



ORBNET S2 Milestone ACM Installation Guide

For software version 1.3.7

November-2024

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2 Overview

ORBNET have developed a Milestone Access Control Module (ACM) for the S2 NetBox system. This document details the prerequisites and installation and licensing steps.

3 Principal Scheme

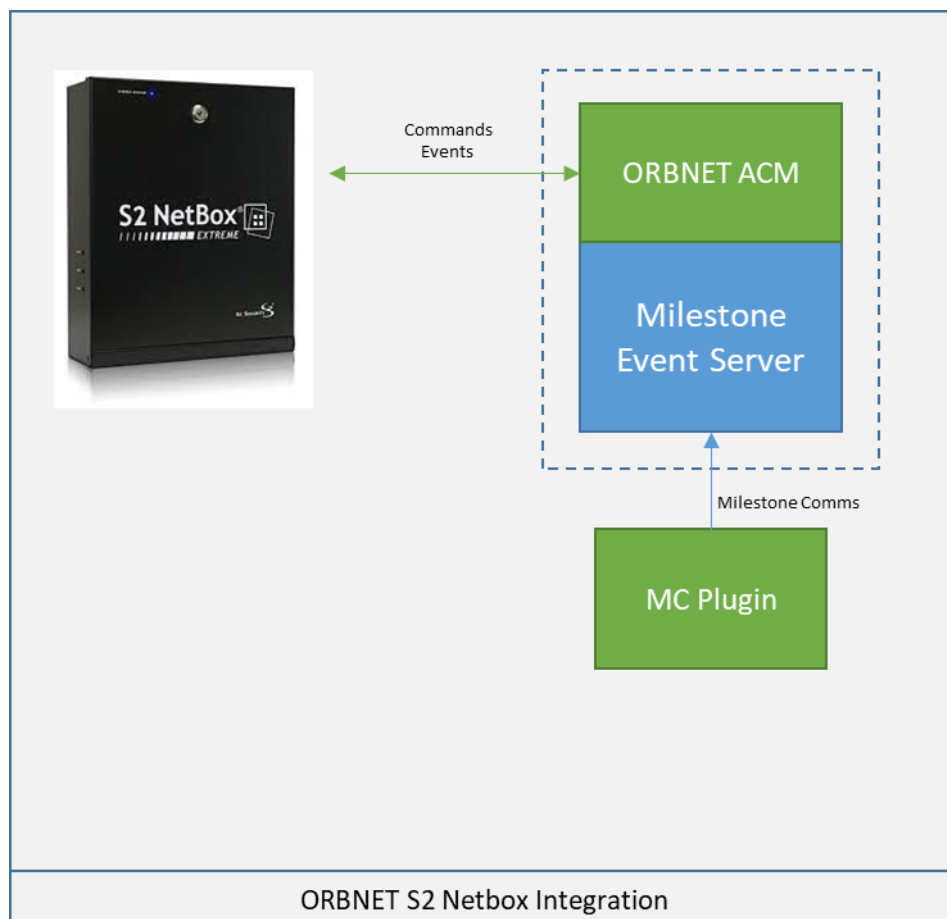
The Access Control integration comprises of the following elements:

- Milestone Access Control Module
- Milestone Management Client (MC) plugin

The following items must also be installed and configured prior to deploying the Access Control Module:

1. S2 NetBox device and associated nodes
2. Milestone XProtect 2023 R1 servers with XProtect Access license installed and sufficient Access Control Door licenses to cover the number of doors required.

NOTE: The Access Control integration should work on older versions of Milestone XProtect but this has not been tested and therefore compatibility is not guaranteed.



4 Prerequisites

1. S2 NetBox device
 - a. IP address and port (if port is non-standard)
 - b. Administrator access to the web administration interface
 - c. User Account added for use by the integration – details to configure this are provided in this guide (username + password made available)
2. Administrator access to the Milestone Event Server (to install software on)
3. Milestone account with admin privileges (a Domain Service Account or Basic Milestone User)
 - a. Add new Access Control integration
 - b. Configure Alarms and assign cameras to readers
4. .NET Framework v4.8 installed on all Milestone servers
5. Installation package from ORBNET
6. A valid license after the 30-day trial period has finished
7. **Any previous S2 Integrations uninstalled and removed completely**

5 Features Support

The ORBNET S2 Milestone access control integration supports the following S2 NetBox features:

- **API Version 1 AND API Version 2** (N.B. API Version 1 is set to be retired from NetBox 6.0)
- Card holder search and view details (including photos)
- Retrieval of doors and associated readers
- Door commands (Lock, Unlock, Momentary Unlock)
- Events (real-time from S2)
- Multiple partitions
- Activate and Deactivate Outputs
- Personalised Login (Milestone Smart Client)
- Door Status Polling (supported in NBAPI v2)

6 Known S2 API Limitations

The S2 NetBox API has several limitations which impact some features of the Milestone Access Control integration:

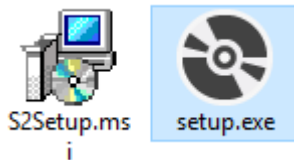
1. **Reader states are not available.** Therefore, all Readers will show as Normal. If connectivity to the S2 API fails, then all elements will be marked as Unknown until connectivity is restored.
2. **Only one integration connection at a time.** This is not a limitation per se, and note Prerequisites point 7, but the NetBox API only allows a single concurrent connection to the API (for event stream), therefore to avoid contention, remove any existing integration software.

