USER MANUAL

Version 2.1

Xsquare.

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Improvement Requests

Your comments will help us improve the quality of the user documentation. Do not hesitate to send improvement requests, or report any error or inaccuracy on this user manual by e-mail to doc@evs.com.

Regional Contacts

The address and phone number of the EVS headquarters are usually mentioned in the Help > About menu in the user interface.

You will find the full list of addresses and phone numbers of local offices either at the end of this user manual (for manuals on hardware products) or at the following page on the EVS website: http://www.evs.com/contacts.

User Manuals on EVS Website

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: http://www.evs.com/downloadcenter.

Table of Contents

What's New?

In the Xsquare 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 in version 2.1 are listed below.

New EVS Servers window

- See section "EVS Server Monitoring Window" on page 61

New cluster load icons in the Monitoring window

- See section "Cluster Area" on page 57

The changes linked to new features in version 2.0 are listed below.

Settings added for selecting the source when it is stored on an EVS server

- See section "Creating a Customized Job Template" on page 44
- See section "Source Selection in the Job Process" on page 48

Name field added in the Scanfolder and ScanXML windows

- See section "ScanFolder Window" on page 9
- See section "ScanXML Window" on page 13

XTA Location field added in the Orchestration window and Monitoring window

Permanent field in the Orchestration window / optional field in the Monitoring window

- See section "Engine Area" on page 30

Last notification date field added in the Monitoring window

Optional field

Hide command added in the contextual menu in the Monitoring window

- See section "Managing Monitored Jobs" on page 60

Date filter modified in the Monitoring window

Applicable to all date fields

- See section "Job Grid" on page 55

The document has been improved to provide more detailed information on the following topics:

Possible values for the Location field

- See section "Clip Location on an EVS Server" on page 21

1. Introduction

1.1. Product Overview

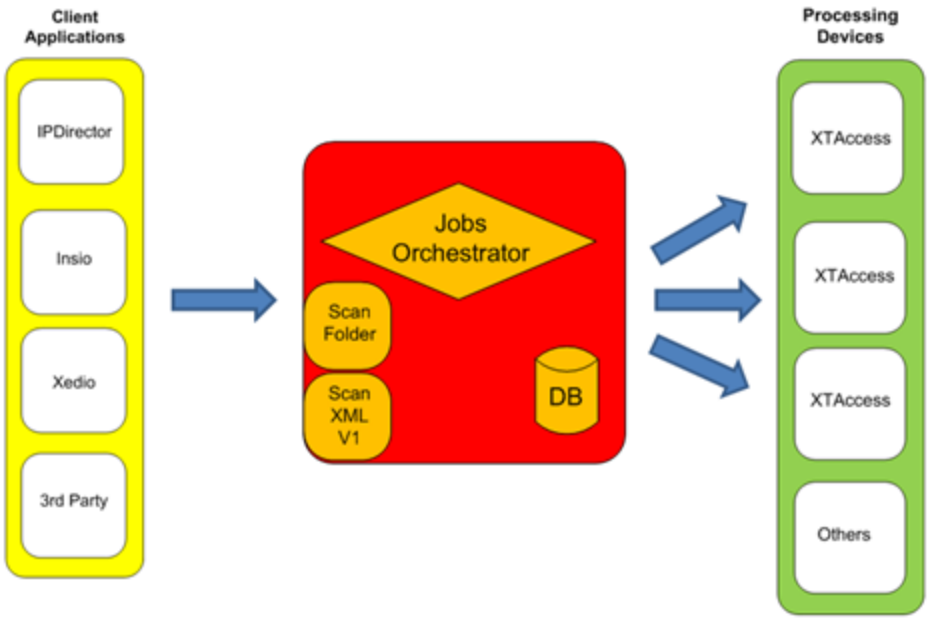
Description

Xsquare acts as an orchestrator that centralizes all job requests from client applications, and dispatches them to the most appropriate processing device, taking into account load balancing, job type, etc.

The Xsquare solution offers the following advantages:

- Central orchestrator for all jobs
- Global configuration tool for all processing devices
- Global monitoring tool
- Integration with old job processing

Illustration



Client Applications

The Xsquare client is the device that initiates the job for Xsquare.

The client provides the source file or clip Xsquare needs to process.

The clients can be:

- EVS or third-party applications that use the new or the old job types that Xsquare can process
- Files that are dropped in a folder and trigger a job process.

Xsquare Orchestrator

Xsquare itself consists of four processes:

- The **job orchestration process** that receives the job requests and send them to the right processing device.
- The **ScanFolder process** that manages source files dropped in dedicated folders, and send jobs to Xsquare to process these files.

  See also section "Defining a ScanFolder" on page 11.
- The **ScanXML process** that manages XML file jobs (old job definition, called V1 jobs), and translate them into Xsquare jobs (V2 jobs), and optionally modify the job definition based on the Xsquare configuration.

  See also section "Defining a ScanXML" on page 18
- The **notification process** that records all notifications from the processing devices, saves them in a database, and sends light notifications to the clients.

Processing Devices

The processing devices are the engines that effectively process the jobs sent by Xsquare.

In the first versions of Xsquare, XTAccess applications are the only supported processing devices.

