User's Manual

Version 1.00 - June 2009

XNet MONITOR

EVS SNMP Monitoring

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STATUS ON CHAPTERS UPDATES FOR XNET MONITOR V 1.00

Subject	
XNet Monitor	First release

1. Introduction

1.1 PURPOSE

XNet Monitor is a tool aimed at monitoring EVS products. XNet Monitor displays real time information and status about the servers 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 servers. These internal status data are defined in the MIB (Management Information Base) on each server.

One XNet Monitor application can monitor several servers while one server may also be monitored by several XNet Monitors or similar applications.

XNet Monitor is mainly a monitoring application that cannot act on the monitored servers. The only possible remote actions are Multicam update and server reboot.

1.2 INSTALLATION

1.2.1 REQUIREMENT

- PC compatible computer
- Supported OS: Windows XP, Windows Vista or Windows 2003 Server
- .Net framework 3.0 or higher installed

1.2.2 RECOMMENDATION

The SNMP information is available through the PC LAN connector of the server. The XNet Monitor running computer 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 can not be used for any other purpose.

1.2.3 INSTALLATION

XNet Monitor is delivered as a single executable file.

To install the program, run this installation file. During the installation, a warning will be displayed if .Net framework is not installed on your computer. In this case, you should manually install this.

If you need to install the .Net framework, double-click the `DotNet 3.5 SP1 Install3.bat` file, which is delivered with the XNet Monitor executable file.

During XNet Monitor installation, the only required parameter is the installation path for the application. If you want to change the default one, enter the desired path.

Once the application is installed it can be executed immediately.

1.2.4 UPDATE

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

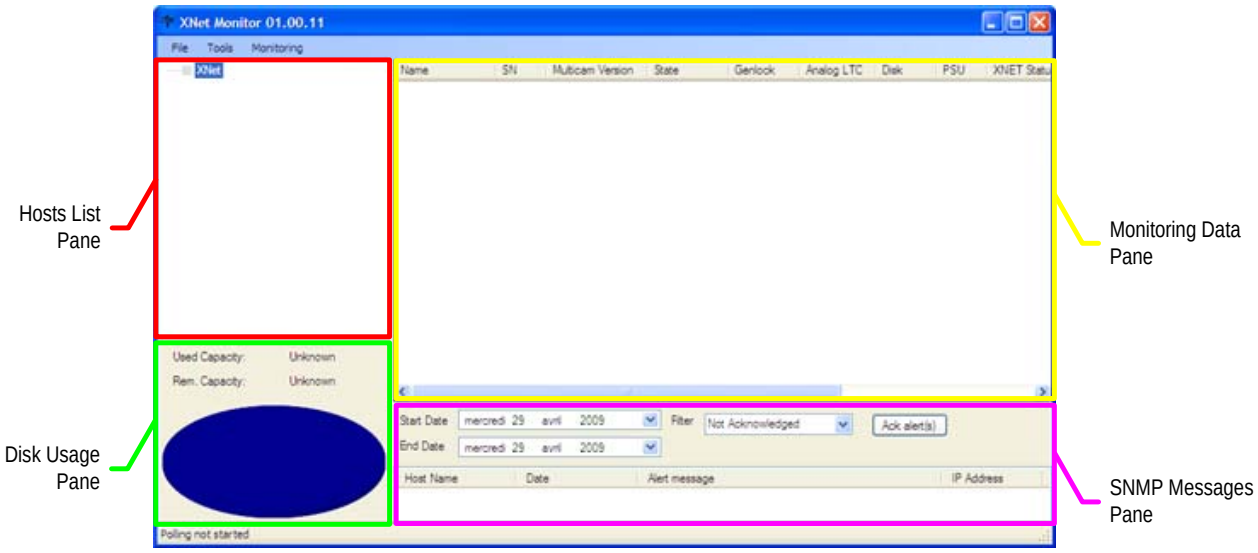
1.3 UNINSTALL

The XNet Monitor application must be removed through Windows Control Panel and Add or Remove Programs menu.

2. Configuration

2.1 USER INTERFACE

At first start-up or when it is not configured, the XNet Monitor displays the following window.

