Brivo Access Control Module for XProtect Installation, Setup, and User Guide

Brivo and Milestone have developed this integration to allow our mutual customers to benefit from closer communication between our systems. Below is a step-by-step guide for dealers detailing the pre-requisites for enabling this integration.



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Pre-Requisites

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Software and Licensing

- Microsoft[®] Windows[®] 10 Pro (64 bit)
- Microsoft[®] Windows[®] 10 Enterprise (64 bit)
- Microsoft[®] Windows[®] 10 Enterprise LTSB 2016 (version 1607 or later)
- Microsoft[®] Windows[®] 10 IoT Enterprise, version 1803 or later (64 bit), IoT Core
- Microsoft[®] Windows[®] Server 2016 (64 bit): Essentials, Standard, and Datacenter
- Microsoft[®] Windows[®] Server 2019 (64 bit): Essentials, Standard, and Datacenter

Milestone XProtect System Requirements

- Must be a Licensed Milestone Dealer
- XProtect Express+, Professional+, Expert, Corporate 2020 R1 (20.1a) or above
- Milestone Event Server The Event Server is included as part of your Milestone installation

• Milestone Access Licenses applied to your XProtect base license - XProtect Access does not run as a trial license by default. If you want to add a trial license to your XProtect license, you must consult Milestone Sales Support at purchase@milestonesys.com or create a sales request on the Milestone website. Otherwise, purchase from a Milestone partner as below.

Licenses		
SKU ID	Name	MSRP (EUR)
XPABL	XProtect Access Base License (BL)	129.00
XPADL	XProtect Access Door License (DL)	39.00

Open the Milestone Management Client and ensure that you have XProtect Access Licenses associated with the installed Milestone version before installation of a ORBNET trial system. If nothing is listed here then you will not be able to use the ORBNET Systems Plugin as XProtect Access is not enabled as part of the trial version of the ORBNET installation, you must request a trial license or purchase beforehand from Milestone.

Note - If this component has not been installed with your version, follow steps found in troubleshooting at the end of this document.





•	milestone XProtect®				
	Licensed to:	Miles	tone Care		
	N/A	Your c	urrent level: Basic		
	United Kingdom N/A				
	Edit details End user license agreement Installed Products	Access Informa	I Milestone Care portal Ition about Milestone Care		
	Product Version	Software License Code	Expiration Date	Milestone Care Plus	Milestone Care Premium
	XProtect Corporate 2020 R3 Test	M01-C01-203-02-6C4FF6	20/03/2022	N/A	N/A
	Milestone XProtect Smart Wall	M01-P03-100-02-6C9A73	Unlimited	Unlimited	
	Milestone XProtect Access	M01-P01-100-02-6C4476	06/04/2022	06/04/2022	
	Milestone XProtect Transact	M01-P08-100-02-6C438B	23/04/2022	23/04/2022	

Brivo Access

- Super Administrator account access to Brivo Access
- Administrator created for Brivo Access with correct role and door access for integration
- API Key which needs to be requested from Brivo
- Application API Client ID and Client Secret generated via Brivo Onair
- Brivo Access subscription for Milestone XProtect Access Integration

Orbnet Systems

- Installer 'Brivo Access for XProtect Setup.msi'
 Download links will be provided by Brivo with your API key
- Installer 'Brivo Event Proxy Setup.msi'
 Download links will be provided by Brivo with your API key

obrivo.



Installation of Brivo for XProtect Access

Begin with the server/machine running the XProtect Management and Event Server. Close any open Milestone Smart or Management Clients first. Place the 'Brivo Access for XProtect Setup.msi' in a folder on the desktop and double click to start the Install.

器 Brivo Access Control Module for XProtect - X	😸 Brivo Access Control Module for XProtect — 🛛 🗙
Welcome to the Brivo Access Control Module for XProtect Setup Wizard	Select Installation Folder
The installer will guide you through the steps required to install the Brivo Access Control Module for XProtect by ORBNET on your computer. Please run this installer on all Management Servers and Smart Clients where the plugin will be used.	The installer will install Brivo Access Control Module for XProtect to the following folder. To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
	C:\Program Files\Milestone\MIPPlugins\ORBNET\Brivo\BrivoACM\ Browse
	<u>D</u> isk Cost
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.	Install Brivo Access Control Module for XProtect for yourself, or for anyone who uses this computer: Everyone Just me
< Back Next > Cancel	< <u>₿</u> ack <u>N</u> ext > Cancel
體 Brivo Access Control Module for XProtect - X	體 Brivo Access Control Module for XProtect - X
Confirm Installation	Installation Complete
The installer is ready to install Brivo Access Control Module for XProtect on your computer	Brivo Access Control Module for XProtect has been successfully installed.
Ciele "Neut" to start the installation	Click "Cloce" to evit
	Please restart Management Client and Smart Client to finish the installation.
<back next=""> Cancel</back>	< <u>B</u> ack Cancel





Once complete run the **'Brivo Event ProxySetup.msi'** installer to complete the event proxy connection setup. As default the installation is completed using NT AUTHORITY\Network Service. If the Milestone system does not have access to the internet, please install this on an accessible server with internet access.

뤯 Brivo Event Proxy	-		×	뤯 Brivo Event Proxy - 🗆 🗙
Welcome to the Brivo Event Proxy Setup Wiza	rd			Select Installation Folder
The installer will guide you through the steps required to install Brivo Event Pro	oxy on you	# comp	uter.	The installer will install Brivo Event Proxy to the following folder. To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
				Eolder:
				Disk Cost
WARNING: This computer program is protected by copyright law and internat Unauthorized duplication or distribution of this program, or any portion of it, and or criminal penalties, and will be prosecuted to the maximum extent possible u	ional treati y result in nder the la	ies. severe w.	civil	Install Brivo Event Proxy for yourself, or for anyone who uses this computer: <u> Everyone</u> Just me
< Back Next >		Cance	H	< <u>₿</u> ack <u>N</u> ext > Cancel
提 Brivo Event Proxy	-		×	Brivo Event Proxy − □ ×
Confirm Installation				Installation Complete
The installer is ready to install Brivo Event Proxy on your computer.				Brivo Event Proxy has been successfully installed.
Click "Next" to start the installation.				Click "Close" to exit.
				Please use Werdows Hodate to chack for any citical updates to the NET Exercement
				r rease use windows opdate to check for any citical updates to the .rtc.r Planework.
< <u>B</u> ack. <u>N</u> ext>		Cance	el	< <u>R</u> ack Core Cancel



Obrivo. Configuration

Brivo Access Control

New Administrator Setup

It is recommended to create a new user account within Brivo for the connection to the Milestone Access module. This will allow better management of the doors to be included and controlled.

