



RMF - System Setup in Fed. Deployments

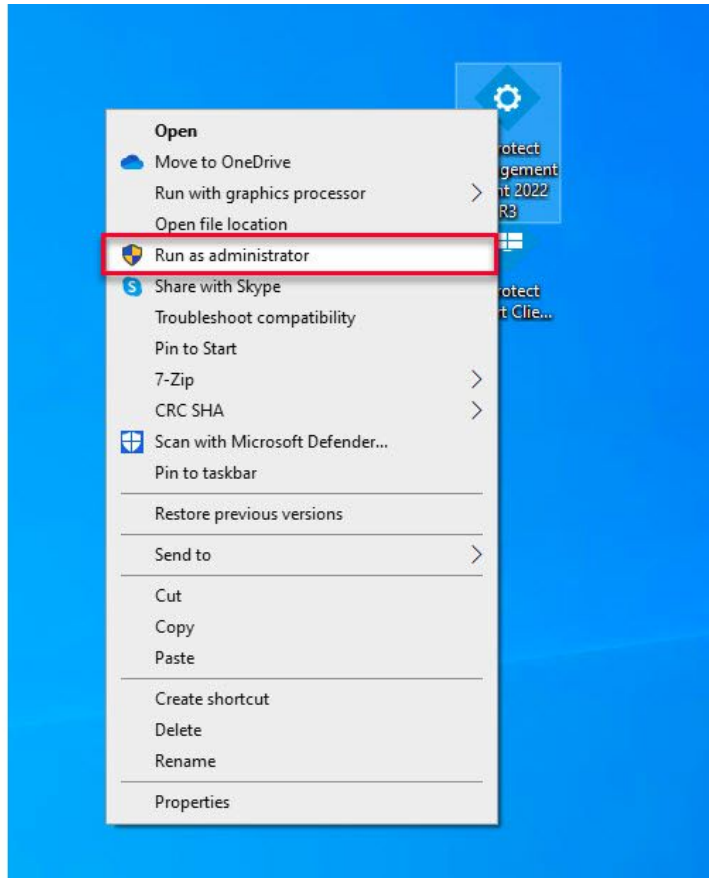
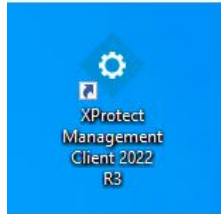
Vega Systems Inc.

03/08/2023

<https://www.vega25.com/rmf>



Part 1: Prerequisites



Step 1: Open the **Management Client**.

Note: Run as administrator

Milestone
XProtect® Management Client 2022 R3

Computer:
primaryrec1.vegadomn.com

Authentication:
Windows authentication

Domain: vegadomn.com

User name:
vegadomn.com\milestone

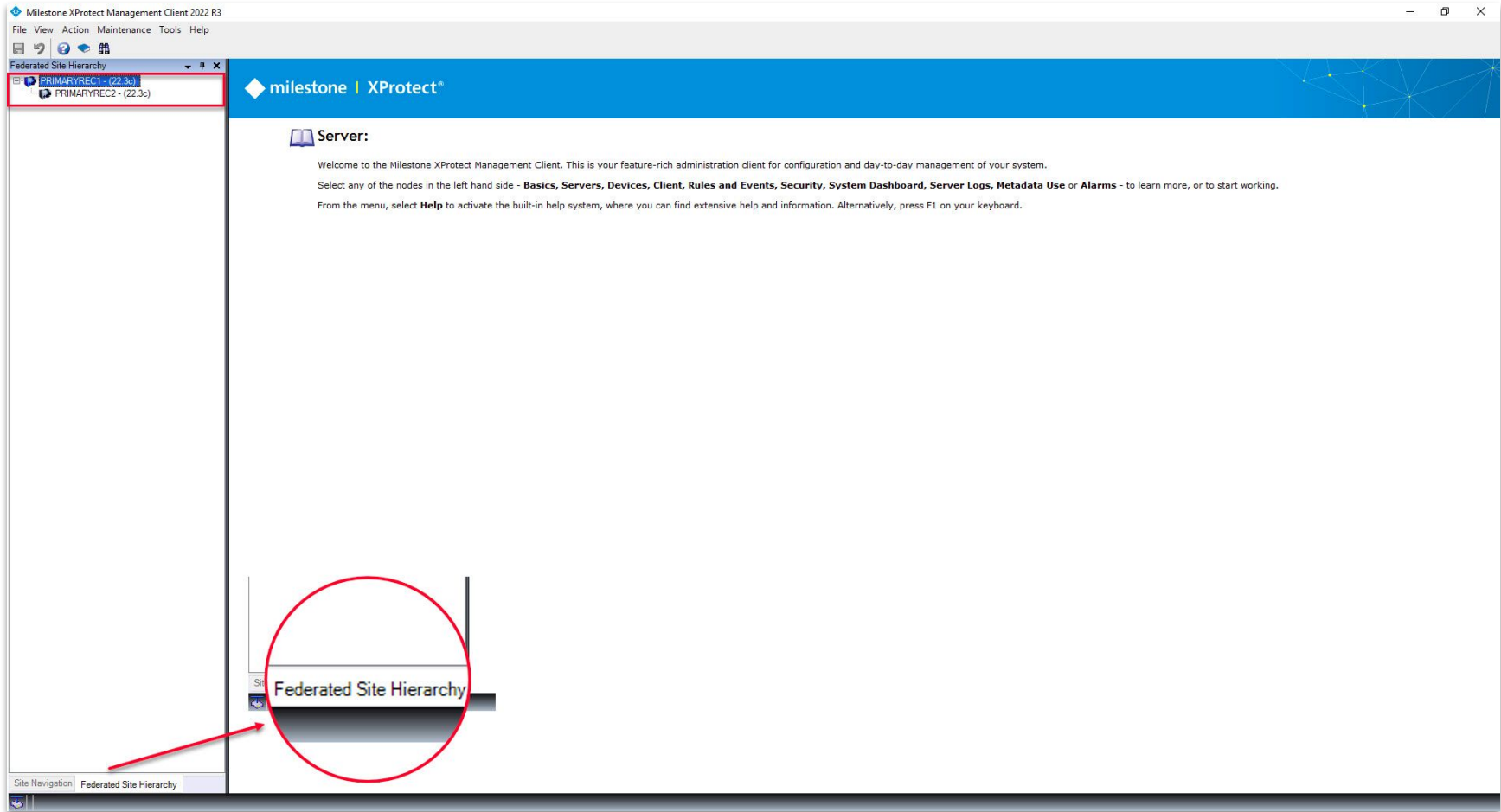
Password:
••••••••

Remember password

Sign in Close

Parent Management Server

Step 2: Login into the **parent** management server as a domain user with admin privileges.
Note: Parent = Primary Server, Child = Secondary Server



Step 3: Goto **Federated Site Hierarchy** and ensure the **parent** and **child** servers are listed.

The screenshot displays the Milestone XProtect Management Client 2022 R3 interface. On the left is the 'Site Navigation' tree, and on the right is the main content area for the 'RMF' (Redundancy Management Framework) plugin.

Site Navigation Tree:

- PRIMARYREC1 - (22.3c)
 - Basics
 - License Information
 - Site Information
 - Remote Connect Services
 - Axis One-click Camera Connection
 - Servers
 - Recording Servers
 - Fallover Servers
 - Mobile Servers
 - Devices
 - Cameras
 - Microphones
 - Speakers
 - Metadata
 - Input
 - Output
 - Client
 - Smart Wall
 - View Groups
 - Smart Client Profiles
 - Management Client Profiles
 - Matrix
 - Rules and Events
 - Security
 - Roles
 - Basic Users
 - System Dashboard
 - Current Tasks
 - System Monitor
 - System Monitor Thresholds
 - Evidence Lock
 - Configuration Reports
 - Server Logs
 - Metadata Use
 - Metadata Search
 - Access Control
 - Incidents
 - Incident properties
 - Transact
 - Transaction sources
 - Transaction definitions
 - Alarms
 - MIP Plug-ins
 - RMF** (highlighted with a red box)
 - MIP SDK Samples
 - SureStream

Main Content Area (RMF):

Redundancy Management Framework

The *Redundancy Management Framework (RMF)* seamlessly integrates with Milestone XProtect VMS to assist facilities in maintaining high-security standards while minimizing the impact of potential failures. Some of its key features include:

- Cause Agnostic Failure detection:** RMF integrates failure detectors into each Smart Client view window to identify and address issues quickly.
- Rapid mitigation:** With near instantaneous live video recovery and automatic playback sourcing, RMF ensures constant access to critical video data.
- Flexible, asymmetric redundancy:** RMF offers greater flexibility in redundancy configurations, allowing cameras to be distributed across multiple secondary servers or aggregated into fewer secondary recorders.
- Support for XProtect Federation:** RMF provides redundant recording and sourcing capabilities in an XProtect federated architecture, ensuring uninterrupted situational awareness for end users during total site failures.

RMF is a valuable tool for seamlessly and efficiently managing redundant video in various settings, including airports, seaports, data centers, campuses, transportation networks, or cities.

We hope you enjoy our product.

Website - www.vega25.com
Email - support@vega25.com

License Information:

Demo for 15 channels - Expires on 3/31/2023
Used here - 5, Other sites - 8

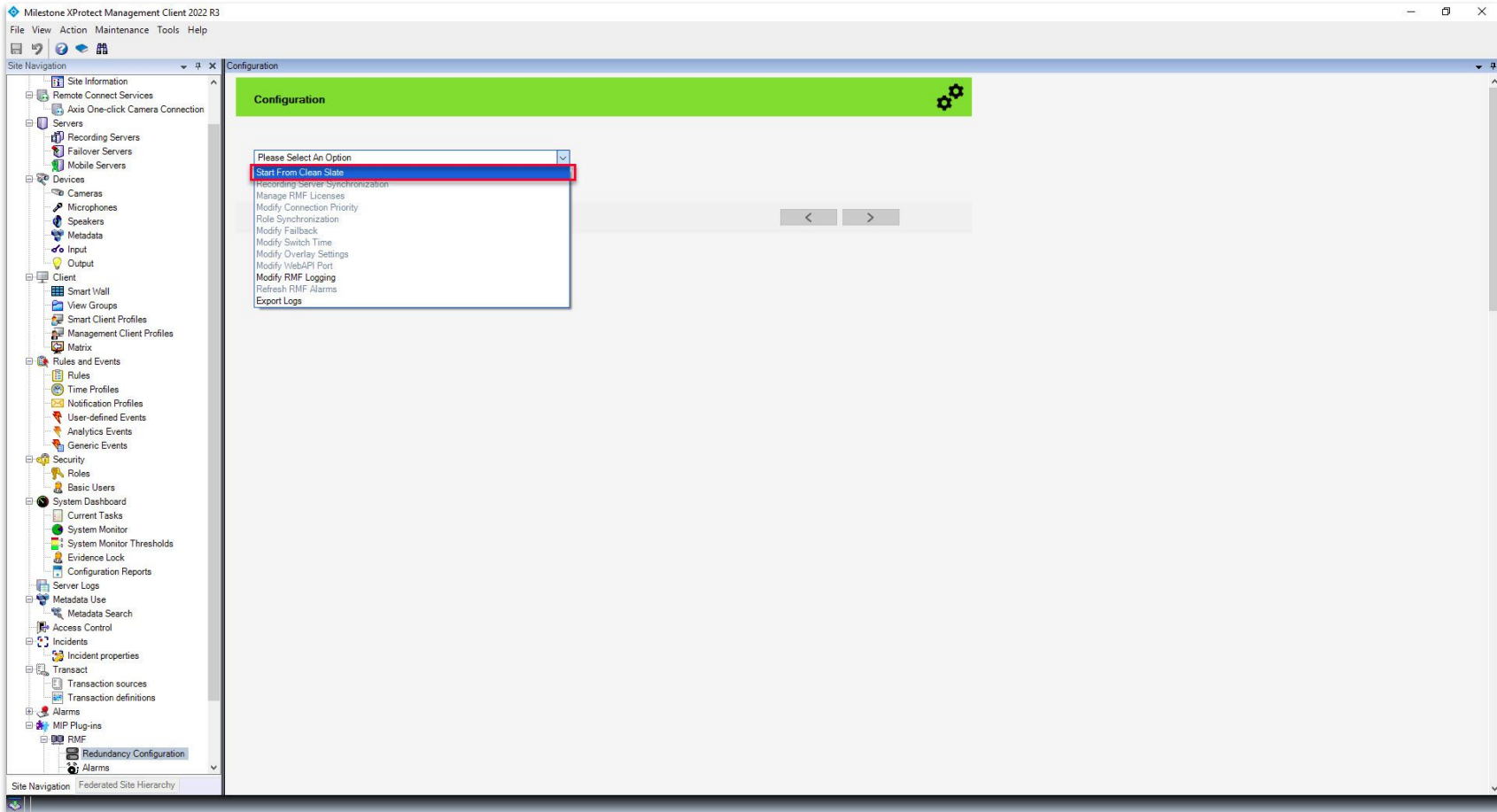
Version - 5.2.0

MIP Plug-ins Panel:

- MIP Plug-ins
 - RMF** (highlighted with a red box)
 - MIP SDK Samples
 - SureStream

Step 4: Select the RMF plugin from Site Navigation → MIP Plug-ins





**Step 5: Expand RMF and select Redundancy Configuration.
Choose Start From Clean Slate from the list.**

Please Confirm - 1/4

Please verify whether there are a minimum of two recording servers that have been added to the Milestone System. It is important to note that in federated deployments, one of these recording servers can be located on a child server.

LAN Management Server Recording Server 1 Recording Server 2

< > >>

Please Confirm - 2/4

Please confirm that one of these servers is ready to be labeled as the primary server and the other as the secondary server.

LAN Management Server Recording Server 1 Recording Server 2

Primary Secondary

< > >>

Please Confirm - 3/4

Please verify if there is at least one camera that has been added to a primary server.

LAN Management Server Recording Server 1 Recording Server 2

< > >>

Please Confirm - 4/4

Please confirm that needed streams are configured in the primary recording server.

Primary and secondary servers must have the same stream definitions for each redundantly recorded camera. But each server is free to choose any stream from this set.

With symmetric redundancy, primary and secondary servers obtain identical streams from a camera. With asymmetric redundancy, different streams are sourced.

LAN Management Server Recording Server 1 Recording Server 2

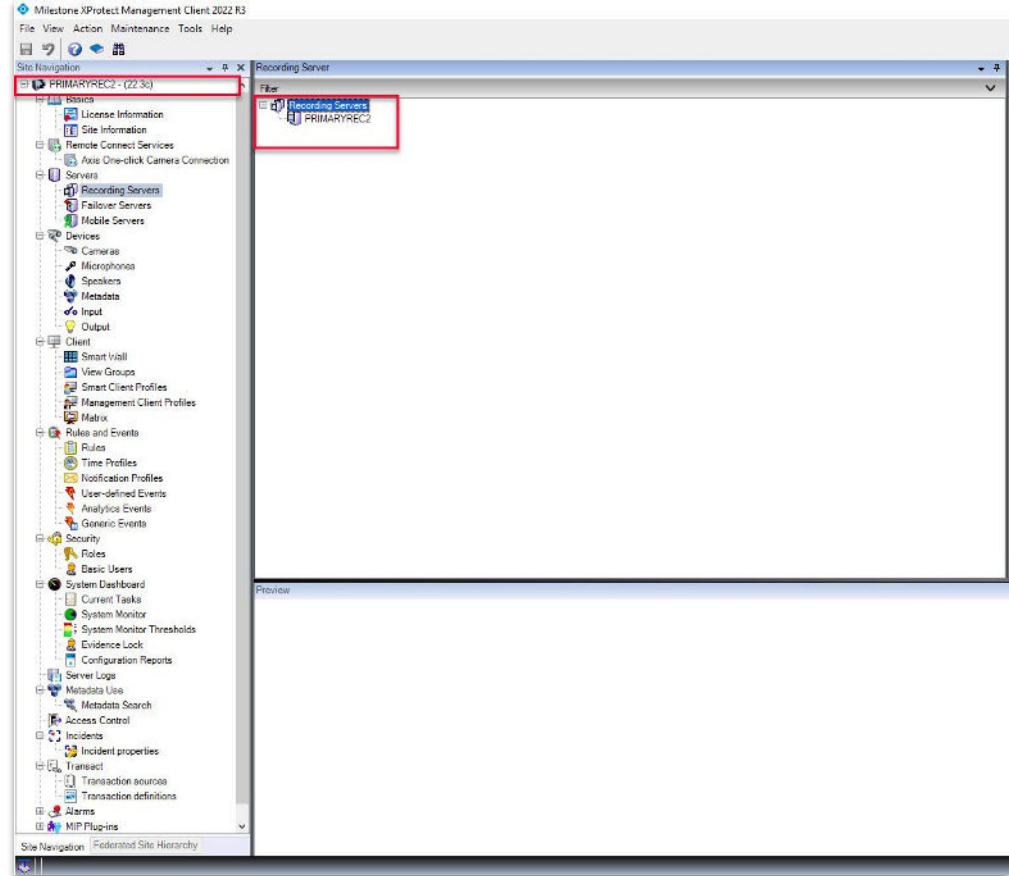
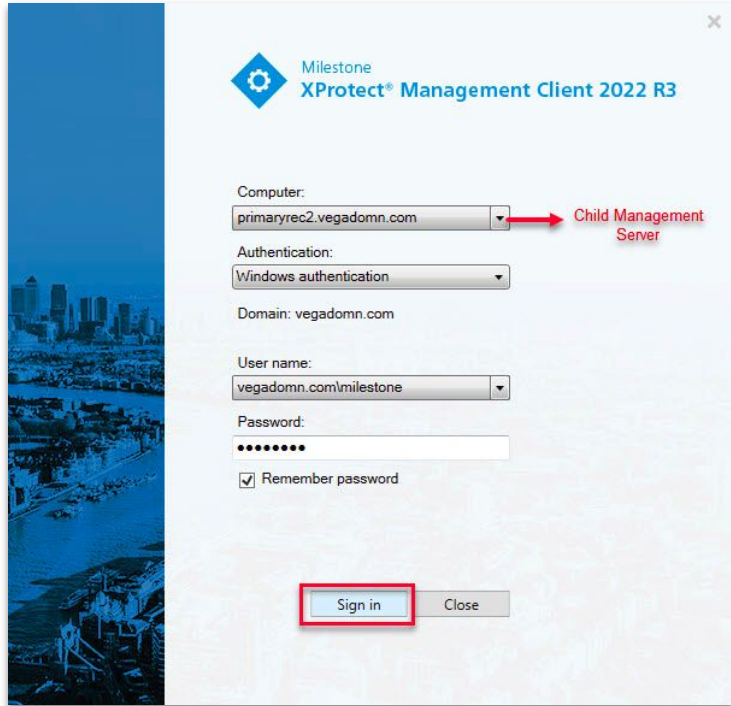
Stream1 Stream2 Stream3

< > ✓

Step 6: Read all the information provided and **confirm all the prerequisites are met.**
Click **Next** for all four steps.

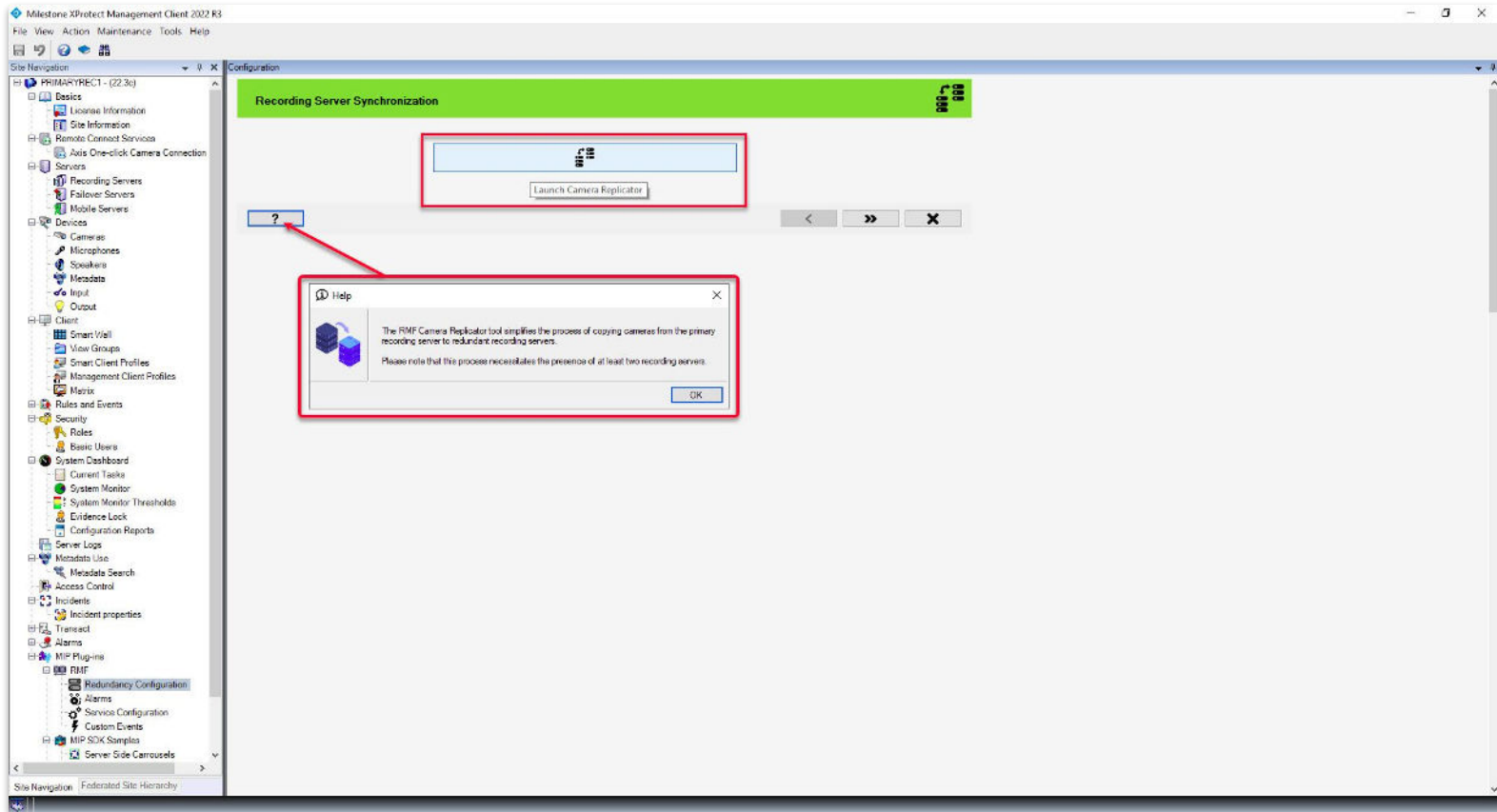


Part 2: Camera Replication/Synchronization



Verification Step: The camera list of the child recording server before replication

Note: There are no cameras under the child recording server .



