Shooter Detection Systems™

SA CLIENT INSTALL AND CONFIG

SDS INDOOR GUNSHOT DETECTION SYSTEM

Version R5.7.1 Dated 1/29/2024

300 NEWBURYPORT TURNPIKE | ROWLEY, MA 01969 | 1-844-SHOT911

Change /Rev	Date	Description of Change	Author	Pages Affected
5.7.1	15 Oct 23	Updated per version 5.6.1 of SA application	SSHJ	All
3.0	27-Oct-18	Update for R3.0 modifications. SQL, Multi-Server, Configurable Connection Passwords.	RaF	All
2.1.3	18-Jul-17	Updated for V2.1.1/2/3 modifications. Shot History List, SDS Tester Events.	RaF	All
2.0 – Draft 2	19-Oct-16	Updated for V2.0 Client Application	RaF	All
1.0	26Nov15	Initial Release	RTO	All

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1 Product Overview

The SDS Indoor Gunshot Detection System features the world's finest acoustic and IR gunshot detection software. The System includes a number of SDS sensors to provide full coverage of the space to be protected. Via a standard Local-Area-Network (LAN), the SDS sensors are connected to an SDS Gateway, which supplies the software applications needed to monitor and maintain the system and provide gunshot alert information to the customer. A representative SDS Indoor Gunshot Detection System is shown in Figure 1.

The **Situational Awareness (SA) Tool** consists of two SW components: the SA-Server which is installed on a computer (referred to as the SDS Gateway) and the SA-Client which can be installed on multiple computers. The SA-Client, when installed on the same machine as the SA-Server provides Administrator access (Read/Write) for the system configuration. When installed on other computers it typically provides User access (Read-only) for first responders, security and police dispatch and other critical individuals. If "Remote Admin" is enabled on the system then this client can login and access Administrator features from this remote client.

The SA-Client application can be installed and run on Win-7/10 laptops or computers to display real-time Active Shooter information during an event (critical for 1st responders) as well as to provide system administrators a monitoring capability for the health and status of the system and sensors.

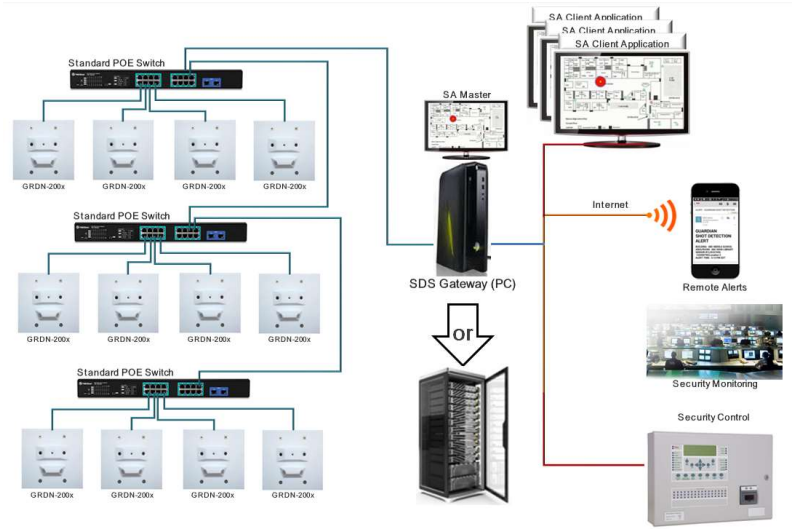


Figure 1 – SDS Indoor Gunshot Detection System Diagram

2 Installing the SA Client

If the SA Client is to be installed on a machine other than an SDS Gateway PC, load the installation file onto the machine's Desktop. The installation file is named Installer_GuardianSAClient_xxx.exe where xxx is the current version.

2.1 Welcome Screen

As the installation file is double clicked to launch the install application, the following welcome screen displays application name, version number and other information.

Figure 2 – SA Welcome Screen

Click on "Next >" button to continue with the installation process.

2.2 End User License Agreement

Progressing with installation of SA Server requires accepting End User License Agreement presented in License Agreement screen.

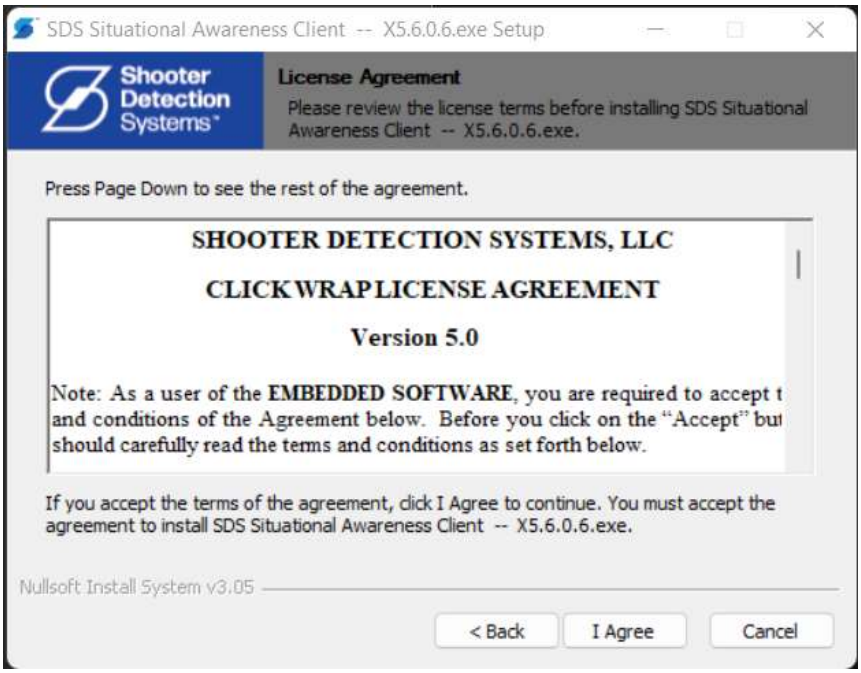


Figure 3 – SA License Agreement

Please click on the "I Agree" button to continue with the installation.

Appendix I is a copy of the EULA, Version 5.0.

3 SA-Client Setup

To setup the SA-Client (one time requirement) launch the application and you will be presented a dialogue to configure the connection information to the SA-Server.

1. Enter the SA-Server IP information either as a numeric IP Address (e.g. 192.168.1.5) or as a DNS name (e.g. SDSDetectionSystemsGateway).

2. Select the Security level / IP Port information for the connection. Defaults are:
    a. TLS (encrypted) – Port 31006 (Recommended)
    b. Password: Matched to Server default.

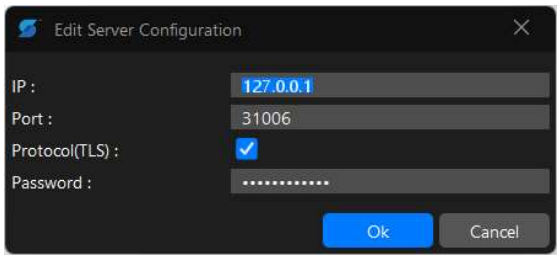


Figure 4 – SA Server Connection Configuration

The SA-Server can be configured to use other ports and passwords. If any of this information has been customized for your installation then you will need to enter the correct information in the dialog.

Once the connection information is correct, click OK and the client will connect with the server and you will see the screen below.