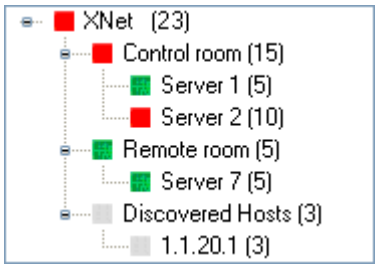


The window is divided in 4 panes:

- The Hosts List pane displays the monitored servers in a user-defined tree architecture.
- The Monitoring Data pane displays the selected server information.
- The Disk Usage pane displays a pie chart with the totalized used and left disk space for the selected server(s).
- The SNMP Messages pane displays the SNMP alert and warning messages for the selected period and enables the user to acknowledge them.

2.2 HOSTS LIST

The Hosts List pane displays the monitored servers on the network. They are listed in a tree architecture independent of the network architecture as shown on the following figure.



2.2.1 XNET

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.

2.2.2 GROUPS

To add a new group, right-click on the XNet node and select **Add group**, the only available command. Enter a representative group name.

As this is only a virtual layout, we recommend that you organize the groups based on physical localization of servers for easier management.

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

2.2.3 HOSTS

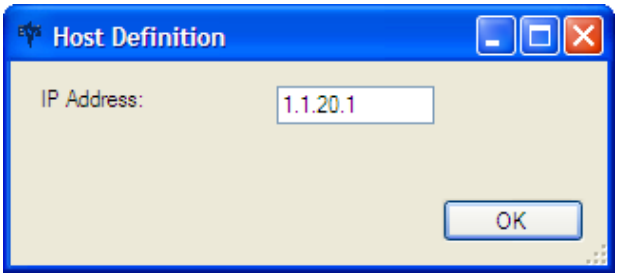
Once the groups are ready, you can add servers or hosts to them.

You can add hosts to XNet Monitor in two ways:

HOW TO ADD HOSTS MANUALLY

To add individual hosts manually, proceed as follows:

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

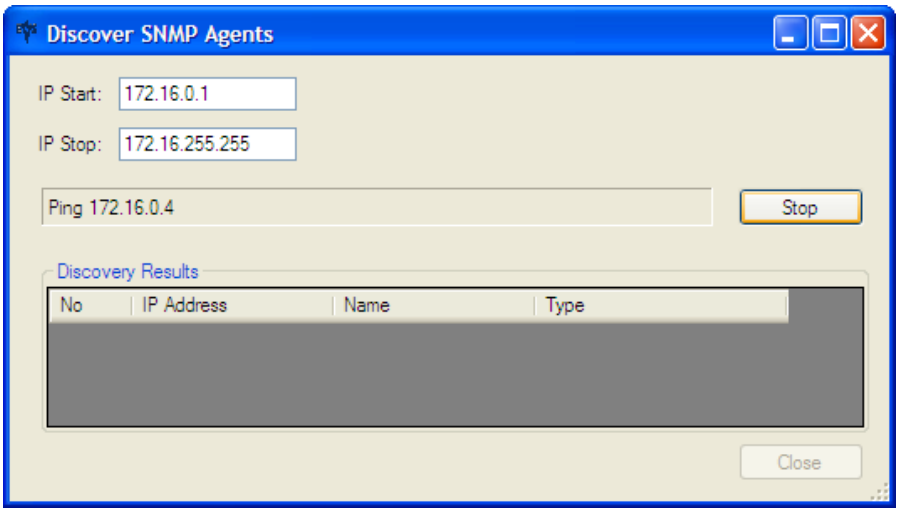


Once the hosts are entered in the list manually, you can organize them in the different groups by drag and drop.

How to Add Hosts Automatically

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

   The **Discover SNMP Agents** window opens



2. In this window, set the start and stop IP addresses between which the program will look for available servers and hosts

3. Click on the **Start** button to start the discovery process.

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

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

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 Host

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

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

2.2.4 Summary Information

In the Hosts List pane, the bullet colour 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.

