USER MANUAL

Version 1.5 - January 2017

XNet.Monitor

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The latest version of the user manual, if any, and other user manuals on EVS products can be found on the EVS download center, on the following webpage: https://www.evs.com/en/download-area.

Table of Contents

What's New?

In the XNet Monitoruser manual, the icon NEW ! has been added on the left margin to highlight information on new and updated features.

The changes linked to new features and having an impact on the user manual in version 1.2 to 1.5 are listed below. The full list of new features is available in the release notes.

New fields in Server Details area, Status tab: MAC Address (v.1.2) and Mode (v.1.4)

- See section "Gigabit Connection Settings Area" on page 20.

SLSM Recorders phases specified in the Server Details area, Status tab, Channel area, Config field (v.1.2).

- See section "Channels Area" on page 20.

Dual LSM specified in the Server Details area, Status tab, General area, Base Config field (v.1.2).

- See section "General Area" on page 17.

EVS server can be added using its hostname (v.1.4).

- See section "Channels Area" on page 20.

Info of 2nd PC LAN port (v.1.4).

- See section "Gigabit Connection Settings Area" on page 20.
- See section "GbE 1/2 and PC LAN 1/2 Status" on page 32.

Info on teaming on GbE and PC LAN Ports (v.1.4)

- See section "Gigabit Connection Settings Area" on page 20.
- See section "GbE 1/2 and PC LAN 1/2 Status" on page 32.

Info on HDD disk sector (v.1.4)

- See section "Storage Tab" on page 21.

Default Copy/Move field is renamed into Network Copy/Push in the Server Details area, Status tab, Network area (v.1.5)

- See section "Channels Area" on page 20.

Up to 10 Multicam versions can be installed on an EVS server (v.1.4)

- See section "Installing a Multicam Version" on page 42.

Warning on EVS server running a Multicam 14 version (v.1.4)

- See section "Removing a Multicam Version" on page 44.

The following changes are improvements to the user manual, and are not related to new features:

List of Possible Alerts

This section has been checked and completed when necessary.

- See section "List of Possible Alerts" on page 31

1. Introduction

1.1. Product Overview

XNet Monitor is a tool aimed at monitoring EVS products. It displays real time information and status about the EVS video servers and other EVS products, as well as past alert and warning messages.

XNet Monitor uses the SNMP (Simple Network Management Protocol) protocol to request and receive monitoring data from the EVS servers. This internal status data is defined in the MIB (Management Information Base) on each EVS server.

One XNet Monitor application can monitor several EVS servers and other EVS products while one EVS server or product may also be monitored by several XNet Monitor applications.

XNet Monitor is mainly a monitoring application that cannot act on the monitored servers. Some remote actions are however possible: Multicam version upgrade, keyword file maintenance, as well as remote access to an EVS server desktop, or to an LSM Remote Panel.

NOTE

The full list of EVS products that can be monitored with XNet Monitor are specified in the release notes. All currently supported EVS servers can be monitored with XNet Monitor.

1.2. Installation

Requirements

- PC compatible computer
- Supported OS: Windows Server 2008 R2, Windows 7, Windows 10
- .Net framework 4.6 or higher installed

Recommendation

The SNMP information is available through the PC LAN connector of the server. The computer running XNet Monitor should be connected to the same network, and not on any of the Gigabit Ethernet ports of the servers. These ports are dedicated to high flow video data and cannot be used for any other purpose.

Upgrade and Downgrade

If an older version of XNet Monitor is already installed on your computer, it will be automatically removed and replaced by the new one when you will install the new version of XNet Monitor.

The XNet Monitor application must only be removed if you need to downgrade the application. Removing the application can be done as usual, through Windows Control Panel and Add or Remove Programs menu.

1.3. Accessing the Application

How to Open XNet Monitor

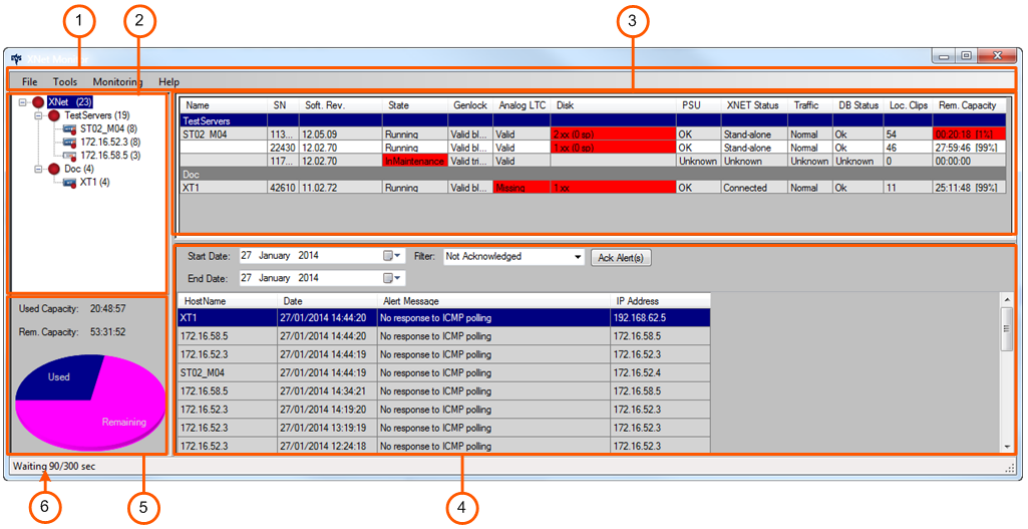
To open the XNet Monitor application, do one of the following actions:

- Click the XNet Monitor icon on the desktop 
- Click the Windows icon and select **EVS Broadcast Equipment** > **XNet Monitor**.

1.4. User Interface Overview

Introduction

When you access XNet Monitor, the main window is displayed. The schema below highlights the various areas on the main window.



Area Description

The table below describes the various parts of the XNet Monitor main window:

#	Window area	Description
1.	Menu bar	It gives access to various functions. See section "Menu Bar" on page 4.
2.	Monitored Device tree	It displays the monitored devices in a user-defined tree architecture. See section "Description of the Monitored Device Tree" on page 5.
3.	Monitoring Data area	It displays different data depending on what is selected in the **Monitored Device Tree**: • Detailed information on the selected EVS server. The area is then called the **Server Details** area. See section "Overview on the Server Details Area" on page 16 • Detailed information when another EVS hardware is selected. The area is then called the **Device Details** area. See section "Device Details" on page 26. • Summary information on several devices when a group of devices is selected. The area is then called the **Monitoring List** area. See section "Description of the Monitoring List" on page 14
4.	Alert Information area	It allows users to display and acknowledge the alerts. See section "Managing Alerts" on page 30
5.	Disk Usage	It displays a pie chart with the total used and remaining disk space for the selected device.
6.	Status bar	It provides information about the monitoring status.

1.5. Menu Bar

General Description

The menu bar gives access to various functions. You will find below a short description of the menu items.

Area Description

The following table presents the items on the menu bar:

Menu	Description
File menu	Allows you to manage the EVS servers and other EVS devices stored in the Monitor Device tree. See section "Managing the Monitored Device Tree" on page 11
Tools menu	Gives access to the configuration tools and settings described in these sections: • "Customizing the Monitoring List" on page 8 • "Organizing Monitored Devices" on page 6 • "SNMP and General Settings" on page 11 • "Trap Configuration" on page 9 Gives access to commands to manage Multicam versions and keyword files on the EVS servers: • "Multicam Upgrades" on page 42 • "Uploading a Keyword File on an EVS Server" on page 47
Monitoring menu	Allows you to start or stop the monitoring on the EVS servers and devices displayed in the **Monitored Device Tree**. See section "Start Monitoring" on page 13
Help menu	Gives access to the user manual and information about the application.

2. Configuration

2.1. Network Settings

Introduction

Should you face issues to set up XNet Monitor in your network, and should a network configuration be required, you will find the necessary network information in this section.

Description

Monitoring

- Monitoring protocol :SNMP
- Communication for the polling : TCP on port 161 (bidirectional)
- Communication of the SNMP traps : UDP on port 162 (outbound out of the server only)

Remote desktop and LSM Remote functions

- TCP 50000 (bidirectional)

Config Web

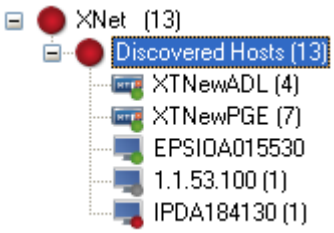
- Communication in HTTP on port 80 (bidirectional)

2.2. Monitoring Configuration

2.2.1. Description of the Monitored Device Tree

Introduction

The **Monitoring Devices Tree** displays the devices monitored on the network. They are listed in a tree architecture independent of the network architecture as shown on the screenshot below. The Monitoring list is defined by the user.



XNet Node

The higher node is called **XNet** as it represents the EVS XNet proprietary network. Under this first level node, you must add one or more groups. These groups are only virtual groups used for easy organization and management of multiple servers.

Groups

The groups are defined by the user. The group definition is not tied to the network architecture: this is only a virtual layout the user can organize freely. For easier management, it is recommended to organize the groups based on physical localization of the devices.

Hosts

The hosts are the monitored devices themselves. You can create them manually or automatically as explained in See section "Organizing Monitored Devices" on page 6.

Status Summary

In the Monitored Device Tree, a colored bullet displayed next to the group or device provides a summary of the device status, and has the following meaning:

- A red bullet means that there is a warning and/or an error on a host.
- A green bullet means that everything is ok for that item.

The number between brackets next to an item indicates the number of pending SNMP alert messages.

2.2.2. Organizing Monitored Devices

Introduction

To organize the monitored devices in the Monitoring List, you first have to create groups under the XNet node. Then, you can add the monitored devices under the created groups, either manually or automatically.

How to Add and Remove Groups

For an easy management, it is recommended to organize the groups based on physical localization of servers.

To add a new group, proceed as follows:

1. Right-click on the XNet node and select **Add group**.
2. Enter a representative group name.

To remove a group, right-click on it and select **Remove**.

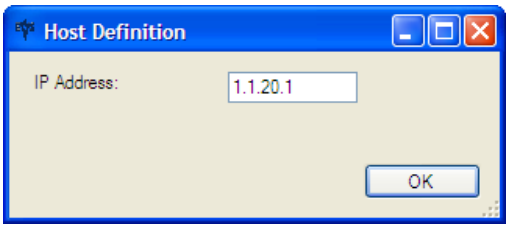
How to Add Devices Manually

To add individual devices manually, proceed as follows:

1. Right-click on a group and select **Add host**.
2. Enter the device IP address in the Host Definition window.

   NEW !

   You can also enter the hostname if it has been declared in a DNS server or in a host file.