Step 1: Click the **Launch Camera Replicator** button. The **RMF Camera Replicator** helps to copy cameras seamlessly from parent recording servers to redundant recording servers.

Note: A Minimum of two servers should be configured to replicate cameras.

RMF Camera Replicator

Connect to Site

Management Server address and credentials

Server:

Authentication:

Username:

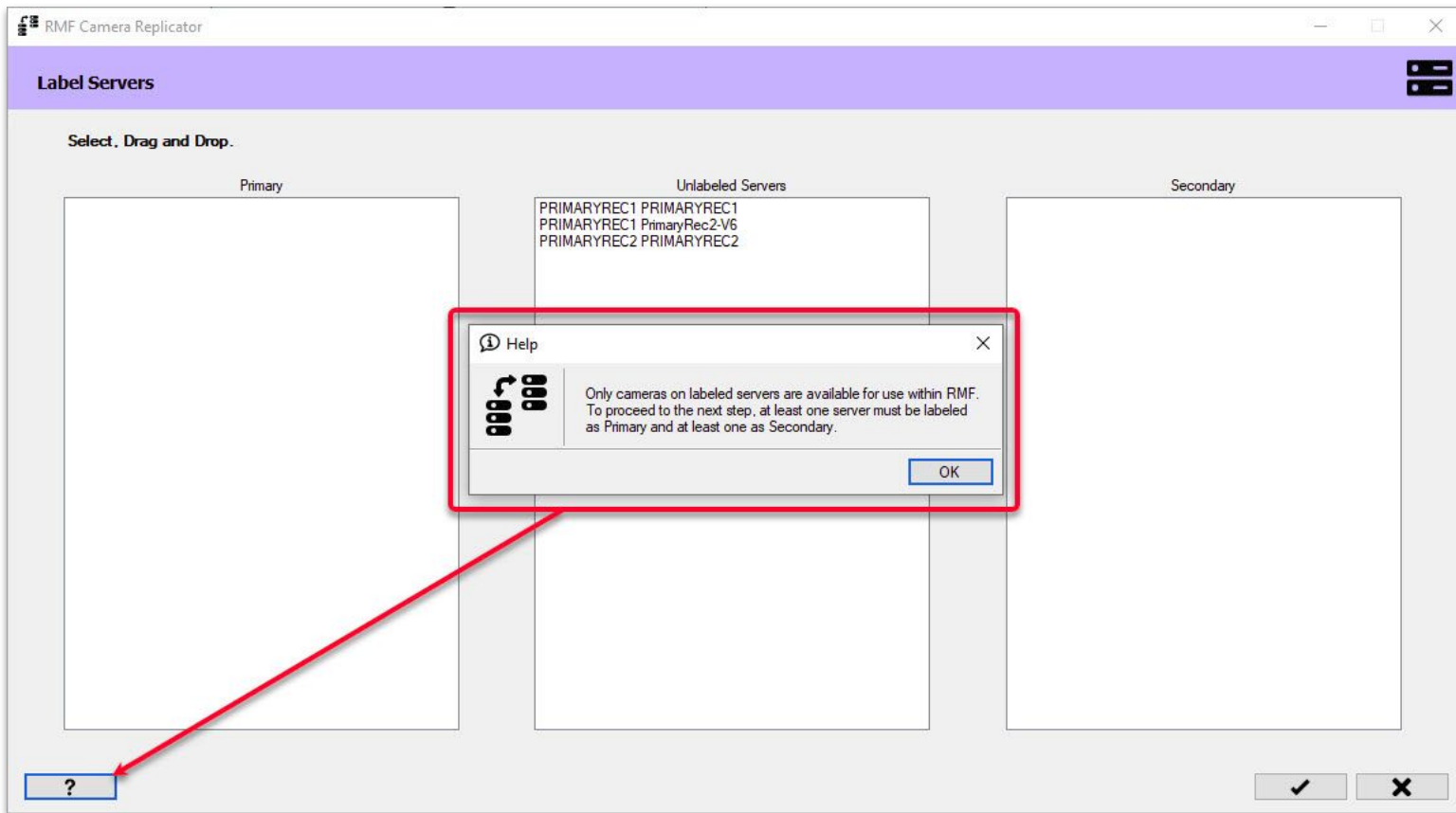
Password:

Note: If you're in an XProtect Federated Setup, please log in to the parent management server.

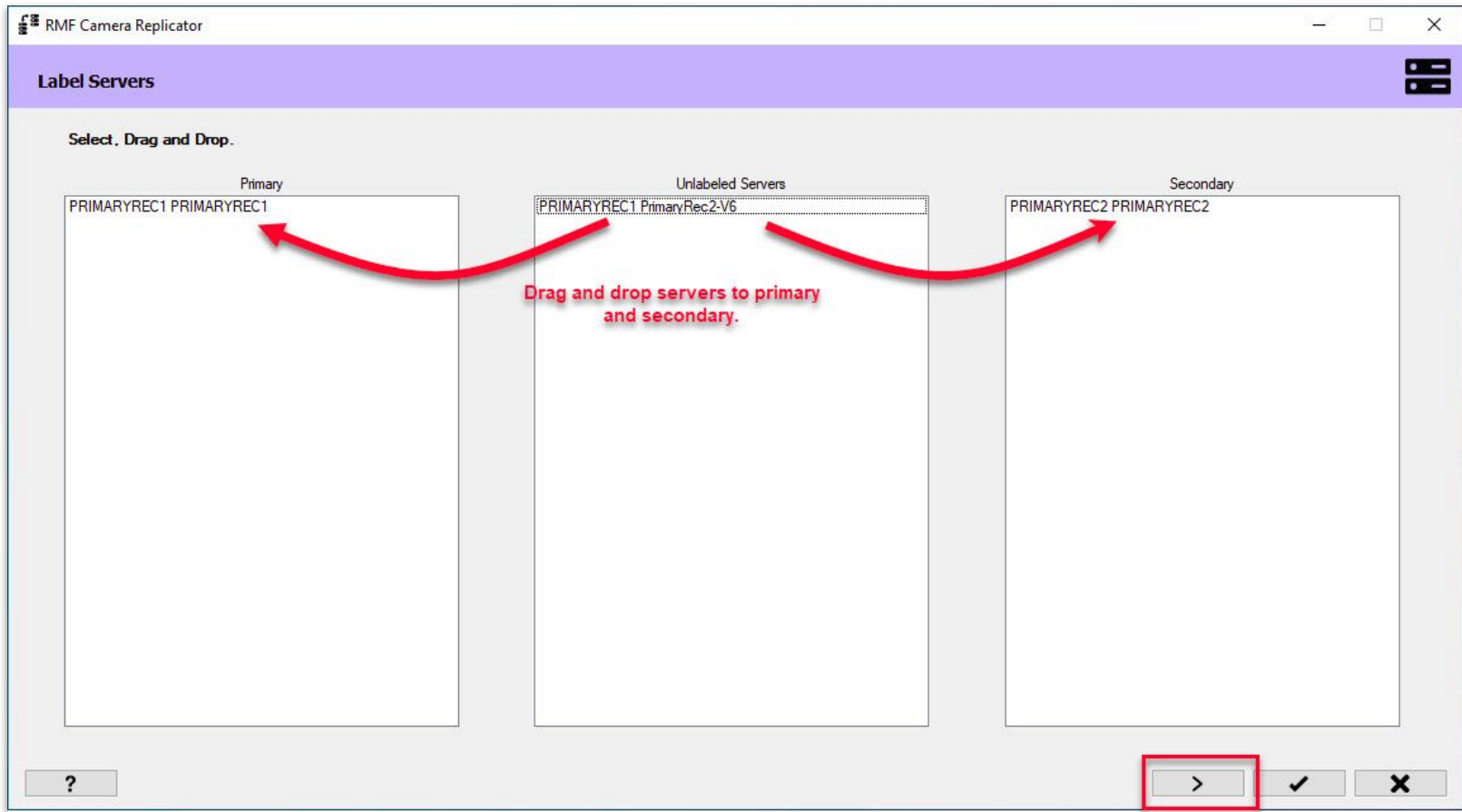
Parent Server (arrow pointing to Server field)

Domain Admin User (arrow pointing to Username field)

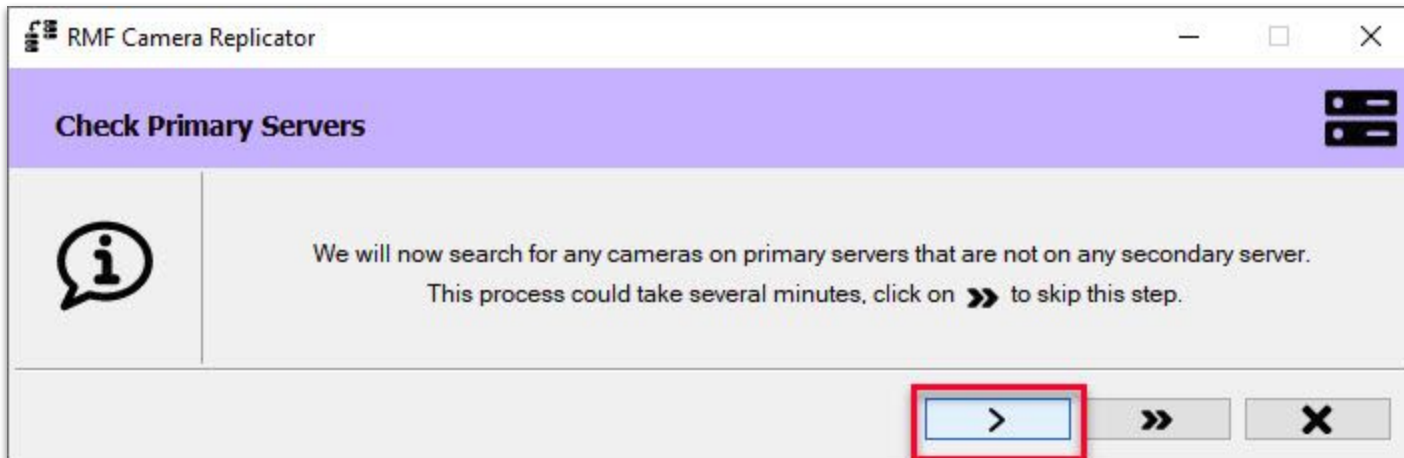
Step 2: Login into the parent server as a domain user with admin privileges.



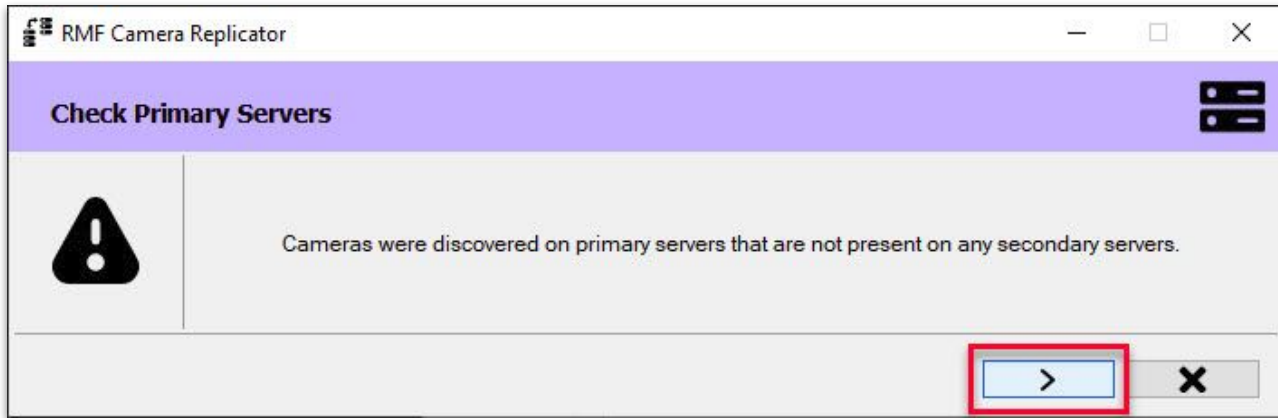
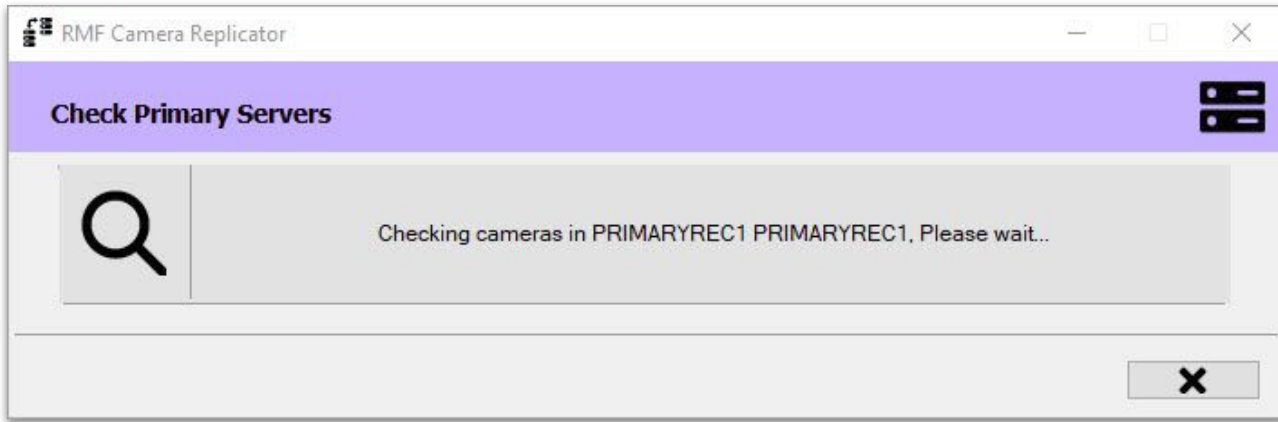
Step 3: Labelling Servers - A list of recording servers are displayed. **Parent (Primary) and Child (Secondary) servers must be labeled** to proceed with further configuration.



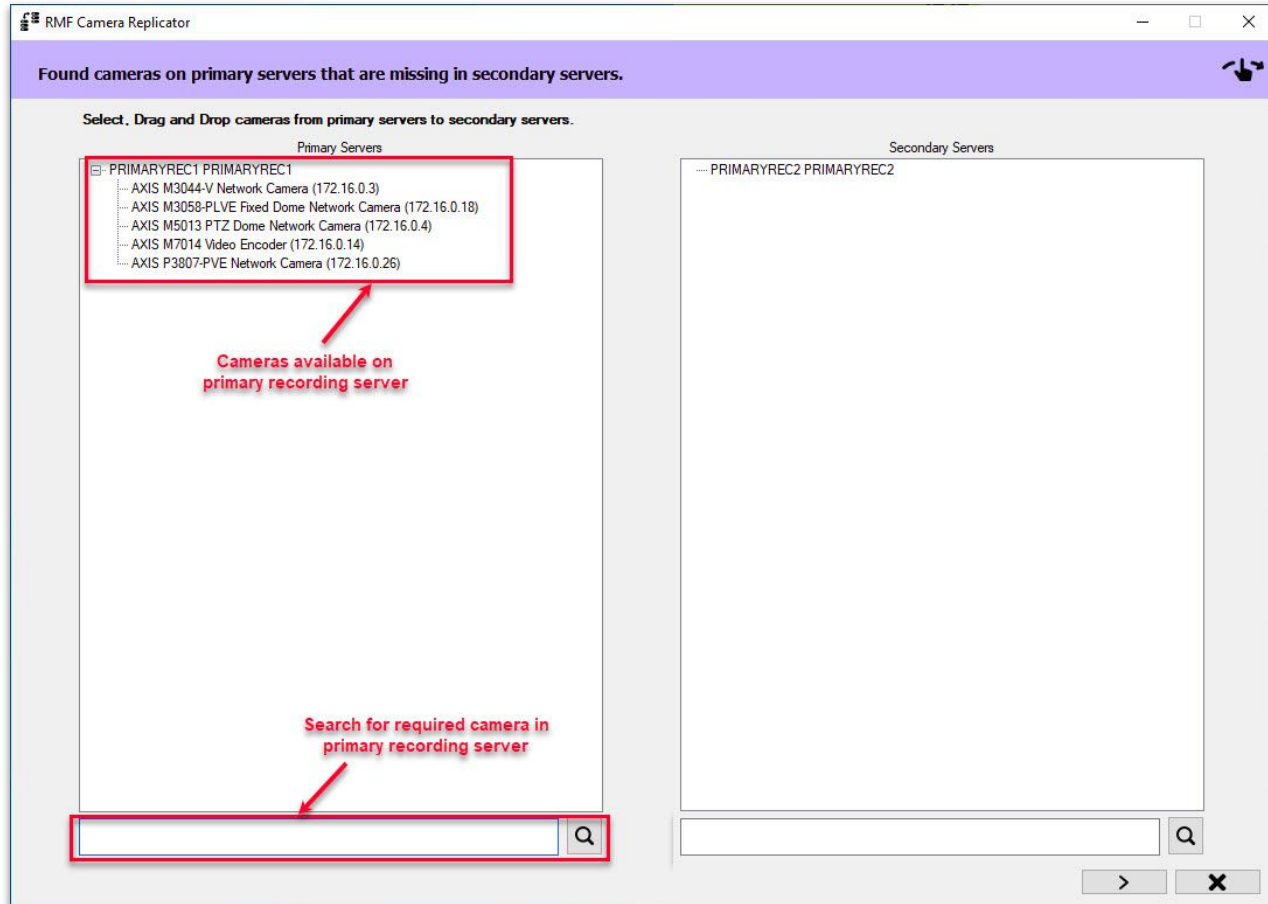
Step 4: Drag a server from the **Unlabeled Servers** list and drop it into the **primary** list. Similarly, drag and drop to the **secondary** list. Click **Next**.



