Network Manager

00DA0709-001
November 17, 2023, Rev C

NMS-XProtect Gateway Administration

Introduction

Alarm reporting from a Senstar **Network Manager** service (NMS) to a Milestone **XProtect** is done via the **NMS-XProtect Gateway** service. The **NMS-XProtect Gateway** service communicates with the **XProtect Event Server** via the **NMS Gateway MIP** (Milestone Integration Platform) plug-in.

- Use **NMS-XProtect Gateway Config** to configure the **NMS-XProtect Gateway** service connection parameters for the Milestone **XProtect Event Server**.
- Use the **Milestone XProtect Management Client** to configure the NMS Gateway MIP plug-in.
- Use the **Milestone XProtect Smart Client** to add NMS Gateway objects to a XProtect Smart Client Map.

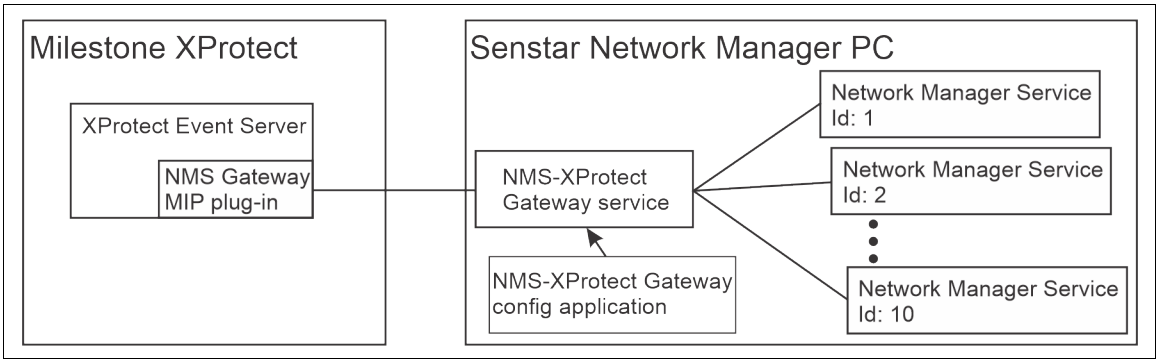


Figure 1 NMS-XProtect integration block diagram

Configuring NMS-XProtect Gateway service

The NMS-XProtect Gateway Config application is used to configure the NMS-XProtect Gateway service connection parameters for the Milestone XProtect Event Server. Left-click the NM shield to display the NMS-XProtect Gateway Config menu. Figure 2 shows the NMS-XProtect Gateway Config menu and Table 1 describes the NMS-XProtect Gateway Config features.

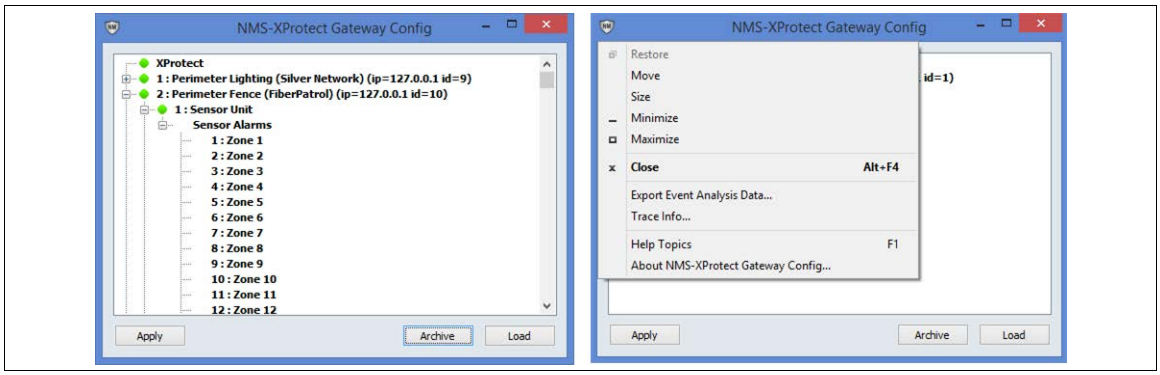


Figure 2 NMS/XProtect configuration

Item	Description
Equipment List	Provides access to the configuration parameters for XProtect and NMS connections. Selects which nodes and points are to be used by XProtect.
Apply	The Apply button finalizes configuration changes for the Gateway service but leaves the NMS-XProtect Gateway Config program running.
Archive	The Archive button saves a Gateway configuration to an archive file. The default archive file naming convention is: NMS-XProtect Gtwy YYYYMMDD_hhmm.xml YYYY = 4-digit year; MM = 2-digit month; DD = 2-digit day; hh = 2-digit 24hr format hour; mm = 2-digit minute
Load	The Load button loads a Network Manager Service configuration from an archive file.
Export Event Analysis Data...	This system menu item opens a dialog for exporting Event Analysis Data as tab delimited text files suitable for opening with MS Excel. Event Analysis Data is a record of the alarm and control events processed by the Gateway service.
Trace Info...	This system menu item opens a dialog for displaying the operational activity of the NMS-XProtect Gateway Config.
	Closes the NMS-XProtect Gateway Config program. If there are unsaved changes, the user is prompted to save the changes.

Table 1 NMS-XProtect Gateway Config Features

Configuration procedure

1. Double-click **XProtect** on the Equipment list to open the XProtect connection dialog.

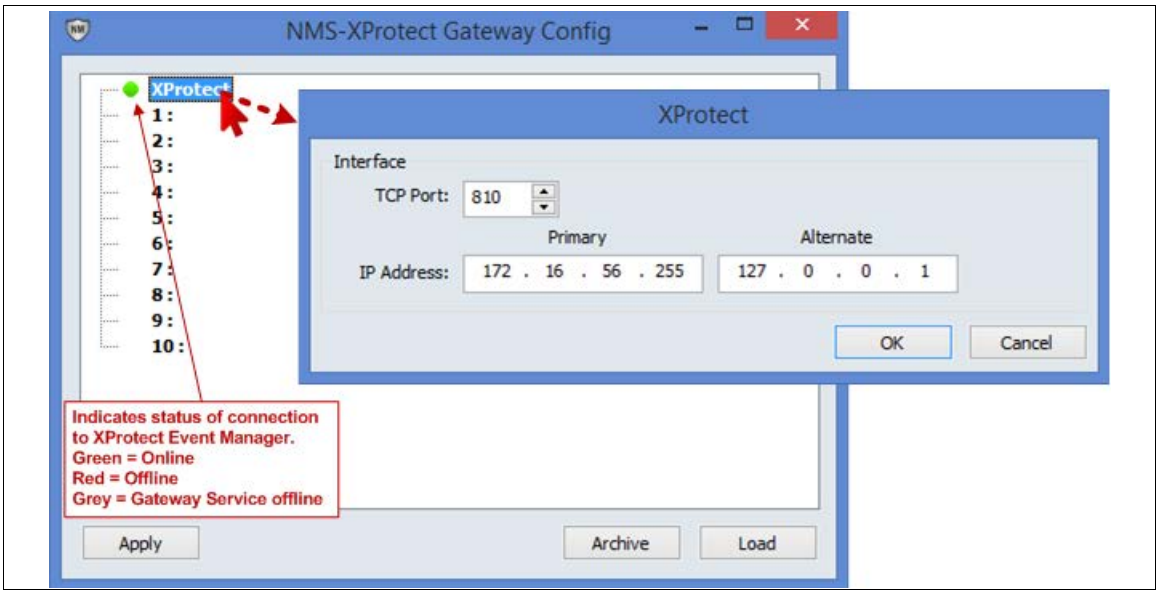


Figure 3 XProtect connection dialog

a Specify a TCP Port for the NMS Gateway MIP plug-in to connect to the Gateway service.

b Specify the IP Address(es) of the XProtect Event Manager(s) that will connect to the Gateway service.

c Select OK.

2. Double-click a Network branch **n:** (n = 1 to 10) from the Equipment list to open the NMS connection dialog.

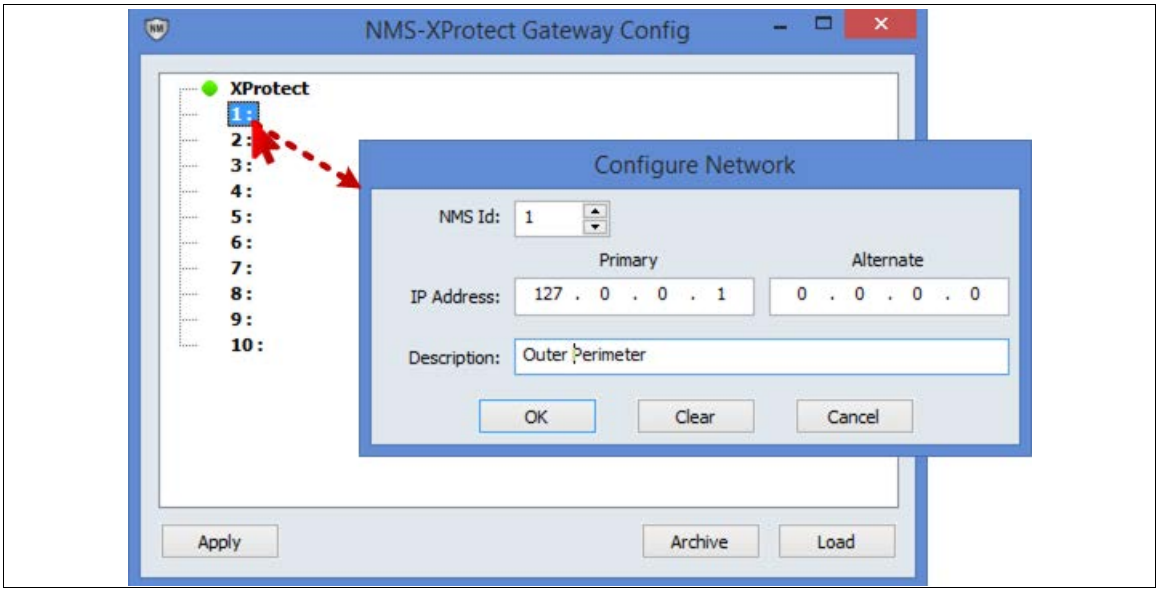


Figure 4 XProtect Configure Network dialog

a Specify an **NMS Id** for the Network Manager Service.

b Specify the Primary and Alternate (for redundant NMS) **IP Addresses** to connect to the NMS.

Note	You must configure an SMS connection for the NMS-XProtect Gateway in the Network Manager service.

c Enter a meaningful **Description** for the Network (optional).

d Select OK.