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 **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

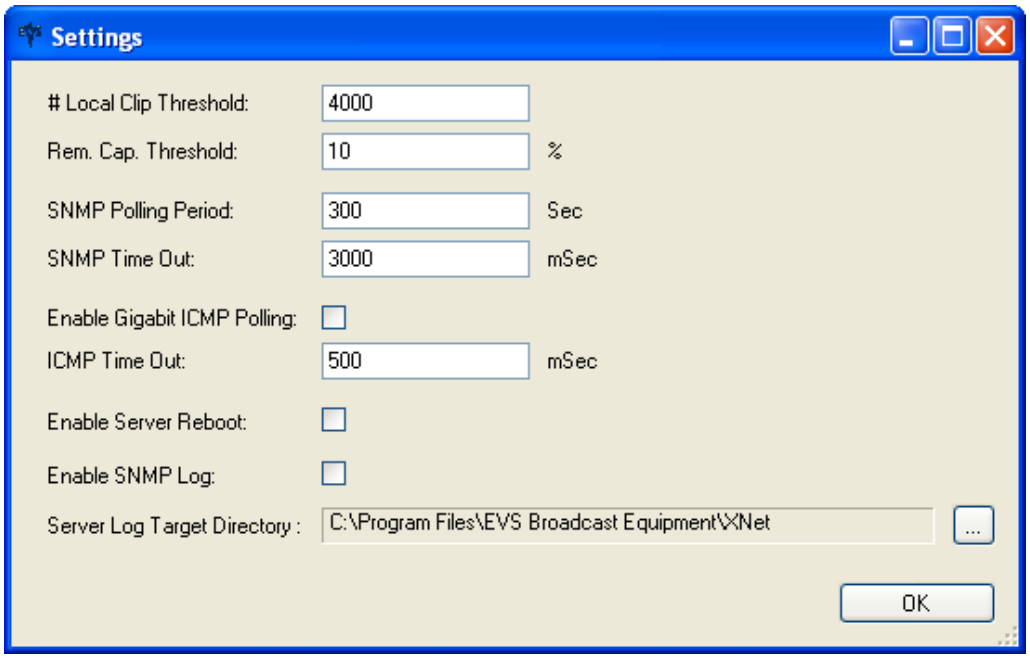
At XNet Monitor start-up, the monitoring is always stopped and must be started manually using the **Start** command.

3.2 CONFIGURATION

A few parameters can be set to configure display and monitoring according to your needs.

3.2.1 APPLICATION SETTINGS

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



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 Hosts List pane.
Enable SNMP Log	If this option is enabled, XNet Monitor will keep a log file with all SNMP messages.

Parameter	Description
Server Log Target Directory	Path to the directory used to store the SNMP log files.

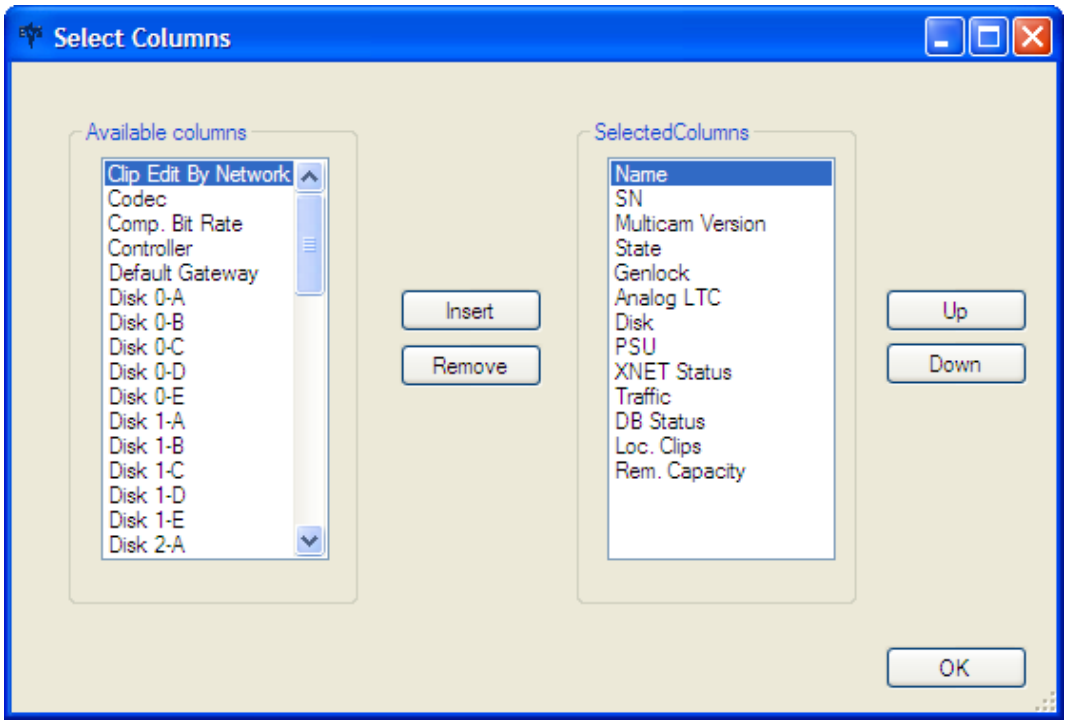
Click on the OK button once the parameters are properly configured for your application.

