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Installing the LifeSize Bridge Utility

The LifeSize Bridge Utility manages LifeSize Bridge 2200 from your Mac or PC. You can create and manage conferences, set system and user experience preferences, and perform diagnostics and maintenance using the utility.

To install the utility, enter the IP address of your LifeSize Bridge (by default, 169.254.1.1) in a browser. You will be prompted to install Adobe AIR and the LifeSize Bridge Utility.

**Note:** The system on which you are installing the utility must be connected to the Internet during installation of Adobe AIR. This is only necessary the first time you launch the utility and if Adobe AIR is not already installed.

You will also receive automatic notification of updates to the utility and can install them immediately or download and install them at a later time.

**Note:** For the most current product information refer to the documentation and release notes at lifesize.com/support.

Ensure that your system meets the following requirements prior to installing the utility.

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| Windows          | Intel® Pentium III processor (Pentium 4 recommended)  
                                 Microsoft Windows XP Home, Professional, or Tablet PC Edition with Service Pack 2 or 3, Windows Server 2003, Windows Vista Home Premium, Business, Ultimate, or Enterprise (including 64-bit editions) with Service Pack 1, or Windows 7  
                                 RAM: 1GB required, 2 GB recommended |
| Mac              | Intel Core™ Duo or faster processor  
                                 Mac OS X v10.4, v10.5 or v10.6  
                                 RAM: 1GB required, 2 GB recommended |
| Linux            | Intel Pentium III processor (Pentium 4 recommended)  
                                 Fedora Core 12, Ubuntu 9.10, or openSUSE® 11.2  
                                 1GB of RAM required, 2 GB recommended |

**Note:** Windows 2000 and Mac PowerPC are not supported with Adobe AIR 2 and are therefore unsupported with the LifeSize Bridge Utility.
Getting Started with the LifeSize Bridge Utility

The LifeSize Bridge Utility enables administrators to manage all aspects of conferences and the system. Two types of user accounts are available.

- The **user** account, default password of *user*, can access the Scheduler only.
- The **admin** account, default password of *admin*, can access all areas of the utility.

LifeSize recommends that you protect the user and administrator preferences with a secure password. Change passwords from **Preferences : Passwords**. Passwords must be a minimum of five characters.

Terminology

The following terms are used in this document to describe the LifeSize Bridge features. These terms may differ from terms used with other LifeSize video communications systems. Familiarize yourself with these terms to best understand the capabilities of your LifeSize Bridge.

**scheduled conference** - a scheduled conference is planned in advance and includes a specific start and end time.

**on demand conference** - an on demand conference is not scheduled in advance, does not have a scheduled start time, and is always live.

**conference** - a conference is hosted by the bridge and can include up to 16 callers.

**call** - a call refers to an individual participant joining a conference.

**active** - active is the state of the conference after the first participant has joined.

**live** - a conference is live when the start time occurs, or when an on demand conference has been initiated; participants need not have joined for the conference to be live.
Navigating the Utility

The IP address of the system to which you are logged in appears in the title bar of your browser. The following system information appears at the top of the utility:

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduled</td>
<td>Number of live scheduled conferences.</td>
</tr>
<tr>
<td>Ports</td>
<td>Number of scheduled ports.</td>
</tr>
<tr>
<td>On Demand</td>
<td>Number of on demand conferences.</td>
</tr>
<tr>
<td>Active</td>
<td>Number of live conferences with participants.</td>
</tr>
<tr>
<td>Calls</td>
<td>Total number of connected calls.</td>
</tr>
<tr>
<td>Available</td>
<td>The number of remaining ports, not active or not scheduled.</td>
</tr>
<tr>
<td>☢️</td>
<td>A shortcut to <strong>Diagnostics : System Health</strong>, providing a quick view of</td>
</tr>
<tr>
<td></td>
<td>your system, temperature, and fan status. This icon changes color to identify</td>
</tr>
<tr>
<td></td>
<td>the health of the system.</td>
</tr>
<tr>
<td>H.323</td>
<td>A shortcut to <strong>Preferences : H.323</strong>. This icon also changes color to</td>
</tr>
<tr>
<td></td>
<td>identify the status of the protocol connection.</td>
</tr>
<tr>
<td>SIP</td>
<td>A shortcut to <strong>Preferences : SIP</strong>. This icon also changes color to</td>
</tr>
<tr>
<td></td>
<td>identify the status of the protocol connection.</td>
</tr>
<tr>
<td>🌐</td>
<td>A shortcut to <strong>Preferences : Network</strong>. This icon changes color to identify</td>
</tr>
<tr>
<td></td>
<td>the status of the network connection for each configured Ethernet port;</td>
</tr>
<tr>
<td></td>
<td>the port number also appears on this icon.</td>
</tr>
</tbody>
</table>

Click the buttons beneath the system information to schedule and manage calls, set preferences, and perform diagnostics and maintenance.
Scheduling Conferences

You manage conferences from the calendar view of conferences in the Scheduler. You can view all conferences by day, week, or month.

