

MAKE THE
WORLD SEE

Milestone Systems

XProtect® on AWS

Getting started guide - XProtect Essential+



Contents

Copyright, trademarks, and disclaimer	3
Overview	4
About this guide	4
XProtect Essential+ on AWS	4
Requirements and considerations	5
Getting started checklist	5
Before you start deployment	5
Deployment	7
The XProtect Essential+ CloudFormation template	7
Subscribe to XProtect in AWS Marketplace	7
Create the XProtect Essential+ CloudFormation stack	7
Configuration	10
Connect to your deployment with Remote Desktop Protocol (RDP)	10
Connect to your deployment using XProtect Web Client	10
Connect to your deployment using the XProtect Mobile client	11
Get the address of the EC2 instance	12
Get the EC2 Instance ID	13
Securing your deployment	13
Changing your XProtect license	14
Removing XProtect	15
Delete the XProtect CloudFormation stack	15
Unsubscribe	15

Copyright, trademarks, and disclaimer

Copyright © 2024 Milestone Systems A/S

Trademarks

XProtect is a registered trademark of Milestone Systems A/S.

Microsoft and Windows are registered trademarks of Microsoft Corporation. App Store is a service mark of Apple Inc. Android is a trademark of Google Inc.

All other trademarks mentioned in this document are trademarks of their respective owners.

Disclaimer

This text is intended for general information purposes only, and due care has been taken in its preparation.

Any risk arising from the use of this information rests with the recipient, and nothing herein should be construed as constituting any kind of warranty.

Milestone Systems A/S reserves the right to make adjustments without prior notification.

All names of people and organizations used in the examples in this text are fictitious. Any resemblance to any actual organization or person, living or dead, is purely coincidental and unintended.

This product may make use of third-party software for which specific terms and conditions may apply. When that is the case, you can find more information in the file `3rd_party_software_terms_and_conditions.txt` located in your Milestone system installation folder.

Overview

About this guide

This single computer installation guide for XProtect® on AWS provides information for getting started with your XProtect VMS deployment in your AWS infrastructure. The guide includes checklists and tasks that help you deploy and configure your system and verify connections between your server and clients.

XProtect Essential+ on AWS

Designing and deploying hardware infrastructure for your VMS can be time-consuming and costly. With the power of AWS, you can create the infrastructure that supports your XProtect VMS in minutes. You can scale your system up or down, add unlimited storage, and provide disaster recovery for you VMS seamlessly.

[XProtect® Essential+ in AWS Marketplace](#) provides the free, Essential+ version of XProtect in an AWS CloudFormation template that you can deploy in your AWS service account.

You can use this version to present the benefits of XProtect on AWS. This version includes four preinstalled virtual cameras with prerecorded video streams which you can use to demonstrate a basic VMS installation.

With XProtect Essential+ you can replace or add to the preinstalled virtual cameras and connect up to eight cameras. You can also use XProtect Essential+ without restriction.



If you already have an XProtect license, or if you want to deploy another Milestone XProtect version, use the **Milestone XProtect® Bring Your Own License (BYOL)** CloudFormation instead. For more information, see the [Bring Your Own License \(BYOL\) guide](#).

Requirements and considerations

Getting started checklist

Use this checklist to go through the deployment and configuration steps of your XProtect Essential+ in the correct order:


Step	Description
<input type="checkbox"/>	Make sure that you meet the deployment prerequisites. See Before you start deployment on page 5 .
<input type="checkbox"/>	Configure and deploy the CloudFormation stack. See Subscribe to XProtect in AWS Marketplace on page 7 and Create the XProtect Essential+ CloudFormation stack on page 7 .
<input type="checkbox"/>	Connect to your deployment. See Connect to your deployment with Remote Desktop Protocol (RDP) on page 10 .
<input type="checkbox"/>	Access video from cameras. See Connect to your deployment using XProtect Web Client on page 10 and Connect to your deployment using the XProtect Mobile client on page 11
<input type="checkbox"/>	Configure and maintain XProtect on AWS securely. See Securing your deployment on page 13 .

