MAKE THE
WORLD SEE

Milestone Systems

XProtect® Rapid REVIEW

Installation and deployment guide

milestone

Contents

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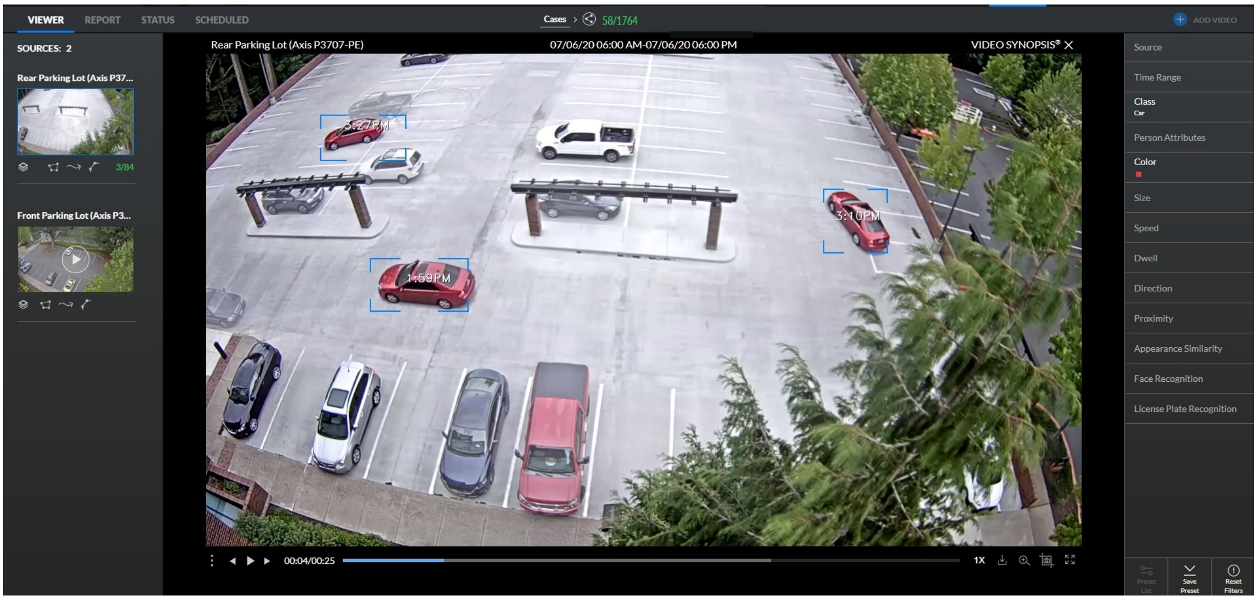
XProtect Rapid REVIEW

This installation and deployment guide outlines the installation and deployment of XProtect Rapid REVIEW for rapid time-to-value.

Get started and accelerate investigations with XProtect Rapid REVIEW

- Review hours of video in minutes with VIDEO SYNOPSIS®
- Pinpoint objects of interest with robust multi-camera search capabilities supporting 29 classes and attributes, face recognition, appearance similarity, color, size, speed, path, direction, and dwell time
- Quickly and effectively organize all video assets of an investigation with collaborative case management
- Rapidly visualize activity level, dwell time, common paths and background changes with powerful visual layers



Installation and deployment steps

1. Run the installer
2. Set up the deployment
3. Define and activate the cameras
4. Disable face recognition and license plate recognition (optional)
5. Install BriefCam Embedded Client for Milestone XProtect plug-in
6. Using an HTTPS host (optional)

Prerequisites

Before you install, please check the following list of prerequisites.

Server	At least one dedicated server for XProtect Rapid REVIEW (it cannot be installed on the same server with the VMS).
Memory	At least 64GB of RAM
Storage	• At least 250GB of free space for the application • At least 250GB for the database (on SSD drives) • At least 500GB drive for data storage (video and metadata) Refer to the APPENDIX: XProtect Rapid REVIEW hardware recommendations on page 60 for recommended storage size.
GPUs	At least one supported GPU. For additional information, see the list of recommended GPUs which is available on the specification sheet that you can download from the Milestone Content Portal: Collections / Rapid REVIEW. The GPU should not be used for any system task such as connecting a monitor to the GPU or unning applications, such as Chrome, using the GPU.
CPU	For each GPU, at least 4 cores at base (non-turbo) frequency of 2.5GHz and above.
Drivers	For the server with the GPU, make sure to download a supported version of the NVIDIA driver (470.94 or higher). Make sure to restart the computer after installing the NVIDIA driver.

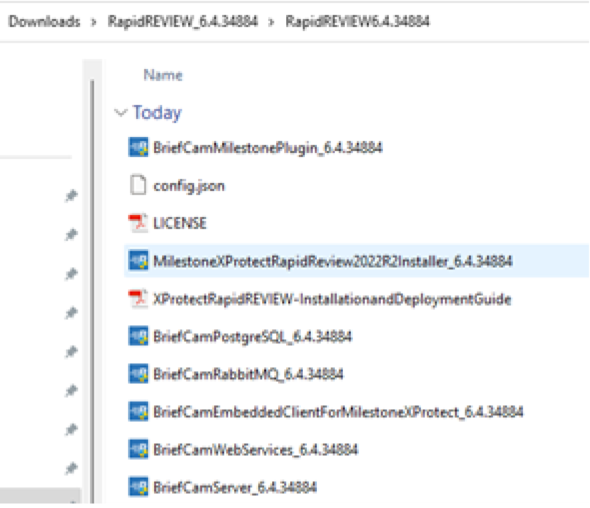
Network connectivity between BriefCam and the VMS	Ensure a minimum of 1 Gbps of throughput is available. This is relevant for deployments with less than 300 cameras on site. For larger deployments, consult with your BriefCam Account Manager.
Operating System	Windows 11, Windows 10 Pro version 1803 or higher, Windows Server 2022, Windows Server 2019 or Windows Server 2016 (you can check the Windows versions by running winver.exe.) For the Windows 10 'N' edition, you need to install 'Media Feature Pack' and 'Windows Media Player' via the Windows optional features menu. For more information, click here.
Windows Updates	Make sure that the latest Windows updates are installed.
.NET Framework	If the computer is running Windows 10 or Windows Server 2016, download and install .NET Framework 4.7.2 Runtime or higher. Make sure to restart the computer after installing .NET Framework.
Permissions	Current logged in user has full local admin rights and full Registry Read/Write permissions.
Browsers	Mozilla Firefox version 69.* and above Google Chrome version 77.* and above Microsoft Edge version 80 and above
Ports	See the Firewall Consideration and Ports Availability section below.

STEP 1 - Run the Installer

XProtect Rapid REVIEW will not work if the minimum requirements are not met. For additional information, see the APPENDIX: XProtect Rapid REVIEW hardware recommendations on page 60.

1. Extract the XProtect Rapid REVIEW package (RapidREVIEW <version>.zip).

   The extracted folder includes the XProtect Rapid REVIEW installer, multiple BriefCam installer files and an installation and configuration guide. You do not need to run any of the BriefCam installers (except for the embedded client installer at a later stage).

   Downloads › RapidREVIEW_6.4.34884 › RapidREVIEW6.4.34884

   Name

   Today

   BriefCamMilestonePlugin_6.4.34884
   config.json
   LICENSE
   MilestoneXProtectRapidReview2022R2Installer_6.4.34884
   XProtectRapidREVIEW-InstallationandDeploymentGuide
   BriefCamPostgreSQL_6.4.34884
   BriefCamRabbitMQ_6.4.34884
   BriefCamEmbeddedClientForMilestoneXProtect_6.4.34884
   BriefCamWebServices_6.4.34884
   BriefCamServer_6.4.34884

   > BriefCam uses port 80 for its application. If you want to use a different port, change it in the config.json file before running the installer. The **config.json** file is one of the files in the installation package.

2. Right-click the MilestoneXProtectRapidReview2022R2Installer.exe file and select **Run as administrator**.

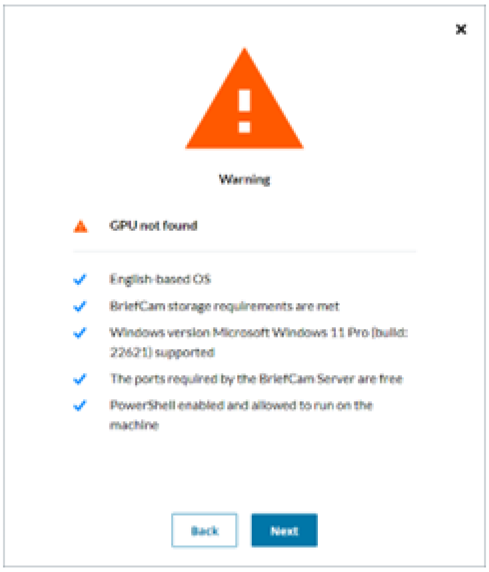
3. Read and accept the License Agreement terms and click **NEXT**.

   > When running on a laptop, you may also see a duplicated smaller screen on top of the regular installation screen. To continue, check the check box on the smaller screen and the NEXT button on the larger screen. This is a known issue

4. The installer will check to see if your computer meets the minimum prerequisites..

   - If all the prerequisites are met, you'll see a "Your system is fine" message.
   - If any of the prerequisites are not met, you will see a screen describing the warnings. Try resolving the warnings (for more information see the Prerequisites section) and then click **RETRY** or run the installer again. To resolve the warnings, you can also see the logs and run the standalone Check Prerequisites tool.

     If there are still errors and you click NEXT, the installation will continue. However, may not run properly on your computer since it does not meet the minimum requirements.



Warning

GPU not found

✓ English-based OS

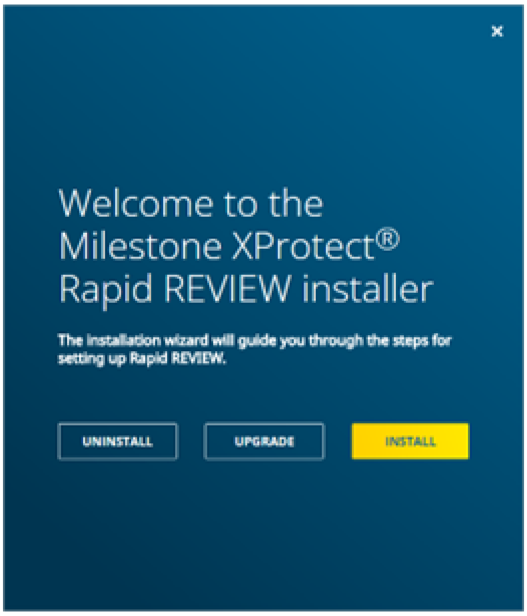
✓ BriefCam storage requirements are met

✓ Windows version Microsoft Windows 11 Pro (build: 22621) supported

✓ The ports required by the BriefCam Server are free

✓ PowerShell enabled and allowed to run on the machine

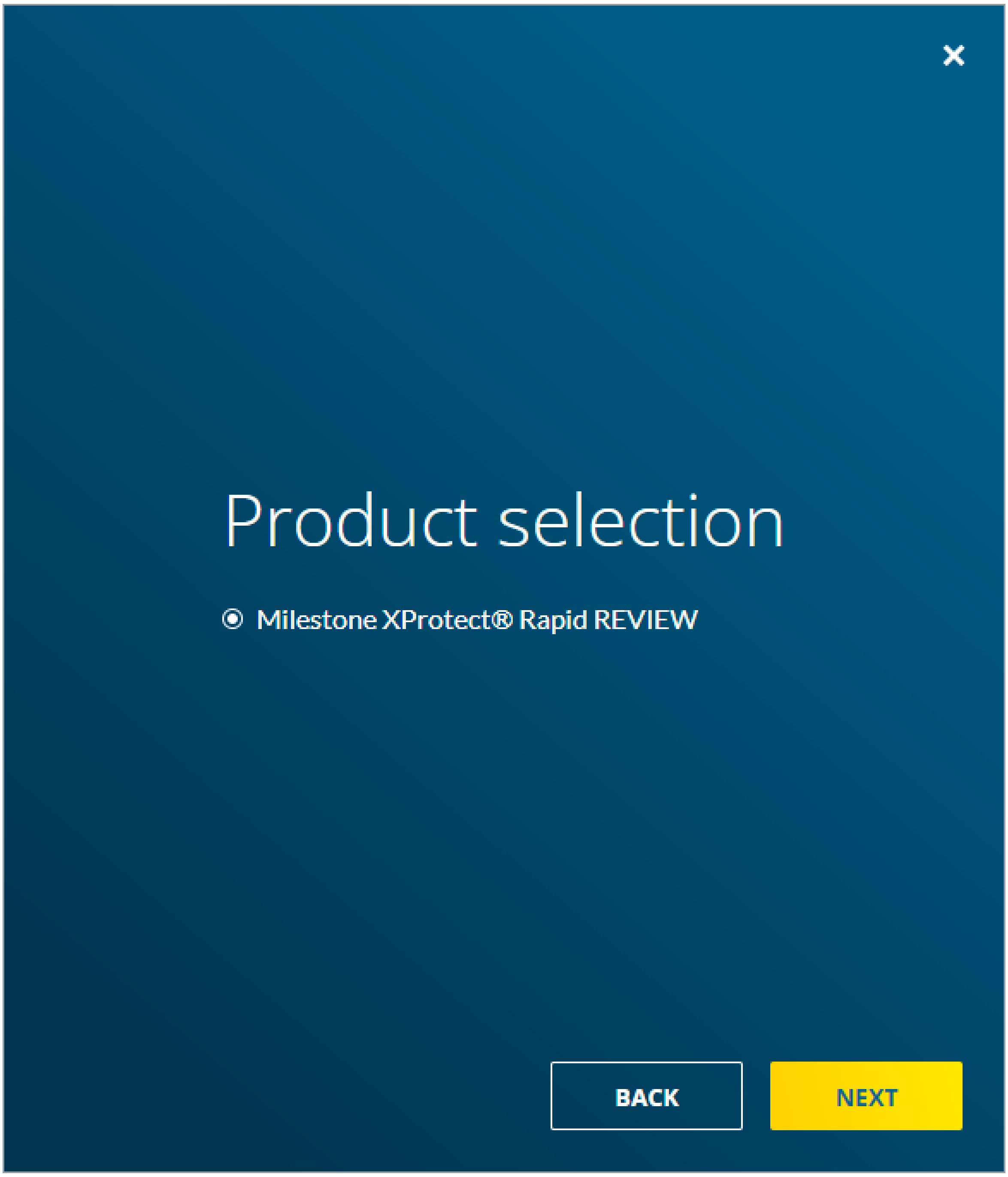
5. Select whether you want to install, upgrade, or uninstall XProtect Rapid REVIEW.



Welcome to the Milestone XProtect® Rapid REVIEW installer

The installation wizard will guide you through the steps for setting up Rapid REVIEW.

If you select **INSTALL** or **UPGRADE**, the following screen appears.

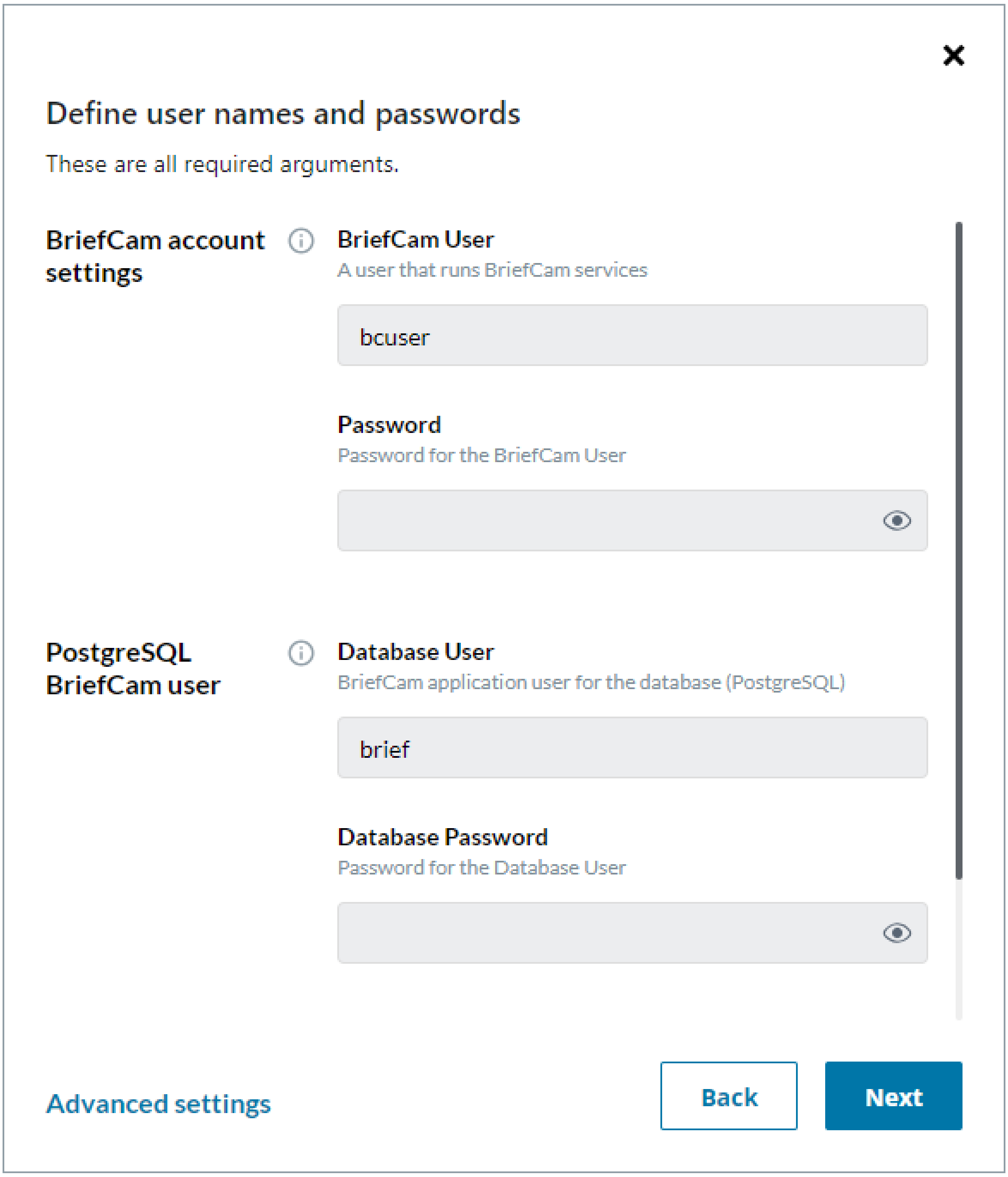


Product selection

◉ Milestone XProtect® Rapid REVIEW

6. Click **NEXT**.

   The following screen opens where you'll enter the necessary credentials and settings.



Define user names and passwords

These are all required arguments.