3.2.2 DATA DISPLAY

When you select XNet or a group in the Hosts List pane, the Monitoring Data pane displays a table with a number of columns. In this table, you will find summary data about the servers available under XNet or under the selected group.

CUSTOMIZING THE DATA DISPLAY

You can specify which information should be displayed in the Monitoring Data pane and how it should be displayed in the **Select Columns** window. To access this window, select the in **Organize Columns** command from the **Tools** menu



The following actions are possible:

- To add a column to the display list, select it in the left **Available columns** list and click on the **Insert** button.
- To remove a column from the table, select it in the right **SelectedColumns** list and click on the **Remove** button.
- To change the columns order, select a column name in the right **SelectedColumns** list and move it up or down in the list using the **Up** and **Down** buttons respectively.

Click on **OK** once the columns are organized as desired.

3.3 INFORMATION DISPLAY

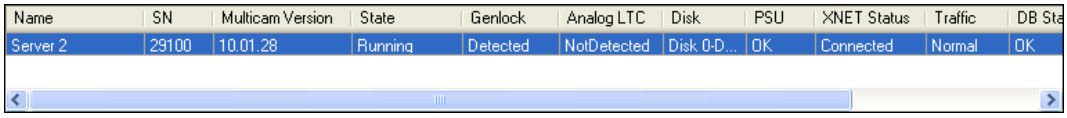
The Monitoring Data pane displays the following information according to the selected item in the Hosts List pane:

- A summary of underlying hosts if XNet or a group is selected.
- An empty table for the host SNMP parameters and their respective values if the selected host is not a server.
- A specific parameters display table if the selected host is a server.

3.3.1 SUMMARY OF HOSTS DATA

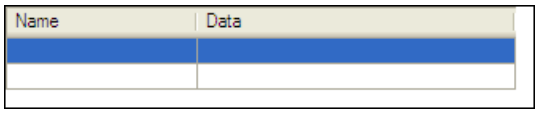
If XNet or a group is selected, the Monitored Data pane displays a summary of underlying hosts parameters as shown on the following figure.

The available columns are selected and organized in the **Organize Columns** window available in the **Tools** menu.



3.3.2 HOST SNMP DATA

Presently, if a host other than a server is selected, the Monitored Data pane will not display any data other than the host IP address and name.



