Overview

This chapter provides information about the Cisco Video Surveillance 3000 Series IP camera features, instructions for accessing the user interface, and information about the user interface. It includes the following topics:

IP Camera Features

The Cisco Video Surveillance 3000 Series IP Cameras offer a feature-rich digital camera solution for a video surveillance system. The camera provides high-definition (HD) video and simultaneous H.264 and MJPEG compression, streaming up to 30 frames per second (fps) at 1080p (1280x800) resolution.

In addition, the IP camera provides networking and security capabilities, including multicast support, hardware-based Advanced Encryption Standard (AES), and hardware-based Data Encryption Standard/Triple Data Encryption Standard (DES/3DES) encryption. The camera can be powered through an external power supply or by integrated Power over Ethernet (PoE).

The IP camera includes the following key features:

- **H.264 and MJPEG compression**—The IP camera can generate H.264 and MJPEG streams simultaneously.
- **Privacy regions**—Up to four user-defined masking zones that can be used to provide regions of privacy in the camera field of view. Video within privacy regions is not recorded in the camera, nor sent in the video stream.
- **Progressive scan video**—The IP camera captures each frame at its entire resolution using progressive scan rather than interlaced video capture, which captures each field of video.
- **Analog video output—**Supports analog video for all resolutions with 15 fps or lower with no secondary stream.
- **Medianet**—The IP camera supports the Auto Smartports feature of the Media Services Interface (MSI). MSI enables a camera to participate as an endpoint in the Cisco medianet architecture when connected to a medianet enabled switch.
- **Local Storage**—Supports up to 8 GB of video data storage on a micro SD memory card when the camera loses network connectivity.

- **Two-way audio communication**—Audio can be encoded with the video. With the internal or optional external microphone and optional external speaker, you can communicate with people at the IP camera location while you are in a remote location and viewing images from the IP camera.

- **Day/night switch support**—An IR-cut filter provides increased sensitivity in low-light conditions.

- **Multi-protocol support**—Supports these protocols: DHCP, HTTP, HTTPS, NTP, RTP, RTSP, SMTP, SSL/TLS, and TCP/IP.

- **Web-based management**—You perform ongoing administration and management of the IP camera through web-based configuration menus.

- **Motion detection**—The IP camera can detect motion in user-designated fields of view by analyzing changes in pixels and generate an alert if motion is detected.

- **Flexible scheduling**—You can configure the IP camera to respond to events that occur within a designated schedule.

- **Syslog support**—The IP camera can send log data to a Syslog server.

- **IP address filter**—You can designate IP addresses that can access the IP camera and IP addresses that cannot access the IP camera.

- **User-definable HTTP/ HTTPS port number**—Allows you to define the port that is used to connect to the camera through the Internet.

- **DHCP support**—The IP camera can automatically obtain its IP addresses in a network in which DHCP is enabled.

- **Network Time Protocol (NTP) support**—Allows the IP camera to calibrate its internal clock with a local or Internet time server.

- **Power options**—The IP camera can be powered with 12 volts DC or 24 volts AC, which is provided through an optional external power adapter, or through PoE (802.3af), which is provided through a supported switch.

- **Camera access control**—You can control access to IP camera configuration windows and live video by configuring various user types and log in credentials.

- **Open Network Video Interface Forum (ONVIF) 2.0**—ONVIF is an open industry forum for the development of a global standard for the interface of IP-based physical security products. The following features are supported:

    - Device Discovery Service

    - Device Service

    - Media Service

Accessing the IP Camera

After you perform the initial configuration as described in the Chapter 2, "Performing the Initial Setup of the IP Camera," follow the steps in this section each time that you want to access the IP camera windows to make configuration settings, view live video, or perform other activities.

You access these windows by connecting to the IP camera from any PC that is on the same network as the IP camera and that meets these requirements:

- Operating system—Microsoft Windows 7 (32-bit or 64-bit)

- Browser—Internet Explorer 8.0 (32-bit only)

You need this information to access the IP camera windows:

- IP address of the IP camera. By default, the IP camera attempts to obtain an IP address from a DHCP server in your network. If the IP camera cannot obtain an IP address through DHCP within 90 seconds of powering up or resetting, it uses the default IP address of 192.168.0.100.

- Port number, if other than the default value. Default port numbers for the IP camera are 443 for HTTPS and 80 for HTTP. The IP camera administrator can configure an HTTPS port and an HTTP port as described in the "Initialization Window" section on page 6-1.

- Your user name and password for the IP camera. The IP camera administrator configures user names and passwords as described in the "User Window" section on page 6-2.

To access the IP camera windows, perform the following these steps.

Before you Begin

The Microsoft .NET Framework version 2.0 or later must be installed on the PC that you use to connect to the IP camera. You can download the .NET Framework from the Microsoft website.

Procedure

Step 1   Start Internet Explorer and enter the following in the address field:

protocol://ip_address:port_number

where:

- *protocol* is **HTTPS** for a secure connection or **HTTP** for a non-secure connection. You can use HTTP only if you configure the camera to accept non-secure HTTP connections as described in Chapter 2, "Performing the Initial Setup of the IP Camera."

- *ip_address* is the IP address of the IP camera. The default IP address is 192.168.0.100.

