APPLICATION NOTE

USING VIVOTEK FISHEYE CAMERAS WITH MILESTONE® XPROTECT

Version 1.3c
2019/12/20

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Revision History

Version	Issue date	Editor	Comment
V1.0		Ives	Initial draft
V1.1		Ives	Wording Modify
V1.2		Ives	Wording Modify and version modify for Fishey Plug-in Ver#3.0
V1.3a	2019/7/17	Betty	Delete Prerequirement of fisheye camera sections, and version modify for Fisheye Plug-in Ver#3.0.0.1
V1.3b	2019/07/18	Ives	Update Milestone Supporting version, .Net Framework and related module version & link.
V1.3c	2019/12/20	Betty	Add Prerequisites for Fisheye Cameras.

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Index

Revision History 1
1. For Milestone® XProtect Users 3
2. Getting Start 4
3. Prerequisites for Fisheye cameras 6
4. To Enable the Plug-in & Operation 8

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1. For Milestone® XProtect Users

A proprietary plug-in is available for users who install Fisheye cameras in a deployment managed by Milestone XPortect Corporate or Enterprise IP solutions. The plug-in enables image dewarping, pan, tilt, and zoom in/out over a video feed using a mouse or joystick.

NOTE:

The plug-in applies to:

XProtect Professional/ XProtect Professional +/ XProtect Expert/ XProtect Corporate / XProtect Express/ XProtect Express+/ XProtect Essential+

The plug-in does not apply to:

XProtect Go/ XProtect Essential

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2. Getting Start

Complete the following procedure as the prerequisites for installing Milestone's SmartClient and the plug-in:

(1) Download VIVOTEK's fisheye plug-in from VIVOTEK's Fisheye Camera's download page for appropriate plug-ins (for x64 or x86 versions[1]).

(2) Install the **.NET framework 4.7** Runtime[2]. The .NET framework is essential for installing SmartClient.

(3) Install the **DirectX runtime (9.29.1974)**[3] and above. The DirectX runtime is also necessary to the plug-in for managing DirectX components especially for older Windows XP Systems.

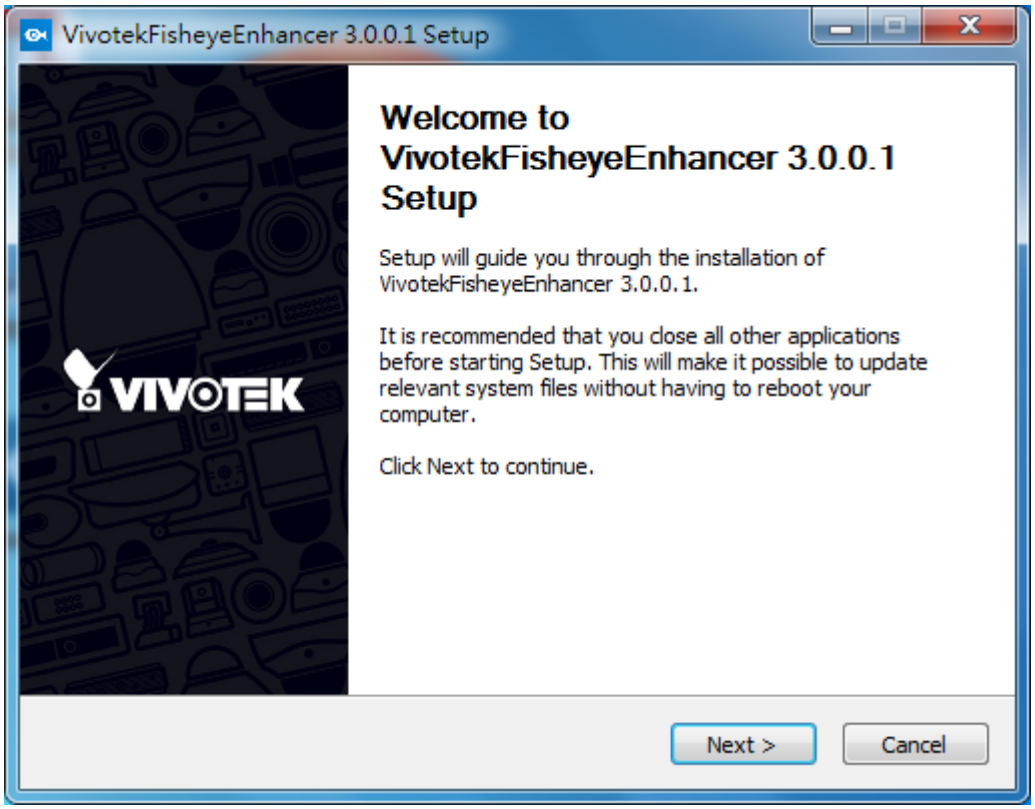
(4) Install the Milestone XProtect SmartClient 2014 9.0b or above (especially using plug-in v2.0.0.0).

(5) Unzip and execute the Fisheye Enhancer installer from a zip file:

a. By default, a sub-folder named **MIPPlugins** is available under the Milestone Smart Client installation path. The default file path should look like the following:
C:\Program Files\Milestone\MIPPlugins\VivotekFisheyeEnhancer

b. If you changed the installation path of Smart Client, use the browse button to locate the **MIPPlugins** sub-folder.

c. Click Install to proceed with installation.



