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Milestone Systems

Barco Video Wall Integration to XProtect® VMS

User manual



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Integration overview

General concept

XProtect® Smart Wall is an advanced video wall software that improves response times by providing large surveillance centers with a complete overview. This concept now also covers Barco video walls.

The Barco video wall controller independently decodes the requested streams and populates them on the Barco video wall grid. You can control the Barco Wall in multiple ways: via Barco Sidebar that is part of Barco's Control Room Management suite (CMS) software, via XProtect® Smart Client, via the XProtect rule system, or via more or all of them. You can design an operational workflow that best suits your needs and ensures smooth upgrades for existing customers. Barco's Control Room Management solution also supports the event-based rule architecture within XProtect Smart Wall.

Terminology

Cameras defined in XProtect are referred to as **sources** in Barco Sidebar.

Smart Wall monitors are referred to as **perspectives** in Barco Sidebar.

Version history

From version 2.1

It is now possible to use Milestone Open Network Bridge as an alternative to the Barco MGS/EMS services. Milestone Open Network Bridge supports encrypted sessions from the XProtect Recording Server service.

To limit the number of cameras defined in Barco CMS as sources, you can define some cameras as static sources and other cameras as dynamic sources. The static sources stay defined in Barco CMS to enable Barco Sidebar operators to place and view sources in perspectives. Dynamic sources will appear when needed and disappear again when no longer used.

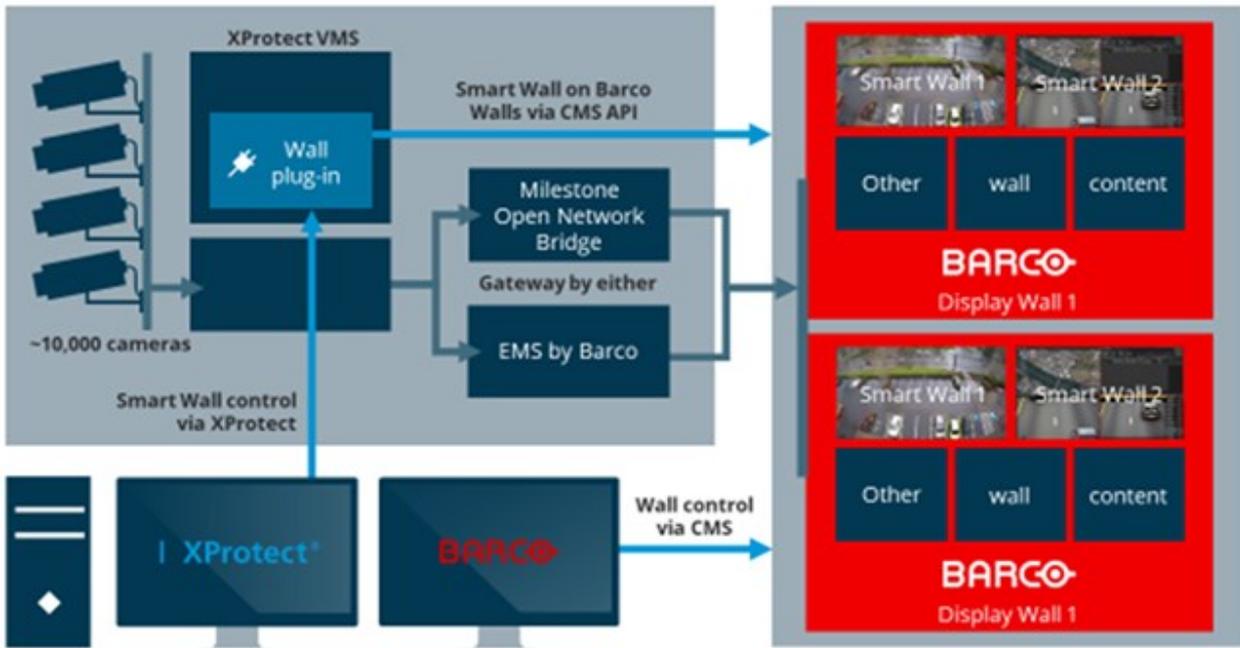
Static and dynamic sources (explained)

Sources that need to be available for Barco Sidebar operators, should be defined as static sources. Note that you can define max 500 cameras as static sources.

When a rule or XProtect Smart Client operator triggers an event to show video on a Smart Wall monitor, the Barco Wall first tries to use one of the already defined static sources to show the video on a Barco perspective. If that is not possible, Barco Wall creates and uses a dynamic source.