7 Installation Steps

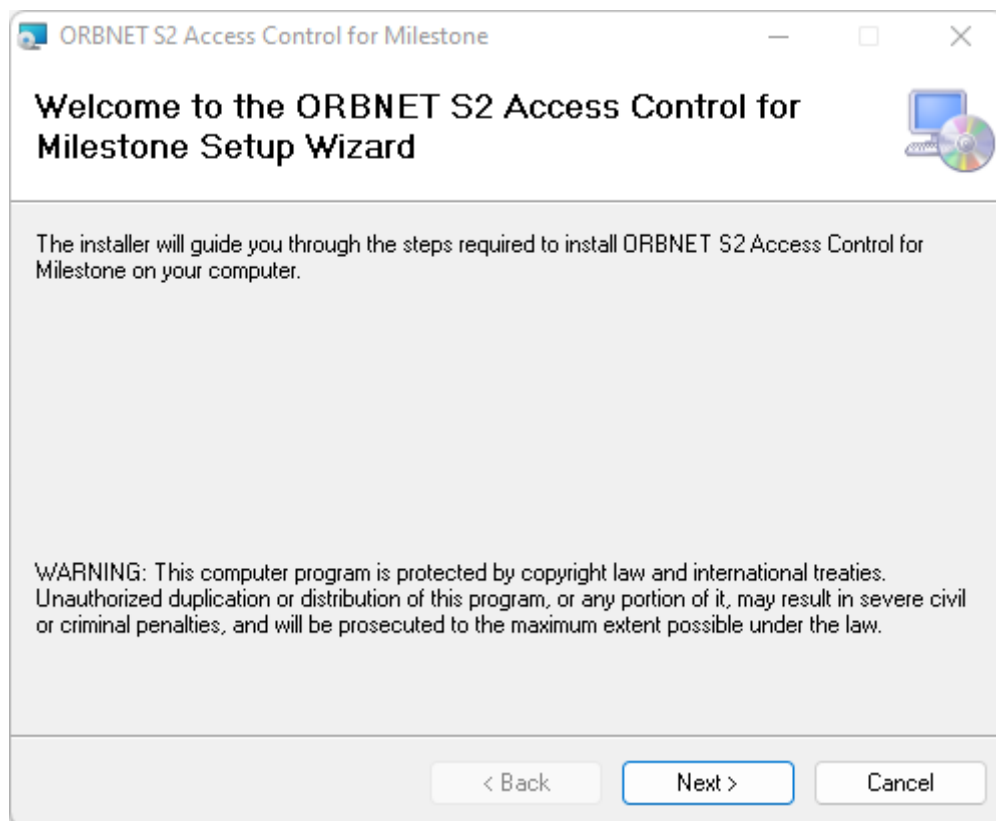
The ORBNET ACM and Management Client Plugin are installed using the supplied installation package. This should be run on the Milestone Event Server by a user with local administrator privileges (Milestone privileges are not required).

NOTE: After the installation has completed the Milestone Event Server will require a restart. This should be scheduled during a suitable maintenance window.

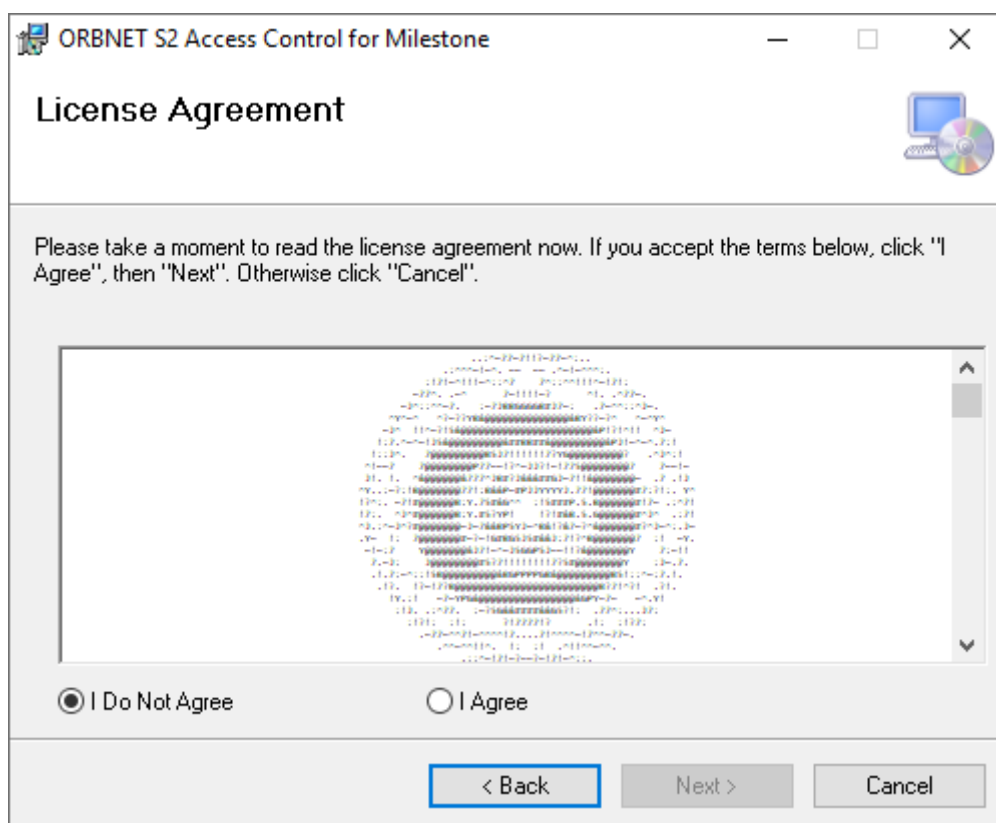
1. Double-click on setup.exe in the installer folder. This will launch the install program.



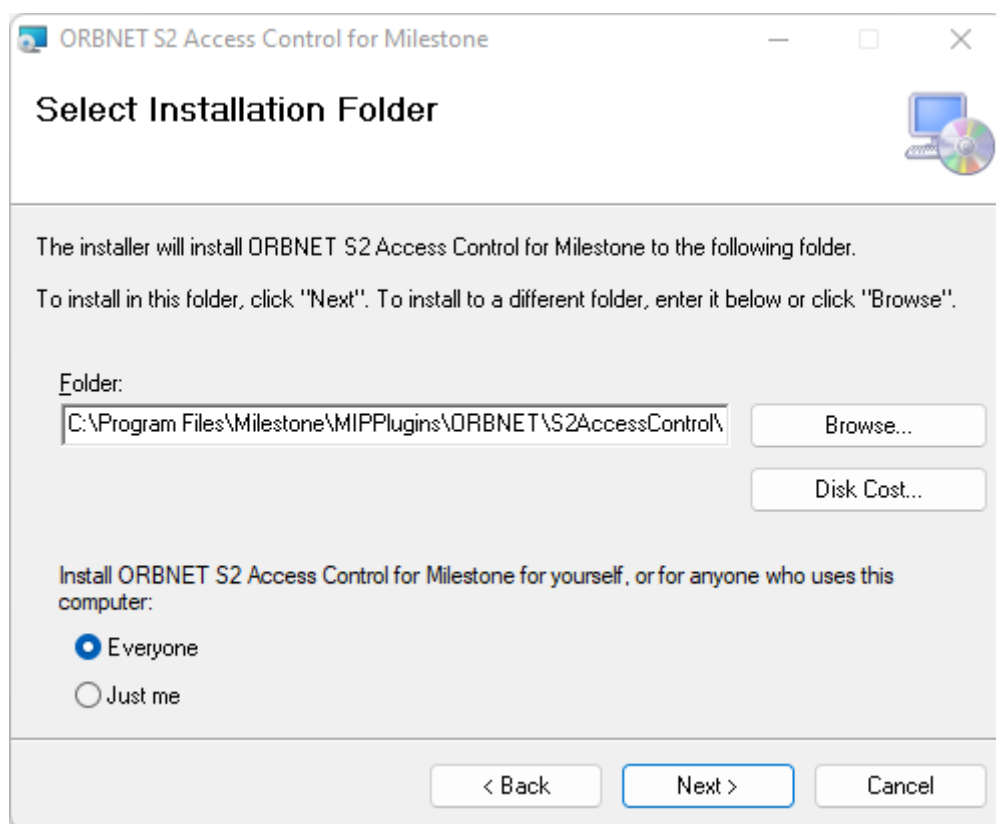
2. Click Next on the opening screen.