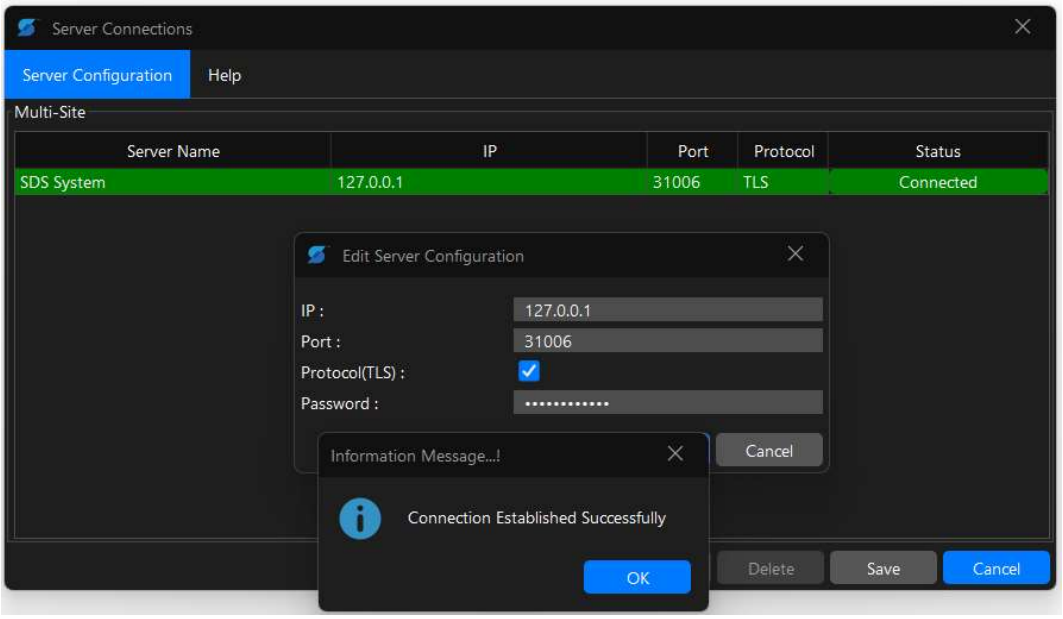


Figure 5 – Server Connection Successful

4 SA Client Appearance Settings

There are several features that can be configured regarding the local SA Client display and operation including whether sensors are shown with a name, the timing of the Shot icons during an event, the timing of the Tester Event icons and the amount of time to wait before informing the user that the Client has lost its connection to the SA Server. The settings are reached by **"File" → "Settings"**. The figure below shows the appearance settings available.

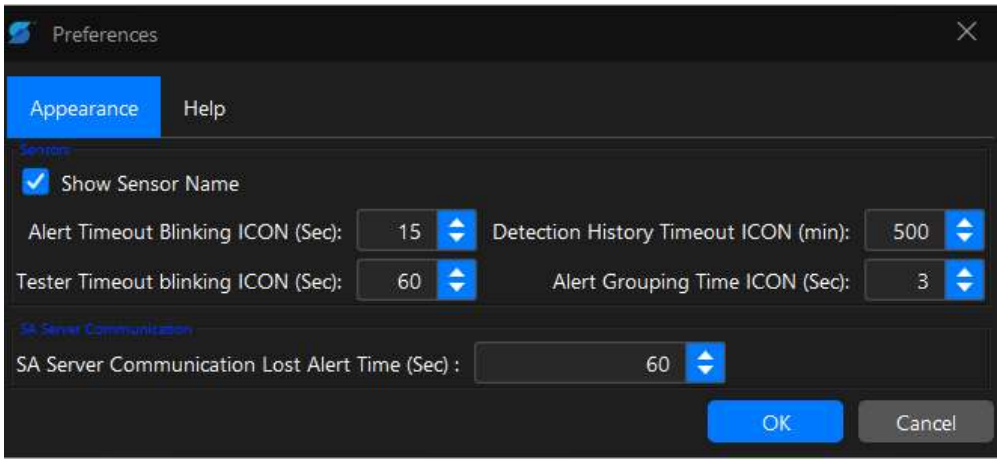


Figure 6 – SA Client Appearance Settings Dialog

4.1 Show / Hide Sensor Name on the Floorplan

Each sensor can be shown with a name under it on the floorplan (or shown with no name).

Enable "**Show Sensor Name"** to show the sensor name below the icon or Disable to show just the icon**;** Choose "**OK"** when done.

4.2 Shot Icon Timing Controls

At the time a shot is detected on a sensor it is shown as a "blinking" icon. This period of time is referred to as the "Alert" period. After the Alert period the icon is shown as an enlarged icon with a color denoting its age/sequence and this period of time is referred to as the "Shot History" period.

- Alert Period Timeout: Suggest using a period of ~10 seconds so that the icon stands out for a period of time long enough to draw your attention but not too long as to be confused with future shots.
- Shot History Timeout: Suggest using a long period of time (500 minutes → 8+ hours) so that the icon remains visible to show the shooter's path through a facility while the situation is active. The Shot History can be cleared manually if the event is over or if a "clean" view is needed. *To clear all Shot* icons *… right click on the Floorplan pane and select Clear All Alerts.*
  IMPORTANT NOTE: *Once an icon ages out (Shot History Timeout) it cannot be recalled on the Client.*

4.3 Tester Event Icon Timing Controls

The SA will respond to the SDS Handheld Tester events by displaying a test result banner at the top of the screen as well as showing the tested sensor as a "blinking" icon. The period of time that the sensor continues to blink is controlled by the Tester Timeout Blinking icon setting. Typically, the default value of 30 seconds will work well with the testing process.

4.4 SA Server Communication

When a Client loses communication with the SA Server (network or software issue) the user is informed via a pop-up dialog, see Section 6.2. The setting on this tab controls the length of time before the pop-up is shown. It is suggested that this be set to between 30 and 120 seconds to allow for brief network events but not allow an extended period of time to occur prior to the notification.

5 Sensor Icons

The SA-Client GUI displays (by default) a legend panel showing the icons used during an Active Shooter event ("Shot History") as well as the icons used to show the status and health information for each sensor ("Sensor Status"). The sensor icon legend panel can be hidden by closing it from the GUI ("X") or from **View→View shot history legend.** It can be re-enabled only through the **View** menu.