3.3.3 SERVER MIB DATA

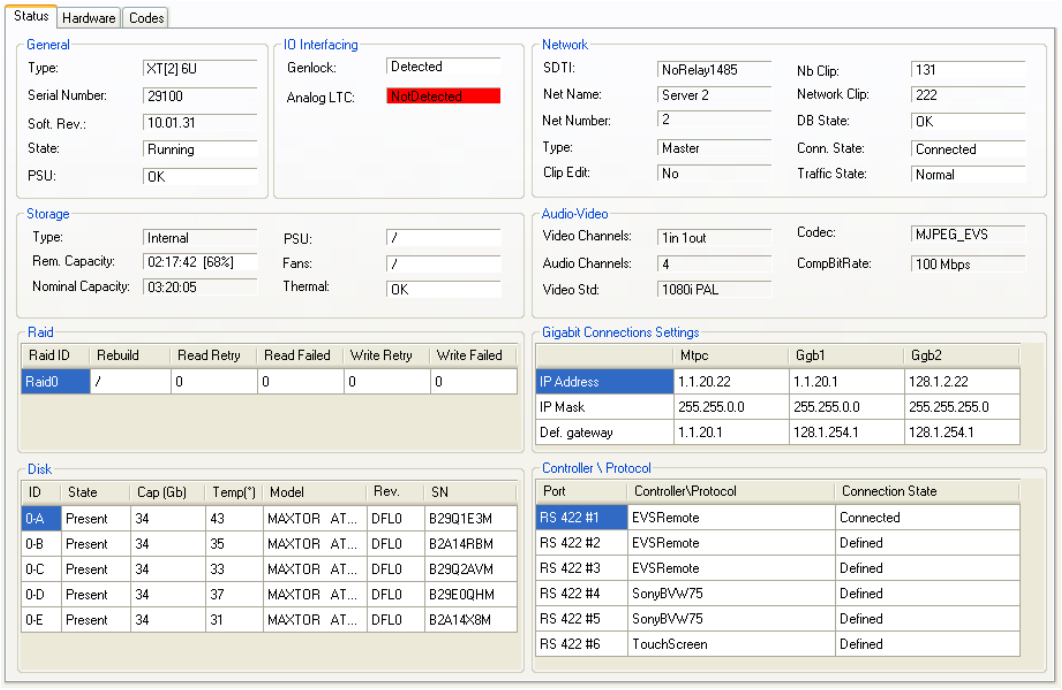
If a server is selected, the Monitored Data pane displays its MIB parameters in 3 tabs each displaying a specific table.

Note

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

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.

General

Parameter	Description
Type	Server type: XT, XT[2]...
Serial Number	Server unique serial number
Soft. Rev.	Server software revision
State	Server state: running,
PSU	State of the power supply unit

IO Interfacing

Parameter	Description
Genlock	Presence or absence of Genlock synchronization signal
Analog LTC	Status of LTC (Longitudinal Time Code) analogue signal

Storage

Parameter	Description
Type	Type of storage: internal or external
Rem. Capacity	Remaining capacity of the storage expressed as a video duration (hours, minutes and seconds) as well as a percentage
Nominal Capacity	Total capacity of the storage expressed as a video duration (hours, minutes and seconds)
PSU	Power supply unit(s) status
Fans	Fans status
Thermal	Temperature status of the system

Raid

Parameter	Description
Raid ID	RAID storage system identification
Rebuild	System rebuild status during rebuild performing
Read Retry	Number or read retries on the system
WriteRetry	Number or write retries on the system

Disk

Parameter	Description
ID	Disk identification
State	Disk status: present, disconnect...
Cap (Gb)	Disk capacity in Gbytes.
Temp(°)	Disk internal temperature
Model	Disk manufacturer and model
Rev. Level	Disk revision level

Network

Parameter	Description
SDTI	SDTI (Serial Data Transport Interface) network type
Net Name	Server name on the SDTI network
Net Number	Server identification number on the SDTI network
Type	Server type on the SDTI network: master, client, server
Clip Edit	A clip is being transferred and edited or not
Nb Clip	Number of clips stored on the server
Network Clip	Total number of clips stored on the whole network
DB State	Status of the database
Conn. State	Status of the network connection
Traffic State	Network traffic status

Audio-Video

Parameter	Description
Video Channels	Video channels configuration (number of in and out channels)
Audio Channels	Number of audio channels
Video Std	Video standard used on the server ports
Codec	Codec used for video digitalization and storage
CompBitRate	Bit rate of compressed video data

Gigabit Connections Settings

Parameter	Description
Mtpc	Control board (MTPC) port
Ggb1	Gigabit port 1
Ggb2	Gigabit port 2
IP Address	IP address of the interface port