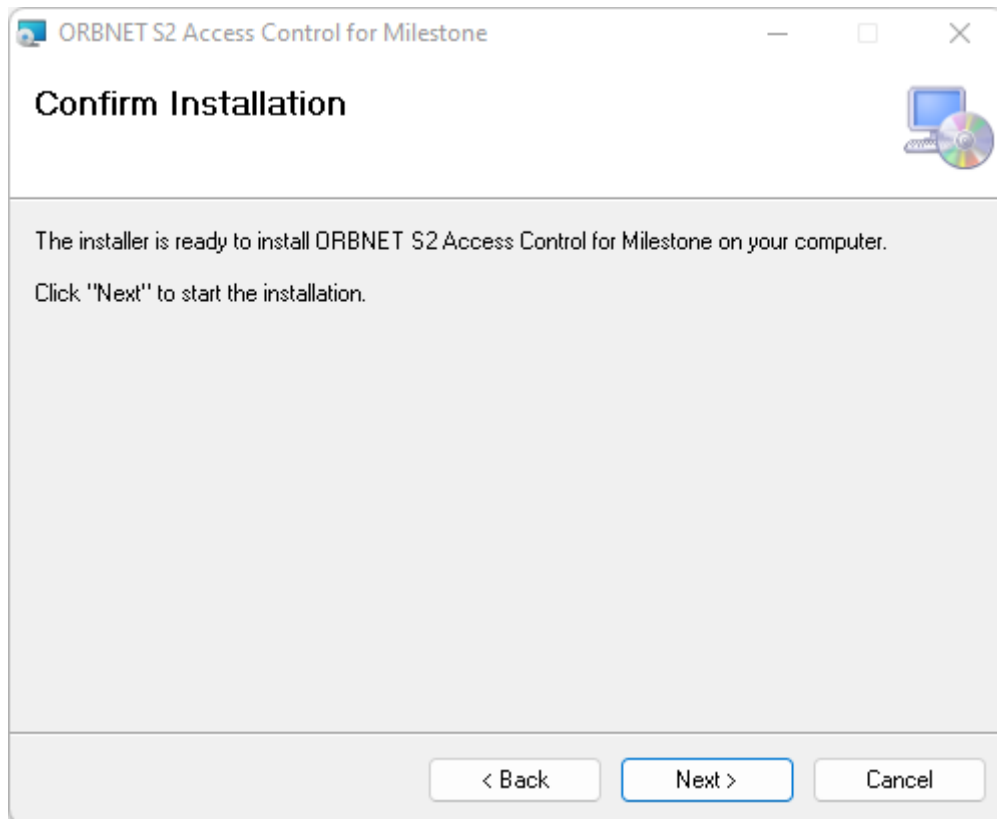
3. Agree to the End User License Agreement



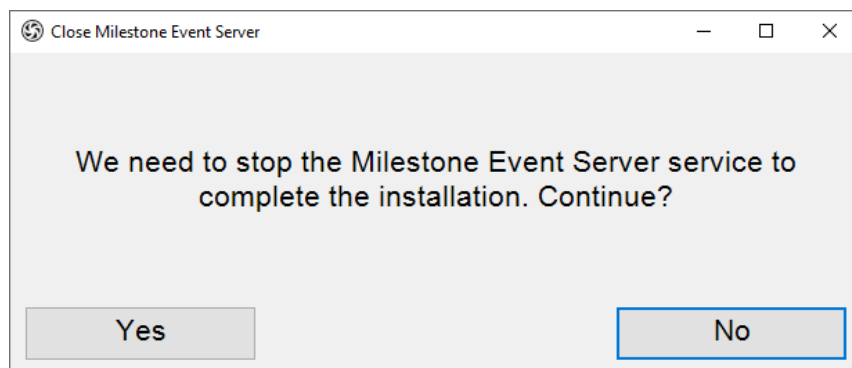
4. Leave the installation folder as the default value and click Next.



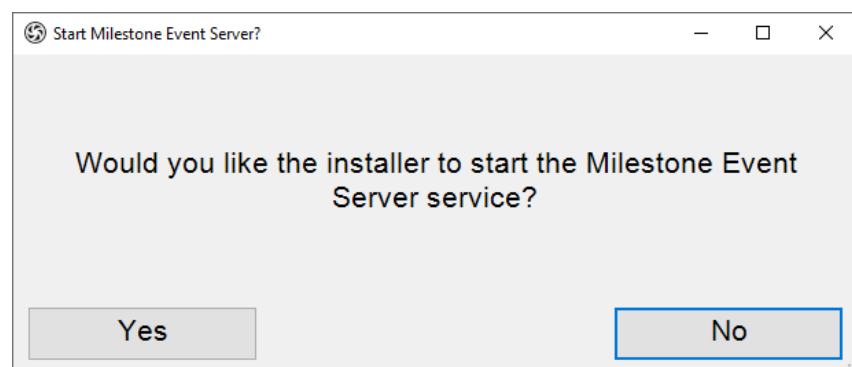
5. Click Next to start the installation process.