[1] OS supports extends from Windows 8.1 to Windows 10.
[2] .Net Framework: https://dotnet.microsoft.com/download/dotnet-framework/net47
[3] DirectX: http://www.microsoft.com/en-us/download/details.aspx?id=8109

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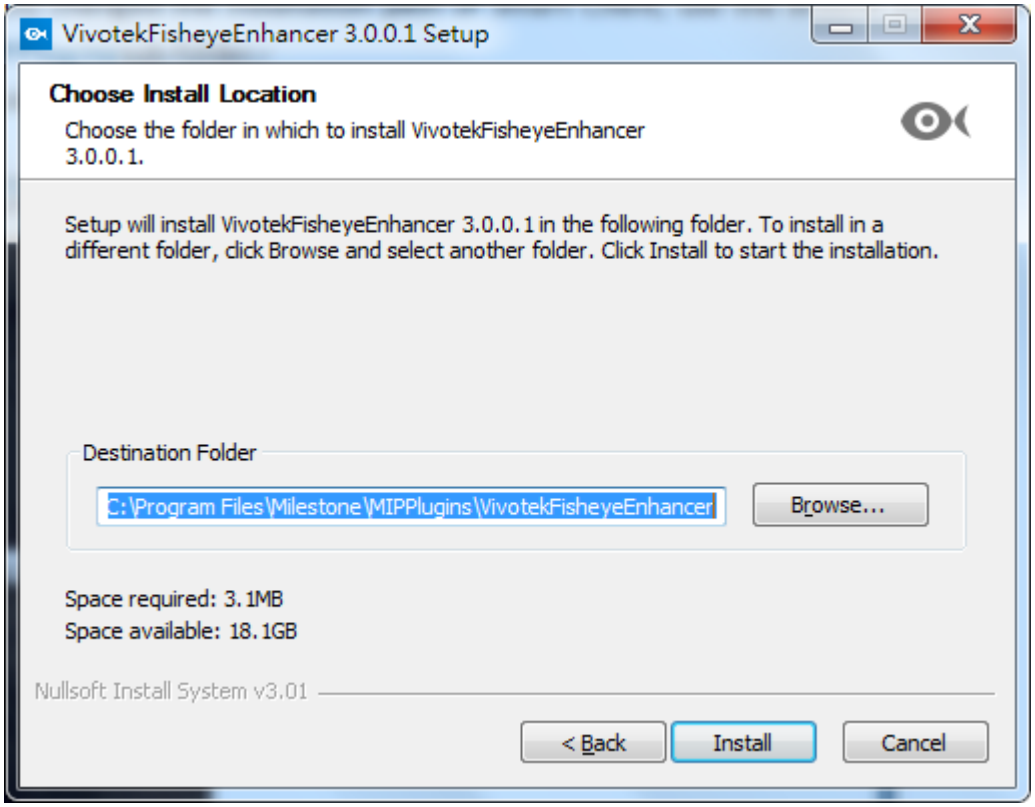

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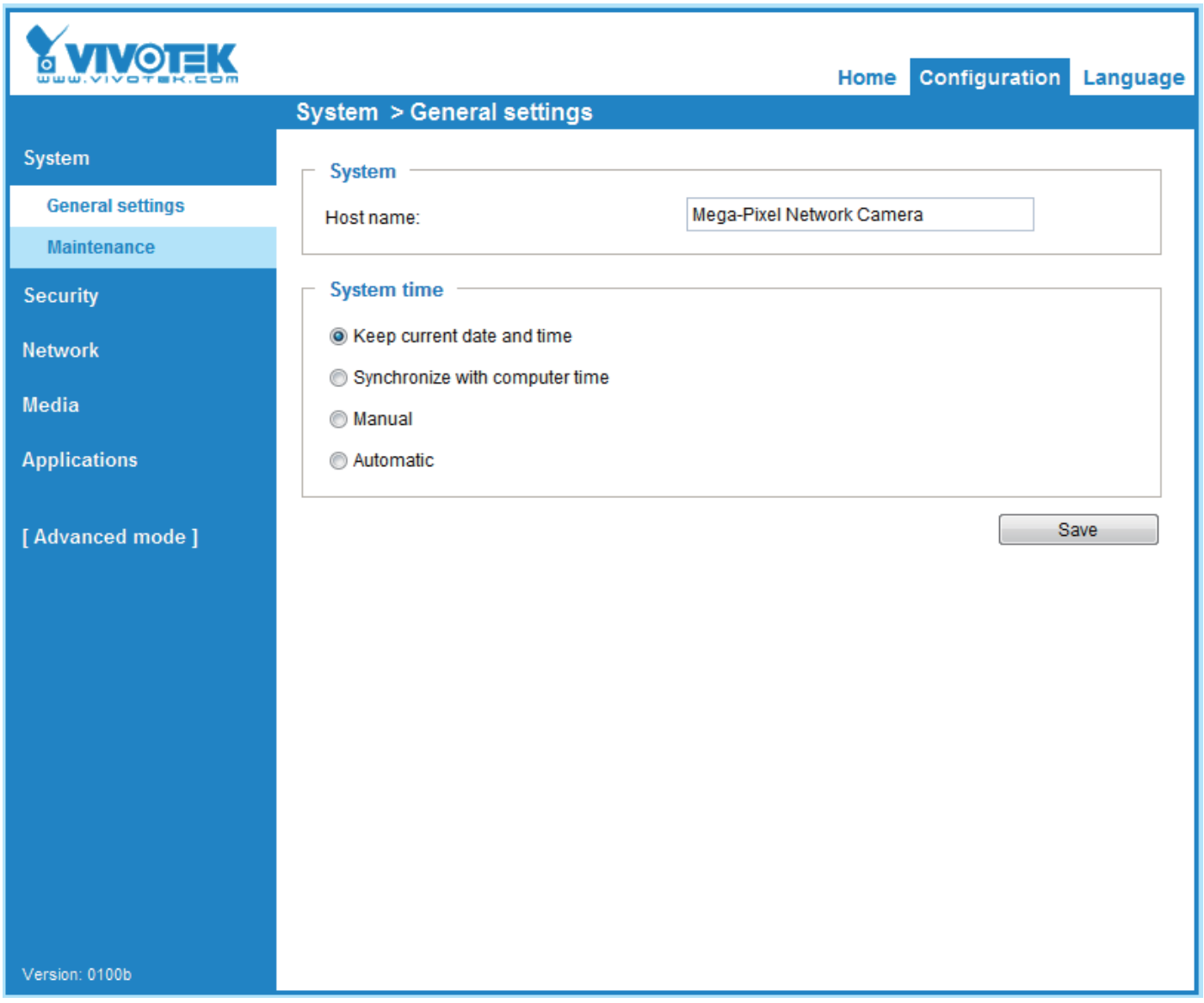
3. Prerequisites for Fisheye cameras

To authenticate the use of the Dewarp plug-in functionality, please make sure the “watermark” on VIVOTEK’s fisheye camera is enabled.