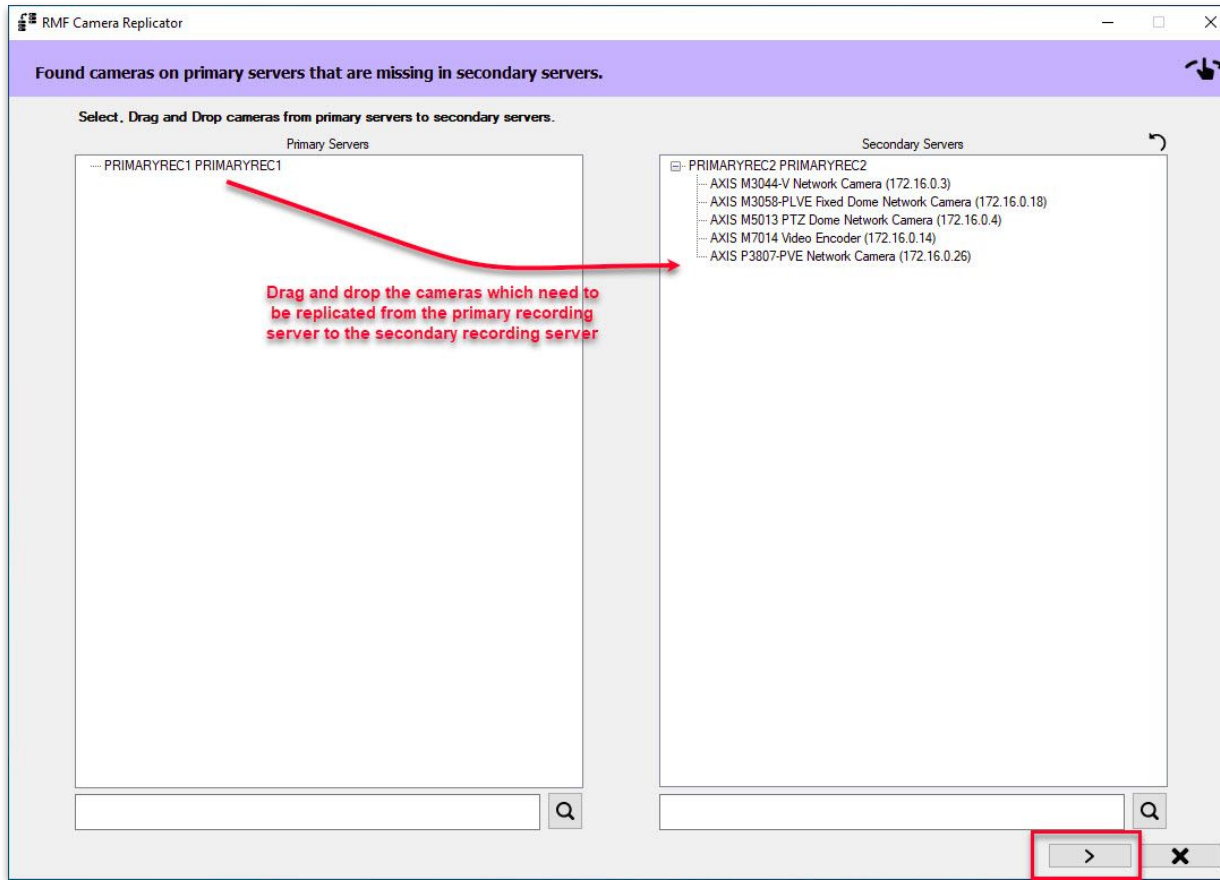
Step 5: Click **Next** to search for the **cameras on the parent site, not on the child site.**



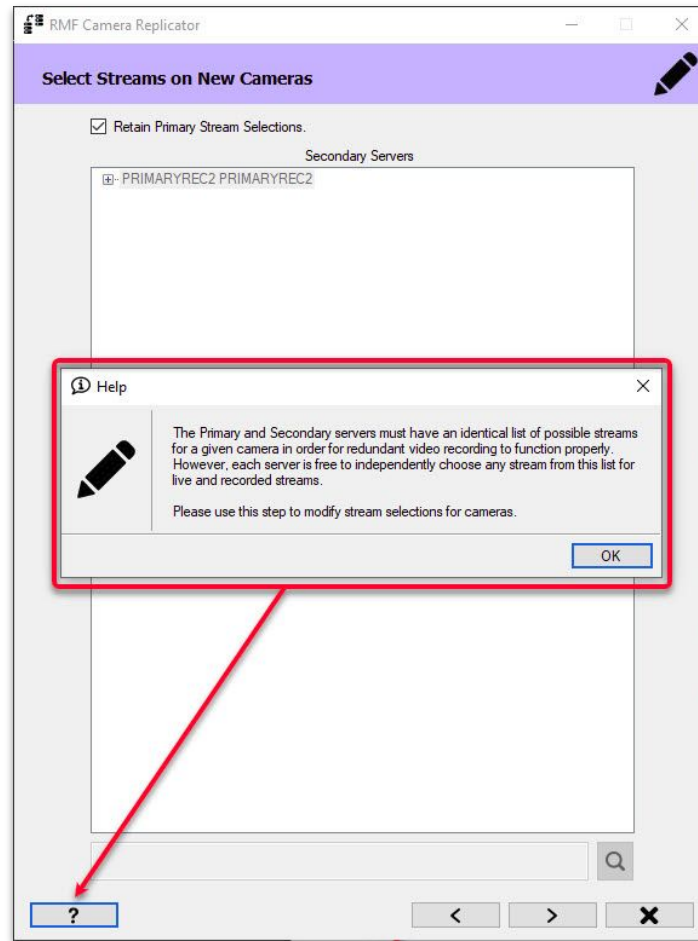
Step 6: Click **Next** to see the list of cameras found on the parent site and not on the child site.



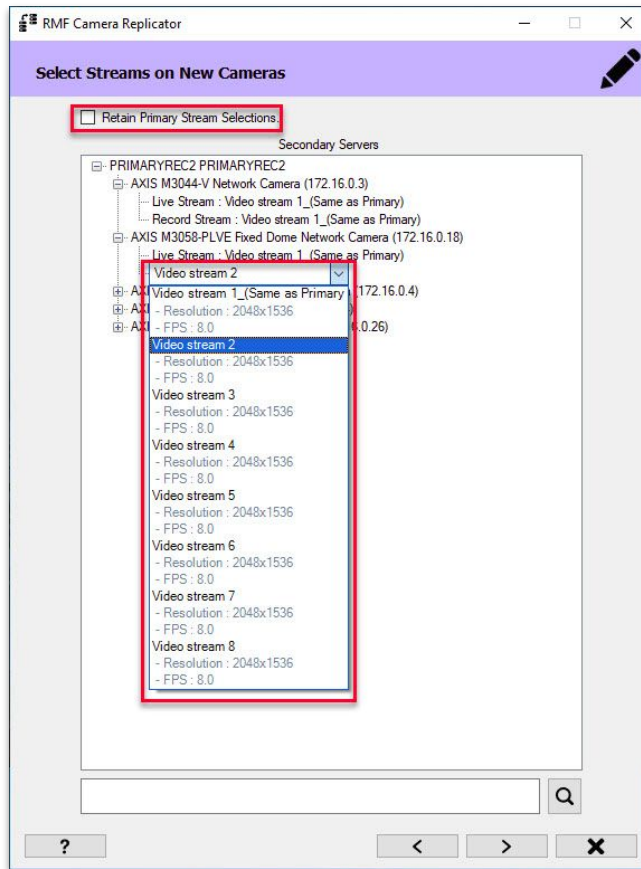
Step 7: Cameras found on the parent, not on the child, are listed under primary servers. Click the **Search** button to find a specific camera from the list.



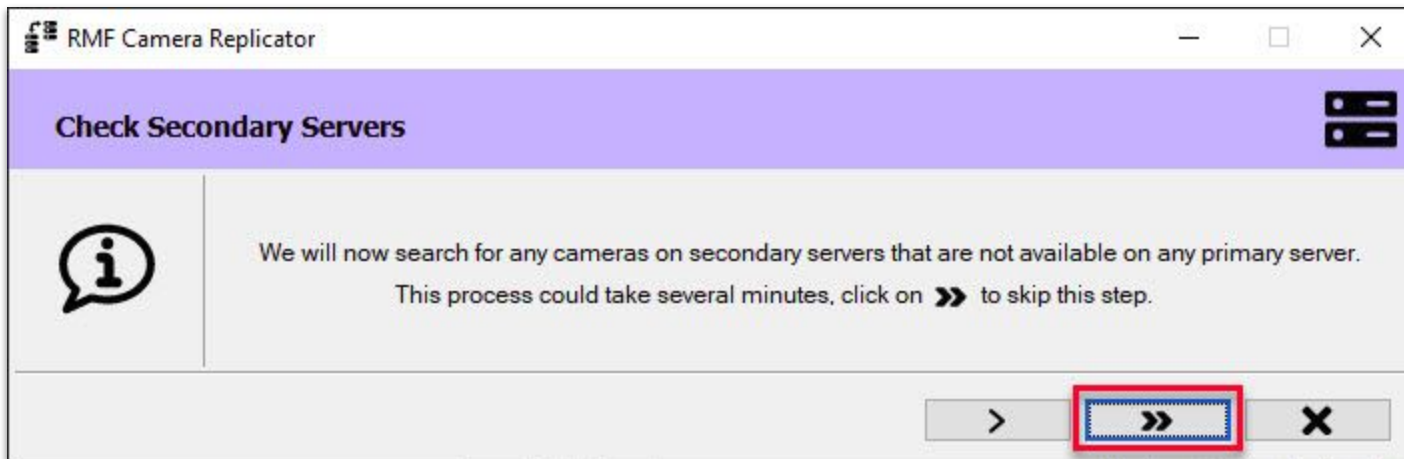
Step 8: Drag and drop the cameras that have to be replicated from the primary servers (parent) to the secondary servers (child).
Click **Next**.



Step 9: Skip this step to copy the same stream configurations as in the parent.

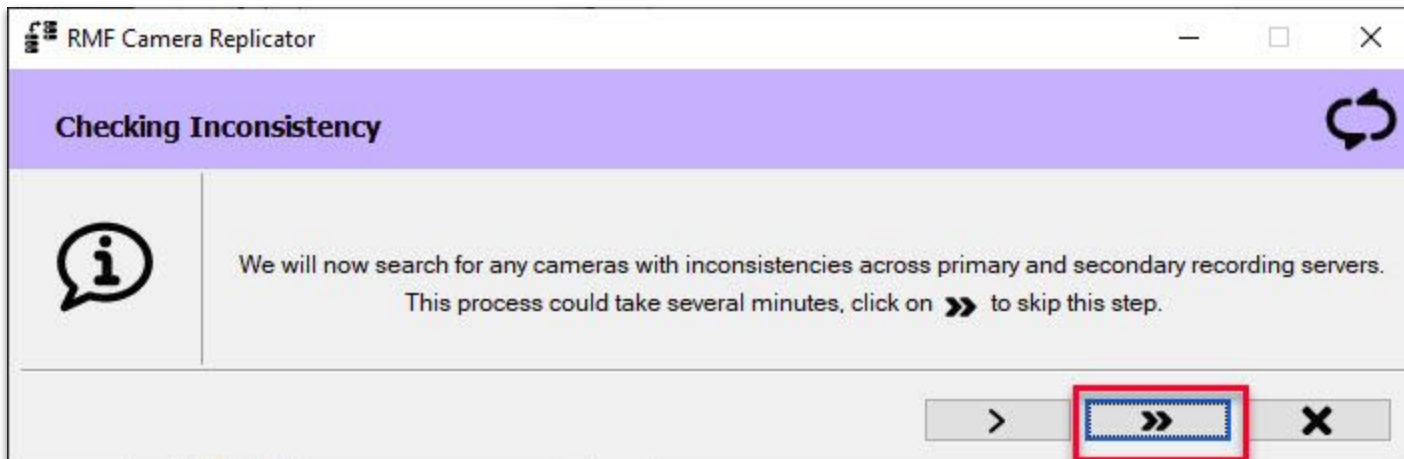


Step 10: Uncheck the Retain Primary Stream Selections to change the stream configuration (video profile) for recording and live streaming for the selected camera in the child site.



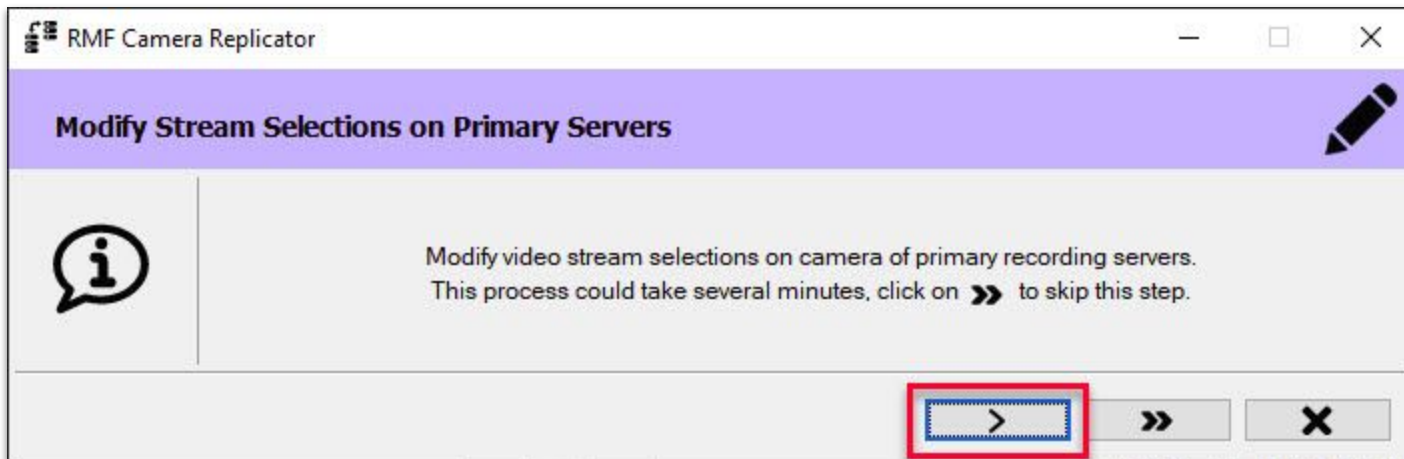
Step 11: Click **Skip**, as we have added cameras only on the parent site and replicating the same to the child site.

Note: Click **Next** if you want to find and replicate cameras from the child site.



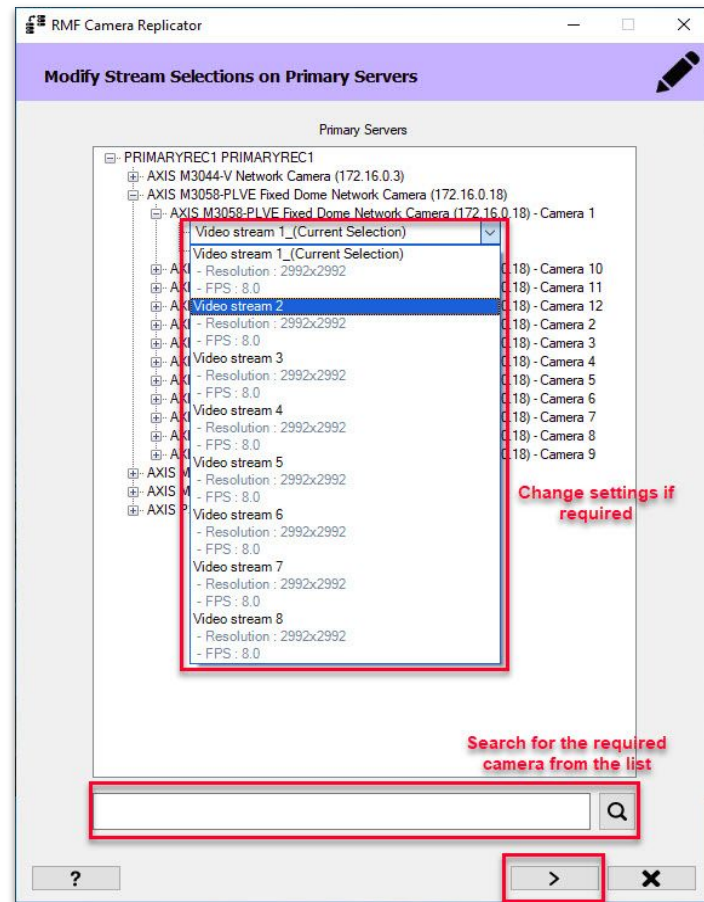
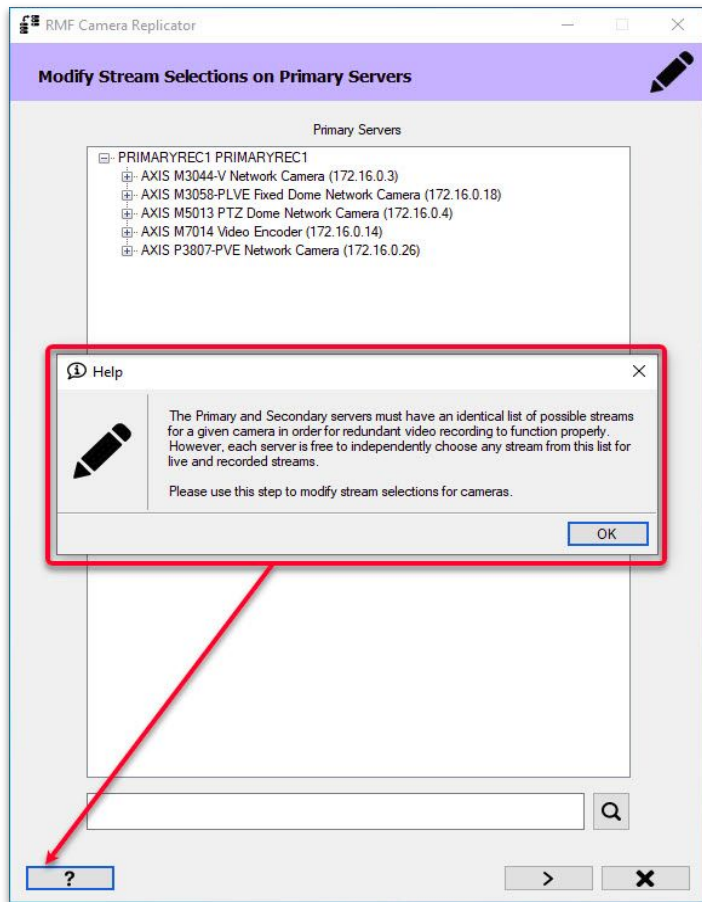
Step 12: Click **Skip**, we are configuring system for the first time and we do not have any cameras on the child site to check inconsistencies.

Note: Click **Next** to check for inconsistencies, If there are cameras on both the parent and child sites.

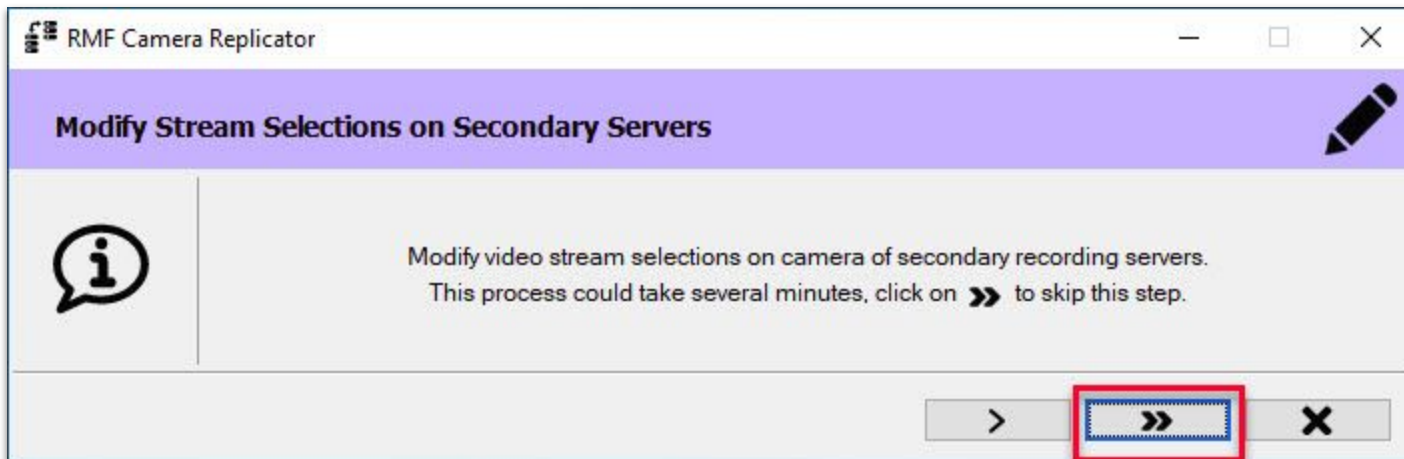


Step 13: Click **Next** to modify the video stream selection for the cameras on parent recording servers, if required.

Note: Click **Skip** to continue with the setup without modifying video stream selection on parent site cameras. (Goto [Step 15](#))



Step 14: Modify the video stream configuration for the cameras on parent recording servers, if required. Click **Next** and continue with the setup.



Step 15: Click **Skip** to continue the replication process.

Note: Click **Next** to modify the stream selection on cameras of child recording servers, if there are cameras on the child recording server.

RMF Camera Replicator

Replicate/Synchronize/Modify/Delete

| Camera | From | To | Progress | Status | Result |
|---|-------------------------|-------------------------|----------|------------------------------|--------|
| AXIS M3044-V Network Camera (172.16.0.3) | PRIMARYREC1 PRIMARYREC1 | PRIMARYREC2 PRIMARYREC2 | | Added successfully | ✓ |
| AXIS M3058-PLVE Fixed Dome Network Camera (172.16.0.18) | PRIMARYREC1 PRIMARYREC1 | PRIMARYREC2 PRIMARYREC2 | | Added successfully | ✓ |
| AXIS M5013 PTZ Dome Network Camera (172.16.0.4) | PRIMARYREC1 PRIMARYREC1 | PRIMARYREC2 PRIMARYREC2 | | Processing (Output settings) | |
| AXIS M7014 Video Encoder (172.16.0.14) | PRIMARYREC1 PRIMARYREC1 | PRIMARYREC2 PRIMARYREC2 | | To be added | |
| AXIS P3807-PVE Network Camera (172.16.0.26) | PRIMARYREC1 PRIMARYREC1 | PRIMARYREC2 PRIMARYREC2 | | To be added | |

RMF Camera Replicator

Step 17: The status of the replication of each camera is shown in the list.