In this example, a user was created called 'Milestone ORBNET' with access to all doors intended to be included in Milestone. The user was assigned as an **Administrator**. This is the lowest level of administrator account recommended for this integration.

To create a new Administrator account, select **Administrators** from the main menu. From the page that lists the current Administrators user details, find the **Create Administrator** button and select it.

	Obrivo Brivo Access		Administrator Management			
	Events		م Administrators ه 🗈 🗈 Rol	es 2		
	Devices	Now	Name Filter administrators by name Q		🕀 Create Adminis	strator
œ	Video		Name 💿		Role(s)	Last Log
	Reports		Shagges have	ninel/Stability advances	a antanin an	бірэне:
	Users		Byrantait, Friis	46754990000000	🕼 Satar kokrististasiva	32. diar
	Credentials		Frether, Schwarth	มรักราะศึกระด้วยคลังเหต. กะเรด	C Pricemans	Descent
	Administrators		alan kan Wilan		22 Street of American Street	The second
⊴⊎	Administrators		2 Year way can be a stabilite	2010394/2020/2020/2020-04/2021	220 second and provider	A 19482105
Ê	Roles		En Alexandra	Langerstradier com	and a second again and a second again.	275 gedes





Under Administrator Management, add the relevant details for this new account.

Administrator Manage	ement	
o [®] Administrators 5		
Administrator Profile	Profile	
8⊟ Profile	First Name	Last Name
🖹 Roles		
Assignments		
	Show Site Time column on Event Tra	acker

For the **Roles** section, we recommend the default **Administrator** profile. A custom role will be covered in the next section, if required.

Roles Assign one or more roles to this administrator	
🖹 Administrator 🗙	Add Roles





For the **Assignments** section, please select all Sites and Groups relevant to the Milestone integration.

Assignments Assign perm	nissions to groups and sites	
🕅 Sites	All Selected	
៊ិ8 Groups	All Selected	

Click **Create Administrator** at the bottom of the page to finish.

🛞 Reset	Create Administrator

An email will be sent to the email address used to set the password for this account.

Select **GET STARTED**.

Your E	Brivo login is ready 😕 🔤			ø	Ø
e custome to me +	rcare@brivo.com	15:19 (3 minutes ago)	☆	*	:
	brivo , simply better security				
	Your Brivo login is ready				
	Hi Joe, Your Brivo administrator login has been created for the a Sandbox. Please click Get Started to verify your email ad password.	ccount Orbnet Systems Idress and create your			
	Email)			





This will take you to a webpage to set the password for this user.

Take a note of the user **Password** for the next step of installation.

	Øbrivo	
En	ter a new password for 🐲 🗱 🎆	and the second
	New Password	0
	Confirm Password	
	Confirm your new password	
	Submit	
	Copyright 2001-2022 Brivo Inc. All Rights Reserved Privacy and Security Terms of Use Release Notes Co	d ntact Us

Once setup you will need to login with this account so to access the account **Admin ID**. At the bottom left of the Brivo Access page, press the three dots for more account options. Here the **Admin ID** will be shown.

Take a note of the **Admin ID** for the next step of installation.





Custom Administrator Role Setup

This step is optional, for **Roles** we recommend the default Administrator profile. If you would prefer to have a custom role to limit access, please follow the below to provide the minimum level of account access.

In Brivo Access, select **Roles** under the **Administrators** tab. Next, select **Create Role** from the bottom right.

	Obrivo Brivo Access	Administrator Management
Ģ	Events	2 ⁶ Administrators 5 E Roles 2
	Devices • N	Name Filter roles by name Q
œ	Video	Default Roles Pre-defined roles built and maintained by Brivo. New features are added automatically.
	Reports	
0°	Users	Administrator Super Administrator
æ	Credentials	
Do	Administrators	
چ چ	Administrators	
Ē	Roles	
츕	Configuration	
0	Onair Classic	Custom Roles Customized roles maintained by you. New features must be enabled.

Add a Name and Description for this new Role.

Administrator Management
Administrators 5 Roles 2
Create Role Create a custom role that can be assigned to multiple administrators
Name
Milestone Role
Description
Administrator user role for Milestone XProtect
Permissions Customize access to every feature in Brivo Access



Update the **Permissions** for this role as below. **Create Role** and apply to the new Administrator account.

Permissions	Access
Onair Classic	Full
Event Tracker Table	Full
Journal	Full
Snapshot Log	[No Access]
Device Status	Full
Live Video	[No Access]
Classic Reports	Full
Users	Full
Groups	Full
Badging	[No Access]
Card Bank	Full
Notifications	Full
Configuration	[No Access]
Roles	[No Access]
Lockdown	Full
Manage Account Settings	[No Access]





API Application Setup

Currently some settings for this module are only available from Brivo Onair. For Brivo Access users select Onair Classic to access this section from the menu.



Within Onair as a Primary or Senior Administrator go to **Setup > Account > Account Settings** then select **Application Management**.