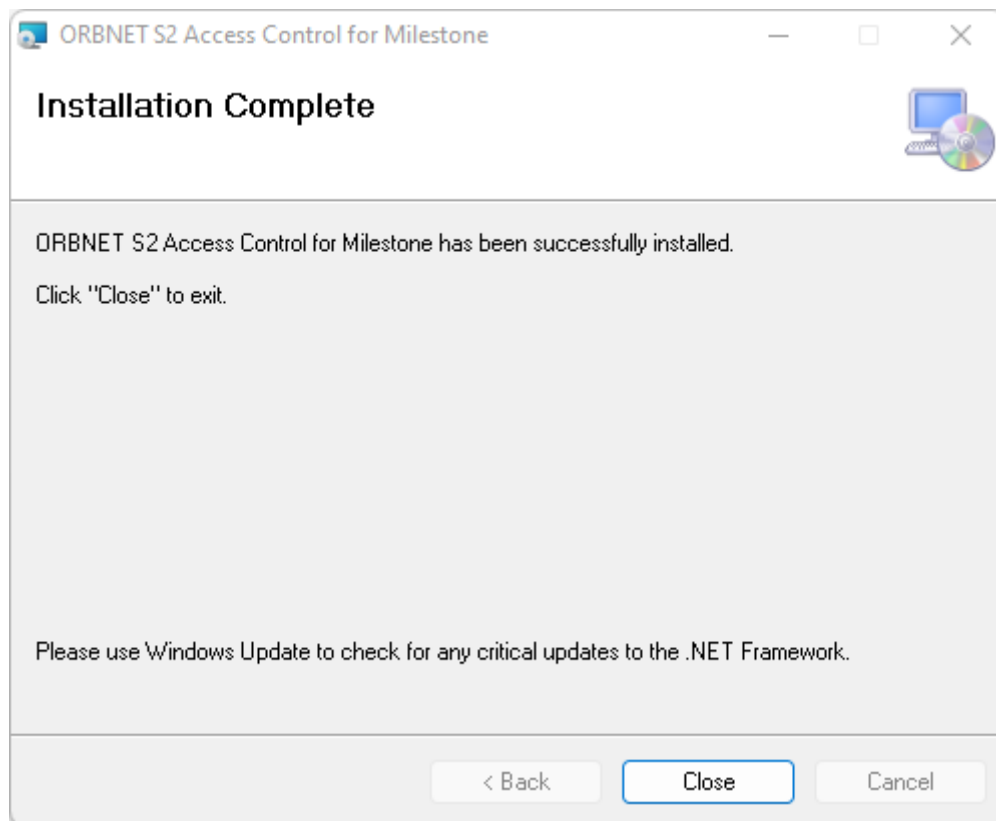
6. The installer will prompt to Stop the Milestone Event Server (if it is running), click Yes to continue:



7. The installer will prompt to Start the Milestone Event Server, click Yes to continue:



8. Once the installation has completed, click Close.



8 Confirm Installation

Once the installation process has completed the Milestone Event Server service should be restarted (if the prompted restart in the installation program was not utilised). This will load the necessary Access Control Module and initialise the 30-day trial license.

8.1 Confirm Access Control Integration is accessible

Follow these steps to confirm that the Access Control Module has installed correctly:

1. Open the Milestone Management Client and navigate to Access Control on the left-hand side.
2. Right click on the Access Control node and select Create New.
3. On the Create Access Control System Integration screen, open the Integration plug-in drop-down.
4. Confirm that the S2 Access Control System is visible (it will be added later, this is just to check it is appearing in the list)

Create Access Control System Integration

Create access control system integration

Name the access control system integration, select the integration plug-in and enter the connection details.

Name:

Integration plug-in:

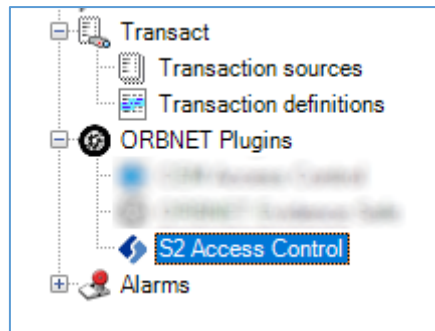
Next Cancel

NOTE: If it is not listed, please ensure that the installation completed successfully and that the Milestone Event Server has restarted.

8.2 Confirm Management Client Plugin is accessible

Follow these steps to confirm that the Management Client Plugin has installed correctly:

1. Open the Milestone Management Client (on the Milestone Event Server).
2. Confirm that the S2 Access Control node is visible under ORBNET Plugins.
3. Click on it and confirm that the plugin contents load.



9 Create S2 API User

The Milestone integration requires an API user to be created within the S2 NetBox system to grant it access. Follow these steps to set up the correct permissions for the user account:

1. Login to the S2 NetBox administration web interface.
2. Navigate to Configuration > Site Settings > User Roles.
3. Click Add and provide a Name and Description:

User Roles

Name: * API ▼
(or [add](#) [rename](#))

Description:

Threat Level Group: (not applicable) ▼

Permissions:

Camera Groups:

Available (0):

Selected (0):

View: ☒

Go to presets: ☐

PTZ: ☐

Edit presets: ☐

Forensic Desktop: ☐

Elevator Groups:

Available (0):

Selected (0):

View: ☒

Free Access: ☐

4. Scroll down and check Read-Write under API Privilege > Access and tick Restrict User to API Login only (under Security).

Data Operations:

Configure NAS: ☐

View: ☐ Delete: ☐ Upload: ☐ Export: ☐ Schedule: ☐

API Privilege:

Access: ☐ None
☐ Read-Only
☒ Read-Write

Security:
Restrict User to API Login only: ☒

Custom Menus:

Custom Menu List: (none) ▼

Restrict to Custom Menu: ☐

Additional Privileges:

All Administration: ☐

Assign Multi-partition Access Level Groups: ☐

All Setup: ☐

Edit Multi-partition Access Level Groups: ☐

Save Cancel Delete

5. Click Save.
6. From the top bar, Select Administration > People Add.
7. Provide a Last Name and First Name and under the Login section enter a username, password and select the API User Role under User Role:

Dyson Ltd - Technical Security Test

* Last Name: VMS

First Name: Milestone

MI:

Activation Date/Time: 09/14/2022 11:49

Expiration Date/Time:

ID#:

Last Modified Date & Time:

Signature: No Signature

Notes:

Last Modified User:

Information

Credentials

Access Levels

Login

Login

User Name: milestone

Password: *****

Re-enter password: *****

User Role: API

Alarm Filter Group: Select

Default Widget Desktop: Select

Custom Menu: Select

8. Click Save when completed.

10 Enable S2 NetBox API

In order for the Milestone Access Control integration to communicate with the S2 NetBox system, the API must be enabled. Follow these steps to do so:

1. Login to the S2 NetBox administration web interface.
2. Navigate to Site Settings > Network Controller > Data Integration tab.
3. Under API check Enabled, Use Authentication and Use login username/password.

Network Controller

System Nodes Web Site Access Control Admin Events and Activity **Data Integration** ?

API

Enabled: ☒

Use Authentication: ☒

Use login username/password for authentication (requires setup privilege): ☒

SHA Secret:

Re-enter SHA Secret:

Sequence Number: ☐ Reset Sequence Number to '0'

ODBC

☐ Enabled

ODBC Report user password: (default "report")

CSV Export

☒ Enabled

Save Cancel

4. Leave all other settings as default.
5. Click Save when done.

11 Add Access Control Integration

In order to utilise the Access Control Module within Milestone, the Access Control integration must be added. This is done through the Milestone Management Client.