(1) Open a browser session with the camera.

(2) For FE8xxx series, please upgrade firmware to version 0100f or above.

(3) Check the “watermark” is enabled on “Configuration” > [Advanced Mode] > “System” > “Parameters” > “videoin_c0_enablewatermarket ‘1’”.



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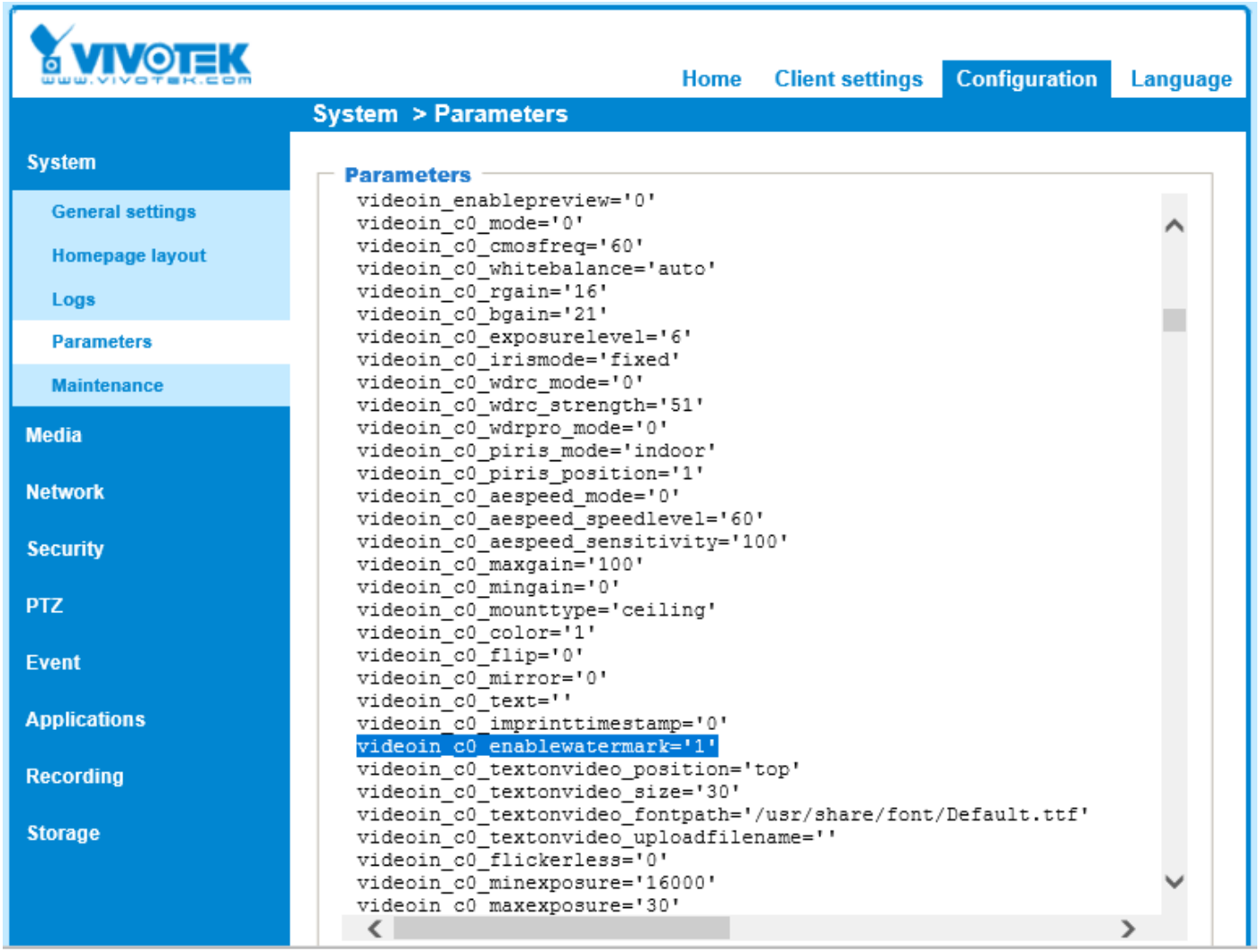

(4) If the “videoin_c0_enablewatermark=’0’”, please use the following URL command to turn the watermark on.
http://<CAMERA_IP_ADDRESS>/cgi-bin/admin/setparam.cgi?videoin_c0_enablewatermark=1