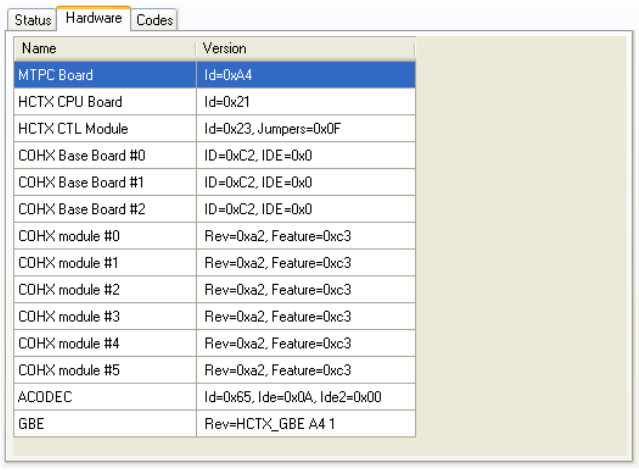
Parameter	Description
IP Mask	IP mask of the interface port
Def. gateway	Default gateway used by the interface port

Controller \ Protocol

Parameter	Description
Port	Server control port identification
Controller\Protocol	Controller or protocol used on that port
Connection State	Control port connection status

HARDWARE TAB

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.

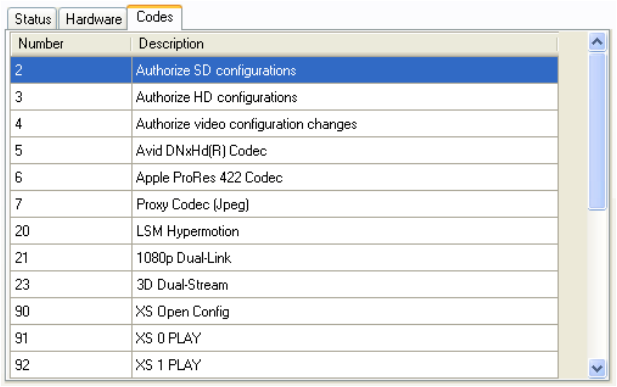


Modules

Parameter	Description
Name	Server module type
Version	Server module revision and additional parameters

CODES TAB

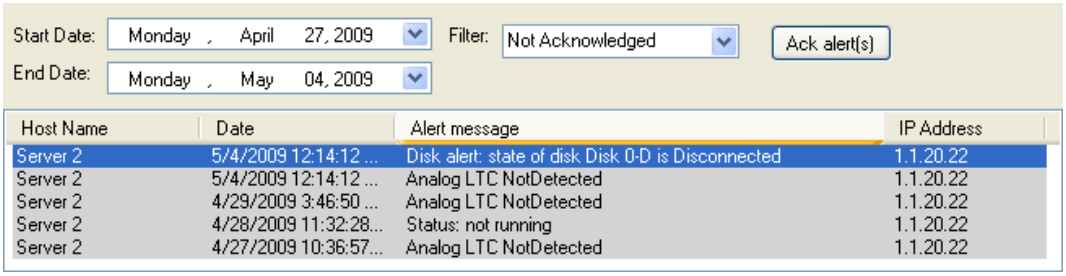
The **Codes** tab lists the options codes activated on the server along with their description.



3.4 SNMP ALERT MESSAGES

3.4.1 ALERT MESSAGES MANAGEMENT

The SNMP Messages pane displays the SNMP alert messages sent by the host or groups of hosts selected in the Hosts List pane. These messages are displayed until they are acknowledged by the user.



ALERT MESSAGES DISPLAY

Use the calendar of the **Start Date** and **End date** drop-down fields to restrict the displayed alerts list to the selected.

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

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

ALERT MESSAGES ACKNOWLEDGEMENT

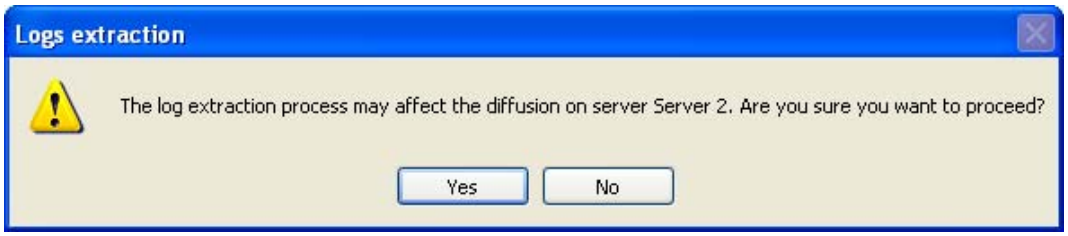
The alert acknowledgment function helps you to easily remove alert messages from the displayed list once they have been visualized and/or taken care of.