1. Open Management Client.
2. Navigate to Access Control.
3. Right click on Access Control and select Create New.
4. Provide a Name for the Access Control System (e.g., the organisation or premises).
5. Select S2 Access Control System from the Integration plug-in drop-down.

Create Access Control System Integration

Create access control system integration

Name the access control system integration, select the integration plug-in and enter the connection details.

Name: Mega Corp HQ

Integration plug-in: S2 Access Control System

Language: English

Address: localhost

Port: 443

Connect using HTTPS: ☒

S2 API Version: Version2

Username: admin

Password: ••••

Session Timeout: 600

Portal Status Changes Polling Interval (in seconds): 1

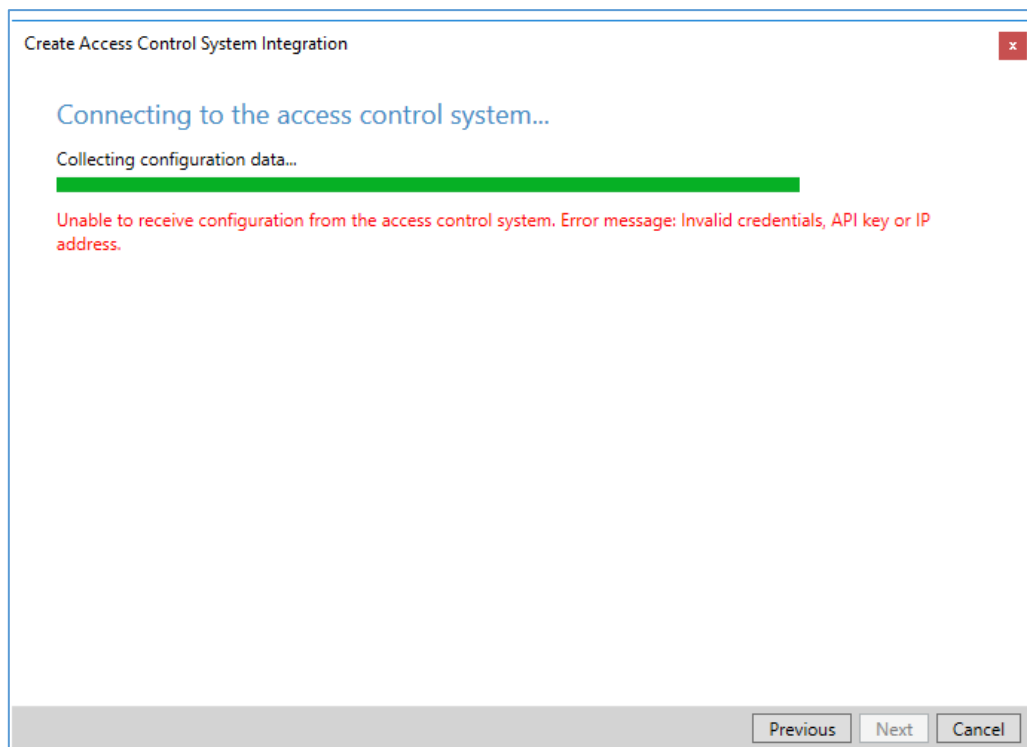
Next Cancel

6. Complete the settings as follows:

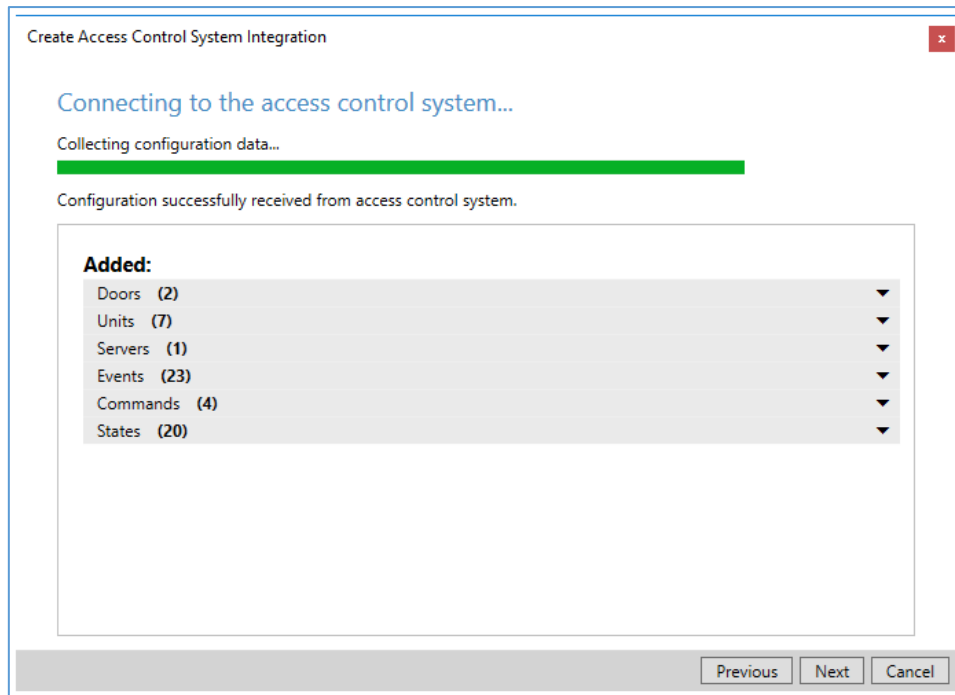
| Setting | Default Value | Notes |
|---------------------|---------------|---|
| Language | English | English is the only language currently available. |
| Address | Localhost | IP address or hostname of the S2 NetBox server. |
| Port | 80 | TCP port of the S2 NetBox server. |
| Connect using HTTPS | Off | Enable if using HTTPS on the S2 NetBox server. |
| S2 API Version | Version1 | Adjust to match the version of S2 API. |
| Username | milestone | API user for S2. |
| Password | N/A | Password for the S2 API user. |

| | | |
|--|-----|---|
| Session Timeout | 600 | Session timeout as defined in S2 (entered in seconds). |
| Poll for Portal Status Changes (v2 only) | Off | Enable polling of NBAPI for portal status changes. NOTE: This is only supported in v2 of the NBAPI. |
| Portal Status Changes Polling Interval (in seconds) | 1 | The number of seconds between polling of NetBox API for portal status changes |

7. Once completed, click Next.
8. The Access Control Module will now attempt to connect to the S2 NetBox API to authenticate and import all Access Control elements
 - a. If there is an error, you may see the following message:

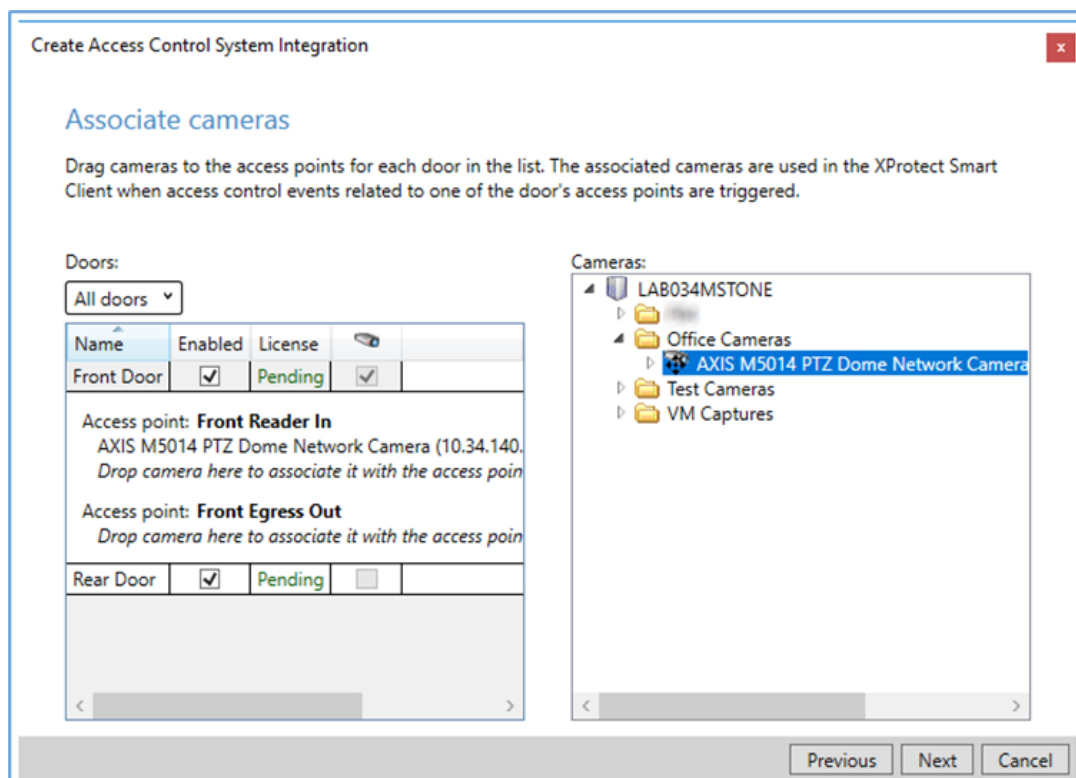


- b. Click Previous, re-check all settings and try again. If the error persists, contact ORBNET support.
9. Once completed, you can review the configuration that has been added:

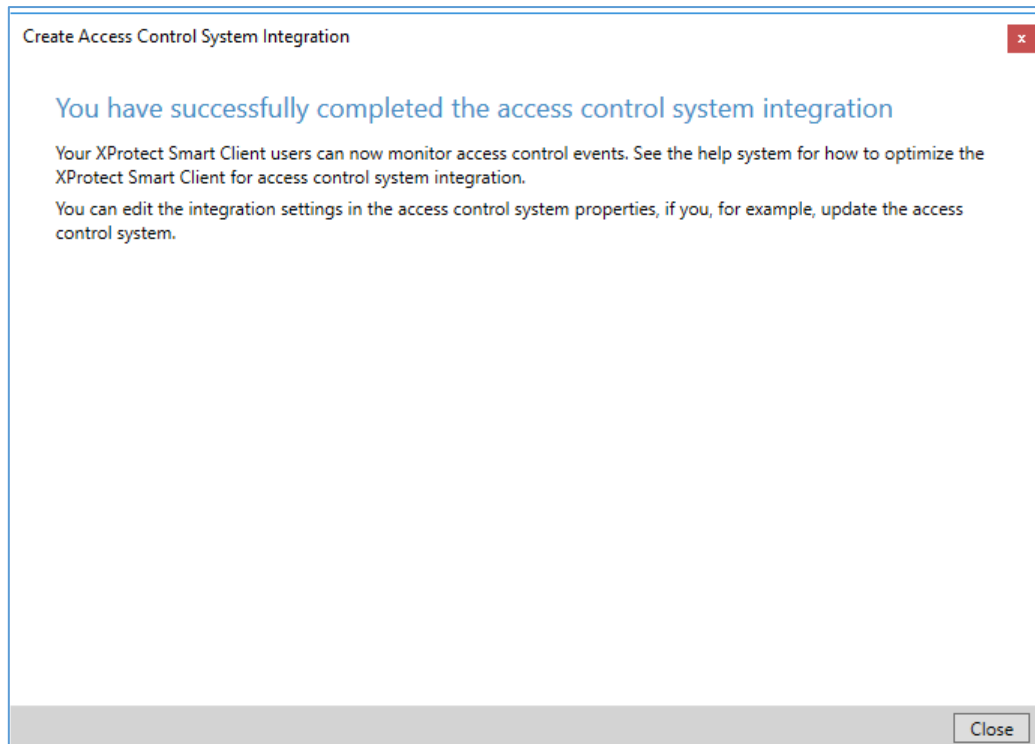


10. Click Next to continue.

11. Use the following screen to associate Milestone cameras to access points (this can be done later if required).



12. Click Next.



13. Click Close to complete.

The Access Control Module is now configured. All the standard Milestone Access Control functions will now be available on the access control units that are available and licensed – for example doors and readers, each ACU and the server.

12 Enable Personalised Login

The integration supports Milestone Personalised Login. This must be enabled through the Milestone Management Client as follows:

1. Open Milestone Management Client
2. Navigate to Access Control node and select the relevant S2 Integration
3. Under General Settings, tick Operator login required, and click Save

Access Control Information

Access Control

S2 LAB034

General settings

Enable: ☒

Name: S2 LAB034

Description:

Integration plug-in: S2 Access Control System (Version: 1.3.7.0, 1.3.7)

Last configuration refresh: 11/21/2023 3:41 PM

Refresh Configuration...

Operator login required: ☒

Language: English

Address: 192.168.1.32

Port: 80

Connect using HTTPS: ☐

S2 API Version: Version1

Username: orbnnet

Password: Enter current password...

Session Timeout: 600

Cardholder image override enabled: ☒

Retrieve Cardholder Images: ☒

Poll for Portal Status Changes (v2 only): ☐

Portal Status Changes Polling Interval (in seconds): 1

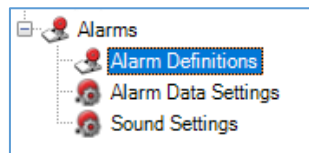
13 Configure Alarms

The S2 Access Control System can raise alarms when certain events occur. For example:

- A user denied access to a reader/door.
- A specific door was opened out of office hours.
- A reader went offline.

