AN-339

Integrating SIP Intercoms with Protege GX Workstations

Application Note

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Last Published: 11-Jan-22 12:43 PM

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Introduction

Protege GX integrates with SIP-enabled intercom terminals to incorporate essential communication system operation with the integrated access control, intruder detection and building automation of Protege GX.

This integration provides operators such as guards and night staff with a more secure way to manage access via intercom systems, allowing them to view and communicate with a visitor before granting access remotely.

PCs can be configured as Protege GX workstations which act as a SIP client so that operators are able to initiate and answer calls from an intercom, view its camera feed, and unlock an associated door.

This application note provides instructions for integrating third-party intercom systems with Protege GX SIP client workstations.

- For intercom integration for the purpose of residents/tenants of buildings providing access to doors and elevators during an intercom call to a phone, see Application Note 143: Intercom Integration in Protege GX.
- For information on programming and integrating Protege Vandal Resistant VoIP Intercom units, see the appropriate intercom installation manual.

Prerequisites

Software Requirements

All prerequisite software must be installed and operational, unless otherwise stated.

Software	Version
Protege GX software	4.3.308 or higher
An operational SIP capable intercom system	N/A

Protege GX Licensing Requirements

License	Order Code	Notes
Protege GX Intercom Station License	PRT-GX-VOIP-10	1 license required per intercom programmed in Protege GX. This code provides licenses for 10 intercom terminals.
Protege GX Camera License	PRT-GX-CAM-10	1 license required per camera programmed in Protege GX. A single camera is included with the Protege GX standard license.
	PRT-GX-CAM-50	

This application note describes how to program the Protege GX components to interface with intercom terminals via SIP. It does not cover the programming or hardware setup required within the intercom system.

Configuring SIP Intercom Integration

The following instructions outline the steps required to configure the integration within Protege GX. These include:

- Preparing for the Integration
- Programming the Camera
- Programming the Intercom
- Associating the Intercom with a Door
- Adding the Door to a Floor Plan
- Programming the Workstation
- Testing the Integration

Preparing for the Integration

Before configuring the intercom integration in Protege GX you will need the following:

Intercom System

- The domain name or IP address of the SIP service connection.
- The TCP connection port used for communications with the SIP server.
- The name and extension of the intercom unit.
- A SIP extension will need to be allocated on the SIP system for each Protege GX workstation that will communicate with the intercom system and you will need the name and password of each connection.

Intercom Camera

- If you want to view the intercom's integrated camera feed in Protege GX, you will need the URL and login credentials for the camera stream.

Protege GX

- The hostname of each PC that will be configured as a Protege GX workstation.

  To find the PCs hostname go to **Settings > System > About** and find the Full device name.

- Each workstation PC must have a microphone connected in order to register as a SIP client.
- Each workstation PC will also need speakers connected for intercom communication.

Programming the Camera

Protege GX supports monitoring of the intercom's camera as a streaming video feed so that operators can see who is at the intercom during a call, as well as providing access to archived event footage.

1. Navigate to **Monitoring | Setup | Cameras** and click **Add**.
2. Define the camera **Type** and image stream access configuration:
   - **Direct camera**: Cameras which provide direct URL access to a streaming MJPEG feed. This option is used for RTSP protocol cameras.
     - Enter the **URL** for the camera's image stream.
     - If authentication is required to view the camera feed, enter the login **Username** and **Password**.
   - **H.264 & motion JPEG stream camera**: Cameras which provide direct URL access to an H.264 feed.
     - Enter the **URL** for the camera's image stream.
     - If authentication is required to view the camera feed, include the login username and password in the URL. For example: http://username:password@192.168.1.2/video
3. The **Floor plan** selection defines the floor plan that the camera is associated with. This allows you to right click on a camera event in the event log and open the floor plan associated with the camera.
4. Click **Save**.

Programming the Intercom

Intercom records allow Protege GX to be integrated with VoIP compliant intercom systems by providing the configuration required for Protege GX to identify and communicate with each intercom terminal.

VoIP capability is a separately licensed feature. For more information, see Prerequisites (page 4).

1. Navigate to **Monitoring | Setup | Intercoms** and click **Add**.
2. Enter a **Name** for the intercom record that reflects its directory reference in the SIP system.
3. Enter the SIP system **URI** (Uniform Resource Identifier) for connecting to the intercom.

