

ORBNET S2 Milestone ACM Installation Guide

For software version 1.3.7

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1 Contents

2	0	verview3
3	P	rincipal Scheme
4	P	rerequisites4
5	Fe	eatures Support4
6	K	nown S2 API Limitations4
7	In	stallation Steps5
8	С	onfirm Installation9
8	.1	Confirm Access Control Integration is accessible9
8	.2	Confirm Management Client Plugin is accessible9
9	С	reate S2 API User11
10		Enable S2 NetBox API13
11		Add Access Control Integration14
12		Enable Personalised Login18
13		Configure Alarms19
14		Adding overlay buttons in the Milestone Smart Client22
15		License Activation
16		Important Locations

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.

ORBNET S2 Access Control for Milestone	_		×
Select Installation Folder		ĺ	
The installer will install ORBNET S2 Access Control for Milestone to the follow	ving fold	er.	
To install in this folder, click "Next". To install to a different folder, enter it bel	ow or clia	ck "Brow	ise".
Eolder: C:\Program Files\Milestone\MIPPlugins\ORBNET\S2AccessControl\	В	rowse	
	Di	sk Cost	
Install ORBNET S2 Access Control for Milestone for yourself, or for anyone computer:	who us	es this	
Everyone			
◯ Just me			
< Back Next >		Canc	el

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.

ORBNET S2 Access Control for Milestone	_		\times
Installation Complete			-
ORBNET S2 Access Control for Milestone has been successfully installed.			
Click "Close" to exit.			
Please use Windows Update to check for any critical updates to the .NET F	Framewo	rk.	
< Back Close		Can	cel

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 dropdown.
- 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)

ate Access Control Sys	tem Integration	I
Create access	control system integration	
Name the access con	rol system integration, select the integration plug-in and enter the connection detail	ls.
Name:		
Integration plug-in:		~
	- 24. We may - animal "gabilities	
	S2 Access Control System	

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:

🚹 🖳 🧏 🏟 🔍 🗄 👘	lyson LAE - Technical Security Test
👳 User Roles	
Name:*	(or <u>add</u> <u>rename</u>)
Description:	
Threat Level Group:	(not applicable) 🗸
Permissions:	Camera Groups:
	Available (0): Selected (0):
	View:
	Go to presets:
	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).

- 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 Sec	urity Test				
	* Last Name		Fir	st Name		MI
	VMS			Milestone		
	Activation Date/Time		Ex	piration Date/Time		
	© 09/14/2022 11:49			0		
	ID#		La	st Modified Date & Time		
Signature:	Notes		La	st Modified User		
No Signature						
No signature						
			//			
Information	Login					
mormation						
	User Name milestone	Password	п	Re-enter password		
Credentials	miestone				•	
	User Role	Alarm Filter Group		Default Widget Desktop	Custom Menu	
Access Levels	API 🗸	Select	\sim	Select	Select	~
Login						
	I					

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: 0 Reset Sequence Number to '0'				
ODBC				
Enabled				
ODBC Report user password: ••••••• (default "report")				
CSV Export				
C 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 int	-	
Name the access control system integration, sel	ect the integration plug-in and enter the conne	ection details.
Name:	Mega Corp HQ	
Integration plug-in:	S2 Access Control System	v
Language:	English	Ŷ
Address:	localhost	
Port:	443	
Connect using HTTPS:	\checkmark	
S2 API Version:	Version2	Ŷ
Username:	admin	
Password:	••••	
Session Timeout:	600	
Portal Status Changes Polling Interval (in second	ls): 1	

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:

Create Access Control System Integration ×
Connecting to the access control system
Collecting configuration data
Unable to receive configuration from the access control system. Error message: Invalid credentials, API key or IP address.
Previous Next Cancel

- 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:

Create A	ccess Control System Integration		x
Со	nnecting to the access control system		
Colle	ecting configuration data		
Conf	iguration successfully received from access control system.		
	Added:		
1	Added. Doors (2)	-	
	Units (7)	•	
	Servers (1)	*	
	Events (23)	•	
	Commands (4)	•	
	States (20)	•	
			·
		Previous Next Can	cel

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

Associate cameras Drag cameras to the access points for each door in the list. The associated cameras are used in the XProtect Smart Client when access control events related to one of the door's access points are triggered.									
Doors:	Cameras:								
All doors ¥	LAB034MSTONE								
Name Enabled License 🔊	Diffice Cameras								
Front Door V Pending V	 AXIS M5014 PTZ Dome Network Camera Test Cameras 								
Access point: Front Reader In AXIS M5014 PTZ Dome Network Camera (10.34.140. Drop camera here to associate it with the access poin Access point: Front Egress Out Drop camera here to associate it with the access poin	▷ ➡ VM Captures								
Rear Door 🖌 Pending									
<	<								
	Previous Next Cancel								

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 🚽 📮	Access Control Information	
Access Control	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:	orbnet
	Password:	Enter current password
	Session Timeout:	600
	Cardholder image override enabled:	\checkmark
	Retrieve Cardholder Images:	\checkmark
	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:

Avan definition Enable: Immediate Contract of the start	Alarm Definition Information		•
Name: Amm Definition 1 Instructione: Imm Definition 1 Trigger Imm Definition 1 Triggering event: Imm Definition 2 Triggering event: Imm Definition 2 Sources: Imm Definition 2 Activation period Imm Definition 2 Imm period: Awwys Imm Definition 2 Or the period: Stat: Select Stop: Select Select Stop: Select Select Amm manager view: Smalt map Imm Unde Imm Imm Imm: Imm Unde Imm Unde Operator action required Select Select Other Select Select Other Select Select Intial alem priority: I.Hgh Imm	Alam definition		
Instructions: Ingger Tinggering event: Inggering event: Inggering event: Ingering event:	Enable:		
Trigger Triggering event: Image ing event: Sources: Outres Point Advarya Outres Sources: Name profile: Alwaya Outres Sop: Sop: <th>Name:</th> <th>Alarm Definition 1</th> <th></th>	Name:	Alarm Definition 1	
Triggeing event: Triggeing event: Triggeing event: Sources: Sources: Activation period The profile: The profile: Aways Start: Start: Stop: Start: Stop: Stop: Select Map Aam manager view: Smart map Coperator action required The limit: The limit: The limit: The limit: The limit: Select Other Feleted cameras: Initude Coperator action required The limit: Select Other Feleted cameras: Initude Select Atta and and profity: I High Aam category: Select Select Atto-close alarm: I Initude Select	Instructions:		
Sources: Sources: Activation period Time profile: <	Trigger		
Activation period Time profile: Always Event based: Start: Stop: Select Map An alam only appears on the smart map f at least one source of the alam is a camera. Map An alam only appears on the smart map f at least one source of the alam is a camera. <ta> <th>Triggering event:</th><th></th><th>~</th></ta></ta></ta></ta></ta></ta></ta></ta></ta></ta></ta>	Triggering event:		~
Activation period Time profile: Always Event based: Start: Stop: Select Map An alam only appears on the smart map f at least one source of the alam is a camera. Map An alam only appears on the smart map f at least one source of the alam is a camera. <ta> <th></th><td></td><td>~</td></ta></ta></ta></ta></ta></ta></ta></ta></ta></ta></ta>			~
Image model Image model </th <th>Sources:</th> <td></td> <td>~</td>	Sources:		~
Image model Image model </th <th>Activation period</th> <td></td> <td></td>	Activation period		
Event based: Start: Stop: Select Map Start map I An alam only appears on the smart map if at least one source of the alam is a camera. Alam manager view: Smart map I Map Map Related map: Iminute Operator action required Iminute Tme limit: Iminute Events triggered: Select Other Select Related cameras: Select Intial alam owner: I Intial alam priority: I: High Alam category: I Events triggered by alam: Select		Always	~
Stop: Select Map If a halam only appears on the smart map if at least one source of the alam is a camera. Alam manager view: Image: Image: Image: Image: Operator action required Time limit: Image: Image: Other Related cameras: Related cameras: Initial alam priority: It High Aam category: Events triggered by alam: Auto-close alam:			Select
Map Aam manager view: Smart map Map Related map: Map Related map: Iminute V Voerts triggered: Iminute Select Other Related cameras: Iminute Iminute V Verts triggered: Iminute V Aam category: I: High V Ato-close alam: Iminute Iminute V Verts triggered by alam: Iminute V Ato-close alam: Iminute V Iminute Iminute V Iminute V Iminute Select Select	U Event based.		
Image: Image		Stop:	Select
Related map: Operator action required Time limit: 1 minute Events triggered: Other Related cameras: Initial alarn owner: Initial alarn priortly: 1: High Alarn category: Events triggered by alarn: Auto-close alarn:	Alarm manager view:		
Operator action required Time limit: 1 minute Events triggered: Select Other Related cameras: Select Initial alam owner: Initial alam priority: 1: High Alam category: Events triggered by alam: Select		Map	
Time limit: 1 minute Events triggered: Select Other Select Related cameras: Select Initial alam owner: Select Initial alam priority: 1: High Alam category: Events triggered by alam: Select	Related map:		~
Events triggered: Select Other Select Related cameras: Select Initial alam owner: Select Initial alam priority: 1: High Alam category: Events triggered by alam: Select Auto-close alam:			
Other Related cameras: Select Initial alam owner: Initial alam priority: 1: High Alam category: Events triggered by alam: Select Auto-close alam:	Time limit:	1 minute	~
Related cameras: Select Initial alam owner: Initial alam priority: 1: High Alam category: Events triggered by alam: Select Auto-close alam:	Events triggered:		Select
Initial alam owner:	Other		
Initial alam priority: 1: High Alam category: Events triggered by alam: Auto-close alam:	Related cameras:		Select
Alam category:	Initial alarm owner:		~
Events triggered by alarm: Select Auto-close alarm:	Initial alarm priority:	1: High	~
Auto-close alarm:	Alam category:		~
	Events triggered by alarm:		Select
Alam assignable to Administrators:	Auto-close alarm:		
	Alarm assignable to Administrators:		