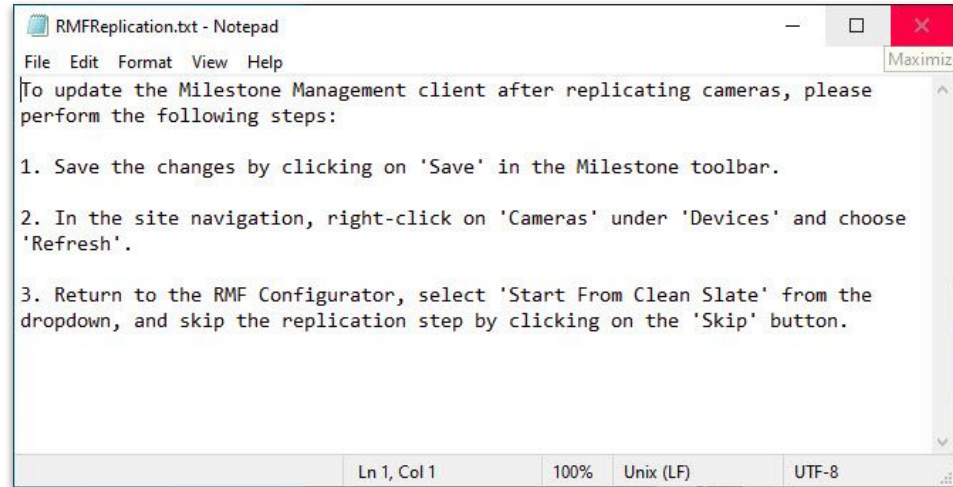
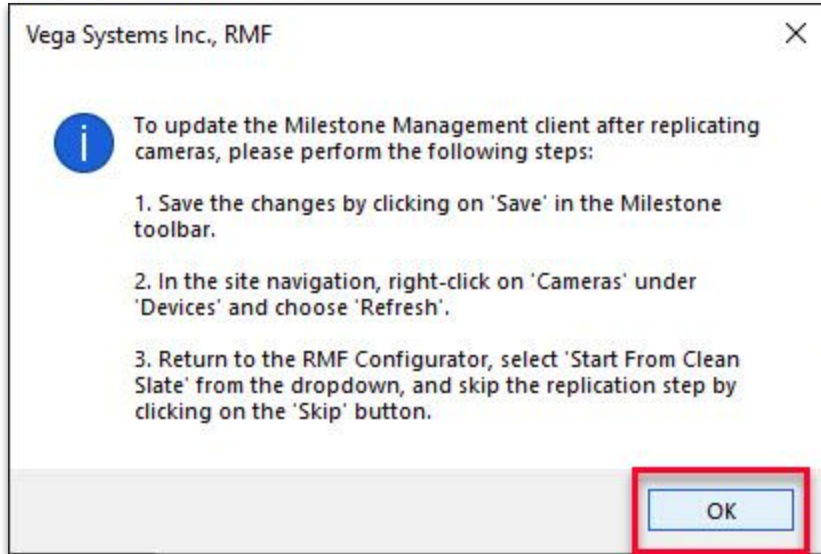
RMF Camera Replicator

Replicate/Synchronize/Modify/Delete

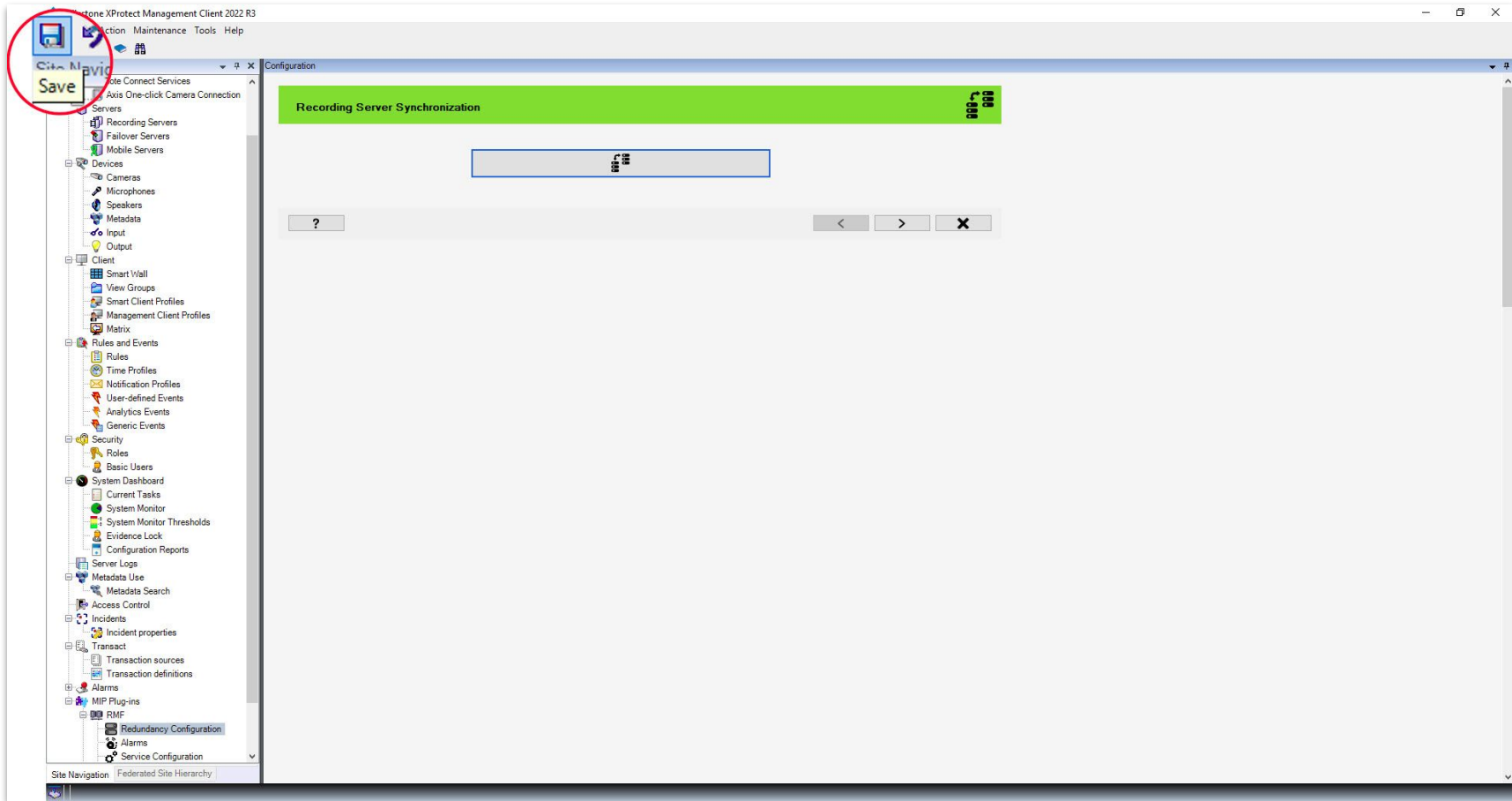
| Camera | From | To | Progress | Status | Result |
|---|-------------------------|-------------------------|----------|--------------------|--------|
| AXIS M3044-V Network Camera (172.16.0.3) | PRIMARYREC1 PRIMARYREC1 | PRIMARYREC2 PRIMARYREC2 | | Added successfully | ✓ |
| AXIS M3058-PLVE Fixed Dome Network Camera (172.16.0.18) | PRIMARYREC1 PRIMARYREC1 | PRIMARYREC2 PRIMARYREC2 | | Added successfully | ✓ |
| AXIS M5013 PTZ Dome Network Camera (172.16.0.4) | PRIMARYREC1 PRIMARYREC1 | PRIMARYREC2 PRIMARYREC2 | | Added successfully | ✓ |
| AXIS M7014 Video Encoder (172.16.0.14) | PRIMARYREC1 PRIMARYREC1 | PRIMARYREC2 PRIMARYREC2 | | Added successfully | ✓ |
| AXIS P3807-PVE Network Camera (172.16.0.26) | PRIMARYREC1 PRIMARYREC1 | PRIMARYREC2 PRIMARYREC2 | | Added successfully | ✓ |

Finish

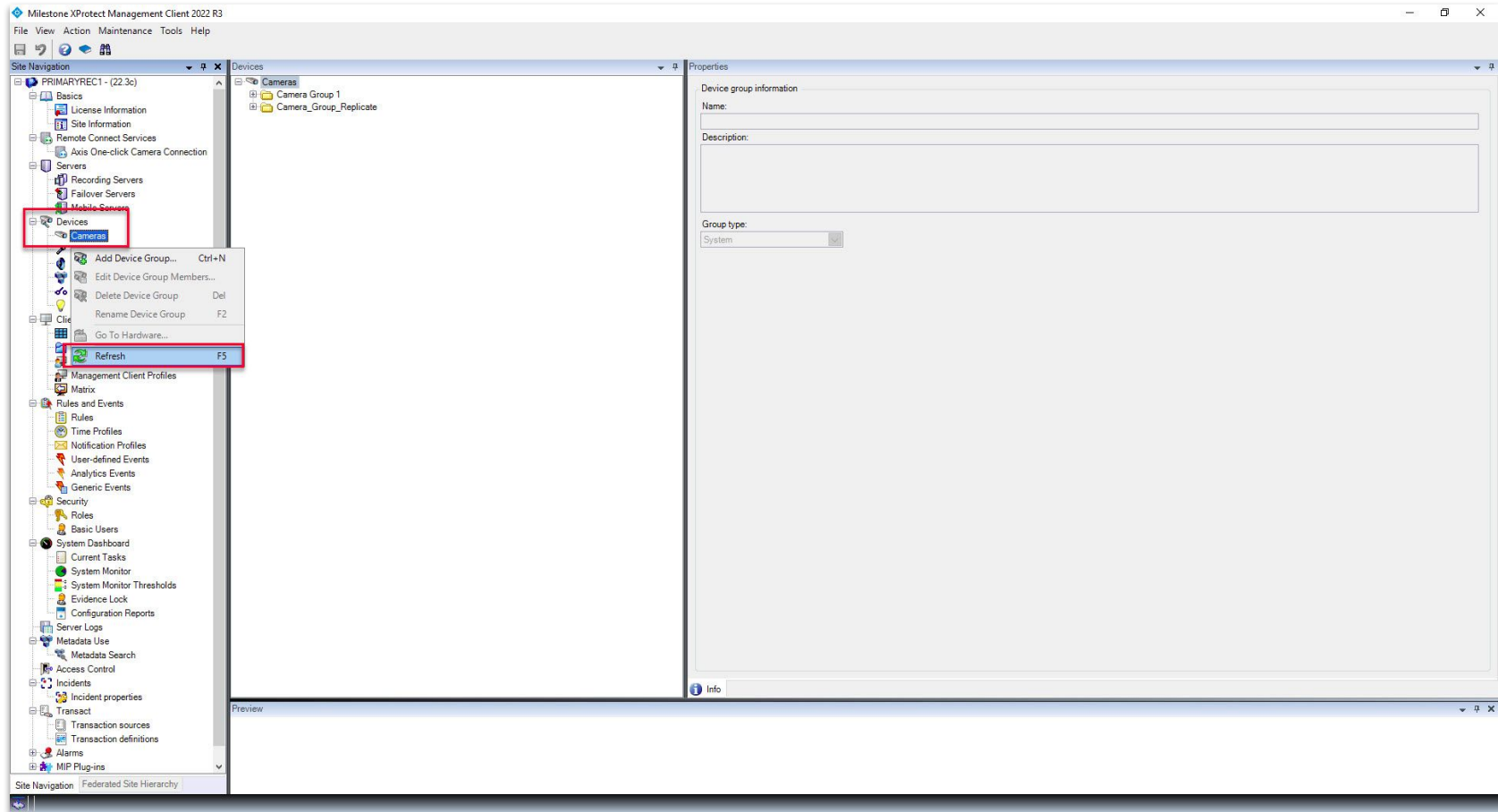
Step 18: Click the **Finish** button to complete the replication process.



Step 19: Follow the steps mentioned above and **continue with the configuration.**



Step 20: Save the settings as shown above.



Step 21: Refresh the camera list as shown above to continue with the configuration.

Milestone XProtect Management Client 2022 R3

File View Action Maintenance Tools Help

Site Navigation PRIMARYREC2 - (22.3c)

Recording Servers

Filter

- Recording Servers
 - PRIMARYREC2
 - AXIS M3044-V Network Camera (172.16.0.3)
 - AXIS M3058-PLVE Fixed Dome Network Camera (172.16.0.18)
 - AXIS M5013 PTZ Dome Network Camera (172.16.0.4)
 - AXIS M7014 Video Encoder (172.16.0.14)
 - AXIS F3807-PVE Network Camera (172.16.0.26)

Recording server information

Name:

Description:

Host name:

Local web server address:

Web server address:

Time zone:

Info

Preview

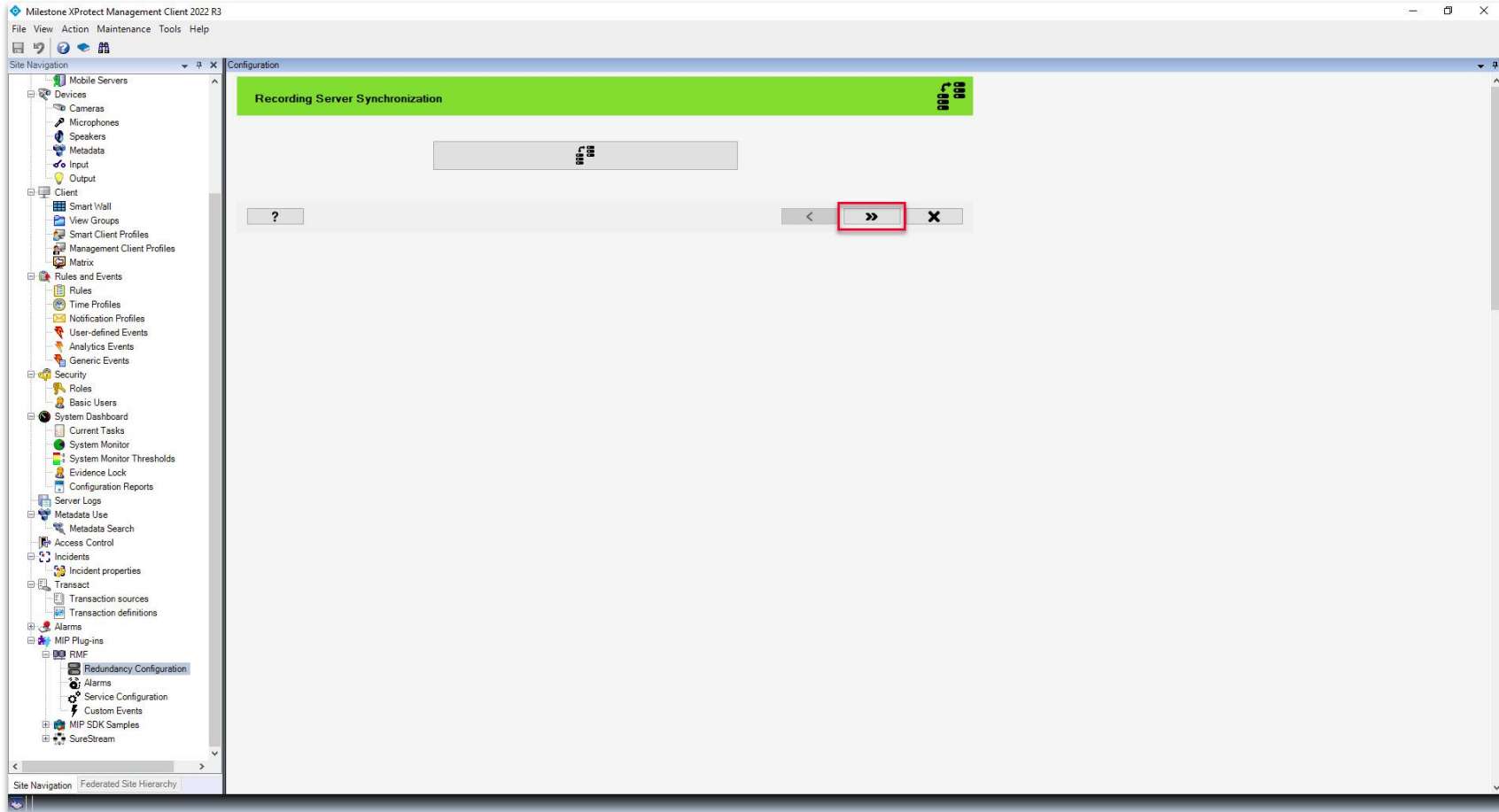
Site Navigation Federated Site Hierarchy

Verification Step: The camera list of the child recording server after replication.

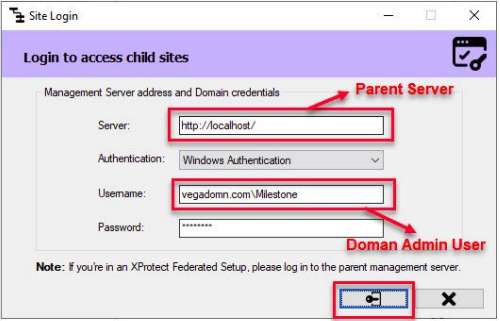
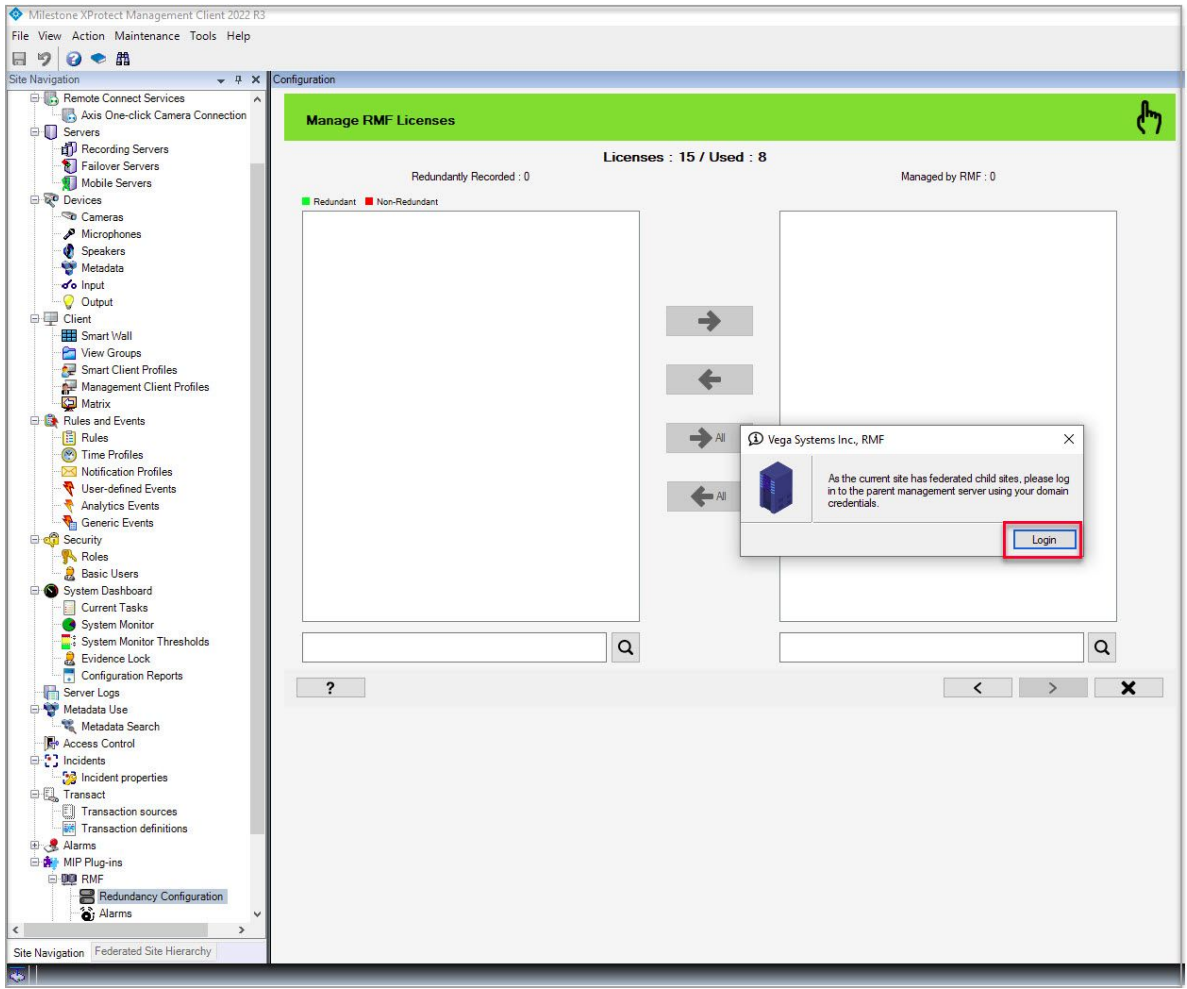
Note: All the selected cameras are replicated on the child recording server.