Allocating Ports

You can create both scheduled and on demand conferences. Scheduled conferences have a specific start and end time; on demand conferences do not. An on demand conference has no allocated ports; it can use any available port not scheduled or active.

An on demand conference includes all attributes of a scheduled conference except the start and end time and recurrence settings. This conference begins if requested ports are available when the first participant attempts to join.

The Scheduler manages all scheduling of ports and ensures there are no conflicts with the available ports. LifeSize Bridge includes 16 ports; each participant in a conference uses one port.

Up to eight conferences can be active at one time. Scheduled conferences take priority over on demand conferences. Therefore, if there are 2 two-way scheduled conferences and 10 on demand conferences, only 6 of the on demand conferences will be allowed to become active, consisting of two participants in each. In this scenario, attempts to join the remaining on demand conferences are rejected and the caller receives a busy signal.

If two active, scheduled conferences are using 4 ports and 6 ports respectively, 10 ports are scheduled, leaving 6 ports available for on demand conferences. If a scheduled conference requiring 3 ports becomes active, the longest running on demand conference(s) will terminate to free the necessary 3 ports for the scheduled conference.

Up to 40 on demand conferences are supported. On demand conferences are listed in a separate view in the Scheduler, to the left of the calendar view. If you have exceeded the maximum number, the button is disabled.
Creating a Conference

1. To create an on demand conference, click ″ below the list of On Demand Conferences.

   To create a scheduled conference, open the Scheduler and double-click the desired date for the conference, or right-click the date and choose Create Event.

2. Select the Auto checkbox to automatically assign an ID to the conference. Clear the checkbox if you wish to assign a specific conference ID.

   Note: Conference IDs are automatically generated if the Auto checkbox is selected. If cleared, you can customize the conference ID. Conference IDs must be unique; if you modify an ID to a value that is already in use, the system chooses an alternate unique value. You cannot modify conference IDs of live conferences.

3. Enter a name for the conference.

4. Optional: Enter a description of the conference.

5. Optional: Enter a password that users must enter to join the conference. Select the Display Password checkbox to include the password in the meeting invitation. Passwords must contain digits only.

6. Select the All Day checkbox or adjust the time frame for the start and end date and time.

7. For recurring conferences, select how often to repeat from the dropdown menu. Recurring conferences are indicated in the Scheduler by the .

8. Choose the number of ports to allocate for the conference.
9. If you wish to set additional preferences, click **Show Details** and change the following values as desired:

<table>
<thead>
<tr>
<th>Preference</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language</td>
<td>The language in which the user interface text and voice prompts appears.</td>
<td>English (US)</td>
</tr>
<tr>
<td>Self View</td>
<td>The view from a participant’s own camera appears on their screen.</td>
<td>Off</td>
</tr>
<tr>
<td>Speaker Order</td>
<td>The current speaker appears in the prominent window.</td>
<td>On</td>
</tr>
<tr>
<td>Status Indicators</td>
<td>Status icons appear on the user interface.</td>
<td>On</td>
</tr>
<tr>
<td>Announcements</td>
<td>Voice prompts and system sounds indicate the current system status or action required.</td>
<td>On</td>
</tr>
<tr>
<td>Navigation</td>
<td>Control the interface using touch tones or far end camera control.</td>
<td>Touch tones</td>
</tr>
<tr>
<td>Text Inset</td>
<td>How far the text is offset from the sides of the screen.</td>
<td>7%</td>
</tr>
<tr>
<td>Participant Bitrate</td>
<td>The bit rate for each participant in the conference.</td>
<td>Auto</td>
</tr>
<tr>
<td>Resolution</td>
<td>The video resolution used for the conference.</td>
<td>Auto</td>
</tr>
<tr>
<td>Video Codecs</td>
<td>Customize the default video codec order, or allow the system to choose automatically.</td>
<td>Auto</td>
</tr>
<tr>
<td>Audio Codecs</td>
<td>Customize the default audio codec order, or allow the system to choose automatically.</td>
<td>Auto</td>
</tr>
<tr>
<td>Presentations</td>
<td>The ability to display data from a PC or secondary input.</td>
<td>On</td>
</tr>
<tr>
<td>Presentation Codecs</td>
<td>Customize the default presentation codec order, or allow the system to choose automatically.</td>
<td>Auto</td>
</tr>
</tbody>
</table>