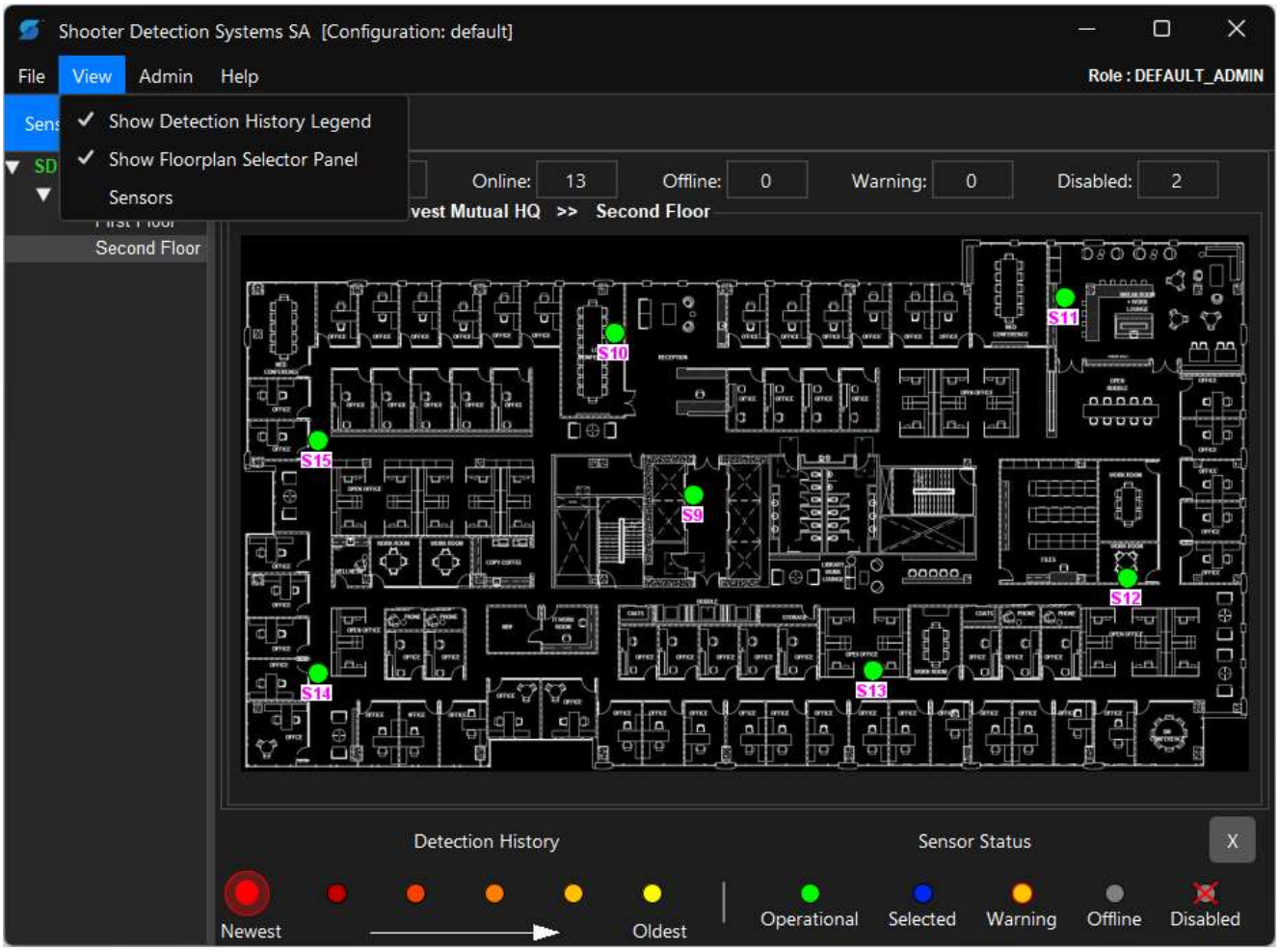


Figure 7 – Sensor Shot History & Sensor Status Panel

5.1 SDS Sensor Status Icons

Each SDS Sensor is shown on the appropriate floorplan and its status is indicated by a color and or X over the icon. The Figure above shows the "Sensor Status" icons used and each is defined below:

- **Operational (Green):** Sensor is fully operational, communicating with the SA and is reporting as fully operational.
- **Selected (Blue):** Sensor is selected for repositioning on the floor plan

- **Warning (Orange):** Sensor is communicating with the SA but is reporting some form of health or performance issue. Examples would be issues with a physical sensor or with the environment it is operating (too much acoustic or infrared energy).
- **Offline (Gray):** Sensor is not communicating with the SA due to a problem with the sensor, the network or the gateway software.
- **Disabled (Red w/ "X"):** Administrator has disabled the Sensor. This is done when (as an example) the Sensor has not yet been installed or is waiting maintenance or some other known situation.

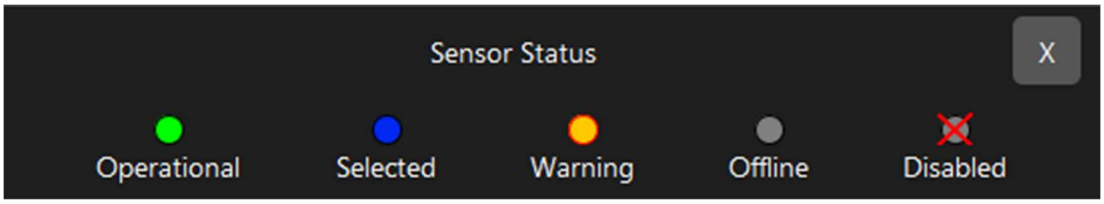


Figure 8 – Sensor Shot History & Sensor Status Panel

5.2 Shot History Icon Color Scheme

Each SDS Sensor which has reported a shot detection is shown on the appropriate floorplan and its status is indicated initially by a 'blinking' icon and then by a color denoting the shot sequence. The Figure above shows the "Shot History" icons used and the sequence is shown with the newer shots on the left (Dark Red) and the oldest on the right (Yellow).

When first detected, the shot icon will have an initial 'Alert Blinking' period as configured in Section 4.2. After that period has expired the shot will be shown as a Dark Red icon (it will be changing between two shades of red). This denotes it as the most recent shot in the shot history trail. As additional shots arrive there will be up to five colors shown with oldest shots – Yellow, and newest – Dark Red. A shot icon will remain active (colored) until the Shot History icon timeout is reached, Section 4.2.

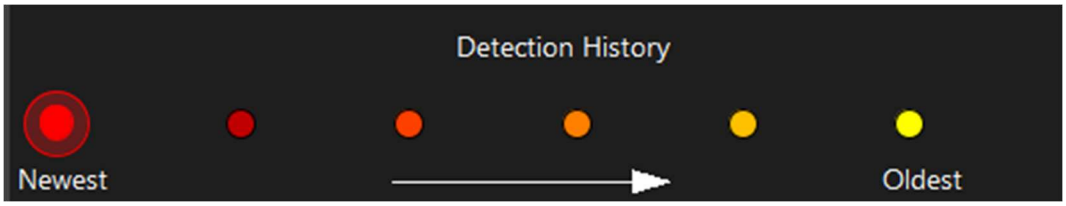


Figure 9 – Sensor Shot History & Sensor Status Panel

5.3 Shot History List

Each SDS Sensor which has reported a shot detection is shown in the Shot History List, Figure 10. The scrollable list shows the shot information including location and time. By double clicking on the Shot # the SA will respond by recalling that shot (activates proper floorplan and highlights the sensor with an icon as well as the Sensor Information Panel) as shown in Figure 11.

The Shot List includes a header which shows the total duration of the event (first to most recent shot) and provides a button to “Acknowledge Shots” and “Clear All Shots”. By Acknowledging Shots, the user makes an entry in the Event log which can be used for After Action Reports. By pressing Clear All Shots (and the challenge dialog that follows) the user **clears all** the shot history including the Shot History List and the shot icons. This would typically only be used after an event was complete.

IMPORTANT: Once shots have been cleared they cannot be displayed again. The shot history information is still stored in the Shots log file – but is not available for display on the floorplan.

