Forensic Search Agent for Milestone XProtect Bosch Video IP

BOSCH

en Quick Installation Guide

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1 Installation

1.1 Overview

The Bosch Forensic Search Agent is available as a plug-in for Milestone's Centralized Search, and enriches Milestone's search functionality to search for specific criteria.

1.2 Prerequisites

- Operating system Windows 10 (64 Bit)
- Milestone VMS: XProtect 2019R3 Expert or Corporate or newer
- A Bosch camera connected to the Milestone XProtect VMS Product

1.3 Installation procedure

The current version of the installer can be downloaded from the website **https://www.boschsecurity.com/**

- After extracting the download package double-click on the Bosch_ForensicSearchAgent*.exe file to start the installation. A Milestone installer that provides the necessary framework libraries is included in the installer package.
- 2. Follow the instructions of the setup wizard.

or Bosch Forensic Search Ager	it Setup	-		×
	Welcome to Bosch Fo Agent Setup Setup will guide you through the in: Forensic Search Agent. It is recommended that you dose a before starting Setup. This will mak relevant system files without havin computer. Click Next to continue.	orensic stallation of f Il other appli ie it possible g to reboot y	Searc Bosch cations to update rour	.
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🛃 Milestone MIP SDK 2019 R	- Redistributable (x64) Setup	_		×
	Completed the Mileston R3 - Redistributable (x6	e MIP S 4) Setu	DK 20: p Wiza	19 rd
	Click the Finish button to exit the S	etup Wizaro	d.	
milestone				
	<u>B</u> ack <u>Fi</u>	nish	Can	cel

During the installation, the Milestone installer for the integration libraries will be executed.

After installing the Milestone components, the Bosch components can be selected:

- Forensic Search Agent
- Forensic Search Agent Configurator



When the installation is complete, the plug-in files are installed in the default plug-in directory

- for the 64-bit plug-in:

C:\Program Files\VideoOS\MIPPlugins\BoschForensicSearchAgent

The plug-in components are now available in the Milestone XProtect Administration Client, in the Smart Client, and an additional windows service component is installed. The **User Guide** and the **EULA** can be accessed via the start menu, in case this option was selected during the installation process.

2 Software components

Several software components act together to form the Bosch Forensic Search Agent. The involved software components are:

- Bosch plug-in for the Milestone XProtect Management client
- Bosch plug-in for the Milestone XProtect Smart client
- Bosch Forensic Search service (process that performs the actual search)
- Bosch VCD Streaming service (process that delivers the connects to the Milestone database for metadata retrieval)

A detailed description of the software context is given in the next chapter.

2.1 Camera setup

The camera needs to run in either **Essential Video Analytics** mode or in **Intelligent Video Analytics** mode.

General	Camera	Reco	ording	Alarm	VCA	Interfaces
Main Operation	Tamper Def	tection	Tasks	Metadata G	ieneration	Metadata Inspec
VCA						
	Operating mode		Pi	ofile #1		~ 2
	Alarm status Aggregation time	e [s]	0	ff		0
	Analysis type		In	telligent Video A	nalytics	~
		Load		Save	Defau	ult

2.2 Administration client

The cameras that will be available for the Forensic Search Agent in the Smart client are configured via the Administrator plug-in, located in the Bosch Camera settings.



Note:

It is very much recommended to set up permanent recording to make best use of the Forensic Search use case scenarios.

The Bosch Forensic Search is using metadata from the edge (Bosch intelligent cameras), which is stored in the Milestone database. Therefore the metadata channel needs to be available and activated.



The selected metadata format in XProtect needs to be set to **Bosch binary**.

Devices 👻 👎	Prop	perties	
	Bos	sch 1-channel device	
Tinion IP 7000 HD (192.168.1.113) - Metadata 1 DINION IP starlight 7000 HD (192.168.1.35) - Metadata 1	~	Metadata bounding box Valid time (seconds)	3
DINION IP ultra 8000 MP (192.168.1.119) - Metadata 1 DINION IP ultra 8000 MP (192.168.1.179) - Metadata 1	~	Metadata stream Stream type	Bosch binary
		Streaming mode	RTP/RTSP/TC

After the general metadata availability, the search functionality needs to be enabled via the Camera tab plug-in.