10. Click **Apply** to make the changes and continue editing and click **Save** to close the dialog box.
You can also manage conference restrictions from **Preferences : Scheduler**:

<table>
<thead>
<tr>
<th>Conference ID Bounds</th>
<th>Choose the number of digits the system will allow for a conference ID. The default is 4. Also specify the minimum and maximum allowable numbers. Minimum default: 1000. Maximum default: 9999.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum On Demand Conferences</td>
<td>Enter the maximum number of on demand conferences the system will manage. The default is 40.</td>
</tr>
<tr>
<td>Expired Conference Removal Time</td>
<td>Choose the length of time for the system to store expired conferences. The default is 3 months.</td>
</tr>
</tbody>
</table>

**Troubleshooting Scheduling Failures**

If scheduling of your conference fails, attempt to correct the problem as follows:

<table>
<thead>
<tr>
<th>Error</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>The conference has no name.</td>
<td>Enter a name for the conference in the <strong>Event Information</strong>.</td>
</tr>
<tr>
<td>No available ports for requested time.</td>
<td>Select a new time for the conference, during which the required number of ports are available.</td>
</tr>
<tr>
<td>All conference IDs are in use.</td>
<td>Change the range of possible conference IDs in <strong>Preferences : Scheduler</strong> to allow the system to assign a new number that is not in use.</td>
</tr>
<tr>
<td>Exceeded maximum number of on demand conferences.</td>
<td>Increase the value for <strong>Maximum On Demand Conferences</strong> in <strong>Preferences : Scheduler</strong>.</td>
</tr>
<tr>
<td>Scheduler file not found. The system may be corrupt.</td>
<td>Restart the LifeSize Bridge Utility.</td>
</tr>
</tbody>
</table>
Presentations

Users can share data during a call through a secondary H.239 media channel, typically from a laptop or personal computer that is connected to the appropriate input on the LifeSize system.

By default, presentation codecs are automatically selected. You can customize the codecs and the order in which they are attempted in a conference with the bridge, from either Create New Conference or Event Information. Click Show Details, and select Custom for Presentation Codecs. Then choose the codecs to add to the custom list, and drag them to the desired order.

The Call Manager indicates the status of a presentation in progress 🎨.

Managing Conferences

The Call Manager automatically updates as conferences become live or expire, and as calls connect and terminate. The first column in the Call Manager identifies whether the conference is scheduled 🗓️ or on demand ⏰️. Click ▼ next to the conference to view additional details about the conference:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>📞</td>
<td>Identifies the participant as an voice call.</td>
</tr>
<tr>
<td>📺</td>
<td>Identifies the participant as a video call.</td>
</tr>
<tr>
<td>🔄</td>
<td>Identifies the participant as an incoming call.</td>
</tr>
<tr>
<td>🔊</td>
<td>Identifies the received audio as muted or unmuted.</td>
</tr>
</tbody>
</table>

The second column identifies the following; functions vary accordingly depending on whether you are viewing a single call or controlling all participants in the conference:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>🎤</td>
<td>Toggle the audio transmission.</td>
</tr>
<tr>
<td>📺</td>
<td>Toggle the video transmission.</td>
</tr>
<tr>
<td>🎬</td>
<td>Change the video layout. Select a layout from the dialog. Refer to “Managing Layouts” on page 13.</td>
</tr>
<tr>
<td>🛠️</td>
<td>Change the user experience settings. Refer to &quot;Creating a Conference&quot; on page 7.</td>
</tr>
<tr>
<td>✗️</td>
<td>Terminate the call or conference.</td>
</tr>
</tbody>
</table>
Click ‹ next to a single call to display the audio, video, and presentation statistics for the call, including both transmit and receive data:

- resolution
- codec
- bandwidth
- frame rate
- maximum jitter
- average jitter
- packet loss

You can increase or decrease the value in the Refresh Interval box and click Refresh to update the number of seconds to refresh the values.

The remaining columns in the Call Manager provide detailed information about the conference:

- name and ID of the conference
- conference state (registration status with the protocol)
- number of allocated ports
- number of participants
- start and end time of the conference (scheduled conferences only)
- protocol (the registration status for the conference with the respective gateway or registrar).

Individual calls display the following:

- call state (for example, dialing, connecting, busy, unreachable, etc.)
- system name, IP address, and number
- encoder and decoder
- protocol used
- vendor information for the system (and software version number)
Modifying Conferences
You can configure most conference attributes, including:

- conference name and description
- password
- ports
- start and end dates
- language
- protocol
- gateway registration
- resolution
- security
- video, audio, and presentation codecs
- presentations

Conference IDs must be unique; if you modify an ID to a value that is already in use, the system chooses a similar alternate. You cannot modify conference IDs of live conferences.