Use the **Ack alert(s)** button to acknowledge the selected alerts. These alerts are kept in the log file but are not displayed anymore (depending on the display filter configuration).

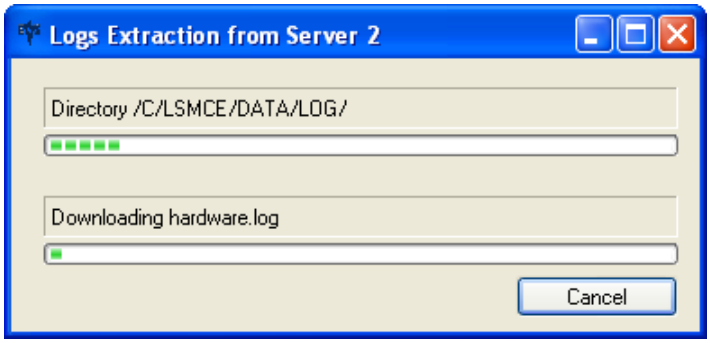
3.4.2 SERVER LOGS EXTRACTION

To remotely recover the SNMP logs stored on a server, right-click on it in the Hosts List pane and click **Extract logs** in the contextual menu.

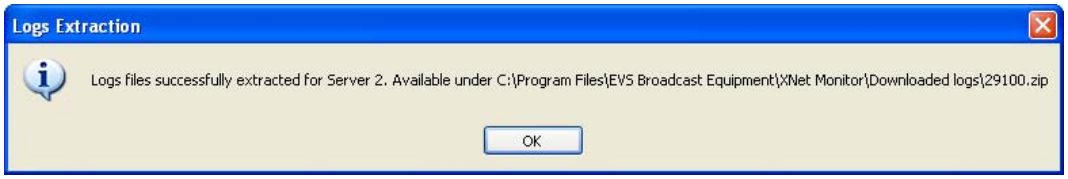
The following warning message window is displayed to warn you that the extraction process may interfere with the video diffusion from that server. Launch the extraction process again later if you cannot accept any diffusion trouble at this time.



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 log the extractions dates, operations, results and resulting zip file.

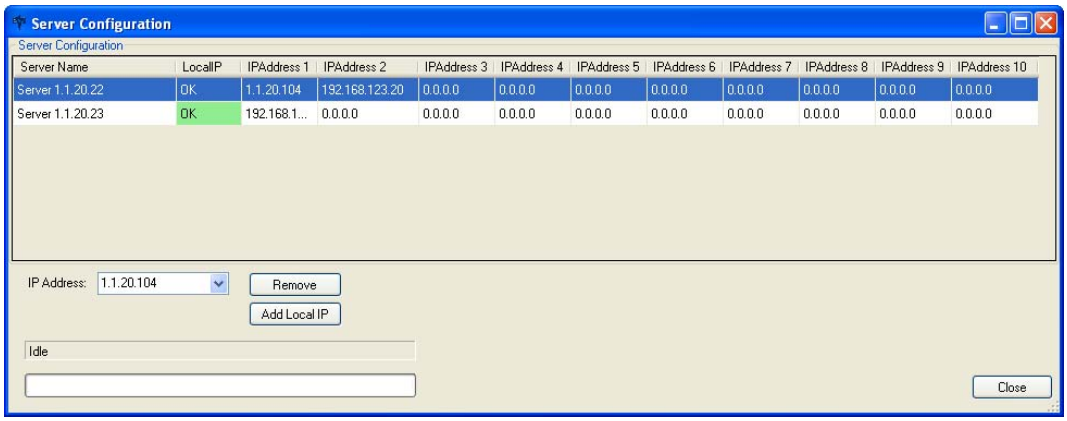
Note

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.