3. Right-click the Network branch on the Equipment list to display an action menu for the network.

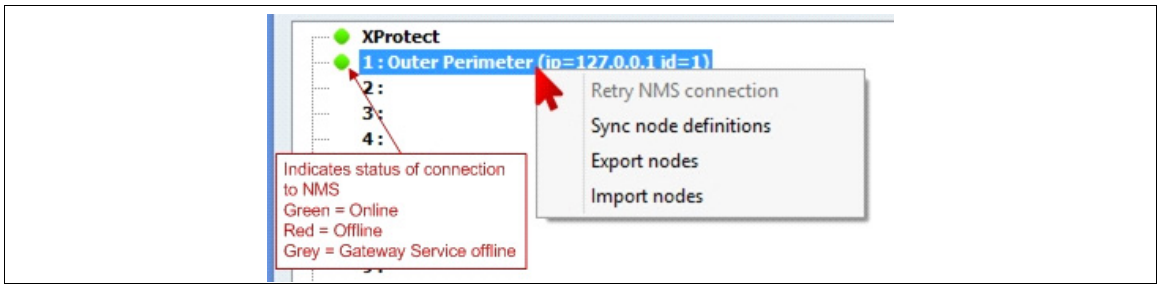


Figure 5 Network action menu

a If the Gateway service is not connected to the NMS, verify that the NMS is running and then select **Retry NMS connection** to force an immediate reconnection attempt.
The Gateway service will also periodically try to reconnect if the connection is lost.
Right-click the Network branch after connecting and proceed to step b.

b Select **Sync node definitions** to load a list of the nodes configured on the NMS and the input and output points each node supports. This function can also be used to refresh the node list if changes are made at the NMS.

Note

Select **Export nodes** to create a Unicode tab delimited file of the nodes and points configured for the network.
This file can be opened in Excel to edit the point assignments for XProtect monitoring.
The exported file can also be used to import the point assignments into XProtect.

Select **Import nodes** to load a Unicode tab delimited file of configured nodes and points.

4. Click on a Network Manager's branch to see the associated nodes.

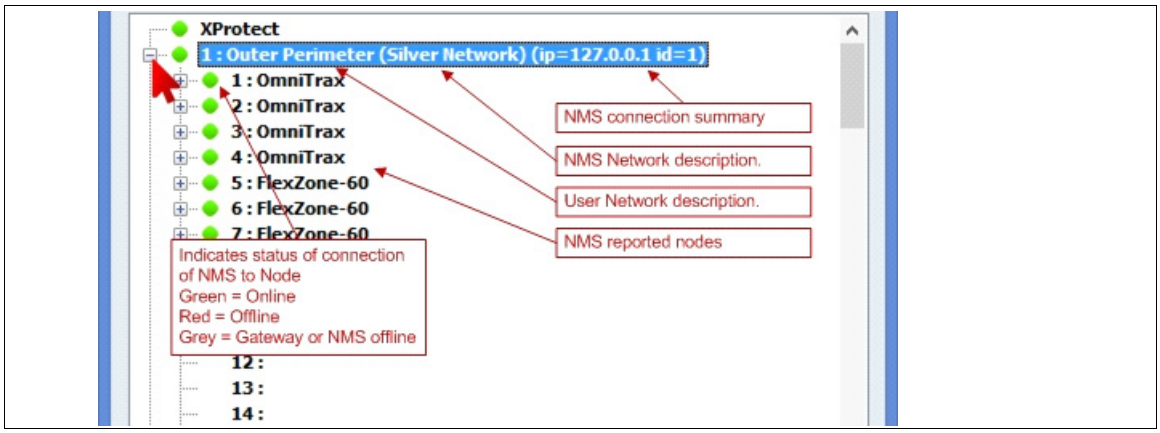


Figure 6 Network nodes

5. Double-click a Network node on the Equipment list to open the Node configuration dialog.

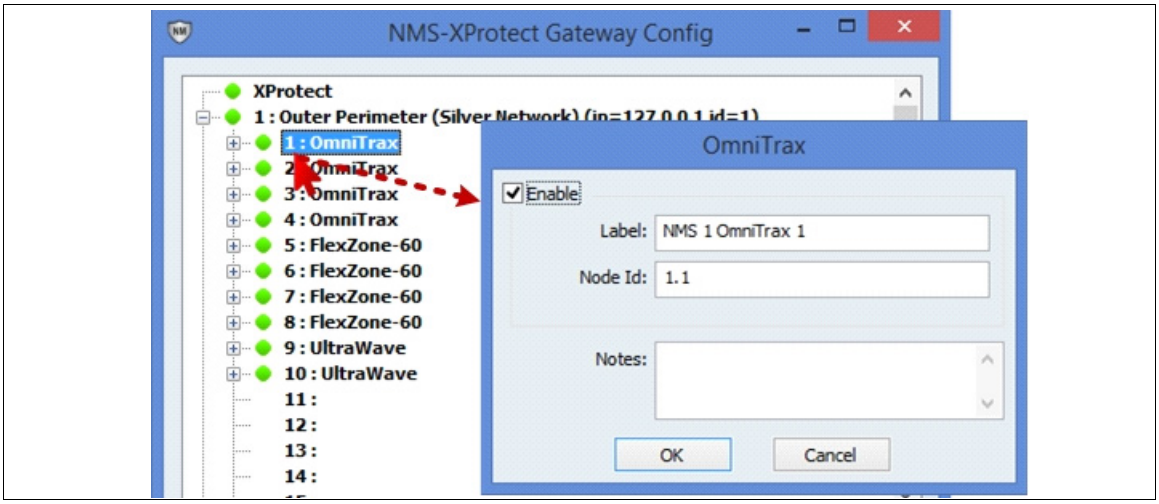


Figure 7 Node configuration dialog

Note	The **Notes** area is an optional documentation area for recording miscellaneous information about the node.

a Check **Enable** to report communication and diagnostic faults for this node on the XProtect.

b A default **Label** is created based on the node address and type reported by the NMS. It can be edited to something more meaningful.
This is the label assigned to the Node created in XProtect by the XProtect Management Client when importing a configuration.

c The **Node ID** is a unique identifier to link nodes in XProtect Event Server to nodes in the Gateway service. The default value is based on the Network and Node numbers. It must match the corresponding field in the XProtect NMS Gateway Node definition.
If the configuration created here is exported to a file and imported using the XProtect Management Client this matching will be automatically achieved.

d Select OK.

Note	Right-click the Node on the Equipment list to display an action menu. Select **Sync node definition** to update the input and output points supported by the node. Select **Export node** to create a Unicode tab delimited file of the points that are configured for the node. This file can be opened in Excel for editing the point assignments for XProtect monitoring. Select **Import node** to load a Unicode tab delimited file containing points for this node.

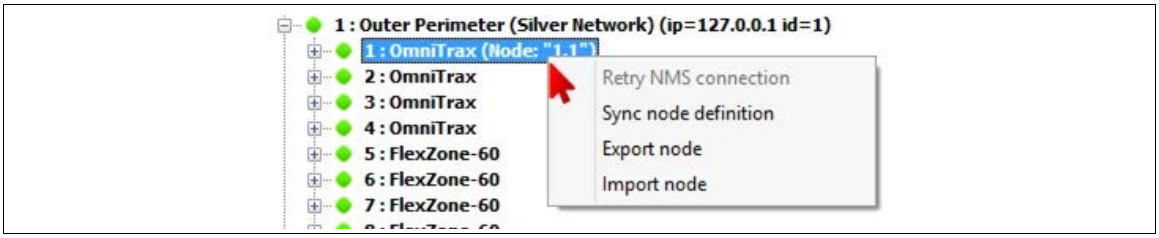


Figure 8 Node action menu

6. Expand the Node and Sensor Alarm branches to see the node's associated Alarm Points.

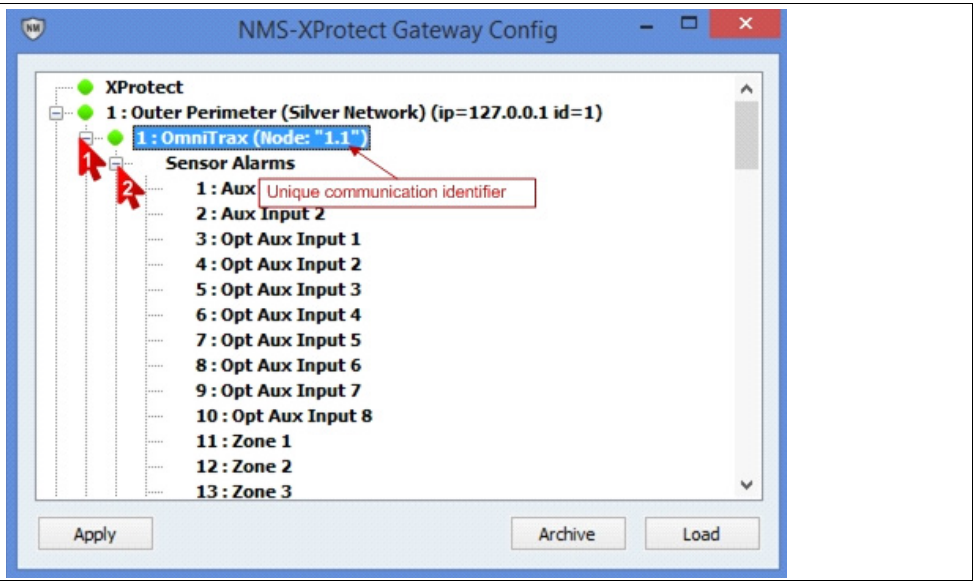


Figure 9 Node Alarm Points

7. Double-click an Alarm Point entry on the Equipment List to open a Point configuration dialog.

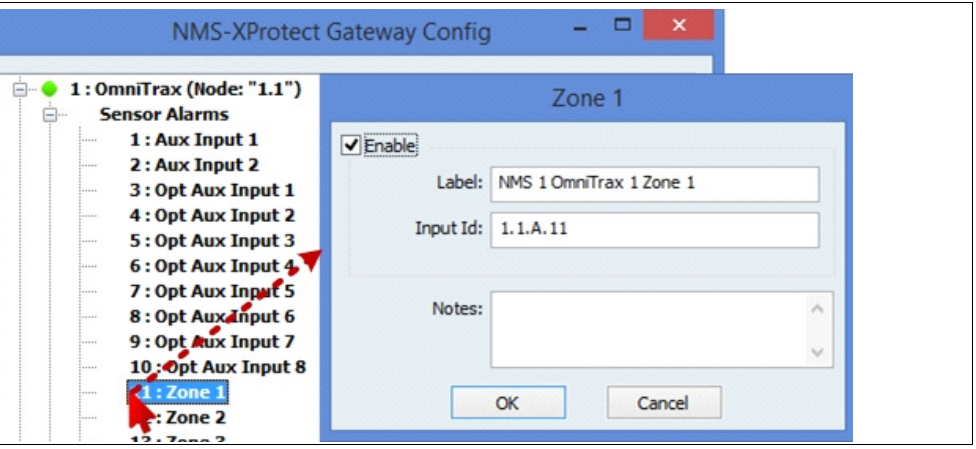


Figure 10 Point Configuration dialog

Note	The **Notes** area is an optional documentation area for recording miscellaneous information about the input.

a Check **Enable** to report the status for this point to the XProtect.

b A default **Label** is created based on the node, point address, and type reported by the NMS. This is the label assigned to the Input point by the XProtect Management Client when importing a configuration. It can be edited to something more meaningful.

c The **Input Id** is a unique identifier used to link input points in XProtect Event Server to input points in the Gateway service. The default value is based on the Network, Node and Point numbers. It must match the corresponding field in the XProtect NMS Gateway Input definition. If the configuration created here is exported to a file and then imported using XProtect Management Client, this matching will be automatically achieved.

d Select OK.

e Repeat for all of the Alarm Points on this node that will be reported in XProtect.

8. Click the Sensor Alarm branch to conceal the node's Alarm Points, and then click the Control Points branch to see the node's associated Control Points.