BriefCam account settings

BriefCam User
A user that runs BriefCam services

bcuser

Password
Password for the BriefCam User

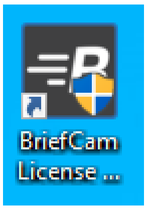
PostgreSQL BriefCam user

Database User
BriefCam application user for the database (PostgreSQL)

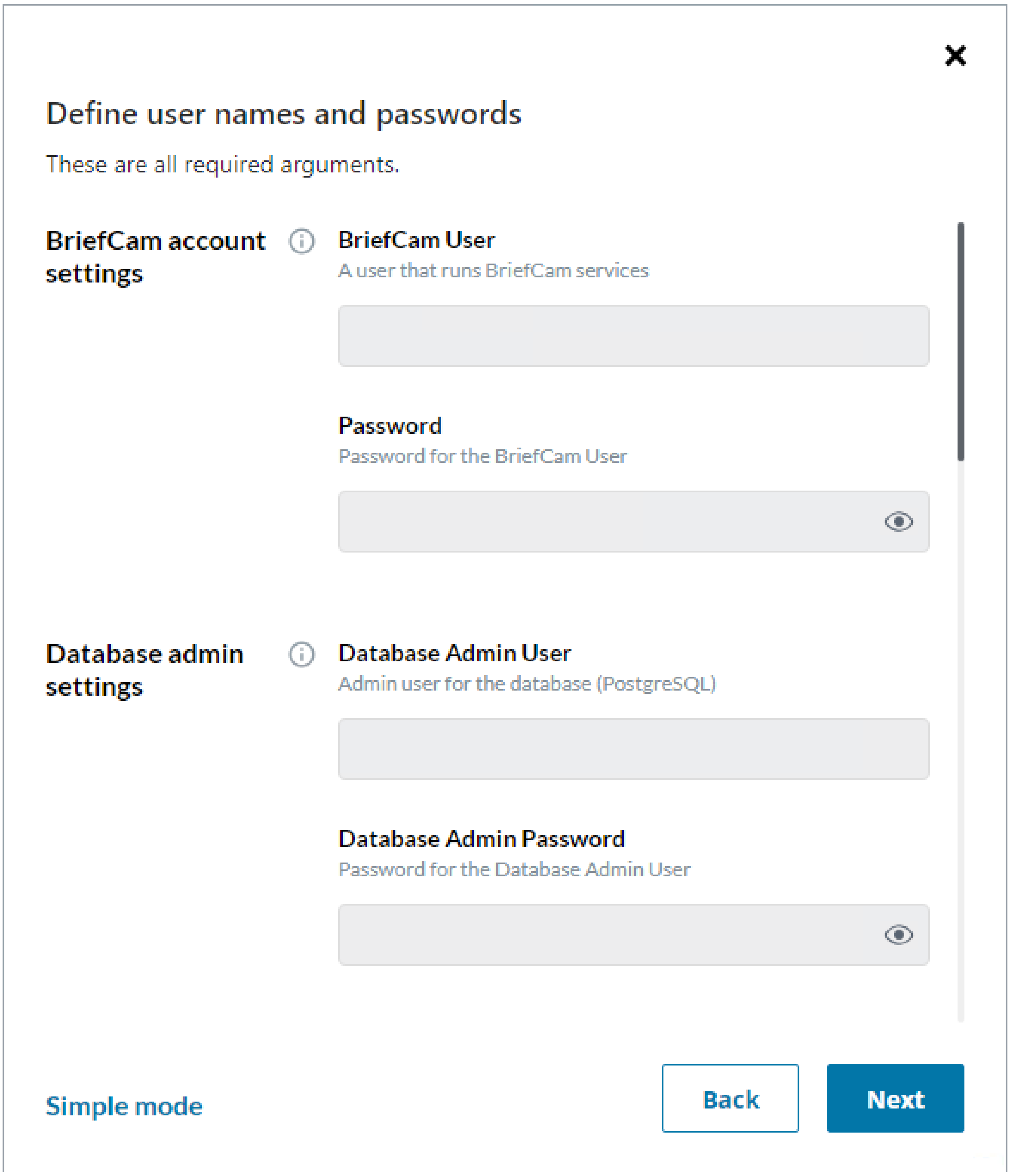
brief

Database Password
Password for the Database User

7. Fill in the following fields.

Field	Description
BriefCam account settings	
BriefCam User	The Windows user that runs the services. If this user does not yet exist, the installer will create it for you. This user must have local administrator permissions.
Password	The password of the user above (BriefCam User). Note that apostrophes and double quotes are not supported in the **Password** field. Use a password that is compliant with your organization's password policy. A password may fail for a variety of reasons: • The password does not meet the password policy of the operating system and/or organization. • Domain accounts cannot be created using this dialog. Contact the relevant IT person if a new domain account is required. • The user is disabled, locked, or otherwise limited.
PostgreSQL BriefCam User	
Database User	The PostgreSQL user that accesses the application database. Note that the user name is case sensitive.
Database Password	The password of the user above (Database User). Note that apostrophes and double quotes are not supported in the **Database Password** field.
License activation key	
Software activation key	The license activation key provided by Milestone. The license will be activated if the computer is online. If it is not online, you can activate the license using the BriefCam License Activation tool, which you can access by clicking the following icon after the installation completes. 

8. Select the **Advanced settings** option. All the fields here are optional. If you want to already configure the connection to the Milestone VMS, fill in the **Milestone VMS Address** field. It is recommended to fill it in.



Define user names and passwords

These are all required arguments.

BriefCam account settings

BriefCam User
A user that runs BriefCam services

Password
Password for the BriefCam User

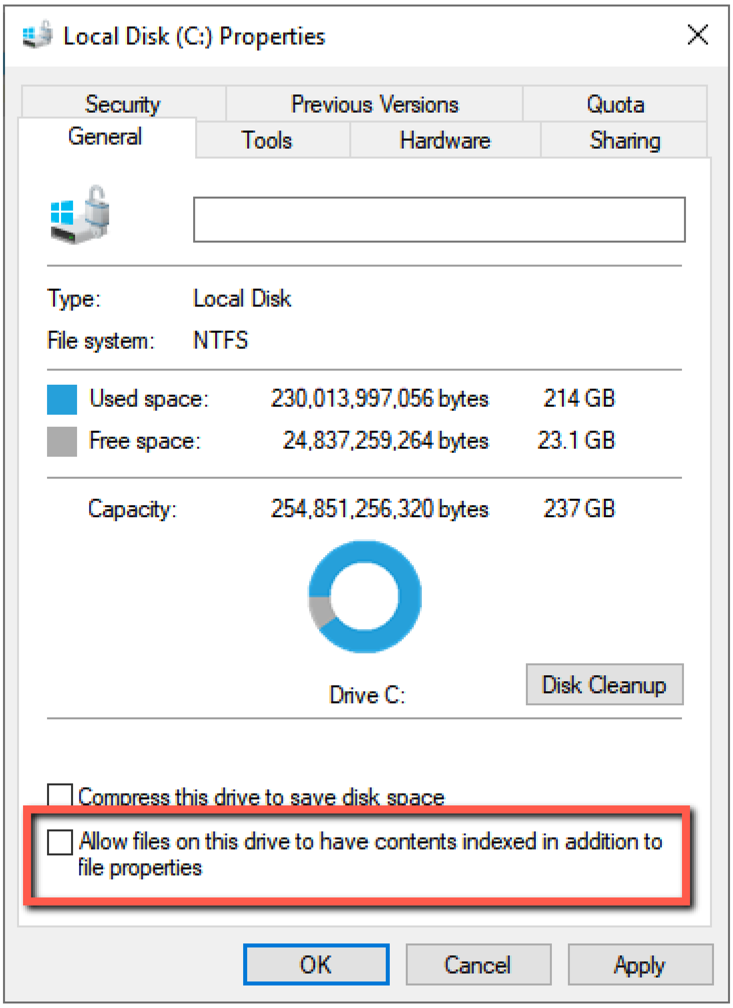
Database admin settings

Database Admin User
Admin user for the database (PostgreSQL)

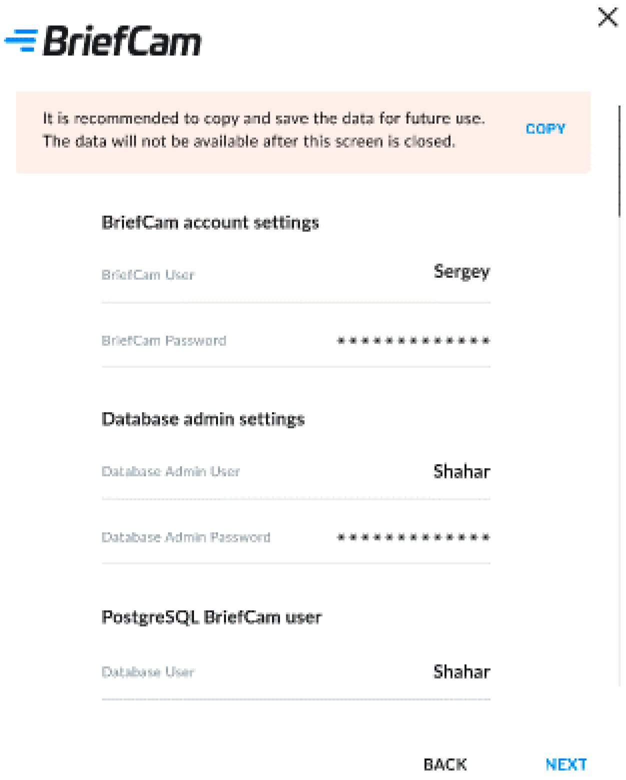
Database Admin Password
Password for the Database Admin User

The following table describes all the additional fields that are in the **Advanced settings**.

Field	Description
Database admin settings	
Database Admin User	The admin user for the PostgreSQL database. This cannot be the same as the Database User in the previous table.
Database Admin Password	The password of the user above (Database Admin User). A database admin password is automatically generated. Note that apostrophes and double quotes are not supported in the **Database Admin Password** field.
Authentication Key	
Passphrase	This passphrase will be used to generate an encryption key to secure connection strings and other sensitive data.
Domain Name	
Domain Name	If the BriefCam user you specified in the previous table is a domain user, enter the domain name and make sure that the domain user has full admin privileges on the server. If the user is a local user, enter a period (.) Note that the domain name is case sensitive.
Paths	
Root path	The path where you want to install BriefCam applications.
Shared directory	The path for the shared data folder. This folder will store longer blobs, database backups, rendered synopsis files, and more. It's recommended to select the drive with the most available space. If you select an existing shared network folder, make sure that the user has permissions to the shared network folder. If you want to select a mapped drive, make sure to first map the drive before installing BriefCam. In the properties of the drive you select, make sure that you cleared the **Allow files on this drive to have contents indexed in addition to file properties** check box (as

	shown in the image below).  Local Disk (C:) Properties Security Previous Versions Quota General Tools Hardware Sharing Drive C: Disk Cleanup OK Cancel Apply Type: Local Disk File system: NTFS 🟦 Used space: 230,013,997,056 bytes 214 GB ▨ Free space: 24,837,259,264 bytes 23.1 GB Capacity: 254,851,256,320 bytes 237 GB □ Compress this drive to save disk space □ Allow files on this drive to have contents indexed in addition to file properties
Postgres data directory	The path where you want to store PostgreSQL data. It is strongly recommended to set this path to an SSD drive. This field cannot contain special characters, such as space, ~, and %.
Milestone	
Milestone SSO Provider	Leave as-is. This is the endpoint of the Rapid REVIEW - Milestone integration service.
Milestone VMS Address	Enter the host or IP address of the Milestone VMS.

9. Click **NEXT** and a summary screen will appear.



It is recommended to copy and save the data for future use. The data will not be available after this screen is closed.

BriefCam account settings

BriefCam User Sergey

BriefCam Password *************

Database admin settings

Database Admin User Shahar

Database Admin Password *************

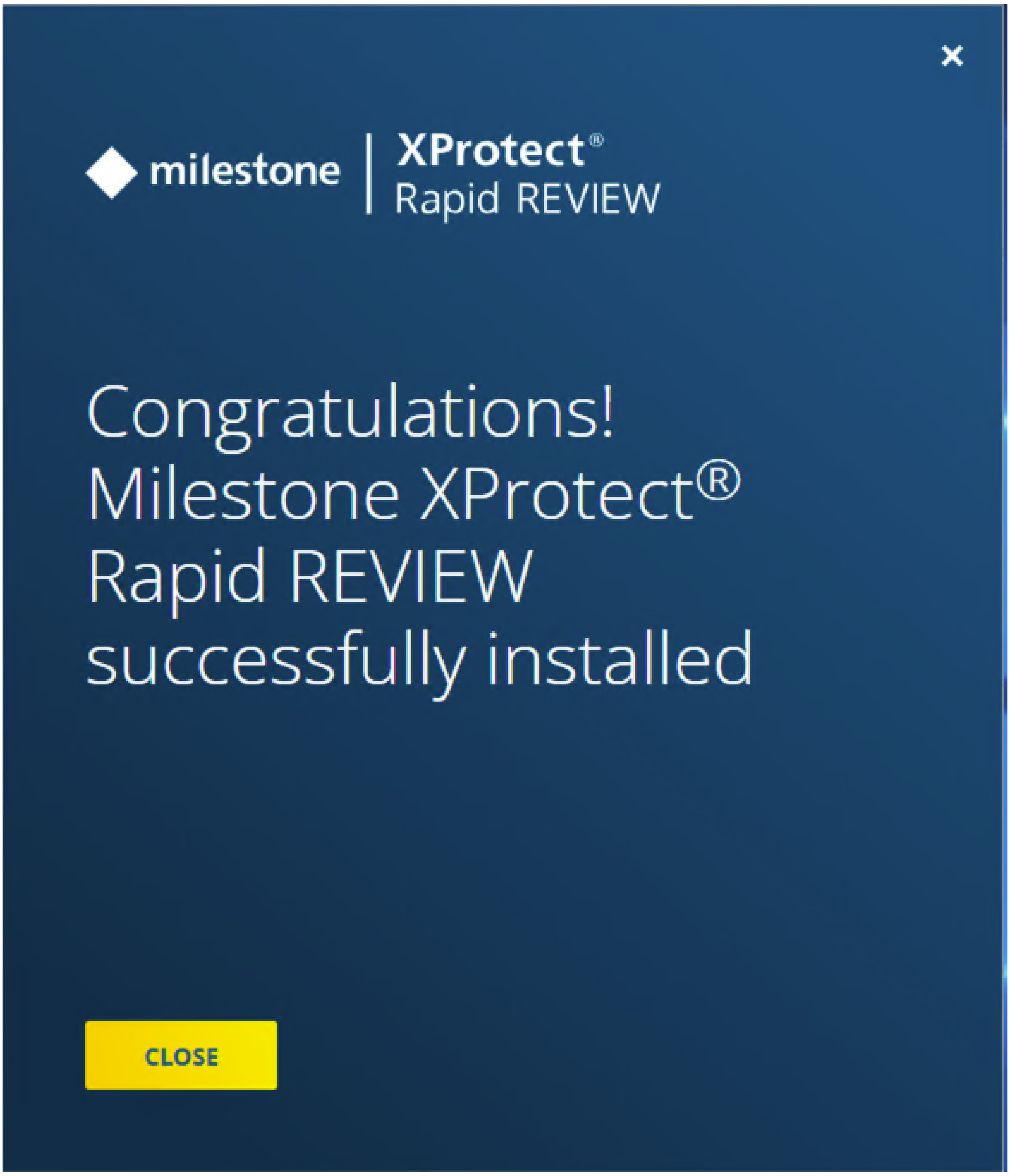
PostgreSQL BriefCam user

Database User Shahar

10. Review the settings and save the settings for future use by clicking the **COPY** button.

11. Click **NEXT** to complete the installation.

    The installation may take 10-25 minutes. Note that after the installation is complete, the services will be automatically restarted.



Congratulations! Milestone XProtect® Rapid REVIEW successfully installed

If you did not fill in the VMS address after the installation completed, open the **MilestoneSSOProvider.exe.config** file and update the **MilestoneAddress** value to the VMS address.

By default, this file is located in `C:\Program Files\BriefCam\BriefCam Server`.

Firewall Consideration and Ports Availability

Internal (Local) Ports

On each server, the following ports should be opened for internal communication:

- On each server, all outbound ports should be opened, to allow communicating with other servers as needed.
- On each server, the following inbound ports should be opened according to the installed services. The BriefCam application listens for incoming traffic from these ports. The installer will create the relevant Windows firewall rules for these ports.

Component	Port #
BI Face Recognition Service	TCP 13004
Face Recognition Matching Service	TCP 13002
Filtering Service	TCP 13001
License Service	TCP 1947
Lighthouse Service	TCP 2553, TCP 2554, TCP 2555, TCP 2556, TCP 2557
LPR Matching Service	TCP 13003
Milestone	TCP 554, TCP 8080
MilestoneSSOProvider	TCP 8030
Notification Service	TCP 7080
PostgreSQL Redis	TCP 5432
Redis	TCP 6379
Storage	TCP 139, TCP 445
Video Streaming Gateway Service	TCP 5010

VSServer Service	TCP 1112, TCP 1113
Web Services (BOA, ProWebApi, AdminWebApi)	HTTP (80)

External Ports

The following ports should be opened to traffic coming from the end users' browsers.

Component	**Port #**	Comment
Web Services	HTTP (80)	
Video Streaming Gateway Service	TCP 5010	Not needed when using a load balancer
Notification Service	TCP 7080	

Additionally recommended prerequisites

- Set the default system language to English during the installation. If the language is a language other than English, the installation may end with an error. The system language can be set to any preferred language after the installation.
- Disable antivirus scans from all BriefCam folders. For more information, see the Antivirus guidelines from BriefCam.

Installation Troubleshooting

If the installation failed:

1. Investigate the log files (**deploy.log** and the **MilestoneXProtectRapidReview2022R2Installer_<version>.log**) to see which component of the installation has failed. The log files are in the folder where you extracted the installation files.
2. Investigate the relevant component's log file and fix the issue according to the error in the log.
3. Uninstall Rapid REVIEW using the **UNINSTALL** option in the installer.
4. Restart the computer.
5. Reinstall Rapid REVIEW.

Activate licenses

This information assists you in activating an XProtect Rapid REVIEW license. You can complete activation in both online and offline modes.

It also assists you in modifying and re-activating an existing license for system expansion if, for example, you want to add additional device licenses.

> All steps listed below should be performed on the server where you installed XProtect Rapid REVIEW.

Licensing warning

Be aware that licensing with BriefCam is sensitive. A product key can be activated only once. If you try to activate it again, it will fail with error code 831. Furthermore, if certain components are missing on your BriefCam installation, there is a chance that the license is activated on the BriefCam licensing server without being applied on your system. If this happens, you must open a support case with BriefCam requesting an extra activation for the license.

To prevent problems with license activation:

- Make sure that the **Sentinel LDK License Manager** service is available in Windows Services.
- Verify that you can access the URL http://localhost:1947 to get to the GEMALTO application site.
- All IIS AppPools must be in place: AdminApiPool, AdminClientPool, BoaPool, ProWebApiPool, ProWebApiStoragePool, ProWebClientPool, VideProcessingGateway
- All BriefCam components must be available in Control Panel – Programs: BriefCam PostgreSQL, BriefCam Web Services, BriefCam Server, BriefCam Milestone Plugin.

If any of the preconditions mentioned above are not accomplished, please open a case with Milestone Technical Support providing your license product key and tag ID.

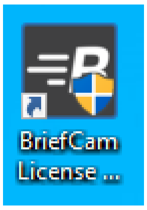
Once the license is activated successfully, you can uninstall and re-install as many times as you wish. The license will remain on the server so you don't need to re-activate it. A request for an extra activation for the license will only be required in the case of a re-installation of the Windows OS or if the license is deleted by a disk formatting .

Online activation

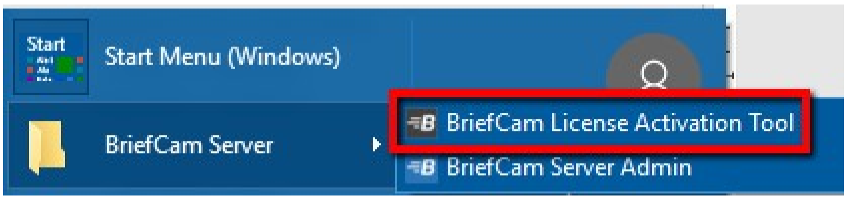
Online activation requires an active Internet connection.

1. From the desktop, do one of the following

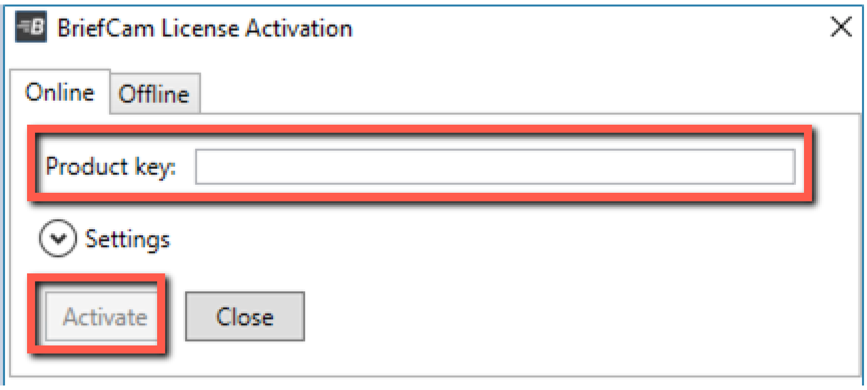
   - Click the BriefCam License Activation application.