Obrivo onair	HOME	ACTIVITY	VIDEO 🔻	USERS 🔻	REPORTS 🔻	SETUP 🔻	JOURNAL	LOCKDOWN	HELP
ACCOUNT SETTIN	ACCOUNT SETTINGS Account Administrators								
Conoral Sotti	ingo	Privo Mobilo F		aliantian Ma	nagament	Cards	•	Company Info	
Personnel Co	General Settings Brivo Mobile Pass Application Management Sites/Doors Account Settings								
Creatour		mondod				Schedules	•	Permissions	
 ✓ Enable set 	ers as sus lf-serve p	assword reset				Notifications	•	Custom Fields	
Enable so	ft lockout	=				Video	×	My Login	
Soft Lockout	Timeout	Period	_	m	inutes				
Cancel	Save Acc	ount Settings							

From Application Management, use the Create a New Application section , Add an Application Name and Description and select Password for the Authentication Type. Next press the Create Application button.

onair	ACTIVITY VID	eo 👻 users 👻	REPORTS 🔻	SETUP 🔻	JOURNAL	LOCKDOWN	HELP	2	Milestone ORBNET
ACCOUNT SETTINGS									
General Settings Br	ivo Mobile Pass	Application Ma	nagement	Eagle Eye S	Settings	Access Cam Cr	edentials	Intrusion Engage	Credentials
Create a New Applicatio	n								
Application Name Description	XProtect Access								
Authentication Type Redirect URI	3-Legged	I © Password ●	Invitation						
Create Application									
Account Owned Applica	tions								
Application Name			Description					Application Detail	Delete
Milestone			Milestone					•	-
ORBNET			TEST_LOGIN					۹	•





The new application will be added to the list, then select the **Application Details** icon.

Take a note of the **Client ID** and the **Client Secret** for the next step of installation.

count owned Applications				
	Application Detai	ls	×	
	XProtect			
	Client ID Client Secret	ATTACHER CONTRACTION AND A CONTRACT		
	Grant Types Redirect URI	password,rerresn_token		

API Key

Please complete an **API Account Access Agreement Form** from your Brivo dealer to gain access to this API key.



Event Callback External Access

Network Schematic

In a standard installation, both the **Brivo Event Proxy** (Used for Brivo Event Callback) and **Milestone Management** would reside on the same server. This would be for a system where the Milestone server is internet facing.

Brivo Access Control Module for XProtect



For an installation where the Milestone server has no access to the internet, a secondary machine would be used to bridge the connection to the internet. Generally, this would be in the demilitarized zone (DMZ) but would depend on the site network installation. This would be where the **Brivo Event Proxy** would be installed.







Windows Security

Please seek permission from the organization before implementing any security changes. The IT Security team may wish to complete this or a similar task on a centrally managed system.

This example uses the default Windows Defender software firewall interface. The features of software firewalls differ so the setup will likely be different for the software firewall used in your installation. Please refer to the user guide of your firewall for further information.

This integration requires an external internet-based service to communicate with the Milestone server on a Transmission Control Protocol (TCP) port. This will communicate directly to the Brivo Event Proxy installed on the server or bridged to a server in a Demilitarized Zone (DMZ). Both methods will require an inbound TCP port to be set up to allow access on one or both servers.

Navigate to Windows Defender Firewall or Windows Security then select Advanced Settings.



Select Inbound Rules then right click to select New Rule.







Rule Type = **Port**

PNew Inbound Rule Wiza	ard	×
Rule Type		
elect the type of firewall rule to	o create.	
Sleps:		
Rule Type	What type of rule would you like to create?	
Protocol and Ports		
Action	O Program	
Profile	Rule that controls connections for a program.	
Name	Port	
	Rule that controls connections for a TCP or UDP port.	
	O Predefined:	
	@FinewallAPI.dll-80200	
	Rule that controls connections for a Windows experience.	
	O <u>C</u> ustom	
	Custom rule.	
	< Back Next > Cancel	

Protocol and Ports = **TCP**, **43323**

-			
Protocol and Ports			
Specify the protocols and ports	to which this rule applies.		
Steps:			
Rule Type	Does this rule apply to TCP or U	DP?	
Protocol and Ports	() <u>T</u> CP		
 Action 			
Profile			
Name	Does this rule apply to all local p	orts or specific local ports?	
	○ All local ports		
	Specific local ports:	43323	
		Example: 80, 443, 5000-5010	

Action = Allow the connection



Profile = Select all that apply

🔗 New Inbound Rule Wiza	rd	×
Profile		
Specify the profiles for which thi	s rule applies.	
Steps:		
Rule Type	When does this rule apply?	
Protocol and Ports		
Action	✓ Domain	
Profile	Applies when a computer is connected to its corporate domain.	
Name	Private	
	Applies when a computer is connected to a private network location, such as a home or work place.	
	✓ Public	
	Applies when a computer is connected to a public network location.	
	< Back Next > Cannel	
	- Darv Idavia Cauda	

Name = Brivo Events Callback (43323)







Network Firewall Setup

Please seek permission from the organization before implementing any security changes. The IT Security team may wish to complete this or a similar task on a centrally managed system.

This example uses a standard basic router/firewall interface from a well-known manufacturer. The features of firewalls differ so the setup will likely be different for the firewall used in your installation. Please refer to the user guide of your firewall for further information.

Add an inbound IP restriction (Optional but recommended).

Dashboard	IP Object Profiles:			Set to Factory Default
Wizards	Index	Name	Index	Name
Online Status	1.		<u>17.</u>	
WAN	2.		<u>18.</u>	
LAN	<u>3.</u>		<u>19.</u>	
Load-Balance/Route Policy	4.		<u>20.</u>	
Firewall	5.		21.	
User Management	6.		22.	
Objects Setting	7.		23.	
IP Group	8.		24.	
IPv6 Object	9.		25.	
IPv6 Group	10		26	
Service Type Object Service Type Group	11		27	
Keyword Object	12		28	
Keyword Group	12.		20.	
File Extension Object	13.		29.	
Notification Object	<u>14.</u> 45		<u>30.</u>	
CSM	<u>15.</u>		<u>31.</u>	
Bandwidth Management	<u>16.</u>		<u>32.</u>	
VPN and Remote Access	<< <u>1-32</u> <u>33-64</u> <u>6</u>	<u>5-96 97-128 129-160 161-19</u>	<u>)2</u> >>	<u>Next</u> >>

Go to **Object Settings > IP Object** and click on the first available index number:

Set a name for this service and leave the Interface default unless your setup requires this to be changed.

In the IP Object, there are three Address Type settings:

Single Address, Range Address and Subnet Address.

For this example, **Subnet Address** would be selected. The Brivo services span several IP address ranges and subnets, depending on where this site installation is in the world and the server running the service at the time will depend on what IP communicates with your Milestone XProtect system.

This service will fall into <u>64.35.160.0/24</u> registered to <u>Brivo Systems, LLC</u> (Listed in <u>ARIN</u>).