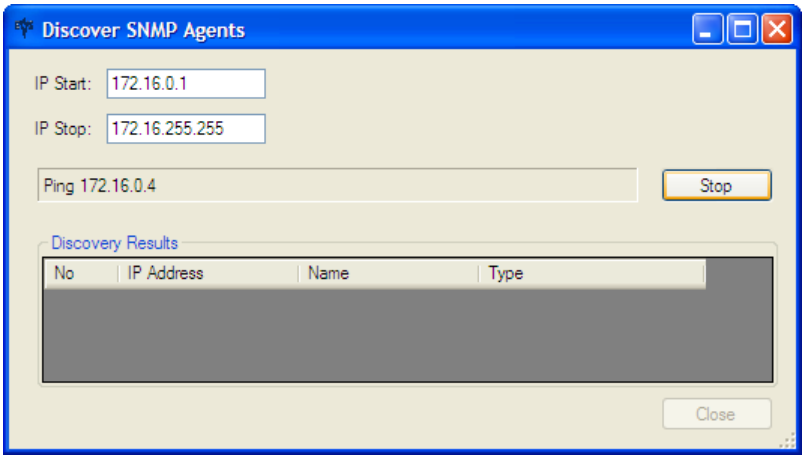


Once the devices are entered in the list manually, you can organize them in the different groups by drag-and–drop operation.

How to Add Devices Automatically

1. Open the **Tools** menu and select **Discover**.

   The Discover SNMP Agents window opens



2. In this window, set the IP address range in which the program will look for available devices.
3. Click the **Start** button to start the discovery process.

At the end of this process, the discovered devices will be listed in a new group called **Discovered Hosts**.

Once the devices are entered through the discovery process, you can organize them in the different groups by drag-and–drop operation.

NOTE

As this process is based on timeout for not used addresses, it may take some time to parse a long list.

How to Remove a Device

You can only remove a device when the monitoring is not started.

To remove a host, right-click on it and select the **Remove** command.

2.2.3. Customizing the Monitoring List

Introduction

When you select XNet or a group in the Monitored Device Tree, the Monitoring Data pane displays the **Monitoring List**, which provides summary data about the servers available under XNet or under the selected group.

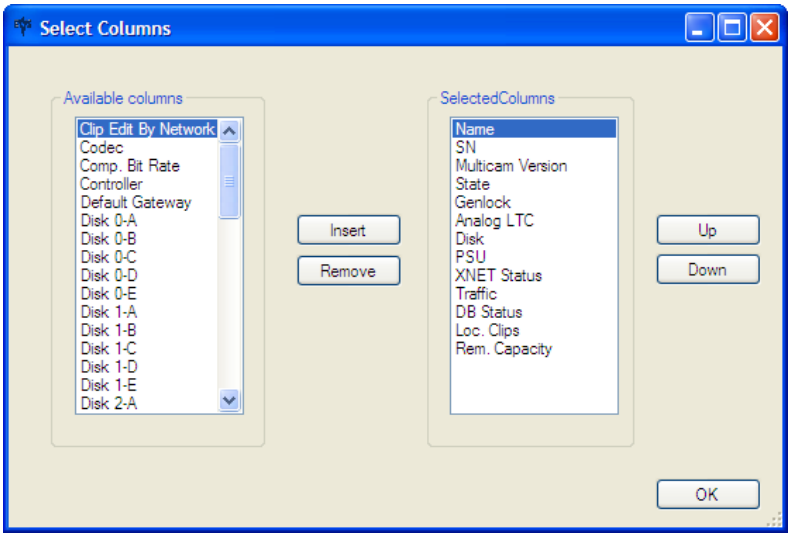
You can specify which information should be displayed in the Monitoring List and how it should be displayed via the Select Columns window.

How to Customize the Data

To customize the summary monitoring data, proceed as follows:

1. In the Monitoring Data pane, select the **Organize Columns** command from the **Tools** menu.

2. The **Select Columns** window opens:



3. Do one of the following actions:
   - To add a column to the display, select it in the left **Available columns** list and click on the **Insert** button.
   - To remove a column from the display, select it in the right **Selected Columns** list and click on the **Remove** button.
   - To change the columns order, select a column name in the right **Selected Columns** list and move it up or down in the list using the **Up** and **Down** buttons respectively.
4. Click on **OK** once the columns are organized as desired.

2.3. Trap Configuration

2.3.1. Description of the Trap Configuration Window

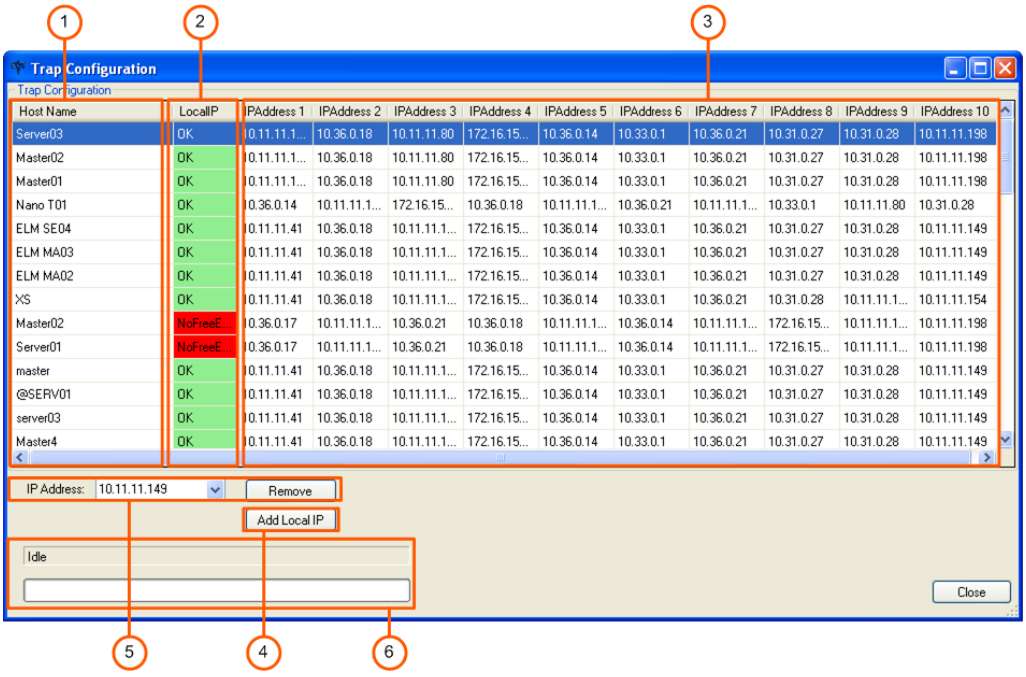
Overview

You can access Trap Configuration window by selecting the **Tools** menu, and the **Trap Configuration** command.

The Trap Configuration window displays the host tree (EVS servers or other EVS hardware). For each host, the list of IP addresses of the computers registered to the host to receive its SNMP trap messages. Such a computer is called a trap target.

The trap targets can be computers that host the XNet Monitor application or a polling service of XNet Monitor.

The Trap Configuration window contains the areas or buttons highlighted on the screenshot below:



Area Description

The table below describes the various parts of the Trap Configuration window:

Part	Name	Description
1.	Host tree	List of the monitored devices to which XNet Monitor applications can be registered.
2.	**LocalIP** column	Trap status of the local IP address: • If the IP address is registered to receive the trap messages, the cell will appear as OK. • If the IP address is not registered to receive the trap messages, the cell will appear as NoFreeEntry.
3.	**IP Addresses** columns	List of all IP addresses of computers (max. 10 per host) registered as trap targets to the corresponding host.
4.	**Add Local IP** button	Button that allows administrators to add the current XNet Monitor IP Address on the monitored server.
5	**Remove** button	Button that allows administrators to remove, in one go, a trap target from all hosts it is registered to. This button is used in combination with the drop-down list on the left hand side, which allows the selection of the trap target to be removed.
6	**Trap Registration** status bar	The status field and progress bar at the bottom of the window display the currently executed command and its progress status.

2.3.2. Managing the Monitored Device Tree

From the **File** menu, commands make it possible to manage the device and server list available in the **Monitored Device Tree**. This list is saved as an .xml file for future use and/or for transfer to another monitoring computer. This allows easy sharing and management synchronization of servers and hosts tree organization.

The following commands are available in the **File** menu.

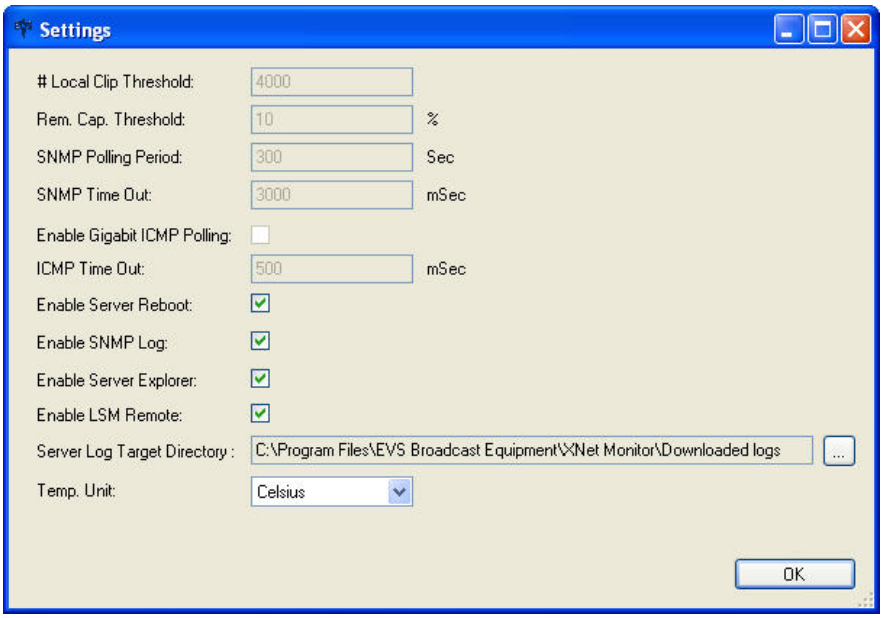
Parameter	Description
New	To create a new virtual architecture from scratch.
Open	To open an existing architecture saved as an xml file.
Save	To save the currently open architecture xml file.
Save As	To save the currently open architecture xml file as a new file.
Exit	To close and exit XNet Monitor

2.4. SNMP and General Settings

Introduction

In the **Settings** command in the **Tools** menu, you can set following parameters.

Click **OK** once the parameters are properly configured for your application.