To set minimum and maximum limitations for conference IDs, access Preferences: Scheduler and choose the number of digits, and the minimum and maximum values to allow.

To edit or remove an on demand conference, highlight the conference name you wish to modify or delete, and double-click, right-click, or click 🆕. Active conferences have limited editing capabilities to ensure uninterrupted connectivity.

Specify when to remove expired conferences from the Scheduler in Preferences: Scheduler. The default is 3 months.

Modifying recurring conferences changes all instances in the series.

Multiple instances of LifeSize Bridge Utility can manage the same schedule. If you add, modify, or delete a conference, the change automatically appears in a second instance of the utility.
Managing Layouts

The following illustrations show the number and order of layouts available for each possible call scenario. Layout rotation is determined by the maximum number of video participants allocated for the conference.

Participants appear in the order in which they join the conference. When new participants join the conference after all available spaces in the current layout are filled, the layout changes to the next best fit layout. The layout also changes to the best fit as participants exit the conference, unless manually changed by the user.

With only one participant in a conference, the full screen view becomes the first layout in the rotation.

If 1-2 maximum participants are allocated for the conference, the following layouts are available:
If three maximum participants are allocated for the conference, the following layouts are available:
If four maximum participants are allocated for the conference, the following layouts are available:
If 5 to 7 maximum participants are allocated for the conference, the following layouts are available:
If 8-16 maximum participants are allocated for the conference, the following layouts are available:

If only one participant is connected, the setting for **Self View** is ignored until a second caller joins the conference. **Self View** is disabled by default.
**Changing Layouts for an Individual Call**

1. From the Call Manager, select the call whose layout you wish to change.
2. Click .
   
The available layouts appear for that call. The current layout appears highlighted in green.
3. Choose the desired layout.
4. Click Close.

**Promote Participant**

You can choose to move a particular participant into the prominent window and disable speaker ordering for the duration of the call. The Promote Participant button is only available if Speaker Order is disabled (either manually by all callers in the conference, or automatically as part of the conference setup).

1. From the Call Manager, select the conference whose layout you wish to change.
2. Click .
   
The available layouts appear for that conference.
3. Choose the desired layout.
4. Click Disable Speaker Order, which disables speaker order for everyone in the conference.
5. Select Promote Participant.
6. Choose the participant you wish to move into the prominent window from the list.
7. Click Close.
Configuring Preferences

Changes to preferences that may cause a call to disconnect or the system to reboot will display a notification. These preferences appear grayed out if calls are in progress. Changes to these preferences must occur when the system is idle. Schedule a maintenance window to make these changes by creating a conference that uses all ports and has a password that is not shared.

Configuring the System Date and Time

The system date and time are automatically set if one of the following conditions exists:

- The DHCP preference is set to Enabled, and the DHCP server can pass an NTP server address to your system.
- You specify the hostname or IP address of an NTP server in NTP Server Hostname.

*Note:* The value you specify in the NTP Server Hostname preference is used in addition to any NTP server address that a DHCP server passes to your system.

View or configure the date and time of the system as follows:

<table>
<thead>
<tr>
<th>Current System Time</th>
<th>Shows the current system time, relative to the system's configured time zone.</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Time</td>
<td>Allows you to configure the current time on your system relative to the system's configured time zone.</td>
</tr>
<tr>
<td>Time Zone</td>
<td>Allows you to configure the time zone of your system.</td>
</tr>
<tr>
<td>Current NTP Server</td>
<td>Shows the currently configured NTP server. Can be set manually or specified by DHCP.</td>
</tr>
<tr>
<td>NTP Server Hostname</td>
<td>Allows you to configure the NTP server of your system.</td>
</tr>
</tbody>
</table>
# Configuring Your Network

To configure preferences that affect how your system functions with other servers and devices on your local network, modify the **Network** preferences.

