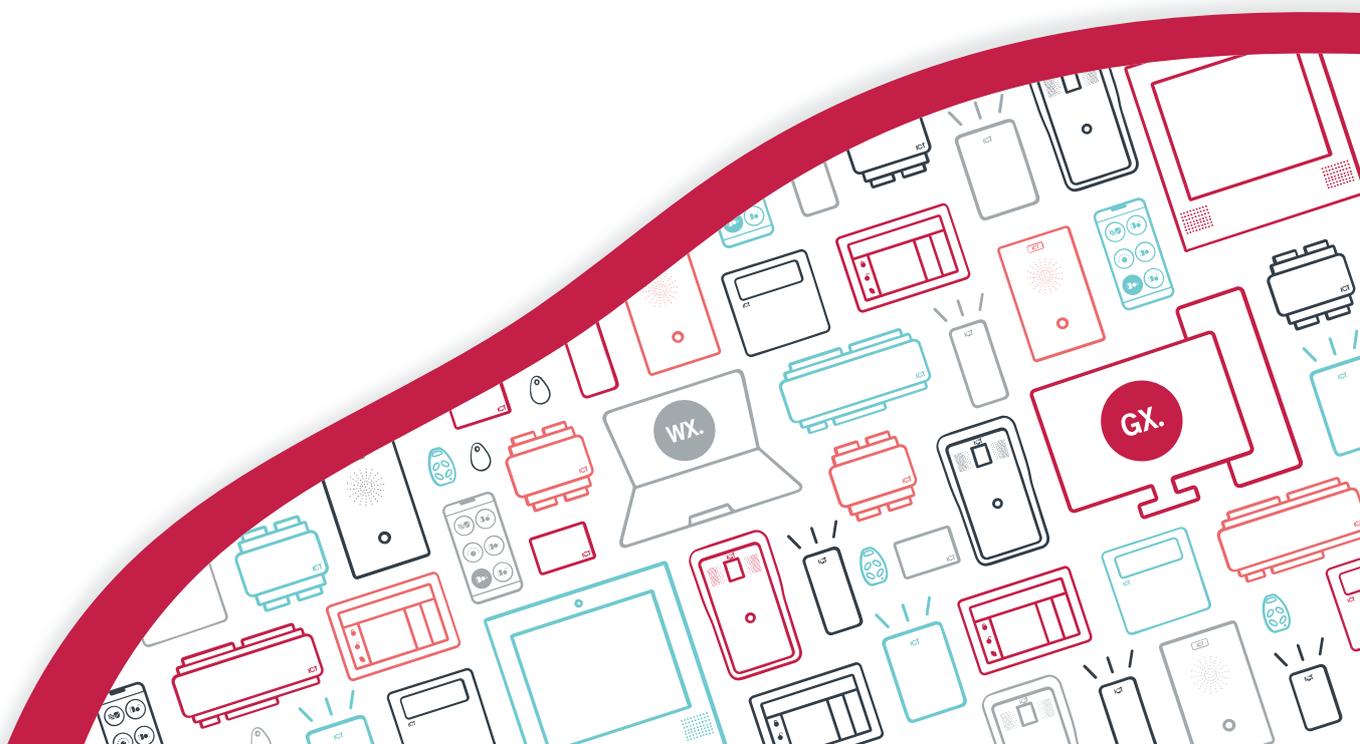




**AN-144**

# Configuring MSMQ Integration in Protege GX

Application Note



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Last Published: 13-May-22 10:27 AM

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# MSMQ Integration

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Microsoft Message Queue (MSMQ) is a messaging protocol included as a standard feature with Windows operating systems. Integration with MSMQ provides the ability to transmit specific Protege GX events to a message queue, allowing third party applications, services and processes to take advantage of real-time event connectivity with the Protege GX server.

The implementation of the MSMQ technology provides a very flexible approach to integration, and multiple message queues can be used, with events posted to the queues in an XML format. There are many standard applications that use the MSMQ service, allowing simple event integration in real time.

This application note describes the setup and configuration required to implement MSMQ integration in Protege GX.

## MSMQ Use Case Integration Examples

### Incident Management Reporting

The MSMQ integration in Protege GX supports platforms such as [D3 Security Management System](#) or [Perspective By PPM200](#), enabling live alarm messages to be sent immediately to the incident management system, based on the programmed filter in Protege GX. Event filters can easily be customized in Protege GX to allow complete control over which events are sent to the MSMQ.