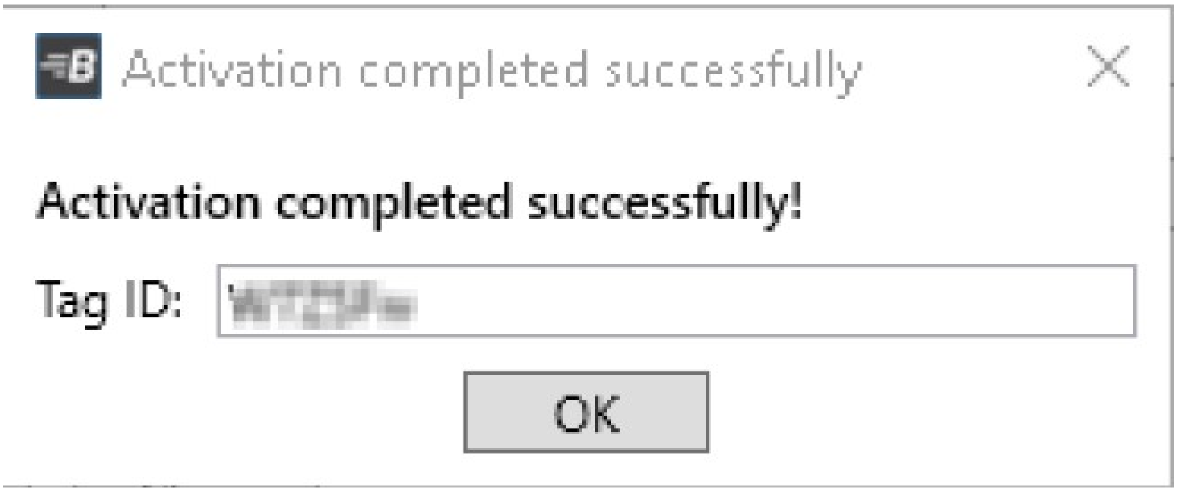
   - From the **Start** menu, type **BriefCam License Activation** and launch the application.



2. Enter your product key and click **Activate**.



When the activation is successful, the following dialog box will appear. Here you'll find your Tag ID, which you'll need when you open a support ticket.



Activation completed successfully!

Tag ID: [redacted]

3. Click **OK** to close the dialog box and then click **Close** in the main application window to close the License Activation application.

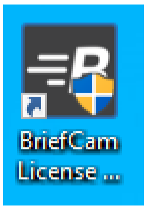
Offline activation

Offline activation is useful in cases where internet connectivity is not available on the computer where you are installing BriefCam.

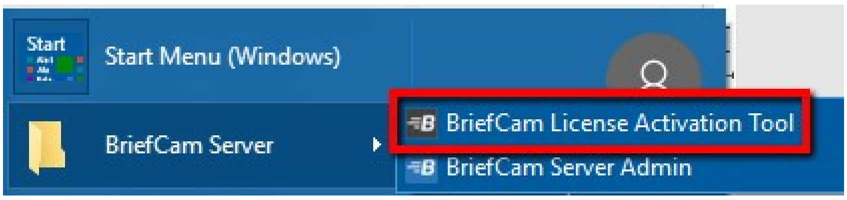
To perform offline activation:

1. From the desktop, do one of the following:

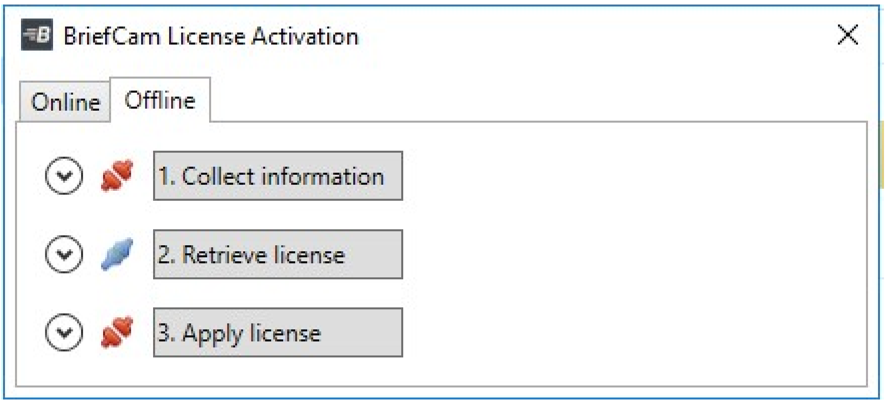
   - Click the BriefCam License Activation application.



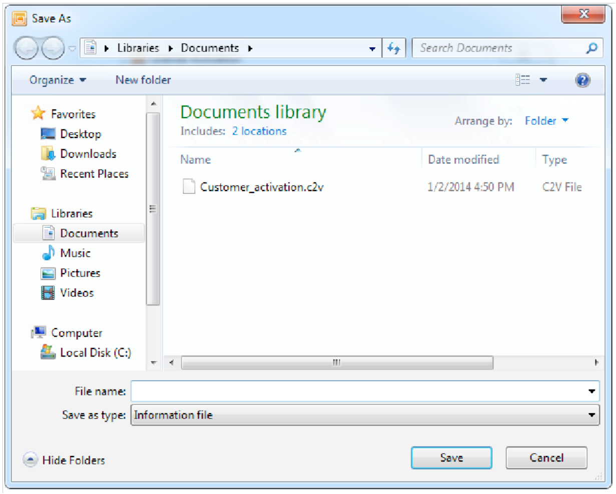
   - From the Start menu, type **BriefCam License Activation** and launch the application.



   - Click the **Offline** tab to access offline activation.



2. Click **1. Collect Information** to generate a C2V (client to vendor) file, select or approve the destination in which it is to be stored, and click **Save**.



Customer_activation.c2v | 1/2/2014 4:50 PM | C2V File

File name:

Save as type: Information file

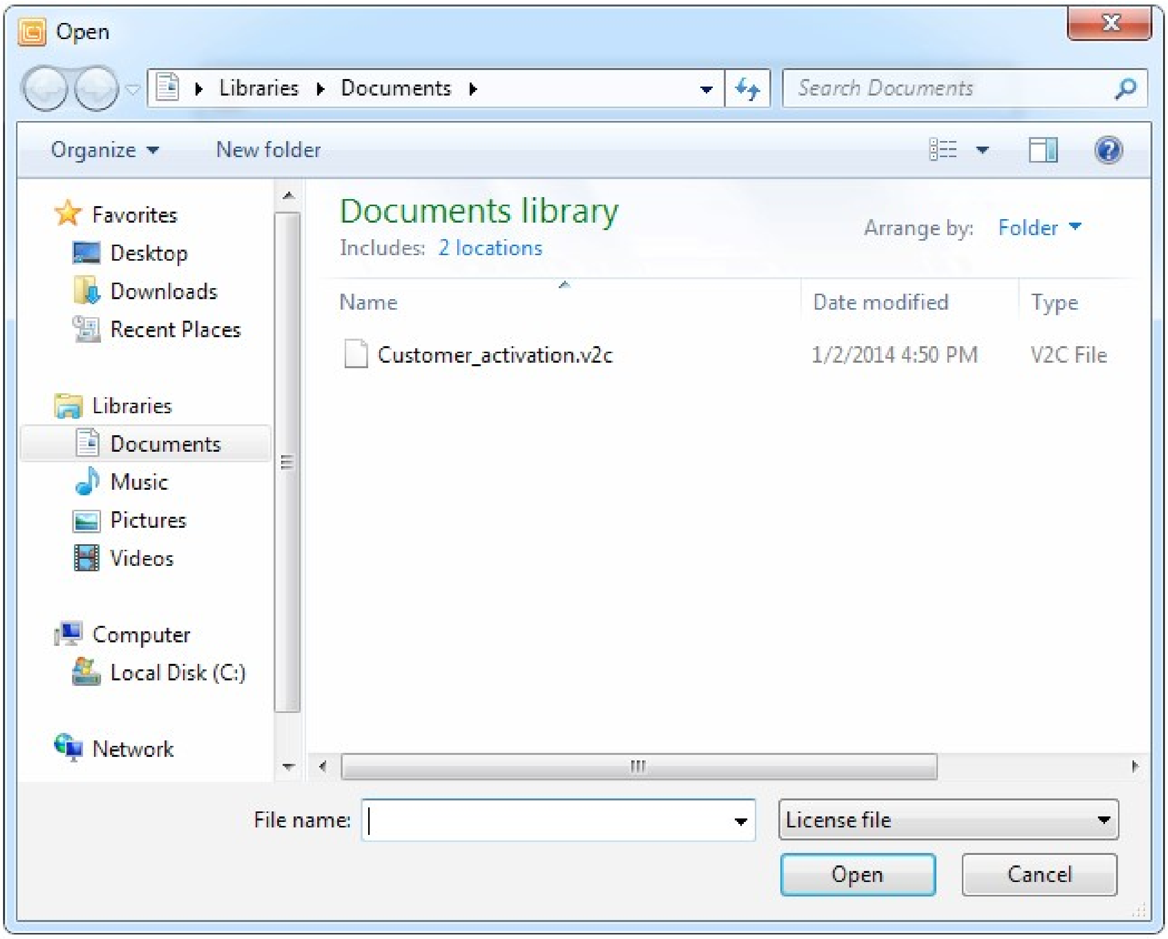
3. Send the C2V file to the Support team by logging into Milestone Support to open a ticket and attaching the C2V file. The product key number you received from Milestone needs to be mentioned in the ticket. This will help the support team generate the relevant V2C file (vendor to client), which is required to activate the product offline.

After receiving the V2C, there are two ways to activate the product offline:

You can activate via the BriefCam License Activation application or you can use the Gemalto application.

Activate via the BriefCam License Activation application

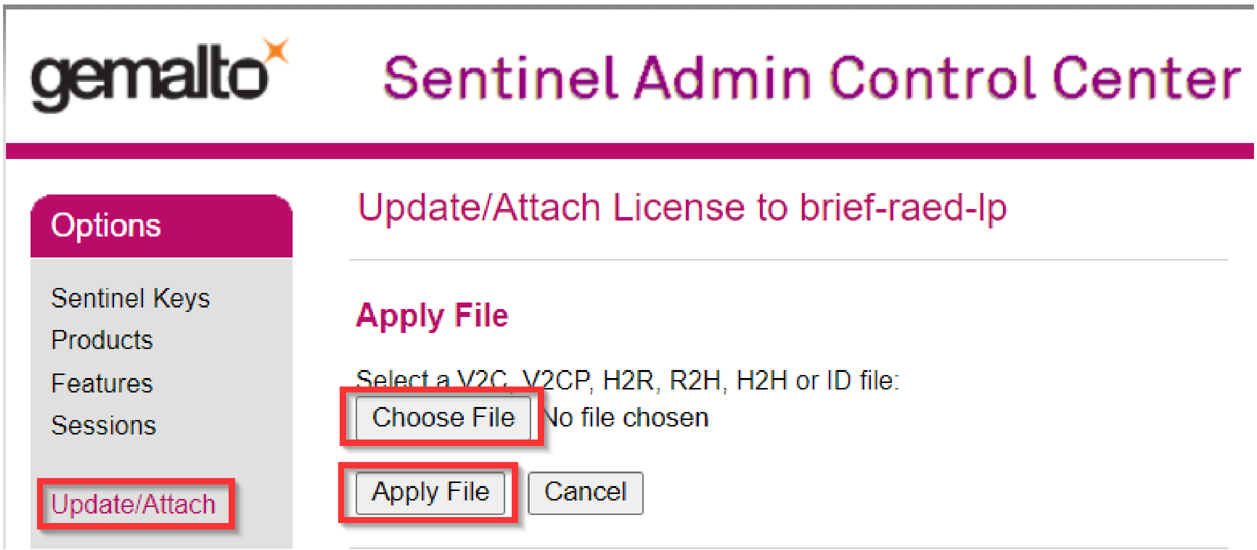
1. Open the BriefCam License Activation application.
2. Click the **Offline** tab.
3. Click **3. Apply license**.
4. Select the V2C file provided by the support team, and click **Open**.



5. When you see a message that the product was activated successfully, click **OK** and close the License Activation application. BriefCam will now be activated.

Activate via the Gemalto application.

1. Open a web browser.
2. Open http://localhost:1947/_int_/checkin.html.
3. Select the **Update/Attach** option.
4. Click **Choose File**.
5. Select the V2C file provided by the support team.
6. Click **Apply File**.



Update/Attach License to brief-raed-lp

Apply File

Select a V2C, V2CP, H2R, R2H, H2H or ID file:

System expansion (adding additional device licenses)

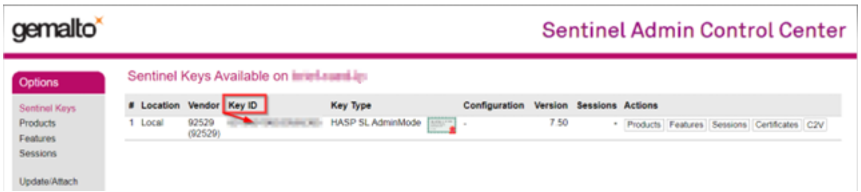
To make any modifications to the license, such as adding cameras to the license, you need to:

1. Activate the license.
2. Place an order and mention the system Tag ID and the Key ID, which can be found in the Gemalto application:

   a. Open your browser.

   b. Go to the Sentinel Admin Control Center

   c. Copy the Key ID.



Sentinel Keys Available on [redacted]

#	Location	Vendor	Key ID	Key Type		Configuration	Version	Sessions	Actions
1	Local	92529 (92529)	[redacted]	HASP SL AdminMode		-	7.50	-	Products Features Sessions Certificates C2V

   The Milestone team will then generate the relevant V2C with the requested modification(s).

3. Activate the V2C on the server:

   a. Open a web browser.

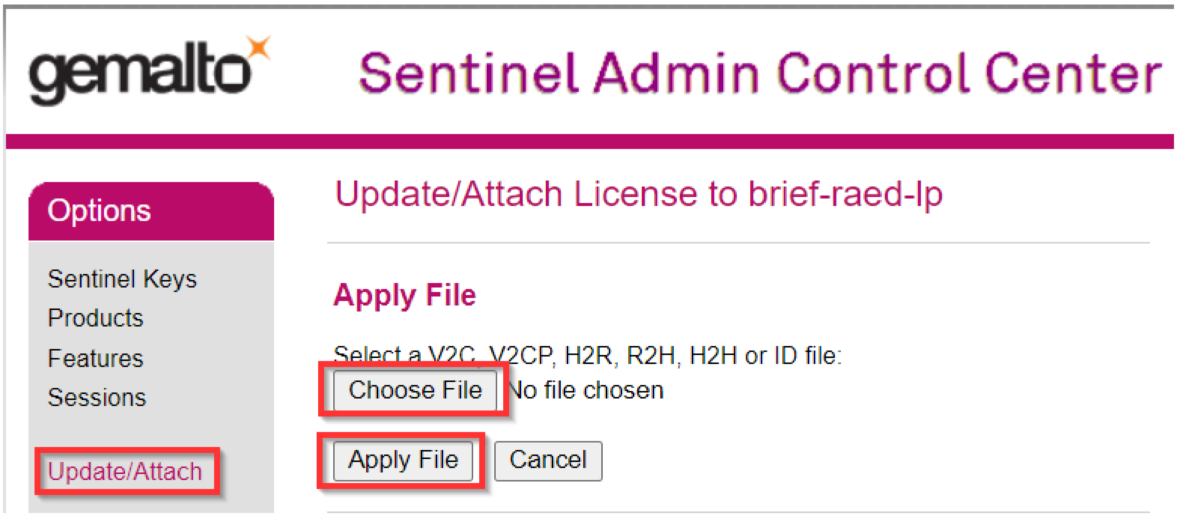
   b. Go to the Sentinel Admin Control Centerl.

   c. Select the **Update/Attach** option.

d. Click **Choose File**.

e. Select the V2C file provided by the Milestone support team.

f. Click **Apply File**.



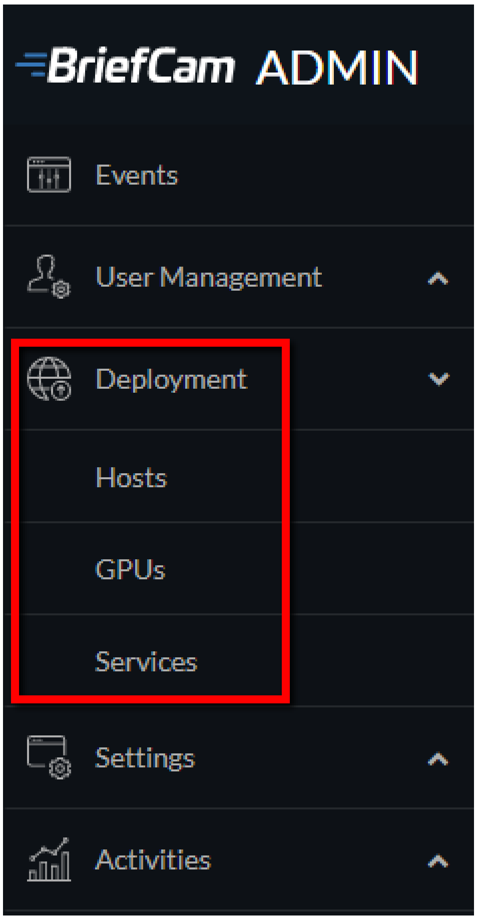
STEP 2 – Set up the deployment

1. In a browser, enter the hostname of the computer where XProtect Rapid REVIEW was installed followed by slash (/) and the word **admin**, that is: **http://[computer name]/admin**. The BriefCam Administrator Console will open.

2. Log into the administrator console. The user name is **Administrator** and the default password is **changeit**.

3. Change the default password.

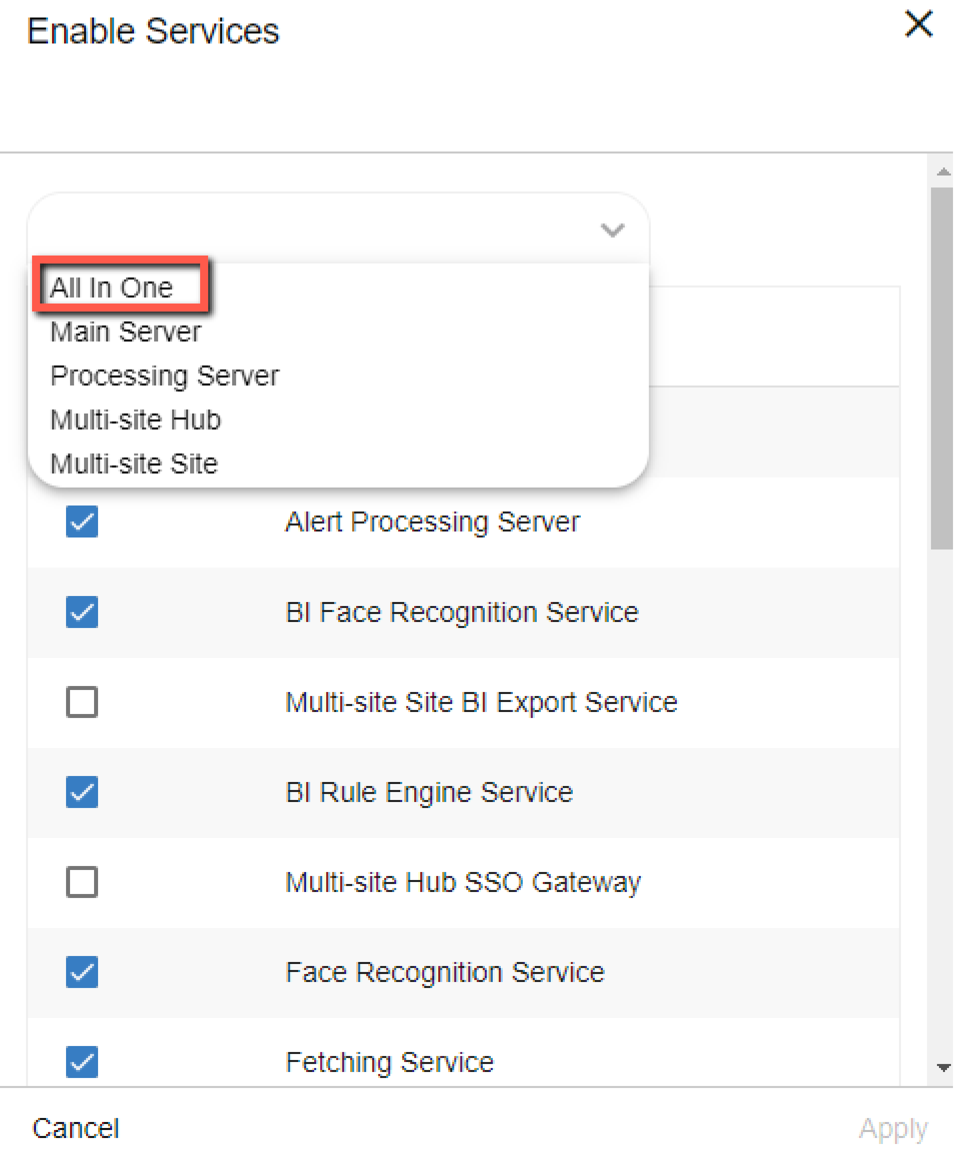
You'll now set up the deployment from the **Deployment** section.