Field Description

Parameter	Description
# Local Clip Threshold	When this number of clips is reached on a machine, a message will be displayed to warn the user that a cleaning and purge will soon be necessary on that server.
Rem. Cap. Threshold	Same warning as the previous one but based on the server remaining storage capacity.
SNMP Polling Period	Wait time between polling. A small period will guarantee fast refreshing of data but will request high data flow on the network while a long period will display less up-to-date data but will reduce the load on the network.
SNMP Time Out	Delay after which a host will be considered as not responding. An alert message will be displayed in the event log if such an event happens for a monitored host. The automatic discovery process total duration depends on this parameter.
Enable Gigabit ICMP Polling	Enables the pinging of the Servers GbE ports.
ICMP Time Out	Time Out for the pinging of the Servers GbE ports
Enable Server Reboot	If this option is enabled, XNet Monitor will be able to initiate a reboot of any monitored server through the **Reboot** command in the contextual menu opened by right-clicking on a host in the Monitored Device Tree.
Enable SNMP Log	If this option is enabled, XNet Monitor will keep a log file with all SNMP messages.
Enable Server Explorer	Enables the **Explore** option from the Server Name contextual menu in the Monitored Devices Tree. The Explore option opens a ftp session on the server.
Enable LSM Remote	Enables the **LSM Remote** option from the Server Name contextual menu in the Monitored Device Tree.
Server Log Target Directory	Path to the directory used to store the SNMP log files.
Temp. Unit	Unit in which the temperature is expressed.

3. Monitoring

3.1. Start Monitoring

Once servers and hosts have been added in the groups, the monitoring is started by clicking on the **Start** command in the Monitoring menu.

To stop the monitoring once it is running, simply click on the **Stop** command in the same Monitoring menu.

The monitoring status is available in the status bar at the bottom of the XNet Monitor window.

- 'Polling not started' means that the monitoring has not been started yet since the application launch.
- 'Polling' followed by IP address means status data are presently read from the selected host MIB.
- 'Waiting x/y sec' indicates that the monitor is waiting for next polling process. It has already been waiting for x seconds out of a total of y seconds (according to related parameter setting).
- 'Polling ended' means that the monitoring has been stopped by the user. At monitoring restart, hosts will be immediately polled and the waiting period will be reset.

NOTE

When you start up XNet Monitor, the monitoring is always stopped and must be started manually using the Start command.

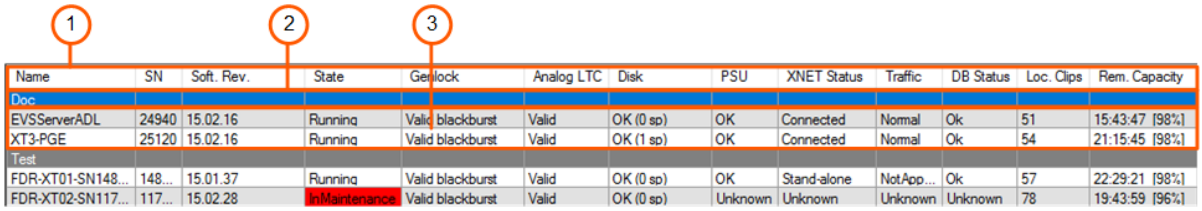
3.2. Monitoring List

3.2.1. Description of the Monitoring List

Overview

The Monitoring List area shows the groups of EVS servers and other EVS hardware, their status, and a set of parameters on each hardware.

The Monitoring List pane contains the areas highlighted on the screenshot below:



Area Description

The table below describes the various parts of Monitoring List area:

Part	Name	Description
1.	Column heading	Type of information available in the given column. The columns available in the Monitoring List are selected and ordered as defined in the section "Customizing the Monitoring List" on page 8.
2.	Group node	Name of the device or server group as defined in the Monitored Device Tree.
3.	Server List	Information on EVS servers and other EVS hardware belonging to a group. For more details on the fields available in this section, "Fields in the Monitoring List" on page 15. Clicking on a row corresponding to an EVS server or other hardware will display the detailed information on this host in the Server Details area.

3.2.2. Fields in the Monitoring List

The list of fields described in the table below is not exhaustive. It includes the fields available in the default display:

Name	Description
Name	name of the EVS server. The name displayed is assigned in the following order of priority, based on whether a value is assigned or not: facility name, net name or IP address. A color circle in front of the EVS server indicates its status: • green: no active alert present for the server • red: at least an active alert present for the given server • gray: XNet Web cannot retrieve information with the SNMP protocol.
SN	server's unique serial number.
Soft Rev.	server software revision.
State	functional status of the EVS server or other EVS hardware.
Genlock	presence or absence of genlock synchronization signal, and its type.
Analog LTC	status of LTC (Longitudinal Time Code) analogue signal.
Disk	disk connection status, and the number of spare disks.
PSU	status of the power supply units.
XNet Status	status of the SDTI network connection.
Traffic	network traffic status.
DB Status	status of the server database.
Loc Clips	number of clips stored on the server.
Rem. Capacity	remaining recording capacity on the EVS server in hours, and percentage.

3.3. Server Details

3.3.1. Overview on the Server Details Area

The Server Details area is located on the right hand side of the Monitored Device List.

When you select an EVS server in the Monitored Device List, the **Server Details** area provides detailed information on the selected server.

This information is organized in four tabs, which are themselves organized in different group boxes:

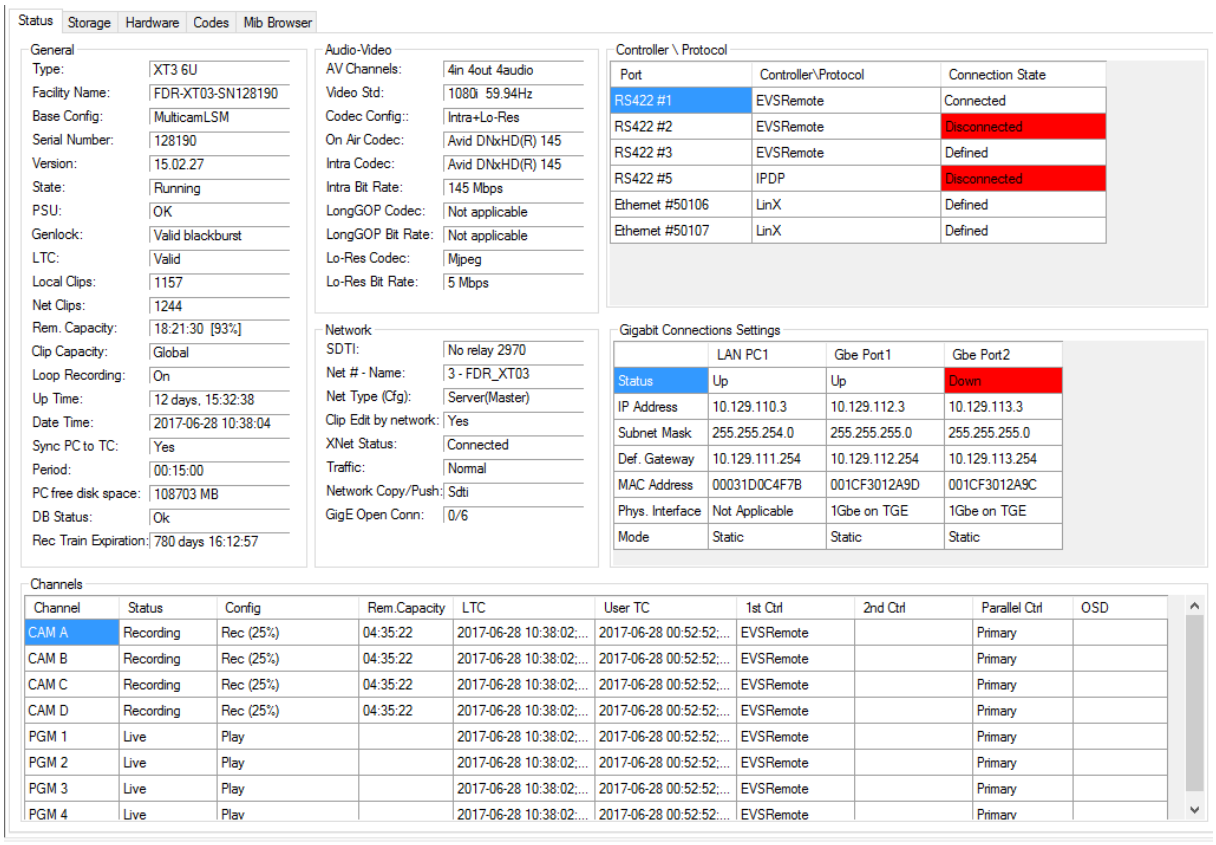
Tab Name	Included field groups
Status	General information, data about A/V, network, controllers, GbE connections, and channels
Storage	Information on disk capacity, array definition, disk numbers, and disk models
Hardware	List of the boards fitted on the EVS server
Codes	List of Codes installed on the EVS server
MIB Browser	View on the MIB (Management Information Base)

When you select another EVS hardware in the Monitored Device List, the **Device Details** area provides data on the selected hardware, its drives and communication interfaces. See section "Device Details" on page 26 for more information.

3.3.2. Status Tab

Overview

In the Status tab, the main parameters are organized in several group boxes as shown on the following figure.



The different group boxes and their parameters are detailed hereafter.

Note
If Multicam is not active and running on the selected server, most of the parameter fields will be left blank.

General Area

The table below describes the fields available in the General area:

Parameter	Description
Type	Server type: XT3, XS3, …
Facility Name	Name given to the product by the user.
Base Config. NEW !	base configuration used to start the server. In case of a Dual LSM configuration, the term **Dual** is added next to the active base configuration.
Serial Number	server's unique serial number.
Version	server software revision.
State	functional status of the EVS server or other EVS hardware.
PSU	status of the power supply units.

Parameter	Description
Genlock	presence or absence of genlock synchronization signal, and its type.
LTC	status of LTC (Longitudinal Time Code) analogue signal.
Local Clips	number of clips stored on the server.
Net Clips	total number of clips stored on the whole SDTI network.
Rem. Capacity	remaining recording capacity on the EVS server in hours, and percentage.
Clip Capacity	Clip capacity as defined on the server: Global or Per Channel.
Loop Recording	Loop recording mode as defined on the server.
Up Time	Elapsed time since the last boot.
Date Time	MTPC date and time.
Sync PC to TC	Indicates whether the internal TC is synchronized to the timecode read on the LTC input of the server and whether the TC discontinuities detected on the LTC input of the system are cleared.
Period	Period at which the Sync PC to TC is applied.
PC Free Disk Space	available space on the MTPC disk in megabytes (MB) or gigabytes (GB).
DB Status	status of the server database.
Rec. Train Expiration	Time lapse by which the field counter for the record trains has to be manually reinitialized on the EVS server. Failing a reinitialization, the record train will not longer be recorded. Warning messages are issued in Multicam.

Audio-Video Area

The table below describes the fields available in the Audio-Video area:

Parameter	Description
AV Channels	configuration defined for video and audio channels: • number of IN and OUT video channels • number of audio embedded mono channels per video channel
Video Std	video standard used on the server ports.
Codec Config	Codec essence(s) active on the EVS server.
On Air Codec	Codec in which the video is played out on the EVS server.
Intra Codec	Intra codec in which the video is stored on the EVS server.
Intra Bitrate	Bitrate of compressed video data for the Intra codec.