<table>
<thead>
<tr>
<th><strong>Controlling Ethernet ports</strong></th>
<th>Enable or disable each of the four Ethernet ports. Disable the ports that you are not using. Selecting the checkbox displays the status, current IP address and subnet mask for the port. In this release, you can only fully configure one port at a time.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Specifying DHCP or a locally configured IP address</strong></td>
<td>DHCP dynamically allocates and assigns IP addresses. Enable DHCP (if a DHCP server is present) by selecting the <strong>Use DHCP</strong> checkbox. If you disable DHCP, you must enter the locally configured IP address and subnet mask (used to partition the IP address into a network and host identifier).</td>
</tr>
</tbody>
</table>
| **Specifying network speed** | If you do not select the **Auto negotiate speed and duplex settings** checkbox, ensure that the values match the speed and duplex configured on your network switch. Lifesize recommends that you set **Auto negotiate speed and duplex settings** unless your network specifically requires a fixed speed or duplex setting.  
**Note:** If your Ethernet switch is configured for half duplex, you may experience poor quality video when placing calls greater than 512 kb/s. To work around this issue, change your Ethernet switch configuration to a setting other than half duplex when selecting **Auto negotiate speed and duplex settings**. |
| **Specifying a Virtual Local Area Network (VLAN) ID** | If you have static VLANs configured, you can configure your LifeSize system to apply a VLAN tag to outgoing packets and only accept incoming tagged packets that have the same VLAN identifier. Specify the VLAN identifier of the VLAN to which the system is assigned. The value is a number in the range 1 through 4094. |
| **Default Gateway** | Specify the default gateway. |
| **Specifying the hostname and domain name service (DNS) servers** | Enter the hostname of the system and the IP addresses to configure DNS servers. Enter the domain names to search when resolving hostnames. DNS translates names of network nodes into addresses; specify this preference to use DNS to resolve the hostnames to IP addresses.  
**Note:** A system cannot detect a change to its IP address if the change is due to a change in networks from a wiring closet or through software, such as a change to a router configuration. |
Configuring Your Firewall

If your LifeSize system communicates with other systems through a firewall, you must configure your firewall to allow incoming and outgoing traffic to the system through the following ports:

- TCP port 1720 (for H.323 call setup)
- UDP port 5060 (for SIP call setup)
- TCP port 5060 (for SIP call setup if TCP signaling is enabled for SIP calls)
- TCP port 5061 (for TLS signaling in SIP calls if TLS signaling is enabled)
- Reserved TCP and UDP ports

---

## Restricting reserved ports

By default, LifeSize systems communicate through TCP and UDP ports in the range 60000 - 64999. To minimize the number of UDP and TCP ports that are available for communication, you can restrict the range. LifeSize recommends that the range you choose, if other than a subset of the default range, begins with a port number greater than 10000. A minimum of 128 ports must be open regardless of the call type or number of participants.

## Configuring Quality of Service (QoS)

Set these preferences according to the settings in your network. You can specify DiffServ (differentiated services) or IntServ (integrated services) values for audio, video, and data packets. You can also set the IntServ Type of Service (ToS) preference. By default, **Network QoS** and **IntServ ToS** are set to **None**. The range for DiffServ values is 0 - 63. The range for IntServ values is 0-7.

## Adjusting the maximum transmission unit (MTU) of video packets

Video packets that exceed the MTU size for any router or segment along the network path may be fragmented or dropped, resulting in poor quality video at the receiving device. You can set the MTU of video packets that your LifeSize system sends. The default value is 1440 bytes. The allowed range is 900 -1500 bytes.
Controlling Remote Administration

By default, remote access to a LifeSize system through the web (HTTP) or SSH is enabled. To enable or disable remote access through these mechanisms, configure the preferences under Preferences : Security.

Note: Disabling HTTP immediately disconnects you from the system and you are no longer able to manage the system from the web. If you select Disabled for this preference, you are prompted to confirm the change. You can re-enable HTTP from the console using the `set http enabled` command. Refer to the LifeSize Bridge Installation Guide for more information about running commands from the console.

Configuring Protocols

You can also identify the status of H.323 and SIP services, network interface status, and system health at a glance from the system information at the top of the utility. Clicking any of these icons displays the preferences for these items which you can then modify.

Conference registration status is indicated in the Call Manager under State to indicate whether the conference is registered, registering, unregistered, or unreachable with the communication protocol.

Configuring H.323

By default, LifeSize Bridge supports the H.323 protocol for placing and receiving video and voice calls. To disable support for H.323 calls, clear the Enable H.323 checkbox in Preferences : H.323 : General.

Note: If both H.323 and SIP preferences are set to Disabled, a warning message appears and indicates that calls cannot be placed or received.

When H.323 is enabled, you can specify an H.323 name or extension to use when placing a call. The H.323 name and extension identify the device to the gatekeeper. Any registered device can dial another using this name and extension. The H.323 Name preference is an optional value that is used when a gatekeeper is configured and requires the system to register with an H.323 ID. If the gatekeeper administrator assigns an H.323 ID for the system, enter that ID for the H.323 Name preference. The H.323 Extension preference is an optional value that is used when a gatekeeper is configured and requires the system to register with an E164 number or extension. If the gatekeeper administrator assigns an E164 number or extension for the system, enter that number for the H.323 Extension preference.

Set the Gatekeeper ID only if the gatekeeper requires it (for example, configurations with multiple gatekeepers). Do not configure this preference if the gatekeeper does not require it, as this may result in failure to register with the gatekeeper. The Gatekeeper ID must match the gatekeeper ID configured for the gatekeeper to which the system is registering.
Set the **Gatekeeper Mode** preference to *Auto* if you wish to have the system automatically discover a gatekeeper. You can also set the **Gatekeeper Mode** preference to *Manual* to manually choose a gatekeeper. If set to *Manual*, specify the IP address and port for the primary gatekeeper.