BriefCam ADMIN
Events
User Management
Deployment
Hosts
GPUs
Services
Settings
Activities

4. From the **Deployment** section, click **Hosts**.

5. Next to the host name, click on the settings icon ⚙.

6. From the **Templates** menu, select **All In One**.



Enable Services

All In One
Main Server
Processing Server
Multi-site Hub
Multi-site Site

☑ Alert Processing Server
☑ BI Face Recognition Service
☐ Multi-site Site BI Export Service
☑ BI Rule Engine Service
☐ Multi-site Hub SSO Gateway
☑ Face Recognition Service
☑ Fetching Service

7. Clear the **Alert Processing Server**, **BI Face Recognition Service**, and **BI Rule Engine Service** check boxes (these options will not be needed).

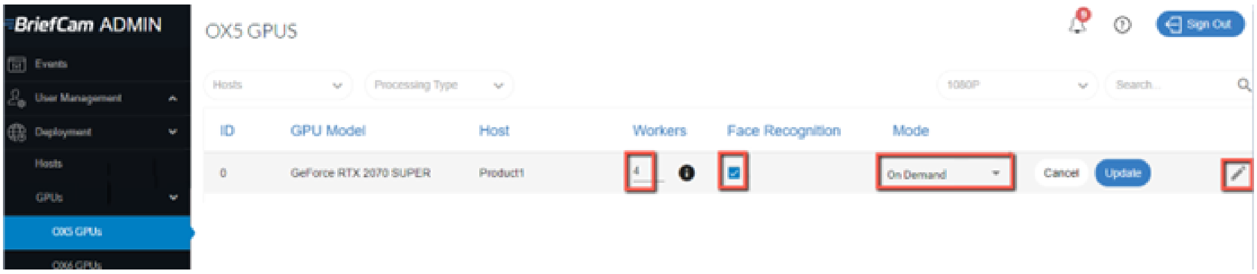
8. Click **Apply**.

9. From the **Deployment** section, click **GPUs** and then select **GPU OX5**.

10. Click on the edit icon (✎).

11. If face recognition will be used, select the **Face Recognition** check box.

12. In the **Mode** column, select **On Demand**.



OX5 GPUS

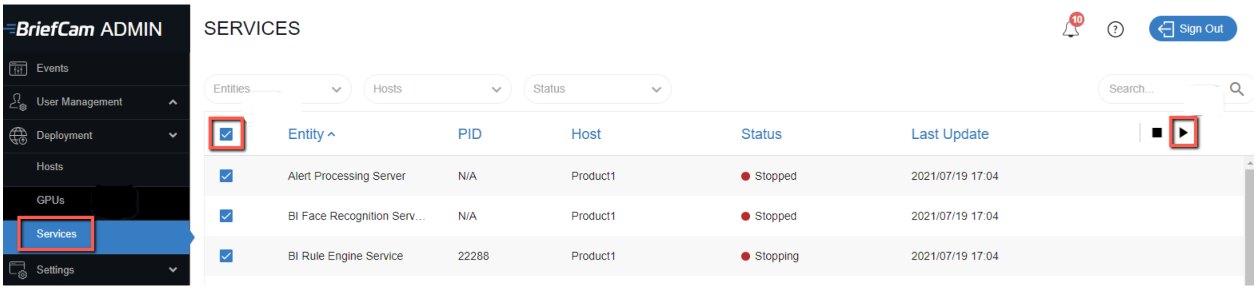
ID	GPU Model	Host	Workers	Face Recognition	Mode
0	GeForce RTX 2070 SUPER	Product1	4	☑	On Demand

13. Verify that the number of workers under **Workers** is set to 4.

14. From the **Deployment** section, click **Services**.

15. Select the check box at the top left of the table.

16. Click the start button.

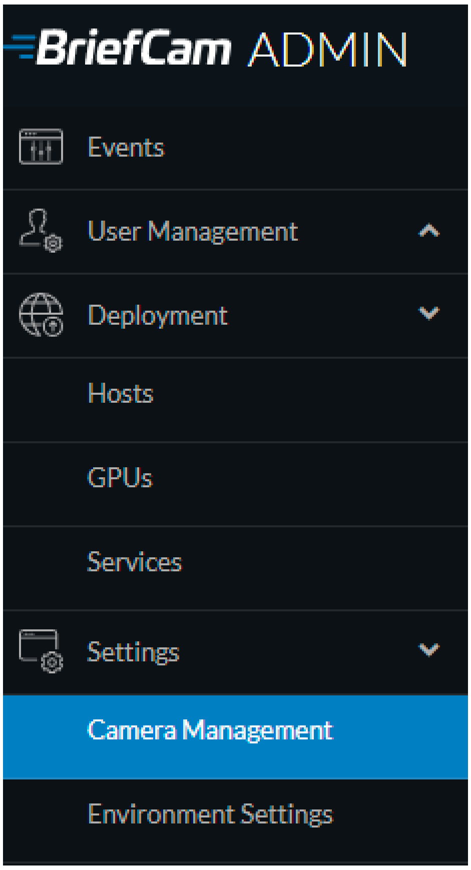


SERVICES

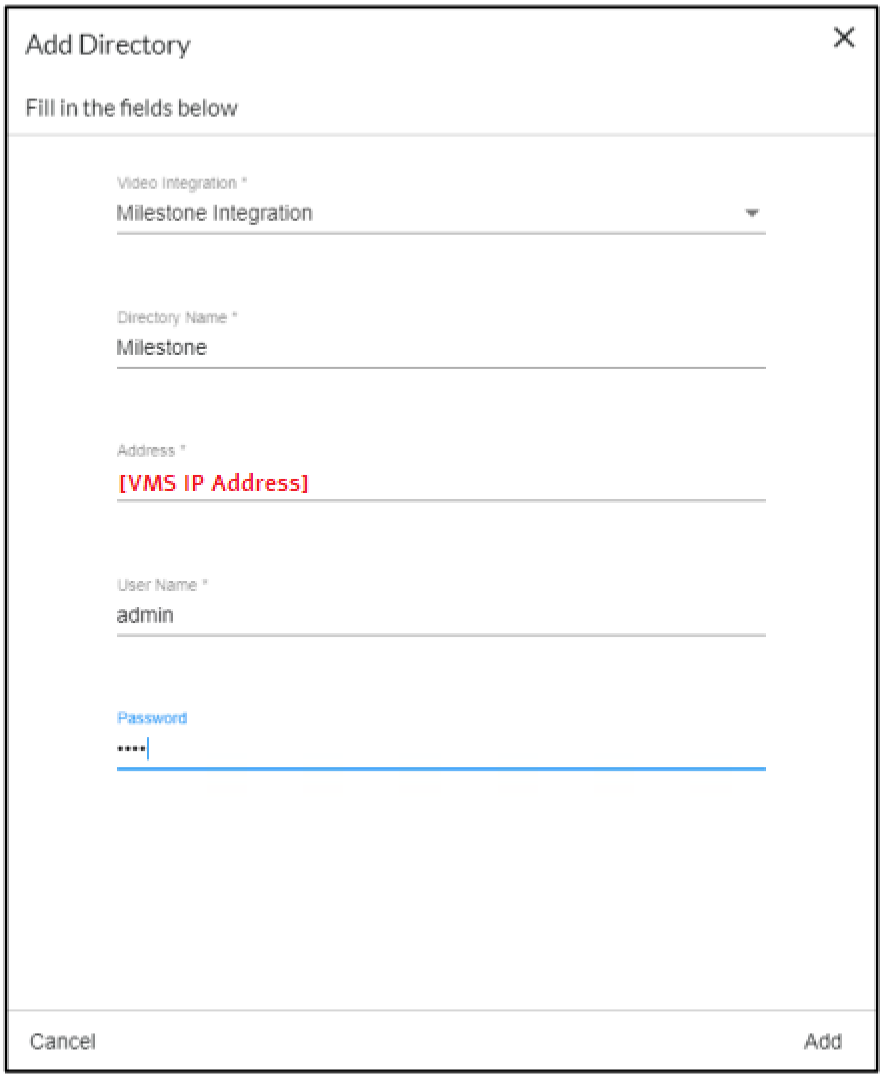
☑	Entity	PID	Host	Status	Last Update
☑	Alert Processing Server	N/A	Product1	● Stopped	2021/07/19 17:04
☑	BI Face Recognition Serv...	N/A	Product1	● Stopped	2021/07/19 17:04
☑	BI Rule Engine Service	22288	Product1	● Stopping	2021/07/19 17:04

STEP 3 – Define and activate the cameras

1. Open the **Settings** section and click **Camera Management** (as shown in the image below).



2. Click **Add directory**. The **Add Directory** dialog box opens.



Add Directory

Fill in the fields below

Video Integration *
Milestone Integration

Directory Name *
Milestone

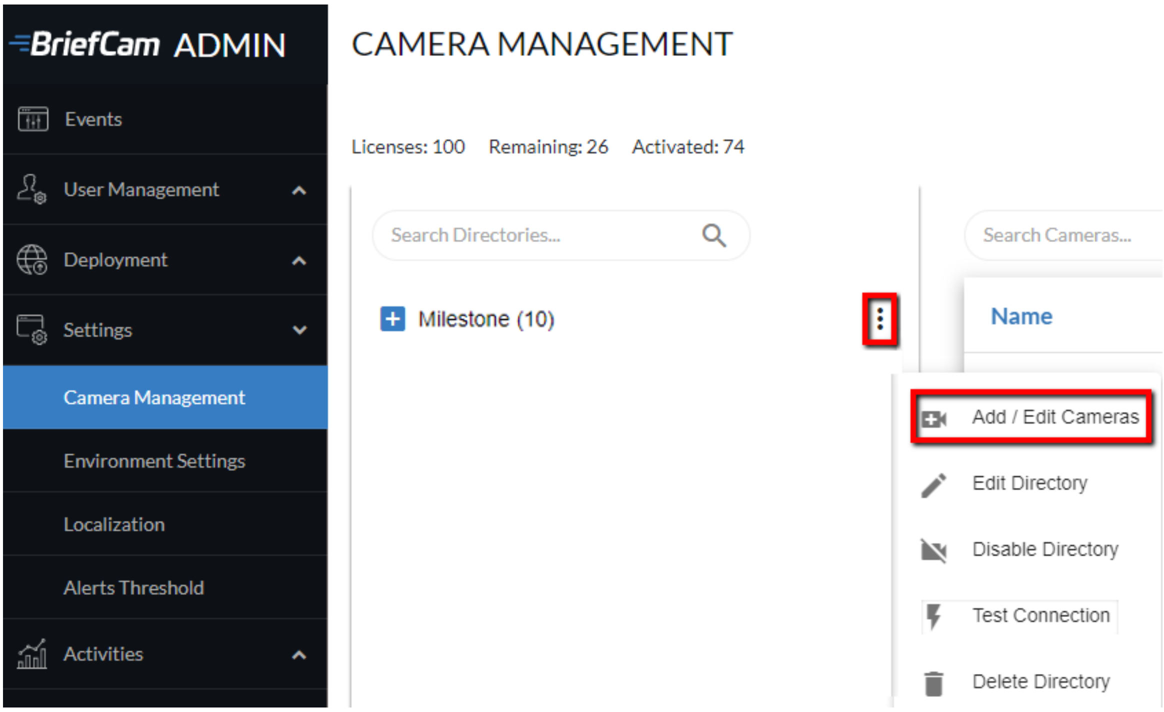
Address *
[VMS IP Address]

User Name *
admin

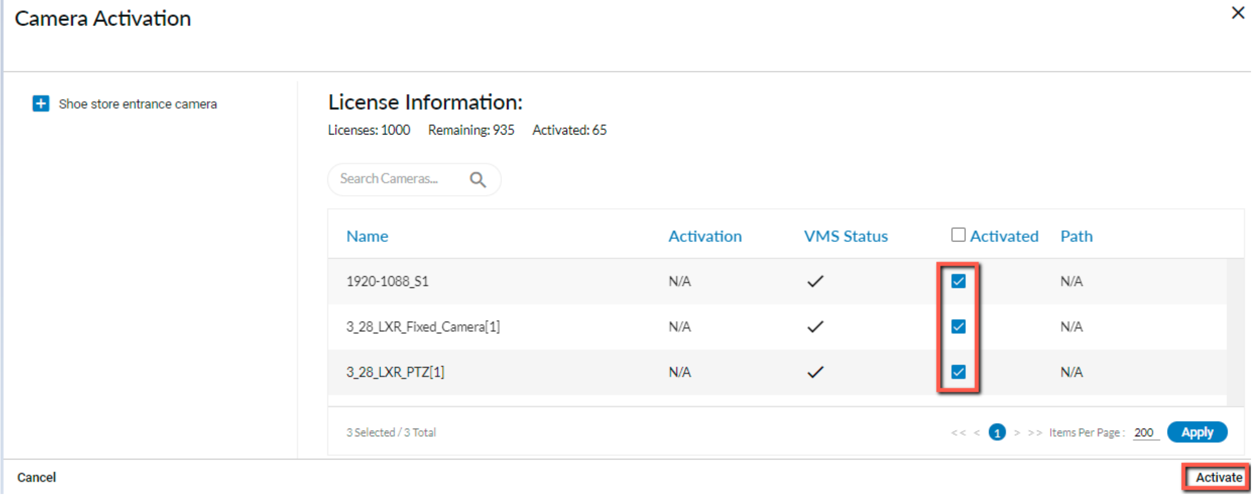
Password
••••

3. From the **Video Integration** field, select **Milestone Integration**.
4. In the **Directory Name** field, enter a display name for the user directory.
5. In the **Address** field, enter the IP address of the Milestone VMS server.
6. In the **User Name** and **Password** fields, enter an administrator user name and password of the VMS server. With an admin user you can make sure that all the cameras can be accessed.
7. Click **Add** to add the directory.

8. Click the zoom (⋮) icon to the right of the new directory and select the **Add / Edit Cameras** option.



9. For all of the cameras, select the check box in the camera's **Activated** column and click the **Activate** button (located in the bottom right corner), as shown in the image below.



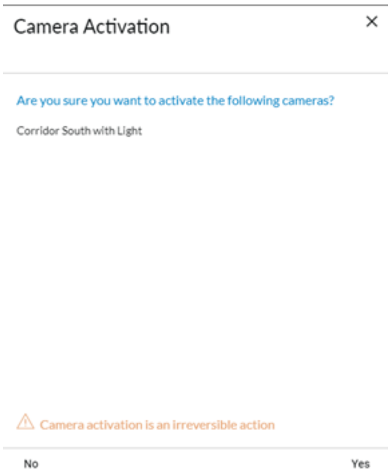
License Information:

Licenses: 1000 Remaining: 935 Activated: 65

Name	Activation	VMS Status	□ Activated	Path
1920-1088_S1	N/A	✓	☑	N/A
3_28_LXR_Fixed_Camera[1]	N/A	✓	☑	N/A
3_28_LXR_PTZ[1]	N/A	✓	☑	N/A

3 Selected / 3 Total   << < 1 > >> Items Per Page : 200 Apply

10. The **Camera Activation** pane shown below will appear. If you are sure you want to activate the cameras, click **Yes**. Note that Camera activation is irreversible. It cannot be reset unless a special approved request is opened with BriefCam support.



Camera Activation ✕

Are you sure you want to activate the following cameras?

Corridor South with Light

⚠ Camera activation is an irreversible action

STEP 4 – Disable face recognition and license plate recognition (optional)

If you want to disable face recognition and/or license plate recognition:

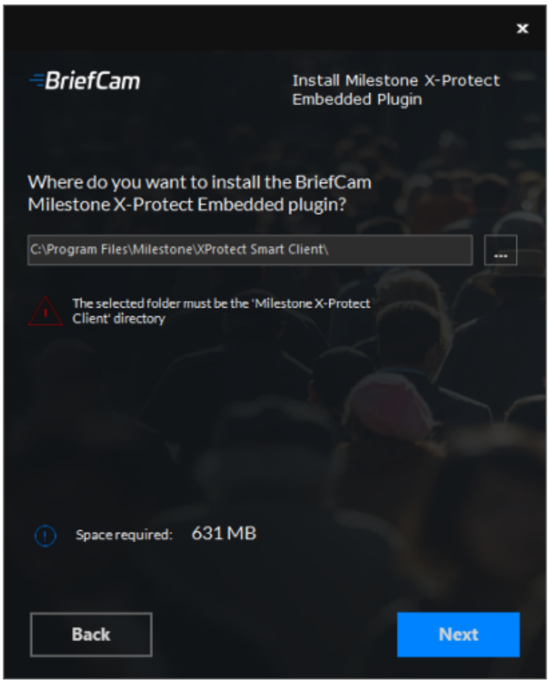
1. In the BriefCam Administrator Console, open the **Settings** section and click Environment Settings
2. Set the **clientEnableFaceRecognition** environment setting to **false**. This removes the Face Recognition functionality from the UI.
3. Set the **MetaData.EnableFaceRecognition** environment setting to **false**. This disables the Face Recognition engine.
4. Set the **EnableLPR** environment setting to **false**. This removers the License Plate Recognition functionality from the UI.

STEP 5 – Install BriefCam Embedded Client for Milestone XProtect plug-in

On each XProtect Rapid REVIEW client computer, install BriefCam's embedded client for Milestone XProtect plugin.

1. Click the **BriefCam Embedded Client for Milestone XProtect** plug-in file to download it and then run it. You'll find the plugin in the XProtect Rapid REVIEW zip file.
2. The installation checks for prerequisites, such as Microsoft .NET Framework 4.7.2 Full and Microsoft Visual C++ 2015 2017 2019 Redistributable Package (x64).

3. If anything is missing, you will be prompted to install the missing prerequisites and click **Install**.
4. In the Welcome screen, click **Get Started**.
5. Read the license, accept the License Agreement terms, and click **Next**.
6. Select the installation destination path and click **Next**.
   Note that the installation path must be the same directory where **Milestone XProtect Smart Client** is installed. (This may vary slightly between client computers and between Milestone versions.)



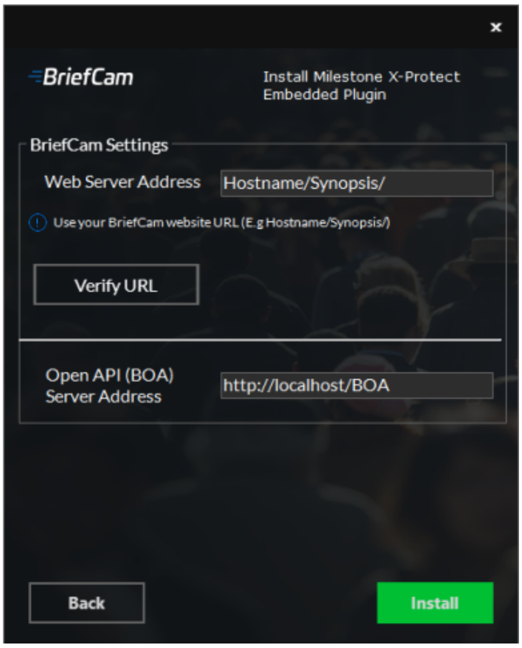
Where do you want to install the BriefCam Milestone X-Protect Embedded plugin?

C:\Program Files\Milestone\XProtect Smart Client\

The selected folder must be the 'Milestone X-Protect Client' directory

Space required: 631 MB

7. Enter the BriefCam Web Application URL (which is the hostname or IP address of the BriefCam computer followed by **/synopsis** and verify that the provided URL is correct by clicking the **Verify URL** button (as shown below).