Before you start deployment

Before you deploy the XProtect Essential+ CloudFormation template, you must meet the prerequisites below.



Consult the [Milestone Cloud Solutions training track](#) for interactive courses that cover Milestone cloud fundamentals, as well as XProtect on AWS design and deployment

Prerequisite	Description
AWS account	<p>You must create or use an existing AWS account. Milestone recommends that you use the AWS managed policy for the developer power user job function that you can assign to an AWS user account. This policy allows the user to deploy the AWS CloudFormation stack, view and manage the EC2 instance, create and access S3 buckets, and more. See Developer power user job function.</p> <div style="border: 1px solid #ccc; background-color: #fff9e6; padding: 10px; margin-top: 10px;">  <p>Amazon strongly recommends that you don't use the root user for your everyday tasks. To keep your infrastructure secure, create users, and only give them the permissions required to run the relevant tasks.</p> </div>
Key Pair	<p>To connect to the EC2 instance that hosts the XProtect VMS, you must create or use an existing key pair. The private key file must be in the .pem format.</p> <p>For information about how to create a key pair in the EC2 console or to import your own public key, see Create a key pair using Amazon EC2.</p>

Deployment

The XProtect Essential+ CloudFormation template

The XProtect Essential+ CloudFormation template creates:

- A new Virtual Private Cloud (VPC) and subnet.
- A custom Amazon Machine Image (AMI) that contains the XProtect VMS software on Elastic Compute Cloud (EC2) instance.
- Deploys a single-server XProtect VMS installation on a **c5.xlarge** Amazon Elastic Compute Cloud (EC2) instance using a custom Amazon Machine Image (AMI).
- Attaches an Amazon Elastic Block Storage (EBS) volume to the EC2 instance. It contains the Windows Server 2022 operating system, XProtect Essential+ software, and a Microsoft SQL Server Express database for the VMS logs and configuration.

Subscribe to XProtect in AWS Marketplace

To deploy the XProtect CloudFormation stack, you must first subscribe to the product in AWS Marketplace.

1. Go to <https://aws.amazon.com/marketplace>
2. Enter Milestone in the search bar. Select the XProtect product to subscribe to:
 - **Milestone XProtect (Essential+)** (used for demo purposes)
 - **Milestone XProtect (BYOL)**

Then, select **Continue to Subscribe**.



The charges for using the AWS services are listed when you subscribe to your XProtect product in AWS Marketplace.

After you have subscribed, you are ready to deploy XProtect on AWS.

Create the XProtect Essential+ CloudFormation stack

To create a stack, you must subscribe to XProtect Essential+. See [Subscribe to XProtect in AWS Marketplace on page 7](#).


After you have subscribed to XProtect Essential+ on AWS Marketplace, you can create the XProtect Essential+ CloudFormation stack and deploy XProtect Essential+:

To launch the CloudFormation console:

1. Go to <https://console.aws.amazon.com/marketplace/> and select your XProtect subscription. Then, select **Launch CloudFormation stack**.
2. On the **Configure this software** page, select your region. Then, select **Continue to Launch**.
3. On the **Launch this software** page, under **Choose Action**, select **Launch CloudFormation**. Then, select **Launch** to open the AWS CloudFormation console.

You are now ready to create the stack. The process consists of four steps:

1. In the **Create Stack** step, you can leave the default settings. Select **Next** to continue.
2. In the **Specify Stack Details** step, you configure the XProtect VMS and network settings. Specify the following:

Parameter	Description
Stack name	Specify a name to identify the XProtect Essential+ CloudFormation stack with.
Key Pair Name	Select the key pair used to decrypt the Remote Desktop Protocol (RDP) Windows login password and access your Virtual Private Cloud (VPC).
Availability zone	<p>Select an AWS availability zone within your selected region that the EC2 instance deploys in.</p> <div style="border: 1px solid #ccc; padding: 10px; background-color: #fff9e6;">  <p>If the script fails to deploy due to the selected Instance type, restart deployment and select a different Availability Zone.</p> </div>
Server ingress CIDR block	<p>Specify the Classless Inter-Domain Routing (CIDR) block of inbound IP address used to connect to the XProtect Web Client and XProtect Mobile.</p> <p>The default CIDR IP block is 10.0.0.0/16.</p>
RDP Ingress CIDR block	<p>Specify the CIDR block of inbound IP address used to connect via Remote Desktop Protocol (RDP).</p> <p>The default CIDR IP block is 10.0.0.0/24.</p>

Then, select **Next** to continue.