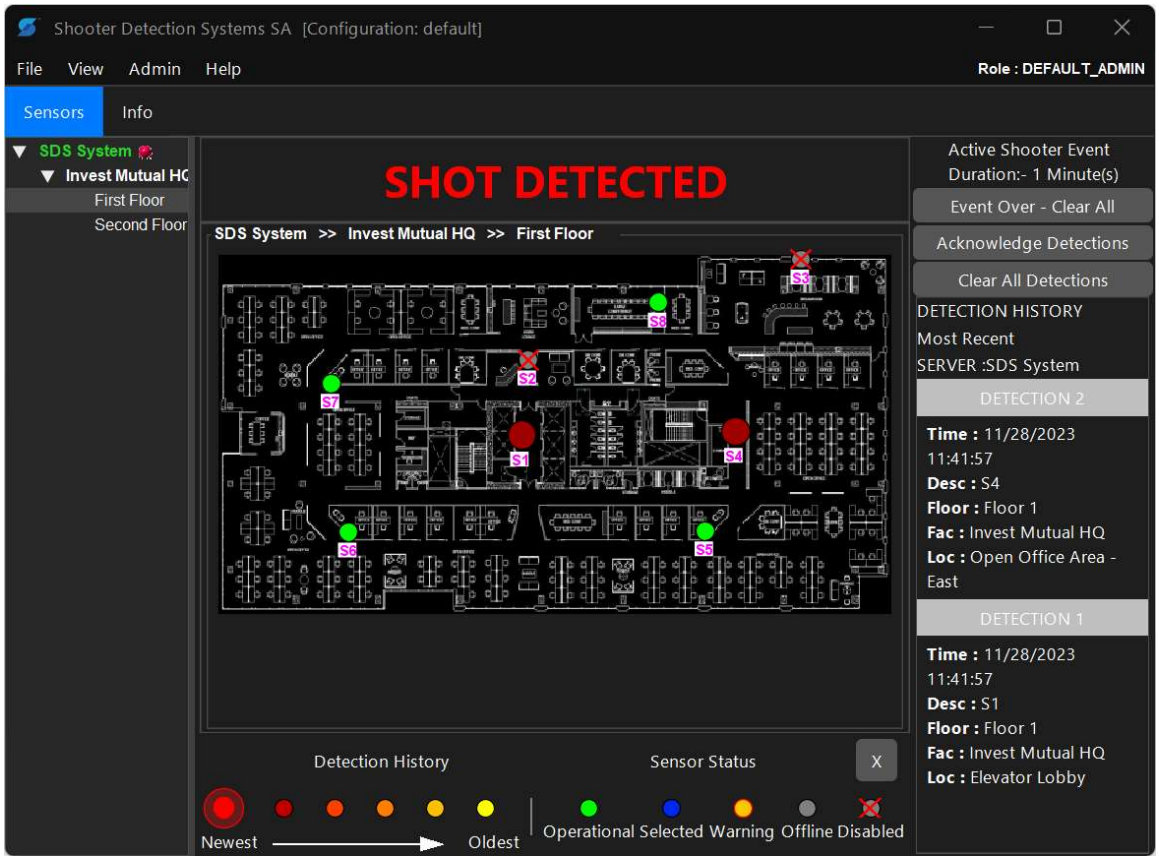


Figure 10 – Shot List

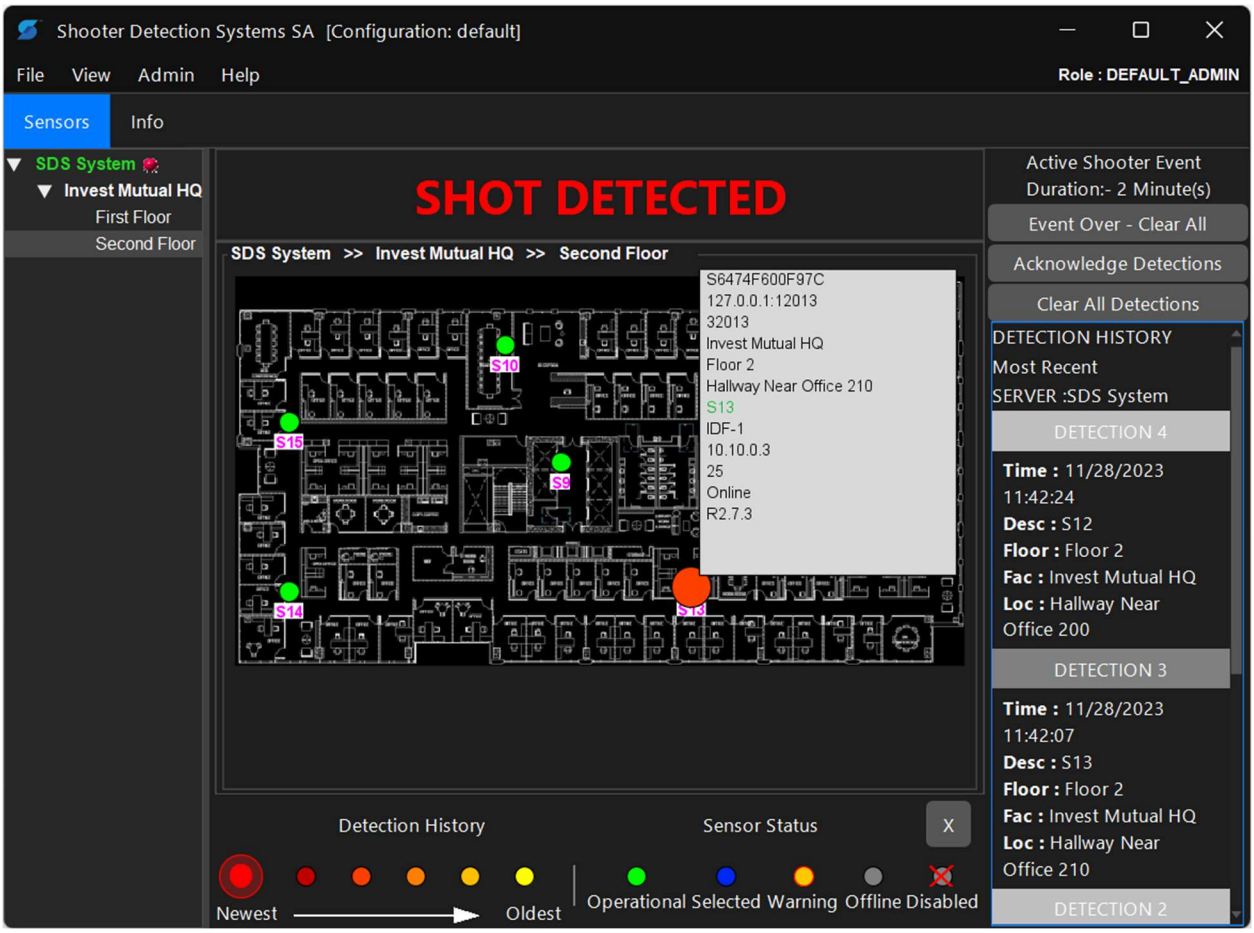


Figure 11 – Recall a Selected Shot

5.4 Clearing Shot Alerts

When the user needs to clear the Shot History (Shot Alerts) they can either use the Clear All Shots button in the Shot History Panel or by Right-Clicking on the floorplan a context menu will appear. Select **Clear all shots and alerts** to remove **all** shot history information including the Shot History List and the Shot icons. *Refer to the previous section for more details*.

5.5 SDS Tester Event Display

The SA also provides the user feedback during the maintenance testing of the Sensors when using the SDS Handheld Tester. The SDS Gateway is used to put the Sensors into Test Mode and two modes are supported. If the admin selects to have Simulated Shot Events sent then the display will show any test passes as Shots at the sensor and any test failures will be shown as described below. If the Simulated Shot Event is not enabled, all the Tester results (Pass and Fail) will be shown in the GUI as shown in the figure below.