In later versions, other processing devices will be supported.

1.2. Accessing Xsquare

Introduction

Xsquare has a web-based user interface available from everywhere on the same TCP/IP network as Xsquare.

The web interface is hosted on an EVS Proxy service available on port 9004 of the computer on which Xsquare is installed.

Prerequisite

To be able to access Xsquare, you need to get a username and password from the administrator. Your user credentials are associated to a given level of user rights, which may limit the windows and/or features you will have access to in Xsquare.

How to Access Xsquare

1. Open a web browser and type the Xsquare URL using one of the following pattern:
   - On the local computer:

     `http//localhost:9004`

     OR

     `http//hostname:9004`
   - On another computer on the network:

     `http//xxx.xxx.xxx.xxx:9004` where the crosses correspond to the IP address of the machine on which Xsquare is installed

     OR

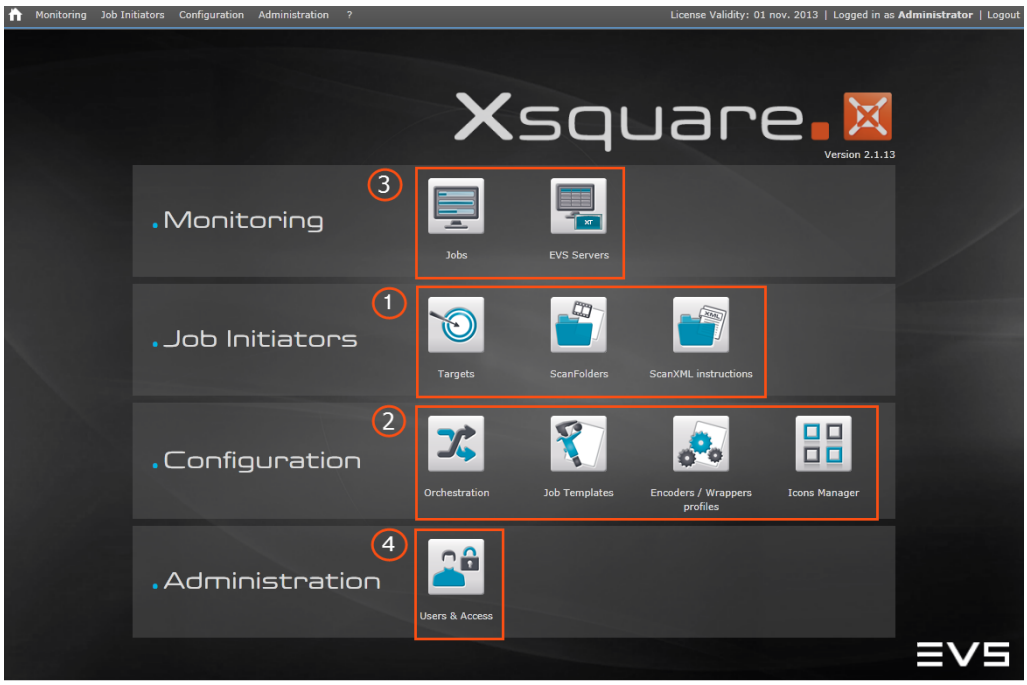
     `http//computername:9004` where **computername** is the full computer name of the machine on which Xsquare is installed.
2. To access Xsquare, enter your username and password.

When you have an Xsquare license, your username is displayed on the top right corner of the Xsquare window.

1.3. Xsquare User Interface

Illustration

Xsquare is a web-based application: its home page features the modules organized in four sections:



Area Description

Xsquare is made up of the following modules:

#	Module	Task
1.	Job Initiators	Allows users to configure, start or stop different systems that initiate jobs the processing devices will manage. See section "Job Initiators" on page 5
2.	Configuration	The Configuration section contains configurable elements in Xsquare: • The **Orchestration** tool allows users to group the processing devices in clusters dedicated to specific job types. This makes it possible to distribute the jobs more efficiently among the various processing devices. See section "Orchestration" on page 24 • The **Job Templates** tool allows users to create customized job templates based on the predefined job templates available by default in Xsquare. See section "Managing Templates and Profiles" on page 38 • The **Encoders /Wrappers Profiles** tool allows users to customize encoder / wrapper profiles based on the predefined ones available by default in Xsquare. See section "Managing Templates and Profiles" on page 38 • The **Icons Manager** tool allows managing the icons used in Xsquare. See section "Icons Manager" on page 49
3.	Monitoring	Allows users to monitor: • the jobs scheduled, or already processed by the processing devices. • the EVS servers detected on the network. See section "Monitoring" on page 53
4.	Administration	Allows users to define user rights to access Xsquare. See section "Users and Access" on page 50

Note
A separate association tool makes it possible associate XTAccess applications installed on the network to Xsquare. Such associations are logically (but not necessarily) done before you start using Xsquare. See the documentation specific to this tool for more information.

2. Job Initiators

2.1. Concepts around Jobs

Job

A job consists in a process to be executed on a source material. The result of the process is saved in a destination.

A job is therefore made up of three elements:

- the **source material** (clip, file or EDL) selected by a user in the client application, dropped in a folder or specified in an XML job definition file.
- the **process** to be executed on the source material. This can be, for example, a copy, rewrap, restore, transcoding action, referencing in an NLE, grab, etc. This is configured using a job template.
- the **destination**, which means the physical location where the output of the job must be stored. This is configured using a job template.