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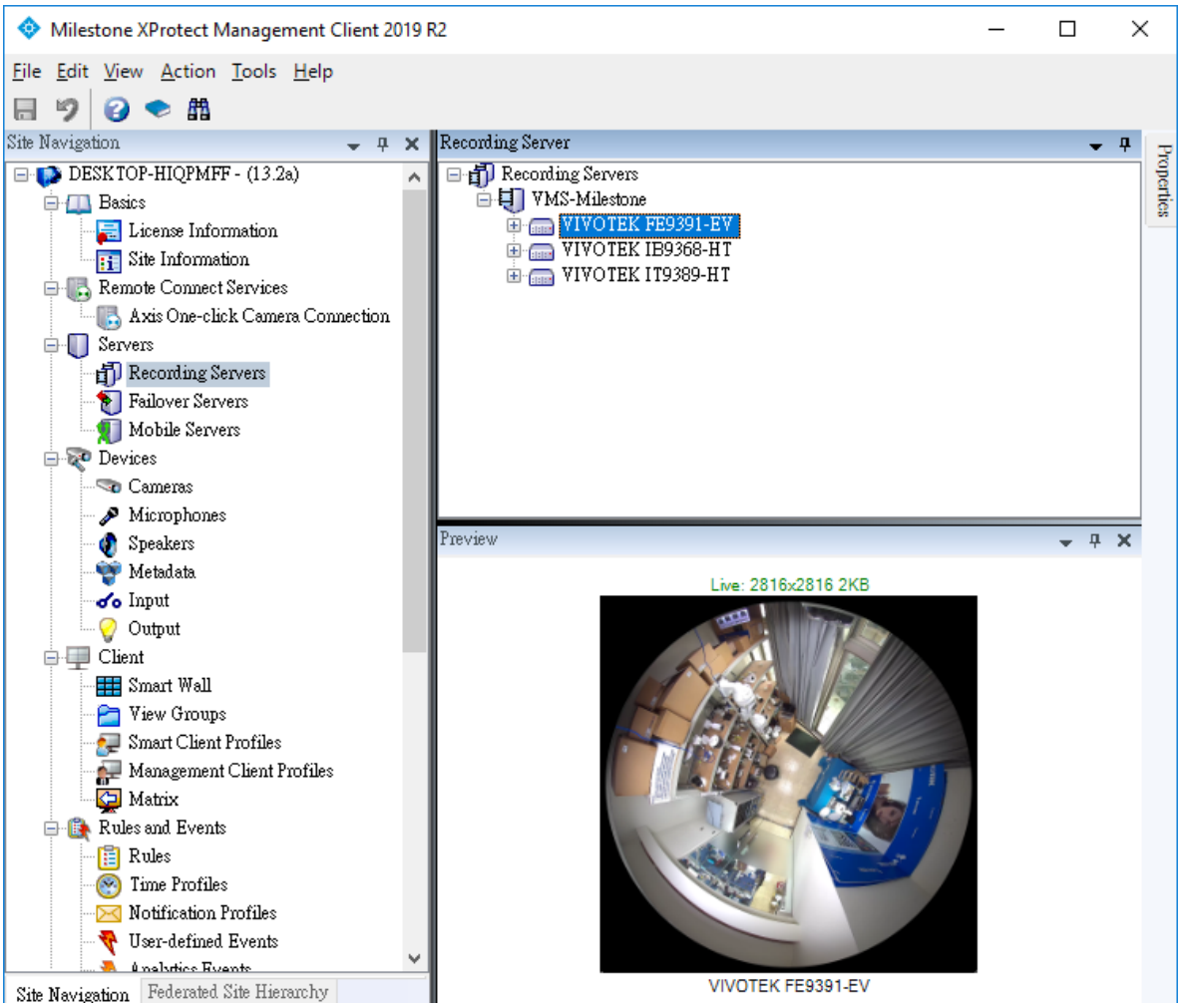
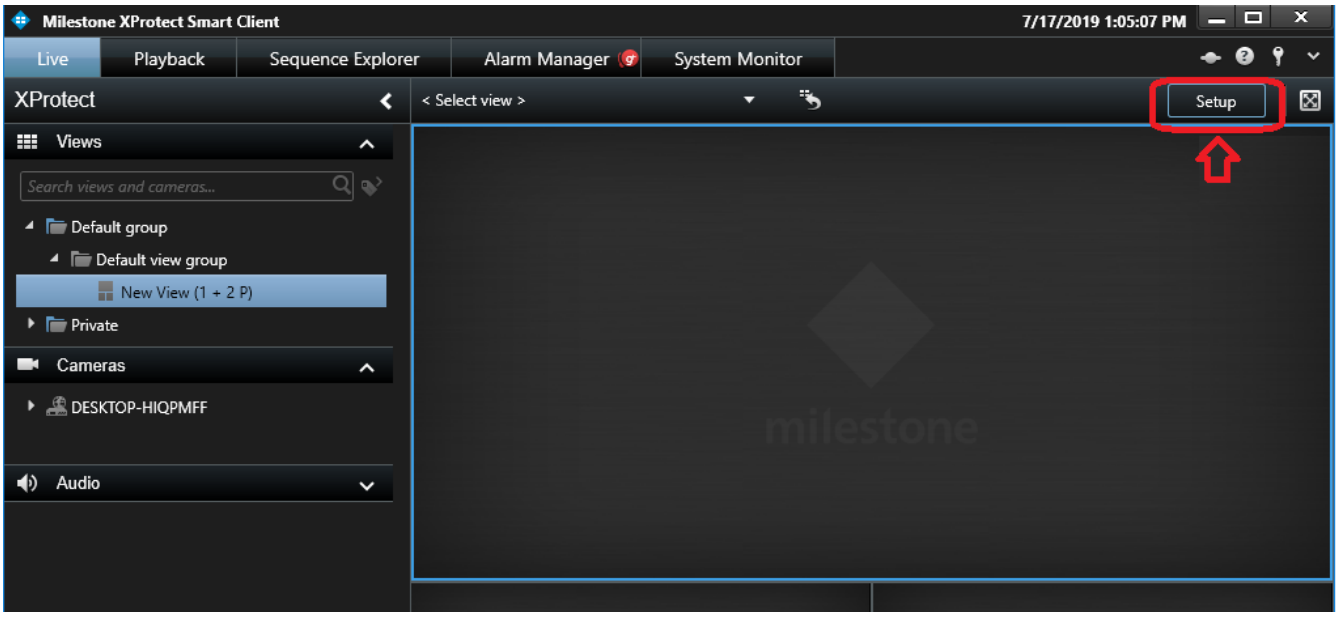
4. To Enable the Plug-in & Operation

(1) Make sure your fisheye cameras have already been added as "**Hardware Devices**" in the Recording Server of XProtect Enterprise / Corporate Management Application.



(2) Start the XProtect Smart Client.

(3) One the Live View window, click on "**Setup**".