Figure 12 – SDS Tester Event Displays

6 SDS Indoor Gunshot Detection System Connection Warnings

6.1 SDS Gateway to SA-Server Connectivity

The SA-Server receives all of the sensor information from the SDS Gateway application. If this communication is lost (network or software issue) then **every** SA-Client will display a message notifying them that the "**SDS SA Client Can Not Connect to the Gateway Server…**". Additionally, the system will send out notifications such as maintenance emails.

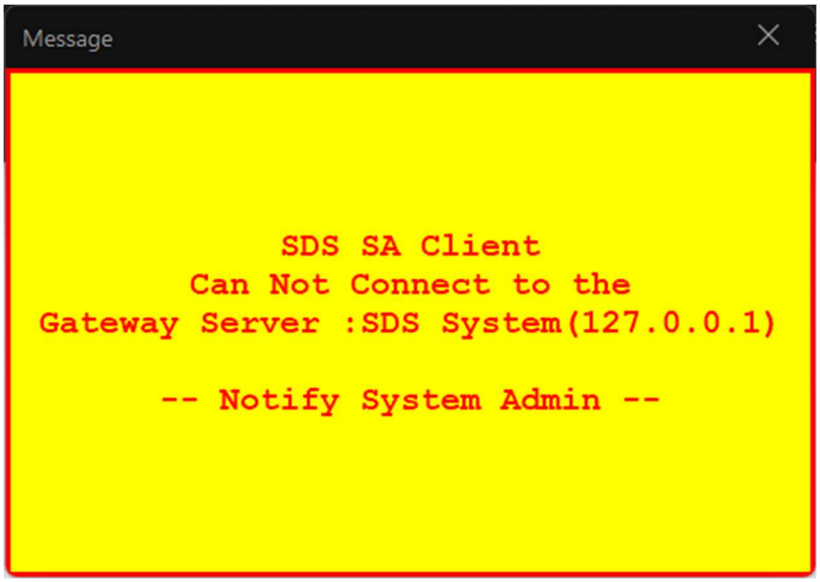


Figure 13 – SDS Gateway / SA Server Communications Lost

6.2 SA-Client to SA-Server Connectivity

The SA-Client receives all of the system information from the SA-Server. If an SA-Client loses connection with the SA-Server then the following message will be displayed notifying the user that the **"SDS SA Client Can Not Connect to the SA Server**.

Figure 14 – SA-Client to SA-Server Connection Lost

6.3 SA-Server to Database Connectivity

The SA-Server is connected to an associated database. If this communication is lost (network or software issue) then **every** SA-Client will display a message notifying them that the "**SDS SA can not connect to the database**".

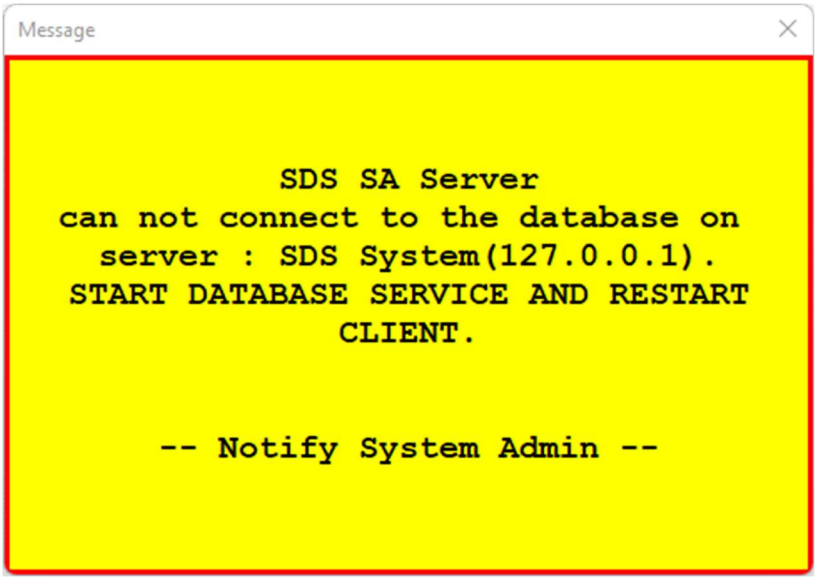


Figure 15 – SA-Server Database Connection Lost

7 Navigating Floorplans

If the facility has multiple levels there may be several floorplans within the SA. These floorplans represent a map of each level of the building where sensors are placed. The user may navigate these floorplans from the **Selector Panel** on the left side of the SA window.

7.1 Floorplan Selector Panel

The Floorplan Selector panel may be enabled by enabling the checkbox from **View → Floorplan Selector Panel.** When enabled the Server(s) and Building(s) will be shown as expandable List Entries and when expanded they will show all of the Floorplans within the building, as can be seen in Figure 16. The example below shows a Client that is connected to three different SDS Servers, Section 0. You can move around the servers / buildings / floorplans by expanding and selecting the Floorplan of interest.

NOTE: When a Shot Event (or Tester Event) occurs the corresponding sensor and floorplan will automatically be shown. In this case the associated building will be expanded in the Selector Panel.