REF: <u>https://rdap.arin.net/registry/entity/BRIV0-1</u>

REF: https://who.is/whois-ip/ip-address/64.35.160.0





As this is a /24 subnet there are 256 usable IP addresses. The first usable IP address is 64.35.160.1 with the subnet added as 255.255.255.0.

Profile Index : 1

Name:	Brivo API
Interface:	Any 👻
Address Type:	Subnet Address 👻
Mac Address:	00:00:00:00:00:00:00
Start IP Address:	64.35.160.1
End IP Address:	0.0.0.0
Subnet Mask:	255.255.255.0
Invert Selection:	

Add a Port Redirection / Port Forwarding (Required).

To configure a Port Redirection NAT rule on the router, go to **NAT > Port Redirection** and click on the first available Index number:

Auto Logout 🝷 🛛 🛛 🥑	NAT >> F	Port Redirection						
Dashboard	Port Red	lirection					Set to Factor	<u>y Default</u>
Wizards Online Status	Index	Service Name	WAN Interface	Protocol	Public Port	Source IP	Private IP	Status
WAN	1.		All					×
LAN	2.		All					×
Load-Balance/Route Policy	<u>3.</u>		All					×
Port Redirection	<u>4.</u>		All					×
DMZ Host	<u>5.</u>		All					×
Open Ports Port Triggering	<u>6.</u>		All					×
Hardware Acceleration	<u>7.</u>		All					×
Firewall	<u>8.</u>		All					×
Oser Management Objects Setting	<u>9.</u>		All					×
CSM	<u>10.</u>		All					×
Bandwidth Management	<< <u>1-10</u>	<u>11-20 21-30 3</u>	31-40 >>					<u>Next</u> >>

In the **Port Redirection** entry, configure these settings:

- Mode: Set this to Single to open a single port
- Service Name: This is used for display purposes to identify the NAT rule
- **Protocol**: Select TCP
- **WAN Interface**: The Internet connection that the port will be opened to
- **Public Port**: This is the external port. In this example, the port forwarded is the same externally as internally
- **Source IP**: If setup select the IP Object created for the Brivo API, otherwise select Any
- **Private IP**: This is the LAN IP of the server that will respond (E.g. Milestone or DMZ Server)
- **Private Port**: This is the port number for the service that the router will send to the LAN IP

orivo.



Auto Logout 🝷 🛛 📭 🖌	NAT >> Port Redirection	
Dashboard Wizards Online Status	Index No. 1 Index No. 1	
	Mode	Single 🔻
WAN	Service Name	Brivo to Milestone
LAN Load-Balance/Route Policy	Protocol	TCP 👻
NAT	WAN Interface	ALL 🔻
Port Redirection DMZ Host	Public Port	43323
Open Ports	Source IP	Brivo API - IP Object
Port Triggering Hardware Acceleration	Private IP	<milestone-ip></milestone-ip>
Firewall	Private Port	43323
User Management Objects Setting CSM Bandwidth Management		Clear Cancel

Click **OK** to save the rule, this will show in the rule list as enabled. The router/firewall will now forward requests received on that port to the internal server if the IP address matches the Source IP.

If configured, the Source IP will display with the created Brivo service, otherwise this will show as **Any**.

NAT	>>	Port	Redirection	

Port Red	lirection					Set to Factory	<u>/ Default</u>
Index	Service Name	WAN Interface	Protocol	Public Port	Source IP	Private IP	Status
<u>1.</u>	Brivo to Milestone	All	TCP	43323	Brivo API	<milestone-ip></milestone-ip>	v
<u>2.</u>		All					×
<u>3.</u>		All					×
<u>4.</u>		All					×
<u>5.</u>		All					×
<u>6.</u>		All					×
<u>7.</u>		All					×
<u>8.</u>		All					×
<u>9.</u>		All					×
<u>10.</u>		All					×
<< <u>1-10</u>	<u>11-20</u> <u>21-30</u> 3	31-40 >>					Next >>

Use a test service like https://www.whatismyip.com/port-scanner/ to confirm the port is accessible. The Source IP will need to be set to **Any** to use this tool, so be sure to change back once completed.

Take a note of the **Public IP** and **External Port** used for the next step of installation.





Milestone Management

Check List

Before you get underway with the Milestone Management setup, please go through this list, and check off each item to ensure everything is ready to get the integration module working right away. Links to the relevant sections have been provided.

Step	\checkmark	Link
Make a note of the number of doors to be used with Milestone		n/a
List the doors with the associated camera(s) in Milestone		n/a
Milestone Access License purchased or demo		Milestone Access
Milestone Access License applied to your Milestone server		Milestone Access
Brivo Access Control Module for XProtect purchased		Brivo Access
New Brivo Senior Administrator account created		Brivo Administrator Setup
Brivo Admin ID and Password noted for new account		Brivo Administrator Setup
Brivo API Application created		API Application
Brivo API Client ID and Client Secret noted		API Application
Brivo API key created or requested		API Key
Brivo API key noted		API Key
Windows Firewall rule setup for Brivo Event Proxy		Windows Security
Network Firewall rule setup for Brivo Event Proxy		Network Security
Make a note of the public IP and port used to access		Network Security
Installation of Brivo Event Proxy and Module for XProtect		Module Installation





Access Control Setup

This integration allows for XProtect Access to connect your access control system directly to Milestone's XProtect VMS. It is designed to fit perfectly with any XProtect product. No matter your installation size, with XProtect access you can control your video cameras and access your control system from a central interface.

Select the Access Control entry in the Milestone Management Client tree



Right-Click Access Control and select Create new....

Access Control	I		• 4	A
	s Cor	ntrol		
		Create ne	w	Ì
	2	Refresh	F5	l
	_			Ĩ

Define a **Name** for your Access Control System. Select the Brivo ACM V2 from the drop-down.