Soap V2 Job

The new interface to process Xsquare jobs use the soap protocol. The jobs using the new interface are called **Xsquare jobs** (or V2 jobs) in the online help.

The Targets, a job initiator you can define in Xsquare, use V2 jobs.

XML File V1 Job

The interface previously used to process the jobs consists in XML job definition files. The jobs defined in the XML files are called **XML file jobs** (or V1 jobs) in the online help.

Xsquare can control the XML file jobs through the ScanXML service, available in Xsquare as a job initiator. Xsquare therefore remains compatible with the old XTAccess ScanXML feature.

Job Initiators

Three job initiators are available in Xsquare:

Job Initiators	Description
Targets	A job is triggered from a client application when the user calls the Target associated to the job. See section "Defining a Target" on page 8
ScanFolders	A job is triggered when a file is dropped in a folder defined in the ScanFolder configuration and scanned by Xsquare. See section "Defining a ScanFolder" on page 11
ScanXML	A job is triggered when an XML definition file is dropped in a folder defined in the ScanXML configuration and scanned by Xsquare. See section "Defining a ScanXML" on page 18.

Target

A Target is a destination that the users in the client application can send a source material to. The source material can undergo processing before being sent to the destination. The Targets use the Soap V2 jobs.

ScanFolder

A ScanFolder consists in a folder that is scanned by an Xsquare service (ScanFolder service) to check for files to be processed. The folder is scanned when it is defined in an active (started) ScanFolder in Xsquare. When a file with the file extension defined in the ScanFolder configuration is dropped into the scanned folder, the ScanFolder service creates a job to process this source file as defined in the job template. Once the file is processed, it is sent to the destination defined in the job.

ScanXML

A ScanXML instruction consists in an XML job definition file (V1 job) stored in a dedicated folder by a client application. The folder is scanned by the ScanXML service of Xsquare when it is defined in an active (started) ScanXML. When the client application drops the XML job file in the scanned folder, the ScanXML service creates a job to process the source file as defined in the job template.

When no job template is associated to the ScanXML definition in Xsquare, the instructions contained in the XML job file are taken into account. Otherwise, the instructions are merged based on specific merge rules.

Job Templates

Templates that specify a job process and destination. Xsquare users select a predefined templates or create a custom template when they create a ScanXML, ScanFolder or Target.

See section "Types of Job Templates" on page 44 for more information on the types of job templates.

2.2. Configuring Targets

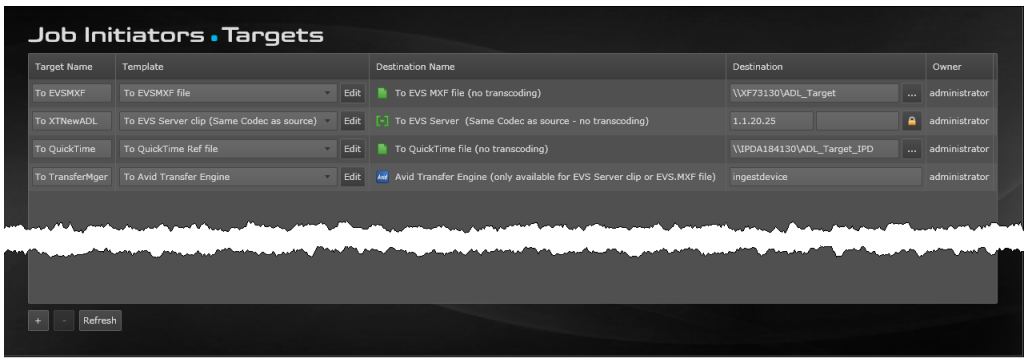
2.2.1. Target Window

General Description

The Target window makes it possible to define the Targets that will be available in client applications, and specify the underlying job elements, that is to say the processing and the destination for the job.

On the Target window, each defined Target is represented as a row in a table that contains a number of fields described below:

The **+** and **-** signs at the bottom of the window makes it possible to add a Target or remove a Target from the list:



Field Description

The table below describes the fields in the Target window:

GUI Element	Description
Target Name field	Name of the Target that will appear in the EVS application where the Target is available
Template field	Job template to be associated to the Target The Edit button allows users to open the displayed job template, and create a customized job template based on it.
Destination Name field	Name of the destination. It is stored in the job template and is automatically filled in when you select the job template
Destination field	Physical location where the processed material has to be stored. See section "Job Destination Parameters" on page 19 for more information on this field.
Owner field	Logon of the user who has created the Target. Non editable field only available for users logged as administrators.
+ button (**Add** button)	Button that allows users to add a Target
- button (**Remove** button)	Button that allows users to remove the selected Target
Refresh button	Button that allows users to refresh the window display

2.2.2. Defining a Target

Introduction

Adding a Target in Xsquare will automatically make this Target available in the client application. No other configuration is required.

Note
See section "Target Window" on page 7 for additional information on the field values specified in this procedure.

Prerequisites

Before adding a Target, you must share the folder the processed files will be sent to.