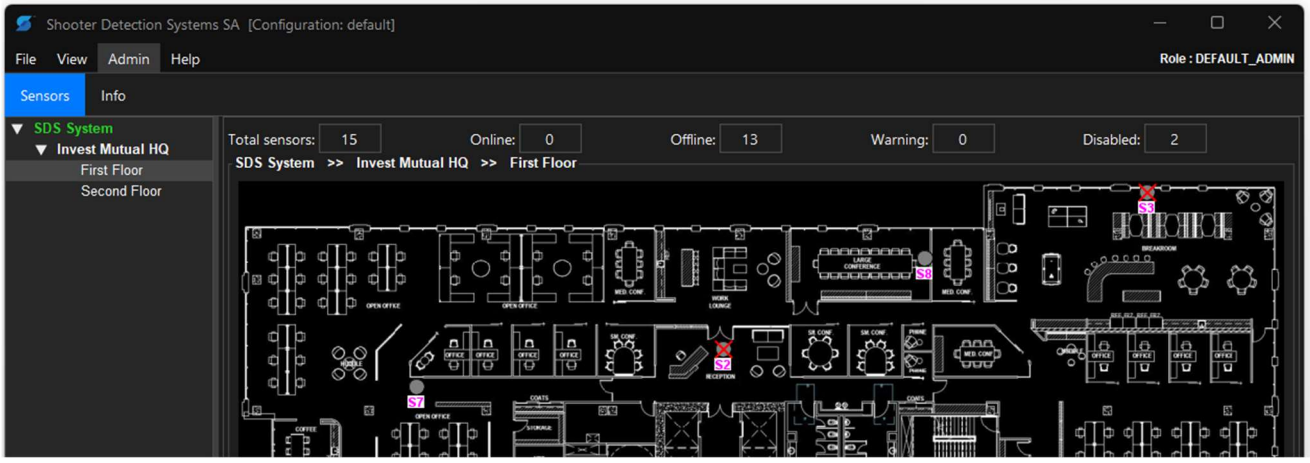
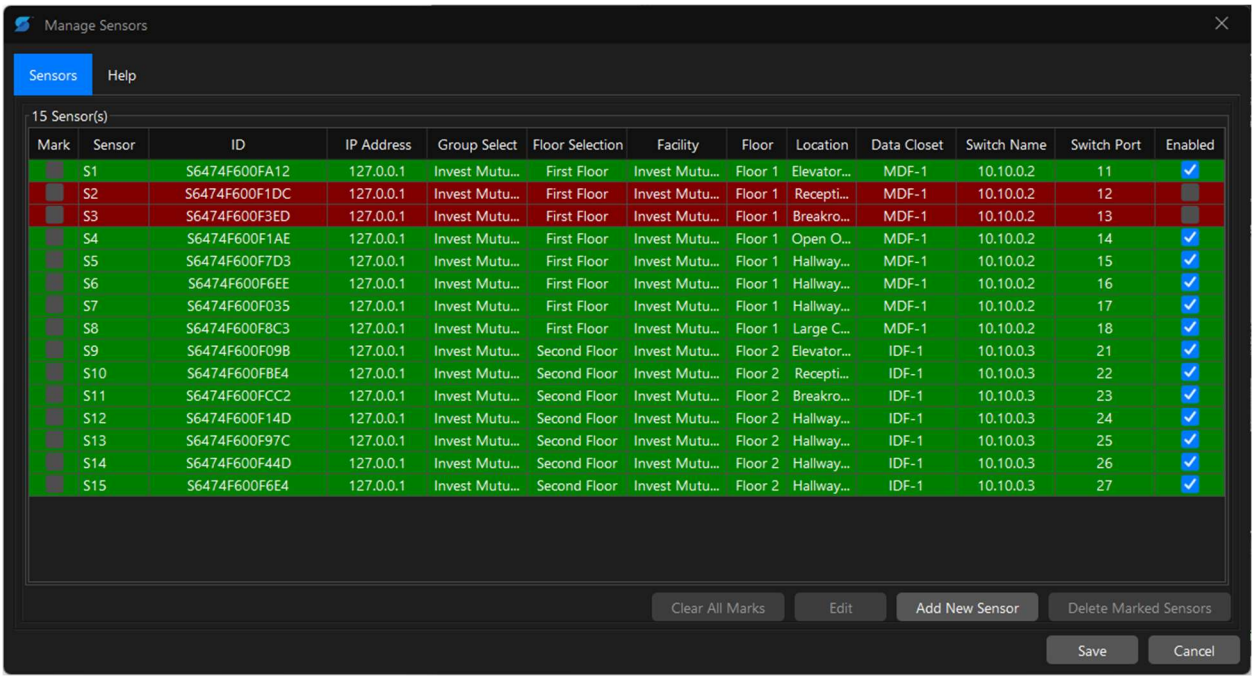


Figure 16 – Floorplan Selector Panel

8 Sensor Status and Information

The SA Client (user mode) supports the display of a Sensor information/status table. This table can be used to help identify the status of sensors (Offline, Online) as well as to review the location and network information associated with each sensor.

File → Sensor Connections:
This table view includes the Sensor ID, description and location information as shown in the figure below.



Mark	Sensor	ID	IP Address	Group Select	Floor Selection	Facility	Floor	Location	Data Closet	Switch Name	Switch Port	Enabled
	S1	S6474F600FA12	127.0.0.1	Invest Mutu...	First Floor	Invest Mutu...	Floor 1	Elevator...	MDF-1	10.10.0.2	11	☑
	S2	S6474F600F1DC	127.0.0.1	Invest Mutu...	First Floor	Invest Mutu...	Floor 1	Recepti...	MDF-1	10.10.0.2	12	☐
	S3	S6474F600F3ED	127.0.0.1	Invest Mutu...	First Floor	Invest Mutu...	Floor 1	Breakro...	MDF-1	10.10.0.2	13	☐
	S4	S6474F600F1AE	127.0.0.1	Invest Mutu...	First Floor	Invest Mutu...	Floor 1	Open O...	MDF-1	10.10.0.2	14	☑
	S5	S6474F600F7D3	127.0.0.1	Invest Mutu...	First Floor	Invest Mutu...	Floor 1	Hallway...	MDF-1	10.10.0.2	15	☑
	S6	S6474F600F6EE	127.0.0.1	Invest Mutu...	First Floor	Invest Mutu...	Floor 1	Hallway...	MDF-1	10.10.0.2	16	☑
	S7	S6474F600F035	127.0.0.1	Invest Mutu...	First Floor	Invest Mutu...	Floor 1	Hallway...	MDF-1	10.10.0.2	17	☑
	S8	S6474F600F8C3	127.0.0.1	Invest Mutu...	First Floor	Invest Mutu...	Floor 1	Large C...	MDF-1	10.10.0.2	18	☑
	S9	S6474F600F09B	127.0.0.1	Invest Mutu...	Second Floor	Invest Mutu...	Floor 2	Elevator...	IDF-1	10.10.0.3	21	☑
	S10	S6474F600FBE4	127.0.0.1	Invest Mutu...	Second Floor	Invest Mutu...	Floor 2	Recepti...	IDF-1	10.10.0.3	22	☑
	S11	S6474F600FCC2	127.0.0.1	Invest Mutu...	Second Floor	Invest Mutu...	Floor 2	Breakro...	IDF-1	10.10.0.3	23	☑
	S12	S6474F600F14D	127.0.0.1	Invest Mutu...	Second Floor	Invest Mutu...	Floor 2	Hallway...	IDF-1	10.10.0.3	24	☑
	S13	S6474F600F97C	127.0.0.1	Invest Mutu...	Second Floor	Invest Mutu...	Floor 2	Hallway...	IDF-1	10.10.0.3	25	☑
	S14	S6474F600F44D	127.0.0.1	Invest Mutu...	Second Floor	Invest Mutu...	Floor 2	Hallway...	IDF-1	10.10.0.3	26	☑
	S15	S6474F600F6E4	127.0.0.1	Invest Mutu...	Second Floor	Invest Mutu...	Floor 2	Hallway...	IDF-1	10.10.0.3	27	☑

Figure 17 – Sensor View (Table)

9 Configuring Multiple SDS Servers

Beginning with release R3.0 of the SA software the SA Client can be configured to monitor multiple SDS Servers. This enables a larger installation to have multiple Servers (Regional, Campus or other) and still be monitored from a Global Security Operations Center. Once configured, the operation of the SA Client appears seamless to the User. The only difference in appearance / operation is that the Floorplan Selector will show a 3rd level (discussed below). As an event occurs (e.g. Shot) the Client will automatically switch to the active sensor on the appropriate sensor. *This is the same behavior as the single server configuration would switch between sites and floors.*

9.1 Configuring a new SDS Server Connection

When the SA Client was first launched it was configured to connect to a single Server. If you want to add a 2nd (or more) Server then access the configuration page by **File → Server** to open the dialog shown below.