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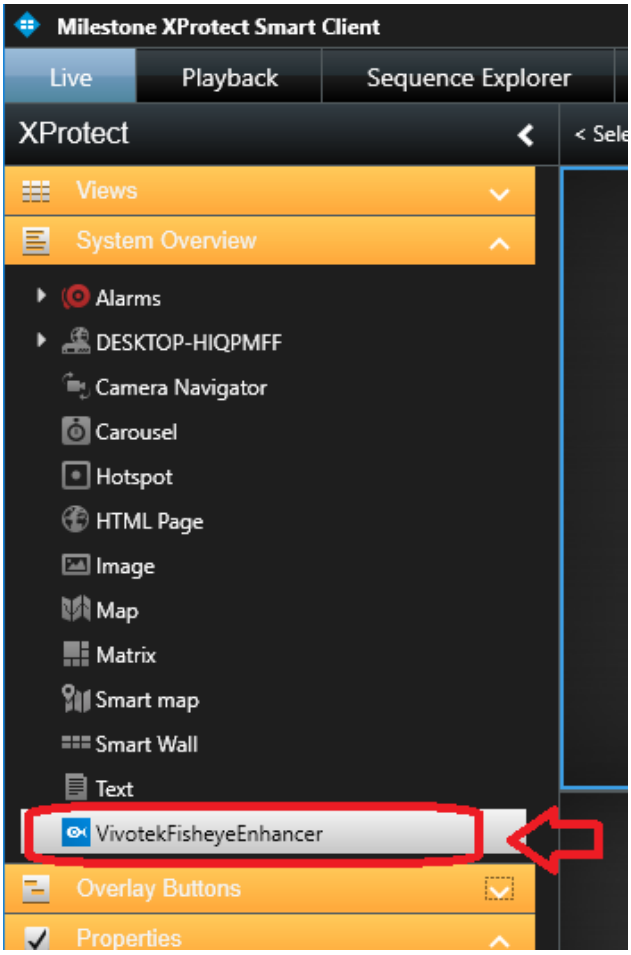
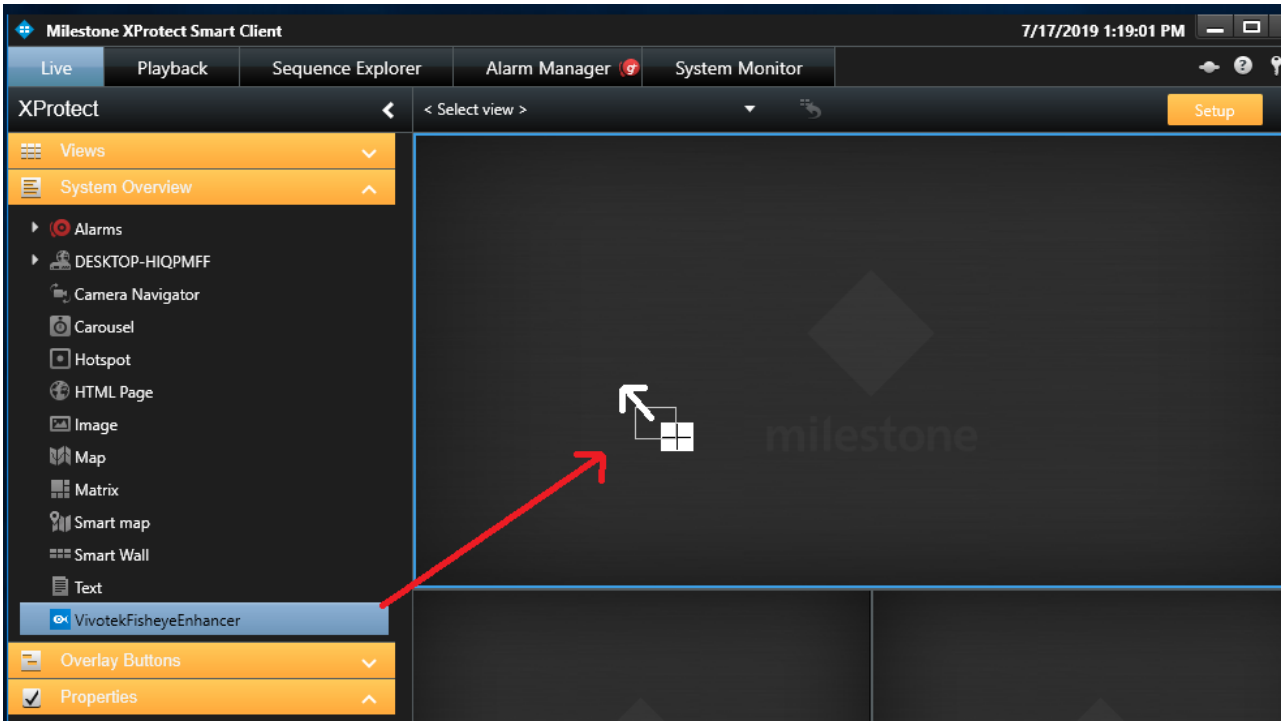
(4) On the Seup Window, search for the "**VivotekFisheyeEnhancer**" Plug-in by dragging the pull-down menu on the "**System Overview**" pane to the bottom.
Please note, if you install the plug-in when your SmartClient is startd, re-start the SmartClient utility.



(5) Click and drag the VivotekFisheyeEnhancer to a view cell. When done, the view cell will be highlighted by a light blue out frame.