When you click **Save**, icons appear in the status bar to indicate the status of the registration process. The yellow icon appears when your system is attempting to register. If the registration fails, the red icon appears.

**Configuring SIP**

By default, support for Session Initiation Protocol (SIP) is enabled. To configure SIP as the protocol to use for placing calls, select the **Enable SIP** checkbox and configure the SIP preferences.

In **Preferences : SIP : Identification**, enter the username, SIP server authorization name, and password for the device, if required. The authorization name and password are the values the LifeSize system uses for authentication; these values are only required if the registrar or proxy require authentication.

You can enable the SIP registrar or a proxy and configure proxy settings. SIP devices use register settings to dynamically register their current location.

When you click **Save**, icons appear in the status bar to indicate the status of the registration process with the SIP server. The yellow SIP icon appears when your system is trying to register with the SIP server. If the registration fails, the red SIP icon appears. If the registration fails, click the **Register** button to retry.

**Ports**

You can change the SIP UDP signaling port. You can also enable TCP signaling and change the TCP signaling port. You can enable Transport Layer Security (TLS) signaling and change the TLS signaling port only if the SIP Registrar preference is set to *Enabled*. TCP signaling and TLS signaling are mutually exclusive. Enabling one automatically disables the other. Choosing *Disabled* for the **SIP Registrar** preference automatically disables TLS signaling. If neither TCP nor TLS signaling is enabled, only UDP signaling is enabled.

**Note:** The system reboots if you change the UDP signaling port, enable or disable TCP or TLS signaling, or change the TCP or TLS signaling ports.

If you enable TLS signaling, the system attempts to use Secure Real-time Transport Protocol (SRTP) for media encryption in SIP calls. If the far side supports SRTP, the media is encrypted.
Diagnostic Tools

Diagnostic preferences and tools are available to generate call records and system logs.

Call Records

**Diagnostics : Call Records** displays the call history of the system, including the system name and IP address, conference ID, start time and duration, call direction, protocol, dialed and actual bandwidths, and the reason for disconnection. Possible reasons for disconnection are as follows:

<table>
<thead>
<tr>
<th>Reason</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal disconnect</td>
<td>The call was terminated correctly.</td>
</tr>
<tr>
<td>User busy</td>
<td>The caller was unreachable.</td>
</tr>
<tr>
<td>Unreachable destination</td>
<td>The call could not connect to the other party.</td>
</tr>
<tr>
<td>Destination rejection</td>
<td>The call was rejected and could not connect.</td>
</tr>
<tr>
<td>Call deflection</td>
<td>The call request was redirected.</td>
</tr>
<tr>
<td>In conference</td>
<td>Another call was already in progress.</td>
</tr>
<tr>
<td>No bandwidth</td>
<td>The bandwidth necessary for the call is unavailable.</td>
</tr>
<tr>
<td>Security denied</td>
<td>Incompatible security support</td>
</tr>
<tr>
<td>TCS rejected</td>
<td>Terminal Capability Set (TCS) failed.</td>
</tr>
<tr>
<td>Local failure</td>
<td>Call disconnected due to a subsystem failure.</td>
</tr>
<tr>
<td>Unreachable GK</td>
<td>The system could not register with the gatekeeper; gatekeeper was unavailable or the gatekeeper IP address was invalid.</td>
</tr>
<tr>
<td>No GK resource</td>
<td>The gatekeeper is unavailable.</td>
</tr>
<tr>
<td>No GW resource</td>
<td>The system could not register with the gateway.</td>
</tr>
<tr>
<td>Invalid address</td>
<td>The IP address was invalid.</td>
</tr>
<tr>
<td>Called party not registered</td>
<td>The called participant is unregistered and unreachable.</td>
</tr>
</tbody>
</table>
You can export this data to an XML file by clicking **Save Records**. Click **Refresh** to reload the current call records.

Select the **Show TX/RX Details** checkbox to also display the transmit and receive data for audio and video codecs.

Select the maximum number of call records to store in **Preferences : Diagnostics**.

### System Health

From **Diagnostics : System Health** you can determine whether the system has experienced critical errors, the status of the system, temperature, and fans.

The current running temperature appears and is color coded accordingly: green indicates normal operating temperature, yellow indicates warning, and red indicates that the system has overheated or shut down due to overheating.

Fan status indicates the cooling of each of the four fans. Green indicates normal status, red indicates stalled or failure. These values are read only; you cannot adjust fan speed.