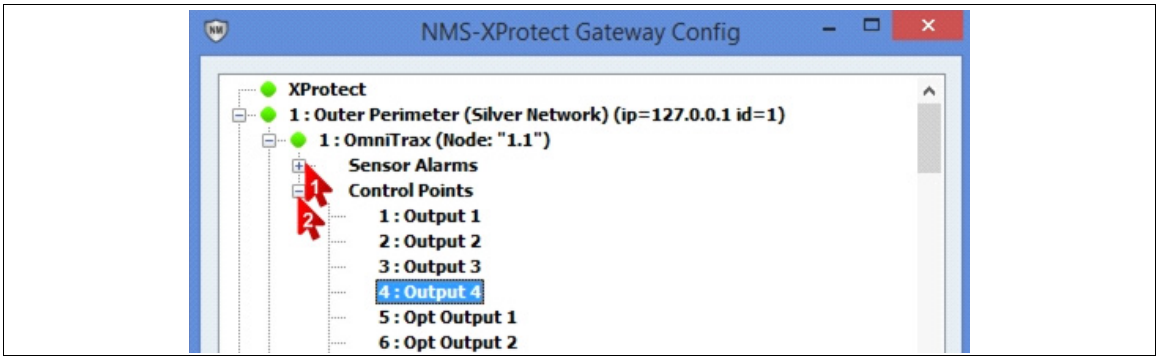


Figure 11 Node Control points

9. Double-click a Control Point entry on the Equipment list to open a Point configuration dialog.

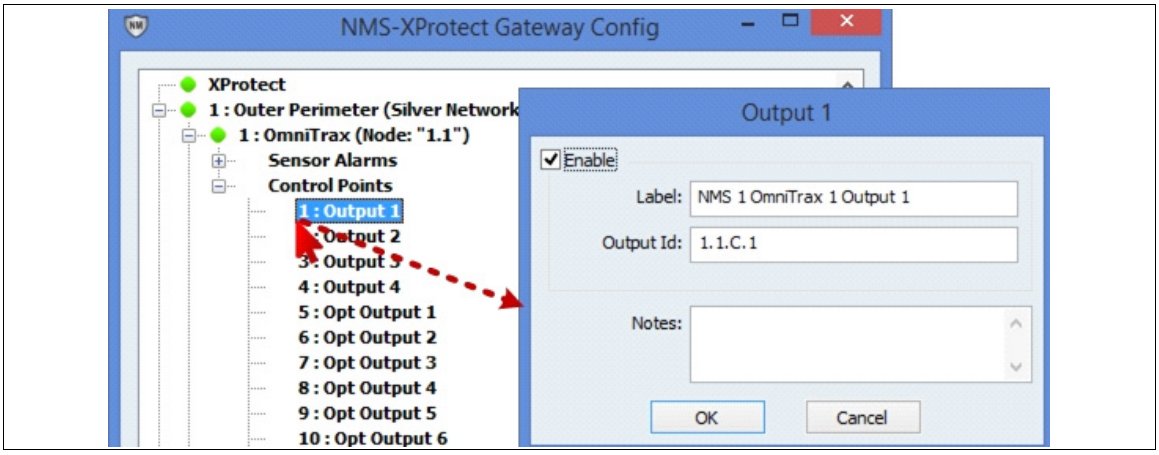


Figure 12 Point Configuration dialog

Note	The **Notes** area is an optional documentation area for recording miscellaneous information about the output.

a Check **Enable** to allow control of this point by the XProtect.

b A default **Label** is created based on the node, point address, and type reported by the NMS. It can be edited to something more meaningful.
This is the label assigned to the Output Point by the XProtect Management Client when importing a configuration file.

c The **Output Id** is a unique identifier used to link output points in XProtect Event Server to output points in the Gateway service. The default value is based on the Network, Node and Point numbers. It must match the corresponding field in the XProtect NMS Gateway Output definition. If the configuration created here is exported to a file and then imported using XProtect Management Client this matching will be automatically achieved.

d Select OK.

e Repeat for all Control Points on this node that will be controlled by the XProtect.

10. Repeat steps 5 to 9 for each node that will be managed by XProtect.

Note	Use the Network action menu **Export Nodes** function to create a file that can also be used by the XProtect Management Client to import the point assignments into XProtect.

11. Repeat steps 2 to 10 to add additional networks to the XProtect.
12. Select the **Apply** button to finalize the configuration changes for the Gateway service.

Note	Use the **Archive** button to save a copy of the configuration to protect against accidental loss.

Configuring the XProtect NMS MIP Gateway plug-in

This section highlights specific NMS Gateway features. Refer to the Milestone documentation for complete information on how to configure XProtect.

1. Expand the NMS Gateway **MIP Plug-ins** node on the XProtect Management Client Navigation tree. The Plug-in report items are grouped into 4 categories: **Gateway** (service), **Nodes**, **Inputs** (points), and **Outputs** (points).

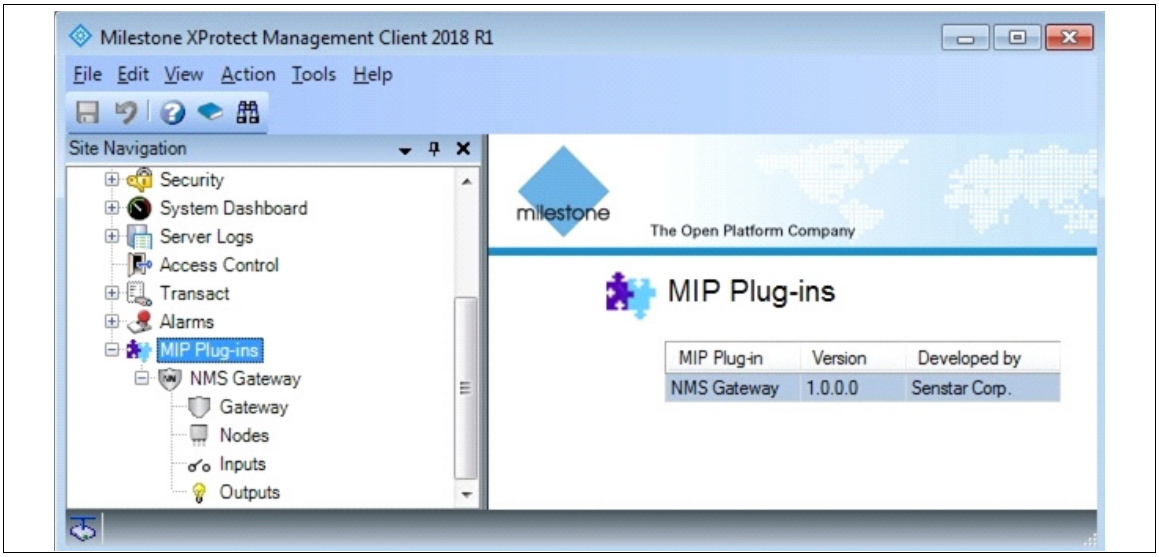


Figure 13 MIP Plug-ins

2. Click **Gateway** to configure the connection to the NMS-XProtect Gateway service.

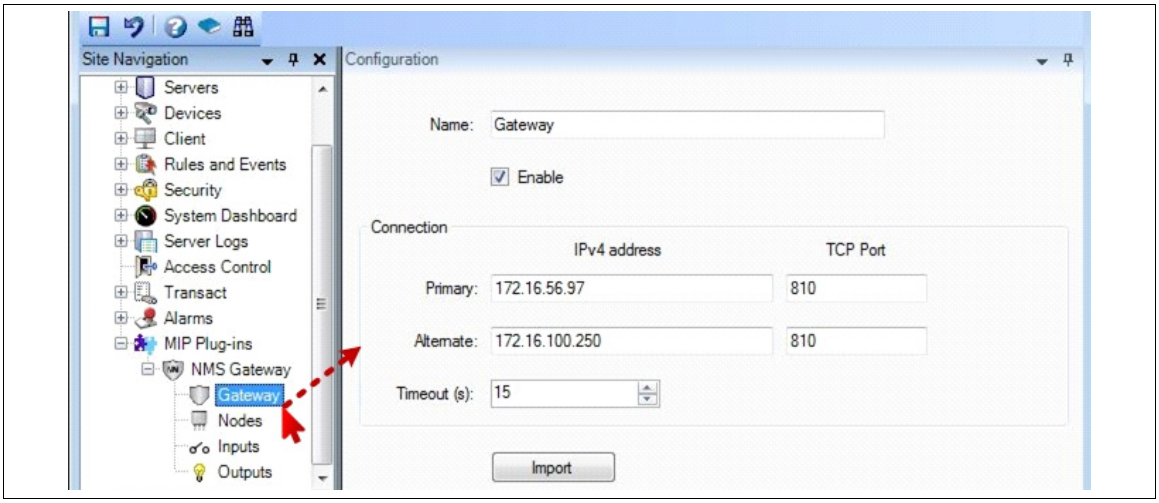


Figure 14 NMS Gateway configuration

a Enter a **Name** to identify the Gateway.

b Check **Enable** to enable the interface to the NMS-XProtect Gateway Service.

c Enter the **IPv4 Address** and **TCP Port** to connect to NMS-XProtect Gateway Service.

d Adjust the communication **Timeout** if desired. Valid timeouts range from 0 to 60 seconds. The default is 15 seconds. A timeout of 0 seconds disables communication fail.

e Select  to save the changes.

Note	If the configuration was not exported from NMS-XProtect Gateway Config using **Export Nodes** function, skip the next step. The Node, Input and Output points must be added manually.

3. Select **Import** to load a file produced by the export feature in NMS-XProtect Gateway Config. A log file showing the Node, Input and Output items added or skipped is displayed when the import process is completed. An item will be skipped if another item with the same Id already exists.

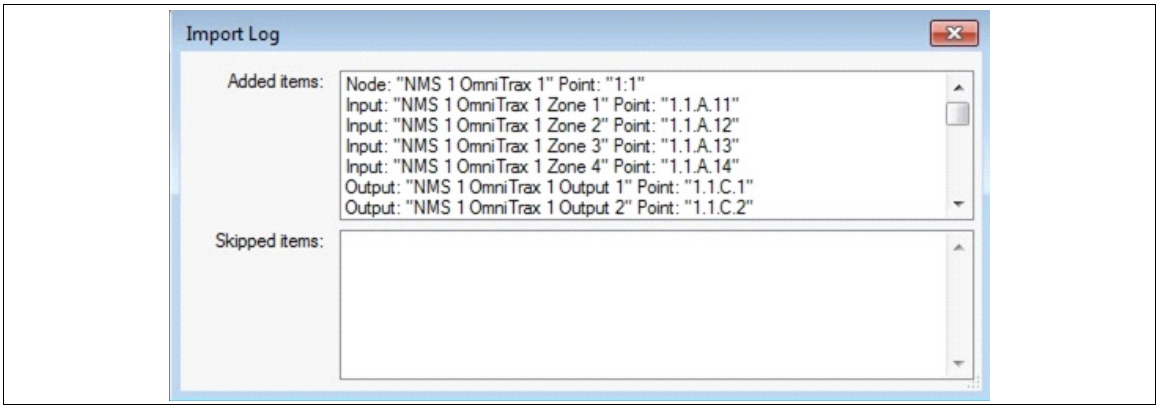


Figure 15 NMS Gateway Import Log

Note	Select F5 (Display refresh) after closing the log to ensure the display of the Node, Input and Output items for the NMS Gateway.