Later, when the camera's video is removed from the Smart Wall monitors, the dynamic source definition is also removed from the Barco Sidebar and the Barco CMS configuration.

Architecture



The light blue lines illustrate the control flow and the dark blue lines illustrate the video flow.

Control flow

You can control what the Barco Wall shows in different ways:

1. Via XProtect Smart Client. For more information, see [Control the Barco Wall via XProtect Smart Client on page 13](#).
2. Via the XProtect® Corporate or XProtect® Expert rule system. For more information, see [Control the Barco Wall via the XProtect® Corporate or XProtect® Expert rule system on page 14](#).
3. Via the Barco Sidebar application. For more information, see [Control the Barco Wall via the Barco Sidebar application on page 15](#).

Video flow and transcoding

You can use both the Barco MGS/EMS services and Milestone Open Network Bridge as a gateway to transcode video streams from the XProtect Recording Server service to the Barco servers.

Both Barco MGS/EMS services and Milestone Open Network Bridge use the RTSP protocols for retrieving H.264 video stream from the XProtect system. Only Milestone Open Network Bridge supports encrypted sessions from the XProtect Recording Server service.

Prerequisites

- XProtect Corporate or XProtect Expert (version 2018 R3 or later)
- XProtect Smart Wall (version 2018 or later)
- Barco Transform N CMS including MGS (Media Gateway Server) (version 3.3 or later)

For Barco customers currently using Apollo and/or Transform A, contact Barco.

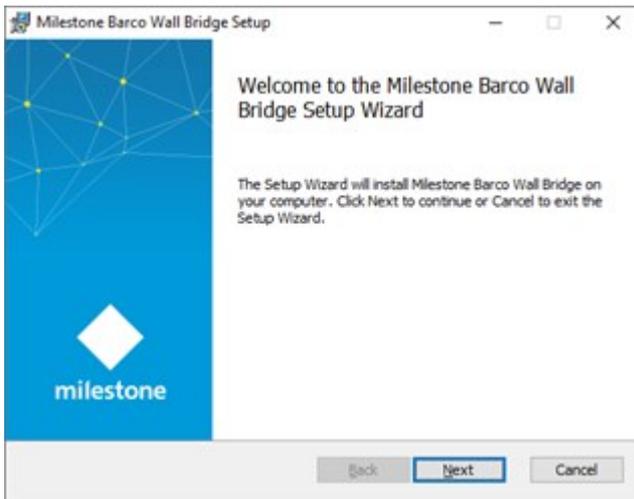
In general, both Milestone and Barco support the widely available standard H.264.

Always contact Barco and Milestone for needs analysis and documented quotation.

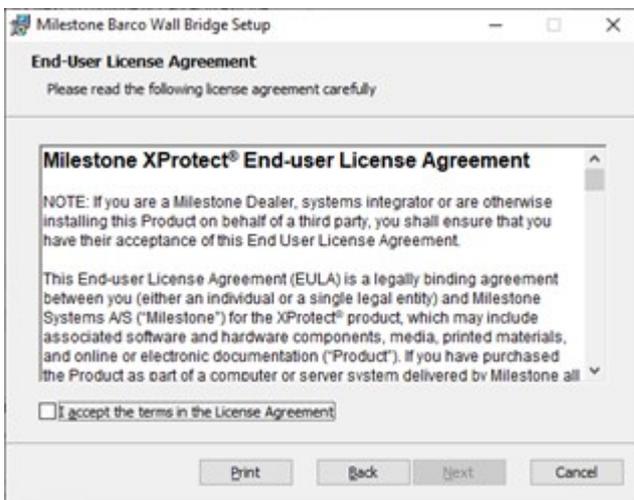
Install the Barco Wall plug-in

You must run the Barco Wall plug-in installer on the computer running the XProtect Event Server service and on all computers with Management Client installed to configure and maintain the Milestone-Barco integration.