Procedure

To add a Target in Xsquare, proceed as follows:

1. Select **Targets** in the **Job Initiators** menu.
2. Click the **+** button at the bottom of the window to add a row for a new Target.
3. Type a name for the Target in the **Target Name** field.
4. Select a template from the list.

   If the available templates do not meet your needs, you can create a new template based on an existing one by clicking the **Edit** button.

   See section "Creating a Customized Job Template" on page 44 for more information on creating a customized job template.
5. In the **Destination** field, do one of the following according to the selected job template:
   - If you have not yet connected to that computer, you have to type the Windows user and password to gain access to the shared folders on that computer.
   - If the destination is an EVS server, type one or both GigE address of the EVS server. It is recommended to click the  icon and specify the username, password to access the EVS server, as well as the requested location, that is page, bank, and first position.
   - If the destination is an Avid Transfer Engine, specify the name of the Avid Transfer Engine.
6. Click the **Save** button displayed below the Target definition.

The new Target is defined and is directly operational in the client applications.

2.3. Configuring ScanFolders

2.3.1. ScanFolder Window

General Description

The ScanFolder window makes it possible to define a job to be applied to files dropped in a given shared folder scanned by Xsquare.

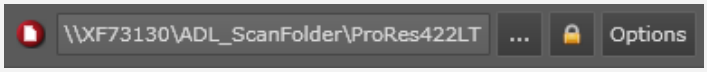
This folder is called a ScanFolder, as well as the Xsquare service responsible for detecting the file to be processed, and creating the job.

On the ScanFolder window, each defined ScanFolder is represented as a row in a table that contains a number of fields described below:

NEW !

Field Description

The table below describes the fields in the ScanFolder window:

GUI Element	Description
ScanFolder field	 This field is made up of several elements, described below, from left to right: • **Icon:** icon identifying what type of source file is scanned, and whether the ScanFolder is started (green icon) or not (red icon). The source file can be an A/V file / , an audio file / or a graphical sequence / . • **Path:** path to the ScanFolder, and ScanFolder name • ...: icon that allows users to select the ScanFolder. • : icon that allows users to specify the Windows login and password to connect to the computer on which the ScanFolder is located. • Options: icon that allows users to specify ScanFolder options.
ScanFolder Name field	Nickname of the ScanFolder. This does not have to be the same name as the folder name created in the Windows repository.
Filter field	Extension of the files that have to be processed in the ScanFolder.
Template field	Job template to be associated to the ScanFolder definition. The Edit button allows users to open the displayed job template, and create a customized job template based on it.
Destination Name field	Name of the destination. It is stored in the job template and is automatically filled in when you select the job template.
Destination field	Physical location where the processed material has to be stored. See section "Job Destination Parameters" on page 19 for more information on this field.

GUI Element	Description
Owner field	Logon of the user who has created the ScanFolder. Non editable field only available for users logged as administrators.
+ button (**Add** button)	Button that allows users to add a ScanFolder.
- button (**Remove** button)	Button that allows users to remove the selected ScanFolder.
Start button	Button that allows users to start the ScanFolder service of Xsquare, that is to say start scanning the ScanFolder, and executing the job when a file is detected in the ScanFolder.
Stop button	Button that allows users to stop the ScanFolder service of Xsquare.
Refresh button	Button that allows users to refresh the window display.

2.3.2. Defining a ScanFolder

Introduction

Adding a ScanFolder will allow you to define the job to be applied to files dropped in the ScanFolder, that means a given shared folder scanned by the ScanFolder service of Xsquare.

For the ScanFolder service to take ScanFolder jobs into account, you must start the associated ScanFolder definition in Xsquare.

Note
See section "ScanFolder Window" on page 9 for additional information on the field values specified in this procedure.

Prerequisites

Before adding a ScanFolder, you must share the source ScanFolder and the destination folder.

Procedure

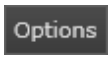
To add a ScanFolder in Xsquare, proceed as follows:

1. Select **ScanFolders** in the **Job Initiators** menu.
2. Click the **+** button at the bottom of the window to add a row for a new ScanFolder.

3. In the **ScanFolder** field, do the following:

   a. Click  and select the folder to be scanned.

   b. Enter the Windows login and password to access the computer where the ScanFolder is located.

   c. If requested, click  to specify ScanFolder options.

4. If requested, modify:

   a. the default **Scanfolder Name**.

   b. the default extension of the files the ScanFolder has to process specified in the **Filter** field.

5. In the **Template** field, select the job template to be applied to the ScanFolder from the list.

   If the available templates do not meet your needs, you can create a new template based on an existing one by clicking the **Edit** button.

   See section "Creating a Customized Job Template" on page 44 for more information on creating a customized job template.

6. In the **Destination** field, do one of the following according to the selected job template:

   - If the destination is a shared folder on the network, click the  button and select the computer where the shared folder is located.

     If you have not yet connected to that computer, you have to type the Windows user and password to gain access to the shared folders on that computer.

   - If the destination is an EVS server, type one or both GigE address of the EVS server. It is recommended to click the  icon and specify the username, password to access the EVS server, as well as the requested location, that is page, bank, and first position.

   - If the destination is an Avid Transfer Engine, specify the name of the Avid Transfer Engine.