### System Information

**Diagnostics : System Information** displays details about your system including serial numbers and versions.

You can export this data to a text, HTML, or XML file by clicking the corresponding button for the format you desire.
System Logs

From **Diagnostics : System Logs** you can filter the current log and save the current view to your computer. Logs are color coded by level:

<table>
<thead>
<tr>
<th>Log Level</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbose</td>
<td>White</td>
</tr>
<tr>
<td>Debug</td>
<td>Blue</td>
</tr>
<tr>
<td>Info</td>
<td>Green</td>
</tr>
<tr>
<td>Warning</td>
<td>Yellow</td>
</tr>
<tr>
<td>Error</td>
<td>Orange</td>
</tr>
<tr>
<td>Failure, Critical, Alert, Panic</td>
<td>Red</td>
</tr>
</tbody>
</table>

Select the checkboxes on the left to choose which subsystem data to view or export. Select the levels at the top to choose which level of the logs to display.

From **Preferences : Diagnostics**, enter the hostname or IP address of your system log server. Then choose the log level for each of the subsystems.

**Note:** Choosing verbose or debug may adversely affect the performance of the system.

System Reboot

The system reboots when you do any of the following:

- Manually reboot the system (**Diagnostics : System Reboot**).
- Reset the system to its default state (**Maintenance : System Reset**).
- Revert the system to the previous state (**Maintenance : System Revert**).
- Restore the system to a saved state (**Maintenance : System Restore**).
- Change the **VLAN ID** preference (**Preferences : Network : VLAN ID**).
- Change TCP reserved ports (**Preferences : Network : Reserved Ports**).
- Change the UDP signaling port, enable or disable TCP or TLS signaling, or change the TCP or TLS signaling ports.
- Upgrade the system software (**Maintenance : System Upgrade**).
- Changes to IP address.
• Change protocol and network preferences; these are disabled if calls are in progress. Schedule a maintenance window to make these changes by creating a conference that uses all ports and has a password that is not shared.

You may need to reboot a system that fails to connect calls. To reboot the system, click in **Diagnostics : System Reboot**.

If calls are in progress, you are prompted to continue or cancel. Press **Continue** to disconnect the calls and complete the reboot.

**Note:** If the user interface is not responding and you are unable to reboot the system, press the reset button on the front of the system. LifeSize recommends you do not unplug power from the system to reboot it.

### Maintaining Your System

System upgrade, managing license key, and system reset functions are available from the **Maintenance** page.

You can schedule a maintenance window in which to manage the system, and change preferences that may require a system reboot. Some preferences will appear grayed out if calls are in progress. Schedule a conference using all ports to perform maintenance.

#### Saving a System configuration

1. Navigate to **Maintenance : System Reset**.
2. Click
3. Choose a location to save the configuration file and then click **Save**.
   
   **Note:** Scheduler data is not saved in this process.

#### Restoring a System Configuration

1. Ensure that a current saved configuration file exists before performing a restore.
   
   **Note:** Configuration preferences and options vary across software releases. Restoring a system configuration using a file saved from a different software release may produce unexpected results. Only restore a configuration that was saved from the same software release.

2. Hang up all calls connected to the system. If calls are connected when you perform a restore, a dialog box prompts you to continue or cancel the restore. If you continue, the system restore process terminates the calls.
3. Navigate to **Maintenance : System Reset**.
4. Click .

   **Note:** You must have a current system configuration saved prior to executing the system restore function or you will be unable to return to the previous state.

5. Click **Continue** and choose the file to which to restore the system.

   The system reboots and a dialog box indicates that the restore succeeded.

**Resetting the System**

1. Navigate to **Maintenance : System Reset**.

2. Click .

3. Enter the reason for the reset and click **Yes** to confirm setting the system to its default state.

   The system automatically reboots.

**Reverting the System to an Alternate Image**

1. Navigate to **Maintenance : System Reset**.

2. Click .

3. Enter the reason for reverting the system.

4. If you wish to also reset the system to default values, select the checkbox for **Reset to defaults?**

5. Click **Yes**.

   The system automatically reboots.

**Updating License Keys**

Software upgrades require a current license key to be installed on the system. An upgrade fails if a current license key does not exist. A current license key for upgrades is available when a maintenance agreement for the system is in effect. The license key table in **Maintenance : License Keys** lists the expiration date of the license key.

During a software upgrade, if no license key is installed on a system or the installed key has expired, the system attempts to contact the LifeSize license key server to check the license key status. You can check for updates to license keys in the LifeSize Bridge Utility if your system has HTTP access through port 80 to the LifeSize license key server. If your system does not have this access, refer to “Installing a License Key Manually” on page 29.
Checking for License Key Updates in the Utility


2. Click Update.
   
   If the update is successful, Success appears and the current license key and its expiration date appear.