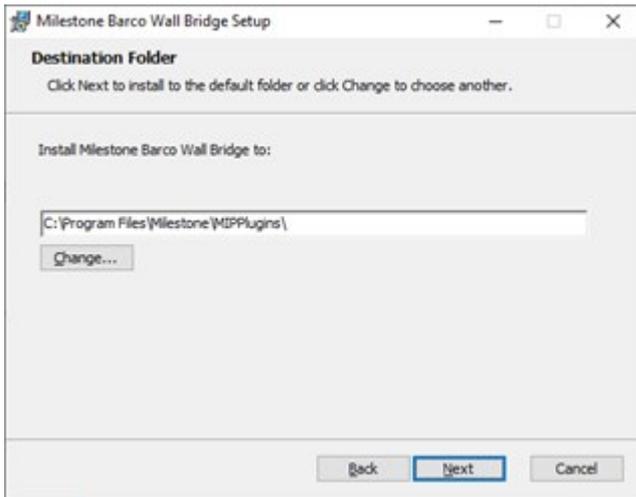
1. Run the installer as an administrator.
2. Select **Next**.



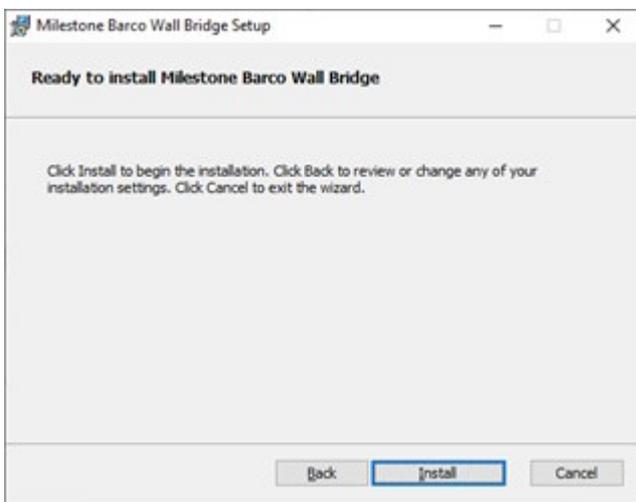
3. Accept the license agreement and select **Next**.



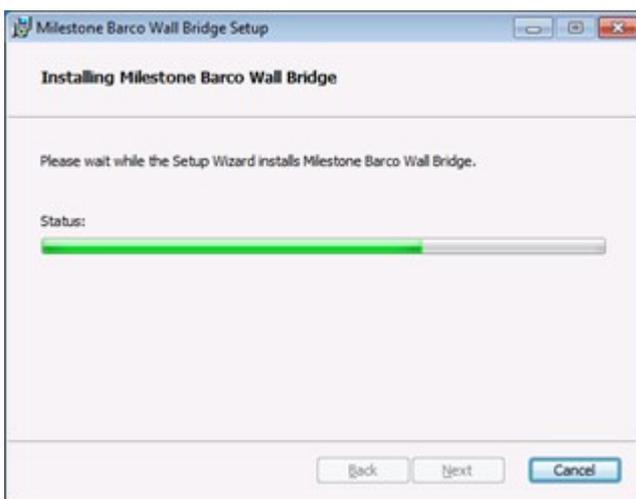
4. Select **Next**. Do not change the destination folder because the Event Server service and Management Client can only load the plug-in from a well-known place.



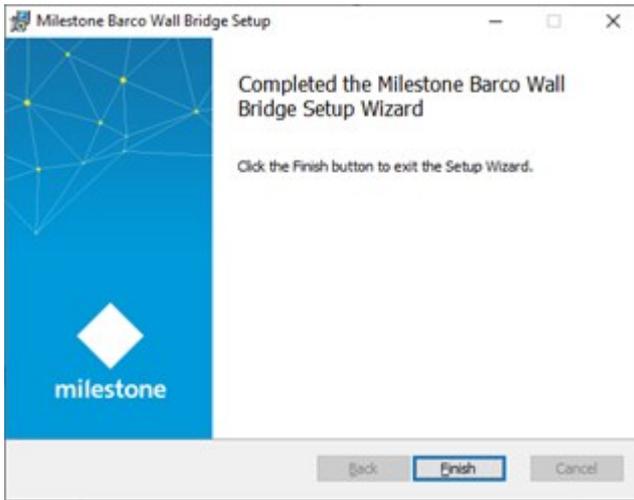
5. Select **Install**.