3. In the **Configure Stack Options**, you configure any additional options and permissions. Select **Next** to continue.
4. In the **Review** step, you verify your configuration. Select **Submit** to create the stack.



Deploying the XProtect Essential+ CloudFormation stack takes about 30 minutes.

Configuration

Connect to your deployment with Remote Desktop Protocol (RDP)

You can manage your XProtect VMS installation from an RDP client.

1. Go to <https://console.aws.amazon.com/ec2/> and select **Instances**.
2. Select the **Instance ID** of your EC2 instance.



If you do not know your **Instance ID**, see [Get the EC2 Instance ID on page 13](#).

Then, select **Connect**.

3. In **Connect to instance**, select **RDP client**, then select **Download Remote Desktop File**.
4. Open the downloaded .rdp file and select **Connect** on any identification warnings that might appear.
5. Log in with the user name and password you specified during deployment and select **Connect**.

You are now connected to the VPC and the EC2 instance, which is running XProtect.



Make sure you have added your IP address on the inbound rules list of the security group that is associated with the instance.

Connect to your deployment using XProtect Web Client

The XProtect Essential+ CloudFormation lets you access video using the XProtect Web Client. No additional configuration through the VPC is needed. Before you start, you need to:

- [Get the address of the EC2 instance on page 12](#).
- [Get the EC2 Instance ID on page 13](#).
- (HTTPS connection only) Install certificates. See [Secure the communication between XProtect servers and clients](#).

To connect to your XProtect on AWS installation:

1. In the address bar of your browser, enter **http://<EC2 instance address>:8081**. if you want to use a standard HTTP connection or **https://<EC2 instance address>:8082**. to use a secure HTTPS connection.
2. Log in with your user name and password. The CloudFormation template creates a predefined basic user with the following credentials:
 - User name: **ec2-user**
 - Password: **AWS** followed by the EC2 Instance ID. Example: **AWSi-1a2b3f44g6816v36f**
3. Select **Log in**.

You are now connected to your AWS deployment through XProtect Web Client.

For more information, see [the XProtect Web Client user manual](#).



Make sure you have added your IP address on the inbound rules list of the security group that is associated with the instance.

Connect to your deployment using the XProtect Mobile client


The XProtect Essential+ CloudFormation lets you access video using the XProtect Mobile client. No additional configuration through the VPC is needed. Before you start, you need to:

- [Get the address of the EC2 instance on page 12](#).
- [Get the EC2 Instance ID on page 13](#).
- (HTTPS connection only) Install certificates. See [Secure the communication between XProtect servers and clients](#).

To connect to your XProtect on AWS installation:

1. Install XProtect Mobile client on your device from [Google Play for Android](#) or [App Store for iOS](#).
2. Open the application on your smart device.
3. In the main menu, select **Add server**, then select **Add server manually**.

4. Enter the following information:

Field	Value
Server name	Specify a name for the server. The server name shows in the list of servers on your device, and it can be anything you want.
Address	Specify the address of the server, see Get the address of the EC2 instance on page 12 .
Protocol	<p>Select the connection protocol you want to use.</p> <div style="border: 1px solid #ccc; padding: 10px; background-color: #e6f2ff;">  To connect securely to the VMS, you must install certificates. See Secure the communication between XProtect servers and clients. </div>

Then, select **Continue login**.

5. On **Login**, log in with your user name and password. The CloudFormation template creates a predefined basic user with the following credentials:

- User name: **ec2-user**
- Password: **AWS** followed by the EC2 **Instance ID**. Example: **AWSi-1a2b3f44g6816v36f**

Then, select **Log in**.