   Omit any spaces in this number as it must be a single unbroken identifier (for example, enter *2 12 as *212).
4. Select the intercom's **Camera** record.

   If the intercom does not have a camera, any configured camera which monitors the area can be selected to display its feed while an intercom call is in progress.
5. If a **Floor plan** is selected, that floor plan will be launched when a call from the intercom is accepted.
6. Click **Save**.

Associating the Intercom with a Door

Associating the intercom with a door allows operators to remotely unlock the door from a SIP client workstation during a call with the intercom.

1. Navigate to **Programming | Doors** and select the door that will be associated with the intercom.
2. Scroll down to the **Graphics** section and select the intercom record as the **Intercom (entry)**.
3. Click **Save**.

Adding the Door to a Floor Plan

Adding the door to a floor plan allows operators to initiate a call to the associated intercom from a workstation.

1. Navigate to **Monitoring | Setup | Floor plan editor** and add or edit a floor plan.

   For instructions on floor plan editing, see Application Note 340: Programming Floor Plans in Protege GX.

2. Expand the **Devices** section of the editor and click **Add**.
3. Set the **Device type** to Door, then drag-and-drop the door associated with the intercom onto the floor plan.
4. **Close** the devices list.
5. Position and resize the door icon as required.
6. Click **Save** to update the floor plan.

Programming the Workstation

Workstations are used to configure Protege GX to act as a SIP client, enabling operators to hold calls with an intercom directly within the Protege GX user interface using VoIP.

A workstation record will need to be configured for each client PC that will communicate with the intercom, and in order to scan for the connected microphone the programming needs to be completed on the actual workstation.

Each workstation must be registered with an extension in the SIP server.

1. Navigate to **Events | Workstations** and click **Add** to create a SIP client workstation.
2. Enter a **Name** to identify the workstation on the network.
3. The **Computer name** must be the hostname of the computer to correctly identify it.
4. The **Server address** is the domain name or IP address of the SIP service connection.
5. The **Account name** is the name of the SIP extension/account allocated on the SIP system for this workstation.
6. The **Account password** is the password of the SIP extension/account allocated on the SIP system.
7. The **Realm** is the security domain where this account is valid.

   Entering * will allow your authentication password to be sent to the server without the realm being verified.

8. Enter the **SIP port** used for communications with the SIP server.
9. The **Network interface** defines the network card used for communications.
10. Select the **Microphone** connected to the workstation.

    A microphone must be connected for the workstation to register as a SIP client. This setting can only be selected on the workstation PC, as Protege GX needs to scan for the connected microphone.

11. The **Default microphone setting** defines the microphone level to be used when the call window is launched.
12. Select the **Speakers** connected to the workstation.
13. The **Default speaker setting** defines the speaker level to be used when the call window is launched.
14. Click **Save**.

The intercom integration is now configured and ready for testing (see next page).

Testing the Integration

Verify the SIP Connection

Once a Protege GX client PC has been configured as a workstation a telephone icon is displayed in the status bar at the bottom of the user interface. This icon indicates the status of that workstation's SIP server connection.

In Protege GX, click on the telephone icon and verify that the SIP workstation client is successfully registered with the SIP server. The popup message should display the **SIP Client** details and **Registered with Server**. If not, check the error message and review the connection and settings accordingly.

This verification, and the tests below, should be completed on each PC configured as a SIP client workstation.

Call the Intercom

1. Once the SIP connection has been verified, navigate to **Monitoring | Floor plan view**.
2. Select the **Floor plan** that you added the door associated with the intercom to.
3. Right-click on the icon for the door associated with the intercom, then click **Call intercom**.
4. Verify that you are able to successfully communicate with the intercom and view its live video feed.
5. Click **Unlock door** and verify that the door associated with the intercom unlocks.
6. Close the intercom call.

Receive a Call From the Intercom

1. On the intercom terminal, press the appropriate call button to initiate a call to Protege GX.
2. In Protege GX, confirm that an **Intercom call** popup appears on the screen.

   This should appear on each PC configured as a SIP client workstation.
3. Click **Accept** to answer the call.
4. Verify that you are able to successfully communicate with the intercom and view its live video feed.
5. Click **Unlock door** and verify that the door associated with the intercom unlocks.
6. Close the intercom call.

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