7. In the **Destination** field, click  to specify whether or not new IDs have to be generated.

8. Click the **Save** button displayed below the ScanFolder definition.

9. If you want the ScanFolder service to directly start scanning the ScanFolder, click the red icon in the **ScanFolder** field.

   The icons turns green, which means the service is started for this ScanFolder definition.

2.4. Configuring ScanXML

2.4.1. ScanXML Window

General Description

The ScanXML window makes it possible to take over XML file jobs, by scanning the ScanXML folder where XML job definition files are dropped.

From the ScanXML window, you can define ScanXML that will handle the ScanXML jobs in two possible ways:

- Taking over the XML file job, and processing it as originally defined in the XML file. In this case, you will not apply any template to the ScanXML job.
- Taking over the XML file job, and applying an Xsquare template to the job. This will modify the job definition by merging the old and the new job definitions.

  See section "Merge Rules for ScanXML Jobs" on page 15 for more information about job merges.

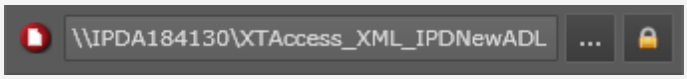
An Xsquare service, called ScanXML service, is responsible for scanning the XML file jobs and translate them in Xsquare jobs based on the ScanXML job definition.

On the ScanXML window, each ScanXML that corresponds to a specific ScanXML folder is represented as a row in a table that contains a number of fields described below:

NEW !

Field Description

The table below describes the fields in the ScanXML window:

GUI Element	Description
ScanXML field	 This field is made up of several elements, described below, from left to right: • **Icon:** icon identifying whether the ScanXML service for the is started or not for this ScanXML folder. • **Path:** path to the ScanXML folder, and ScanXML folder name • ...: icon that allows users to select the ScanXML folder. • : icon that allows users to specify the Windows login and password to connect to the computer on which the ScanXML folder is located.
ScanXML Name field	Nickname of the ScanXML. This does not have to be the same name as the folder name created in the Windows repository.
Template field	Job template to be associated to the ScanXML folder. If the XML file job has to be processed as defined in the XML job file, select **No Template (convert XML job to Xsquare job)** from the list.
Edit button	Button (in the Template field) that allows users to open the displayed job template, and create a customized job template based on it
Destination Name field	Name of the destination. It is stored in the job template and is automatically filled in when you select the job template
Destination field	Physical location where the processed material has to be stored. See section "Job Destination Parameters" on page 19 for more information on this field.
Owner field	Logon of the user who has created the ScanXML definition. Non editable field only available for users logged as administrators.
+ button (**Add** button)	Button that allows users to add a ScanXML definition.
- button (**Remove** button)	Button that allows users to remove the selected ScanXML definition.
Start button	Button that allows users to start the ScanXML service of Xsquare, that is to say start scanning the ScanXML folder, and executing the job when an XML file is detected in the ScanXML folder.
Stop button	Button that allows users to stop the ScanXML service of Xsquare.
Refresh button	Button that allows users to refresh the window display.

2.4.2. Merge Rules for ScanXML Jobs

When you have associated a template to a ScanXML definition in Xsquare, the parameters from the XML file job and from the ScanXML job in Xsquare based on the job template are merged into a final job definition.

In this merge process, priority rules are applicable to determine which parameters will prevail in case of conflicting parameters in the job based on the XML file and on the Xsquare template.

The applicable rules are presented in the following table:

Job Type in the XML File	Job Type in the Xsquare Template	Result	Description		
			Destination	Codec/Wrapper Format	Other Options
Job to EVS Server	No associated template	No merge	All parameters are taken over from the XML file job. Xsquare does not add anything.		
Job to File	No associated template	No merge	All parameters are taken over from the XML file job. Xsquare does not add anything.		
Job to EVS Server	Template to EVS Server	Merge	XML File (if you specify **Use dest. from XML Job** in the GUI) or Xsquare job (if you select a specific destination in the GUI)	From Xsquare template	Information from XML file used in priority
Job to File	Template to EVS Server	No merge	All parameters are taken over from the XML file job. Xsquare does not add anything.		
Job to EVS Server	Template to File (+ Use dest. from XML Job)	No merge	All parameters are taken over from the XML file job. Xsquare does not add anything.		
Job to File	Template to File (+ Use dest. from XML Job)	Merge	XML File (if you specify **Use dest. from XML Job** in the GUI) or Xsquare job (if you select a specific destination in the GUI)	From Xsquare template	Information from XML file used in priority

Job Type in the XML File	Job Type in the Xsquare Template	Result	Description		
			Destination	Codec/Wrapper Format	Other Options
Job to EVS Server	Template to File (multidestination: 1st dest.)	No merge	All parameters are taken over from the XML file job. Xsquare does not add anything.		
	Template to File (multidestination - other dest.)	No merge	The job for the second destination is not created as XML file jobs handle a single destination.		
Job to File	Template to File (multidestination - 1st dest.)	Merge	XML File (if you specify **Use dest. from XML Job** in the GUI) or Xsquare job (if you select a specific destination in the GUI)	From Xsquare template	Information from XML file used in priority
	Template to File (multidestination - other dest.)	Merge	Destination as specified in Xsquare GUI	From Xsquare template	From Xsquare GUI
Job to EVS Server	Template to EVS server (multidestination - 1st dest.)	Merge	XML File (if you specify **Use dest. from XML Job** in the GUI) or Xsquare job (if you select a specific destination in the GUI)	From Xsquare template	Information from XML file used in priority
	Template to File (multidestination - other dest.)	Merge	Destination as specified in Xsquare GUI	From Xsquare template	From Xsquare GUI