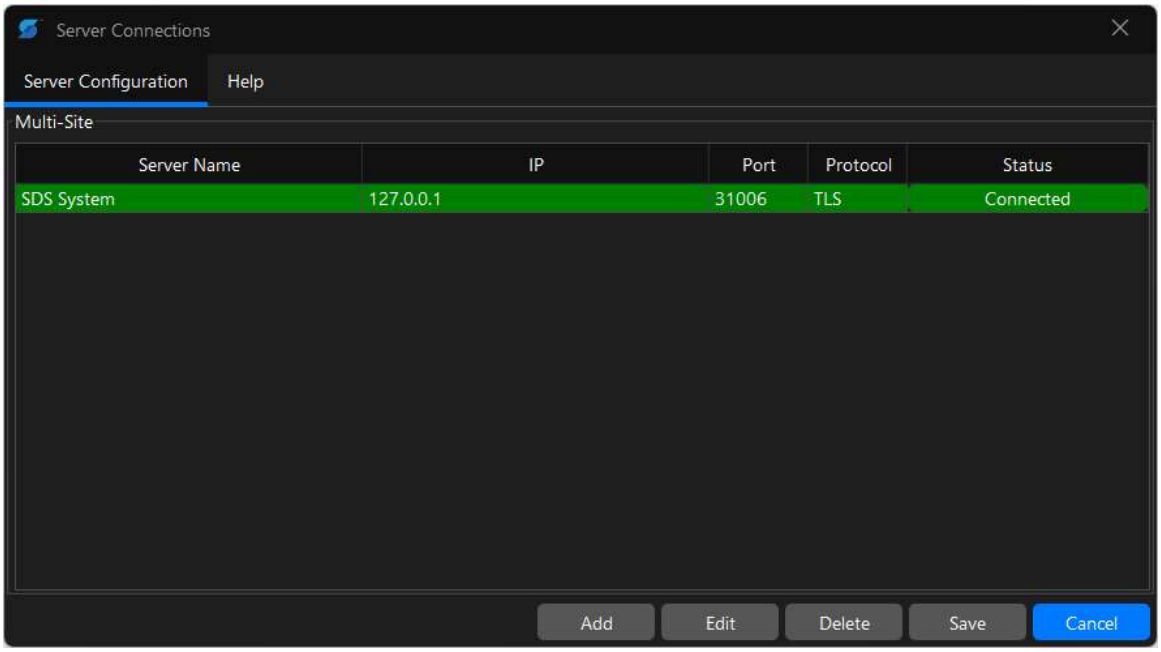


Figure 18 – SDS Server Connect Configuration

Select **Add** and the Add Server Configuration dialog will be shown. As discussed in Section 0 enter the IP address and the Client Password configured for this new Server.

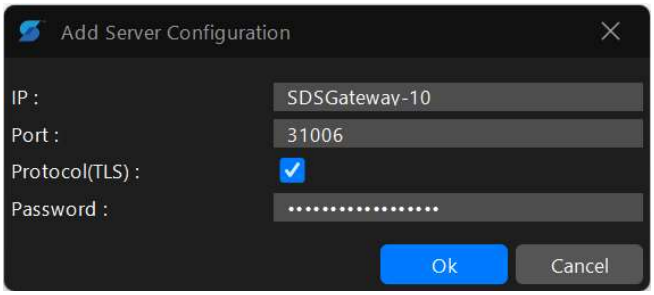


Figure 19 – SDS Server Connect Configuration

There will be an initial delay while the Client synchronizes information from the server and then a Connection Established Successfully dialog will be shown and the new Server will appear in the Floorplan GUI.

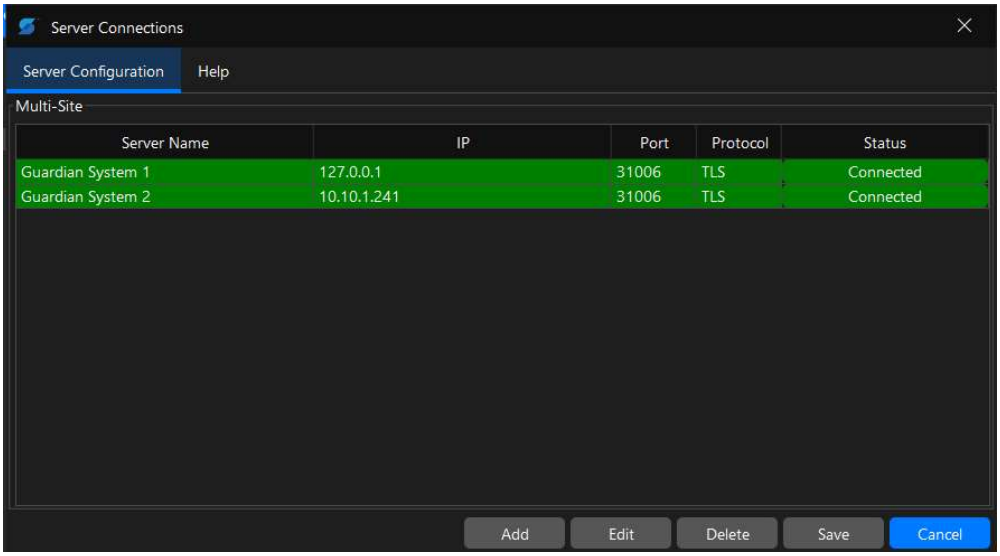


Figure 20 – SDS Server Connect Successful

If the Server is not reachable an Error dialogue will appear as shown below.

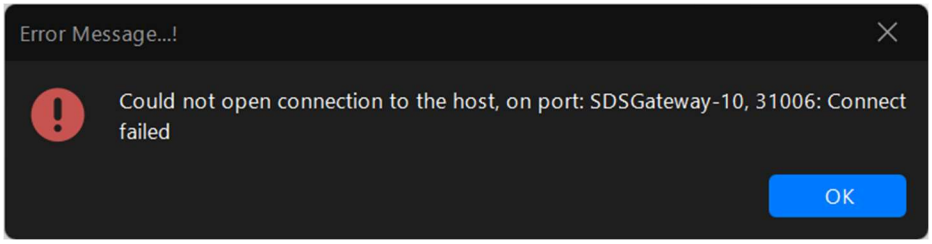


Figure 21 – SDS Server Connect – Cannot reach Server

If the connection to the Server is successfully established, the following confirmation dialogue will appear.

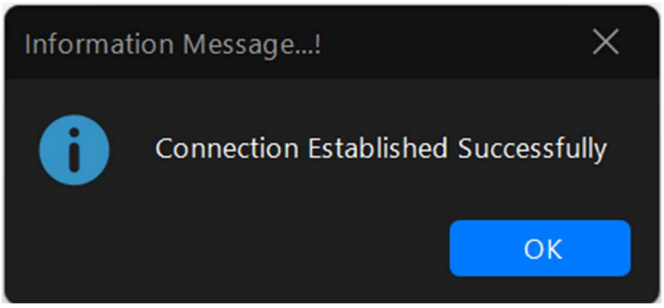


Figure 22 – SDS Server Connect – Success

If the Server is reached but cannot authenticate using the password that was entered an Error dialog will appear as shown below.

Figure 23 – SDS Server Connect Authentication (Password Failure)

9.2 Selecting / Viewing Multiple Servers

Once configured the additional Server will be part of the configuration until removed. Each time the Client is launched it will synchronize with each configured server and will display the selected Server and Floorplan information.

At the User level the only difference seen when multiple servers are configured is that the Site/Floorplan selection panel will have additional servers listed. In the figure below, both servers "Invest_Mutual East" and "InvestMutual West" are live connections (denoted by their Green Text) and the User is currently viewing the selected Floorplan (East Building, Floor 1). To view a floorplan on a different Server simply select that server (Click on the name) and you will open to the first floorplan on that Server. With normal network connectivity there should be no additional delay when switching between floorplans on the same or different server.