These alarms are monitored by the Milestone Access Control Module and presented as events. In order to get these alarms to appear within Milestone, the Alarms must be configured, and the door/reader must be licensed. Follow these steps to do so:

1. Open the Management Client.
2. Expand the Alarms node on the left-hand side and select Alarm Definitions.



3. On the right-hand side, right click on Alarm Definitions and select Add New.
4. Milestone presents a several options to configure an Alarm Definition:

The screenshot shows the 'Alarm Definition Information' form. It is divided into several sections: 'Alarm definition', 'Trigger', 'Activation period', 'Map', and 'Other'. In the 'Alarm definition' section, 'Enable' is checked, 'Name' is 'Alarm Definition 1', and 'Instructions' is empty. In the 'Trigger' section, 'Triggering event', 'Sources', and 'Related map' are all empty dropdown menus. In the 'Activation period' section, 'Time profile' is selected with 'Always' chosen. In the 'Map' section, an information icon and text state: 'An alarm only appears on the smart map if at least one source of the alarm is a camera.' Below this, 'Alarm manager view' has 'Map' selected. In the 'Other' section, 'Related cameras', 'Initial alarm owner', 'Initial alarm priority' (set to '1: High'), 'Alarm category', and 'Events triggered by alarm' are empty dropdown menus. 'Auto-close alarm' is unchecked, and 'Alarm assignable to Administrators' is checked.

- Under the Trigger section, open the Triggering event drop-down box and select Access Control Event Categories.

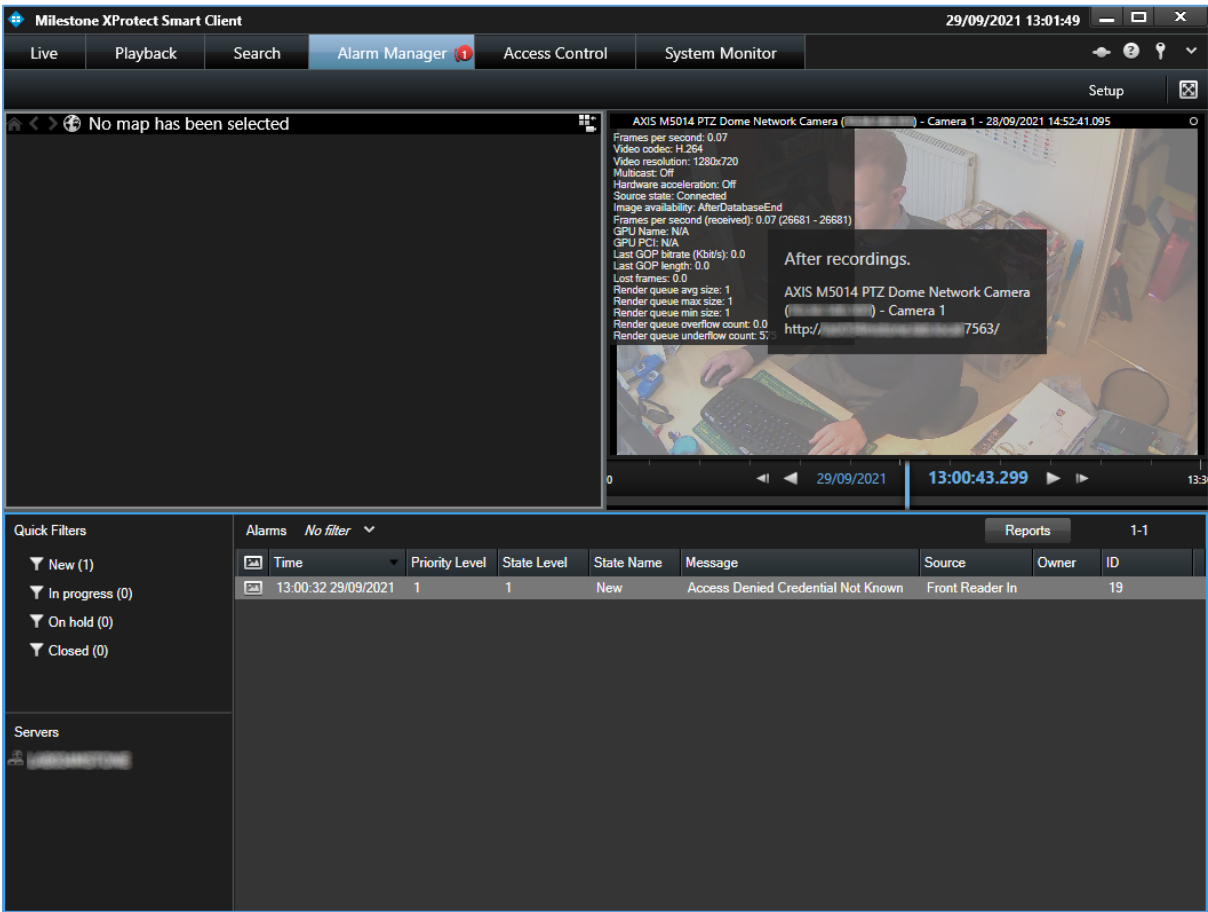
This screenshot shows the 'Trigger' section of the form. The 'Triggering event' dropdown menu is open, and 'Access Control Event Categories' is selected. The 'Sources' dropdown menu is also visible but empty.

- In the subsequent drop-down boxes, select the event category (e.g., Access Denied) and related source:

This screenshot shows the 'Trigger' section of the form. The 'Triggering event' dropdown menu is open, and 'Access denied' is selected. The 'Sources' dropdown menu is also open, and 'All doors' is selected.

- Set any other options as desired and click Save.