### Attendance Reporting

Send access events for a specific door to MSMQ for time and attendance logging using the defined Protege GX event filter. The attendance solution extracts these events from the message queue using the card number included in the event data. The events are then processed by the time and attendance system.

### Intrinsic Safe and Hazard Area Peg Board

Implement a hazardous environment live peg board for staff, using a small C# application running in Kiosk Mode that maintains a list of users and clears the users when the main alarm area arms. The C# application links to the MSMQ and the events posted in the message queue are in and out events from specific card readers that control access to the hazardous/restricted area. When a user presents their card they are then processed by the application and shown as either being in or out of the area. When the alarm is armed the queue is cleared and the process begins again in the next disarm cycle.

This can be used for multiple areas and is ideal when placed on a large screen display.

### Pay as You Go and Sports Facility Integration

Sports facilities, clubs, gyms and many other systems can link to the MSMQ to obtain user information that allows a usage count, pay as you go, or usage recharge system to determine the number of uses the person has remaining. The information can then be used to adjust user access using the Protege GX SDK application. This type of integration allows a completely automated approach, which in many facilities reduces time, energy consumption and system abuse.

# Setup and Configuration

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## Enable MSMQ

The MSMQ messaging protocol is not installed by default and must be enabled.

The steps to enable MSMQ vary according to the version of Windows installed. For specific instructions we recommend visiting the MSDN website from Microsoft for the configuration settings for your operating system.

### To Enable MSMQ

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1. Navigate to the **Turn Windows features on or off** window. Depending on your Windows version this may be found by searching Control Panel, Windows Features, Programs, or Programs and Features.
2. Scroll down to **Microsoft Message Queue (MSMQ) Server** and tick the checkbox to enable this feature.
3. Expand **Microsoft Message Queue (MSMQ) Server**, then expand **Microsoft Message Queue (MSMQ) Server Core**.
4. Select all the options within the **Microsoft Message Queue (MSMQ) Server Core** sub-menu.
5. Click **OK** to update the configuration.
6. If prompted to restart the computer, click **OK** to restart.

## Creating a Message Queue

You now need to configure a message queue to post the events that you want to make available. It's a good idea to give the queue a name that relates to what it is being used for, such as ALARMS.

1. Open the **Computer Management** console.
2. Expand **Services and Applications**.
3. Expand the **Message Queuing** service.
4. Right click **Private Queues** then choose **New | Private Queue**.
5. Enter a **Queue name** for the queue you want to create, then click **OK**.

You will need the **Queue name** when creating the action to send events to the queue.

## Configuring Protege GX

Once MSMQ has been enabled and the message queue created, in Protege GX you need to configure an event filter to define which events to send, and create an action to send the events to the queue.

### Configuring the Event Filter

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1. Navigate to **Events | Event Filters** and click **Add**.
2. Enter a **Name** to describe the function of the filter.
3. Select the **Event Types** tab.
4. In the **Event Types** window, click **Add** to select the event types that will be included in the filter.

Don't select **Include All Event Types** unless you specifically want to push **all** events to the message queue.

5. Select the required event type group, or expand the group and select a specific event type, then click **OK**.
6. Continue until all required event types are added, then click **Save**.

## Creating the Action

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1. Navigate to **Events | Actions** and click **Add**.
2. Enter a **Name** to describe the action.
3. Set the **Type** to Send Event to MSMQ.
4. Select the **Event Filter** created above.
5. In the **Message Queue** field, enter the **Queue name** you assigned when creating the message queue.

This must be the exact Queue name and path to send the events to (such as `.\private$\ALARMS`)

Once this configuration is complete, generated events that meet the event filter criteria will automatically be posted to the message queue.

## Code Example

Events can be extracted from MSMQ using simple C# code and many other languages.

For information on code samples, consult the MSDN website samples and documentation.

The following example is a small extract of C# code that connects to the queue and decodes the XML data:

```
mes = msMq.Receive(new TimeSpan(0, 0, 3));
mes.Formatter = new XmlMessageFormatter(new String[] { "System.String,mscorlib"
});
m = mes.Body.ToString();
XmlDocument xm = new XmlDocument();
xm.LoadXml(m);
XmlNode nodeEventID = xm.SelectSingleNode("//EventID/text()");
XmlNode nodeFieldTime = xm.SelectSingleNode("//FieldTime/text()");
XmlNode nodeDescription = xm.SelectSingleNode("//Description/text()");
```

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