The checkbox (1) enables or disables the general availability of the selected camera in the Smart client's Bosch Forensic Search plug-in.



2.3 Forensic Search Agent plug-in

The plug-in hooks into Milestone's Centralized Search framework and exposes Bosch's forensic search functionality in the Smart client.

The Forensic Search allows to set up rules and events that were not initially set up.

The Forensic Search Agent operates in the given search scope which is defining the search duration and provides a general selection of cameras for the search.

The general section **Search filters** allows to specify a search duration and it also allows to select a generic set of cameras for the search. This generic camera selection may be stripped in the Bosch Forensic Search filter, due to the fact that the Bosch plug-in only operates on Bosch Analytics cameras that run intelligent or enhanced video analytics, provide a metadata channel in XProtect and were enabled in the Management client for the forensic search.

Start	End	
8:05 AM	9:30 AI	M
9/30/2019	9/30/2019	
Duration: 1 hou	r 25 minutes	
Selected camera	as (5)	Clear li
DINION IP 700	00 HD (192,168,1,113)	- Camera 1
DINION IP sta	rlight 7000 HD (192.16	68.1.35) - C
DINION IP sta	rlight 7000 HD (192.16	68.1.35) - C
DINION IP sta	rlight 7000 HD (192.16 ra 8000 MP (192.168.1	.119) - Ca
DINION IP sta DINION IP ulti	rlight 7000 HD (192.16 ra 8000 MP (192.168.1	.119) - Ca
DINION IP sta DINION IP ultr DINION ID ultr Select camera	rlight 7000 HD (192.16 ra 8000 MP (192.168.1 ra 8000 MP (192.168.1	i8.1.35) - C .119) - Ca .170) - Ca
DINION IP sta DINION IP ulti DINION IP ulti Select camera	rlight 7000 HD (192.16 ra 8000 MP (192.168.1 ra 8000 MP (192.168.1	8.1.35) - C .119) - Ca .179) - Ca
DINION IP sta DINION IP ulti DINION ID ulti Select camera	rlight 7000 HD (192.16 ra 8000 MP (192.168.1 ra 8000 MP (192.168.1 h	8.1.35) - C .119) - Ca <u>179) - Ca</u>
DINION IP ult	rlight 7000 HD (192.16 ra 8000 MP (192.168.1 ra 8000 MP (192.168.1	88.1.35) - C .119) - Ca <u>170) - C</u> ∍
DINION IP sta DINION IP ult DINION IP ult Select camera	rlight 7000 HD (192.16 ra 8000 MP (192.168.1 ra 8000 MP (192.168.1)	8.1.35) - C .119) - Ca 170) - Ca
DINION IP sta DINION IP ult DINION IP ult Select camera	rlight 7000 HD (192.16 ra 8000 MP (192.168.1 ra 8000 MP (192.168.1 ra 8000 MP (192.168.1 search for Search for	8.1.35) - C .119) - Ca 170) - Ca
DINION IP sta DINION IP ult DINION ID ult Select camera Bosch Video co	right 7000 HD (192.16 ra 8000 MP (192.168.1 ra 8000 MP (192.168.1 ra 8000 MP (192.168.1 ra 8000 MP (192.168.1 resource for a search for	8.1.35) - C .119) - Ca 170) - Ca

2.3.1 Using the Forensic Search Agent

The Bosch Forensic Search Agent is available via the **Search for...** button in Milestone's **Search** tab.

Search filte	rs :	76 results
Start 8:05 AM 9/30/2019	End 9:30 AM 9/30/2019	805:00 AM 9/30/2019
Duration: 1 hour 25 Selected cameras (5)	minutes Clear list	DINION IP starlight 7000 HD (192.168.1.35
DINION IP 7000 H DINION IP starligh DINION IP ultra 80 DINION IP ultra 80 Select camera	D (192.168.1.113) - Camera 1 at 7000 HD (192.168.1.35) - C 000 MP (192.168.1.119) - Ca 000 MP (192.168.1.179) - Ca	(00:00:18) 9/30/2019 925:41 AM
Showing that mat	Alarms Bosch Forensic Search Motion	binicon IP ultra 8000 MP (192.168.1.119)
	Add	I to existing search New search 1.119)

Selecting the Bosch Forensic Search entry activates the Bosch search plug-in and the following in-line filter control will become visible.