Job Type in the XML File	Job Type in the Xsquare Template	Result	Description		
			Destination	Codec/Wrapper Format	Other Options
Job to File	Template to EVS server (multidestination - 1st dest.)	No merge	All parameters are taken over from the XML file job. Xsquare does not add anything.		
	Template to File (multidestination - other dest.)	No merge	The second destination is created with the parameters from the Xsquare template, since the XML file jobs handle a single destination.		

2.4.3. Defining a ScanXML

Introduction

By adding a ScanXML in Xsquare, the application will handle the XML file jobs by scanning the ScanXML folder where XML job files are dropped, and applying Xsquare job definition, if requested.

For the ScanXML service to take ScanXML jobs into account, you must start the ScanXML in Xsquare.

Note
See section "ScanXML Window" on page 13 for additional information on the field values specified in this procedure.

Prerequisites

Before defining a ScanXML, you must share the ScanXML folder and the destination folder.

Procedure

To add a ScanXML in Xsquare, proceed as follows:

1. Select **ScanXML** in the **Job Initiators** menu.
2. Click the **+** button at the bottom of the window to add a row for a new ScanXML definition.
3. In the **ScanXML** field, do the following:
   a. Click  and select the folder to be scanned.
      This is the folder where the XML job files will be dropped.
   b. Enter the Windows login and password to access the computer where the ScanXML folder is located.
4. If requested, modify the default **ScanXML Name**.
5. In the **Template** field, select the job template to be applied to the ScanXML from the list.
   - If you do not want to modify the original job defined in the XML job file, select **No Template** from the list.
   - If the available templates do not meet your needs, you can create a new template based on an existing one by clicking the **Edit** button.

     See section "Creating a Customized Job Template" on page 44 for more information on creating a customized job template.

6. In the **Destination** field, do one of the following according to the selected job template:
   - If you do not want to change the original destination defined in the XML job file, keep **<Use dest. from XML Job>**.
   - If the destination is a shared folder on the network, click the  button and select the computer where the shared folder is located.

     If you have not yet connected to that computer, you have to type the Windows user and password to gain access to the shared folders on that computer.
   - If the destination is an EVS server, type one or both GigE address of the EVS server. It is recommended to click the  icon and specify the username, password to access the EVS server, as well as the requested location, that is page, bank, and first position.
   - If the destination is an Avid Transfer Engine, specify the name of the Avid Transfer Engine.
7. Click the **Save** button displayed below the ScanXML definition.
8. If you want the ScanXML service to directly start scanning the ScanXML folder, click the red icon in the **ScanXML** field.

   The icons turns green, which means the service is started for this ScanXML definition.

2.5. Job Destinations

2.5.1. Job Destination Parameters

Introduction

When adding a job initiator, you select a job template that includes a job destination.

Three types of job destinations are available: To EVS server, To File or To Avid Transfer Engine.

Depending on the selected job destination, you will be requested to define different destination parameters.

These parameters, displayed or available through an icon in the **Destination** column, are specific to the destination type, and

largely common to all job initiators.

EVS Server Destination

Overview

The screenshots below show the Destination column with the parameters for an EVS server destination:

IP Addresses

In this field, specify the IP addresses of the one or both GigE ports of the EVS server.

In the ScanXML job initiator, Xsquare will use the value from the XML job if you leave the field empty.

For the other job initiators, you have to provide at least one IP address.

Lock Icon 

Clicking this icon opens the EVS Server Authentication window.

In this window, the following fields are available:

- The username and password to access the EVS server.

  If the fields are left empty, it is assumed the default values for username and password are used on the EVS server.
- The storage location, that is the definition of how the clips should be stored on the EVS server.

  See section "Clip Location on an EVS Server" on page 21 for more information on how to specify the location rules in this field.

ID Icon 

In the ScanFolder window, clicking the ID icon opens the ID Mode window.

The ID mode allows users to specify whether new IDs have to be generated, or whether the old IDs will be taken over.

File Destination

When the destination is a file, you have to specify the file location by clicking the  icon and selecting the computer and shared folder where the generated files have to be stored.

If you have not yet accessed the computer from Xsquare before, you have to enter the Windows login and password to have visibility on the shared folders.

Avid Transfer Engine Destination

If the destination is an Avid Transfer Engine, you need to specify the name of the Avid Transfer Engine.

2.5.2. Clip Location on an EVS Server

Introduction

When the destination is an EVS server, you can specify which location (page, bank, position, camera) will be used to store the generated clips on the EVS server. You specify this in the **Location** field available by clicking the **Lock** icon in the **Destination** column of the job initiator window.

The following table explains how the application will assign the location based on the value specified in the **Location** field.