Part 3: Configuration

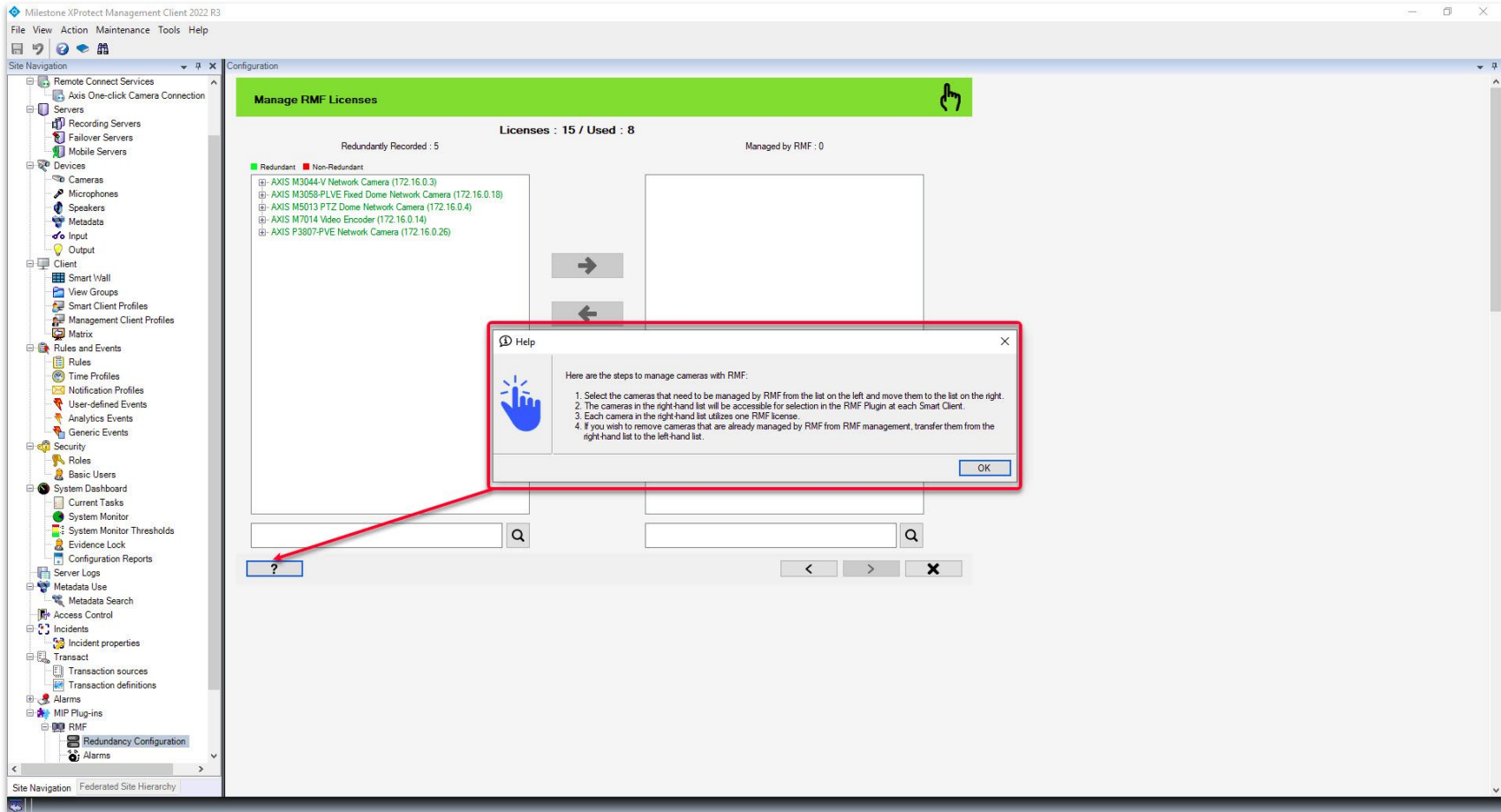


Step 22: Goto RMF→ Redundancy Configuration.
Select **Start from Clean Slate Option** and **skip the replication step**.

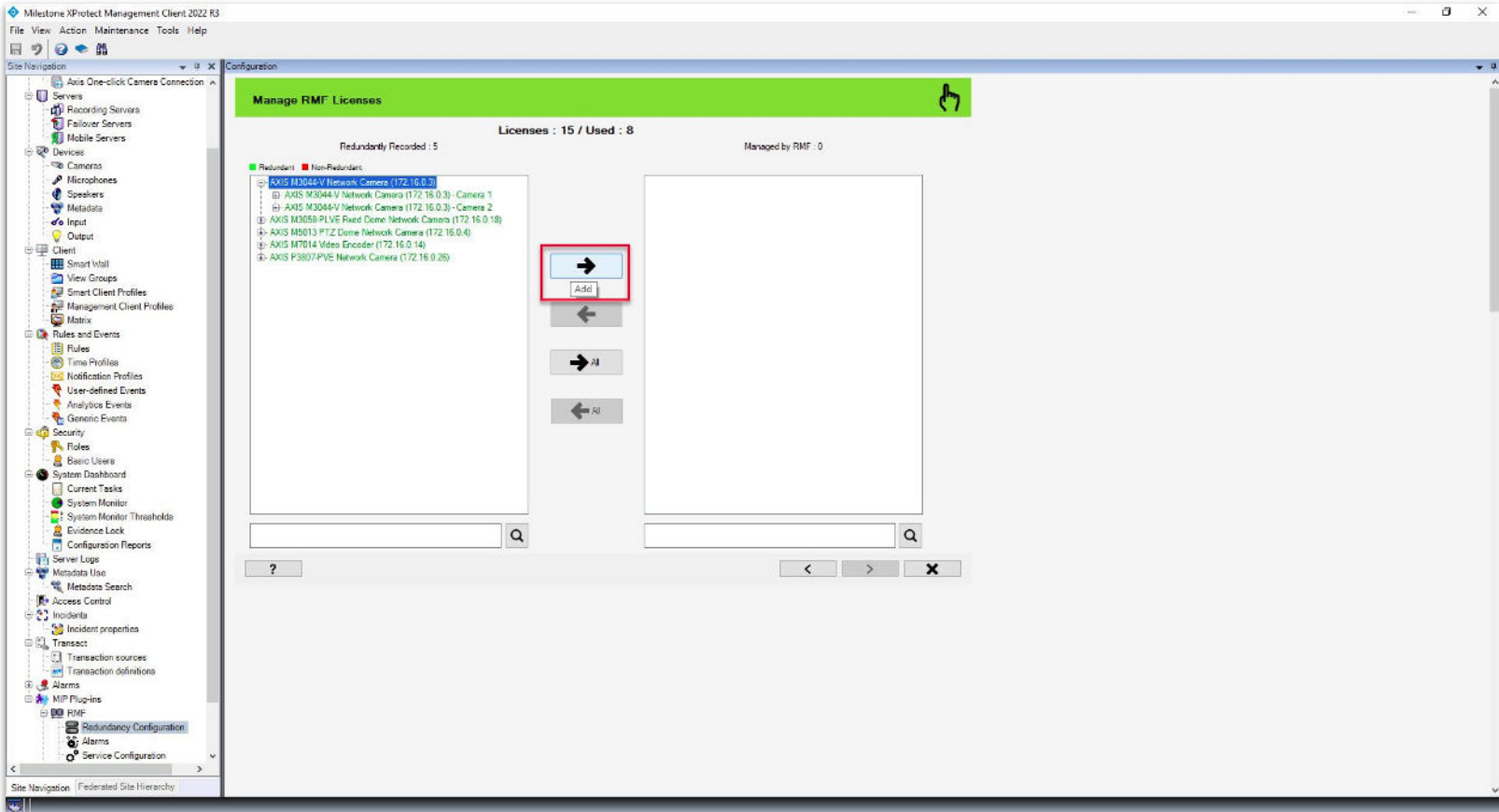


Step 23: Login into the parent management server as a domain user with admin privileges.



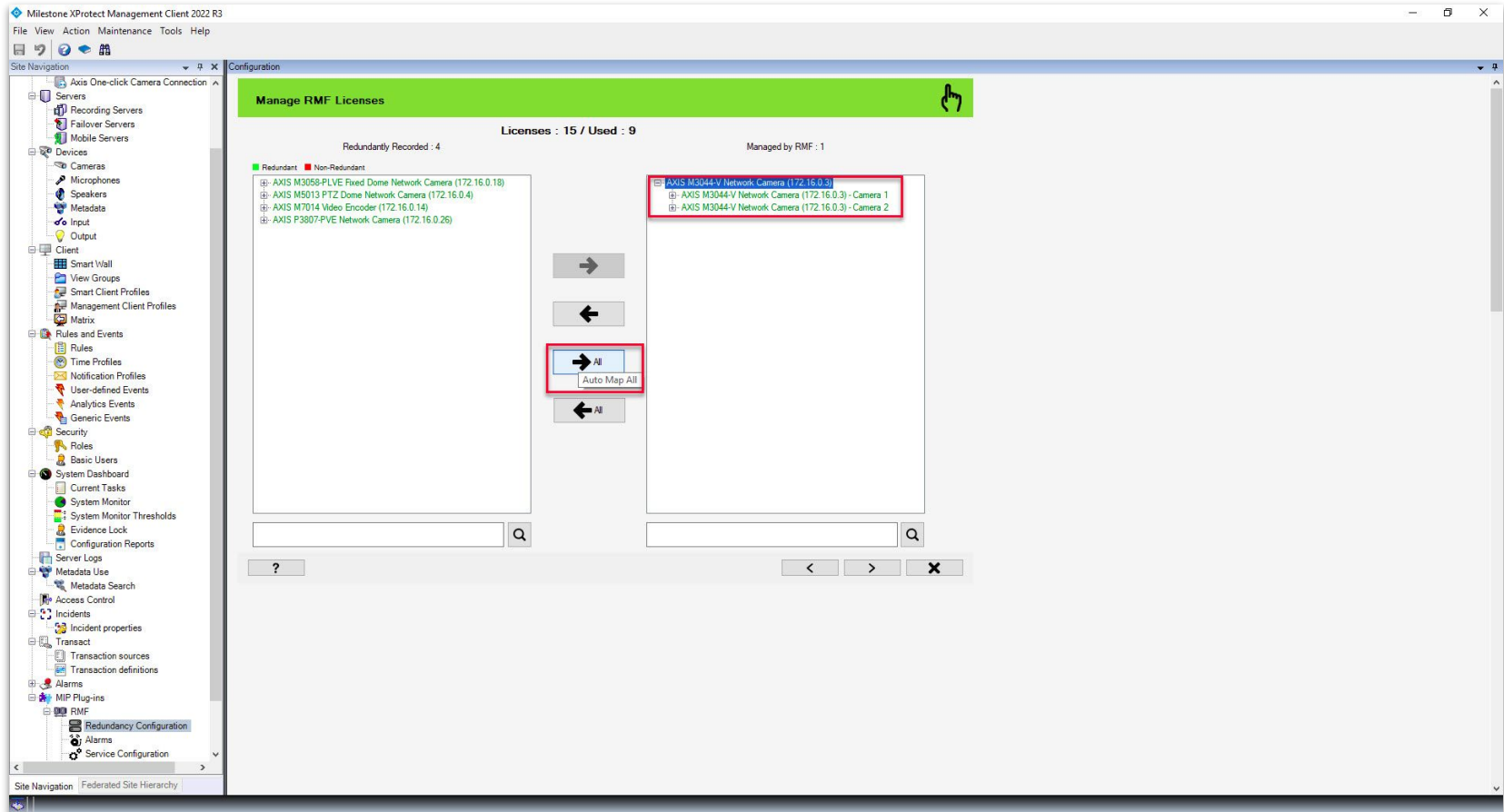


Step 24: The **redundantly recorded cameras** from the parent and the child recording servers are listed.



Step 25: Select the cameras that RMF must manage from the list.
Click **Add** to move the cameras from the redundantly recorded list to Managed by RMF list.

Note: RMF license is assigned to the selected cameras.



Step 26: Click **Add All** to move all the cameras from the Redundantly Recorded List to the Managed by RMF list.

Milestone XProtect Management Client 2022 R3

File View Action Maintenance Tools Help

Site Navigation

- Axis One-click Camera Connection Servers
 - Recording Servers
 - Failover Servers
 - Mobile Servers
- Devices
 - Cameras
 - Microphones
 - Speakers
 - Metadata
 - Input
 - Output
- Client
 - Smart Wall
 - View Groups
 - Smart Client Profiles
 - Management Client Profiles
 - Matrix
- Rules and Events
 - Rules
 - Time Profiles
 - Notification Profiles
 - User-defined Events
 - Analytics Events
 - Generic Events
- Security
 - Roles
 - Basic Users
- System Dashboard
 - Current Tasks
 - System Monitor
 - System Monitor Thresholds
 - Evidence Lock
 - Configuration Reports
- Server Logs
- Metadata Use
 - Metadata Search
- Access Control
- Incidents
 - Incident properties
- Transact
 - Transaction sources
 - Transaction definitions
- Alarms
 - MIP Plug-ins
- RMF
 - Redundancy Configuration
 - Alarms
 - Service Configuration

Configuration

Manage RMF Licenses

Licenses : 15 / Used : 13

Redundantly Recorded : 0 Managed by RMF : 5

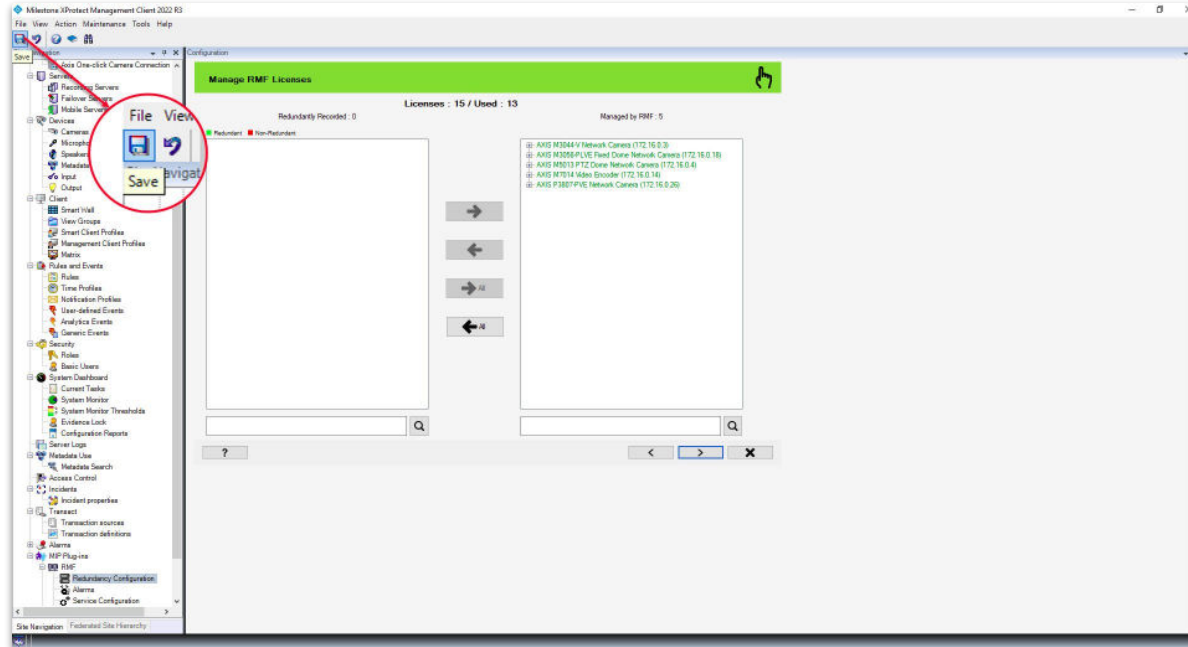
Redundant Non-Redundant

- AXIS M3044-V Network Camera (172.16.0.3)
- AXIS M3058-PLVE Fixed Dome Network Camera (172.16.0.18)
- AXIS M5013 PTZ Dome Network Camera (172.16.0.4)
- AXIS M7014 Video Encoder (172.16.0.14)
- AXIS P3807-PVE Network Camera (172.16.0.26)

Next

Step 27: Click **Next** after the cameras are selected.





Step 28: Save the changes before proceeding with the configuration.

Milestone XProtect Management Client 2022 R3

File View Action Maintenance Tools Help

Site Navigation

Configuration

Connection Priority

Managed by RIMF: 5 ☆ higher priority ☆ lower priority

- AXIS M305S PLVE Fixed Dome Network Camera (172.16.0.18)
- AXIS P3307-FME Network Camera (172.16.0.26)
- AXIS M3044-V Network Camera (172.16.0.3)
- AXIS M5013 PTZ Dome Network Camera (172.16.0.4)
- ☆ primaryrec1.vegadomn.com (P)
- ☆ primaryrec2.vegadomn.com (S)
- AXIS M7014 Video Encoder (172.16.0.14)

Help

Change the priority of a pair of redundant recorders.

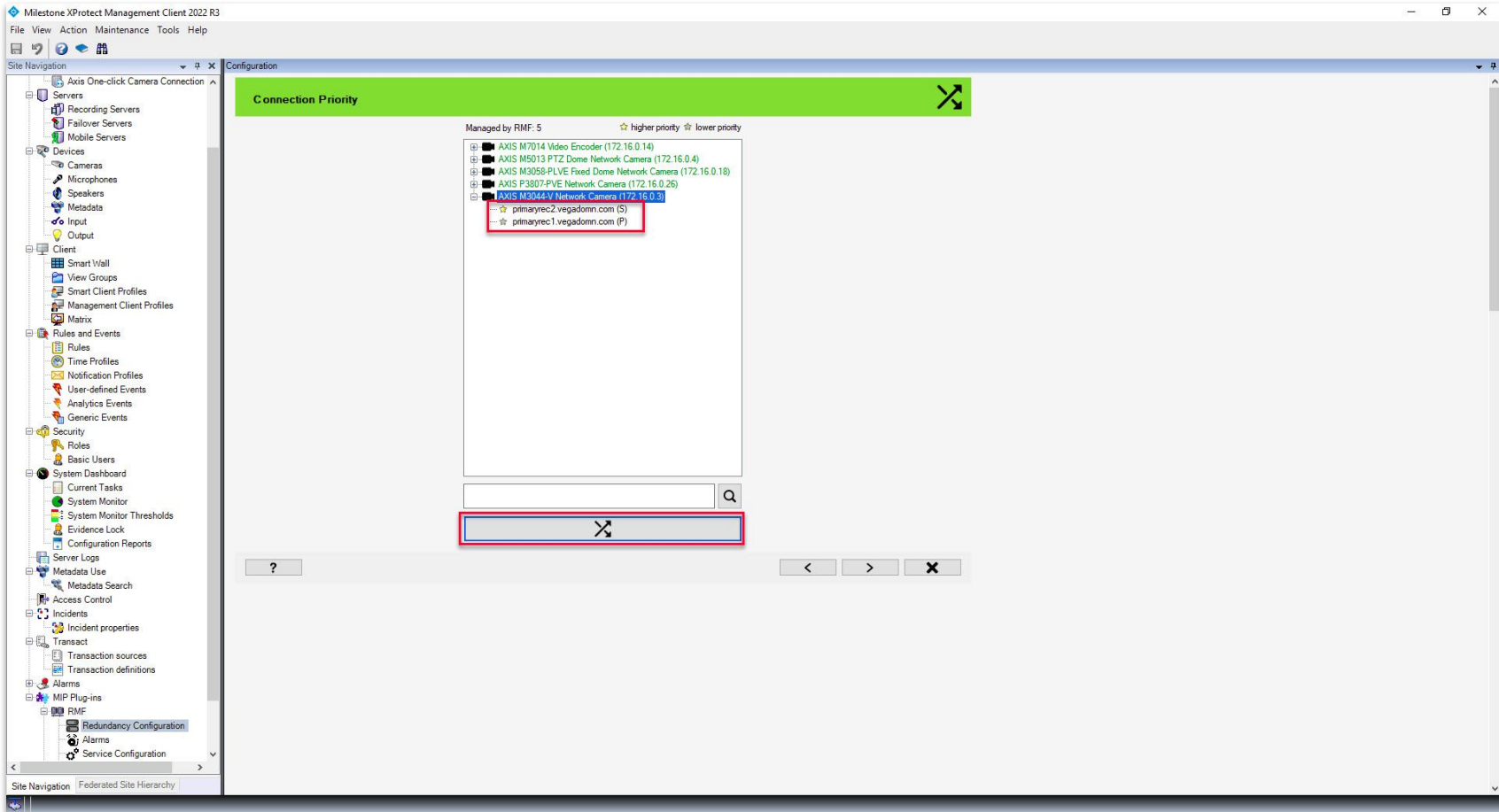
The Smart Client's RIMF viewer attempts to connect to the recording server with the highest priority first. If it cannot establish a connection, it tries to connect to the other recording server.