You are now connected to your AWS deployment from the XProtect Mobile client.

For more information, see the [XProtect Mobile client user manual](#).

Get the address of the EC2 instance

You need the address of the EC2 instance to connect to your XProtect VMS installation.

1. To open the AWS CloudFormation console, go to <https://console.aws.amazon.com/cloudformation/>
2. Select the XProtect Essential+ CloudFormation stack that you created. It is identified by the **Stack name** that you specified during configuration.
3. In the **Resources** tab, select the **Physical ID** link that corresponds to the EC2 instance.
A new tab opens.
4. Select the Instance ID and copy the **Public DNS (IPv4)** address.

Get the EC2 Instance ID

You need the address of the EC2 instance to connect to your XProtect VMS installation.

1. To open the AWS CloudFormation console, go to <https://console.aws.amazon.com/cloudformation/>
2. Select the XProtect CloudFormation stack that you created. It is identified by the **Stack name** that you specified during configuration.
3. In the **Resources** tab, you will see all the stack elements that were created by the XProtect CloudFormation template. Select the **Physical ID** link that corresponds to the EC2 instance.

Securing your deployment

Because your XProtect Essential+ deployment is connected to the internet, there are steps that you should take to ensure the security and stability of your installation.



Your XProtect Essential+ license is activated automatically online after you deploy the XProtect Essential+ CloudFormation. Make sure that your deployment has internet connectivity to activate your license and to be able to use XProtect Essential+ after the 30-day activation grace period.



To ensure the continued stability and security of the installation, keep your installation up to date with the latest updates to your Windows Server 2022 version.

Install Windows updates

Install relevant Windows updates according to the security policy of your organization. If you restrict online connectivity to your VPC, you can connect your XProtect Essential+ deployment to a Windows update service without exposing the VPC to the internet.

Change the password of your EC2 instance

After you deploy, you should change the Windows administrator password of the EC2 instance according to the security policy of your organization.

Remove unused ports

To protect your installation, Milestone recommends that you remove all unused ports from the security group that is related to your EC2 instance. For example, if the HTTP port 8081 is not used, you can remove that port from the **Inbound rules** table.

Get help



Milestone does not provide any direct technical support on the XProtect Essential+ product. Customers who deploy XProtect Essential+ can find wide set of self-service and support resources to end-users using [Milestone Support](#). You can also use [Milestone Support Community](#) to ask questions and help other customers by answering their questions.

Changing your XProtect license

To upgrade your deployment to a version other than XProtect Essential+, deploy the **Milestone XProtect Bring Your Own License (BYOL)** CloudFormation template and obtain a license for your desired XProtect version from a Milestone [distributor or reseller](#).



If you decide to deploy XProtect BYOL through AWS, unsubscribe from XProtect Essential+ in the AWS Management Console and terminate any added services. For more information, see [Unsubscribe from XProtect Essential+](#).

Removing XProtect

Delete the XProtect CloudFormation stack

To remove the XProtect CloudFormation stack and all of its contents:

1. Go to <https://console.aws.amazon.com/cloudformation/>.
2. Select the deployed CloudFormation stack - XProtect Essential+ or XProtect BYOL.
3. Select **Delete**, and in the confirmation dialog, select **Delete stack**.

Unsubscribe

To unsubscribe from the marketplace listing:

1. Go to <https://console.aws.amazon.com/marketplace/>
2. Select your XProtect marketplace listing - XProtect Essential+ or XProtect BYOL.
3. In the upper right-hand corner, select **Actions > Cancel subscription**.
4. In the **Cancel subscription** dialog box, select the **confirmation check box**, then select **Yes, cancel subscription**.

Only the services that are deployed as part of the XProtect CloudFormation stack are removed when you unsubscribe from the marketplace listing. Other services, such as EBS storage services or EC2 instances, are not removed, and you must delete or terminate these services separately. See [Delete the XProtect CloudFormation stack on page 15](#).



helpfeedback@milestone.dk

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/>.