4. Click **Nodes** to view the Node items that were created. Click a Node item to see its configuration.

- **Name** used to identify this item.
- **Node Id** is used in communications with the Gateway service to retrieve the node's status. It must exactly match the corresponding string defined in NMS-XProtect Gateway Config.

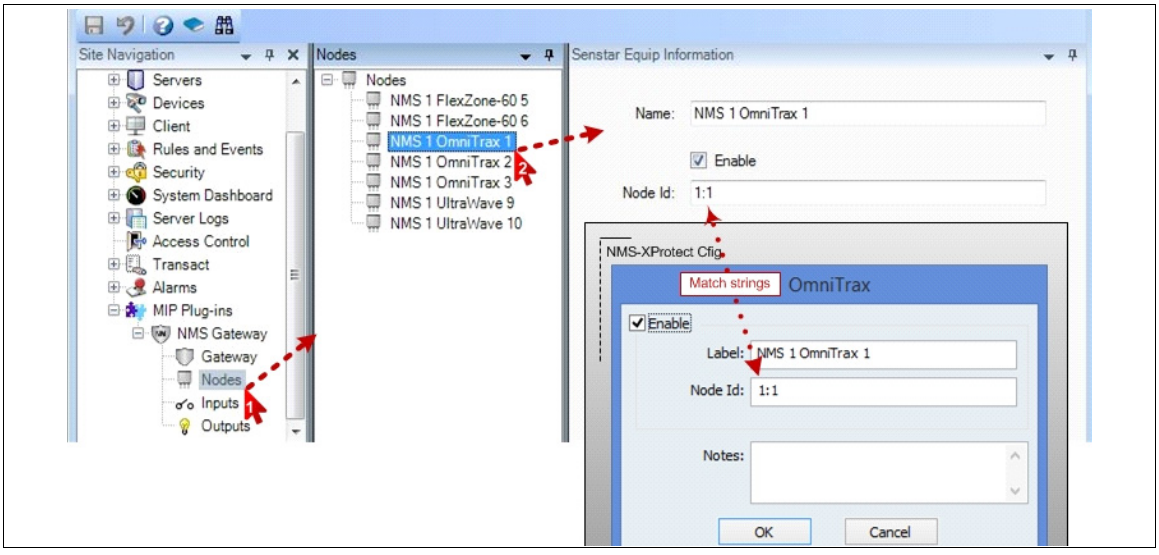


Figure 16 Viewing Node items

To manually add an additional node:

a Right-click the Nodes root.

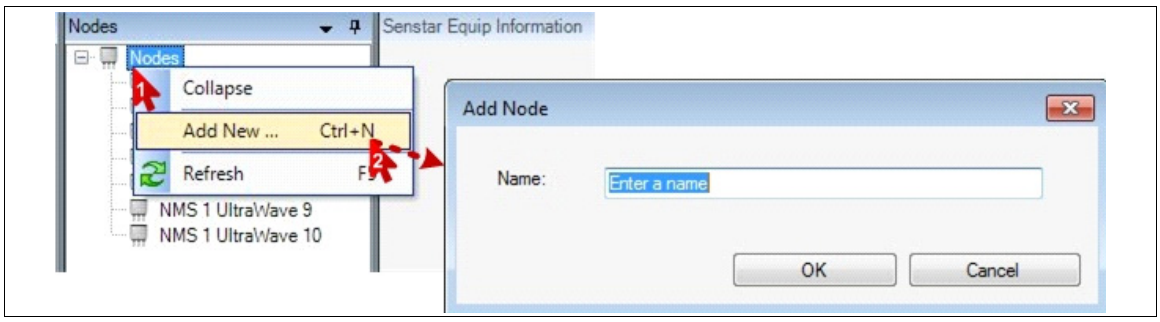


Figure 17 Manually adding a node

b Select **Add New** from the sub-menu.

c Enter a **Name** for XProtect to use to identify the Node.

d Select OK.

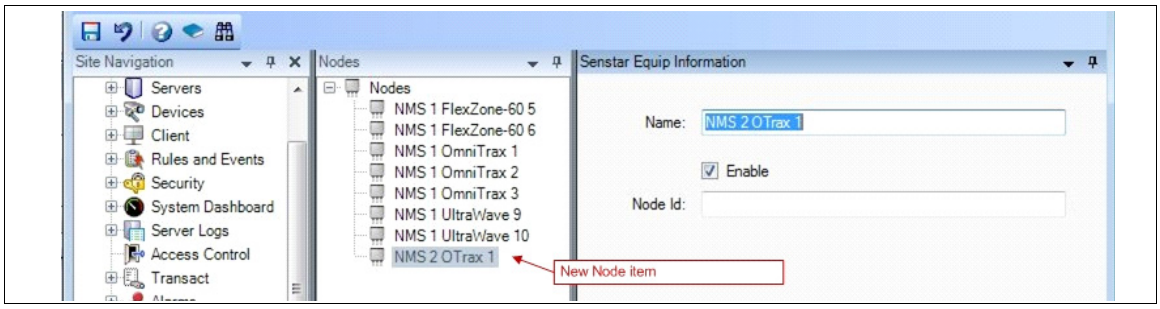


Figure 18 Entering a node Id

e Enter a **Node Id** to identify this Node item to the Gateway service so it can retrieve the node's status.

f Select  to save the changes.

5. Click **Inputs** to view the Input items that were created. Click an Input item to see its configuration.

- **Name** used to identify this item.
- **Input Id** is used in communications with the Gateway service to retrieve the input's status. It must exactly match the corresponding string defined in NMS-XProtect Gateway Config.
- Select **Map Icon** to be used on a XProtect Smart Client Map.

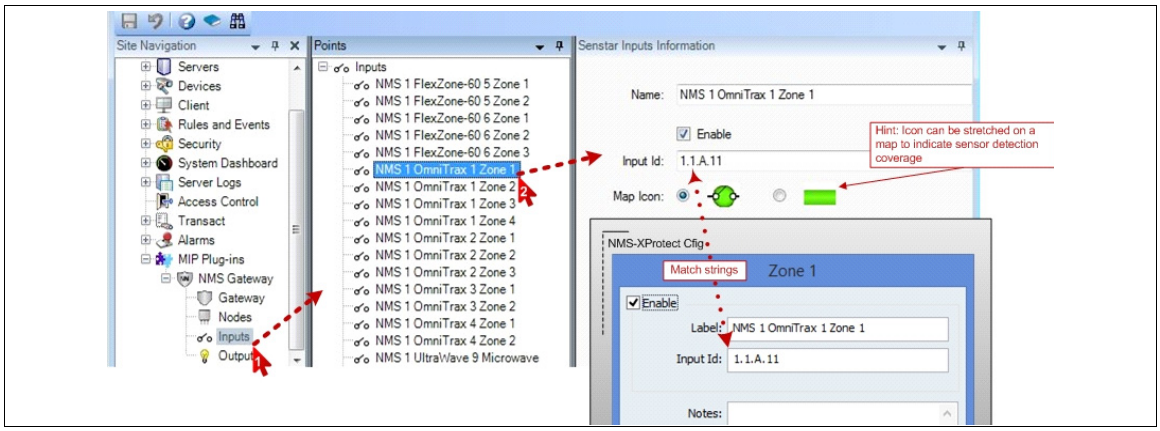


Figure 19 Viewing input items

To manually add an additional input:

a Right-click the Inputs root.

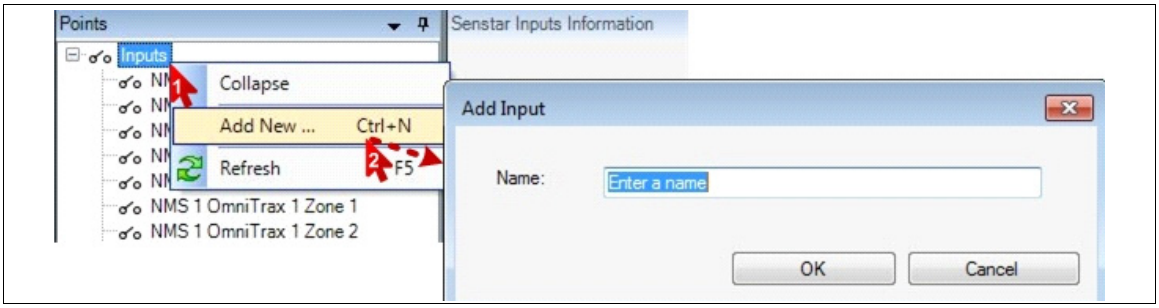


Figure 20 Manually adding an input

b Select **Add New** from the sub-menu.

c Enter a **Name** for XProtect to use to identify the Input.

d Select OK.

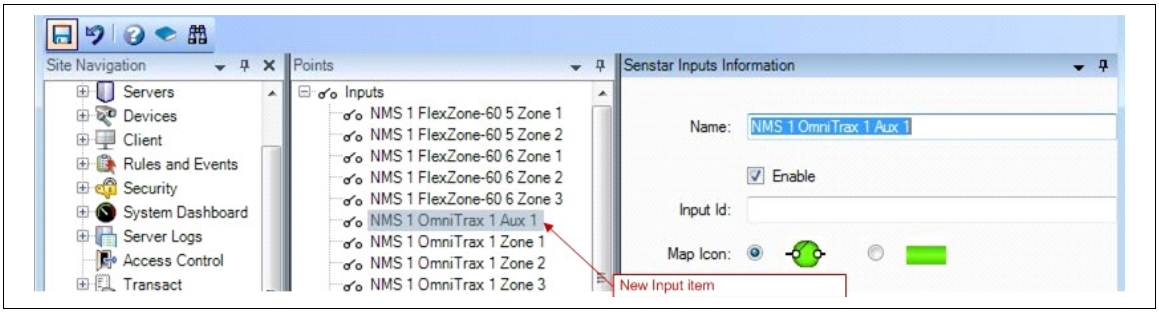


Figure 21 Manually adding an input

e Enter an **Input Id** to identify this Input item to the Gateway service so it can retrieve the input's status.

f Select a **Map Icon** to be used on an XProtect Smart Client Map.

g Select  to save the changes.

6. Click **Outputs** to view the Output items that were created. Click an Output item to see its configuration.

- **Name** used to identify this item.
- **Output Id** is used in communications with the Gateway service to retrieve the output's status, it must exactly match the corresponding string defined in NMS-XProtect Gateway Config.

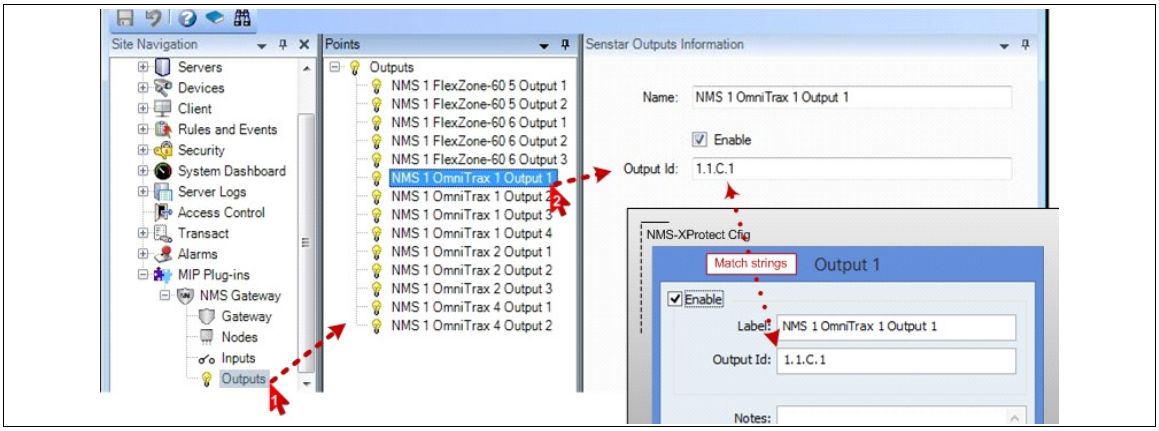


Figure 22 New output item

To manually add an additional output:

a Right-click the Outputs root.