Create access	control system integration	
create access		
Name the access co	itrol system integration, select the integration plug-in and enter the connection details.	
Name:	Brivo Demo	
Integration plug-in:		,
	Brivo ACM	

This will present the default configuration page for this access integration module.



x

Create Access Control System Integration



milestone

Create access control system integration

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

Name:	Brivo Test
Integration plug-in:	Brivo ACM ~
Brivo Authentication URL:	https://auth.brivo.com/
Brivo API URL:	https://api.brivo.com/v1/api/
Brivo Event Callback URL:	http://publicIP:43323/orb-briv-proxy/eventscallback/
Error E-mail:	errors@company.com
Event Proxy Address:	https://localhost:43324/orb-briv-proxy/
User:	John Doe
Password:	••••
API Key:	
API Client ID:	
API Client Secret:	

Next Cancel

Brivo Authentication URL:	https://auth.brivo.com/ no requirement to change
Brivo API URL:	https://api.brivo.com/v1/api/ no requirement to change
Brivo Event Callback URL:	Update with the external/public IP and port used for this service
Error E-mail:	Emails sent from the Brivo cloud service related to errors
Event Proxy Address:	Local IP address, port used for the Event Proxy (Event Callback)
User:	Brivo Access user account ID (not the email address)
Password:	Brivo Access user password (Used with email address login)
API Key:	From Brivo developer account or requested (24 characters)
API Client ID:	From API application created in Onair Account
API Client Secret:	From API application created in Onair Account

Connection to the system will now be completed and the permitted configuration will be received.

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VERIFIED



dded:		
Doors (3)		-
Jnits (5)		-
Servers (1)		-
Events (18)		-
Commands (4)		-
States (15)		•

Expand the available Milestone cameras and drag and drop the associated camera to the access doors.

All doors	Enabled	License			Cameras:
wiss Door est Door Access point: R Drop camera h	Image: state of the state o	Pending Pending Pending Test Doo ssociate it	r with the	ccess point.	 Access Control Camera 2 StableFPS (127.0.0.1) - Camera 1

Once added, click **Next**.



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Create Access Control System Integration

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.

Enabled License	Enabled License 🤏	Video Loops Video Loops Access Control Camera 2 StableEDS (127.0.0.1) - Camera 1
Pending	 Pending 	- Stabler PS (1210.01) - Camera 1
Pending	Pending	
Pending	✓ Pending ✓	
nere to associate	nere to associate it with the a	iccess poin

The initial configuration is now complete. Additional setting can be changed via the **Milestone Management Client**.

Create Access Control System Integration
You have successfully completed the access control system integration
Your XProtect Smart Client users can now monitor access control events. See the help system for how to optimize the XProtect Smart Client for access control system integration.
You can edit the integration settings in the access control system properties, if you, for example, update the access control system.
Close

obrivo.



Access Control Information/Other Settings

This integration provides the below configuration tabs.

General Settings

Brivo Orbnet Test General settings	General settings				
Enable:					
Name:	Brivo Orbnet Test				
Description:					
Integration plug-in:	Brivo ACM (Version: 1.0.0.0, 1.0)				
Last configuration refresh:	2/8/2022 2:44 PM				
	Refresh Configuration				
Brivo Authentication URL:	https://auth.brivo.com/				
Brivo API URL:	https://api.brivo.com/v1/api/				
Brivo Event Callback URL:	http://www.awarana.com/eventscallback/				
Error E-mail:	ham der pader Badva den				
Event Proxy Address:	https://localhost:43324/orb-briv-proxy/				
User:	hans, deen gealing working di Profesial				
Password:	Enter current password				
API Key:	Manandrife Miller (1995) 1998-1996				
API Client ID:	1458464483-65226-47825-82343-84785027-757737				
API Client Secret:	A TE MANDER AN ANALY IN PLANT				
Door relock time (ms):	2500				
Hours before user cache invalidation:	1				

Refresh Configuration:	When a new door is added or removed from the Brivo Access system, use refresh configuration to update the doors within Milestone.
Enter current password:	If the account password is changed, use this button to update. Also use to input the password before refreshing the configuration if troubleshooting a connection issue.
Door relock time (ms):	When open door commands are sent from Milestone, this is the time used before relocking the door. Default (2500ms) .
Hours before user cache invalidation:	This is the time frame used for updating user information in Milestone (E.g. names, pictures). If a user information change is made in Brivo, this could take up to the time specified to show in the Milestone events. Default (1h), Minimum 1h, Maximum 24h.





Doors and Associated Cameras

Access Control	Access Control Informat	on		•
Brivo Demo	Doors and as	sociated came	ras	
	Drag and drop to asso	ciate cameras with door	access points.	
	Doors:			Cameras:
	All doors 👻			ORBSVR-44
	Name Enab	led License	0	Video Loops Access Control Camera 2
	Hastings Door	Expires in 9 days		StableFPS (127.0.0.1) - Camera 1
	Access point: Read Drop camera here	er of Hastings Door to associate it with the	access point.	
	Swiss Door	Expires in 9 days		
	Test Door 🗸	Expires in 9 days		

Access Control Events

Enable the	events you want to monitor in XProtect Sma	rt Client. Use categories to simplify	the use of triggering events.	
Enabled	Access Control Event	Source Tune	Event Category	
	Admin Follow Schedule	Door	Warning	~
	Admin Unlocked Farly	Door	Warning	~
	Administrator Pulse Output	Access Point	Access granted	~
	Door Aiar Resolved	Door	Warning	~
	Door Locked	Door		~
	Door Locked Via Schedule	Door	Warning	~
	Door Open Too Long	Door	Warning	~
	Door State Unknown	Door	Warning	~
	Door Unlocked	Door		~
	Door Unlocked Via Schedule	Door	Warning	~
	Failed Access Invalid Credential Type	Access Point	Access denied	~
	Failed Access Unknown Credential	Access Point	Alarm	v
	Invalid Credential Type by Unknown User	Access Point	Access denied	~
	Open	Access Point	Access granted	~
	Server connected	Brivo Net2 Server		v
√	Server connection lost	Brivo Net2 Server	Error	v
√	Uncategorized (check event for details)	Access Point		v
v	Uncategorized (check event for details)	Door		~
			•	





Access Request Notifications (Not currently supported in Brivo Access)

Access Control 👻 👎	Access Control	Information		* 4
Access Control Brivo Demo	Access Specify the s	request notification ettings for each access reques	1S st notification you	define.
	Name			
	Built-in Aco	ess Request Notification (read	only)	
	Add Access Access Configure the	is Request Notification request notificatior access request notificatior b	n details ^{ehavior.}	
	Camera:	Related camera	~	Commands:
	Speaker:	Camera speaker	~	Command
	Microphone:	Camera microphone	v	Related access request commands v X
	Sound alert:	attions The Doors and Assoc	iated Camera-	Add Command

Cardholders

Access Control 🗸 🗸	Access Control Information			• ⁴
Control	Cardholders	ture of the conduction. The security of	Idea picture is used in the VDrated Server Officer with	
	event has been registered.	ture of the cardholder. The cardho	der picture is used in the AProtect Smart Client, whe	n an access control
			_	
	Name	Туре		
	Eric Bourque			
	Gigel Cornel			
	Marcel Anonim			
	Mircea Stefanescu			
	General Settings 🔊 Doors and	Associated Cameras 🛛 🎨 Acces	s Control Events 🥡 Access Request Notifications	Lardholders





Alarm Definitions

In the Milestone Management, alarms can be created from Access Control Events.