Live	Playba	ack	Search	A
12:32:26 PM	Infor	mation: N	lo VCD data <mark>avialb</mark>	ole for: D
12:26:56 PM	Than	k you for	using this trial lice	ense to d
Search	n filters	÷		
Start		End		
		- deal of the first		
12:35	PM	12:3	35 PM	
12:35 10/11/20	PM 19	12:3 10/18	35 PM 8/2019	•
12:35 10/11/20 Duration: 7	PM 19 days	12:3 10/18	35 PM 8/2019	•
12:35 10/11/20 Duration: 7 Selected ca	PM 119 days meras (5)	12:3 10/18	85 PM 8/2019 Cle	• ar list
12:35 10/11/20 Duration: 7 Selected ca	PM 019 days meras (5) starlight 70	12:3 10/18	85 PM 8/2019 Cle	• ar list
12:35 10/11/20 Duration: 7 Selected ca DINION IF	PM 119 days meras (5) ? starlight 70 9 ultra 8000 f	12:3 10/18 00 HD (1 MP (192.	35 PM 8/2019 Cle 192.108.1.35) - C 168.1.119) - Ca	• ar list
12:35 10/11/20 Duration: 7 Selected ca DINION IF DINION IF	PM 119 days meras (5) 2 starlight 70 2 ultra 8000 f 2 ultra 8000 f	12:3 10/10 00 HD (1 MP (192. MP (192.	35 PM 8/2019 Cle 192.168.1.35) - C 168.1.119) - Ca 168.1.179) - Ca	ar list
12:35 10/11/20 Duration: 7 Selected ca DINION IF DINION IF FLEXIDON	PM J19 days meras (5) P starlight 70 P ultra 8000 f P ultra 8000 f ME IP panorai	12:3 10/10 00 HD (1 MP (192. MP (192. mic 5000	35 PM 8/2019 (192.168.1.33) - C 168.1.119) - Ca 168.1.179) - Ca 0 MP (192.168.1.	ar list

2.3.2 Configuration – Single Camera

The configuration window contains the list of preselected cameras (1), an area to set up the rules (2) for the search and a video area, that is used to setup any lines or areas that are needed for the search (3).

5		(2)	(3)
Ф M	estone XProtect Smart Cl ant		
Live	You can select the camera he checkbox. Click on a c r the camera.	You can modify the rule setup or the selected camera he	
10:24:3	DINION IP 7000 HD (192.168.1.113) - Camera 1	Alarm	
	DINION IP starlight 7000 HD (192.168.1.35) - Car	Detect any object	
Sea	DINION IP ultra 8000 MP (192.168.1.119) - Came		
Start	DINION IP ultra 8000 MP (192.168.1.179) - Came		
8:0	FLEXIDOME IP panoramic 5000 MP (192.168.1.87,		
9/30,			0 8 3
Duratio			
Selecte			
DINIC			
DINIC			
DINIC			T
Select			
			A A
		New Ed. Dubb	
of t		New E.G. Delete	
	Check the lox to apply 1 config to all cameras.	Select at least 1 camera	
	0 Car eras selected 0		
	(4)		
	\bigcirc		

The preselected cameras are only active in case they were configured for forensic search in the administration client and have a metadata channel connected. Inactive cameras are shown in an italic font (4).

Clicking on an active camera loads the preview window and the Intelligent Video Analytics configuration that was set up on the camera in the given search scope time frame. This is needed to load the calibration data, which helps to setup more sophisticated searches.

To include a camera in an actual search, the check box needs to be checked (5).