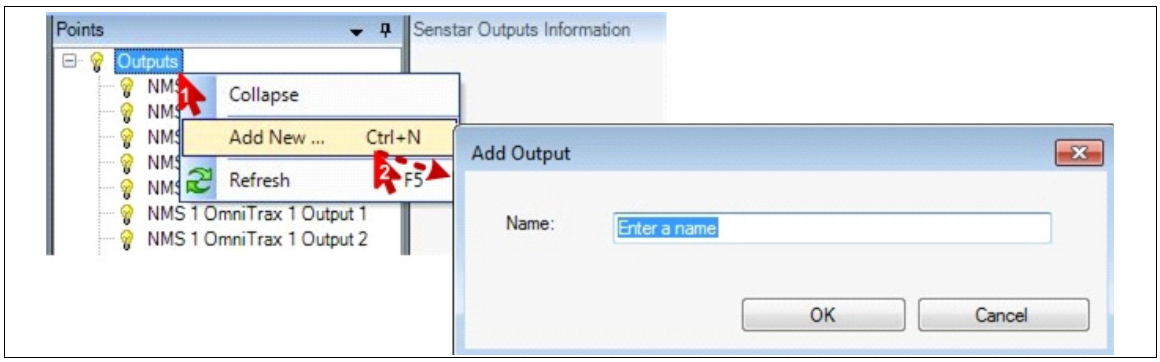


Figure 23 New output item

b Select **Add New** from the sub-menu.

c Enter a **Name** for XProtect to use to identify the Output.

d Select OK.

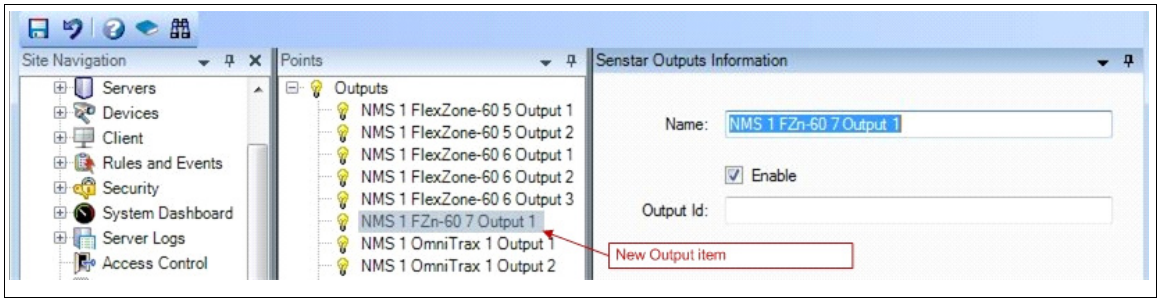


Figure 24 Manually adding an output

e Enter an **Output Id** to identify this Output item to the Gateway service so it can retrieve the output's status.

f Select  to save the changes.

Configure XProtect Alarm

This section highlights NMS Gateway usage in XProtect Alarms. Refer to the Milestone documentation for complete instructions on configuring XProtect Alarms.

1. Expand the Alarms on the XProtect Management Client Site Navigation tree. Click **Alarm Definitions** to configure alarm points for the NMS-XProtect Gateway and NMS Nodes and Input points.

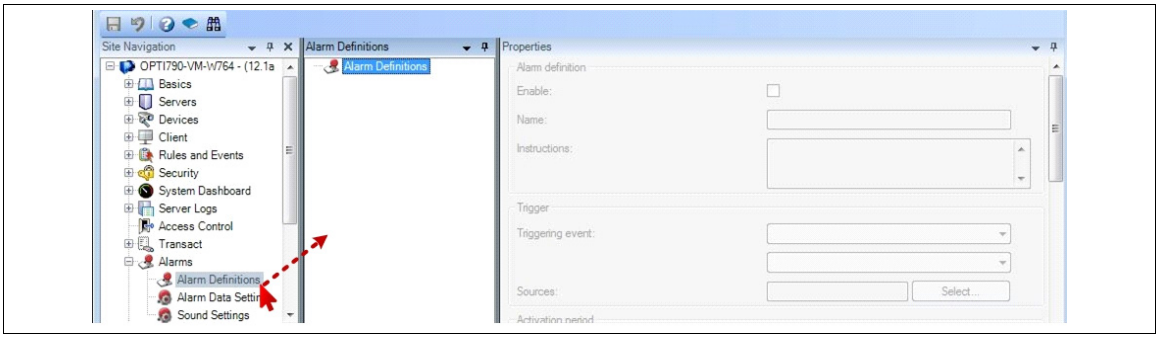


Figure 25 Configuring Alarm Definitions

2. Right-click the Alarm Definitions root.
3. Select **Add New** from the sub-menu.

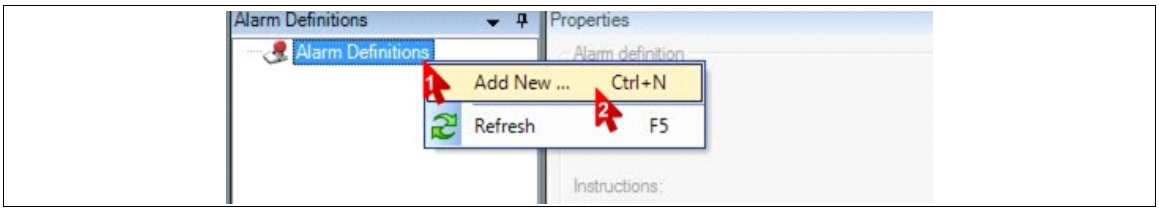


Figure 26 Adding Alarm Definitions

4. Enter a **Name** for the XProtect to use to identify the alarm.
5. Select an NMS **Trigger Event** item category.

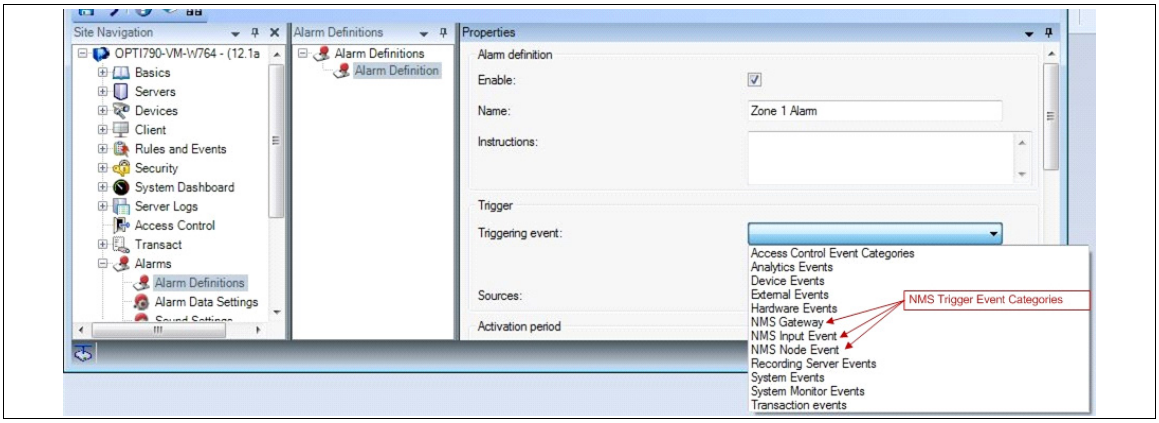


Figure 27 Selecting a Trigger Event Category

6. Select an event from the category specific list.

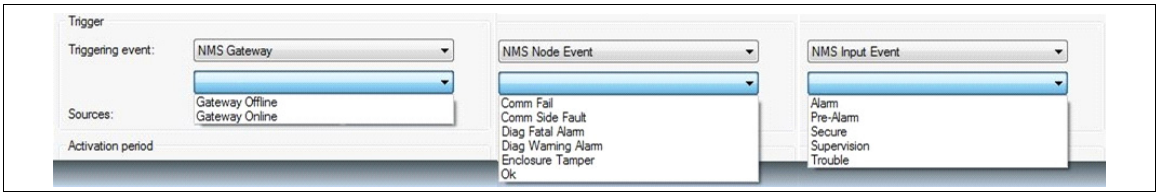


Figure 28 Selecting an Event

7. Click **Select** to open the **Select Sources** dialog.

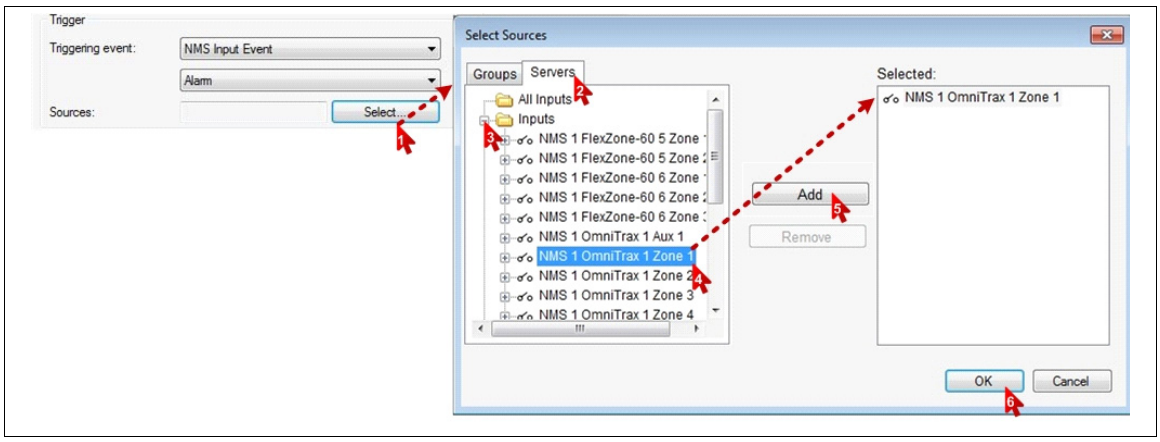


Figure 29 Select Sources dialog

8. Select the **Servers** tab.
9. Expand the **Inputs** node.
10. Select the input that will trigger the alarm.
11. Select **Add**.
12. Select OK.