6. Wait till the installation completes.



7. Select **Finish**.

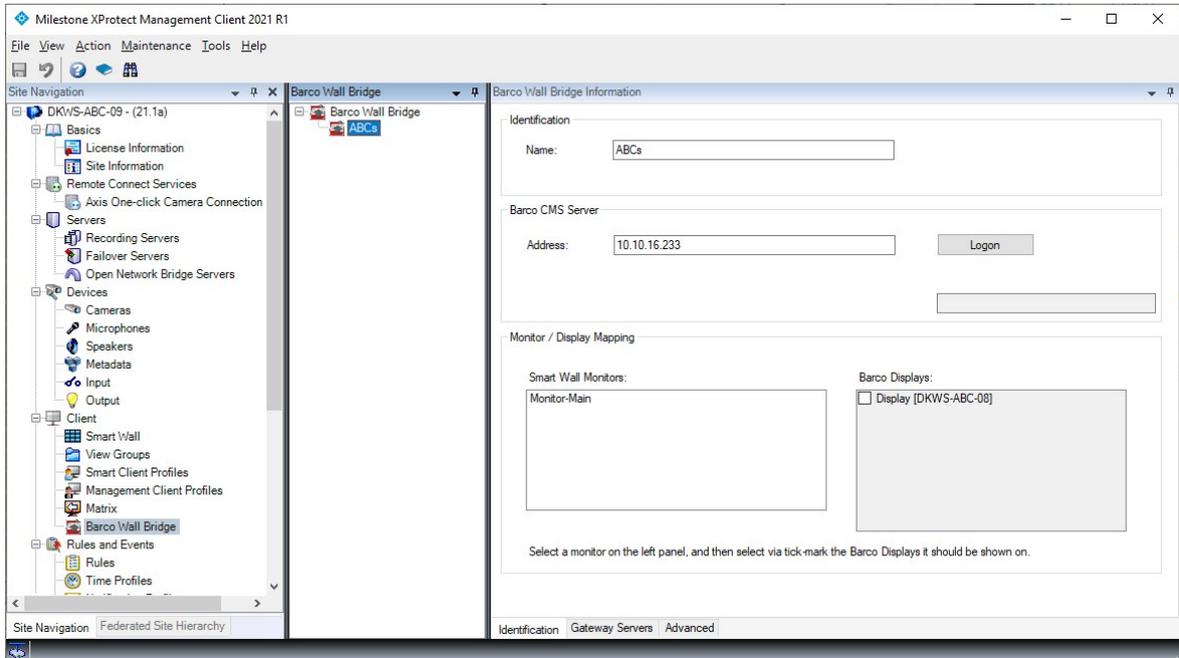


8. To load the newly installed plug-in and depending on the XProtect software installed on the computer, stop and restart the Event Server service and/or close and restart Management Client.