Install Milestone X-Protect Embedded Plugin

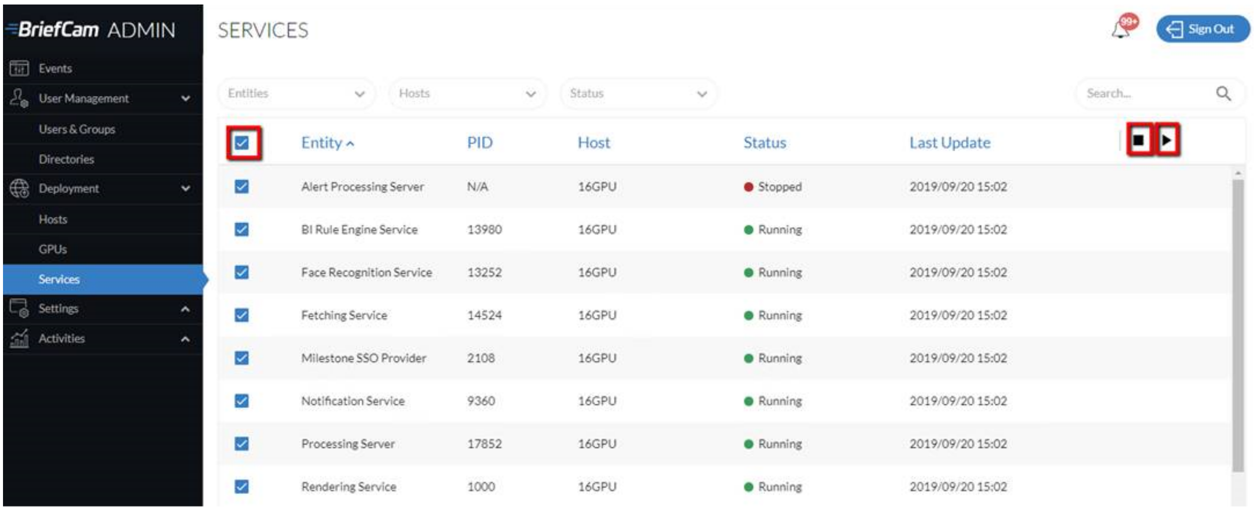
BriefCam Settings

Web Server Address: Hostname/Synopsis/

Use your BriefCam website URL (E.g Hostname/Synopsis/)

Open API (BOA) Server Address: http://localhost/BOA

8. In the **BriefCam Open API (BOA) Server Address** field, enter the hostname or IP address of the BriefCam computer followed by **/BOA**.
9. Click **Next**.
10. Click **Install** and then click **Finish**.
11. In the BriefCam Administrator Console, restart the services by selecting all of the services, clicking the stop button (■) and then the start button (▶), as shown in the image below.



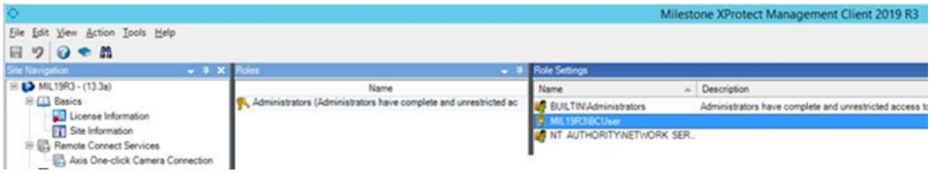
SERVICES

☑	Entity	PID	Host	Status	Last Update
☑	Alert Processing Server	N/A	16GPU	● Stopped	2019/09/20 15:02
☑	BI Rule Engine Service	13980	16GPU	● Running	2019/09/20 15:02
☑	Face Recognition Service	13252	16GPU	● Running	2019/09/20 15:02
☑	Fetching Service	14524	16GPU	● Running	2019/09/20 15:02
☑	Milestone SSO Provider	2108	16GPU	● Running	2019/09/20 15:02
☑	Notification Service	9360	16GPU	● Running	2019/09/20 15:02
☑	Processing Server	17852	16GPU	● Running	2019/09/20 15:02
☑	Rendering Service	1000	16GPU	● Running	2019/09/20 15:02

12. Restart IIS on the Rapid REVIEW server by opening the Windows services and right-click the **World Wide Web Publishing Service**. Then click **Restart**.

Note: An admin user is automatically created by the SSO when logging into the Milestone client using the **Basic authentication** or **Windows authentication** method.

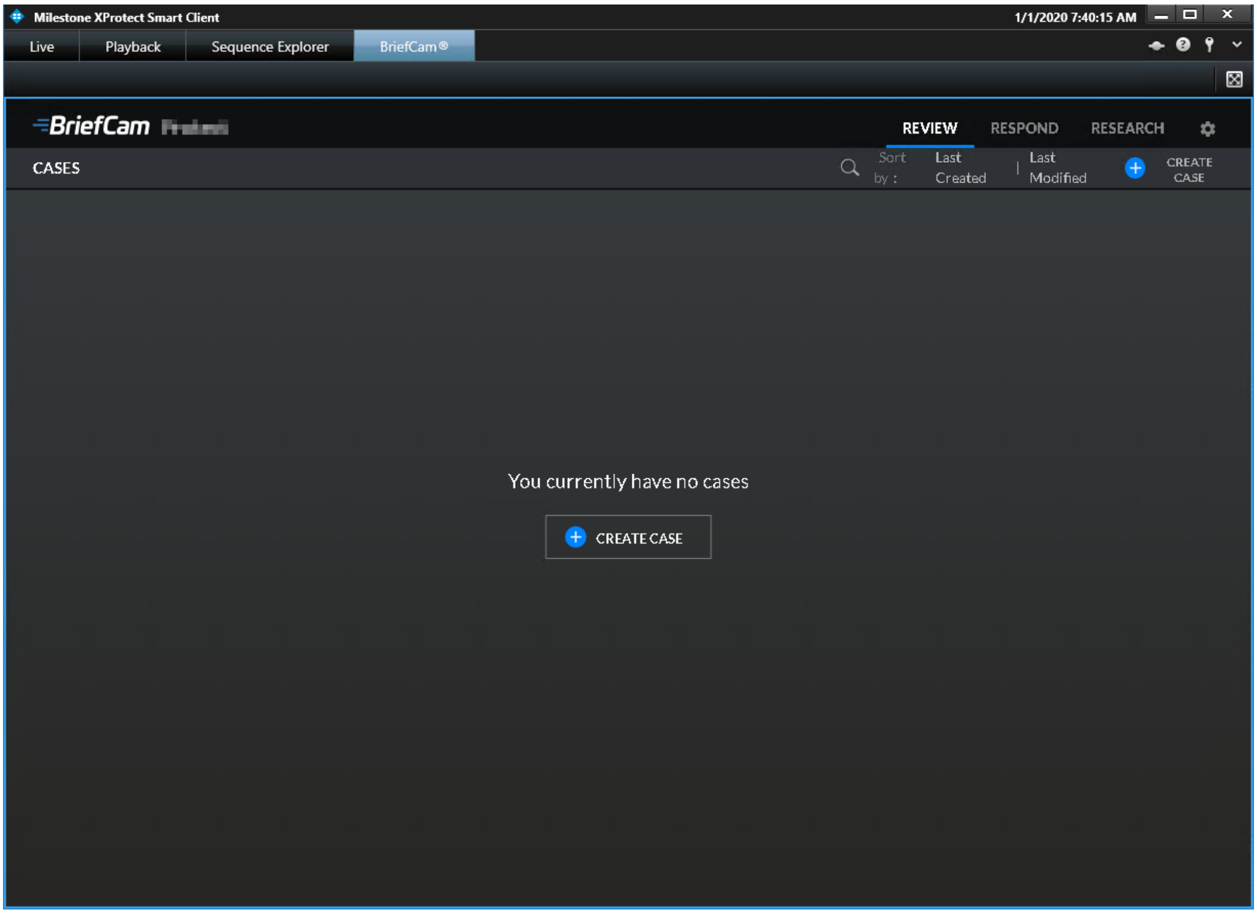
If you want to log into the Milestone client using the **Windows authentication (current user)** option, add the **BriefCam user** that you used to install BriefCam services to the **Administrators** group in Milestone XProtect Management Client.



Name
Administrators (Administrators have complete and unrestricted ac

Name	Description
BUILTIN\Administrators	Administrators have complete and unrestricted access t
MIL19R3\BCUser	
NT AUTHORITY\NETWORK SER...	

When you have completed the steps, a **BriefCam** tab will appear in the Milestone XProtect Smart Client.



You currently have no cases

In BriefCam, for security reasons, users are automatically logged out if no activity is detected for 20 minutes. Therefore, a user may be automatically logged off the BriefCam functionality while the Milestone VMS is still running.

STEP 6 – Using an HTTPS host (optional)

> To work with SSL and BriefCam, using a load balancer is required.

This section describes the steps to take to use the NGINX load balancer as an https host for BriefCam services.

Recommendations

BriefCam recommends using NGINX.

It is recommended to install the load balancer on a separate computer.

If you are working in a virtualized environment, the load balancer must be on a separate computer.

If you are working in a non-virtualized (physical servers) environment, you can have the load balancer on the same computer as the Web Services (although it is not recommended). However, if you install the load balancer on the same computer as the Web Services, IIS must be on a different port than port 80, since port 80 is for NGINX.

Prerequisites

- Make sure that port 80 is not in use by another application.
- If IIS is installed, make sure to stop it or change its default port.

Steps

1. Download NGINX 1.19.x load balancer or later from this link: https://nginx.org/en/download.html.
2. Extract the NGINX zip files to drive `C:\`. It is important to have the NGINX extracted so that the path is: **C:\NGINX**.
3. Create or use an already created self-signed certificate separated into two files: .crt and .key:

   For information about how to create a certificate, see one of these links:

   - https://slproweb.com/products/Win32OpenSSL.html
   - https://helpcenter.gsx.com/hc/en-us/articles/115015960428-How-to-Generate-a-Self-Signed-Certificate-and-Private-Key-using-OpenSSL
   - https://www.akadia.com/services/ssh_test_certificate.html

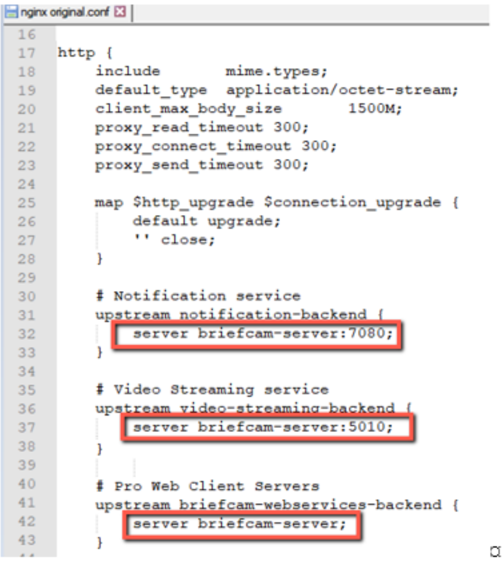
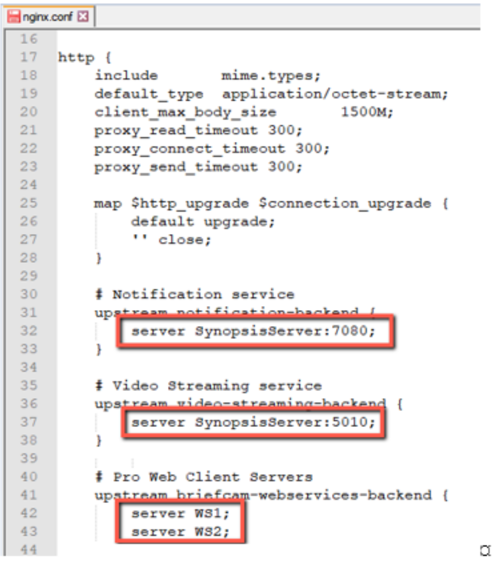
   To use an already created certificate from the current folder, place both the certificate’s .crt and .key files in the following path: `C:\NGINX\certificates\`.

4. If you are working with SSL, download the `nginx.conf` file from: https://bcftpuser:BCreleases01!@bcftp.briefcam.com/nginx/nginx.conf and save it to `c:\nginx\conf` (replacing the existing file).

5. If you do not want to work with SSL, download the **port80_nginx.conf** file from: https://bcftpuser:BCreleases01!@bcftp.briefcam.com/nginx/port80/nginx.conf and save it to **c:\nginx\conf**.

6. In the `nginx.conf` file's `http` section, modify the server name where the components are running (web services, notification services, and Video Streaming Gateway Services).

7. If you have multiple nodes of a service, add a semicolon (;) after the first node and add a second row with the name of the second node. In the example below, there are two Web Services nodes.

Original¤	**Example¤**
	

```
http {
    include       mime.types;
    default_type  application/octet-stream;
    client_max_body_size       1500M;
    proxy_read_timeout 300;
    proxy_connect_timeout 300;
    proxy_send_timeout 300;

    map $http_upgrade $connection_upgrade {
        default upgrade;
        '' close;
    }

    # Notification service
    upstream notification-backend {
        server briefcam-server:7080;
    }

    # Video Streaming service
    upstream video-streaming-backend {
        server briefcam-server:5010;
    }

    # Pro Web Client Servers
    upstream briefcam-webservices-backend {
        server briefcam-server;
    }
```

```
http {
    include       mime.types;
    default_type  application/octet-stream;
    client_max_body_size       1500M;
    proxy_read_timeout 300;
    proxy_connect_timeout 300;
    proxy_send_timeout 300;

    map $http_upgrade $connection_upgrade {
        default upgrade;
        '' close;
    }

    # Notification service
    upstream notification-backend {
        server SynopsisServer:7080;
    }

    # Video Streaming service
    upstream video-streaming-backend {
        server SynopsisServer:5010;
    }

    # Pro Web Client Servers
    upstream briefcam-webservices-backend {
        server WS1;
        server WS2;
```

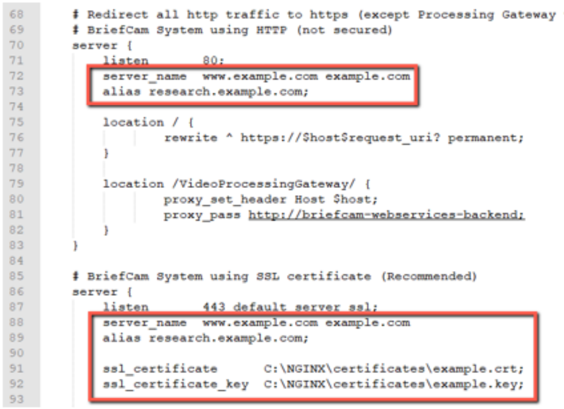
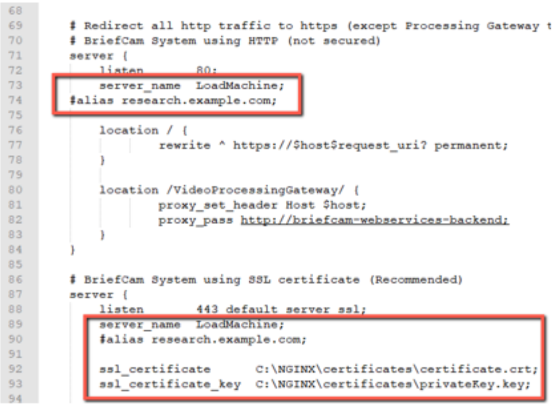
8. In the `nginx.conf` file's `BriefCam System using SSL certificate` section you set up HTTPS as follows:

   a. In the **server_name** node, replace **www.example.com** with the address of the load balancer.

   b. Comment the **alias** node by adding an ampersand (#) at the beginning of the row.

   c. In the **ssl_certificate** row, enter the full path to the .crt file including the file name.

   d. In the **ssl_certificate_key** row, enter the full path to the .key file including the file name.

Original	Example
	

```
# Redirect all http traffic to https (except Processing Gateway
# BriefCam System using HTTP (not secured)
server {
    listen       80;
    server_name  www.example.com example.com
    alias research.example.com;

    location / {
            rewrite ^ https://$host$request_uri? permanent;
    }

    location /VideoProcessingGateway/ {
            proxy_set_header Host $host;
            proxy_pass http://briefcam-webservices-backend;
    }
}

# BriefCam System using SSL certificate (Recommended)
server {
    listen       443 default server ssl;
    server_name  www.example.com example.com
    alias research.example.com;

    ssl_certificate      C:\NGINX\certificates\example.crt;
    ssl_certificate_key  C:\NGINX\certificates\example.key;
```

```

# Redirect all http traffic to https (except Processing Gateway t
# BriefCam System using HTTP (not secured)
server {
    listen       80;
    server_name  LoadMachine;
#alias research.example.com;

    location / {
            rewrite ^ https://$host$request_uri? permanent;
    }

    location /VideoProcessingGateway/ {
            proxy_set_header Host $host;
            proxy_pass http://briefcam-webservices-backend;
    }
}

# BriefCam System using SSL certificate (Recommended)
server {
    listen       443 default server ssl;
    server_name  LoadMachine;
    #alias research.example.com;

    ssl_certificate      C:\NGINX\certificates\certificate.crt;
    ssl_certificate_key  C:\NGINX\certificates\privateKey.key;
```

9. If your SSL certificate is protected by a password, you need to configure NGINX to read a list of passwords that are stored in a separate file. If the private key is not in this file, NGINX will not start. You do this as follows:

   a. Create a new text file named `ssl_passwords.txt` and save it to a separate folder than where the SSL certificate is located.

   b. Set the file to be readable only to the user running NGINX.

   c. Enter the certificate password into the first line of the `ssl_passwords.txt` file.

   d. In the `nginx config` file, add the following line above the existing certificate lines `ssl_password_file /var/lib/nginx/ssl_passwords.txt;`

   e. Distribute this file separately from the configuration file.

   For additional security measurements for SSL private keys, see the NGINX documentation.

10. Download the latest release of the NSSM zip files from this link: https://nssm.cc/download and place them on the load balancer computer.

11. Extract the NSSM zip file to a folder, for example: `C:\NSSM\`.

12. Open CMD as **administrator**, navigate to the new `NSSM\win32` folder and run the following commands:

- `nssm install NGINX “C:\nginx\nginx.exe”`
- `nssm set NGINX AppDirectory C:\nginx`
- `nssm set NGINX DisplayName “NGINX Web Server”`
- `nssm set NGINX Description “NGINX Web Server”`
- `nssm set NGINX Start SERVICE_AUTO_START`

> In the examples below, replace the string **www.example.com** with the address of the load balancer.
> For example: Load balancer = LB01.briefcam.com.

13. On any host that is running the application (browser), make sure the domains (or host name) can be resolved by the DNS. If no DNS is available, you can edit the `hosts` file and add the IP address of the load balancer using the following syntax:

    • 10.x.x.x www.example.com

    For example: 10.0.0.143 www.example.com

14. Restart the load balancer computer, open `services.msc` and try to start the newly created **NGINX Web Server** service.

    - If the service does not start, there may be an issue with its path. To try and solve this issue, run NSSM install on the same folder as described under step 8 and define the service via the NSSM GUI (making sure to specify the parameters properly).

15. Edit both web config .js files on the BriefCam server (located at `C:\Program Files\BriefCam\WebServices\ProWebClient\webConfig.js` and `C:\Program Files\BriefCam\WebServices\ProWebAdminClient\web.config.js`) using the syntax below. This syntax refers to the load balancer address. The endpoints in both files must point to the load balancer.

    • //www.example.com/ProWebApi/

    • //www.example.com/AdminApi/

16. In the BriefCam Administrator Console, set the environment settings with the following values:

    • DB.LocalStorageAddress: “//www.example.com/ProWebApiStorage"

    • BaseVideoUrl: “https://www.example.com/vsg”. If you are not using SSL, use “http” instead of “https”.

    • ClientNotificationEndPoint: “//www.example.com/signalr" (without port 7080)

    > **VideoProcessingGatewayUrl** in https is **not** supported.

> **VideoProcessingGateWayUrl** will use **http** and not **https** because it is communicating between two internal processes (real-time engine and Video Processing gateway web service). This is on purpose to save resources.