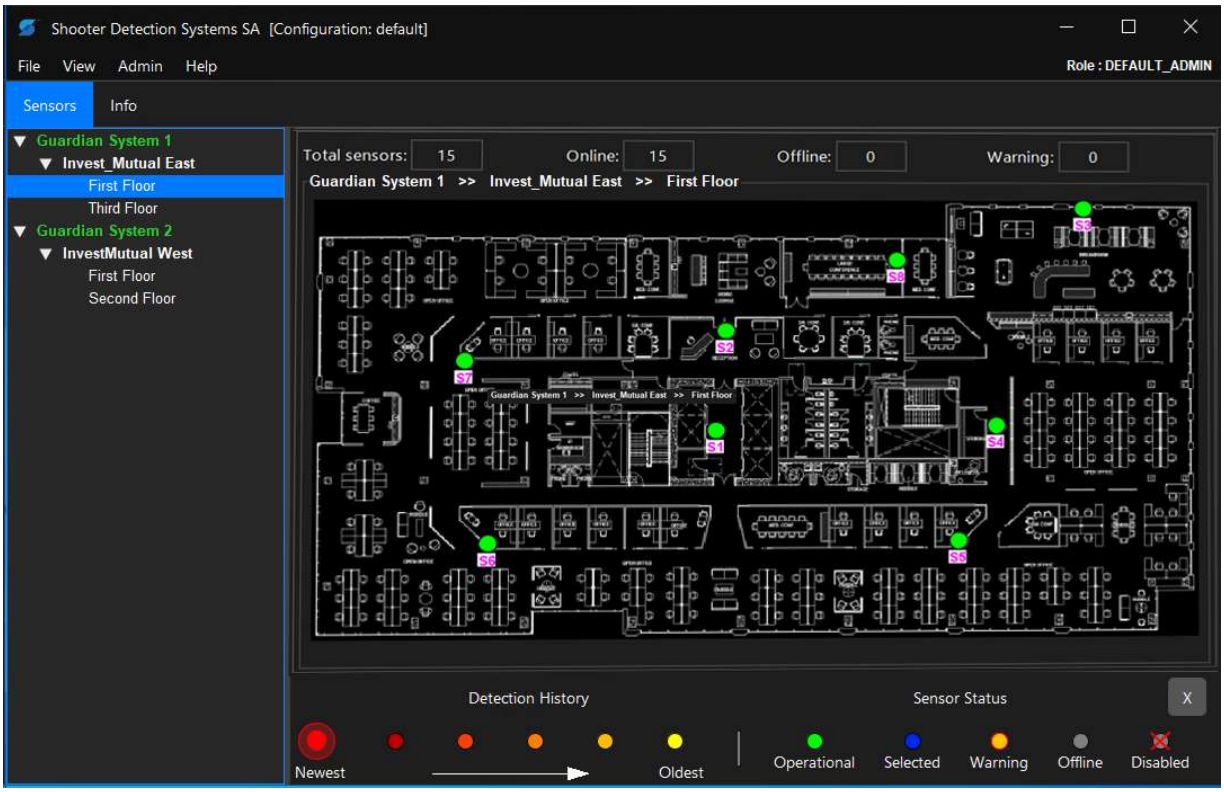


Figure 24 – SDS Server Connect Authentication (Password Failure)

Connection Status: The status of each Server's connection is indicated in the selector panel:

- Guardian System 1 (lite green) – Indicates that the Client has an open connection to the Server and is communicating with it on a regular basis. *Normal operation.*
- Guardian System 2 (dark green) – Indicates that this Server is currently selected and its information is being shown.
-  – Indicates that this Server is **NOT CONNECTED** and therefore no events will be reported.

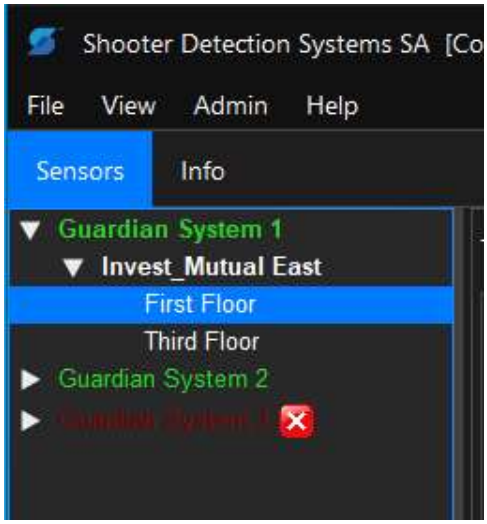


Figure 25 – SDS Server Connection Status

9.3 Removing a Server Connection

To remove an existing Server Connection first select that Server and then select **Delete** in the Server Configuration Dialog. You will be prompted to confirm the delete … select **Yes** and then **Save** in the main configuration window.

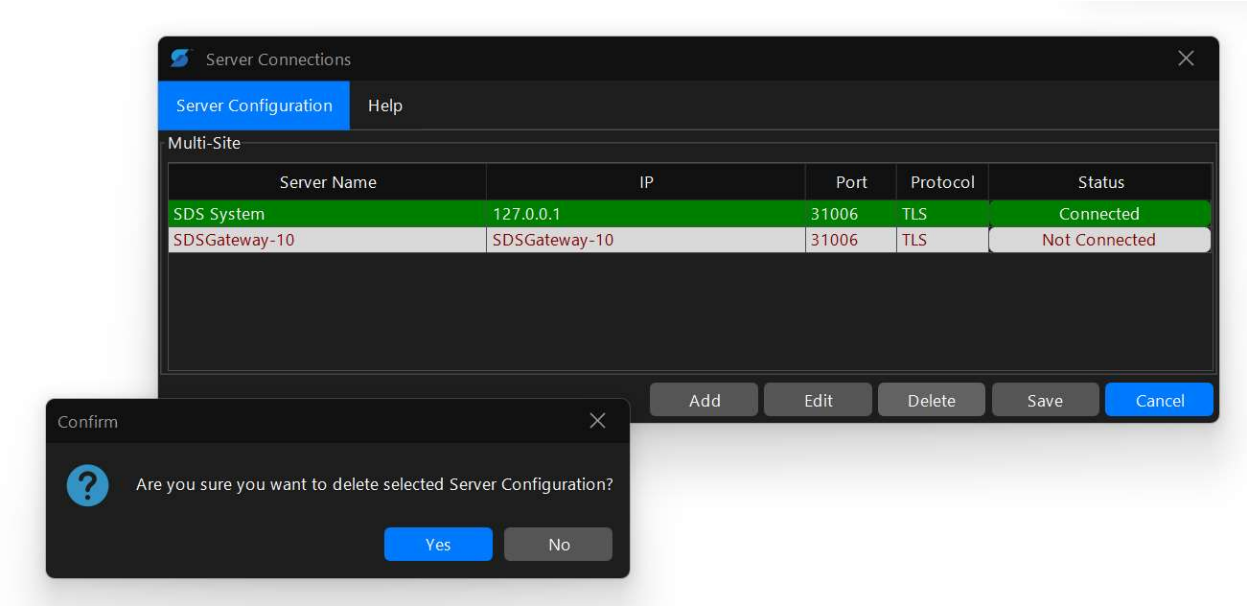


Figure 26 – SDS Server Delete an Existing Connection

9.4 Change (Edit) a Server Connection

To change the properties associated with a Server Connection, select the Server in the Configuration window and the Server Configuration dialog will appear (as with a new connection). Update the information and expect to see feedback as described in Section 9.1.

10 Support Resources

Email:	support@shooterdetectionsystems.com
Tel:	1-844-746-8911, Option 2
Website Contact Form:	https://shooterdetectionsystems.com/technical-support/
SDS Authorized Dealer Portal:	https://secure.shooterdetectionsystems.com
SDS Learning Management System:	https://training.shooterdetectionsystems.com/