Parameter	Description
LongGOP Codec	LongGOP codec in which the video is stored on the EVS server.
LongGOP Bitrate	Bitrate of compressed video data for the LongGOP codec.
Lo-Res Codec	Lo-Res codec in which the video is stored on the EVS server.
Lo-Res Bitrate	Bitrate of compressed video data for the Lo-Res codec.

Network Area

The table below describes the fields available in the Network area:

Parameter	Description
SDTI	SDTI (Serial Data Transport Interface) network type.
Net # - Name	Server identification number and name on the SDTI network.
Net Type (Cfg)	server type on the SDTI network. The possible values are: • Master • Server • Client • Not Applicable (SDTI not present or set to off).
Clip Edit by network	Specifies whether a clip can be edited through the network or not.
XNet Status	status of the SDTI network connection.
Traffic	network traffic status.
NEW ! Network Copy/Push	Preferred network (SDTI or Gigabit) for copy, move and push actions on clips.
GigE Open Conn	Number of open GbE connections on a given port.

Controller / Protocol Area

The table below describes the fields available in the Controller / Protocol area:

Parameter	Description
Port	Port used by the server controller.
Controller\Protocol	Controller or protocol used on that port.
Connection State	Connection status of the control port. If it is disconnected, **Disconnected** displays in red, and this generates an alert.

Gigabit Connection Settings Area

NEW !

The table below describes the fields available in the Gigabit Connection Settings area for each PC LAN (max. 2) and each GbE port (max. 2) being used on the EVS server:

If teaming is applied on the GbE ports, the GbE #2 port is referred to as "Not Present".

Parameter	Description
Status	Status of the GbE connection.
IP Address	IP address of the interface port.
Subnet Mask	IP mask of the interface port.
Def. Gateway	Default gateway used by the interface port.
NEW ! MAC Address	MAC address of the hardware
Phys. Interface	Physical location of the corresponding GbE port
NEW ! Mode	Method used for IP address assignment (static or dynamic)

Channels Area

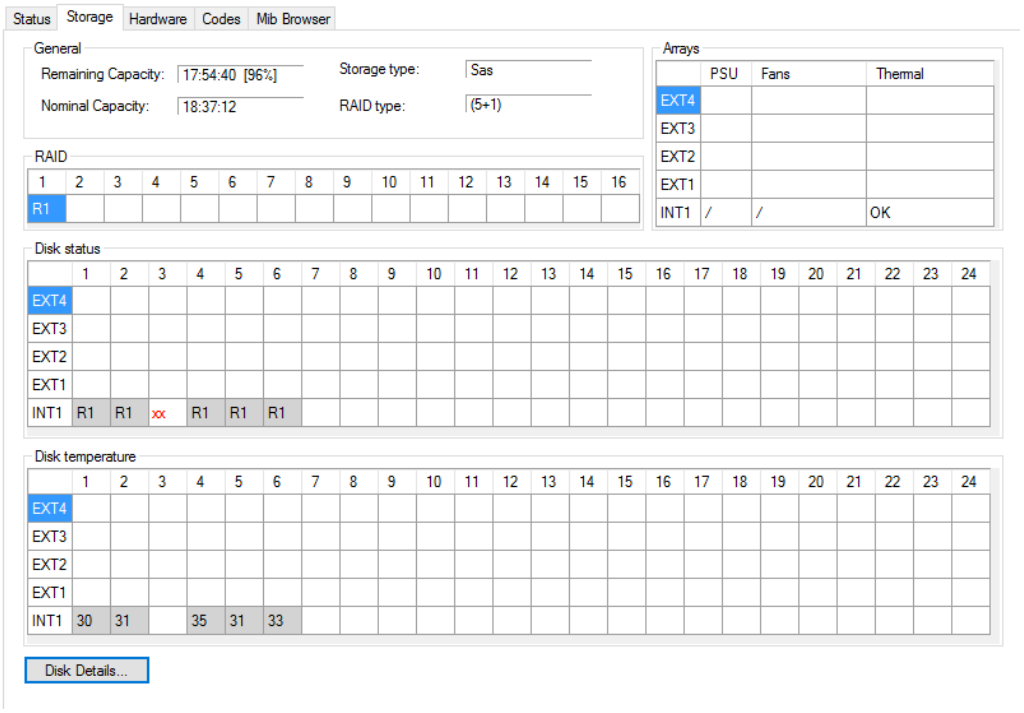
The table below describes the fields available in the Channels area:

Parameter	Description
Channel	Name of the record channel (CAM) or play (PGM) channel.
Status	Status of the channel: • CAM: Recording, Rec Idle • PGM: Ready, Playing, Live, Idle If a channel has no audio or video, it will be displayed in red with one of the following indication: • (!A) when the audio is missing • (!V) when the video is missing • (!AV) when the audio and video are missing
NEW ! Config	Configuration of the channel as record or play channel. SLSM recorders, as well as the number of phases, are specified in this field.
Rem. Capacity	remaining capacity for each recorder channel.
LTC	LTC timecode of the channel.
User TC	User timecode of the channel.
1st Ctrl	Primary controller defined for the selected channel. Possible values are: EVS Remote, EVS XTNano Remote, AVSP, IPDP
2nd Ctrl	Secondary controller defined for the channel, if any.

Parameter	Description
Parallel Ctrl	Controller used in parallel mode.
OSD	Controller (main or secondary) managing the OSD display characters in parallel mode.

3.3.3. Storage Tab

Overview



General Area

The table below describes the fields available in the General area:

Parameter	Description
Rem. Capacity	It specifies the remaining capacity of the storage expressed as a video duration (hours, minutes and seconds) as well as a percentage.
Nominal Capacity	It specifies the total capacity of the storage expressed as a video duration (hours, minutes and seconds).
Storage Type	It specifies the type of disks: SAS.
Raid Type	It specifies the type of RAID: • 4+1: four disks and a parity disk, with a spare disk • 5+1: five disks and a parity disk, without a spare disk

Arrays Area

The table below describes the fields available in the Arrays area:

Parameter	Description
PSU	It specifies the status of the PSU on the given array. See section "PSU HDX" on page 37 for examples of values for this field in case of SAS-HDX array. The values are the same for other arrays types.
Fans	It gives the state of the fans on the given array. See section "Fan HDX" on page 37 for examples of values for this field in case of SAS-HDX array. The values are the same for other arrays types.
Thermal	It gives the temperature status on the given array. See section "Disk Thermal" on page 38 for field values.

Raid Area

This area gives indication on the number of RAIDs defined in the server and their respective identification (R1,…)

Parameter	Description
Raid ID	It specifies the RAID storage system identification

Disk Overview Tab

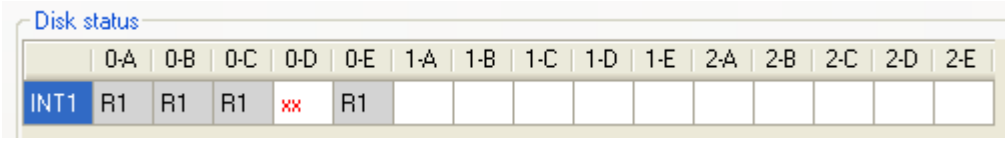
Disk Status Area

This area gives indication on the localization of each RAID and on the spare disks in the arrays:

The **xx** sign (red) identifies faulty disks, that should directly be replaced, especially when you work without spare disks.

The sign (red) identifies disks other than EVS disks.

The **sp** sign (green) identifies the spare disks.

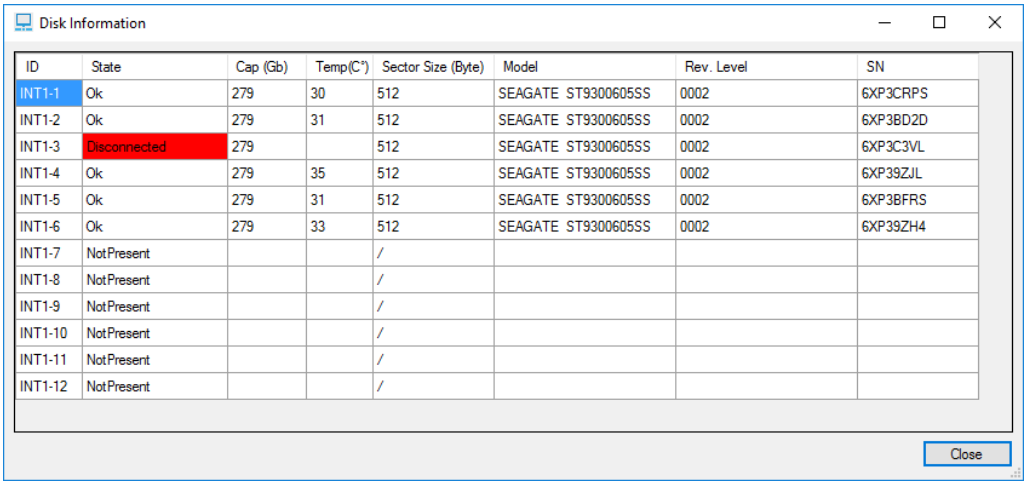


Disk Temperature Area

This area provides the internal temperature of each disk.

Disk Details Button

The **Disk Details** button gives access to the Disk Information window:

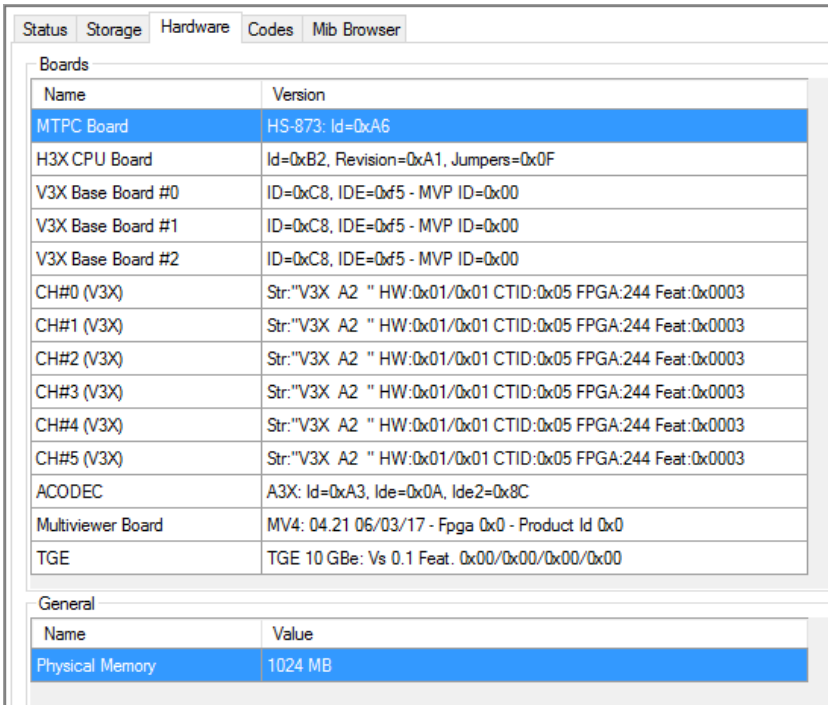


Parameter	Description
ID	Disk identification
State	Disk status: OK, not present, spare,…
Cap	Disk capacity in Gigabytes
Temp	Disk internal temperature in the unit defined in the general display settings
NEW ! Sector Size	Size of the disk sector
Model	Disk manufacturer and model
Rev. Level	Disk revision Level
SN	Disk serial number

3.3.4. Hardware Tab

Overview

The Hardware tab lists the available modules and boards installed in the server along with their respective version or revision number and their configuration when relevant.