The below alarm shows an easy method to create an access denied event on all doors in the system, and then have that event auto display an alarm in the Milestone Smart Client showing a specified map view.

Alarm Definitions	- 4 Alarm Definition Information		
Alarm Definitions Access Contol Alarm events Car Park Pay Machine Alarm Door Alert Event from Pi	- Alarm definition Enable: Name:	Access Contol Alarm Breacts	
Pi Connected	Instructions:		Access Contol Alarm events
	Trigger		
	Triggering event:	Access Control Event Categories	
		Access denied	
	Sources:	All doors	Access Control Event Categories
	Activation period		Access denied
	Time profile:	Always	Access granted Access request
	O Event based:	Start:	Alam Error Wamion
		Stop:	Start
	Map		900
	Alarm manager view:	Smart map Map Car Showroom and Lot	-
	Operator action required		
	Time limit:	1 minute	
	Events triggered:		
	Other		
	Related cameras:	Access Control In	
	Initial alarm owner:		
	Initial alarm priority:	1: High	
	Alarm category:		
	Events triggered by alarm:		
	Auto-close alarm:		
	Harm assignable to Administrators:		





Below shows the **Alarm** being triggered within the Smart Client. This will display a red flashing ring around the door that has triggered the event.







Rules and Events

To access the Access Control events in Milestone, select the **Rules and Events > Rules** section in the Management Client and then right click in the center column to add a new rule.

• Perform an action on **Event**

Select an Event		×
🖻 📴 Acces	ss Control	^
🖻 ᆋ A	ccess Control Categories	
	Access denied (Access Control Categories)	
	Access granted (Access Control Categories)	
	Alarm (Access Control Categories)	
	Error (Access Control Categories)	
	Warning (Access Control Categories)	
ė 🕹 A	ccess Control Events	100
	2nd Factor Not Given (Access Control Events)	
	Admin Follow Schedule (Access Control Events)	
	Admin Locked Early (Access Control Events)	
	Admin Looked Early (Access Control Events)	
- F	Administrator Pulse Output (Access Control Events)	
*	Roard batteny failure cleared (Access Control Events)	
4	Peard battery failure set (Access Control Events)	
	Board ballery failure set (Access Control Events)	
-	Board chip reset (Access Control Events)	
-	Board communication Failed (Access Control Events)	
	Board communication regained (Access Control Events)	
	Board tamper cleared (Access Control Events)	
	Board tamper set (Access Control Events)	
	Brivo API Connected (Access Control Events)	
	Brivo API Disconnected (Access Control Events)	
	Brivo Proxy Connected (Access Control Events)	
	Brivo Proxy Disconnected (Access Control Events)	
	Device wire cut (Access Control Events)	
	Device wire cut cleared (Access Control Events)	
	Door Ajar Resolved (Access Control Events)	
	Door Locked (Access Control Events)	
	Door Locked Via Schedule (Access Control Events)	
	Door Open Too Long (Access Control Events)	
	Door State Unknown (Access Control Events)	
	Door Unlocked (Access Control Events)	
	Door Unlocked Via Schedule (Access Control Events)	
	Exit Switch Pressed (Access Control Events)	
	Failed Access Deleted User (Access Control Events)	
	Failed Access Invalid Credential Type (Access Control Events)	
	Failed Access Old Credential (Access Control Events)	
	Failed Access Out Of Schedule (Access Control Events)	
	Failed Access Panel Comm Fail (Access Control Events)	
-	Failed Access Unassigned Card (Access Control Events)	
-	Failed Access Unauthorized Door (Access Control Events)	
4	Failed Access Unknun Credential (Access Control Events)	
4	Failed Access Unixown Credential (Access Control Events)	
-	Failed Access User Deactivated (Access Control Events)	
-	Falled Access User Not Enabled (Access Control Events)	
	Invalid 2nd Factor (Access Control Events)	
	Invalid Credential Threshold Passed (Access Control Events)	
	Invalid Credential Type by Unknown User (Access Control Events)	
	No Permission Threat Access (Access Control Events)	
	Offline Access (Access Control Events)	
	Offline Access: Unknown Credential (Access Control Events)	
	Open (Access Control Events)	
	Unauthorized Door Open (Access Control Events)	
	Uncategorized (check event for details) (Access Control Events)	
	Uncategorized (check event for details) (Access Control Events)	
	Wire short (Access Control Events)	
	Wire short cleared (Access Control Events)	~
	0//	
	OK Cancel	





With Milestone **Rules and Events**, it is possible to enable an event from the Access Control System to trigger an additional event or action in XProtect. The rule below is a simple example of how to record a specific camera when an **Access Denied** event is received.