Now, when an Access Denied event on the selected door (in this example) is raised via The Access Control Module, Milestone will raise an alarm which can be observed in the Milestone Smart Client:

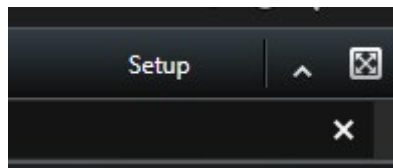


14 Adding overlay buttons in the Milestone Smart Client

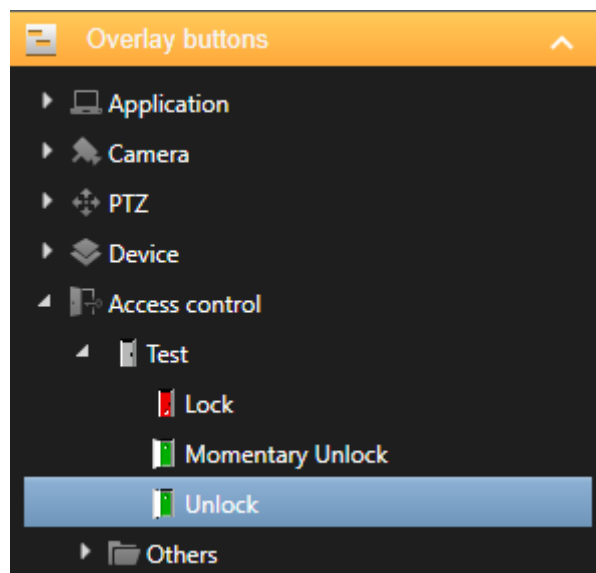
The Milestone Smart Client supports the placing of “overlay buttons” on live camera tiles to initiate a variety of actions, including Access Control commands. This can be used for example to provide a quick action to open a door that the operator can action based on the activity identified by the live camera feed.

Follow these steps to add an overlay button as described:

1. Open the Milestone Smart Client and login.
2. Ensure the Live tab is selected, and the desired View is open.
3. Click on the Setup button:



4. From the left-hand menu, under “Overlay buttons” expand the Access control node and select a command relating to the door in question. Draft this onto the video tile.



5. Click on the Setup button again to save the changes.
6. Hover the mouse over the edited tile, the overlay button should appear.

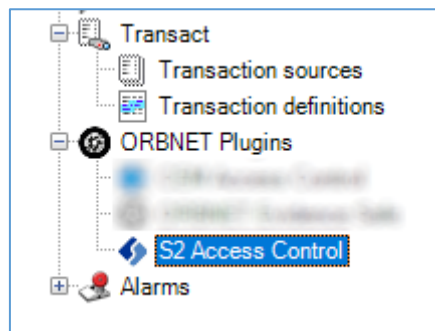


15 License Activation

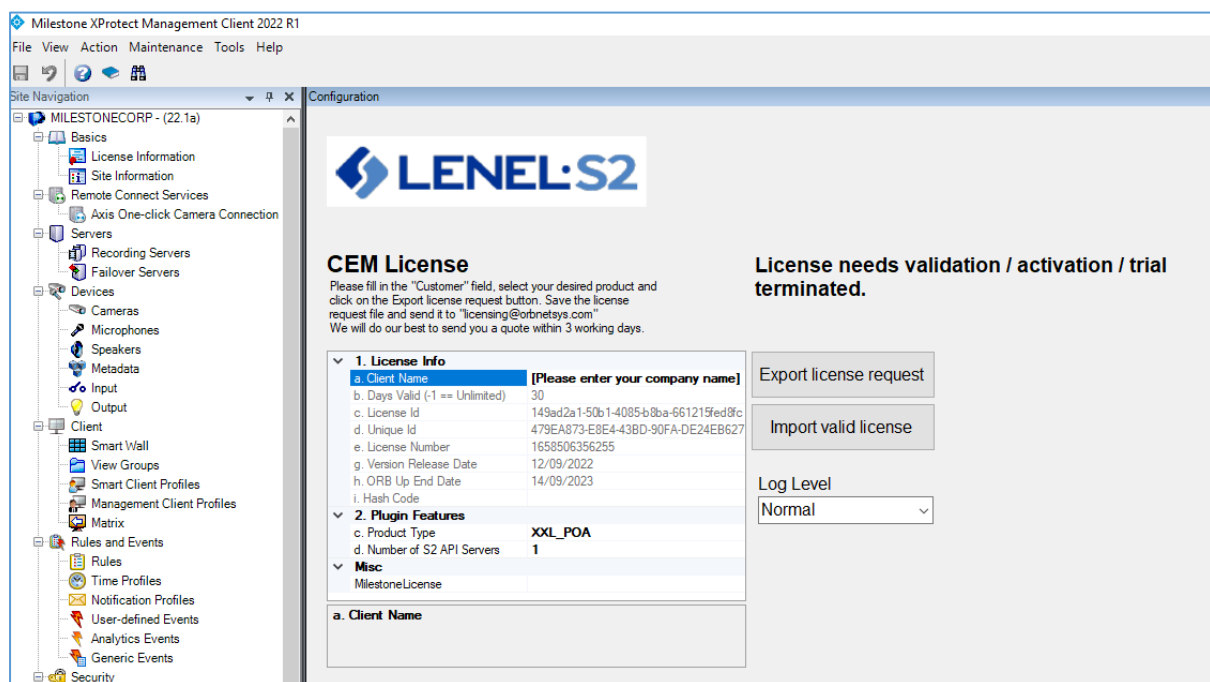
The Access Control Module comes with a free 30-day trial license. After that the software will no longer function. In order to activate a license, follow these steps.

NOTE: After a valid license has been loaded the Milestone Event Server will require a restart. This should be scheduled during a suitable maintenance window.

1. Open the Milestone Management Client **on the Milestone Event Server** and login.
2. On the left-hand side navigate to ORBNET Plugins > S2 Access Control.



3. Click on the Settings tab, this will show the current license status:



4. Complete the Client Name field and click on Export license request. This will generate a “.s2licr” file.
5. Send this file to license@orbnet.com to get your license activated. Once ORBNET has received payment, a return email will follow containing the “.s2lic” file which needs to be imported as follows.
6. In the same Management Client, click on Import valid license. Select the “.s2lic” file that was sent to you.
7. The license status should now update showing the duration of the license and any other license features.

8. **NOTE:** The Milestone Event Server will now need to be restarted to activate any previously unlicensed features. This should be done manually by a system administrator.
9. After the Milestone Event Server has restarted, re-open the Settings tab in the Management Client plugin to confirm the license status.

16 Important Locations

The following table lists important locations containing log files. Files from these paths may be requested for support and troubleshooting. Access to all paths should be secured appropriately according to local security policies.

Base path

The base path depends on whether the Export Service is running under a Domain Service Account or with a built-in account e.g., NETWORK SERVICE (this is the default account after installation, and suitable for a non-domain environment).

Running as a Windows User Account: C:\Users\<service-user>

Running as Built-in Account: C:\Windows\ServiceProfiles\NetworkService

| Item | Path | Server/Client |
|-------------------------------|--|------------------------|
| MIP Logs | C:\ProgramData\Milestone\XProtect Event Server\logs\MIPLogs*.log | Milestone Event Server |
| Install Path | C:\Program Files\Milestone\MIPPlugins\ORBNET\S2AccessControl\ | Milestone Event Server |
| Management Client Logs | C:\Users\<username>\AppData\Local\S2AccessControl\ManagementClient\Logs\ | Workstation |