Board Area

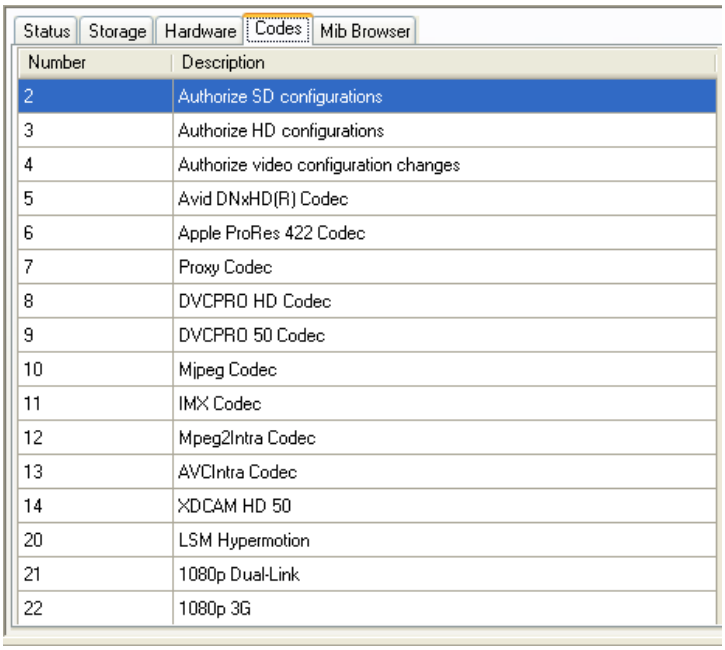
Parameter	Description
Name	Name of the board or module
Version	Revision of the board or module, and additional parameters

General Area

Parameter	Description
Physical Memory	RAM of the EVS server

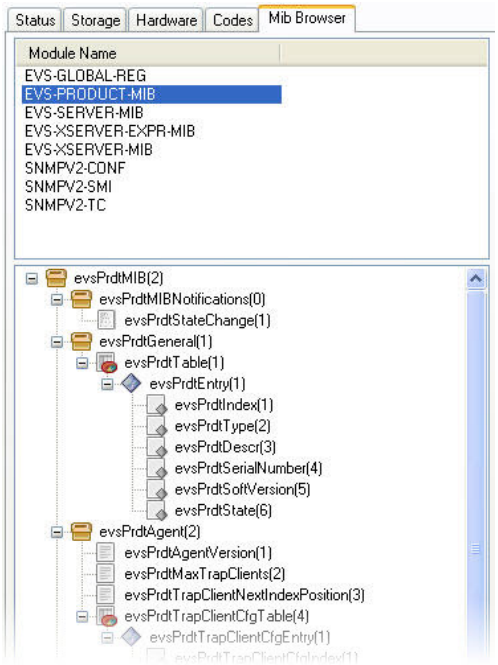
3.3.5. Codes Tab

The Codes tab lists the license codes activated on the server along with their description.



3.3.6. MIB Browser Tab

The **MIB Browser** tab allows to view the MIB (Management Information Base) and provides a description of the parameters that can be polled. This tab is dedicated to maintenance operations.



3.4. Device Details

Introduction

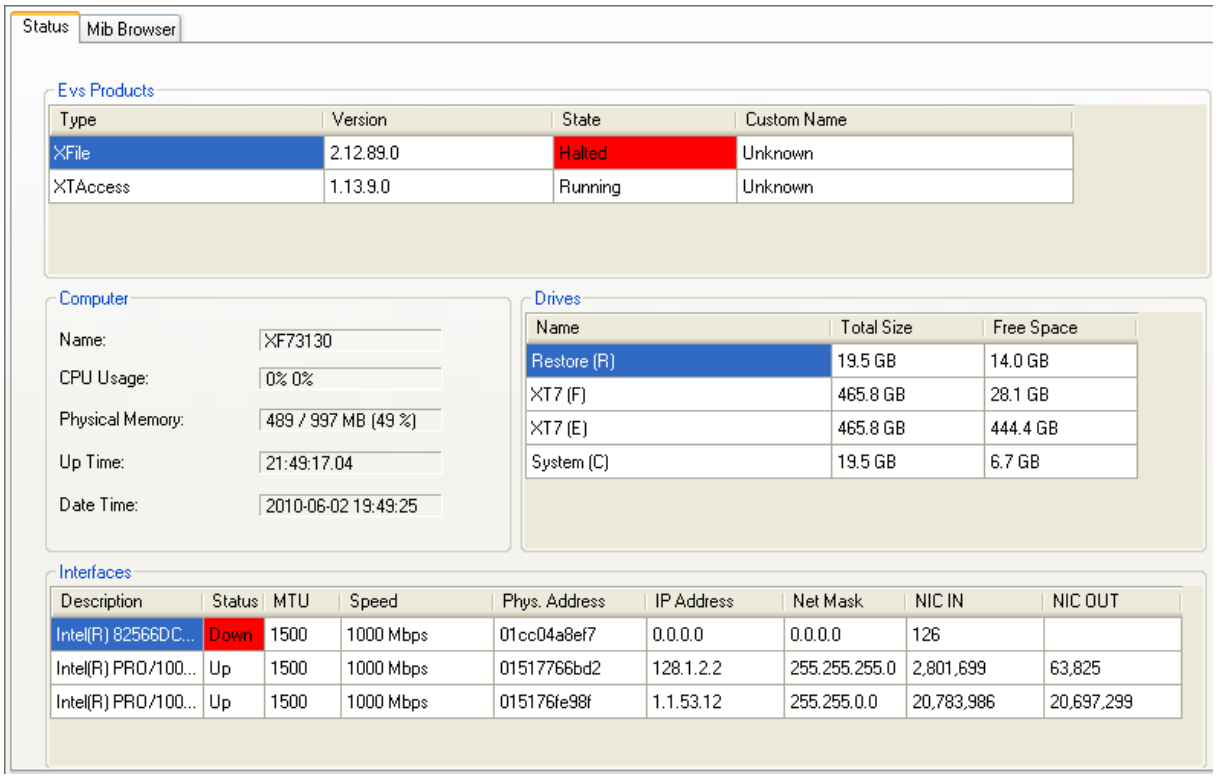
If a hardware other than an EVS server is selected in the Monitored Device List, the **Device Details** area on the right displays detailed SNMP information.

This information is organized the following tabs, which are themselves organized in different group boxes:

Tab Name	Included field groups
Status	Applications installed on the hardware, data on the computer, the drives, and the communication interfaces
MIB Browser	View on the MIB (Management Information Base)

Status Tab

In the Status tab, the main parameters are organized in several group boxes as shown on the following figure.



The different group boxes and their parameters are detailed hereafter.

EVS Products

Parameter	Description
Type	EVS application name.
Version	Server software revision.
State	Server state: running, in maintenance, faulty, halted, unknown.
Custom Name	Name given to the product from the MIB.

Computer

Parameter	Description
Name	Name of the computer.
CPU Usage	Percentage of use of central processing unit (CPU).
Physical Memory	Computer data storage used from the total amount.
Up Time	Elapsed time since the last boot.
Date Time	MTPC date and time.

Drives

This area lists the hard disks drives from the computer.

Parameter	Description
Name	Name of the computer.
Total Size	Total size (GB) of the drive.
Free Space	Free space (GB) still available on the drive.

Interfaces

Parameter	Description
Description	Generic description of the communication interface.
Status	Up or Down
MTU	Maximum Transmission Unit: size (in bytes) of the largest protocol data unit that the layer can pass onwards.
Speed	Data transfer rate in Megabits per second.
Phys. Address	Memory address that is electronically (in the form of binary number) presented on the computer address bus circuitry in order to enable the data bus to access a particular storage cell of main memory.
IP Address	Internet Protocol address of the communication interface.
Net Mask	Prefix bit mask expressed in quad-dotted decimal representation. For example, 255.255.255.0 is the subnet mask for the 192.168.1.0/24 prefix.
NIC IN	Number of octets getting through the network (input)
NIC OUT	Number of octets getting through the network (output)

MIB Browser Tab

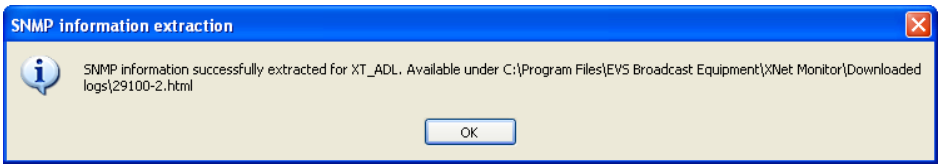
See section "MIB Browser Tab" on page 25 for an overview of the MIB Browser tab.

3.5. Extracting SNMP Information

To extract SNMP information relative to an EVS server, proceed as follows:

1. Right-click on the server in the **Monitored Device Tree**.
2. Select **Extract SNMP Information** from the contextual menu.

The extraction starts and once it is done, the SNMP Information Extraction window displays the .html file name and its storing folder and path:



3.6. Alert Messages

3.6.1. Description of Alerts Pane

Introduction

The Alerts pane is displayed below the Monitoring List pane on the Monitoring window.

It shows the list of SNMP alerts generated for the monitored devices (host or host groups) selected in the Monitored Device tree.

The alert messages are displayed until you acknowledge them.

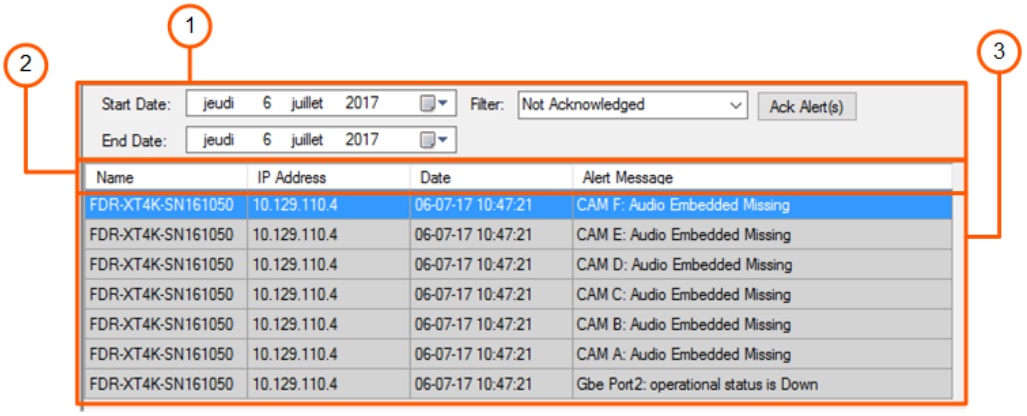
In the Alerts pane, you can:

- display alerts based on alert categories.
- sort the columns in the alert list.
- acknowledge an (active) alert.