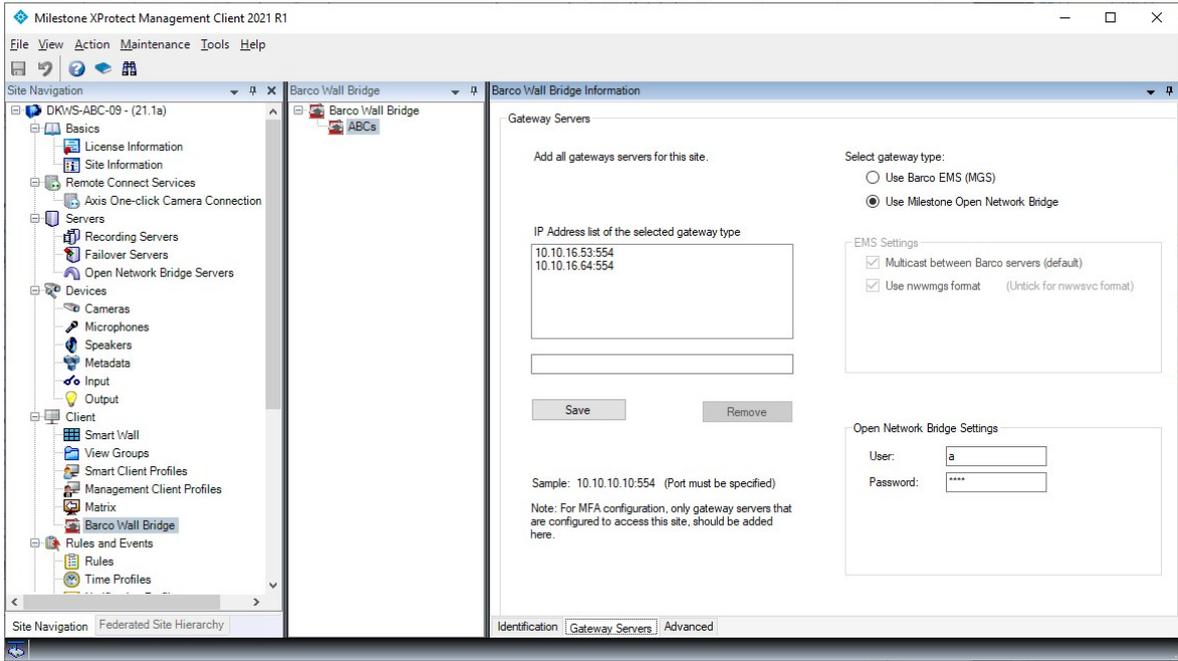
Configure the Barco Wall Bridge

You configure the Barco Wall Bridge in XProtect Management Client.

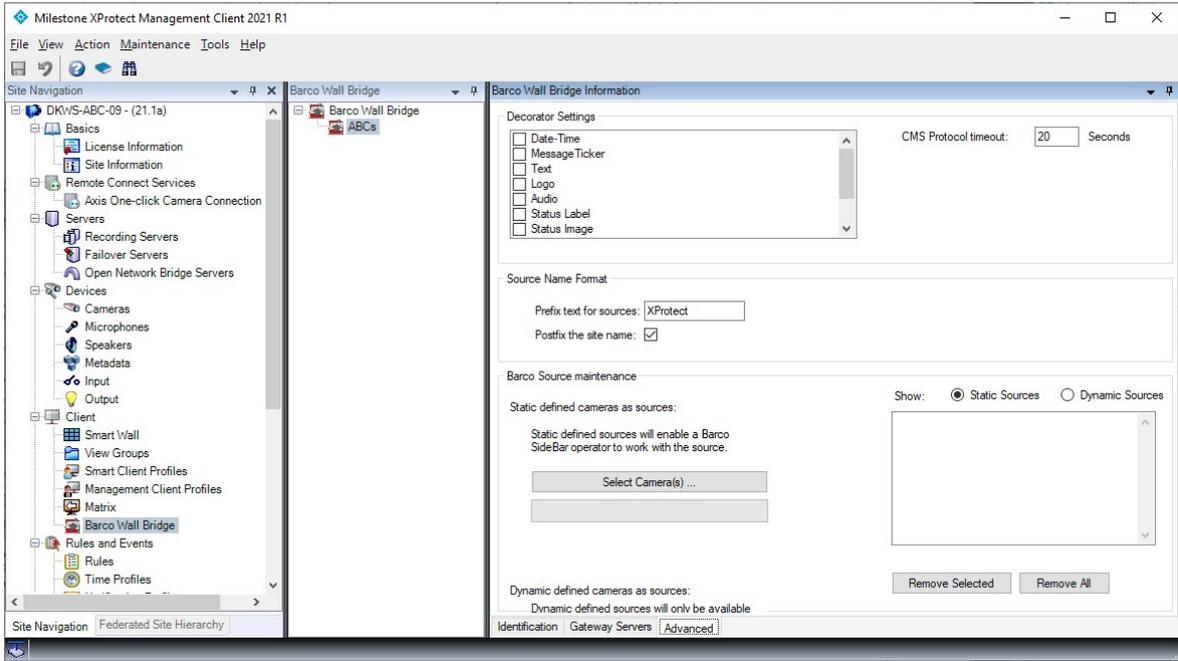
1. In Management Client, select the **Barco Wall Bridge** node in the **Site Navigation**.
2. In the middle pane, use the context menu to create a configuration for each Barco Wall available.



3. Enter a name for the Barco Wall and the address of the Barco CMS server.
4. Select **Logon** to validate the entered values. Once you do this, the known XProtect Smart Wall and Barco displays are shown in the two lists.
5. To let XProtect Smart Wall control an entire Barco display, select a Smart Wall monitor and then select the Barco displays.
Or if a Barco Sidebar operator has defined the layout and position, do not select any checkboxes.
6. Select the **Gateway Servers** tab.



7. Select what type of gateway to use: Barco EMS or Milestone Open Network Bridge. As you select the gateway type, the two group boxes on the right-hand side will enable the type you selected and disable the other.
8. Then add one or more server addresses of the selected gateway type. If you have installed multiple servers, they are used in a round-robin way when the video is started. For Milestone Open Network Bridge, you need to enter the login credentials for a user that is defined in Milestone Open Network Bridge and that has also been assigned to a role in XProtect Management Client. This user only needs access right to perform live viewing.
9. Select the **Advanced** tab.