3.4.3 SERVERS SNMP CONFIGURATION

In the **Tools** menu, the **Server configuration** command opens the **Server Configuration** window as shown below.

In this window, a table is displayed with all servers and for each of these, a list of all IP addresses to which they send their SNMP trap messages. So, it is easy to see which monitoring computer will receive any trap message.



The **Remove** button allows removing the selected **IP Address**

The **Add Local IP** button allows adding the current XNet Monitor **IP Address** on the monitored server.

The status line and progress bar at the bottom of the window display the currently executed command and its progress status.

3.5 HOSTS LISTS MANAGEMENT

From the **File** menu, commands make it possible to manage the hosts and servers list available in the Hosts List pane. 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.

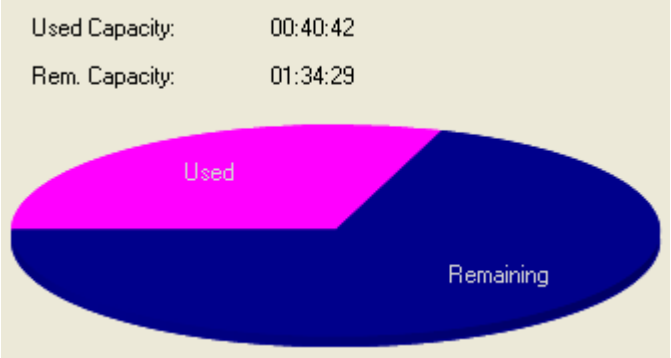
The following commands are available in the **File** menu.

- **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 program.

3.6 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 Hosts List pane.

A colour 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 Update and Reboot

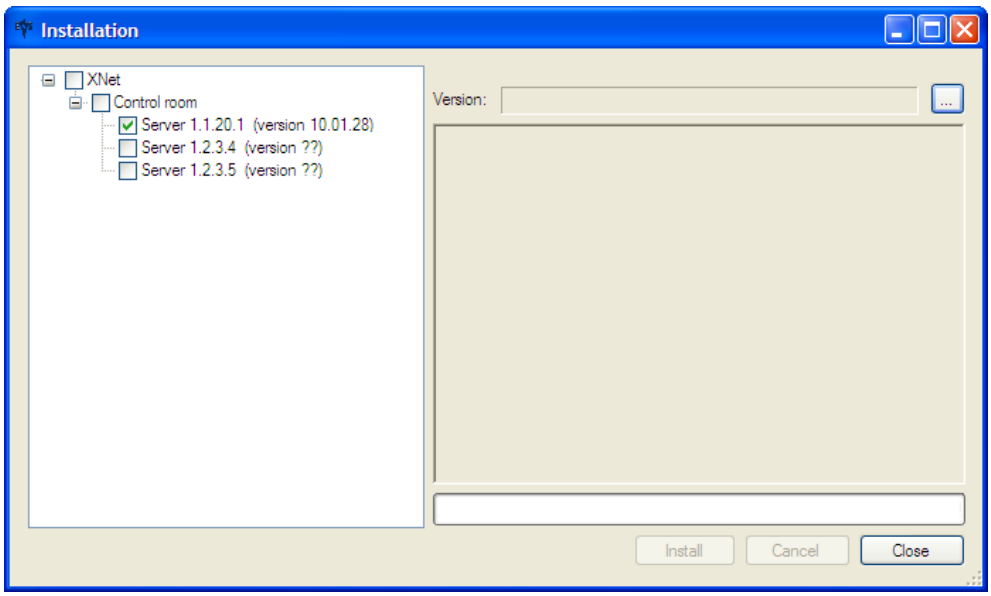
XNet Monitor is a monitoring tool. Nevertheless it is able to remotely perform two actions on any server if configured accordingly:

- Update the Multicam version on a server
- Reboot a server if necessary

4.1 MULTICAM UPDATE

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

1. Click on **Installation** in the **Tools** menu. 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.

Note

The Multicam installation zip file can be generated from the `makezip.bat` file available with all Multicam installation packages.

4.2 SERVER REBOOT

To remotely reboot a server, right-click on it in the Hosts List pane and click 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.

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