   If the update fails, one of the following messages appears indicating the cause of the failure:
   - License key format invalid.
   - License expired.
   - Internal system error.
   - Verification failed.
   - Validation failed.
   - No serial number found for this system.
   - No licenses found for this system.
   - License key server busy. Try again.

   Ensure a current maintenance agreement for the system is in effect and ensure you have entered the key correctly.

Installing a License Key Manually

You can install a key manually from the LifeSize Bridge Utility as follows:

1. Click the Download Software button on lifesize.com/support.

2. Enter the serial number of your LifeSize Bridge and click Submit.

3. Copy the license key from the software download page.

4. Open a separate web browser window and access the LifeSize Bridge Utility.


6. Click and paste the license key that you copied in step 3.

7. Click Add.
Upgrading your System Software

Before you upgrade your system software, ensure that the system meets the following prerequisites:

- A current license key for upgrading exists on the system. The expiration date for the upgrade license appears in **Maintenance : License Keys**. To update a license key, refer to "Updating License Keys" on page 28.

  **Note:** An upgrade fails if a current license key does not exist on the system. If a current license key does not exist, contact your authorized LifeSize Partner to renew your maintenance agreement. The renewal process may require 24 to 48 hours to complete.

- Terminate all calls prior to upgrading. Create a maintenance window by scheduling a conference that uses all ports and has a password that is not shared.

To upgrade the software for your system, follow these steps:


2. Click **Download Software**.

3. Enter your serial number (located on the bottom or back of your system and in **Diagnostics : System Information**).

4. Click the link for the software version you wish to download.

5. Download it to a local directory on your system.

6. Access the LifeSize Bridge Utility.

7. Click **Maintenance : System Upgrade**.


   The system automatically validates the file. If you want to re-validate the same file, or if you manually enter a path to a file, you must click **Validate** for the verification to occur.

   If calls are connected to the system, a message appears prompting you to terminate all calls and create a maintenance window prior to upgrading. To create a maintenance window, create a conference (approximately 30 minutes) that uses all ports and has a password that is not shared.

9. If the validation succeeds and your upgrade requires you to reset the system to the original default settings, select **Reset to Default State**. 
10. Click **Upgrade Now**.

The upgrade may take several minutes; do not disrupt the upgrade process. During an upgrade, a status screen appears. Keep the utility window open to monitor the upgrade process. If you close the window before the file upload completes, the upload is cancelled. If you close the window after the file upload completes, the upgrade process continues, but you are no longer able to monitor the upgrade process.

A system upgrade status message appears when the upgrade is complete and the system automatically reboots.

If the software you are attempting to install is an older version than what is currently installed, the button appears as **Downgrade Now**.

11. Your system is ready to use. If you selected the **Reset to Default State** checkbox in step 9, you must first reconfigure your system.

**Troubleshooting Upgrade Failures**

If attempts to upgrade software fail, follow these steps:

1. Ensure you have a valid upgrade image.
2. Reboot the system.
3. Attempt the upgrade again.
4. If a second attempt fails, note the error code returned.
5. If problems persist, contact LifeSize Technical Services or your LifeSize Partner.
## Upgrade Error Codes

Following are the error codes you may receive when an upgrade fails.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrade script failed</td>
<td>After the image has been successfully uploaded, the system runs an upgrade script for final processing. This error indicates a failure in that script.</td>
</tr>
<tr>
<td>Unknown error</td>
<td>The upgrade failed for undetermined reasons.</td>
</tr>
<tr>
<td>Upgrade in progress</td>
<td>An upgrade is already in progress. The system only supports one upgrade at a time.</td>
</tr>
<tr>
<td>Bad upgrade file format</td>
<td>The upgrade image is corrupt and unusable. This typically occurs due to a bad image or errors during upload to the device.</td>
</tr>
<tr>
<td>Invalid signature</td>
<td>The encryption signature is invalid. This typically occurs if the image is corrupt or compromised.</td>
</tr>
<tr>
<td>Missing required file</td>
<td>The system was unable to run the upgrade script. This typically occurs due to a bad image or errors during upload to the device.</td>
</tr>
<tr>
<td>Upgrade license expired</td>
<td>A current license key for upgrading the system software does not exist on the device. Contact your authorized LifeSize Partner to renew your maintenance agreement.</td>
</tr>
<tr>
<td>The system is busy</td>
<td>Resources were unavailable to perform the upgrade.</td>
</tr>
<tr>
<td>Must reset to defaults to install this upgrade</td>
<td>The upgrade requires a reset. Select the <strong>Reset to Default Values</strong> checkbox before proceeding with the upgrade.</td>
</tr>
</tbody>
</table>