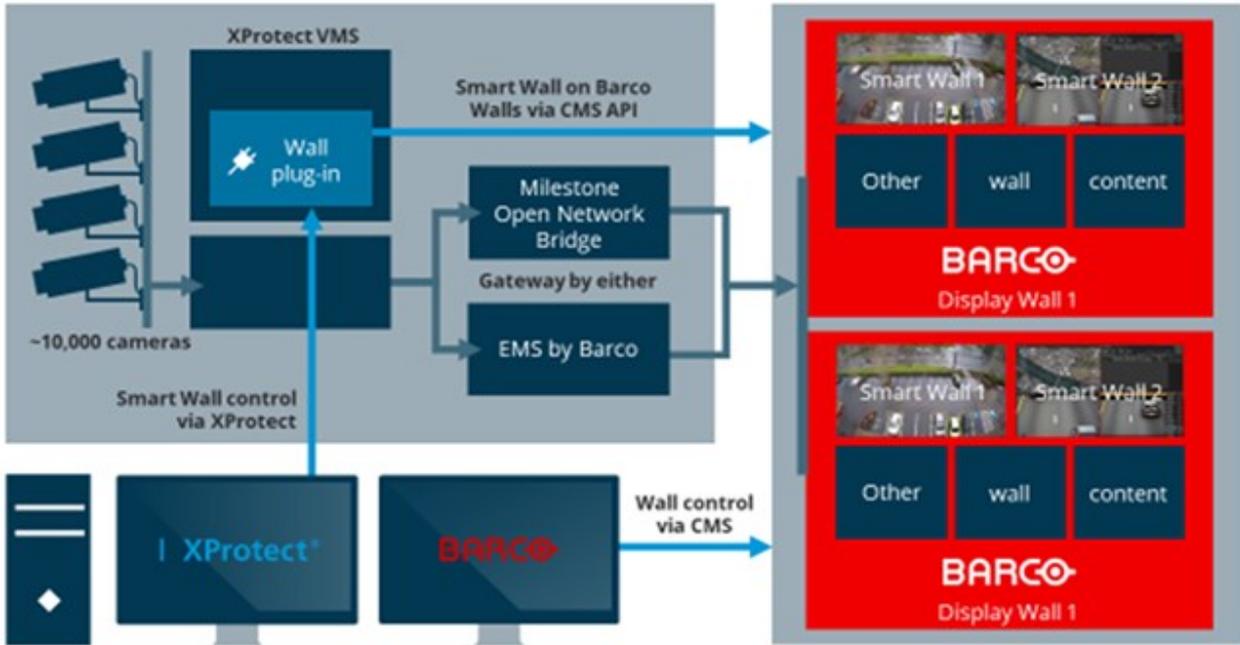
10. Here you can configure four areas:
 - What Barco decorators to apply to sources being displayed in Barco Sidebar
 - The CMS communication timeout
 - The naming format of sources in Barco Sidebar
 - Managing static and dynamic sources
11. Select **Select Camera(s)** and then select a single camera or a group of cameras to be defined as a static source in Barco Sidebar. Each of the selected cameras is added to the Barco Sidebar as individual sources. For more information, see [Static and dynamic sources \(explained\) on page 4](#).

XProtect Smart Wall monitors are shown as perspectives in Barco Sidebar and their names start with **XProtect-** and then the name of the Smart Wall monitor. Camera are shown as sources in Barco Sidebar and their names also start with **XProtect-** and then the name of the camera.

12. On the right-hand side, it is possible to see what sources are defined currently for the group selected above the list. You can remove specific source or all sources from the Barco CMS configuration.

Control the Barco Wall

You can control what the Barco Wall shows in multiple ways. Read more below.



The light blue lines illustrate the control flow and the dark blue lines illustrate the video flow.