Basic Rules

The following basic rules are applied:

- If the **Location** field is empty, the default value `111?` is applied:

  This means the application uses the first free location starting from clip number 111, checking all cameras of a clip (interrogation mark) before trying the next clip number.

- Instead of specifying the first clip location, you can specify one or more pages between square brackets, for example `[1;2]?`:

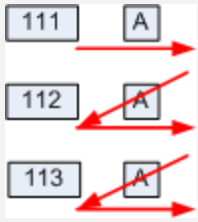
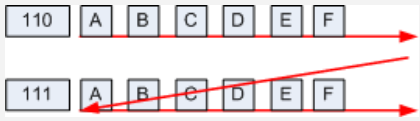
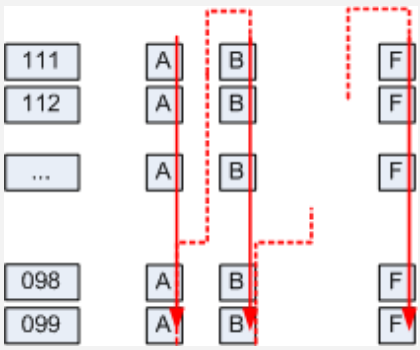
  This means the application will first search and fill locations on page 1, then 2 (all camera positions on these pages). It will then search for available locations on other pages starting with from the lowest page number.

- After the page reference, you can specify a filter on cameras instead of the interrogation mark, for example `[1;2]A`: This means only the locations on the specified CAM (CAM A) will be searched for and filled in. When the locations on the specified CAMs are all used on all pages, the job will fail and the application will return an error message.

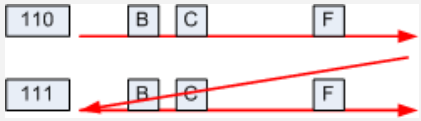
Detailed Rules

You will find detailed explanations in the table hereafter.

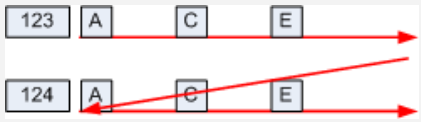
The values based on the patterns explained below can be defined in the **Location** field

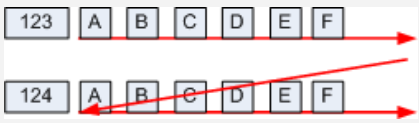
Parameter Value	Behavior
Null or empty	The application uses the first free location from clip number 111 to 099, by iterating on all cams for each clip number. 111A-111B- … -111F 112A-112B- … -112F 113A-113B- … -113F … 999A-999B- … -999F 010A-010B- … -010F … 099A-099B- … -099F 
[1;5;0]A	The application uses the CAM A free locations, first on page 1, 5, and then 0: 110A- … -199A 510A- … -599A 010A- … -099A  When the CAM A locations on these three pages are full, the application searches the other CAM A free locations in the other pages starting on page after 0 (page 2, since 0 and 1 are full in this case).
[1;5;0]? or [1;5;0] [ABCDEF]	The application uses first the CAM A free locations, on page 1, 5, and then 0. Then it searches for the CAM B free locations on page 1, 5 and then 0, and so on for all CAMs: CAM A on page 1: 110A-111A-112A- … -190A-191A-… -198A- 199A Then on page 5: 510A-511A-512A- … -590A-591A-…-598A-599A Then on page 0: 010A-011A-012A- … -090A-091A-…-098A-099A then CAM B on page 1: 110B-111B-112B- … -190B-191B-…-198B-199B, and so on.  When the locations on these three pages are full, the application searches the other free CAM A locations on another page starting on page after 0 (page 2, since 1 is full in this case), then CAM B locations, C, D, … , then next page starting with CAM A.

Parameter Value	Behavior

[1;5;0][BCF]	The application uses the first free locations on page 1, for CAM B, C and F. Then it uses the free locations on page 5 for the CAM B, C and F, and finally the same on page 0:
	Page 1, CAM B, C and F:
	`110B-110C-110F- …`
	`-199B-199C-199F`
	Then on page 5, CAM B, C and F:
	`510B-510C-510F- …`
	`-599B-599C-599F`
	Then on page 0.
	`010B-010C-010F- …`
	`-099B-099C-099F`
	 
	When locations CAM B, C and F on pages 1, 5 and 0 are full, it searches first for free locations starting on page after page 0 (page 2, since 1 is full in this case) with CAM filter B,C and F.

123A	The application uses the 123A location only. If the LSMID is not free, the job will return the following error `'Clip already exists on XT'`.

123[ACE]	The application uses the first free location starting from clip number 123, with a filter on CAM A, C and E only:
	`123A-123C-123E`
	`124A-125C-125E …`
	`999A-999B-999C`
	`010A-010C-010E …`
	`099A-099C-099E …`
	`122A-122C-122E`
	 

123? or 123[ABCDEF]	The application uses the first free location starting from clip number 123, checking all cameras of a clip before trying next clip number:
	`123A-123B-…-123F`
	`124A-124B-…-124F …`
	`999A-999B-…-999F`
	`010A-010B-…-010F …`
	`099A-099B-…-099F`
	 

3. Configuration

3.1. Orchestration

3.1.1. Introduction

Before working with an Xsquare application, the administrator has to associate the requested engines (XTAccess) to the specific Xsquare application. This association is performed in the Association tool, a dedicated application you can install with the Xsquare Suite setup package.