Use the Filter drop-down menu to select the alerts to be displayed:

Category	Description
All	All alerts that occurred during the selected period are displayed.
Acknowledged	Only alerts that have already been acknowledged are displayed.
Not Acknowledged	Only alerts that do not have been acknowledged yet are displayed.

Area Description



The table below describes the various parts of Alerts pane:

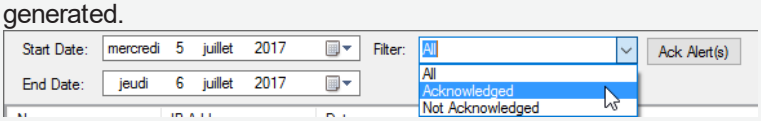
Part	Name	Description
1.	Alert filter	Drop-down field that allows you to select the alert category to be displayed in the grid, as well as the date range when the alert was generated. On the right, the Ack Alert(s) icon allows you to acknowledge all displayed alerts.
2.	Column heading	Type of information available in the given column. Clicking on the column heading allows the sorting of the elements in ascending or descending order. The columns displayed cannot be modified: • **Name:** Name of the host • **IP Address:** IP address of the host • **Date:** Date and time when the alert was generated • **Alert Message:** Error message (For full information on error messages, "List of Possible Alerts" on page 31).
3.	Alert Information	Information on the alerts displayed.

3.6.2. Managing Alerts

Introduction

This topic explains how you can display and manage alerts from the Alerts area in the Monitoring window. The possible actions are summarized in a table below.

Possible Actions on Alerts

In order to ...	Proceed as follows:
Filter the alerts to be displayed	Select the requested alert category in the **Filter** drop-down field, and the date range in which the alerts to be displayed have been generated. 
Sort the alert items based on the values of a column (ascending or descending order)	Click the column heading on which the alert items should be sorted.
Acknowledge alerts	Click the **Ack Alert(s)** on the right of the filter fields. All alerts displayed are removed from the Alert list, and added to the **Acknowledged** list.

3.6.3. List of Possible Alerts

Introduction

The section describes the fields for which an alert can be generated and the associated default message(s) (normal status) and alert/error messages.

The warnings are displayed in orange, and the errors in red.

Working Principle

When an error is generated for a field, it is displayed in the Monitoring window:

- **as an alert** in the **Alerts** pane if the given field is not selected in the Alert Configuration window.

  The alert must be acknowledged by an administrator user to be removed from the list of active alerts. It is then sent to the list of acknowledge alerts.

- **as an error message** in the **Server Details** pane, and possibly in the **Monitoring List** pane (if the related field is displayed).

  When the SNMP information is sent back and when the situation is back to normal or when the alert is acknowledged, the field status is updated accordingly, and the error is replaced by the normal status.

Polling Status

It specifies the status of the polling service. It indicates: whether the polling service is running correctlywhen the polling service last sent a query to the server (time interval in hh:mm:ss from current time)

Possible Values

Message	Explanation	Status Type
OK (00:03:00)	The polling service is working correctly, and the SNMP data was last sent 3 minutes ago.	Info
No response to IMCP polling	An ICMP (Internet Control Message Protocol) timeout was generated: the information was not sent in the requested time interval.	Error
No response to SNMP polling	An SNMP timeout was generated: the information was not sent in the requested time interval.	Error

State

It specifies the functional status of the EVS server or other EVS hardware.

Possible Values

Message	Explanation	Status Type
Running	The EVS server is running a given configuration.	Info
Not Running	The EVS server is not running a configuration	Info
Initializing	The EVS server is initializing (in the boot sequence).	Error
Maintenance	The EVS server is in the Multicam Setup window, hence it is not running a given configuration yet.	Error
Halted	The EVS server is turned off.	Error

GbE 1/2 and PC LAN 1/2 Status

It specifies the operational status of the Gigabit Ethernet interface connectors (port 1 & 2), the PC LAN connectors (port 1 & 2), as well as issues related to GbE and/or PC LAN teaming.

Possible Values

Message	Explanation	Status Type	GUI
Up	The corresponding GbE or PC LAN interface is installed and running well.	Info	Server Details
Down	The corresponding GbE or PC LAN interface is not working.	Error	Server Details
Not present	The corresponding GbE or PC LAN is NOT installed.	Error	Server Details
GbE Port 1: operational status is Down	The GbE port 1 is not working.	Error	Alerts
PC LAN Port 1: operational status is Down	The PC LAN port 1 is not working.	Error	Alerts
NEW ! **Team Up**	The GbE or PC LAN interfaces are running well, and the both links work correctly in teaming.	Info	Server Details
Team Link 1 Down	The GbE link 2 or PC LAN link 2 is functional whereas the GbE link 1 or PC LAN link 1 is either not cabled, or does not work properly.	Error	Server Details
Team Link 2 Down	The GbE link 1 or PC LAN link 1 is functional whereas the GbE link 2 or PC LAN link 2 is either not cabled, or does not work properly.	Error	Server Details
Team Down	The GbE or PC LAN interfaces are installed but do not work properly on both links.	Error	Server Details

Message	Explanation	Status Type	GUI
GbE Port 1/ PC LAN Port 1: operational status is degraded - team link 1 down	The GbE link 2 or PC LAN link 2 is functional whereas the GbE link 1 or PC LAN link 1 is either not cabled, or does not work properly.	Error	Alerts
GbE Port 1/ PC LAN Port 1: operational status is degraded - team link 2 down	The GbE link 1 or PC LAN link 1 is functional whereas the GbE link 2 or PC LAN link 2 is either not cabled, or does not work properly.	Error	Alerts

Controller

It specifies the connection status of a given controller enabled on an EVS server.

Depending on the pane where the message is displayed, it is displayed in slightly different ways.

Possible Values

Message	Explanation	Status Type	GUI
OK	All defined controllers are connected, which means up and running.	Info	Mon. List
Connected	The corresponding controller is up and running.	Info	Server Details
Defined	The corresponding controller is defined in the configuration but is not used	Info	Server Details
Disconnected	The corresponding defined controller is disconnected, or the external communication has been lost.	Error	Server Details
XX on RS422 #Y disconnected	The given controller(s) (XX) is/are disconnected on the given RS422 port number (Y) of the EVS server.	Error	Alerts Pane

Channels

It specifies errors on the status of the record or play channels.

Possible Values

Message	Explanation	Status Type	GUI
Recording	Normal status on the recorded media.	Info	Server Details
Recording (!A)	Embedded audio missing on the recorded media.	Error	Server Details
CAM X: audio embedded missing		Error	Alerts
Recording (!V)	Video missing on the recorded media.	Error	Server Details
CAM X: video missing		Error	Alerts

Genlock

It specifies the presence or absence of genlock synchronization signal, and its type.

Possible Values

Message	Explanation	Status Type
OK Blackburst	A valid Blackburst signal is present.	Info
OK Tri-level	A valid Tri-level signal is present.	Info
Bad Blackburst	Bad Blackburst signal	Error
Unknown Blackburst	No Blackburst signal detected	Error
Bad Tri-level	Bad Tri-level signal	Error
Unknown Tri-level	No Tri-level signal detected	Error

Analog LTC

It specifies the status of LTC (Longitudinal Time Code) analogue signal.

Possible Values

Message	Explanation	Status Type
OK	A valid LTC signal is present on the EVS server.	Info
Missing	No LTC signal is detected on the EVS server.	Error

Message	Explanation	Status Type
Corrupted	A bad LTC or an LTC drift is detected on the EVS server.	Error

Local Clips

It specifies the number of clips stored on the server.

For local clips, the alert generation depends on the threshold defined for the Local Clips field in the Monitoring settings defined in the **Tools** > **Settings** menu. The default threshold is 4000.

Possible Values

Message	Explanation	Status Type
3500	When the number of clips is displayed in black, it means the number of clips on the EVS server does not exceed the threshold defined for the maximum number of local clips.	Info
4200	When the number of clips is displayed in red and bold characters, it means the number of clips on the EVS server exceeds the threshold defined for the maximum number of local clips.	Error

DB Status

It specifies the status of the server database.

Possible Values

Message	Explanation	Status Type
OK	The DB is OK.	Info
Corrupted	The DB is corrupted.	Error

XNet Status

It specifies the status of the SDTI network connection.

Possible Values

Message	Explanation	Status Type
Connected	The EVS server is connected to the network.	Info
Connecting	The EVS server's connection to the network is in progress.	Info

Message	Explanation	Status Type
Stand alone	The system does not have the XNet license, or the required hardware, or the SDTI network is disabled.	Info
Not Connected	The EVS server is not connected to the network.	Error
Disconnected	The EVS server is in a disconnection phase.	Error
Connection fault	The EVS server cannot connect to the XNet network due to an incompatibility error.	Error

Traffic

It specifies the network traffic status.

Possible Values

Message	Explanation	Status Type
Normal	The traffic on the SDTI network is properly managed.	Info
Heavy	The SDTI network makes full use of the available capacity.	Warning (orange)
Corrupted	The SDTI network is overloaded, has lost at least one command from a controller, and is desynchronized.	Error

Rem. Capacity

It specifies the remaining recording capacity on the EVS server in hours, and percentage.

The alert generation depends on the threshold defined for the Remaining Capacity field in the Monitoring settings defined in the **Tools** > **Settings** menu. The default threshold is 5%.

Possible Values

Message	Explanation	Status Type
48:01:53 (97%)	The parameter is in a valid state (black font) when the Remaining Capacity threshold is not exceeded.	Info
01:03:32 (2%)	The parameter is in a warning state (orange font) when the Remaining Capacity threshold is exceeded.	Warning
00:00:00 (0%)	The parameter is in an error state (red font) when the Remaining Capacity is null.	Error

PSU

It specifies the status of the power supply units..

Possible Values

Message	Explanation	Status Type
OK (1)	Only one PSU is installed on the server and is working fine	Info
OK (2)	Two PSUs are installed and are working fine	Info
! PSU 1	The first PSU is down.	Error
! PSU 2	The second PSU is down.	Error

PSU HDX

It specifies the status of the power supply units of the external SAS disk array.

Possible Values

Message	Explanation	Status Type
OK (1)	Only one PSU is installed on the SAS-HDX disk array and is working fine	Info
OK (2)	Two PSUs are installed on the SAS-HDX disk array and working fine.	Info
/	No external storage system is installed.	Info
! PSU1	The first PSU of the SAS-HDX disk array is down.	Error
! PSU2	The second PSU of the SAS-HDX disk array is down.	Error

Fan HDX

It specifies the state of the fans on the external SAS disk array.