Control the Barco Wall via XProtect Smart Client

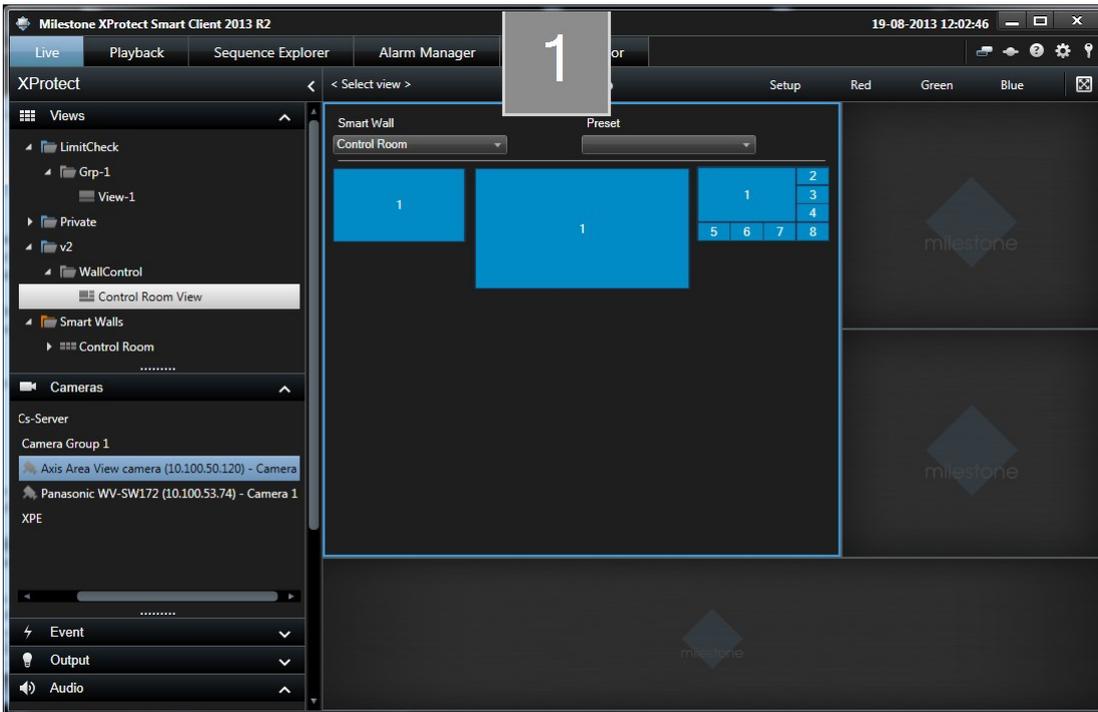
In the XProtect Smart Client, the operator uses the available commands and layouts designed for XProtect Smart Wall. A plug-in in the Event Server service forwards the operator's commands to the Barco CMS server. The Barco CMS server contacts the defined gateway to receive video streams. In turn, these are decoded and shown on the Barco Wall.

When you use XProtect Smart Client to control the Barco Wall, the XProtect Smart Client operator sees and works as if it was XProtect Smart Wall. There is no Barco-specific implementation in XProtect Smart Client. For more information, see the [Smart Client user manual about operating XProtect Smart Wall](#).

You can even choose to have both an active XProtect Smart Wall and an active Barco Wall showing the same content simultaneously.

You can drag and drop cameras in predefined layouts, and you can select XProtect Smart Wall presets in the drop-down.

All changes are sent to the Barco CMS system.

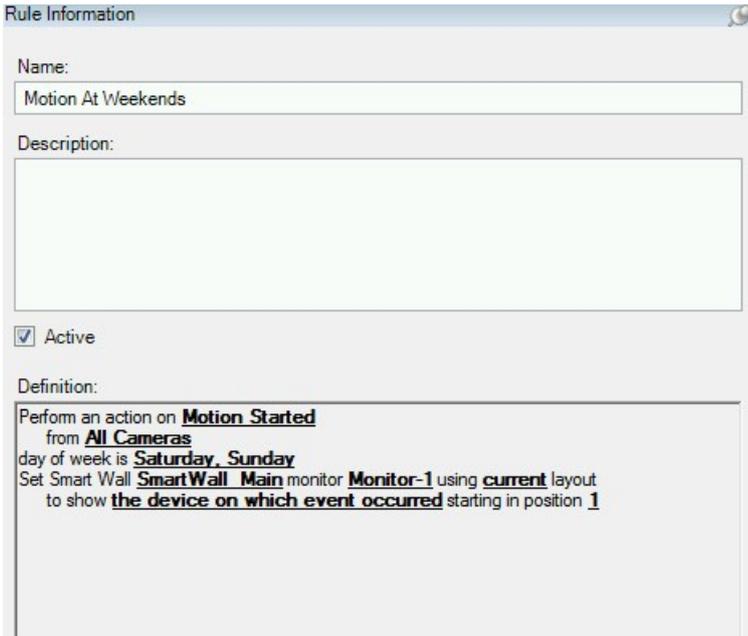


Control the Barco Wall via the XProtect® Corporate or XProtect® Expert rule system

Administrators of XProtect Corporate and XProtect Expert can define rules that control the Barco Wall automatically when the rules are triggered. For example, a rule that shows specific video from a camera when triggered by motion detection during nighttime. The rule system updates XProtect Smart Wall views, which again are forwarded to the Barco CMS server by the Event Server service.

