3 days, 7 hours, 57 minutes
Running processes	48
CPU load averages	0.00 (1 min) 0.00 (5 mins) 0.00 (15 mins)
CPU usage	0% user, 0% kernel, 0% IO, 100% idle
Real memory	2.97 GB total, 32.40 MB used
Virtual memory	3.73 GB total, 0 bytes used
Local disk space	75.07 GB total, 1.78 GB used

Step 5 Go to **System | Software Packages**. The Software Packages page appears.



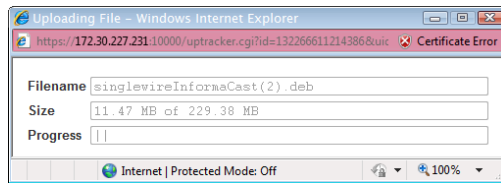
Step 6 Select the **From uploaded file** radio button in the *Install a New Package* area and click its **Browse** button. The Choose File to Upload dialog box appears.



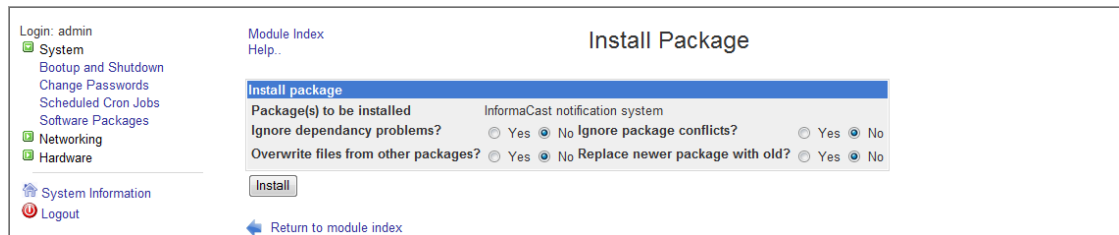
Step 7 Navigate to where you saved the InformaCast Virtual Appliance software package you downloaded earlier (e.g. singlewireVAUpgrade-1.4.deb).

Step 8 Click the **Open** button.

- Step 9** Click the **Install** button in the *Install a New Package* area. A pop-up window will appear showing you the transferring of the file.



After transferring the file, the Install Package page appears.



- Step 10** Leave the default selections as they are and click the **Install** button. Your software package is installed.



Note The Install Package page should display a list of files that were correctly installed. If you see something different, please make a note of what you see and contact Cisco.

Step 11 Go to **System | Bootup and Shutdown**. The Bootup and Shutdown page appears.

Module Config

Bootup and Shutdown

Create a new bootup and shutdown action.

Action	At boot?	Description
<input type="checkbox"/> alsa-utils	No	This script stores and restores mixer levels on
<input type="checkbox"/> asterisk	No	Controls the Asterisk PBX
<input type="checkbox"/> atftpd	No	Launch atftpd server, a TFTP server useful
<input type="checkbox"/> awds	No	This script is used to start the AWDS daemon which provides
<input type="checkbox"/> batmand	No	/etc/init.d/batmand: start batmand
<input type="checkbox"/> bootlogd	No	Starts or stops the bootlogd log program
<input type="checkbox"/> bootmisc.sh	No	Some cleanup. Note, it need to run after mountnfs-bootclean.sh.
<input type="checkbox"/> checkfs.sh	No	Check all filesystems.
<input type="checkbox"/> checkroot.sh	No	Check to root file system.
<input type="checkbox"/> cron	Yes	cron is a standard UNIX program that runs user-specified
<input type="checkbox"/> dahdi	No	dahdi - load and configure DAHDI modules
<input type="checkbox"/> dnsmasq	No	DHCP and DNS server
<input type="checkbox"/> ebttables	No	Saves and restores the state of the ebttables rulesets.
<input type="checkbox"/> flashybird	No	Flashybird is a system to help in setting up and managing hybrid
<input type="checkbox"/> glibc.sh	No	
<input type="checkbox"/> gpsd	No	Start the GPS (Global Positioning System) daemon
<input type="checkbox"/> halt	No	
<input type="checkbox"/> hostapd	No	Userspace IEEE 802.11 AP and IEEE 802.1X/WPA/WPA2/EAP
<input type="checkbox"/> flashybird	No	Flashybird is a system to help in setting up and managing hybrid
<input type="checkbox"/> glibc.sh	No	
<input type="checkbox"/> gpsd	No	Start the GPS (Global Positioning System) daemon
<input type="checkbox"/> halt	No	
<input type="checkbox"/> single	No	executed by init(8) upon entering runlevel 1 (single).
<input type="checkbox"/> singlewireInformaCast	No	InformaCast application from Singlewire

Create a new bootup and shutdown action.

Start Stop Restart Start On Boot Disable On Boot Start Now and On Boot Disable Now and On Boot

Change to runlevel: 2 Click this button to switch your system from the current runlevel to the selected one. This will cause all the actions in the current level to be stopped, and then all the actions in the new runlevel to be started.

Reboot System Click on this button to immediately reboot the system. All currently logged in users will be disconnected and all services will be re-started.

Shutdown System Click on this button to immediately shutdown the system. All services will be stopped, all users disconnected and the system powered off (if your hardware supports it).

Step 12 Scroll down to the bottom of the page and click the **Reboot System** button. It will take a minute or so for InformaCast Virtual Appliance to reboot.



Note Leave this window open. You will come back to it in the next section.

Step 13 Create a new snapshot of your Virtual Appliance.

Step 14 Clear your web browser's cache.



CHAPTER 3

Acknowledgments

InformaCast Virtual Appliance from Singlewire Software runs on a Linux kernel and the Voyage Linux distribution.

The Linux kernel and Voyage Linux are distributed under the following license:

- This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation.
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<http://www.gnu.org/licenses/gpl-2.0.html>.
- You may also write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.
- Modifications Singlewire Software has made to the Voyage Linux distribution can be found here:
<http://www.singlewire.com/pgl>.

For all software license information, see the “InformaCast Installation and User Guide.”