OK

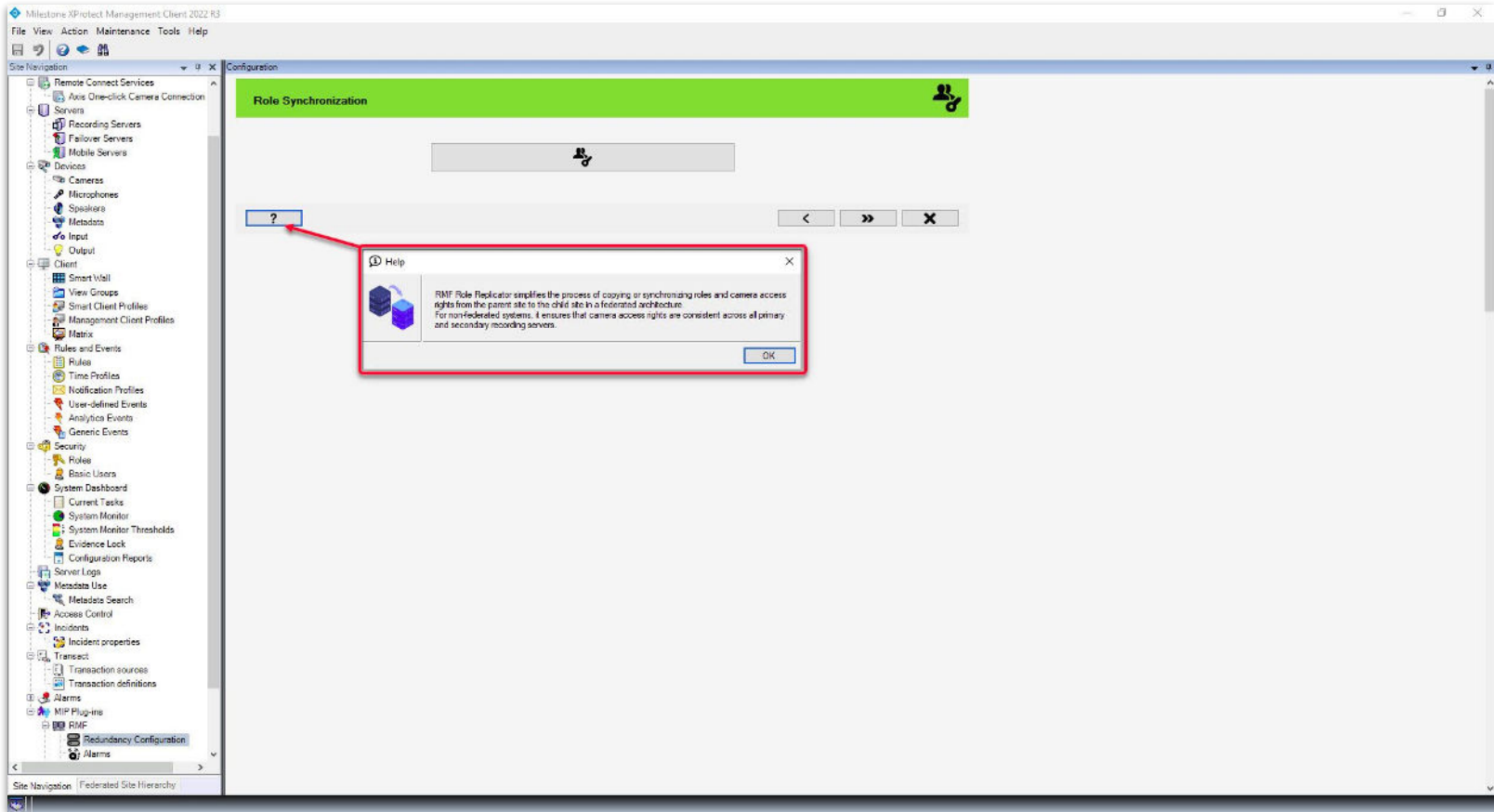
?

Site Navigation Federated Site Hierarchy

Step 29: Change the **connection priority order** for each camera if required.
By default, Smart Client tries to connect to higher priority first.



Step 30: Select the camera and click the **Swap** button to change the connection priority.
Click **Next**.

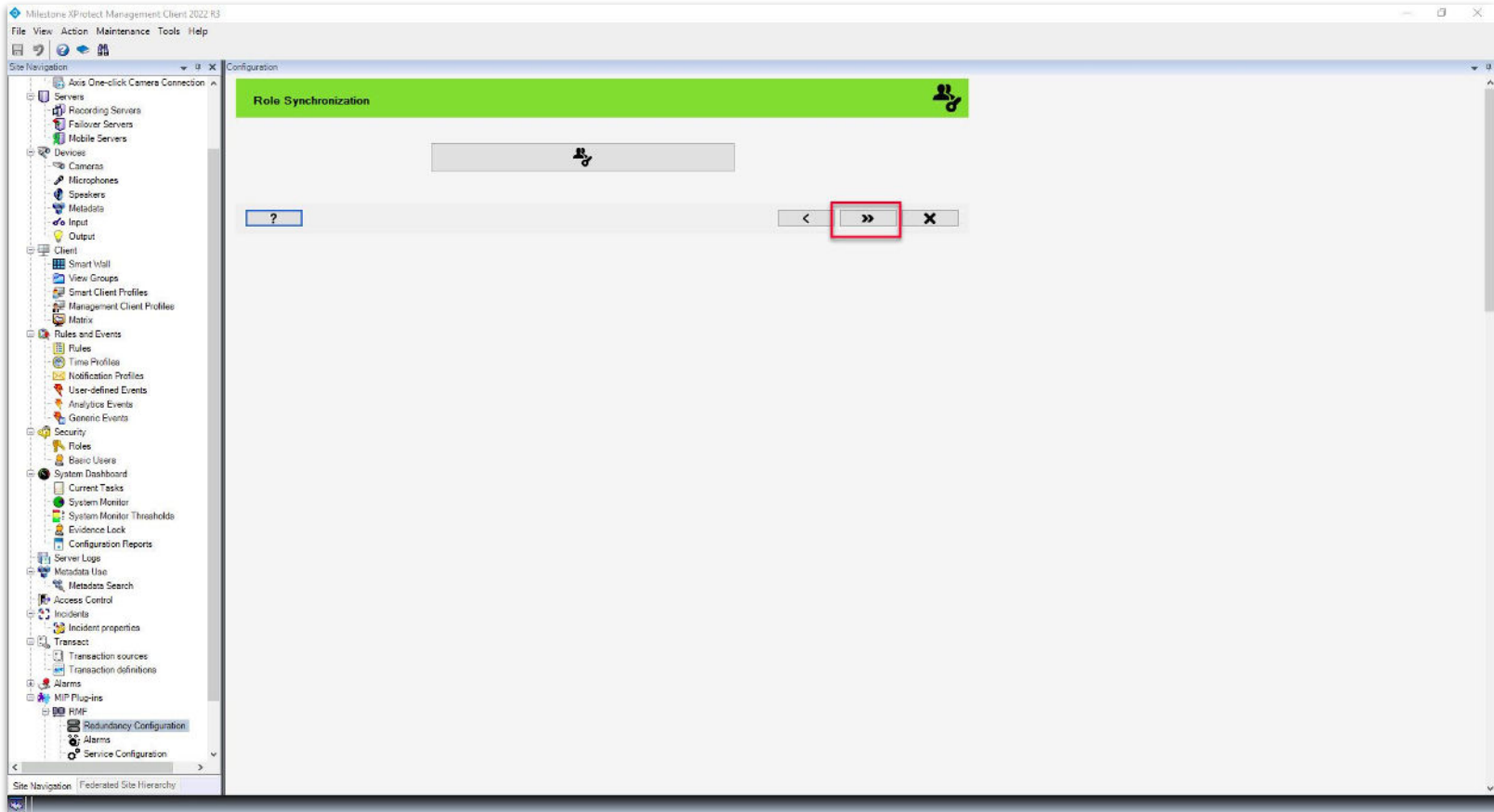


Step 31: The **RMF Role Replicator** helps to synchronize roles and camera access rights seamlessly from the parent site to the child site.



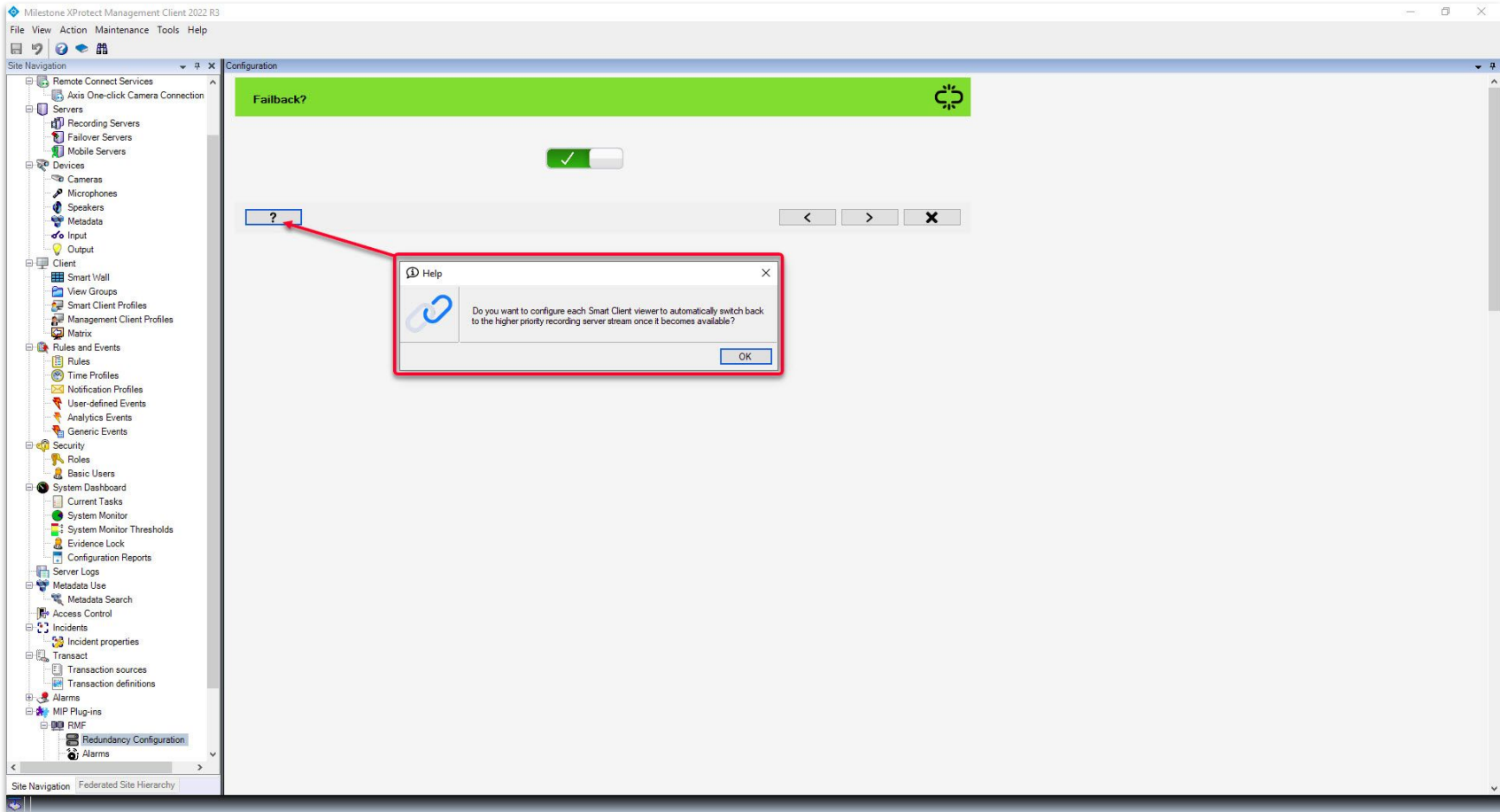
Adding Roles

Refer to [Setting up High Availability Roles & Smart Client Views](#) for adding roles to the parent site and role replication.



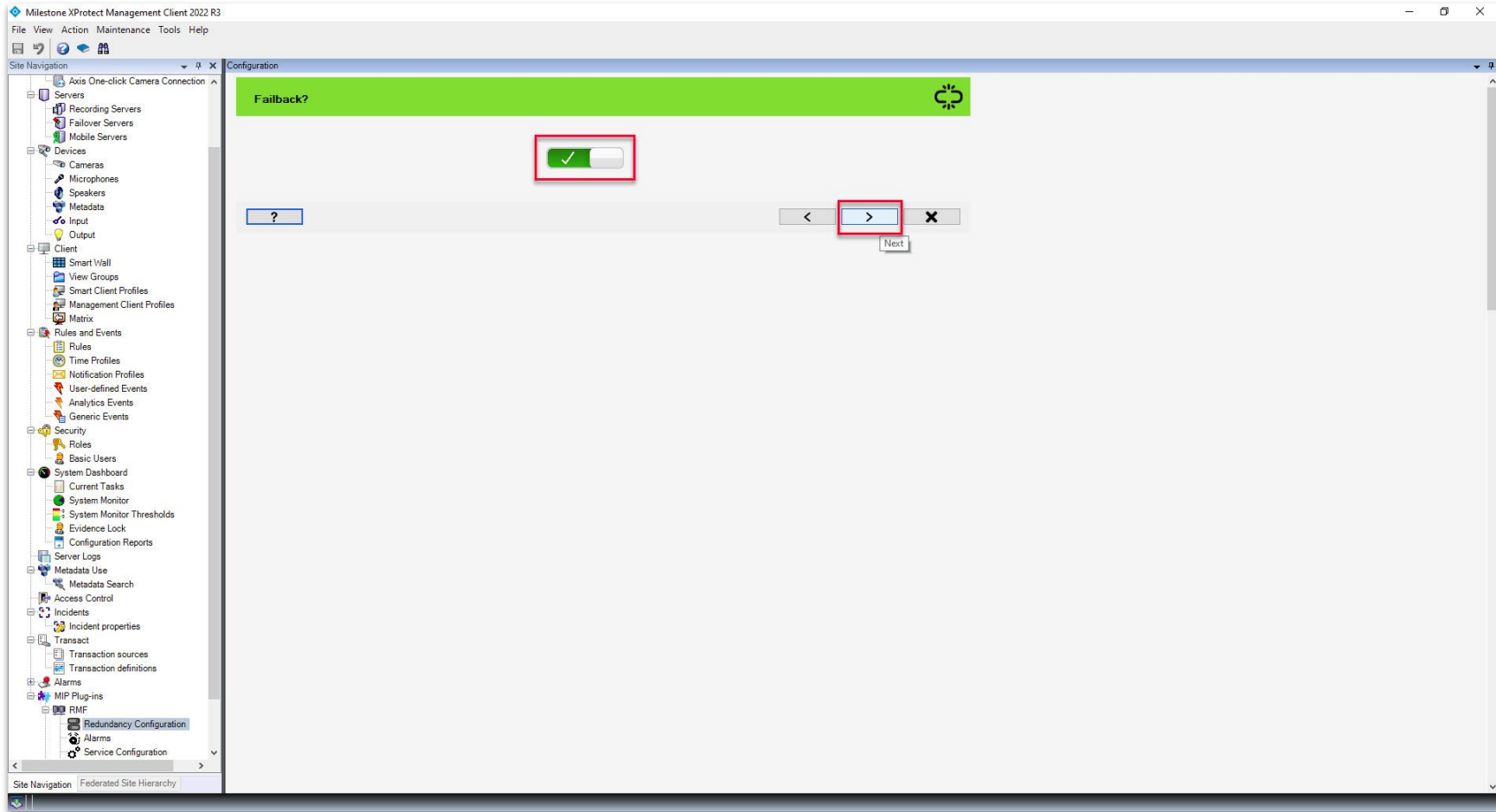
Step 32: Click **Skip** to continue with the configuration.

At any time, launch the Role Replicator to ensure that the roles are synchronized.

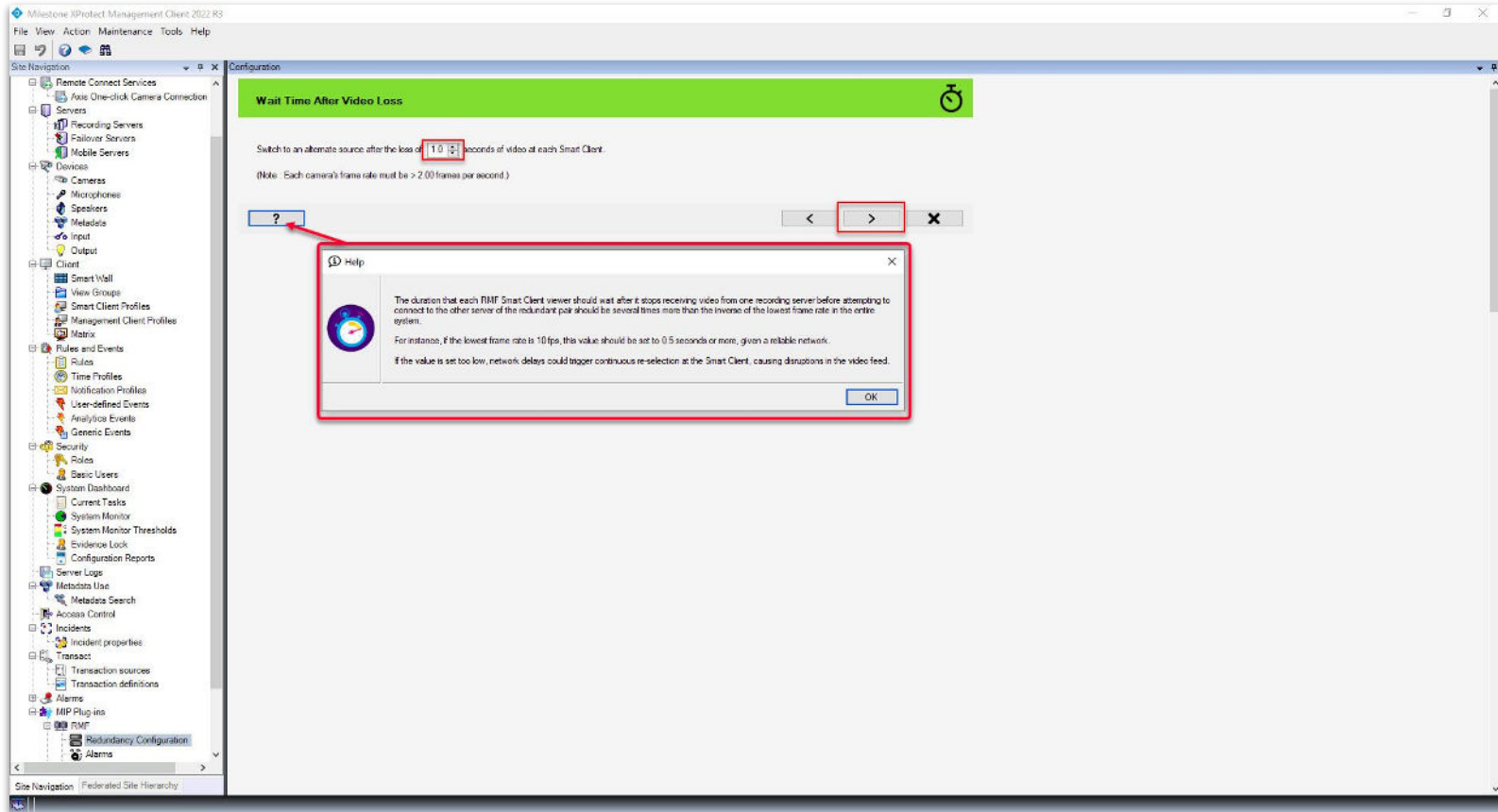


Step 33: Configure the failback.

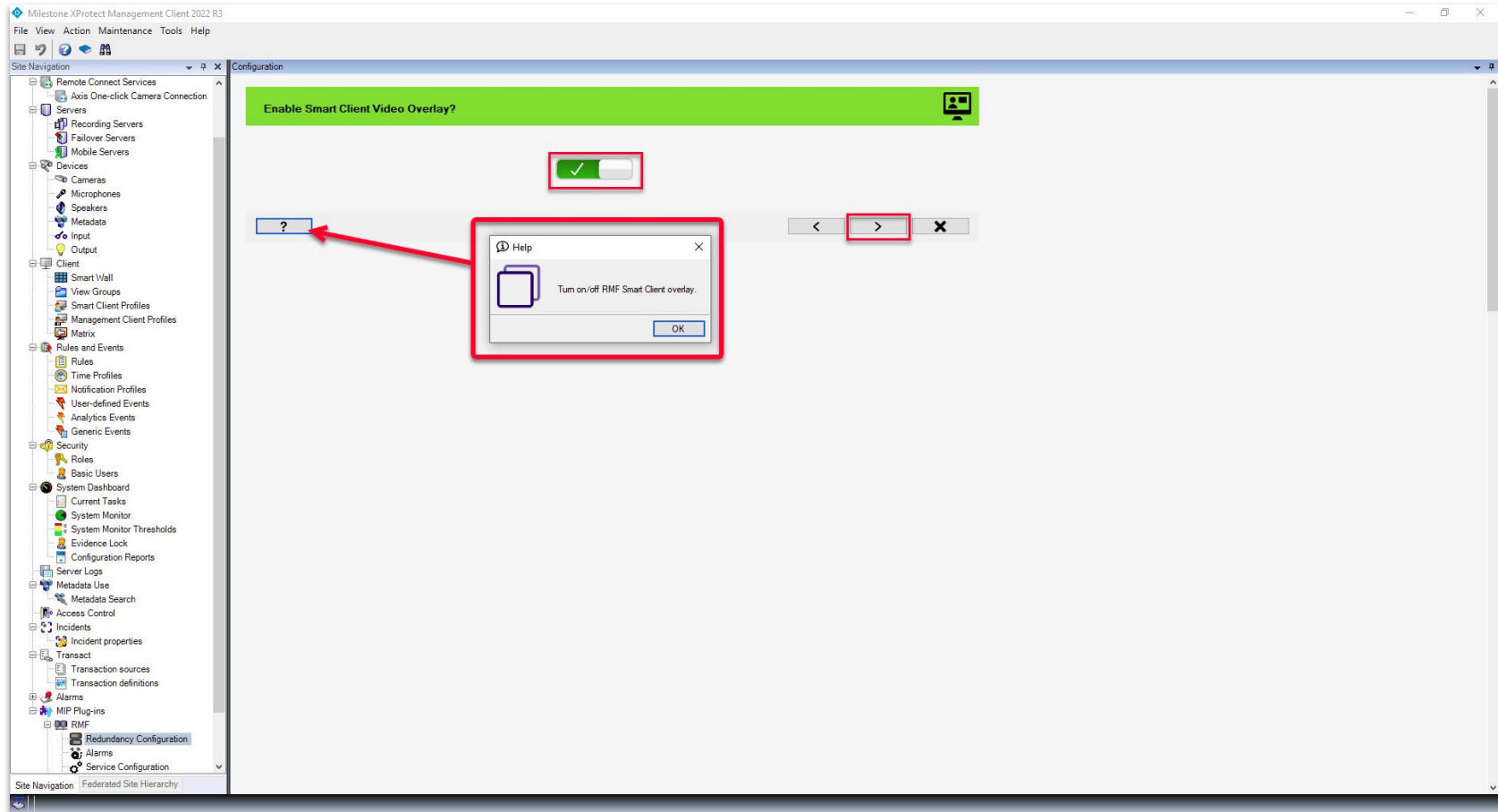
The Smart Client default switches back to a higher priority server once the priority server is back online.