Possible Values

Message	Explanation	Status Type
OK	The fans is/are operating.	Info
/	No external disk array is installed.	Info
! Fan 1 **! Fan 1,2**	The fan 1 is faulty. The fans 1 and 2 are faulty.	Error

Disk Thermal

It specifies the temperature on the internal and external disks.

Possible Values

Message	Explanation	Status Type
OK	All temperatures measured on disks are OK.	Info
INT 1: Rising	The temperature of disk 1 on the internal disk array is rising (between 50 and 55°C).	Warning
EXT 2-3 : Rising	The temperature of disk 3 of the second external disk array 2 is rising (between 50 and 55°C).	Warning
INT 1-2 : Overheating	The temperature of disk 2 of the first internal disk storage board 1 exceeds 55°C.	Error

RAID

It specifies the status of the raids.

Possible Values

Message	Explanation	Status Type
OK	The raid system is working fine.	Info
R1: Rebuilt X%	The system is rebuilding raid 1 of the raid matrix, X standing for the part of the rebuild operation processed in %. In the Server Details pane, Storage tab, the raid has an orange background in the RAID area.	Warning
R1: Degraded	The raid 1 of the raid matrix has lost a disk and cannot afford any new disk failure without loosing the full storage. In the Server Details pane, Storage tab, the raid has a red background in the RAID area.	Error

Raid R/W Retry

It specifies the number of renewed attempts of read and/or write operations on disks of the raids.

As soon as at least one read or write operation has been retried, this generates a warning.

Possible Values

Message	Explanation	Status Type
0r / 0w	0 renewed read attempt, 0 renewed write attempt	Info
0r / 1w	0 renewed read attempt, 1 renewed write attempt	Warning

Raid R/W Error

It specifies the number of errors in read and/or write operations on disks of the raids.

As soon as at least one read or write operation has failed, this generates an error.

Possible Values

Message	Explanation	Status Type
0r / 0w	0 read error, 0 write error	Info
0r / 1w	0 read error, 1 write error	Error

Disk

It specifies the disk connection status, and the number of spare disks.

Possible Values

Message	Explanation	Status Type	GUI
OK (1 sp)	All disks are connected and accepted by the RAID matrix, and 1 spare disk is available.	Info	Mon. List
1 xx (6 sp)	All disks are connected and accepted by the RAID matrix, but one disk is faulty, and 6 spare disks are available.	Error	Mon. List
OK	The given disk is working fine.	Info	Server Details
Spare	The given disk is a spare disk.	Info	Server Details
INT/EXT X-X Disconnected	The given disk on the internal or external array (array number + disk number) is out of the RAID matrix.	Error	Alerts & Server Details
INT/EXT X-X Not Present	No disk is connected on the internal or external array (array number + disk number).	Error	Alerts & Server Details

PC Free Disk Space

It specifies the available space on the MTPC disk in megabytes (MB) or gigabytes (GB).

Possible Values

Message	Explanation	Status Type
300 MB	When the space available is more than the value defined in the SNMP agent (100 MB), the label is in a normal state.	Info
75 MB	When the space available is less than the value defined in the SNMP agent (100 MB), the label is in a warning state. For PCs (no MTPC card), this value is not displayed as a warning.	Warning
10 MB	When the space available is less than 20MB, the label is in an error state. For PCs (no MTPC card), this value is not displayed as a warning.	Error

Rec Train Expiration

It specifies that the remaining time left before you have to reinitalize the field counter for the record trains.

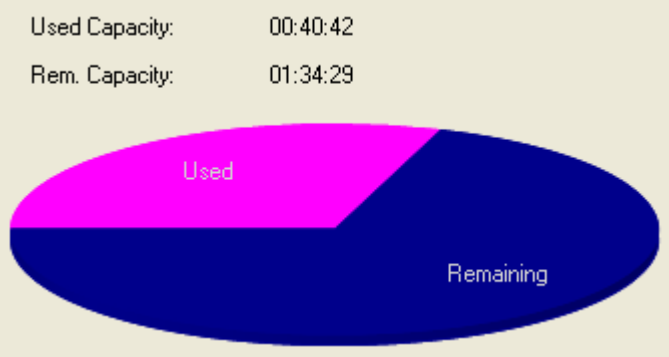
Possible Values

Message	Explanation	Status Type	GUI
Record Train Maintenance should be performed in less than 12 weeks.	It remains between 4 and 12 weeks to reinitialize the record train field counter.	Warning	Alerts
Record Train Maintenance should be performed in less than 28 days.	It remains less than 4 weeks to reinitialize the record train field counter.	Error	Alerts

3.7. Disk Usage

The Disk Usage pane displays a summary of the total used and remaining disk space. This total is computed for all disks available on the server or group of servers selected in the Monitored Device Tree.

A color pie chart helps you to immediately visualize the disk usage of your system. More precise figures are given over that pie chart, expressed as a used and remaining video time in hours, minutes and seconds.



4. Server Maintenance Tasks

4.1. Multicam Upgrades

4.1.1. Installing a Multicam Version

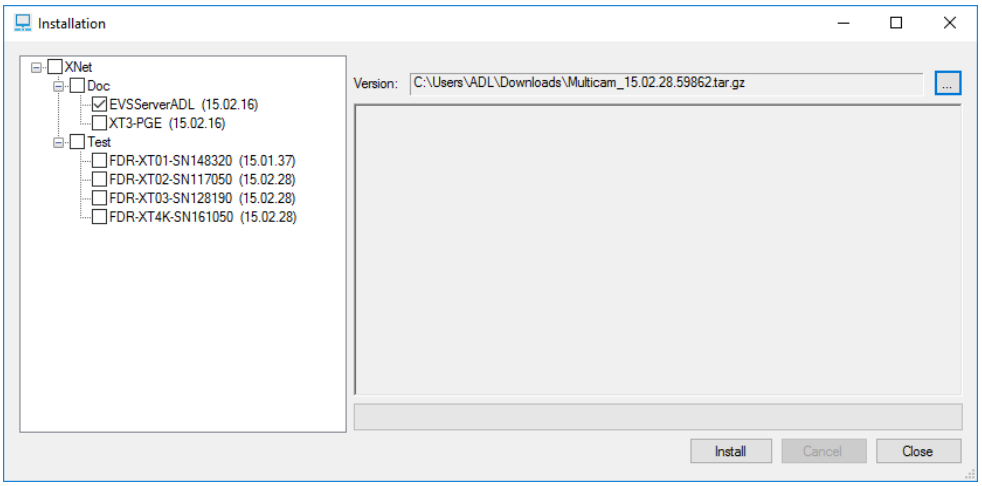
How to Install a Multicam Version on an EVS Video Server

NOTE

With Multicam versions 15.XX and higher, the Multicam installation file (.gz file) is directly made available and can be used as such in XNet Monitor to update your Multicam version.

To remotely update Multicam on one or several servers, proceed as follows:

1. In the **Tools** menu, select **Server** > **Install Versions**. The Installation window appears:



2. Select the server(s) to update in the left pane of the Installation window.

   As a reminder, the currently installed Multicam version is displayed next to each server.

3. In the **Version** field, browse your computer to select the new Multicam installation zip file.

4. Click on the **Install** button to start the installation process on all selected servers.

5. Before the server upgrade starts, the installer checks the number of Multicam versions installed on each server.

NEW !

If more than 10 versions are installed on the EVS server, an error message appears requesting you to remove old versions before installing a new one. Otherwise, the upgrade process is automatically launched.

If you get the above message, do the following:

a. Click **OK**. The Remove Installed Versions window appears.

b. Remove the requested versions as described in the section "Installing a Multicam Version" on page 42 '"Installing a Multicam Version" on page 42', on page "Installing a Multicam Version" on page 42.

The upgrade process is then launched. When the servers are upgraded, they are restarted, but you still need to launch the requested application.

4.1.2. Removing a Multicam Version

NEW !

NOTE

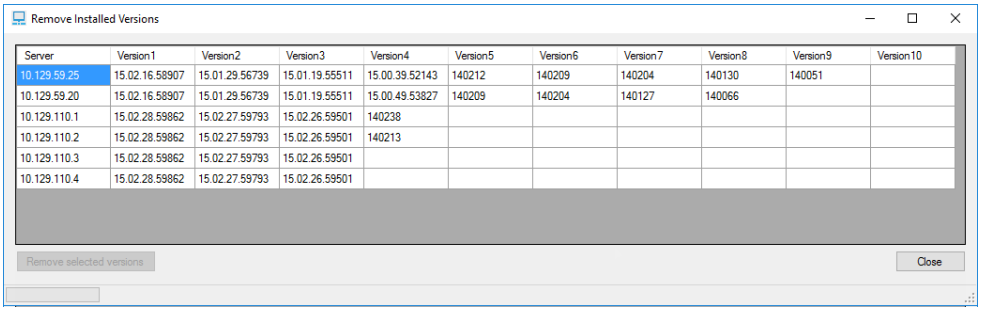
Servers currently running Multicam 14 will not show Multicam 15 versions and higher.

How to Remove a Multicam Version from an EVS Server

To remove previously installed Multicam versions from an EVS server, proceed as follows:

1. In the **Tools** menu, select **Server** > **Remove Installed Versions**.

   The Remove Installed Versions window appears.



2. Click the version(s) you want to remove.

   The selected versions are highlighted in black.

3. Click the **Remove Selected Versions** button.
4. Click **Close**.

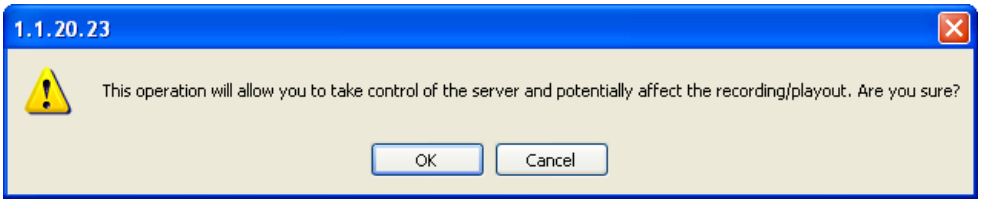
4.2. Remote Access to an EVS Server

4.2.1. Accessing Remotely a Server Desktop

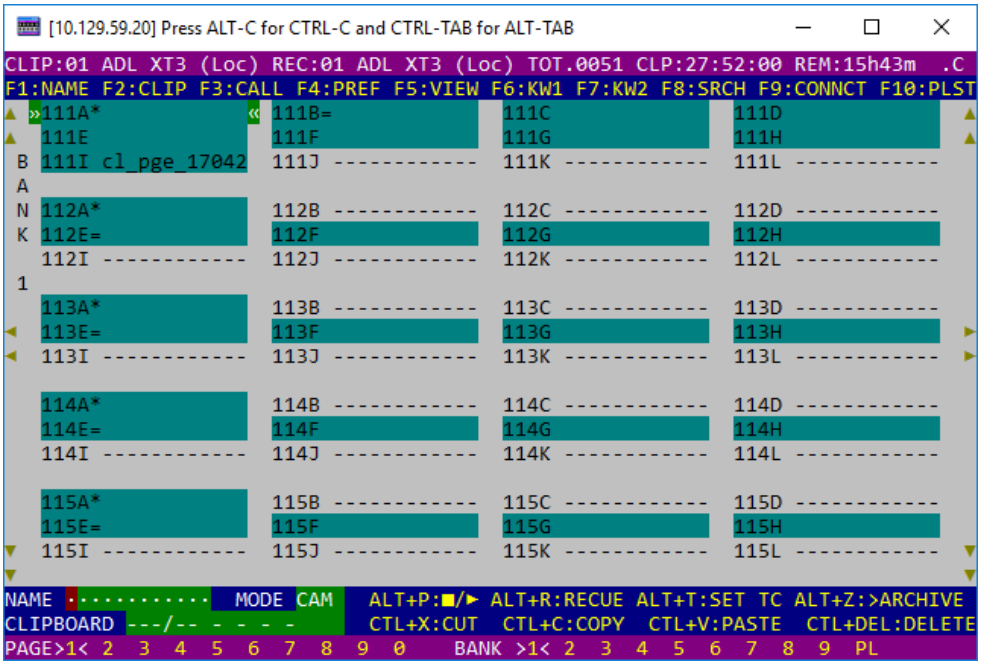
To access remotely a server desktop, proceed as follows:

1. Right-click on a server name, and select **Remote Desktop** from the contextual menu.

   A message appears to warn you that you are going to take control of the EVS server:



2. Click **OK** to open the server window:



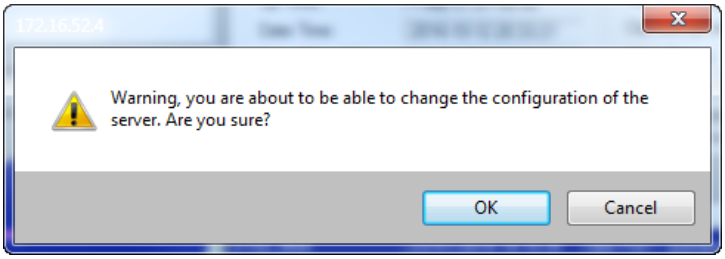
From this window, you are able to navigate through Multicam Configuration module exactly as you would access it using a keyboard.

4.2.2. Accessing the Multicam Web Setup

To access remotely a server desktop, proceed as follows:

1. Right-click on a server name, and select **Web configuration** from the contextual menu.

   A message appears to warn you that you are going to take control of the EVS server:



2. Click **OK** to open the server screen.

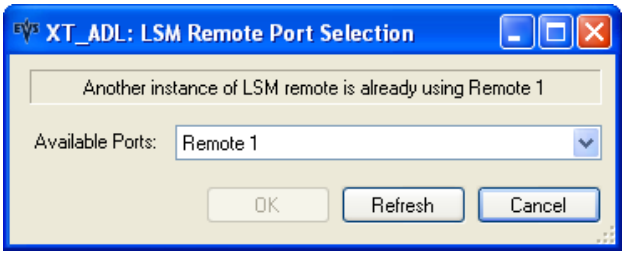
   The Multicam Web Setup window opens.

   Refer to the EVS Server Configuration manuals for more information.

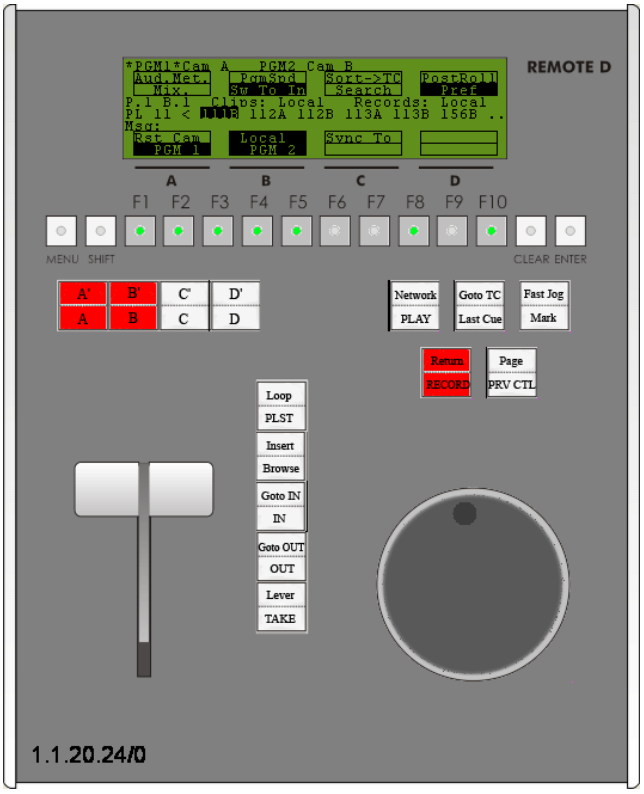
4.2.3. Accessing Remotely an LSM Remote Panel

Important
This function must only be used for training purposes. It is not intended to be used for operations.

1. To connect to and take control of an LSM Remote connected to a server, proceed as follows:
2. Right-click on a server name and select **LSM Remote** from the contextual menu.
3. In the following window, select the port number linked to the physical remote device:



4. Clicking **OK** opens an interactive window representing the LSM remote panel and from which you can use the different commands, such as on the physical remote itself.



You can close this window by pressing **Escape**.

4.2.4. Rebooting an EVS Server

To remotely reboot a server, right-click on it in the Monitored Device Tree and select **Reboot** in the contextual menu.

The Server Reboot message window is displayed. You must confirm the reboot process to start it on the remote host.

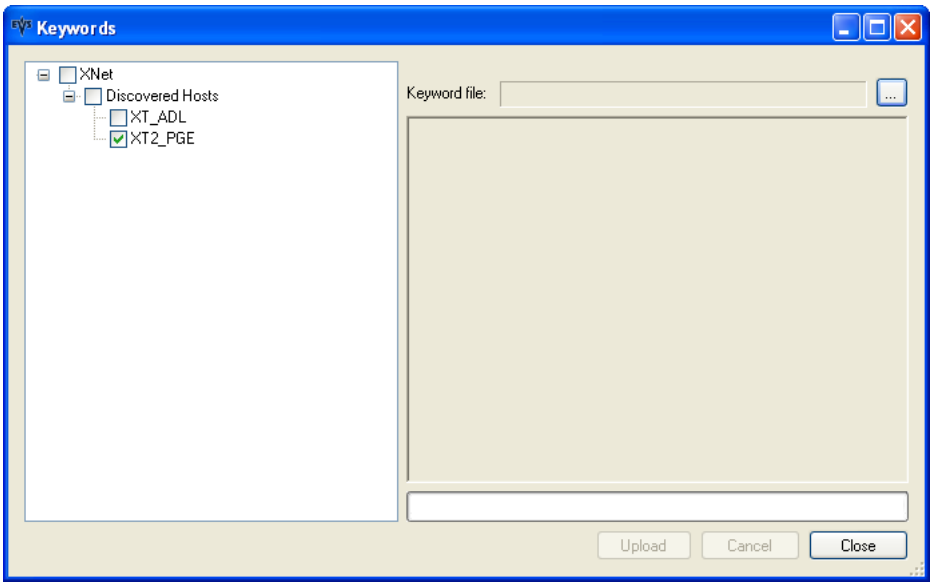
NOTE

This command will be available only if the corresponding parameter is enabled in the Settings window.

4.3. Uploading a Keyword File on an EVS Server

To upload a keyword file on one or several servers, proceed as follows:

1. In the **Tools** menu, select **Server** > **Keyword Files**. The Keywords window appears.

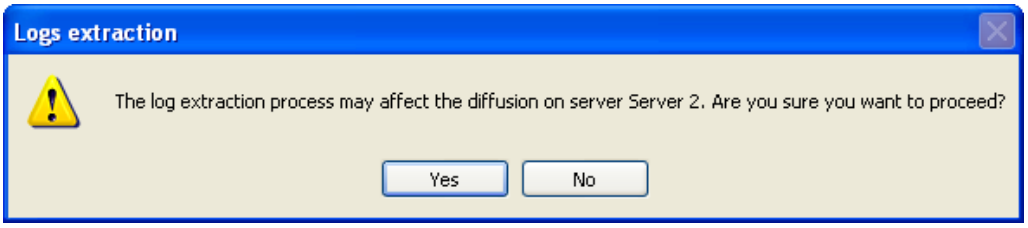


2. Select the server(s) to receive the keyword file in the left pane of the Keywords window.
3. In the **Keyword File** field, browse your computer to select the keyword file to upload.
4. Click on the **Upload** button to start the keyword file copy on all selected servers.

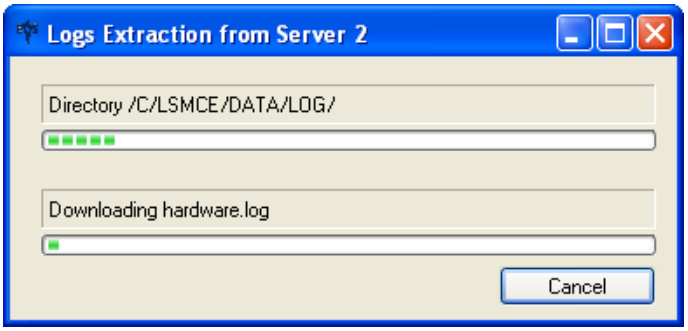
4.4. Server Logs Extraction

To remotely recover the SNMP logs stored on a server, right-click on it in the Monitored Device Tree and select Extract logs in the contextual menu.

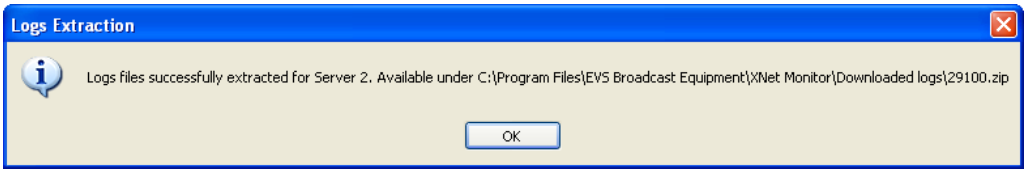
The following warning message window is displayed to warn you that the extraction process may interfere with the video diffusion from that server. Launch the extraction process again later if you cannot accept any diffusion trouble at this time.



The next window displays progress bars of the extraction and the current directory and file being downloaded.



Once the logs extraction is done, a window briefly appears about the log files compression then the Logs Extraction window displays the zip file name and its storing folder and path.



The different logged information (configuration, alerts…) is stored in different folders and files and packed together in a zip file. Next to the zip files is a text file (LogExtracion_ servername.log) for each server that logs the extractions dates, operations, results and resulting zip file.

NOTE

At log extraction, the log file on the remote server is closed and transferred. After this operation, a new log file is created on the remote server to log the events that happen from now on.

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