17. You now need to update certain parameters, so that the embedded client will reach BriefCam using an HTTPS protocol. In order to do this:

    a. Open the **BriefCam.MilestoneEmbeddedViewer.dll.config** file, which is located at: `C:\Program Files\Milestone\XProtect Smart Client\MIPPlugins\BriefCam`.

    b. Change the URLs (highlighted below) to include HTTPS:

    ```
    <appSettings>
    <!--Client site address-->
    <add key="serverAddress" value="https://SMB29/Synopsis/" />
    <!--Boa site address-->
    <add key="boaServerAddress" value="https://SMB29/BOA" />
    <!--add key="boaVersion" value="1.0" /-->
    <!--add key="keepAliveIntervalMS" value="60000" /-->
    <!--add key="httpTimeout" value="5000" /-->
    <!--add key="pageLoadTimeoutMS" value="1000" /-->
    <!--add key="BrowserLogLocation" value="c:\DotNetBrowserLog.txt" /-->
    </appSettings>
    ```

18. Browse to the application and make sure that it works with https requests.

    For example:

    - https://www.example.com/synopsis
    - https://www.example.com/admin

Generic configurations

For any other type of load balancer, you need to configure the following redirect rules based on the URL:

1. Notification Service

   Search for: /signalr

   Redirect to: notification-server:7080

2. Video Streaming Gateway

   Search for: /vsg

   Use rewrite rule to remove /vsg from the url

   Redirect to: videostreaming-server:5010

3. Web Services>

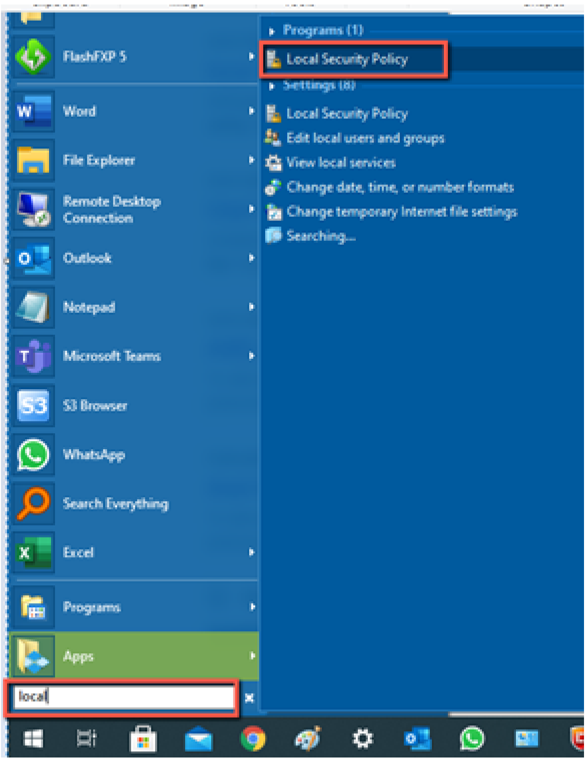
   Search for: /

   Redirect to: briefcam-webserver

Logging

To handle the log rotation:

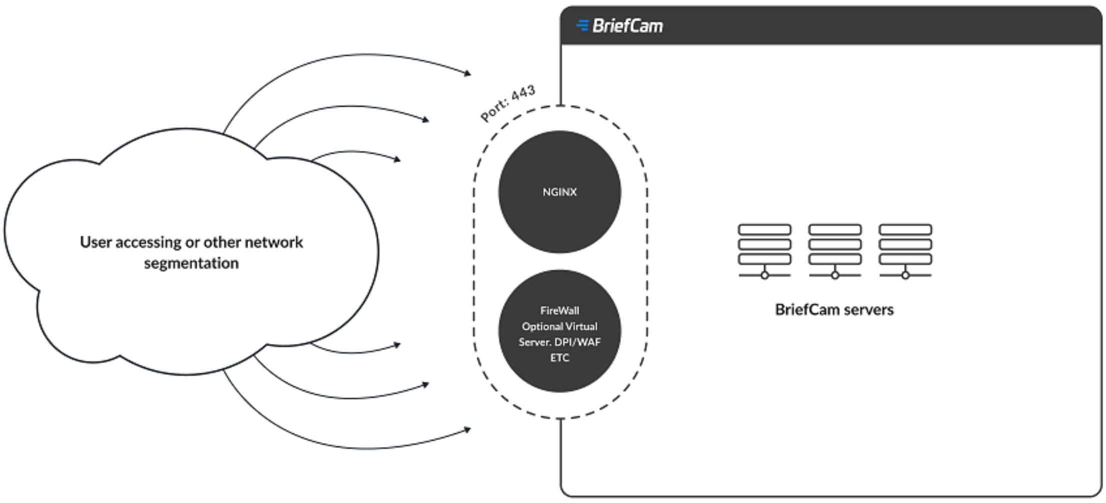
1. Download the log rotation text from here: Log rotation script and create a bat file:
   a. Copy the text from the link to a .txt file and name it `LogRotation`.
   b. Change the file extension from .txt to .bat.
2. Save the script (.bat file) to `C:\NGINX`.
3. Create an OS user (such as **bcuser**), a user on the OS level, or create a Windows user account. The user does not need admin rights.
4. Edit the `C:\NGINX` folder's security options and assign full control to the user that you created in step 3.
5. Click **Start** (Windows key) and type **secpol.msc** to open the **Local Security Policy** utility.



6. Go to **Security settings** > **Local Policies** > **User Rights Assignment**.
7. Right-click **Log on as a batch job** and add the user.

8. Add a daily scheduled task to run the `C:\NGINX\LogRotation.bat` file. Make sure to select **Run whether user is logged on or not**. By default, the last 10 days will be retained (retention period in days). If you want a different number of days, when running the batch file, enter the required number of days as a command line argument. For example, for 20 days, use: `C:\NGINX\LogRotation.bat 20`.

Network security considerations

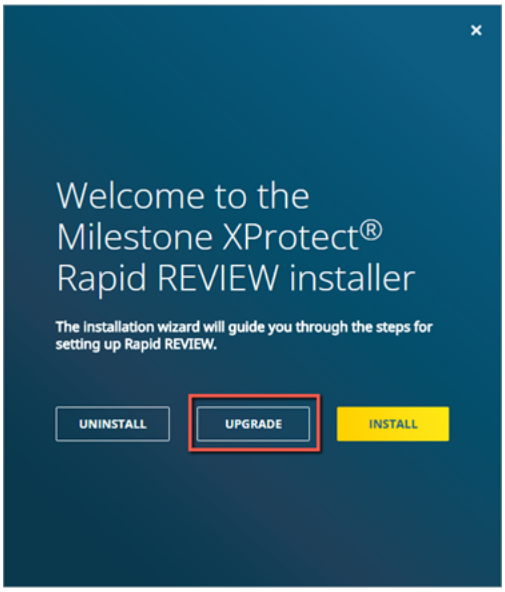

BriefCam
Port: 443
User accessing or other network segmentation
NGINX
FireWall Optional Virtual Server. DPI/WAF ETC
BriefCam servers

- The network segment hosting the BriefCam servers / virtual computers should be separated from other networks by a firewall and access should be granted only via ports configured in NGINX. For additional information, see the Using an HTTPS Host.
- Administrative access to the servers, such as RDP, should be allowed either over VPN or from administration bastion hosts. A bastion host is a server that allows access to a private network from a public network, such as the internet. Bastion hosts are vulnerable to potential attacks and should be kept as secure as possible.
- If DPI / WAF/ URL protection are required – they should be implemented on the firewall when pointing to the operational BriefCam NGINX host.

Upgrade Steps

To upgrade XProtect Rapid REVIEW select the **UPGRADE** option on the installer screen as shown below.

Note that using this installer to upgrade XProtect Rapid REVIEW, you can only upgrade from version 6.1 or above:



Welcome to the Milestone XProtect® Rapid REVIEW installer

The installation wizard will guide you through the steps for setting up Rapid REVIEW.

1. Stop all BriefCam services and close all open applications before starting the upgrade process.
2. Select the **UPGRADE** option on the installer screen.
3. If you are upgrading, the tab name will not show Rapid REVIEW. To change the tab name, open the **BriefCam.MilestoneEmbeddedViewer.dll.config** file, which is located at: **C:\Program Files\Milestone\XProtect Smart Client\MIPPlugins\BriefCam**.
4. Add the following text under the <appSettings> node:
   <add key="InstallationType" value="SMB" />
5. Save the file.
6. Log into XProtect Smart Client.

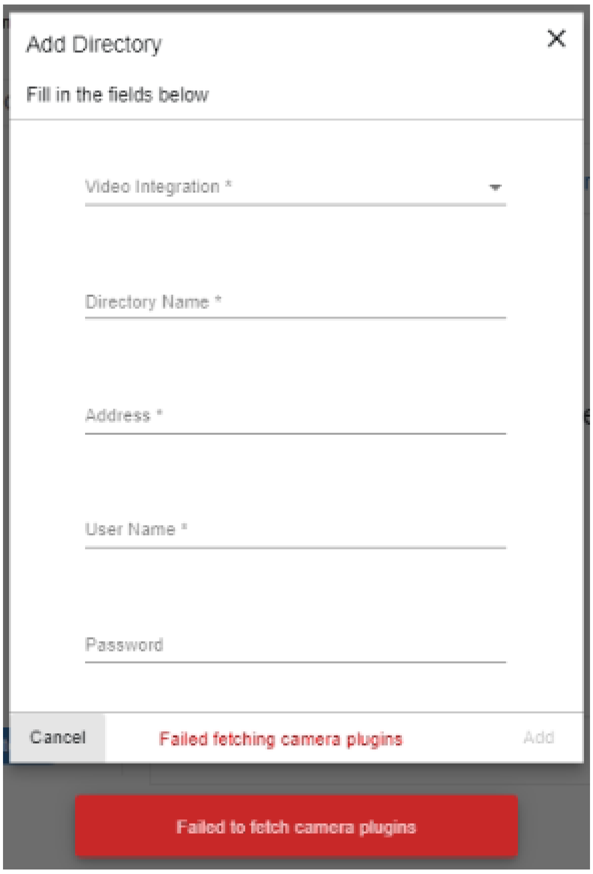
Troubleshooting

To troubleshoot issues with the installation, see the Installation Troubleshooting on page 19 section.

Failed fetching camera plugins error

Symptom

In the Camera management section of the BriefCam Administrator Console when trying to add a directory, the Milestone Integration option is not available and the Failed fetching camera plugins error appears at the bottom of the screen.



Add Directory

Fill in the fields below

Video Integration *

Directory Name *

Address *

User Name *

Password

Failed fetching camera plugins

Failed to fetch camera plugins

Possible root causes

- A shadow AKKA service is running in the background.
- Ports are blocked in the firewall.
- An antivirus/anti-spam ware is preventing reading/writing to BriefCam folders.
- The BriefCam shared folder is missing sufficient read/write permissions.

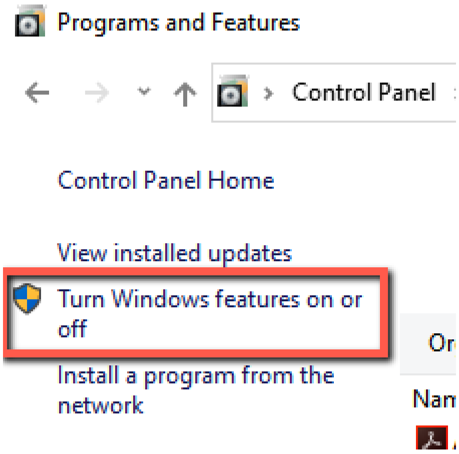
- The permissions issue is possibly because of one of the following (but not limited to):
    a. GPO applied on the server
    b. Current logged in user lacking admin privileges
    c. Antivirus/antimalware restriction
    d. Target drive out of space

Solution

1. In the **Services** pane of the BriefCam Administrator Console, check that the PID is not constantly changing for **one or more** of the AKKA services:
    - Lighthouse
    - LPR Matching
    - BI Face Recognition
    - Face Recognition Matching
    - Filtering
2. If one or more of the AKKA service's PID is constantly changing, this may be because a shadow AKKA service is running in the background. In this case:
    a. From the BriefCam Administrator Console, stop the BriefCam AKKA services.
    b. From the Task Manager, stop the relevant service.
    c. From the BriefCam Administrator Console, restart the services.

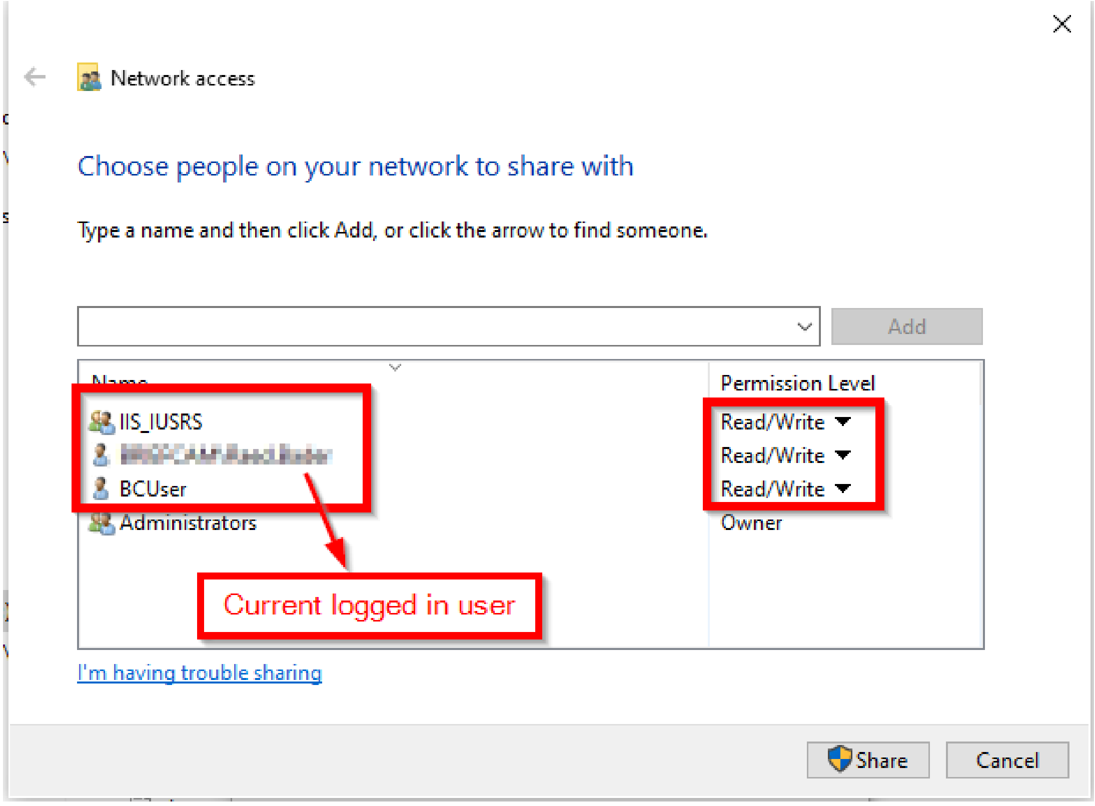
3. Check that the relevant port is opened in the firewall. You can do this using the Telnet command:

   - In the Control Panel, go to **Programs and Features** (or **Programs**).
   - Click **Turn Windows Features on or off**.



   - Select the box for **Telnet Client**.
   - Click **OK**.
   - In the command prompt (type **CMD** in the Windows search box), type: **telnet <IP address of server** and press **Enter**.
   - If you see a blank cursor, the connection is fine

4. Check the Data folder for sufficient permissions. The current logged in user should have read/write permissions.



Network access

Choose people on your network to share with

Type a name and then click Add, or click the arrow to find someone.

Name	Permission Level
IIS_IUSRS	Read/Write
[redacted]	Read/Write
BCUser	Read/Write
Administrators	Owner

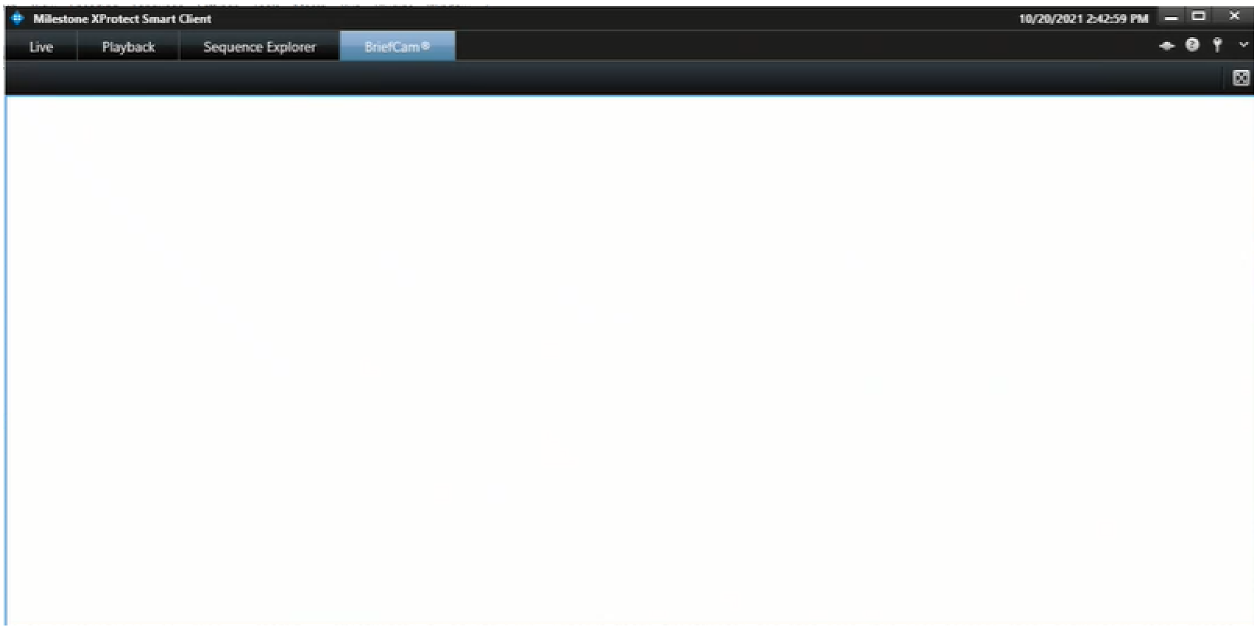
Current logged in user

5. Check the relevant log for errors. The logs can be found at: **C:\Program Files\BriefCam\BriefCam Server\logs**. You may find, for example, information that the AKKA service failed to start.

White screen displayed

Symptom

XProtect Rapid REVIEW was installed without any errors. However, the embedded client shows a white/blank screen.



Possible root causes

The root cause is often a networking issue (that can be caused by, but is not limited to, an incorrect configuration).

Before you proceed with the drill-down and the different troubleshooting procedures described below, perform the most basic checks of networking. Use Powershell TNC (TestNetConnection) to verify that port 80 is listening where the BOA is installed and that port 8030 is listening where the SSO provider is installed. The majority of instances where a white screen issue is encountered, will be resolved by a network/firewall modification, or by a BOA/SSO config file modification (BOA/SSO address correction in the relevant config file as detailed in the Environment settings not configured properly on page 54 section).

Other items to check include:

- Milestone user permissions
- Server-side/client-side cache issues
- The BriefCam server or Milestone smart client computers have two NICs (Network interfaces)
- Missing XProtect Rapid REVIEW license
- Environment settings not configured properly

Solution

Milestone user permissions

In order to view the BriefCam tab embedded in the Milestone XProtect Smart Client, the user who accesses the client has to have at least 'Read' permissions defined on the Milestone Management Client.

1. In the Milestone XProtect Smart Client, check that the user accessing the XProtect Smart Client has Read permissions.

- If the user exists but does not have Read permissions – assign the user the necessary permissions.
- If the user does not exist:

  a. Create the user by accessing XProtect Management Client. The user will be created automatically in BriefCam when the user accesses XProtect.