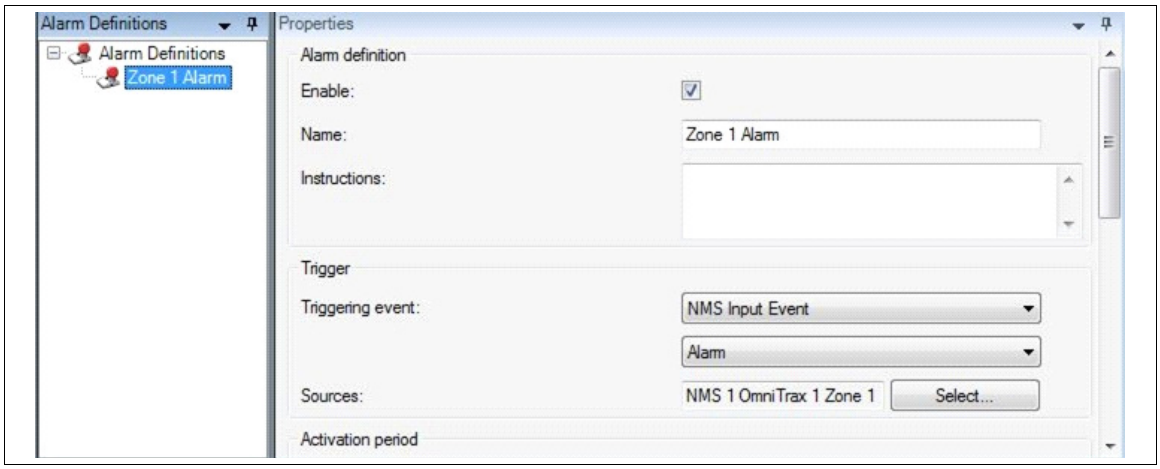


Figure 30 Alarm Definition Properties

Configure XProtect Rule

This section highlights NMS Gateway usage in XProtect Rules. Refer to the Milestone documentation for complete instructions on configuring XProtect Rules.

1. Expand Rules and Events on the XProtect Management Client Site Navigation tree. Click **Rules** to configure rules using the NMS-XProtect Gateway objects.

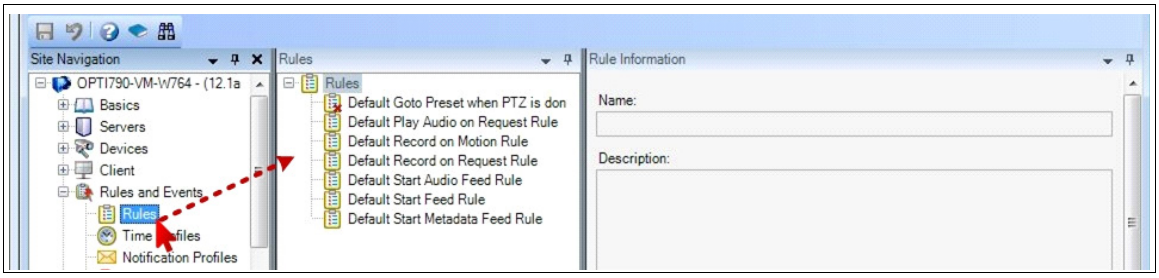


Figure 31 XProtect Rules

2. Right-click the Rules root.

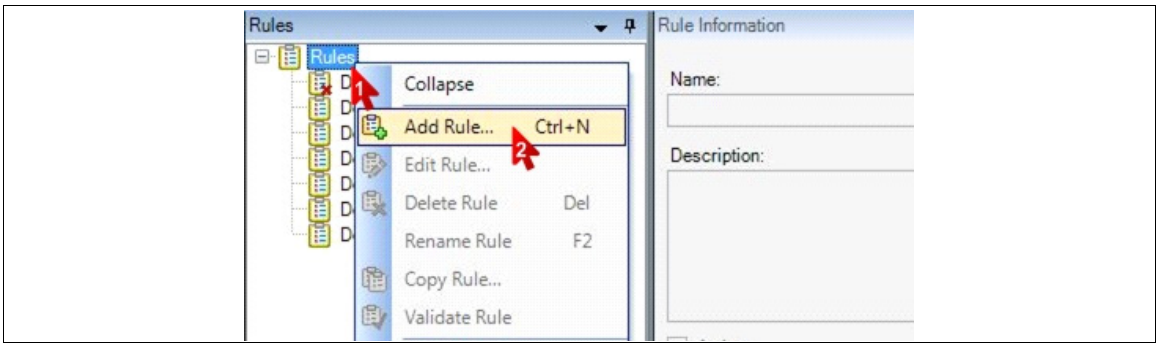


Figure 32 XProtect Rule

3. Select **Add Rules** from the sub-menu.
4. Enter a **Name** for the XProtect to use to identify the rule.
5. Using an XProtect NMS Gateway MIP plug-in point to trigger a Rule:
   a In the **Manage Rule** dialog **Step 1: Type of rule**, select **Perform an action on <event>**.

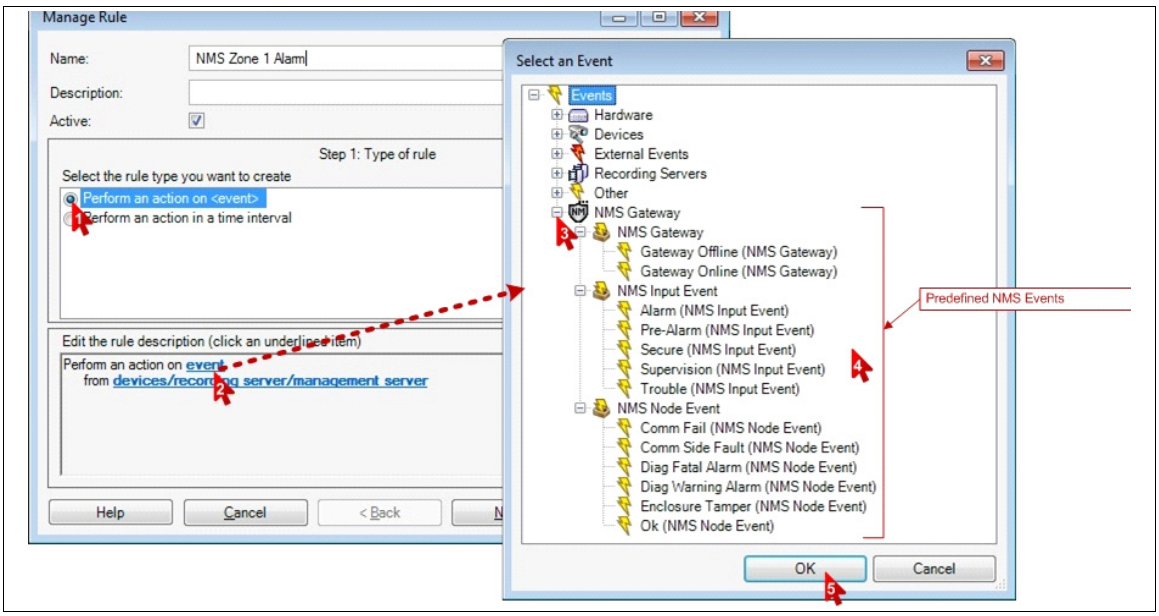


Figure 33 Manage Rule dialog

   b In the rule description area, select **event** to choose an event that will trigger the rule.
   c Expand the NMS Gateway tree node.

d Select one of the predefined NMS event types.

e Select OK.

f In the rule description area, select **devices/recording server/management server** to select a source for the event type.

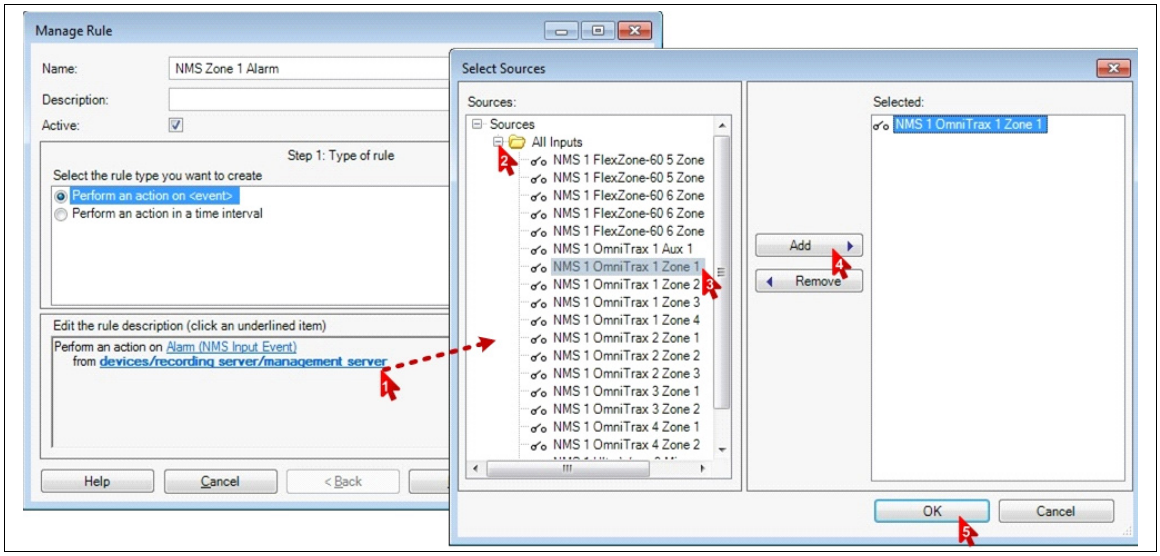


Figure 34 Select Sources dialog

g Expand the **All Inputs** tree node.

h Select the input that will trigger the rule.

i Select **Add**.

j Select OK.

6. Using a Rule Action to control an NMS MIP Gateway plug-in output:

a In the **Manage Rule** dialog **Step 3: Actions**, select an NMS Action.

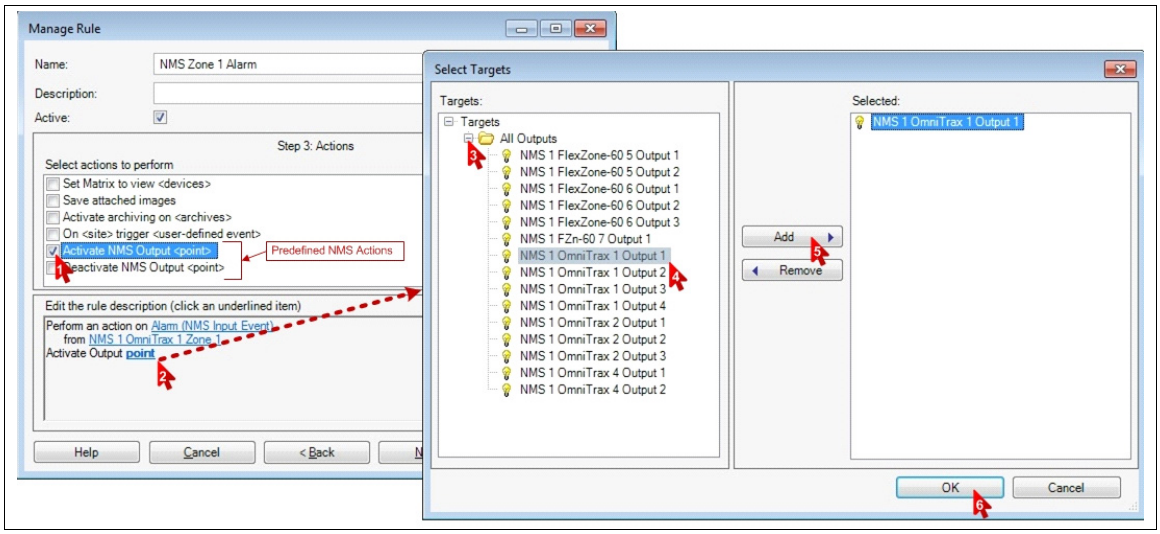


Figure 35 Select Targets dialog

b In the rule description area, select **point** to select an output for the rule action.

c Expand the **All Outputs** node.

d Select the output that will be controlled by the action.

e Select **Add**.

f Select OK.