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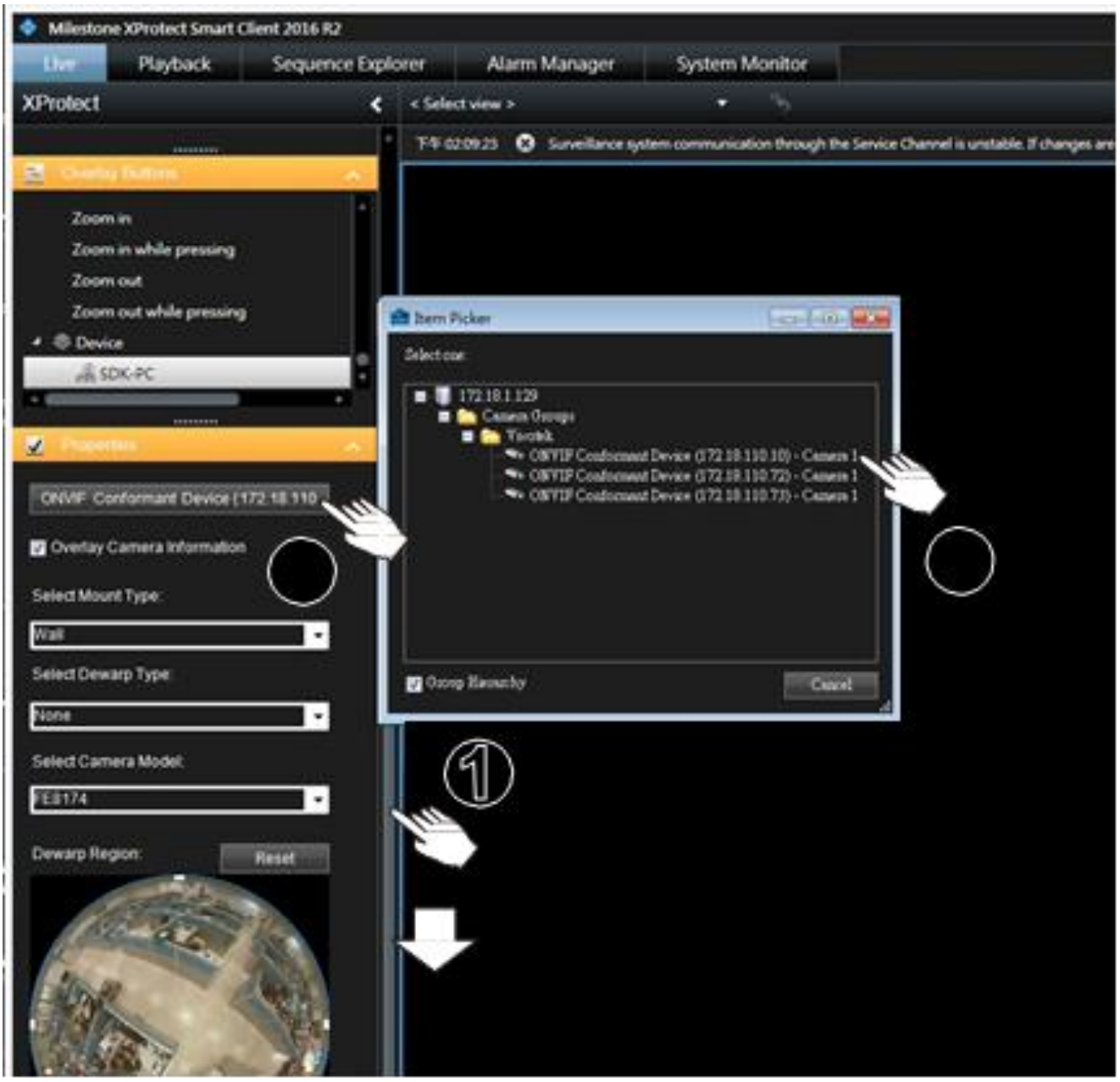
(6) Locate the Properties pane, and click on the Item Picker pane. An Item Picker window will prompt. Unfold the device tree and select a VIVOTEK Fisheye Camera.



(7) Select appropriate camer **Mount Type** (Ceiling, Wall or Ground), **Dewarp Type** (None, Rectinliner, Full View Panorama, or Dual View Panorama), and **Camera Model**. Select the **Overlay Camera Information** Check box to enable a Camera ID caption on the view cell.

IMPORTANT: Make sure you select the correct Camera model for the one you selected on the Item Picker window

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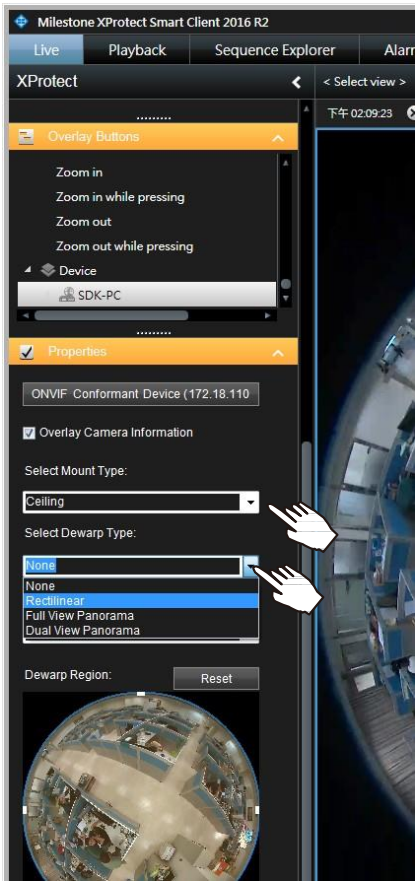
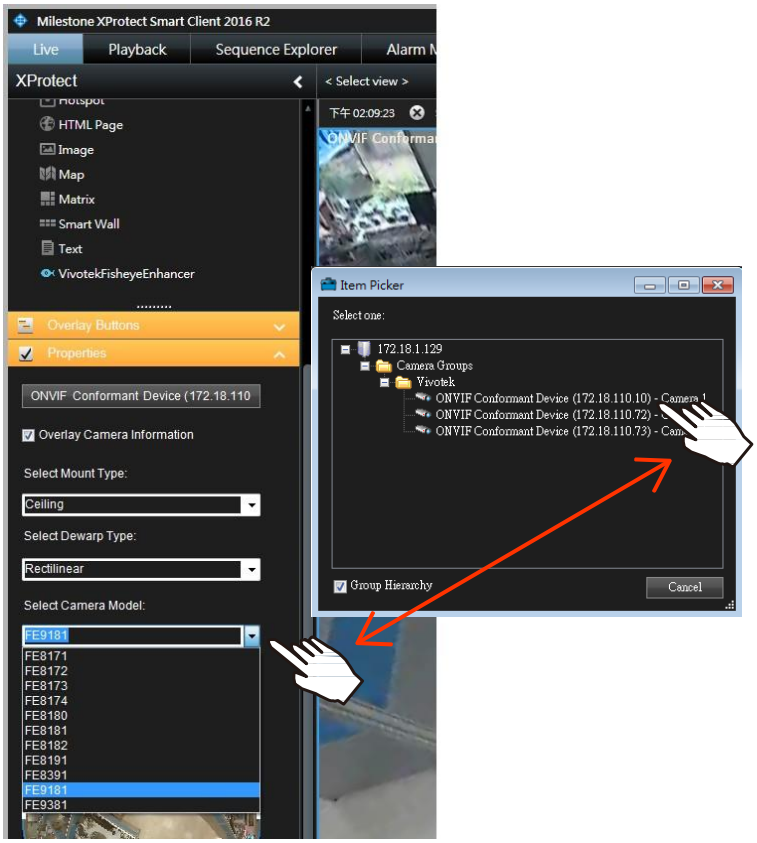
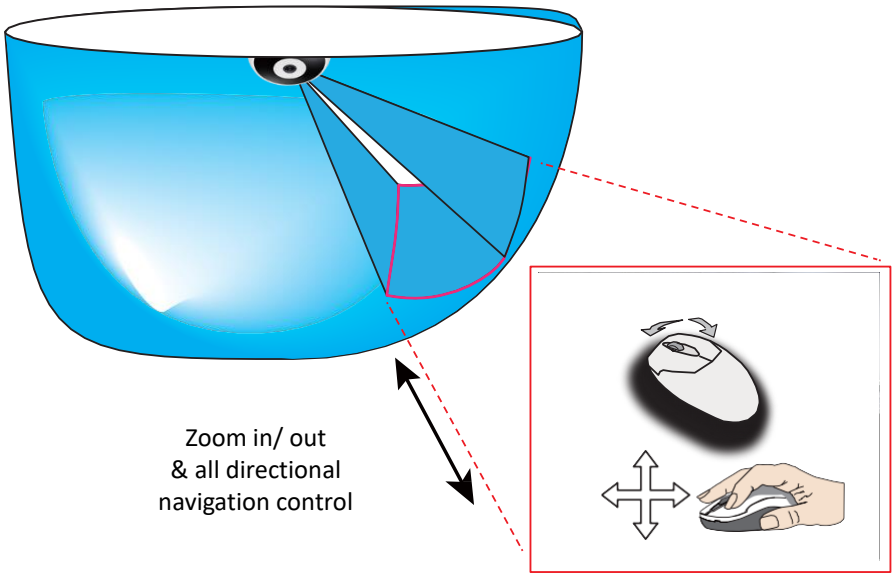