- *port_number* is the port number that is used for HTTPS or HTTP connections to the IP camera. You do not need to enter a port number if you are connecting through the default HTTPS port 443 or the default HTTP port 80.

For example,

- Enter the following for a secure connection if the IP address is 192.168.0.100 and the HTTPS port number is 443:

  https://192.168.0.100

- Enter the following for a secure connection if the IP address is 203.70.212.52 and the HTTPS port number is 1024:

  https://203.70.212.52:1024

- Enter the following for a non-secure connection if the IP address is 203.70.212.52 and the HTTP port number is 80:

  http://203.70.212.52

- Enter the following for a non-secure connection if the IP address is 203.70.212.52 and the HTTP port number is 1024:

  http://203.70.212.52:1024

Step 2   Enter your IP camera user name and password in the Username and Password fields, then click **Login**.

To log in as the IP camera administrator, enter the user name **admin** (which is case sensitive) and the password that is configured for the administrator. To log in as a user, enter the user name and password that are configured for the user.

The Home window for the IP Camera appears.

Understanding the IP Camera User Interface

After you log in to the IP camera, you can access the IP camera windows and perform a variety of administrative and user procedures.

The links and activities that you can see and access in the IP camera windows depend on your IP camera privilege level. Privilege levels are configured as described in the "User Window" section on page 6-2 and include the following:

- Administrator—Can access all IP camera windows, features, and functions.
- Viewer—Can access the Camera Video & Control window with limited controls, and can access the **Refresh**, **Logout**, **About**, and **Help** links from that window.

IP Camera Window Links

The IP Camera user interface includes links that you use to access various windows and perform other activities. Table 1-1 describes each link and lists the IP camera privilege level that you must have to access the link.

Table 1-1   Links in the IP Camera Windows

Link	Description	Privilege Level
Refresh	Updates the information in the window that is currently displayed.	Administrator User
Home	Displays the System Information window. For more information, see Table 1-2.	Administrator
View Video	Displays the Camera Video & Control window. You may be prompted to install ActiveX controls when trying to access this window for the first time. ActiveX controls are required to view video from the IP camera. Follow the on-screen prompts to install ActiveX controls.	Administrator User
Setup	Displays the Setup window and provides access to the configuration menus for the IP camera.	Administrator
Logout	Logs you out from the IP camera.	Administrator User
About	Displays a pop-up window with model, version, and copyright information for the IP camera.	Administrator User
Help	Displays reference information for the window that is currently displayed.	Administrator User

IP Camera Windows

The IP camera user interface includes these main windows:

- System Information window—Accessed by clicking the Home link. Displays the information that is described in Table 1-2.

- Camera Video & Control window—Accessed by clicking the View Video link. Displays live video from the camera and lets you control a variety of camera and display functions. For detailed information, see Chapter 3, "Viewing Live Video."

- Setup window—Accessed by clicking the Setup link. Provides access to the IP camera configuration windows. For detailed information, see the following chapters:
    - Chapter 4, "Feature Setup."
    - Chapter 5, "Network Setup."
    - Chapter 6, "Administration."
    - Chapter 7, "Log Configuration."

Table 1-2   Home Window Information

Field	Description
General Information	
ID	Identifier of the IP camera. To configure the ID, see the "Basic Window" section on page 5-1.
Name	Name of the IP camera. To configure the name, see the "Basic Window" section on page 5-1.
Current Time	Current date and time of the IP camera. To set the date and time, see the "Time Window" section on page 5-4.
S/N	Serial number of the IP camera.
Firmware	Version of the firmware that is installed on the IP camera.
Part Number	Cisco manufacturing part number of the IP camera.
Top Assembly Revision	Cisco assembly revision number.
Network Status	
MAC Address	MAC address of the IP camera.
Configuration Type	Method by which the IP camera obtains its IP address. To configure this method, see the "IP Addressing Window" section on page 5-3.
LAN IP	IP address of the LAN to which the IP camera is connected. To configure this IP address, see the "IP Addressing Window" section on page 5-3.
Subnet Mask	Subnet mask of the LAN to which the IP camera is connected. To configure the subnet mask, see the "IP Addressing Window" section on page 5-3.
Gateway Address	IP address of the gateway through which the IP camera is connected. To configure this IP address, see the "IP Addressing Window" section on page 5-3.
Primary DNS	IP address of the primary DNS server, if configured for the IP camera. To configure a primary DNS server, see the "IP Addressing Window" section on page 5-3.

Table 1-2   Home Window Information (continued)

Field	Description
Secondary DNS	IP address of the secondary DNS server, if configured for the IP camera. To configure a secondary DNS server, see the "IP Addressing Window" section on page 5-3.
IO Port Status	
Input Port 1	Current state of input port 1 on the IP camera.
Output Port 1	Current state of output port 1 on the IP camera.
Stream 1 and Stream 2	
User	IP camera user name of each user who is accessing the primary video stream (Stream 1) or the secondary video stream (Stream 2) through a client PC or a third-party device. By default, users appear in order of start time. To display users in ascending order of any information in any corresponding column, click the column heading. Click a column heading again to reverse the display order.
IP Address	IP address of the client device.
Start Time	Time and date that the client accessed the video stream for this session.
Elapsed Time	Length of time that the client has been accessing the video stream.
Codec	Video codec (H.264 or MJPEG) being used for the stream,