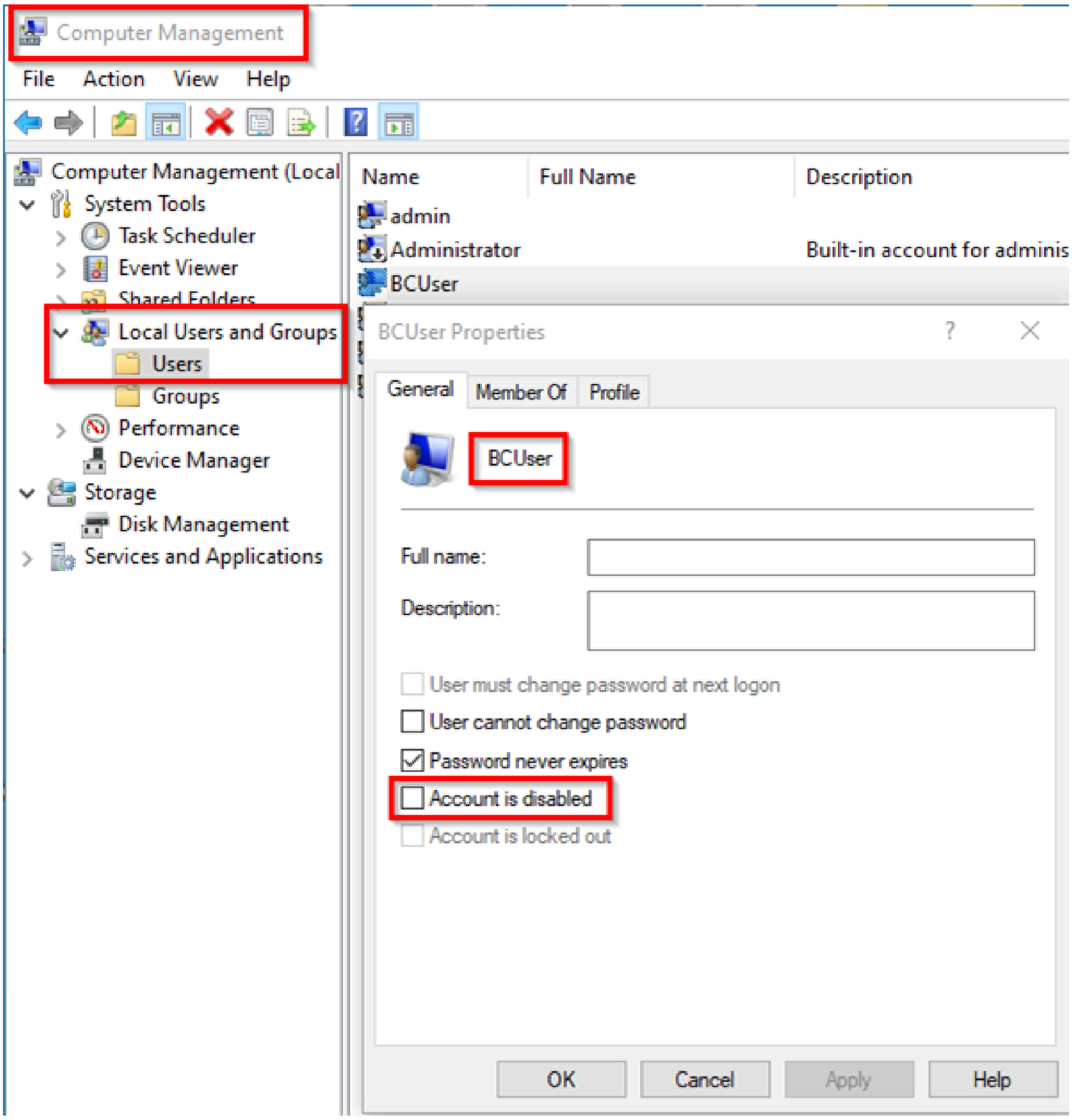
     Do not manually create the user in the BriefCam Administrator Console. If the user is created manually and has the same user name in Milestone XProtect, you will see a white screen in XProtect Smart Client.

  b. You can log into the BriefCam Administrator Console’s Users section and verify that the Milestone user is there with the type set to SAML.

2. Try to access the smart client using this user and check the BriefCam tab.

> Note that by default the user who runs the BriefCam services is the BCUser. You may still see the white screen issue if the user configured as BCUser was disabled, for example, after moving to a domain. To solve this issue:

- From the Windows Services, try restarting the BriefCam VSService.
- If the service fails to start, then check the **BCUser** settings in the **Computer Management** console.



Name	Full Name	Description
admin		
Administrator		Built-in account for adminis
BCUser		

BCUser

Full name:

Description:

□ User must change password at next logon

□ User cannot change password

☑ Password never expires

□ Account is disabled

□ Account is locked out

3. If the issue still is not solved, check the Milestone client-side logs at **C: \Users\[current user]\AppData\Roaming\BriefCam\Client\logs**.

Clearing Server/Client Cache

Sometimes on a system where not all the components were installed correctly and the embedded client previously showed a white screen, clearing the Milestone client cache can solve the issue.

To clear the cache on the BriefCam server-side:

1. Go to: C:\Users\CurrentLogedInUser\AppData\Roaming\Milestone.

> Note that the AppData folder is a hidden folder. If you do not have hidden folders enabled on your machine, you can open the AppData folder by going to the search bar on your Windows Toolbar, typing %appdata% and pressing Enter.

2. Delete all the contents of this folder.

The next time you start a Milestone XProtect client, the contents of this folder will be recreated.

To clear the cache on the XProtect Smart Client side:

a. Go to: **C:\Users\CurrentLogedInUser \AppData\Roaming\BriefCam\MilestoneEmbedded**.

b. Delete all the contents of this folder.

The next time you start a Milestone XProtect client, the contents of this folder will be recreated.

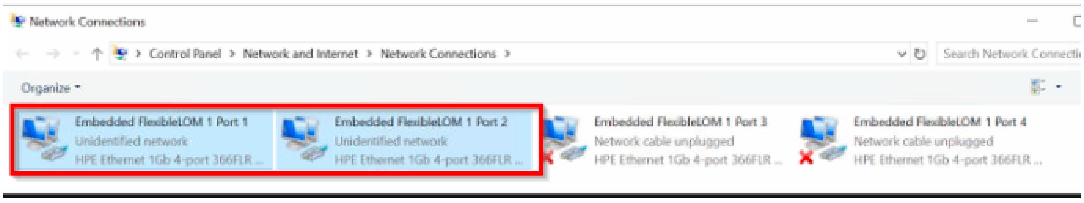
Two NICs

The white screen might display if either the BriefCam server of Milestone smart client computer has two NICs (network interfaces) are attached to it and the SSO communication looks for the local host.

As a result, there are issues loading BriefCam's iFrame in the Milestone embedded client.

To solve this issue:

1. Check how many activated NICs exist, by going to **Control Panel** > **Network** and **Sharing Center** > **Change adapter settings**.


Network Connections
Control Panel > Network and Internet > Network Connections >
Search Network Connecti
Organize ▾

Embedded FlexibleLOM 1 Port 1
Unidentified network
HPE Ethernet 1Gb 4-port 366FLR ...

Embedded FlexibleLOM 1 Port 2
Unidentified network
HPE Ethernet 1Gb 4-port 366FLR ...

Embedded FlexibleLOM 1 Port 3
Network cable unplugged
HPE Ethernet 1Gb 4-port 366FLR ...

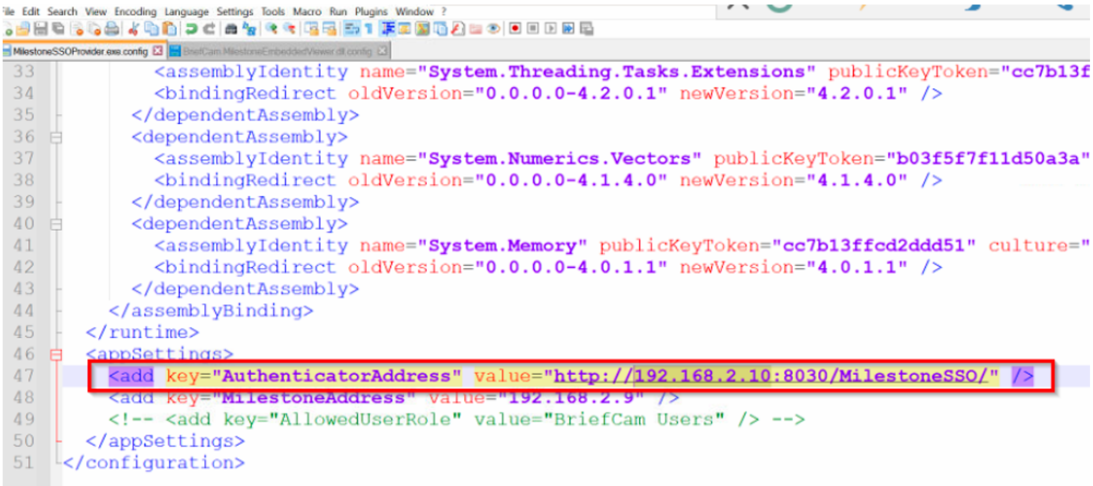
Embedded FlexibleLOM 1 Port 4
Network cable unplugged
HPE Ethernet 1Gb 4-port 366FLR ...

2. If there is more than one NIC activated, if possible, inactivate one of the NICs.

If the above did not resolve the issue, you need to change the value in several locations so that it does not point to **localhost** but rather to the BriefCam server's IP address (the IP address of the NIC configured to communicate between the BriefCam server and the Milestone server):

3. On the BriefCam server, open the Milestone SSOProvider.exe.config file (located by default at: C:\Program Files\BriefCam\BriefCam Server) and find the **AuthenticatorAddress** value.

4. If the value is set to **localhost**, change the value to point to the Milestone server's IP address.

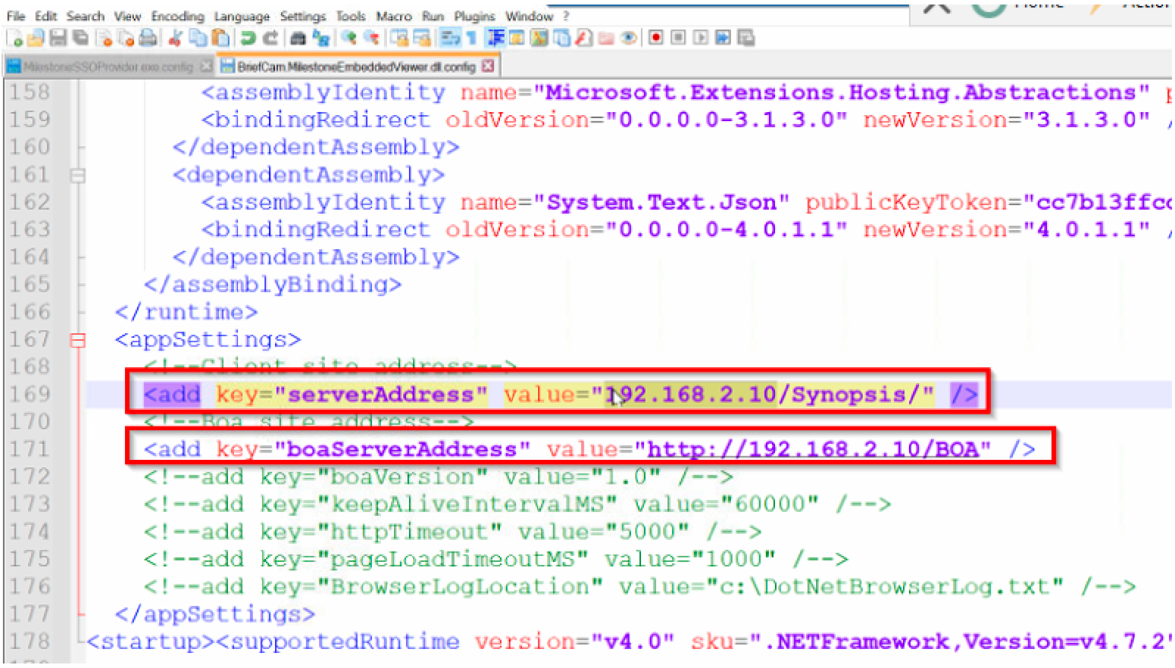

File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
MilestoneSSOProvider.exe.config
BriefCam.MilestoneEmbeddedViewer.dll.config

```
          <assemblyIdentity name="System.Threading.Tasks.Extensions" publicKeyToken="cc7b13f
          <bindingRedirect oldVersion="0.0.0.0-4.2.0.1" newVersion="4.2.0.1" />
        </dependentAssembly>
        <dependentAssembly>
          <assemblyIdentity name="System.Numerics.Vectors" publicKeyToken="b03f5f7f11d50a3a"
          <bindingRedirect oldVersion="0.0.0.0-4.1.4.0" newVersion="4.1.4.0" />
        </dependentAssembly>
        <dependentAssembly>
          <assemblyIdentity name="System.Memory" publicKeyToken="cc7b13ffcd2ddd51" culture="
          <bindingRedirect oldVersion="0.0.0.0-4.0.1.1" newVersion="4.0.1.1" />
        </dependentAssembly>
      </assemblyBinding>
    </runtime>
    <appSettings>
      <add key="AuthenticatorAddress" value="http://192.168.2.10:8030/MilestoneSSO/" />
      <add key="MilestoneAddress" value="192.168.2.9" />
      <!-- <add key="AllowedUserRole" value="BriefCam Users" /> -->
    </appSettings>
  </configuration>
```

> By default the MilestoneSSOProvider.log file is located at C:\Program Files\BriefCam\BriefCam Server\logs\MilestoneSSOProvider-0.

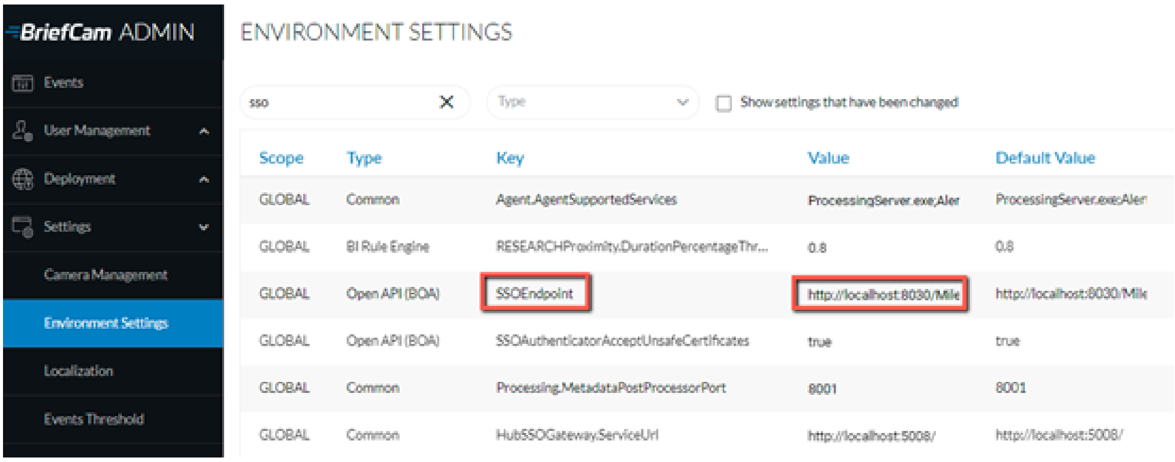
5. On the Milestone XProtect Smart Client computer, open the BriefCam.MilestoneEmbeddedViewer.dll.config file (located at: C:\Program Files\Milestone\XProtect Smart Client\MIPPlugins\BriefCam).

6. If the value of the **serverAddress** or **boaServerAddress** key is set to localhost, change the values to point to the BriefCam server's IP address.


File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
MilestoneSSOProvider.exe.config
BriefCam.MilestoneEmbeddedViewer.dll.config

```
          <assemblyIdentity name="Microsoft.Extensions.Hosting.Abstractions"
          <bindingRedirect oldVersion="0.0.0.0-3.1.3.0" newVersion="3.1.3.0"
        </dependentAssembly>
        <dependentAssembly>
          <assemblyIdentity name="System.Text.Json" publicKeyToken="cc7b13ffc
          <bindingRedirect oldVersion="0.0.0.0-4.0.1.1" newVersion="4.0.1.1"
        </dependentAssembly>
      </assemblyBinding>
    </runtime>
    <appSettings>
      <!--Client site address-->
      <add key="serverAddress" value="192.168.2.10/Synopsis/" />
      <!--Boa site address-->
      <add key="boaServerAddress" value="http://192.168.2.10/BOA" />
      <!--add key="boaVersion" value="1.0" /-->
      <!--add key="keepAliveIntervalMS" value="60000" /-->
      <!--add key="httpTimeout" value="5000" /-->
      <!--add key="pageLoadTimeoutMS" value="1000" /-->
      <!--add key="BrowserLogLocation" value="c:\DotNetBrowserLog.txt" /-->
    </appSettings>
  <startup><supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.7.2'
```

7. In the BriefCam Administrator Console, go to **Settings** > **Environment settings** and search for the **SSOEndpoint** setting. If the value is set to **localhost**, change it to the BriefCam server's IP address, that is: http://[BriefCam server IP address]:8030/Milestone.



Scope	Type	Key	Value	Default Value
GLOBAL	Common	Agent.AgentSupportedServices	ProcessingServer.exe;Aler	ProcessingServer.exe;Aler
GLOBAL	BI Rule Engine	RESEARCHProximity.DurationPercentageThr...	0.8	0.8
GLOBAL	Open API (BOA)	SSOEndpoint	http://localhost:8030/Mile	http://localhost:8030/Mile
GLOBAL	Open API (BOA)	SSOAuthenticatorAcceptUnsafeCertificates	true	true
GLOBAL	Common	Processing.MetadataPostProcessorPort	8001	8001
GLOBAL	Common	HubSSOGateway.ServiceUrl	http://localhost:5008/	http://localhost:5008/

8. Restart the following:

   a. In the BriefCam Administrator: the Milestone SSO Provider service and the VS Server service.

   b. The BOA application pool of the IIS.

   c. Milestone XProtect Smart Client.

9. Clear the cache as described in the Clearing Server/Client Cache on page 51 section.

Missing license

The BriefCam Open API (BOA) is the communication between BriefCam and the Milestone SSO.

1. Check the BOA log at C:\Logs\Milestone\BOA – It could, for example, point to a missing license.
2. Check that the BOA license product exists at localhost:1947.

Environment settings not configured properly

In rare scenarios, you'll need to manually configure SSO-related settings making sure that each of the config file's settings are pointing to the proper server hostname.

1. In the BriefCam Administrator Console, go to **Settings** > **Environment settings** and search for the **SSOEndpoint** setting. If the value is set to **localhost**, change it to the BriefCam server's IP address, that is: http://[BriefCam server IP address]:8030/Milestone.
2. Open the MilestoneSSOProvider.exe.config file (located at: C:\Program Files\BriefCam\BriefCam Server) and find the **AuthenticatorAddress** value.
3. If the value is set to **localhost**, change the value to the BriefCam server. If there are multiple NICs, this should point to the Milestone server.

4. In the BriefCam.MilestoneEmbeddedViewer.dll.config file (located at: C:\Program Files\Milestone\XProtect Smart Client\MIPPlugins\BriefCam), both the **serverAddress** and the **boaServer** address need to point to the BriefCam server. If there is more than one NIC, use the IP address of the BriefCam server. Below are detailed instructions of how to do this:

    a. Scroll to the bottom of the file and look for the following lines: <add key=”serverAddress” value=”http://computer’s_hostname/synopsis/” />

    b. Change the values to match your BriefCam server (the XPRR Computer). For example, if the BriefCam XPRR computer is called RapRev, the value will look as follows: http://RapRev/synopsis/

    c. Find this row: <add key=”boaServerAddress” value=”http://cmputer’s_hostname/BOA/” />

    d. Change the value point to your Milestone server. For example: http://RapRev/BOA/

5. Restart the following:

    a. In the BriefCam Administrator: the Milestone SSO Provider service and the VS Server service.

    b. The BOA application pool of the IIS.