Note:

For a deeper understanding of the configuration of the Bosch Video Analytics it is recommended to look into the Video Analytics Software manual, provided with this installation, available through the Windows start menu or by pressing the **F1** key when the configuration window is active.

the of the	can select the cameras for the forensic search with checkbox. Click on a camera to edit the Filter setup he camera.	You can modify the	rule setup for the sele	cted camera n
	DINION IP 7000 HD (192.168.1.113) - Camera 1			Alarm
	DINION IP starlight 7000 HD (192.168.1.35) - Car	Detect	t any object at the door	
\checkmark	DINION IP ultra 8000 MP (192.168.1.119) - Came			
	DINION IP ultra 8000 MP (192.168.1.179) - Came			
	FLEXIDOME IP panoramic 5000 MP (192.168.1.87,			
		New	Edit	Delete
	Check the box to apply 1 config to all cameras.		Set filter for 2 Cameras	

The search is executed by clicking on the Set filter for # Cameras button.



Note:

This is not in line with Milestone's user experience guidelines for the search agents, but it conforms to the well-known way of configuring and using the Bosch forensic search.

Status area

The search configuration provides a status overview in the bottom right corner (1). The status bar provides a short description of the current status and an icon to visualize that status. Additional status information is provided through the icon's tool tip.



2.3.3 Configuration – Multiple Cameras

It is also possible to configure more than one cameras for a search. The setup process is the same as explained in the previous chapter, with the possibility to apply the same configuration to all cameras in the search scope, as depicted below:



The last active rule configuration is used for all selected cameras.

í

Note:

Not all scenarios make sense in this setup (e.g. a line crossing is usually specific to a certain scene and hardly transferable to a different camera view).

2.3.4 Search Results

The search results are visualized in two areas in the Smart client. A thumbnail overview shows the search results preview (1). Clicking on the preview thumbnail updates the results details area on the right side of the view (2).

The thumbnails header includes the rule number and the rule name (3).



2.3.5 Search Progress

To be able to provide an overview on the current search status, a progress overview window can be opened by clicking the **i** icon as depicted below:

Milesto	ne XProtect Smart	Client						
Live	Playback	Search	AI	arm Manager 🧔	System Mor	nitor		
1:22:30 PM	Thank you for I	using this trial licens	e to der	monstrate or evaluate the	e XProtect video ma	anagement	software. The trial license (expires on
	•							
Search	filtors :			7 results	0	Searching		
Jearch	inters .			7 Tesuits		Searching	J	
Start	End			I				
11:23	AM 1:2	3 PM	•	11:23:00 AM				
10/18/20	19 10/1	8/2019		10/18/2019				
Duration: 2	hours			💏 #1 - Detect any	object			d f # 1
Selected car	meras (5)	Clea	r list					
DINION IF	7000 HD (192.168.	1.113) - Camera 1						
DINION IF	starlight 7000 HD (192.168.1.35) - C						
DINION IF	ultra 8000 MP (192	.168.1.119) - Ca			Loading	g		
) ultra 2000 MD (107	168 1 170\ <u>-</u> Ca						
Select can	nera		•					
	Search for							
						(00:00:04)	10/18/2019 12:09:30 PM	
🌈 Bos	sch Forensic Se	ear 🔻 🔀	<	at #1 - Detect any	object			af t #1
Vide	o content description	search >	<					
	Set filter for 1 Ca	imera 0						
			coine	coarchac				×
			igotrig :	seurcries				
	/		DINION	I IP ultra 8000 MP (192	2.168.1.179) - Can	nera 1	11	:46:59
							Cancel all se	arches
								1
/								
(1)								
\bigcirc								

The progress windows shows the search status per camera and it allows to cancel all searches at once.



Note:

The search progress popup needs to be closed manually by clicking on the close button (\mathbf{X}) .

2.3.6 Reconfiguring the Search

If any of the general search filters (time scope and camera list) is reconfigured, the Bosch Forensic Search Agent is notified and provides a button (1) to re-run the search with the previous Bosch configuration setup and the newly set general search filters, if applicable.



Adding a new camera will most probably not create new results since this camera is not selected for the search per se.

Bosch Sicherheitssysteme GmbH

Robert-Bosch-Ring 5 85630 Grasbrunn Germany **www.boschsecurity.com** © Bosch Sicherheitssysteme GmbH, 2019