7. Select **Finish** when done.

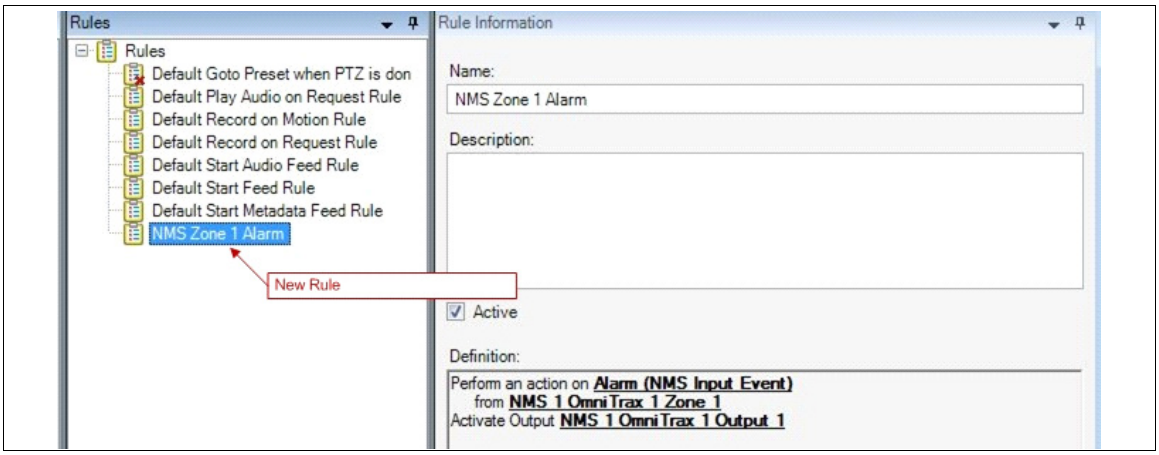


Figure 36 Rule Information dialog

Configure XProtect Map

This section highlights NMS Gateway usage on an XProtect Smart Client Map. Refer to the Milestone documentation for complete instructions configuring XProtect Maps.

1. Select XProtect Smart Client **Setup** mode.

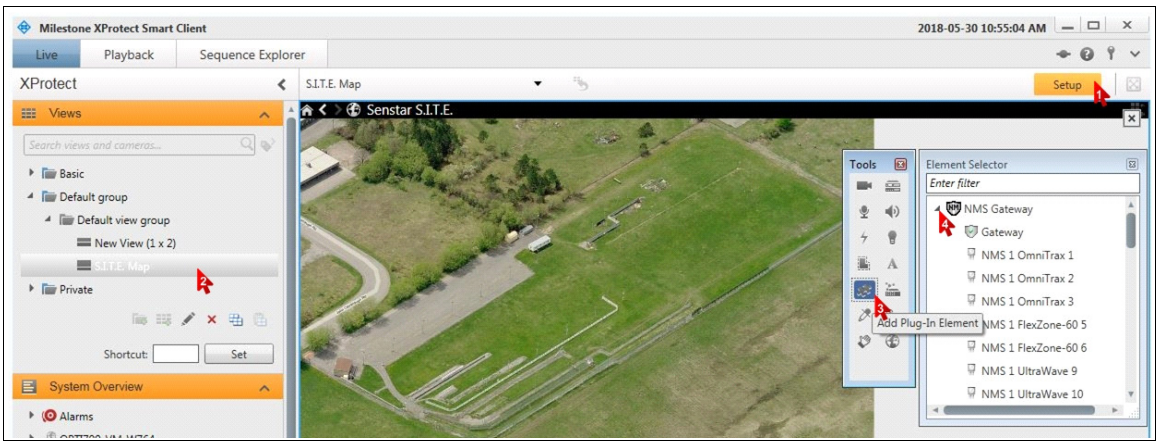


Figure 37 Smart Client setup

2. Select/Create a map view on which to place NMS Gateway map icons.
3. From the Tools menu select **Add Plug-in Element**.
4. Expand the **NMS Gateway** node. The expanded node will list the NMS Gateway icons that are available for placing on the map. This list includes an icon for the Gateway as well as defined Nodes, Inputs and Outputs.

5. Drag the icons to be displayed from the Element Selector onto the map.

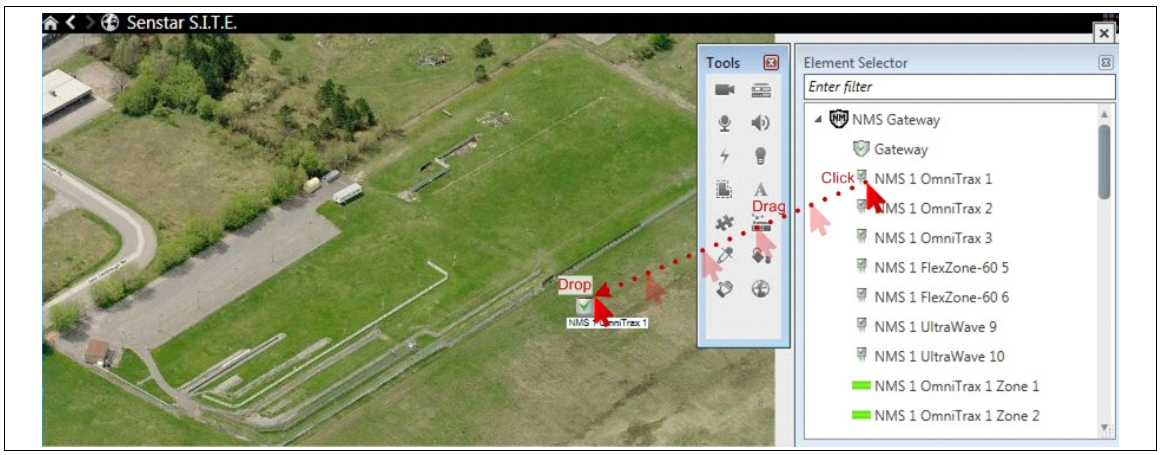


Figure 38 Selecting an Icon

6. Customize the icon after it is placed on the map. The label can be edited and it's position relative to the icon can be adjusted. The icon can be resized. For example, the Input Line icon can be stretched and rotated to indicate the sensor's detection coverage area.

Figure 39 Custom Icons

Right clicking an Output icon, displays a menu to manually activate or deactivate the associated NMS Output Point.

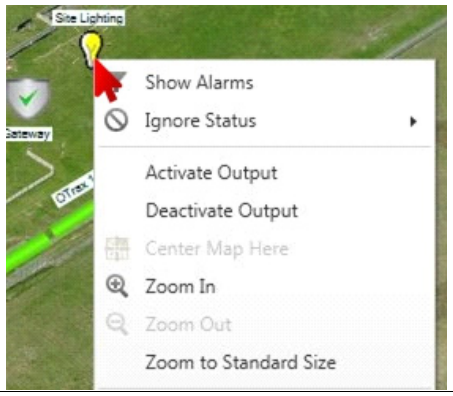


Figure 40 Output Icon action menu

Map icons display the current state of corresponding NMS points:

Gateway Icons			
	**Offline**: No communications with NMS-XProtect Gateway service		**Online**: Communications established with NMS-XProtect Gateway service
Node Icons			
	**Offline**: No communications to NMS-XProtect Gateway service		**OK**: Node fully functional
	**Comm Warning**: Non-fatal communication problem with node		**Comm Fail**: Node communication failure
	**Diagn Warning**: Minor diagnostic problem with node that doesn't affect alarm detection		**Diagn Fail**: Major diagnostic problem with node that affects alarm detection

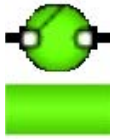
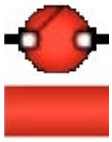
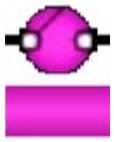
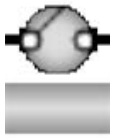
	**Enclosure Tamper**: Node enclosure open		Note: Icon may be displayed showing a combination of statuses
Input Icons			
	**Offline**: No communications with NMS-XProtect Gateway service		**OK**: Input operational and no alarm condition detected
	**Alarm**: Input alarm condition detected		**Supervision**: Input tampering detected
	**Alarm + Supervision**: Input alarm and tampering detected		**Trouble**: Input operation compromised due to fatal communication or diagnostic condition
Output Icons			
	**Offline**: No communications with NMS-XProtect Gateway service		**Off**: Output deactivated
	**On**: Output activated		

Figure 41 Map Icons

Editing a Configuration in Excel

Using Excel open the text (.txt) file exported by the **NMS-XProtect Gateway Config** program. When prompted by the **Text Import Wizard**, select Tab Delimited fields.