Manage Rule					-		\times
Name:	Access R	ule					
Description:							
Active:							
		S	Step 3: Actions				
Retrieve and sto Retrieve and sto Retrieve and sto Save attached in Activate archivit On <site> trigge Open <dooracc <="" <access="" cance<="" lock="" override="" r="" show="" td="" unlock=""><td>ore remote re- ore remote re- mages ng on <archiv er <user-defin ess Point> request notific DoorAccess k <dooraccess el <dooraccess< td=""><td>cordings from <dev cordings between < res> ed event> cation> Point> ss Point> ss Point></dev </td><td>vices> <start and="" end="" time=""> fro</start></td><td>om <devices></devices></td><td></td><td></td><td>< <</td></dooraccess<></dooraccess </user-defin </archiv </td></dooracc></site>	ore remote re- ore remote re- mages ng on <archiv er <user-defin ess Point> request notific DoorAccess k <dooraccess el <dooraccess< td=""><td>cordings from <dev cordings between < res> ed event> cation> Point> ss Point> ss Point></dev </td><td>vices> <start and="" end="" time=""> fro</start></td><td>om <devices></devices></td><td></td><td></td><td>< <</td></dooraccess<></dooraccess </user-defin </archiv 	cordings from <dev cordings between < res> ed event> cation> Point> ss Point> ss Point></dev 	vices> <start and="" end="" time=""> fro</start>	om <devices></devices>			< <
Edit the rule descrip Perform an action or from <u>All cameras</u> Open <u>DoorAccess</u> and Show <u>Access</u> and Override Lock and Override Unlo and Override Cano	otion (click an <u>Cyber Attack</u> <u>Point</u> <u>s Request</u> <u>s DoorAcce</u> ck <u>DoorAcc</u> cel <u>DoorAcc</u>	n underlined item)					
Help		<u>C</u> ancel	< <u>B</u> ack	<u>N</u> ext >		<u>F</u> inish	





User-defined Events

Often overlooked, the **User-defined Event** allows easy access to the control of an out-bound action from Milestone and the Smart Client. The initial setup of the User-defined event is as a placeholder for a Rule.

Under Rules and Events select User-defined Events, right click and Add User-defined Event.

This provides just a name field. Fill this with a name relevant to the action you intend to add. Remember that this is the name of the event shown in the Smart Client.

- ₩ Events	Name:	
	Add User-defined Event	×
	Enter name for user-defined event:	
	Open Door 1	
	ОК	Cancel

Back in **Rules**, create a new rule and select the **User-defined Event** that was created.

Perform an action on **Event**

- Events > External Events > User-defined Events
- Click **Next** and select the relevant action to be performed on the Brivo panel by selecting the checkbox(es).

		Select an Event		×
Rules Q P P P P P P P P P P P P P P P P P P	Manage Rule Name: New Rule 001 Description:	Select an Event	OK	Cancel





User access for Smart Client

There are many options for the display and management of Access Control data in the Milestone Smart Client. The ORBNET Systems for Brivo integration seeks to enable many of these.

To begin, log into the Smart Client with a user who is a member of a role with Access Control Settings enabled in the Milestone Management Client.

Roles 👻 👎	Role Settings
Name Naministrators (Administrators have co NORBNET	Access control management
•	Security settings Milestone XProtect Access Use access control View cardholders list Receive notifications



Smart Client Features and Setup

Once logged into the Smart Client, enter **Setup** mode via the right-hand site menu. This allows access to the setup of the features that follow. The menu bars will show in orange to indicate setup is enabled.



Access Monitor

Drag the **Access Monitor** into the window tile and select the source door. Now choose the events to be received from a specific door. It is recommended to select a door for the **Access Monitor** instead of the reader as it will provide more events.

System Overview	^
🕨 🧔 Alarms	
• A ORB-826-3E9	
Access Monitor	

Access Monitor Settings ×				
Specify the	e settings for the Access Monitor			
Door:	All doors 💌			
Sources:	All sources			
Camera:				
Events:	All events			
Commands:	All commands			
Order:	Newest on top			
	OK	Cancel		





orivo.

The below example is of a door with one reader. Here there is door / 2 readers and 2 cameras. The same door is associated with both windows in the Smart Client and individual readers per door.

View shown in Smart Client where the related or select camera feed is shown with door events shown to the right of the tile. When an event is clicked, you will be taken back to playback within the tile showing the time the event occurred.







Smart Client Maps

All the Brivo components can be added to a map created within the Milestone Smart Client.

Icons for the **Doors** and **Readers** can be added to the Milestone Maps. Note that in the screenshot below the reader icon will change color depending on the credential result.







Doors will show Red when locked, an Open door when unlocked. For the override states these show with bars on the door to indicate a fixed state of Locked (Red) or Unlocked Green). Readers will flash green or red depending on the badge presented and be in the normal state otherwise.

When a device is offline or there is a connection issue the device icon with a cross will be shown.

Locked Unlocked Override Lock Override Unlock Offline Image: Image

Door States

Reader States

Normal	Access Granted	Access Denied	Offline	
			X	

Under **Setup** mode, create a new view layout (Recommended 1x1), and drag the Map component into the blank tile. Select a floor plan image representing your site layout.

System Overview	
 ORB-826-3E9 Access Monitor Camera Navigator Carousel Hotspot HTML Page Image 	 Set up map – Create new map Name Browse Use existing map M Car Showroom and Lot M Paxton
Map Matrix Matrix Smart map Smart Wall Text Text	OK Cancel





From the **Tools** menu, select **Access Control**. From the drop-down list, you will now see Brivo devices that have been enabled within Milestone.







Access Control Tab

The **Access Control Tab** in the Milestone Smart Client can be used as the central monitoring interface for the access control system. Events can be searched by Event type, specific doors and or cardholders. There is also an option to have the list update live.

Once an event is selected, as shown in the below screenshot – additional information is shown from the door, cardholder, or event type.