Note: The working theories of different dewarp types are illustrated below:

Rectilinear: (1R, Single Regional View)



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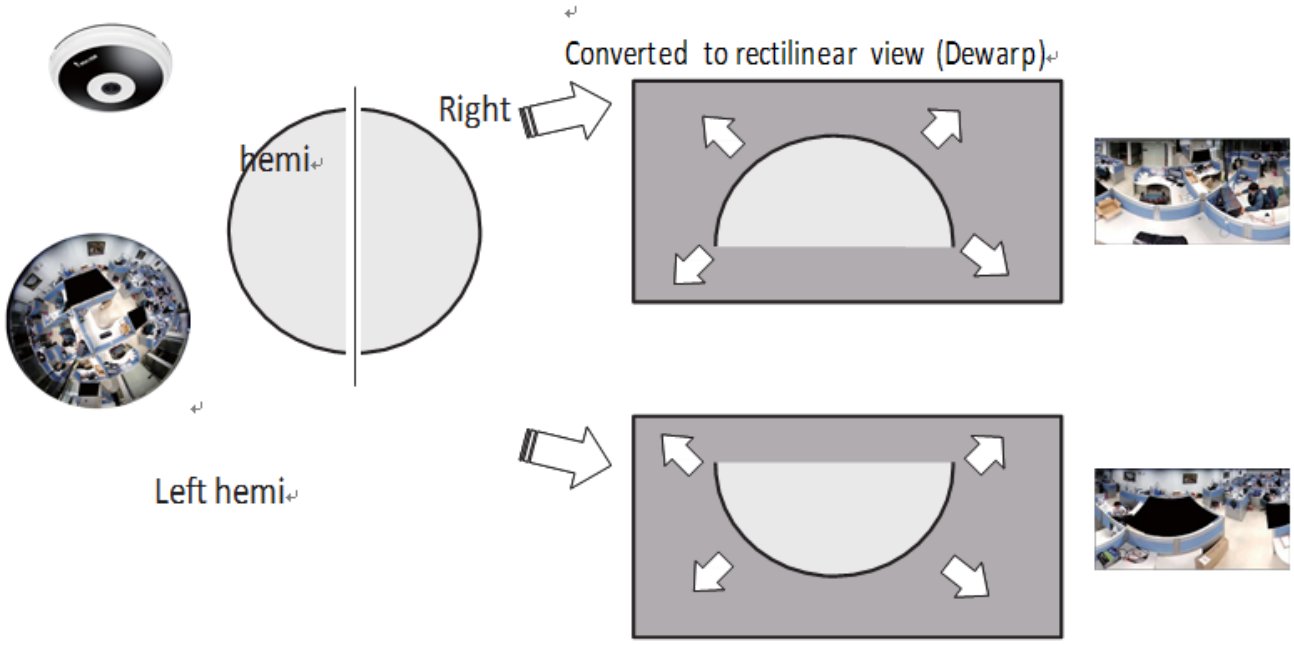
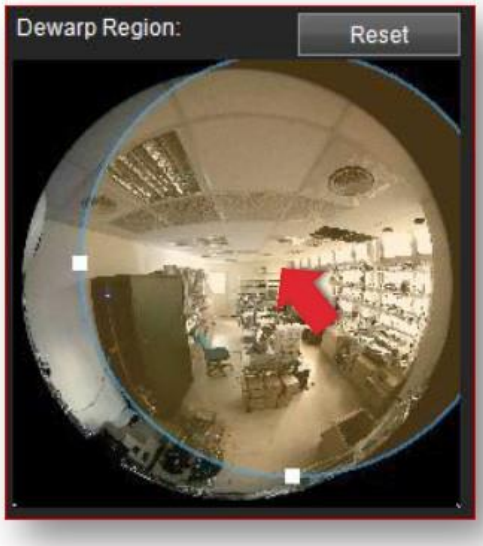
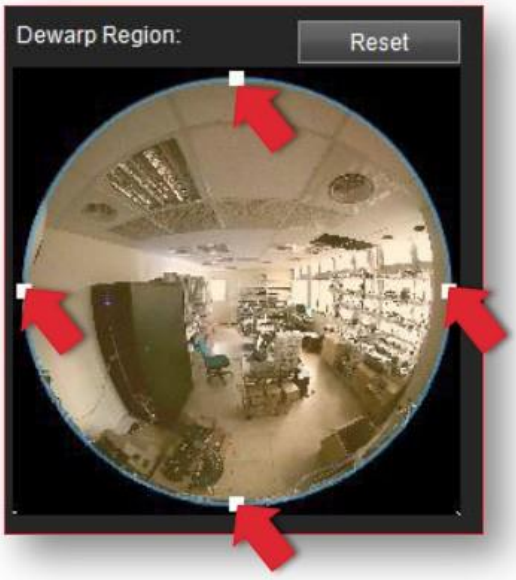
Dual View Panorama (2P, Panorama View)