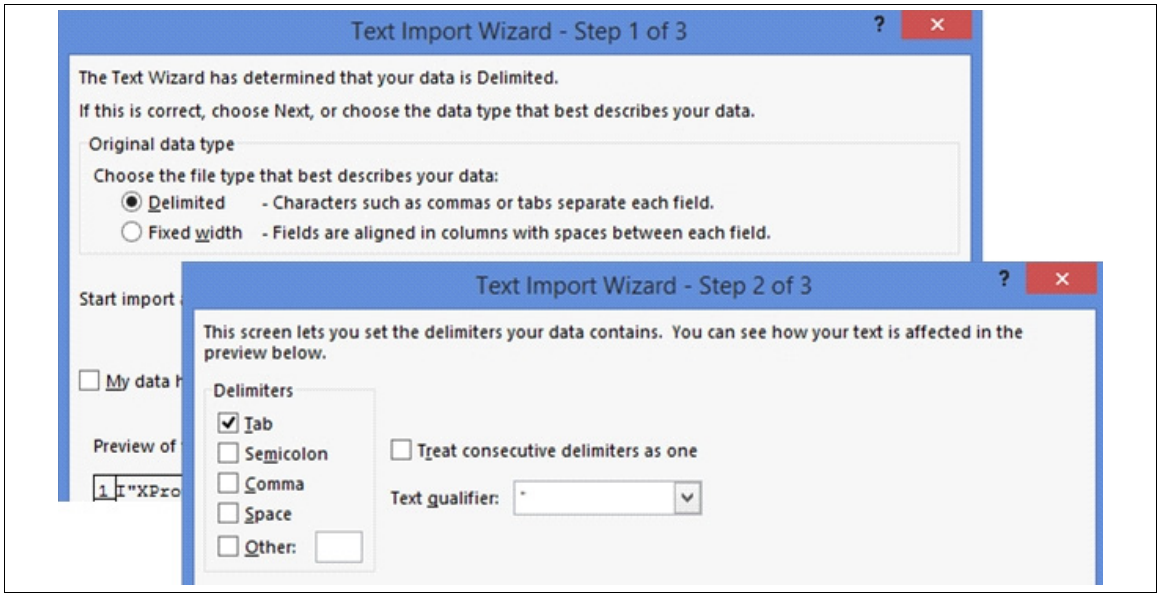
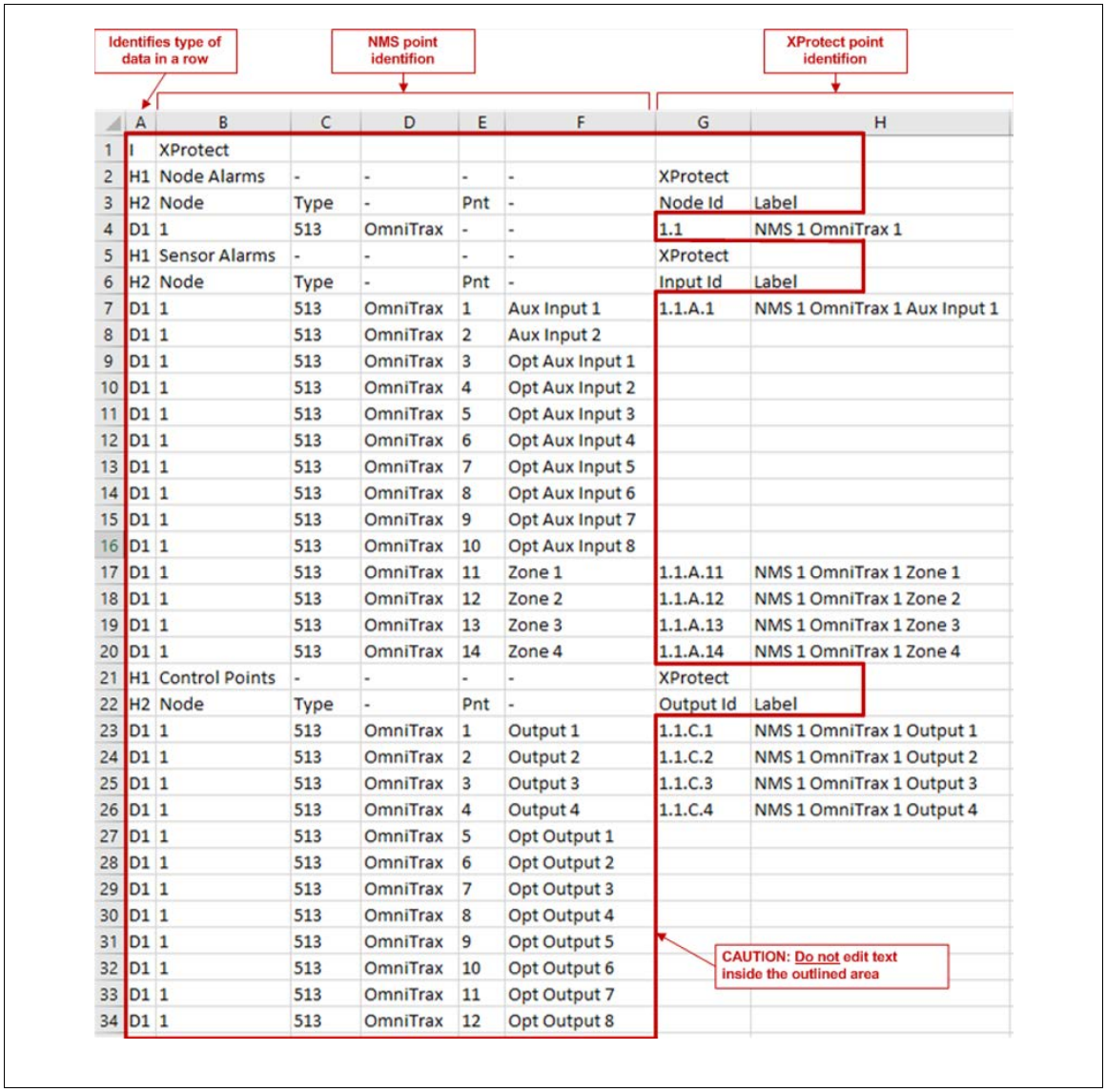


Figure 42 Text Import Wizard

After adjusting the column widths to display all of the column data, the spreadsheet should appear as follows.



	A	B	C	D	E	F	G	H
1	I	XProtect						
2	H1	Node Alarms	-	-	-	-	XProtect	
3	H2	Node	Type	-	Pnt	-	Node Id	Label
4	D1	1	513	OmniTrax	-	-	1.1	NMS 1 OmniTrax 1
5	H1	Sensor Alarms	-	-	-	-	XProtect	
6	H2	Node	Type	-	Pnt	-	Input Id	Label
7	D1	1	513	OmniTrax	1	Aux Input 1	1.1.A.1	NMS 1 OmniTrax 1 Aux Input 1
8	D1	1	513	OmniTrax	2	Aux Input 2		
9	D1	1	513	OmniTrax	3	Opt Aux Input 1		
10	D1	1	513	OmniTrax	4	Opt Aux Input 2		
11	D1	1	513	OmniTrax	5	Opt Aux Input 3		
12	D1	1	513	OmniTrax	6	Opt Aux Input 4		
13	D1	1	513	OmniTrax	7	Opt Aux Input 5		
14	D1	1	513	OmniTrax	8	Opt Aux Input 6		
15	D1	1	513	OmniTrax	9	Opt Aux Input 7		
16	D1	1	513	OmniTrax	10	Opt Aux Input 8		
17	D1	1	513	OmniTrax	11	Zone 1	1.1.A.11	NMS 1 OmniTrax 1 Zone 1
18	D1	1	513	OmniTrax	12	Zone 2	1.1.A.12	NMS 1 OmniTrax 1 Zone 2
19	D1	1	513	OmniTrax	13	Zone 3	1.1.A.13	NMS 1 OmniTrax 1 Zone 3
20	D1	1	513	OmniTrax	14	Zone 4	1.1.A.14	NMS 1 OmniTrax 1 Zone 4
21	H1	Control Points	-	-	-	-	XProtect	
22	H2	Node	Type	-	Pnt	-	Output Id	Label
23	D1	1	513	OmniTrax	1	Output 1	1.1.C.1	NMS 1 OmniTrax 1 Output 1
24	D1	1	513	OmniTrax	2	Output 2	1.1.C.2	NMS 1 OmniTrax 1 Output 2
25	D1	1	513	OmniTrax	3	Output 3	1.1.C.3	NMS 1 OmniTrax 1 Output 3
26	D1	1	513	OmniTrax	4	Output 4	1.1.C.4	NMS 1 OmniTrax 1 Output 4
27	D1	1	513	OmniTrax	5	Opt Output 1		
28	D1	1	513	OmniTrax	6	Opt Output 2		
29	D1	1	513	OmniTrax	7	Opt Output 3		
30	D1	1	513	OmniTrax	8	Opt Output 4		
31	D1	1	513	OmniTrax	9	Opt Output 5		
32	D1	1	513	OmniTrax	10	Opt Output 6		
33	D1	1	513	OmniTrax	11	Opt Output 7		
34	D1	1	513	OmniTrax	12	Opt Output 8		

Figure 43 Imported Text

CAUTION To ensure the file remains compatible for importing by the **NMS-XProtect Gateway Config** and **XProtect Management Client** edit only the text in columns G and H on rows which contain D1 in column A.

- Rows starting with H1 (column A) identify the type of points (Node Alarms, Sensor Alarms or Control Points) in their respective D1 rows.
- Rows starting with H2 identify the type of data in the columns of their respective D1 rows. Column Headings:
  - **Node**: NMS node number.
  - **Type** (2 columns): Node type, numeric id and description.
  - **Pnt** (2 columns): Point number and description (n/a for Node Alarms).
  - **Node/Input/Output Id**: Unique identifier links points in XProtect Event Server to points in the Gateway service.

- **Label**: Label assigned to the Node/Input/Output created by the XProtect Management Client when importing a configuration.

- Rows starting with D1 identify the NMS points and their associated XProtect Plug-in Point linkage. Points to be processed by XProtect must have a string defined in the Node/Input/Output Id column (column G).

Use Excel techniques for cell editing like dragging a cell to fill series of cells to quickly extend point assignments.

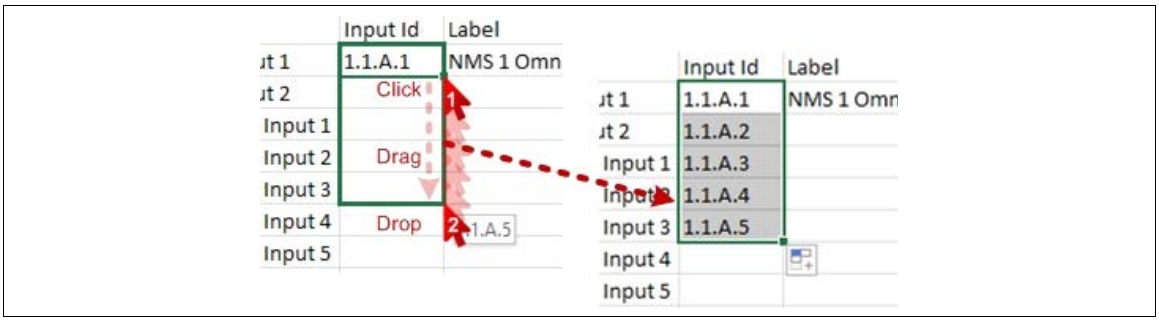


Figure 44 Extending point assignments

When done editing save the spreadsheet to a Unicode Text file.

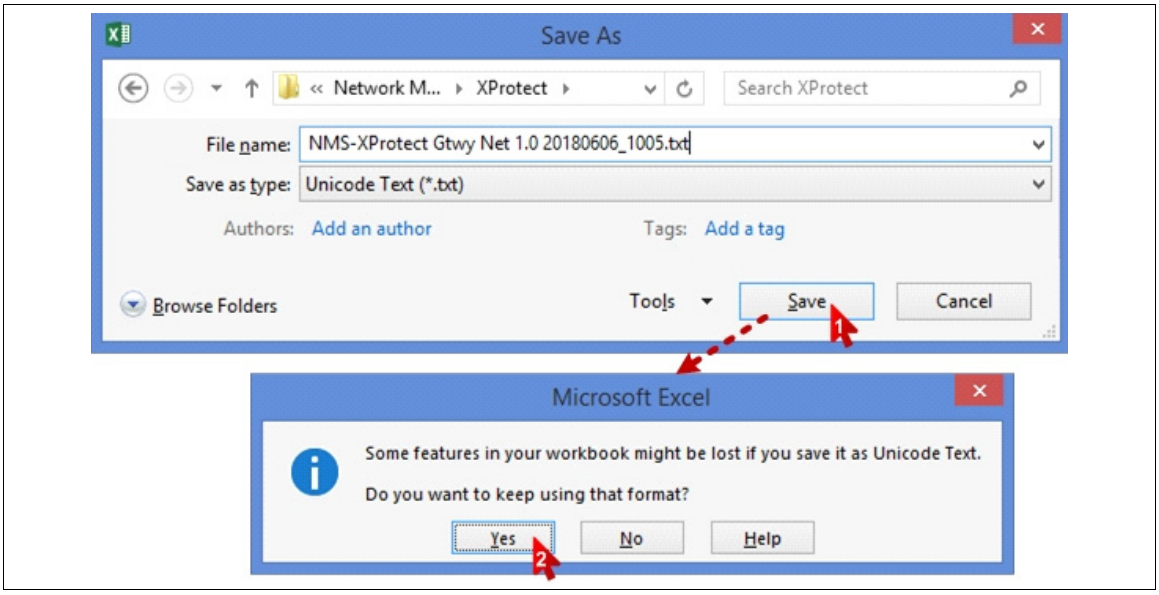


Figure 45 Saving as a Unicode Text File