The rules you define within XProtect Corporate or XProtect Expert can automatically modify the content of the XProtect Smart Wall and, thereby, the Barco Wall.

For example, if an indoor set of cameras are not supposed to identify motion during weekends, you can define the rule below to show video in case of motion.

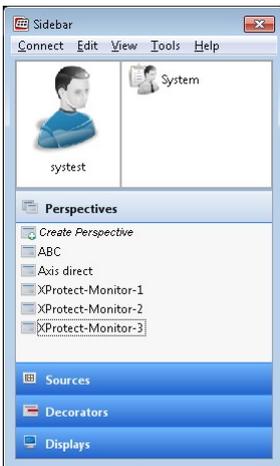


For more information, see the [Management Client administrator manual](#) about how to add rules.

Control the Barco Wall via the Barco Sidebar application

When you have finished the configuration in the Management Client, the Barco Sidebar displays the XProtect Smart Wall monitors as Barco perspectives.

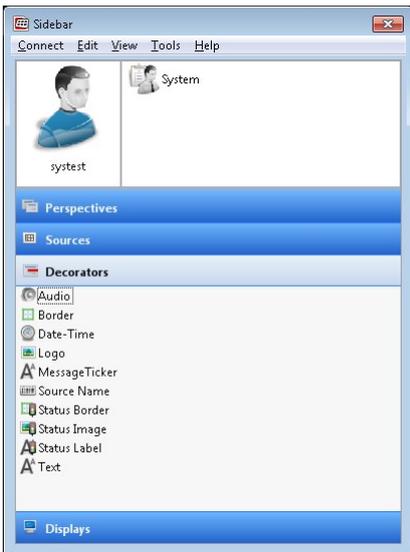
For example, a XProtect VMS system that has three Smart Wall monitors will have three perspectives in the Barco Sidebar:



Cameras added in Management Client or cameras added automatically during changes to XProtect appear as sources in the Barco Sidebar:



Decorators defined in the Barco system look like this:



During the configuration of the Barco Wall Bridge, the Management Client administrator select which of the decorators to apply for all sources (cameras) created and activated. For more information, see [Configure the Barco Wall Bridge on page 10](#).

The decorators are by default enabled and you can use as many or few decorators you want.

Troubleshooting

Log files

There are two log files available for troubleshooting:

- C:\Program Data\Milestone\XProtect Management Client\Logs\MIPtrace.log
- C:\Program Data\Milestone\XProtect Event Server\Logs\MIPLogs\MIPyyyy-mm-dd.log

In these, you may find some info level log entries from the **BarcoWall** plug-in.

Exception message

If you see this message in the Event Server service log file:

```
2020-05-22 09:27:16 UTC+02:00 Error BarcoWall EventReader
runPoller SoapException:Some unexpected error occurred while calling this method
from Session [SID=37/EventServer@MILESTONE@1].
```

Possible reasons and solutions:

- Check if you by mistake have entered a wrong user name and/or password on the **Identification** tab in Management Client. For more information, see [Configure the Barco Wall Bridge on page 10](#).
- Check if you can see any Smart Wall monitors or displays in the Management Client. If not, restart the Management Client. This may happen right after the installation of the Barco Wall plug-in.

If the problem persists, please contact Barco Customer Support.

No video or black screen

If Barco Display shows sources, but you cannot see any video and only a black screen is shown – check the following:

- That the configuration file on the CMS server containing the XProtect VMS server address and credentials contains the correct values.
- That the EMS Server address or the Milestone Open Network Bridge address is correct entered on the **Advanced** tab in Management Client. For more information, see [Configure the Barco Wall Bridge on page 10](#).
- That the camera is licensed and live feed has started
- That the camera codec is configured to either JPEG or H.264.

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helpfeedback@milestone.dk

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