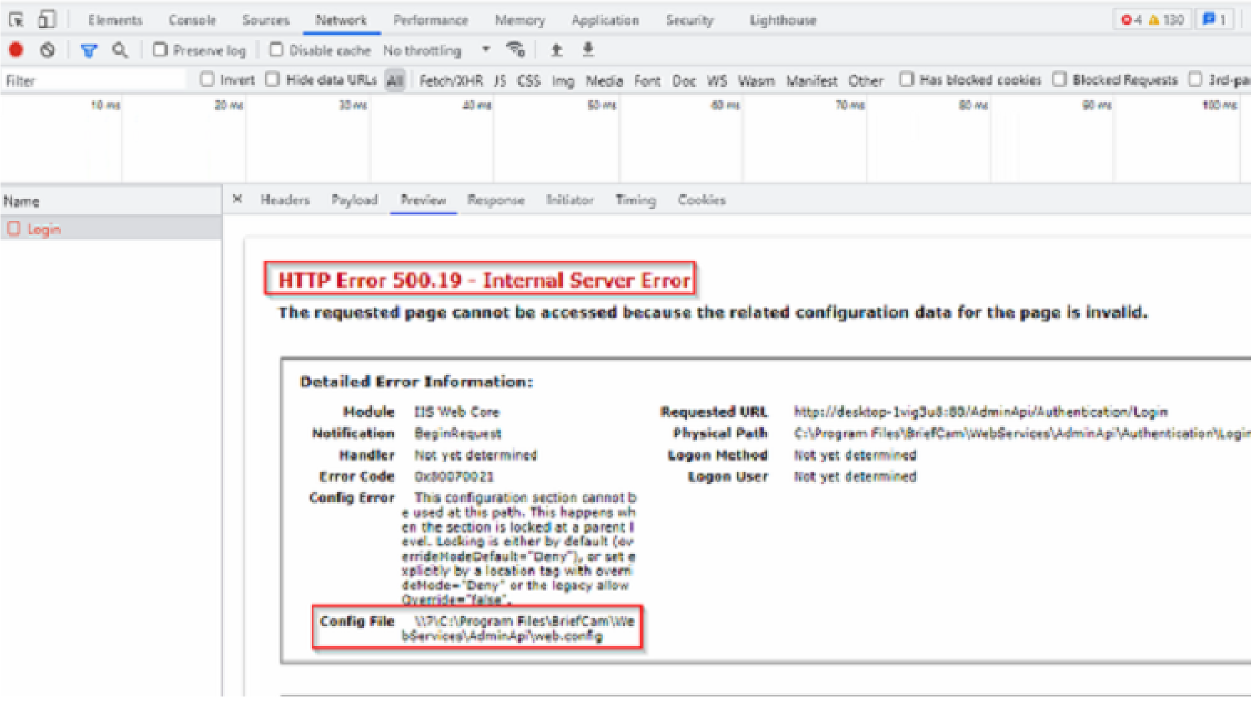
    c. Milestone XProtect Smart Client.

6. Clear the cache as described in the Clearing Server/Client Cache on page 51 section.

Server unavailable error

Symptom

After installing BriefCam and trying to open the BriefCam Administrator Console, a Server Unavailable error appears. When opening F12 (debug mode), the following is seen:



HTTP Error 500.19 - Internal Server Error

The requested page cannot be accessed because the related configuration data for the page is invalid.

Detailed Error Information:

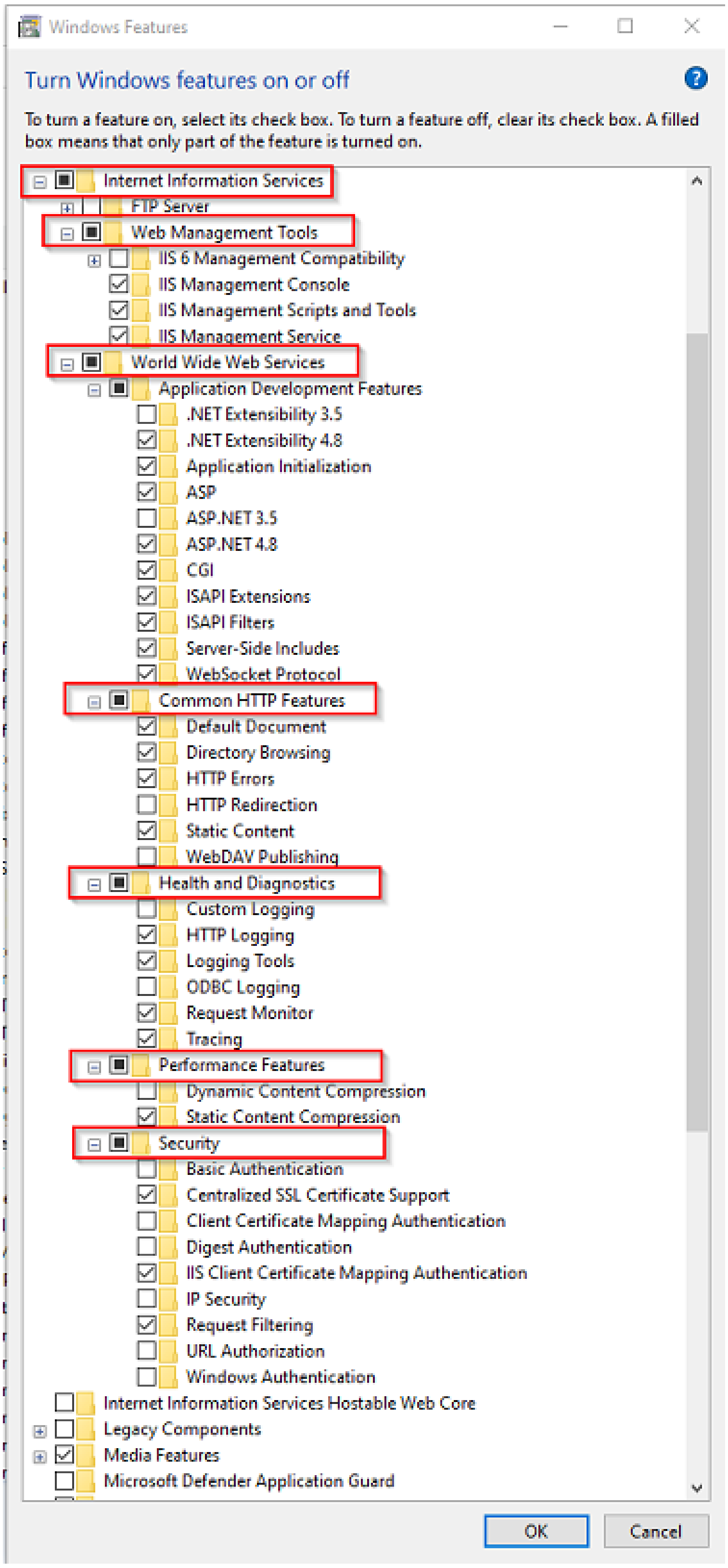
Module	IIS Web Core	Requested URL	http://desktop-1vig3u8:80/AdminApi/Authentication/Login
Notification	BeginRequest	Physical Path	C:\Program Files\BriefCam\WebServices\AdminApi\Authentication\Login
Handler	Not yet determined	Logon Method	Not yet determined
Error Code	0x80070021	Logon User	Not yet determined
Config Error	This configuration section cannot be used at this path. This happens when the section is locked at a parent level. Locking is either by default (overrideModeDefault="Deny"), or set explicitly by a location tag with overrideMode="Deny" or the legacy allowOverride="false".		
Config File	\\?\C:\Program Files\BriefCam\WebServices\AdminApi\web.config		

Possible root causes

- BriefCam and Milestone are installed on the same computer, which causes the IIS services to conflict since the same ports are in use. As detailed in the prerequisites, a dedicated machine for BriefCam is required.
- The IIS components are not configured on the current server. This may be because of a custom operating system image that includes certain restrictions, such as the IIS is not installed, only a restricted list of components was installed, or the Sysadmin restricted those components to be installed/configured by external installers.

Solution

1. From the Windows Control Panel, open Programs and Features.
2. Click **Turn Windows features on or off**.
3. From the list, make sure that all the Internet Information Services that appear in the illustration below are available.
    - If any of the below is missing, add it.
    - Restart the computer.



Windows Features

Turn Windows features on or off

To turn a feature on, select its check box. To turn a feature off, clear its check box. A filled box means that only part of the feature is turned on.

- ⊟ ■ Internet Information Services
  - ⊞ □ FTP Server
  - ⊟ ■ Web Management Tools
    - ⊞ □ IIS 6 Management Compatibility
    - ☑ IIS Management Console
    - ☑ IIS Management Scripts and Tools
    - ☑ IIS Management Service
  - ⊟ ■ World Wide Web Services
    - ⊟ ■ Application Development Features
      - □ .NET Extensibility 3.5
      - ☑ .NET Extensibility 4.8
      - ☑ Application Initialization
      - ☑ ASP
      - □ ASP.NET 3.5
      - ☑ ASP.NET 4.8
      - ☑ CGI
      - ☑ ISAPI Extensions
      - ☑ ISAPI Filters
      - ☑ Server-Side Includes
      - ☑ WebSocket Protocol
    - ⊟ ■ Common HTTP Features
      - ☑ Default Document
      - ☑ Directory Browsing
      - ☑ HTTP Errors
      - □ HTTP Redirection
      - ☑ Static Content
      - □ WebDAV Publishing
    - ⊟ ■ Health and Diagnostics
      - □ Custom Logging
      - ☑ HTTP Logging
      - ☑ Logging Tools
      - □ ODBC Logging
      - ☑ Request Monitor
      - ☑ Tracing
    - ⊟ ■ Performance Features
      - □ Dynamic Content Compression
      - ☑ Static Content Compression
    - ⊟ ■ Security
      - □ Basic Authentication
      - ☑ Centralized SSL Certificate Support
      - □ Client Certificate Mapping Authentication
      - □ Digest Authentication
      - ☑ IIS Client Certificate Mapping Authentication
      - □ IP Security
      - ☑ Request Filtering
      - □ URL Authorization
      - □ Windows Authentication
- □ Internet Information Services Hostable Web Core
- ⊞ □ Legacy Components
- ⊞ ☑ Media Features
- □ Microsoft Defender Application Guard

Server returned 401 Unauthorized error

When trying to get a live stream from the Milestone VMS, the “Server returned 401 Unauthorized (authorization failed)” error may occur when you have, for example, more than one WWW-Authenticate header. This can occur in XProtect 2021 R1 and above.

To solve this issue:

1. Make sure you are using the following Milestone ONVIF Bridge component: VideoOS.ONVIF.InstallerForExpressAndProfessional.exe Version 21.1b build 7008. For a detailed step-by-step guide, see http://download.milestonesys.com/MTSKB/KB000003403/ONVIF-Bridge-detailed-guide.pdf.
2. Open the Windows Registry (click **Windows** + **R**, type **regedit**, and press **Enter**).
3. Open the following registry: `Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Milestone\Milestone Open Network Bridge\`
4. Add the following DWORD value: **SHA256Auth**.
5. Set the value to 0.
6. In the ONB Tray Manger, restart the ONB services.

This registry, introduced with XProtect 2021 R1, switches off SHA256 support, when FIPS is disabled.

For additional information, see: https://developer.milestonesys.com/s/article/changes-digest-authentication-RTSP-service-in-2021-R1-troubleshooting.

Rapid REVIEW tab is missing

Symptom

The Rapid REVIEW tab is missing from the Milestone XProtect embedded client.

Possible root causes

- Visual Studio X64 redistributable package is not installed. This can be caused by a GPO or other restrictions applied by the System Administrator.
- Windows is not up to date (even though this is one of the prerequisites).

Solution

1. On the XProtect Smart Client computer, download the vc_redist.x64.exe runtime component for Visual C++: Microsoft Download Center.

2. Run the executable file as Admin.
3. Clear the cache on the Milestone XProtect Smart Client side:
    a. Go to: C:\Users\CurrentLogedInUser\AppData\Roaming\Milestone\BriefCam\Milestone Embedded.

    > Note that the **AppData** folder is a hidden folder. If you do not have hidden folders enabled on your machine, you can open the **AppData** folder by going to the search bar on your Windows toolbar, typing **%appdata%** and pressing Enter.

    b. Delete all the contents of this folder. The next time you start a Milestone XProtect client, the contents of this folder will be re-created.
    c. Access the Milestone XProtect embedded client.
4. If this does not work, install the latest Windows update.

Rapid REVIEW tab is not appearing correctly

If you are upgrading from v6.1, the tab name will not show Rapid REVIEW. To change the tab name:

1. Open the BriefCam.MilestoneEmbeddedViewer.dll.config file, which is located at: C:\Program Files\Milestone\XProtect Smart Client\MIPPlugins\BriefCam\.

2. Add the following text under the <appSettings> node:
<add key="InstallationType" value="SMB" />

3. Save the file.

APPENDIX: XProtect Rapid REVIEW hardware recommendations

This section aims to assist in selecting hardware for a system that will run XProtect Rapid REVIEW.

At the core of these systems are the graphical processing units (GPUs) that are responsible for processing the original video and extracting metadata. The number/type of GPUs, the resolution of the original video, frame rate, and activity determine the number of hours of original video that can be processed per day (or per hour).

The more GPUs (and processing servers) a system has, the more original video it can process in an hour.

In addition to the GPUs, the system also relies on the CPU to support this video processing and the investigations that follow the processing – when the user filters through the various objects, measures proximity, and plays a VIDEO SYNOPSIS®.

The all-in-one, single server systems, cover a range of CPUs and a number of GPUs (from 1 to 4).

For systems that require more GPUs, BriefCam offers distributed architecture where the GPUs are located on dedicated Processing Servers alongside additional servers that run the BriefCam services (such as perform filtering and play a VIDEO SYNOPSIS®).

These hardware specs can be defined by their processing throughput (the number of hours of original video that can be processed within an hour of processing or per day). These are measured under certain input video characteristics, such as resolution and activity level.

When we refer to an activity level, we refer to the number of objects that pass through the scene in an hour, under certain movement patterns.

We benchmarked the throughputs in this document under medium activity – which refers to roughly 1,000 objects (people and vehicles detected by the analytics engine) per hour.

The throughputs listed below each hardware spec relate to the throughput of the machine (based on the throughput of the GPUs) – the VMS and network architecture and infrastructure need to support this throughput as well.

Several users can use the system concurrently, but this will increase the load on the system. Our recommendations and design assumptions are for a maximum of 2 concurrent users.

Face Recognition and License Plate Recognition Watchlist searches require resources. Our recommendations assume watchlists of less than 10,000 identities in total (across all of the used watchlists combined).

All-in-One configurations

This section aims to assist in selecting hardware for a system that runs XProtect Rapid REVIEW in All-in-One Configurations.

Medium - (Tower)

Form factor:	Tower	
CPU:	Intel i7-10700K	
Memory:	64GB RAM	
Hard drive 1:	256GB SSD	(operating system)
Hard drive 2:	480GB Mixed-use SSD	(database)
Hard drive 3:	8TB HDD	(processed video)
GPU:	1 x RTX A2000	

Medium - Rack mount

Form factor:	1U	
CPU:	Intel i9-9900K	
Memory:	64GB RAM	
Hard drive 1:	256GB SSD	(operating system)
Hard drive 2:	480GB Mixed-use SSD	(database)
Hard drive 3:	8TB HDD	(processed video)
GPU:	1 x RTX A2000	

Throughput: Up to 23 hours per hour (552 hours per day) at 1080p medium activity, 8 hours per hour (192 hours per day) at 4K medium activity.

Large

Form factor:	2U	
CPU:	2 x Xeon Silver 4215R	
Memory:	128GB RAM	
Hard drive 1:	480GB SSD	(operating system)
Hard drive 2:	1TB Mixed-use SSD	(database)
Hard drives:	2 x 8TB HDD	(processed video)
GPU:	2 x RTX A4000	

Throughput: Up to 46 hours per hour (1,104 hours per day) at 1080p medium activity, 17 hours per hour (408 hours per day) at 4K medium activity.

Extra-large

Form factor:	2U	
CPU:	2 x Xeon Gold 6248R	
Memory:	256GB RAM	
Hard drive 1:	480GB SSD	(operating system)
Hard drive 2:	2TB Mixed-use SSD	(database)
Hard drives:	4 x 8TB HDD	(processed video)
GPU:	4 x RTX A4000	

Throughput: Up to 92 hours per hour (2,208 hours per day) at 1080p medium activity, 34 hours per hour (816 hours per day) at 4K medium activity.

Throughput example

24 hours of original 1080p video at medium activity will take about 2.5 hours with the small build, 1 hour with the medium build, 30 minutes with the large build, and 15 minutes with the extra-large build.

RAID redundancy

If bays are available, RAID1 redundancy can be applied with extra OS and DB drives, if desired.

Distributed deployments

These distributed deployment specifications come with RAID1 redundancy for the OS and DB drives.

8 GPU Deployment (4 servers)

- VS server:

Form factor:	2U	
CPU:	2 x Xeon Silver 4215R	
Memory:	128GB RAM	
Hard drive 1:	2 x 480GB SSD RAID1	(operating system)
Hard drive 2:	2 x 2TB Mixed-use SSD RAID1	(database)
Hard drives:	4 x 8TB HDD RAID0	(processed video)

- Fetching server:

Form factor:	1U	
CPU:	Intel i9-9900K	
Memory:	64GB RAM	
Hard drives:	2 x 256GB SSD RAID1	(operating system)

- 2 x Processing servers, each with:

Form factor:	2U	
CPU:	2 x Xeon Silver 4215R	
Memory:	256GB RAM	
Hard drives:	2 x 480GB SSD RAID1	(operating system)
GPU:	4 x RTX A4000	

Throughput: Up to 184 hours per hour (4,416 hours per day) at 1080p medium activity, 68 hours per hour (1,632 hours per day) at 4K medium activity.

16 GPU Deployment (8 servers)

- VS server:

Form factor:	1U	
CPU:	Intel i9-9900K	
Memory:	128GB RAM	
Hard drives:	2 x 256GB SSD RAID1	(operating system)
Hard drives:	3 x 12TB HDD RAID0	(processed video)

- 2 Fetching servers, each with:

Form factor:	1U	
CPU:	Intel i9-9900K	
Memory:	64GB RAM	
Hard drives:	2 x 256GB SSD RAID1	(operating system)

- Database Sever:

Form factor:	1U	
CPU:	Intel i9-9900K	
Memory:	64GB RAM	
Hard drives:	2 x 256GB SSD RAID1	(operating system)
Hard drives:	2 x 2TB Mixed-use SSD RAID1	(database)

- 4 Processing servers, each with:

Form factor:	2U	
CPU:	2 x Xeon Silver 4215R	
Memory:	256GB RAM	
Hard drives:	2 x 480GB SSD RAID1	(operating system)
GPU:	4 x RTX A4000	

Throughput: Up to 368 hours per hour (8,832 hours per day) at 1080p medium activity, 136 hours per hour (3,264 hours per day) at 4K medium activity.

32 GPU Deployment (14 servers)

- VS server:

Form factor:	1U	
CPU:	Intel i9-9900K	
Memory:	128GB RAM	
Hard drives:	2 x 256GB SSD RAID1	(operating system)
Hard drives:	3 x 12TB HDD RAID0	(processed video)

- 3 Fetching servers, each with:

Form factor:	1U	
CPU:	Intel i9-9900K	
Memory:	64GB RAM	
Hard drives:	2 x 256GB SSD RAID1	(operating system)

- Queue Management sever:

Form factor:	1U	
CPU:	Intel i9-9900K	
Memory:	64GB RAM	
Hard drives:	2 x 256GB SSD RAID1	(operating system)

- Database sever:

Form factor:	2U	
CPU:	2 x Xeon Silver 4215R	
Memory:	128GB RAM	
Hard drives:	2 x 480GB SSD RAID1	(operating system)
Hard drives:	4 x 2TB Mixed-use SSD RAID1	(database)

- 8 Processing servers, each with:

Form factor:	2U	
CPU:	2 x Xeon Silver 4215R	
Memory:	256GB RAM	
Hard drives:	2 x 480GB SSD RAID1	(operating system)
GPU:	4 x RTX A4000	

Larger deployments

For larger deployments, please consult your local Milestone representative.

Recommended GPUs

For an overview of recommended GPUs, please refer to the specification sheet for XProtect Rapid REVIEW on the Milestone content portal: Specification Sheet.

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About Milestone

Milestone Systems is a leading provider of open platform video management software; technology that helps the world see how to ensure safety, protect assets and increase business efficiency. Milestone Systems enables an open platform community that drives collaboration and innovation in the development and use of network video technology, with reliable and scalable solutions that are proven in more than 150,000 sites worldwide. Founded in 1998, Milestone Systems is a stand-alone company in the Canon Group. For more information, visit https://www.milestonesys.com/.