Step 34: Click Next.



Step 35: Configure the **Wait Time After Video Loss**.
Smart Client default switches to a redundant recording server
after video loss of 1.0 seconds, in this case



Step 36: Enable or disable **Smart Client Overlay**.

By default, the overlay is disabled.

Milestone XProtect Management Client 2022 R3

File View Action Maintenance Tools Help

Site Navigation

Configuration

WebAPI Port

Port: 2020 ✓

Note - Port range from 1024 - 65535
- Requires Administrative Access

?

Help

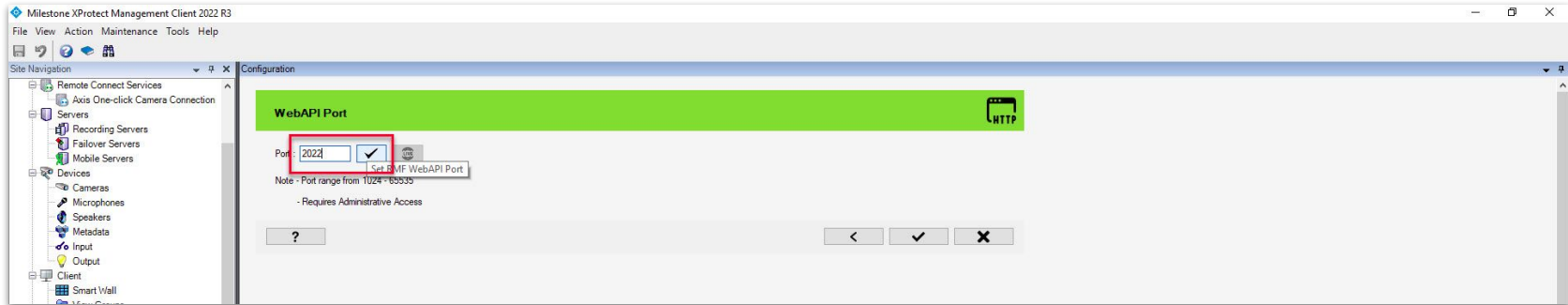
RMF Web API offers an authorized REST interface that enables third-party software to retrieve XProtect dual-recording redundancy information.

This step helps to set up the API port number.

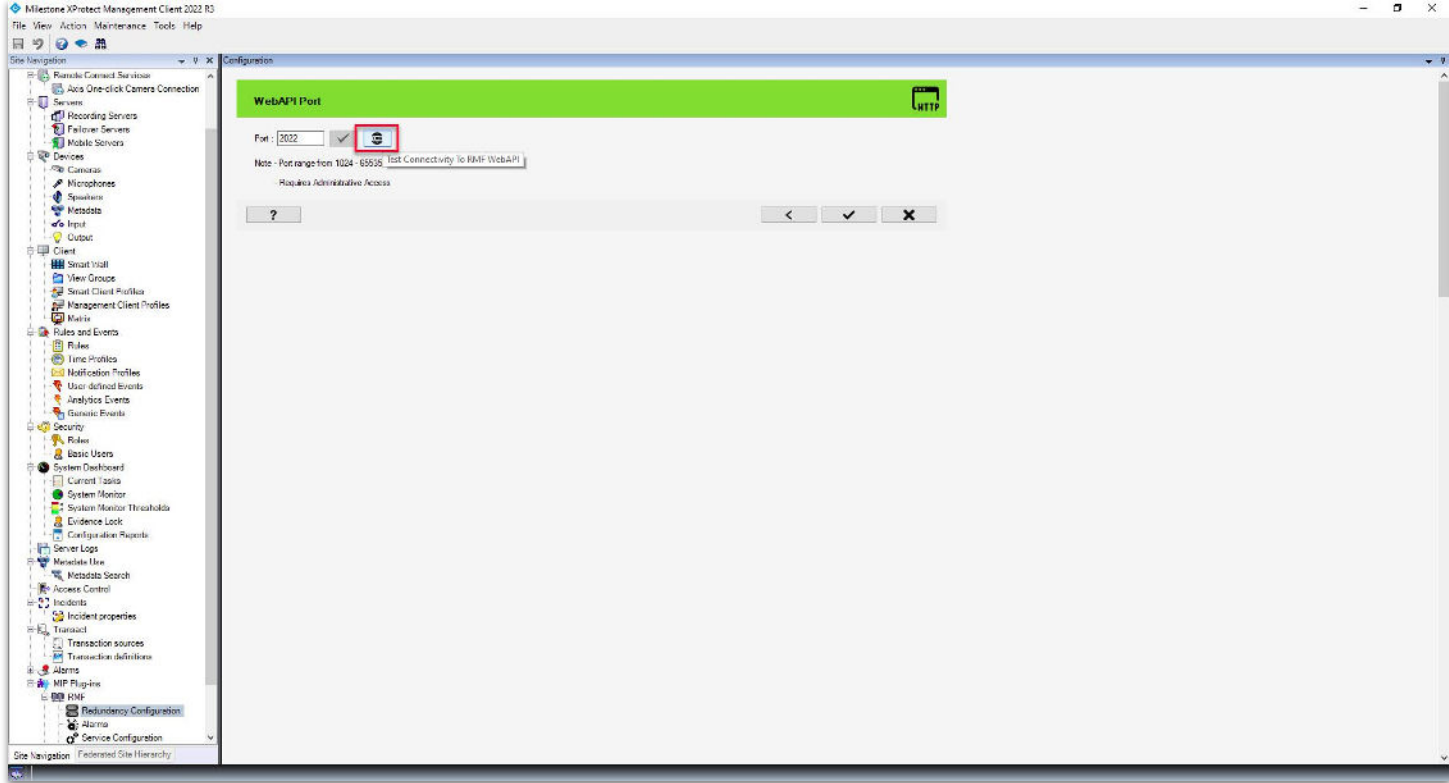
The Web API help page can be accessed at <http://<ManagementServerIP><RMFWebPort>/VegaSystems/Help>.

OK

Step 37: Configure the Web API Port Number.
By default, the Web API port number is configured to 2020.

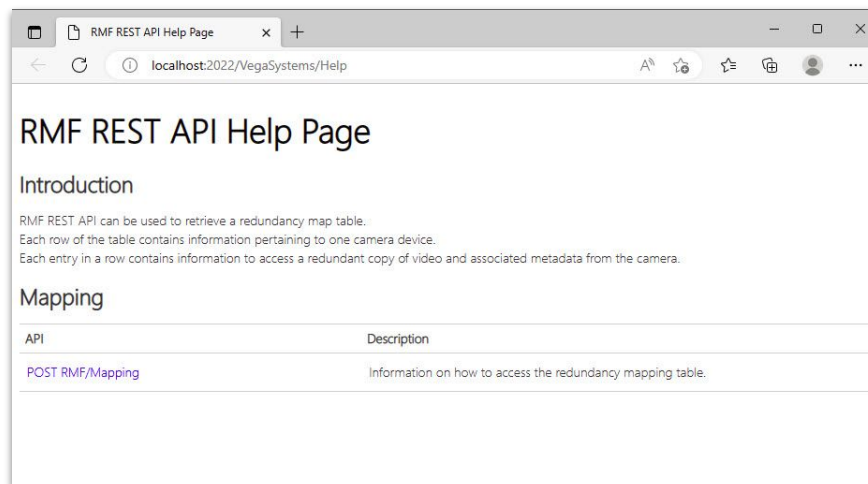
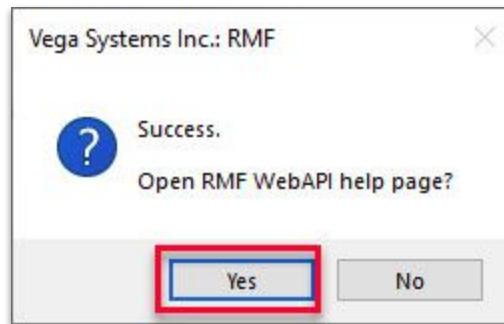


Step 38: Modify the Web API port number, if required. Click on **Set RMF Web API Port**.
A done message is popped if the port number was set successfully.

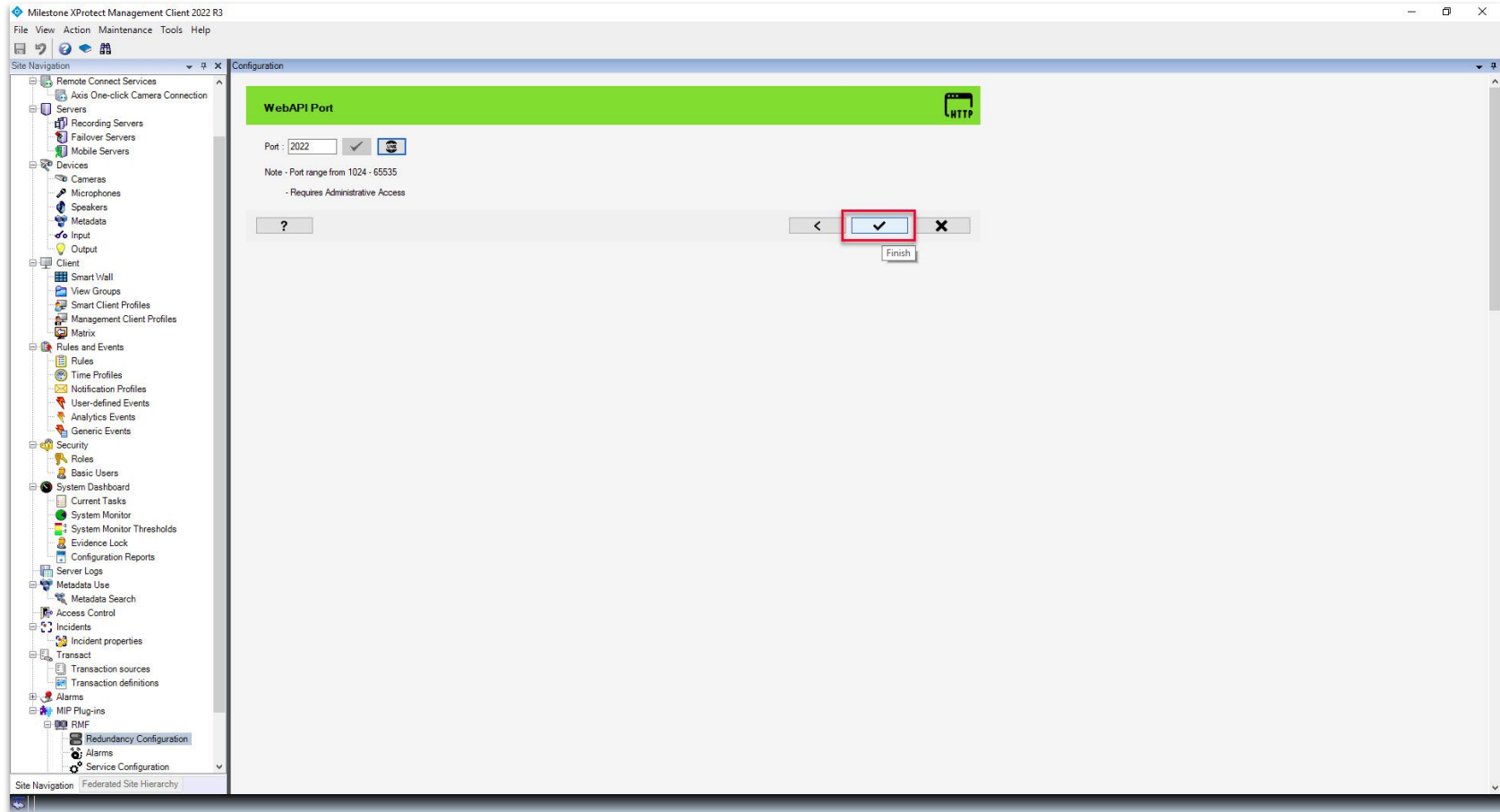


Testing connectivity...

Step 39: Click **Test Connectivity to RMF WebAPI** to test the connectivity to the configured port number.



Step 40: Click **Yes** to open the Web API in the browser to verify.



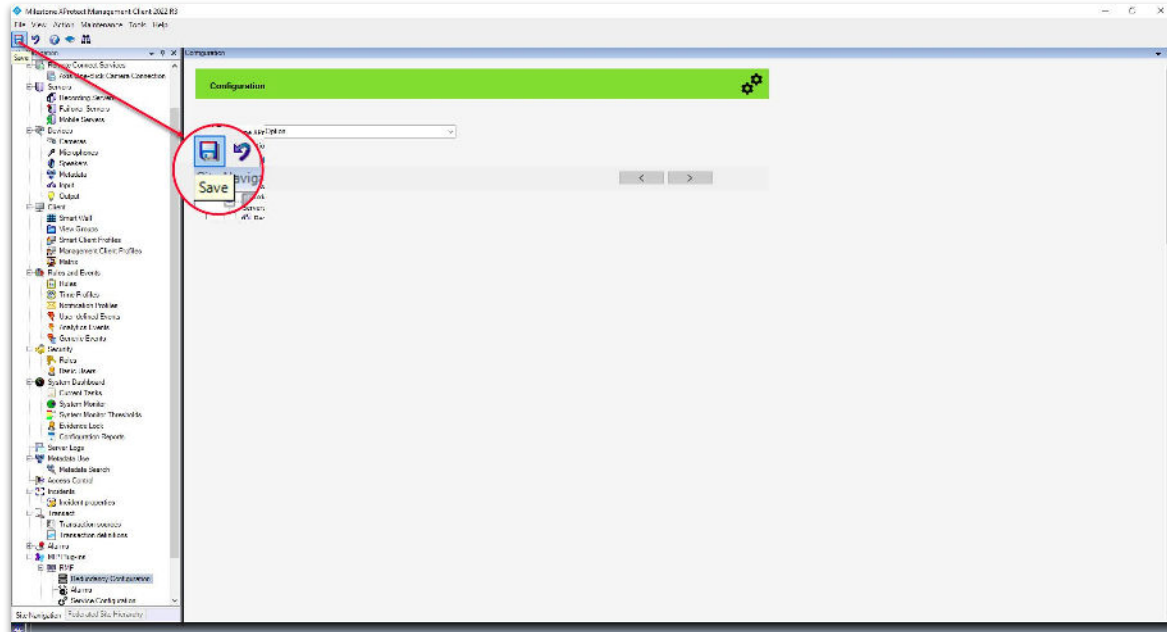
Step 41: Click **Finish** to complete the configuration.

Vega Systems Inc., RMF



To apply the changes, please click on the 'Save' button located in the Milestone toolbar.

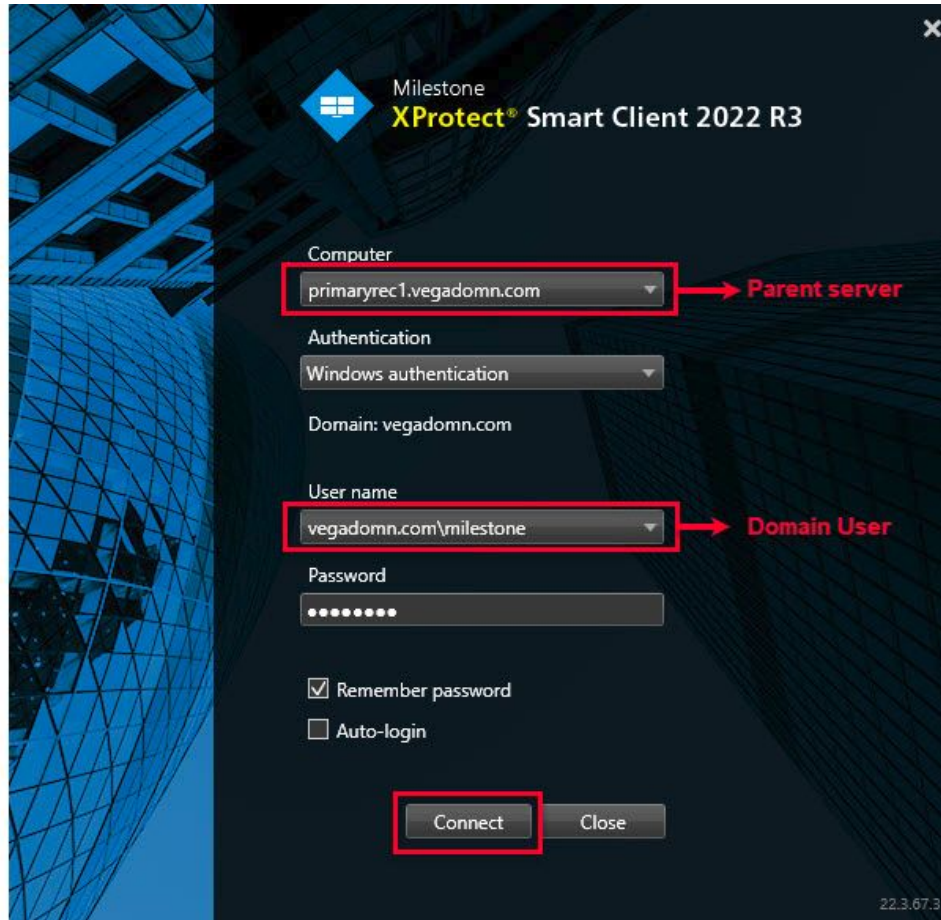
OK



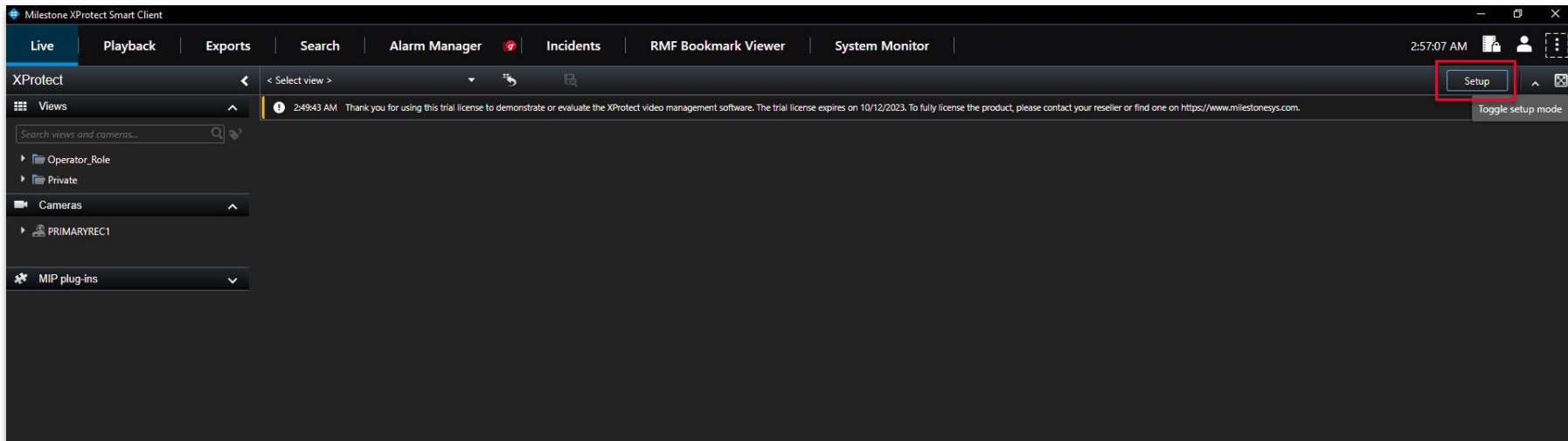
Step 42: Click **Save** to save the configuration.