Milestone XProtect	Smart Client				30/04/2021 11:36:34 — 🗆 🗙
Live Playba	ck Search	Alarm Manager	Transact Access Control System	n Monitor	+ O Y ~
					Access control administration
Events Doors	Cardholders				
Search cardholders	c	a o			
Today + All events	· → All doors →			Access report) ¹ 5
Time -	Event	Source	Cardholder		Access Control In - 30/04/2021 11:18:52.408
30/04/2021 11:28:52	Access Denied	ORBNET Office (Out)	Jeff Kilington		
30/04/2021 11:28:22	Door Locked	ORBNET Office			and the second se
30/04/2021 11:28:20	Access Granted	ORBNET Office (Out)	Eddie Cutts		the second se
30/04/2021 11:28:14	Door Unlocked	ORBNET Office			
30/04/2021 11:27:48	Door Locked	ORBNET Office			
30/04/2021 11:27:46	Access Granted	ORBNET Office (Out)	Eddie Cutts		
30/04/2021 11:27:40	Door Unlocked	ORBNET Office			
30/04/2021 11:27:32	ACU Online	ORBNET Office			
30/04/2021 11:26:03	ACU Not Responding	ORBNET Office			
30/04/2021 11:18:43	Access Denied	ORBNET Office (Out)	Jeff Kilington		
30/04/2021 11:15:59	Door Locked	ORBNET Office			
30/04/2021 11:15:57	Access Granted	ORBNET Office (Out)	Eddie Cutts		
30/04/2021 11:15:51	Door Unlocked	ORBNET Office			
30/04/2021 11:15:45	Access Denied	ORBNET Office (Out)	Jeff Kilington		
30/04/2021 11:13:57	Access Denied	ORBNET Office (Out)	Jett Kangton		XXXXXXXXXXX
30/04/2021 11:13:50	Access Denied	CORNET Office (OUD)	Jett Kangton		
30/04/2021 11:13944	Access Denied	ORBNET Office (Out)	Jeff Kängton		11:1852.961
20/04/2021 11/12/18	Access Denied	OPENET Office (Out)	Jell Kängton		
10/04/2021 10:20:22	Door Locked	ORENIT Office	2 Annual Contraction		Access Denied
30/04/2021 10:20:20	Access Granted	ORENET Office (Out)	Eddie Cutts		Access denied - invalid token eventType=23 subType=22
30/04/2021 10:20:14	Door Unlocked	ORBNET Office			Time
30/04/2021 10:20:06	Door Locked	ORBNET Office			30/04/2021 11:18:43
30/04/2021 10:20:05	Access Granted	ORBNET Office (Out)	Eddie Cutts		Source
30/04/2021 10:19:59	Door Unlocked	ORBNET Office			ORBNET Office (Out)
30/04/2021 10:19:45	Access Denied	ORBNET Office (Out)	Jeff Kilington		Jeff Kilington
30/04/2021 10:19:27	Access Denied	ORBNET Office (Out)	Jeff Kilington		
30/04/2021 10:05:47	Door Locked	ORBNET Office			User searchable ID
30/04/2021 10:05:44	Access Granted	ORBNET Office (Out)	Eddie Cutts		Evolution
30/04/2021 10:05:39	Door Unlocked	ORBNET Office			26 May 2021
30/04/2021 10:03:59	Door Locked	ORBNET Office			Activation Date
30/04/2021 10:03:56	Access Granted	ORBNET Office (Out)	Eddie Cutts		28 April 2021

The **Doors** tab shows the list of doors in the system allowing control of the door from Milestone. The controls shown are **Open**, **Override Lock**, **Override Unlock**, and **Override Cancel**.





The **Cardholders** tab allows the test search of users and the single click search of all events for a specific user. It is then possible to create a report complete with a screenshot thumbnail for every event for the cardholder.

Access Control		 96R6981895FF858		×
			Access control administration	. 5
Eventa Doors Cardhold	a Q 0	 Jeff Kilington		
Name ORBNET	Type All hours, all doors	User searchable ID 3 Expiry Date 26 May 2021		
Eddie Cutts	All hours, all doors	Activation Date 28 April 2021		
Juff Kängton		28 April 2021 is Alem User False Departments (none) Token 3 Umpecified er236657 Notes HTMUDR Todo: Manage cardholder Vew cardholder even	6	





User-defined Event

From a layout that is already created, find **Overlay Buttons > Device > {Server-Name} > Events > All Event Types > {User Created User-Defined Event}**.

NOTE: See **User-Defined Events** section under Milestone Rules and Alarms in this document for more information.

Drag and drop this onto a tile, this will show as a push button over the camera tile.



When out of setup in Live mode, you will see the **Overlay Button** only when the mouse is hovered over the camera tile. These can only be used in a camera tile.

As shown below, **Open Door 1** and **Trigger Output**.







Troubleshooting

Event Server Installation

If Milestone was installed via a custom installation, the Event service may not have been included as it is not always required.

From the server/machine with the Milestone Management service follow to http://localhost/installation/admin/

This will provide a Milestone installation page where you will be about to run the installer for the Event Server. This must be installed so the ORBNET plugin can communicate with Milestone.

Unable to receive configuration from the access control system

If Milestone is unable to communicate with brivo please check your access to the below site. A firewall rule will need to be implemented to allow this connection.

https://<ipOrHostname>:<port>/orb-briv-proxy/eventscallback/

Use your external IP and the Port used for this service and remove **eventscallback**/ from the end of this URL. You should be able to access the below webpage with your external IP and port **43323** [default internal port].

				_		×
(一) ② https://戀戀	解验43324/orb-briv-proxy	👻 😵 Certificate error 🖒	Search	Q-	कि हरे	रिडे 😃
	×					
ORBNET BRIVO EVENT H	PROXY MODULE - v1.0.1.0					





Changing Default Proxy Port

To update the default port a manual change is needed in the config file. Stop the Proxy service first, before changing and saving this. Ensure this is updated in the Milestone Management Application general settings for the brivo connection.

For Service Accounts;

C:\Users\<user>\AppData\Local\Brivo Events Proxy\Brivo Events Proxy\

For Network Service Accounts;

C:\Windows\ServiceProfiles\NetworkService\AppData\Local\Brivo Events Proxy\Brivo Events Proxy\

BrivoEventsProxyService.xml

BrivoEventsProxyService - Notepad				-		×
<u>F</u> ile <u>E</u> dit F <u>o</u> rmat <u>V</u> iew <u>H</u> elp						
<pre><?xml version="1.0" encoding="utf-8"?> <BrivoEventProxyServiceConfiguration xmlns:xsi="http://www.w3.org/2001/XMLSchema-insta <IPv4Addresses> <string>192.168.1.158</string> <connectionsettings> <connectionsettings> <connecttomilestone>true</connecttomilestone> <milestonemanagementserverip>127.0.0.1</milestonemanagementserverip> </connectionsettings> </connectionsettings></pre>	nce" xmlns:xsd="h	ttp://w	ww.w3.org/200	1/XMLS	chema'	`> ^`
	Ln 12, Col 39	100%	Windows (CRLF)	UTF-	8	.:





Revision List

Date	Version	Author	Description
March 10, 2022	1.0		Initial Draft