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

Trigger		
Triggering event:	Access Control Event Categories	
	~	
Sources:	✓	

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

Trigger		
Triggering event:	Access Control Event Categories	~
	Access denied	~
Sources:	All doors	~

7. 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:

💠 Milestone XProtect Smart Cli	ent						29/09/2021	13:01:49 —		×
Live Playback	Search Alarm M	anager <u>(</u> 1	Access Contro	ol Sy	stem Monitor			+	0 °	~
								Setu	P	\boxtimes
	selected			Frames per se Video codes: I Video resoluti Multicast: Off Hardware aco Source state: Image availab Frames per se GPU Name: N GPU PCI: N/A Last GOP len Lost frames: O Render queue Render queue Render queue	H 264 H 260 X720 eleration: Off Connected iliny: AfterDatabaseEnd cond (received): 0.07 (2668 K A rete (Kbit/s): 0.0 Aft th: 0.0 avg size: 1 MX max size: 1 (st - 26681) ter recordings.	e Camera 1 - 28/09/2 ne Network Camera tera 1 7563/ 13:00:43.299			O
Quick Filters	Alarms <i>No filter</i> 🗸						Rep	orts	1-1	
▼ New (1)	🖼 Time	Priority Level	State Level	State Name	Message		Source	Owner IE)	
T In progress (0)	13:00:32 29/09/2021	1	1	New	Access Denied Crea	lential Not Known	Front Reader In	1	9	
▼ On hold (0) ▼ Closed (0)										
Servers										

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 <u>license@orbnetsys.com</u> 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

ltem	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\</username>	Workstation