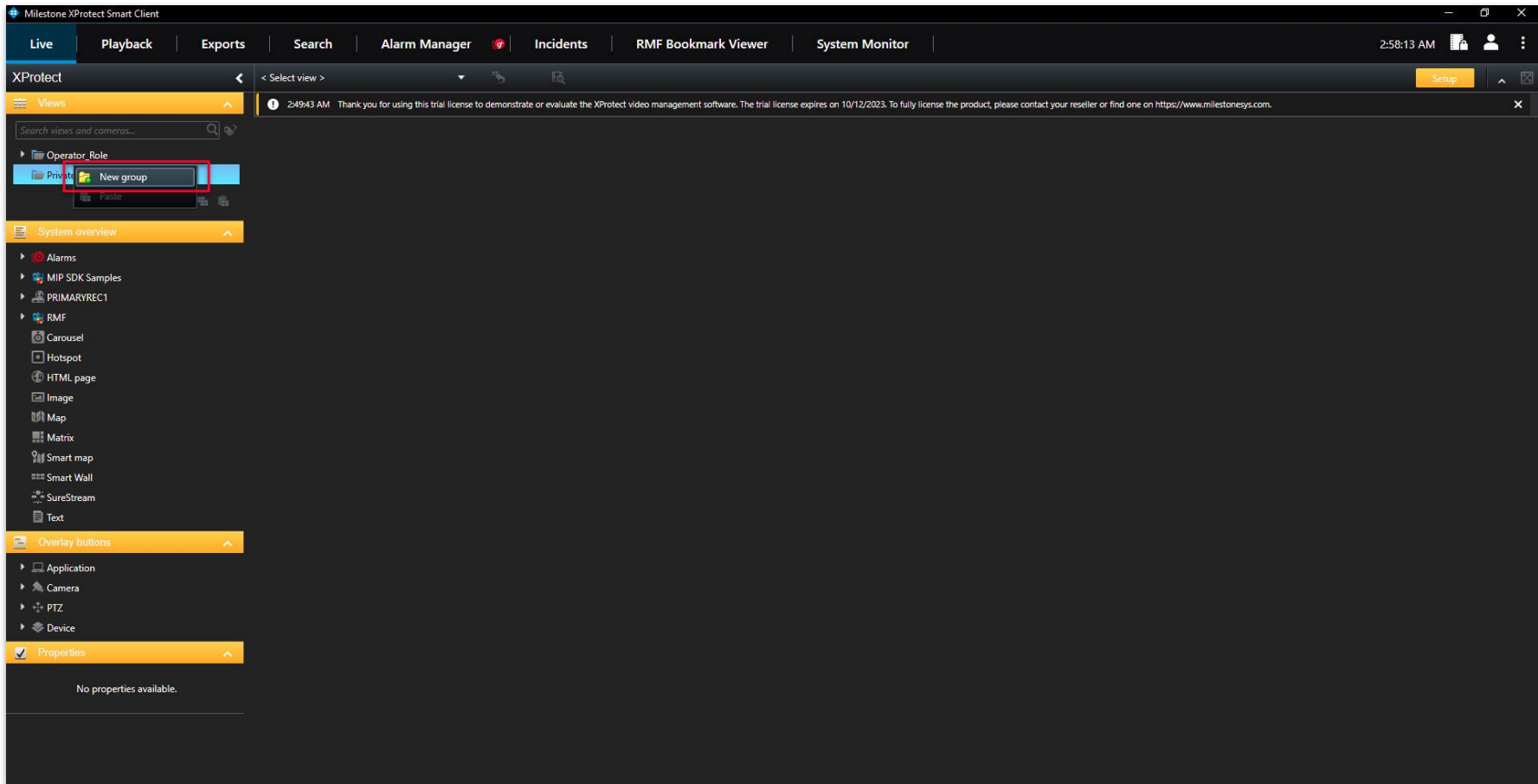
Part 4: Verification – Smart Client



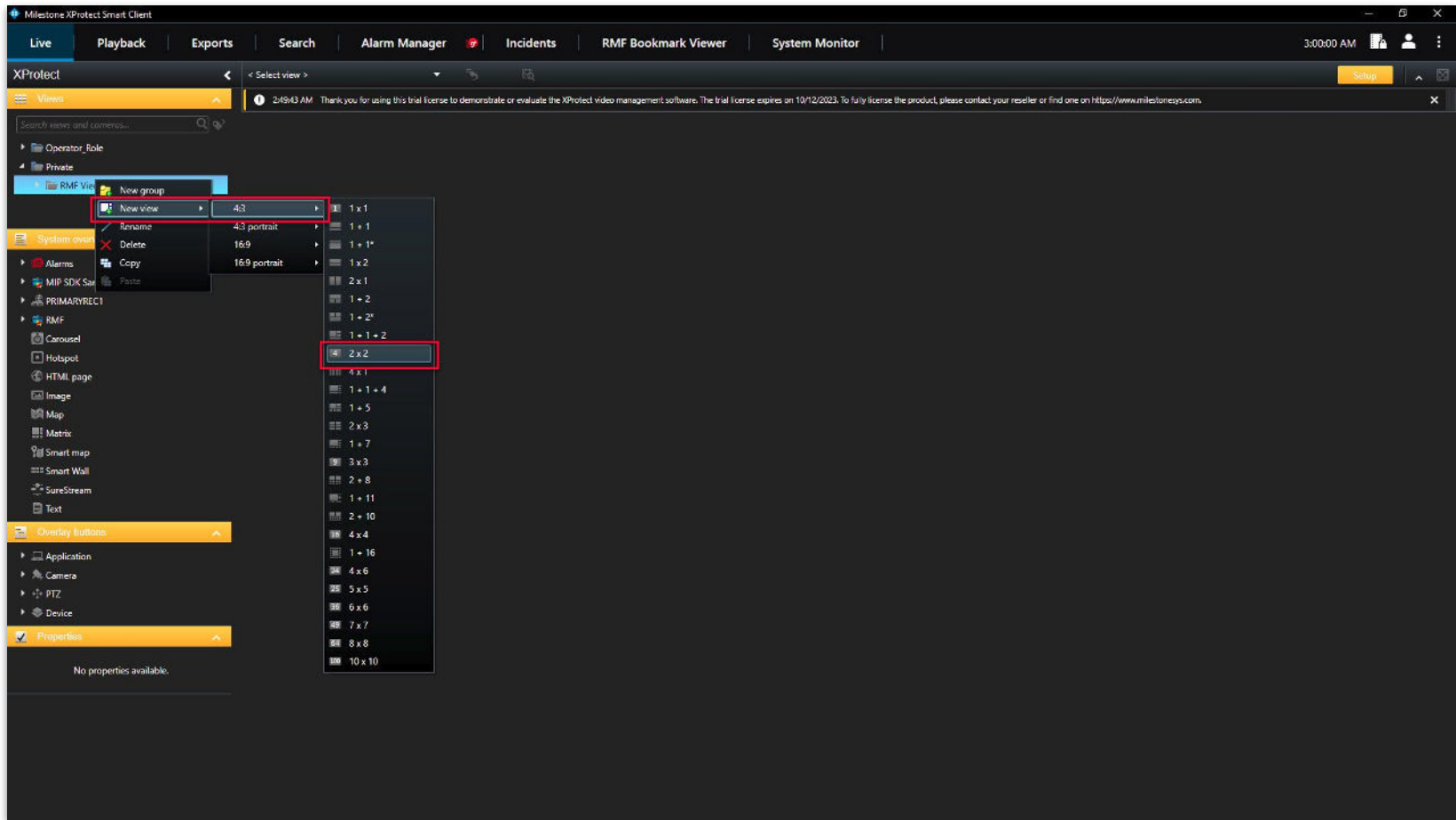
Step 1: Open the **Smart Client**. **Login** as a domain user with admin privileges.



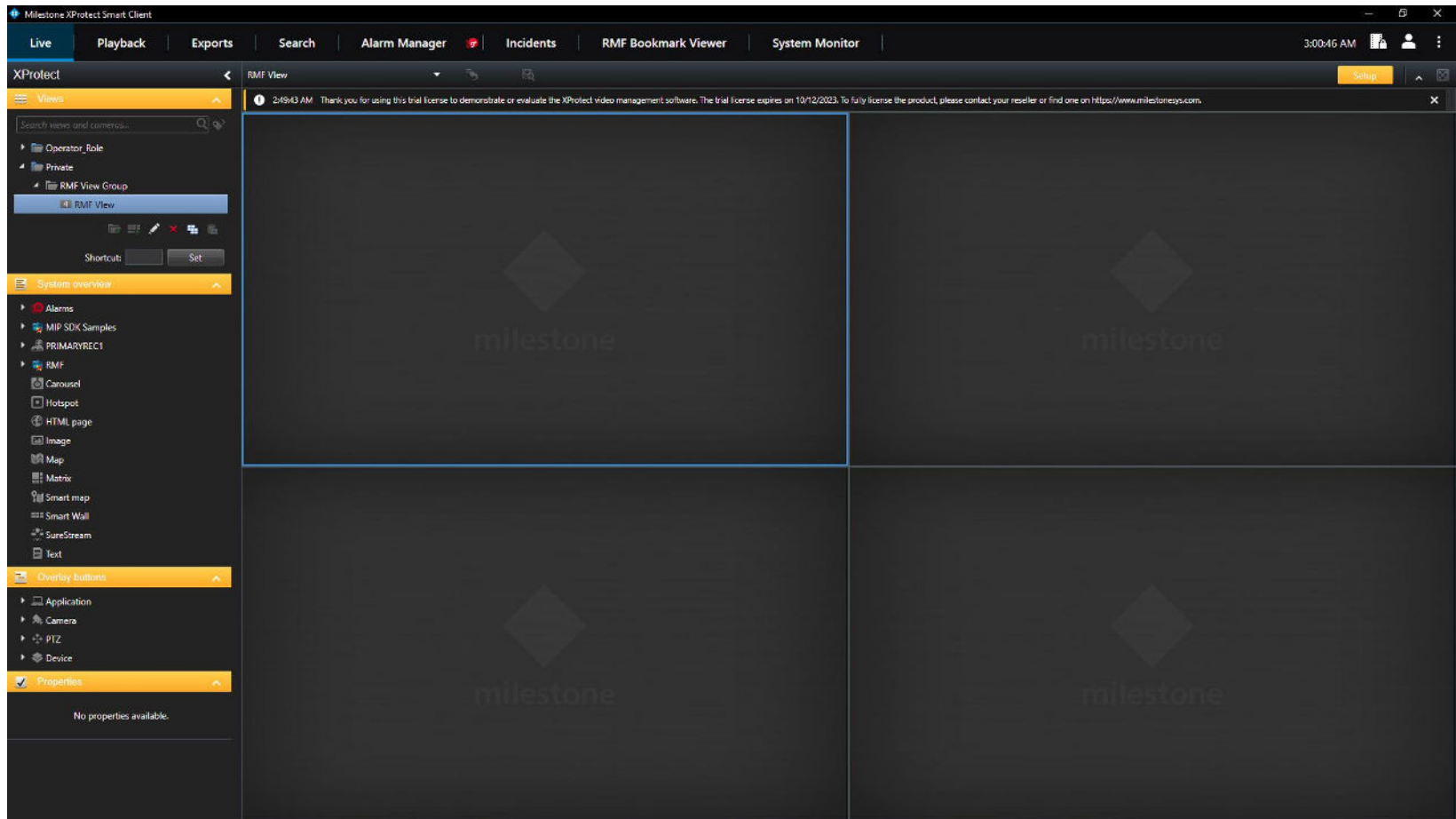
Step 2: Switch to **Setup** mode.



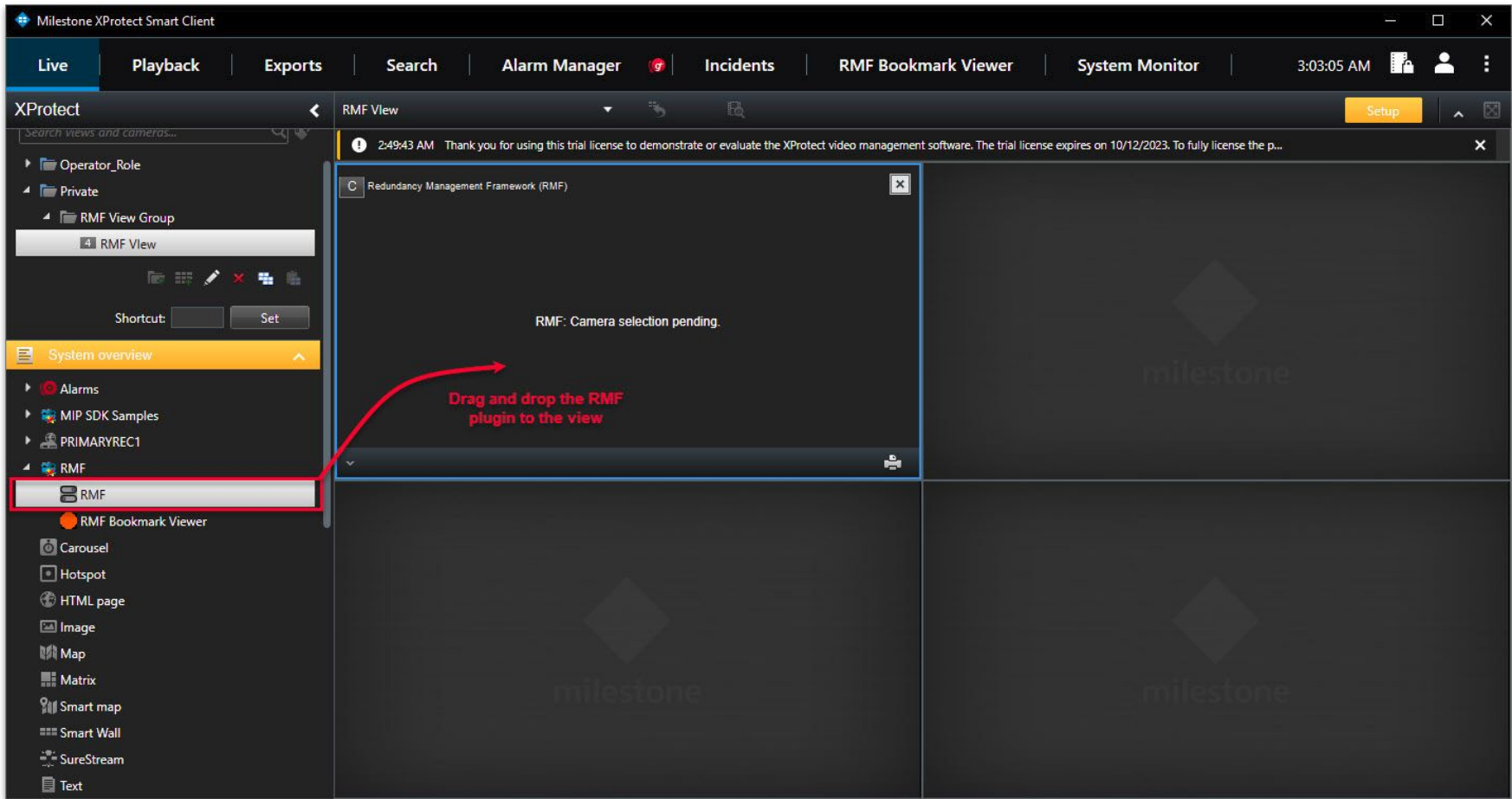
Step 3: Right-click Private under **Views**. Select **New Group** and provide a name for the group.



Step 4: Right-click the group created, select **New View** option and select the view.



Step 5: The chosen **4X4 view** is created, as shown above.



Step 6: Goto System Overview → RMF. Drag and drop the RMF plugin to the view.

The screenshot displays the Milestone XProtect Smart Client interface. The top navigation bar includes tabs for Live, Playback, Exports, Search, Alarm Manager, Incidents, RMF Bookmark Viewer, and System Monitor. The main window is titled 'XProtect' and shows a search bar and a left-hand navigation pane. The navigation pane lists various views, with 'RMF' selected. A central window titled 'Redundancy Management Framework (RMF)' is open, displaying the text 'RMF: Camera selection pending.' A red box highlights a 'C' button in the top-left corner of this window. A notification banner at the top of the main window indicates a trial license expiration date of 10/12/2023.

Step 7: Click the “C” button to open the list of RMF managed cameras.



Milestone XProtect Smart Client

Live | Playback | Exports | Search | Alarm Manager | Incidents | RMF Bookmark Viewer | System Monitor | 3:53:11 AM

XProtect

Search views and cameras...

Operator_Role

Private

RMF View Group

RMF View

Shortcut: [] [Set]

System overview

Alarms

MIP SDK Samples

PRIMARYREC1

RMF

RMF

RMF Bookmark Viewer

Carousel

Hotspot

HTML page

Image

Map

Matrix

Smart map

Smart Wall

SureStream

Text

RMF View

2:49:43 AM Thank you for using

Mapped List

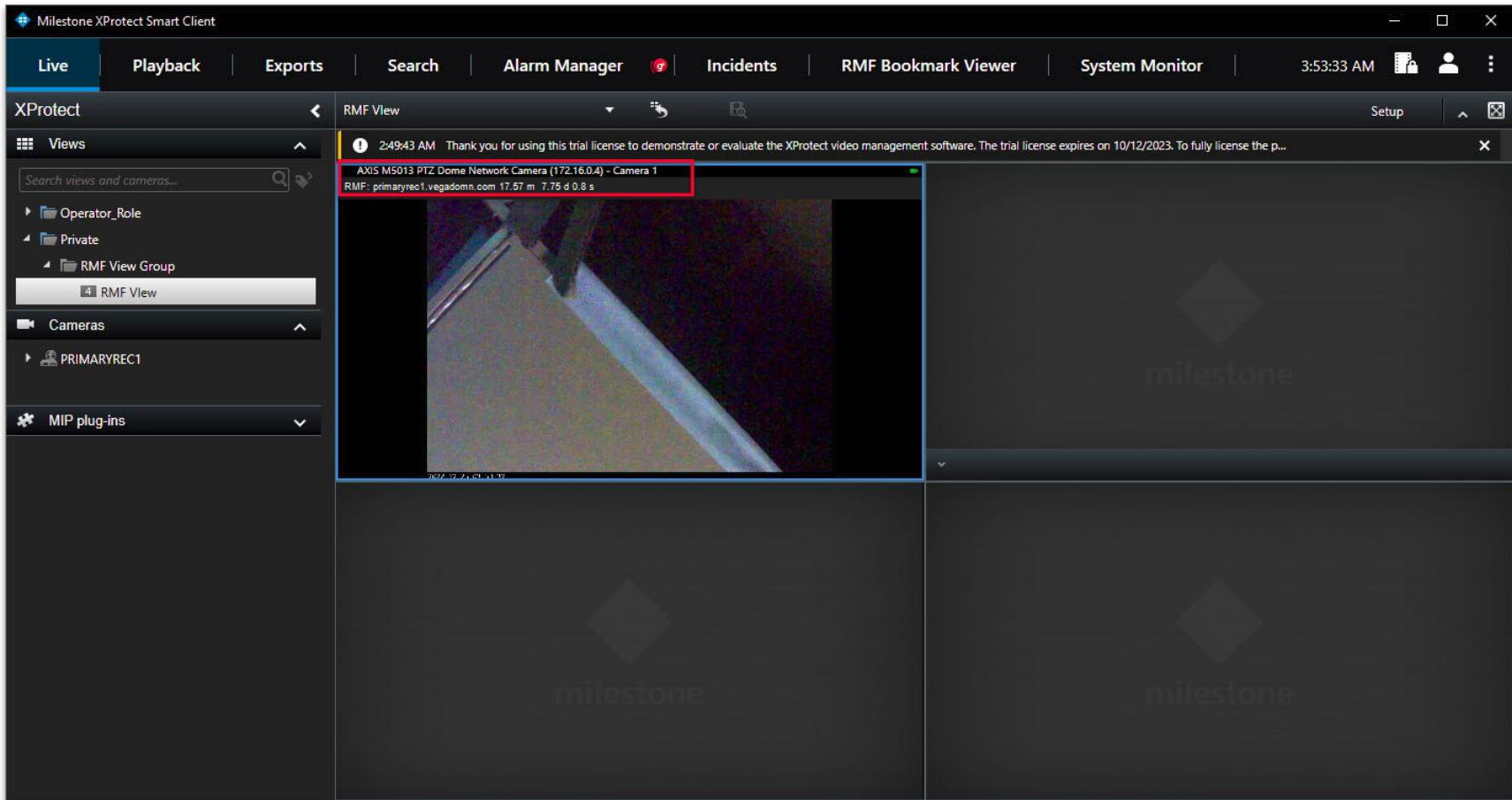
Redundancy Management Framework

- AXIS M3044-V Network Camera (172.16.0.3) - Camera 1
- AXIS M3044-V Network Camera (172.16.0.3) - Camera 2
- AXIS M3058-PLVE Fixed Dome Network Camera (172.16.0.18) - Camera 1
- AXIS M3058-PLVE Fixed Dome Network Camera (172.16.0.18) - Camera 8
- AXIS M3058-PLVE Fixed Dome Network Camera (172.16.0.18) - Camera 9
- **AXIS M5013 PTZ Dome Network Camera (172.16.0.4) - Camera 1**
- AXIS M7014 Video Encoder (172.16.0.14) - Camera 1
- AXIS M7014 Video Encoder (172.16.0.14) - Camera 2
- AXIS M7014 Video Encoder (172.16.0.14) - Camera 3
- AXIS M7014 Video Encoder (172.16.0.14) - Camera 4
- AXIS M7014 Video Encoder (172.16.0.14) - Camera 5
- AXIS P3807-PVE Network Camera (172.16.0.26) - Camera 1

The trial license expires on 10/12/2023. To fully license the p...

Search the required RMF managed camera

Step 8: Select (Double-click) a camera for the view.



Step 9: Exit the Setup mode.
View the **Live stream** for the **selected camera** from the parent recording server.