(8) Although all fisheye camera lens have been adjusted before shipping, sometime fields of view can be away from the center, or that a larger fisheye lens can cover the edges of a dome cover. You can the use the Dewarp Region Tool to slightly adjust the "**Dewarp Region**" in order to produce a more comprehensive view.





(9) You can now click on the "**Setup**" button and return to the "**Live**" view or "**Playback**" window, and exert control on the view cell using a mouse or joystick. Click on a view cell, hold down the mouse button, and swipe your mouse around to change the view angle. Use scroll wheel to zoom in or out.
This revision also provides a **PiP** control window for instaneous control of the Rectilinear display. You can click and drag the rectilinear area around the full coverage of view to preferred location. You can also zoom in / out, or click and hold down the mouse button to swipe the dewarped view. This PiP window appears at the lower right corner on a Rectilinear view cell (when selected).

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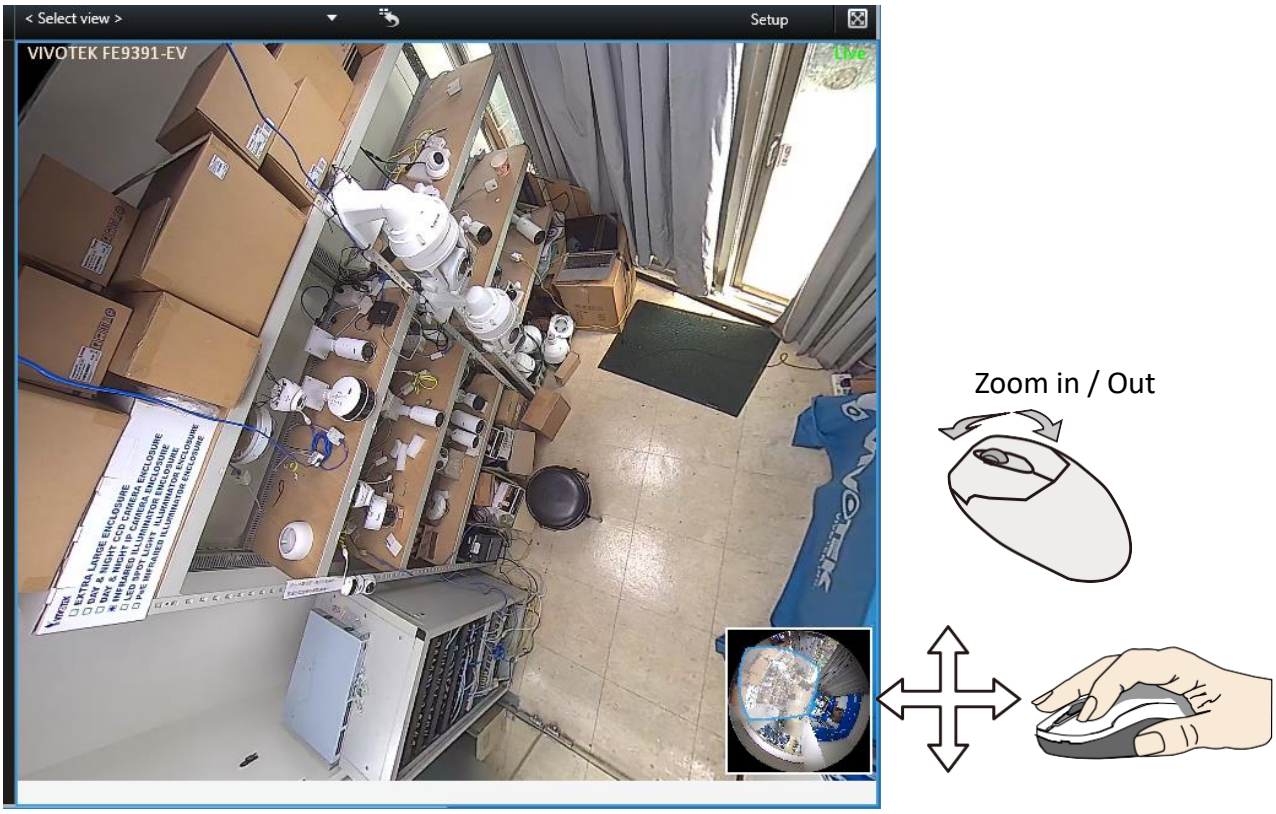

(10) Shown below is the availability of Dewarp modes for different Mout types:

Dewarp mode \ Mount type	Wall	Ceiling	Floor
Rectilinear	Yes	Yes	Yes
Full Panorama	Yes	Yes	Yes
Double Panorama	N/A	Yes	Yes
None (Original Circular)	Yes	Yes	Yes