Once Xsquare is associated to a number of engines, it will send the jobs, by default, to the associated engine that is the most available on the network.

You can however organize the engines in groups called 'clusters'. This allows Xsquare to dedicate a cluster to a specific job type, and force the engines associated to the given cluster to execute that cluster job type only. The cluster definition must be based on the network topology or on live-oriented jobs.

The goal could be:

- to isolate specific important jobs (for example: backup of train) to specific engines, mainly in live or near-live productions when jobs have to be processed in real-time.
- to send jobs to the only engines that can reach a destination (network topology aspect).

3.1.2. Orchestration Rules

You should keep in mind the following rules when you define the engine orchestration:

- You can assign an XTAccess to more than one cluster if you want this XTAccess application to take in charge two different job types.
- Xsquare will send transcoding jobs only to the XTAccess that have transcoding licenses. It is therefore not possible to specify a maximum number of transcoding jobs for an XTAccess that does not have a transcoding license.
- Xsquare will preferably send jobs to the XTAccess installed on the same computer as the destination or the source.
- Xsquare takes only the first destination into account to choose the cluster that will handle a job. In case of multidestinations, the other destinations are not taken into account for the cluster selection.
- Xsquare will use the first cluster (highest position in the list of Cluster area) that is configured to handle the job.
- Xsquare will never send jobs to one XTAccess which cannot process the job. If no XTAccess is available, Xsquare will schedule the job in its database and will wait for the first available XTAccess.

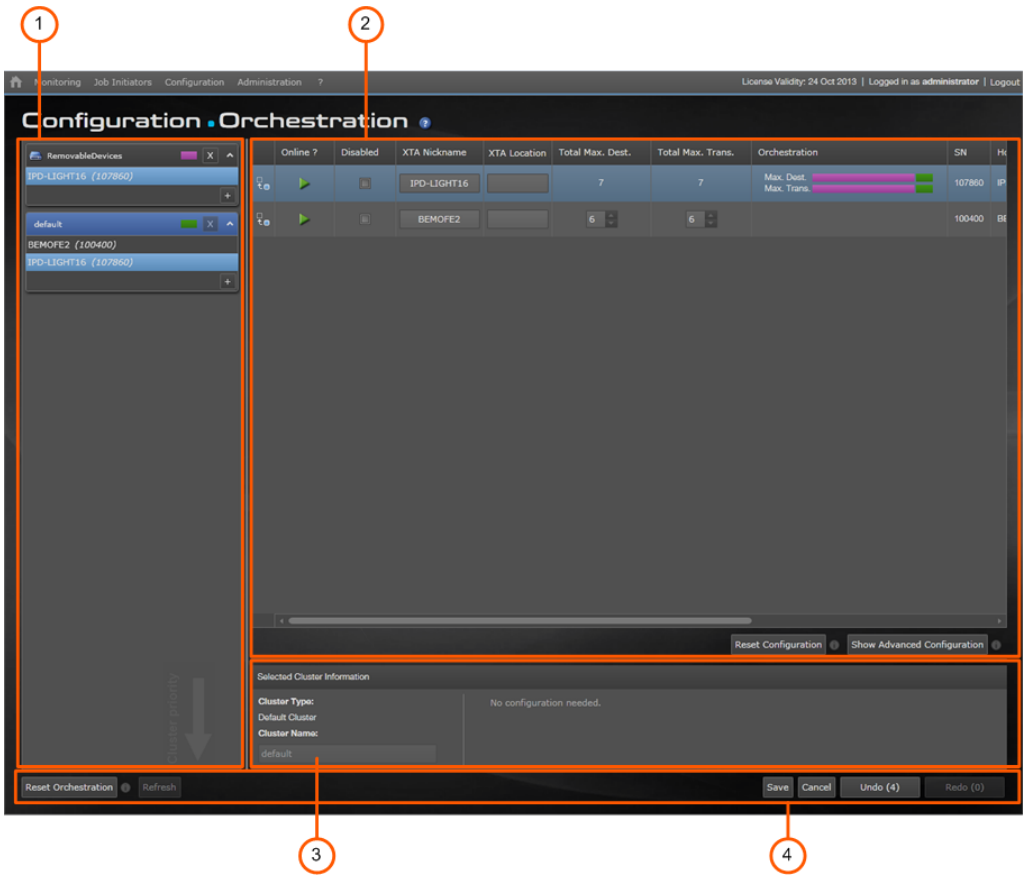
3.1.3. Orchestration Window

Introduction

Once engines have been associated to an Xsquare application, they can be configured and organized in clusters of engines that will be dedicated to specific job types. This cluster organization is defined in the Orchestration window.

Note
The Xsquare and engine orchestration can be modified live, while jobs are being processed, without requiring any engine or Xsquare reboot.
The changes in the orchestration will be applied to all future jobs, but also to jobs in the queue.

The Orchestration window contains the areas highlighted on the screenshot below:



Area Description

The table below describes the various parts of the Orchestration window:

Part	Name	Description
1.	Cluster area	Area displaying the defined clusters. You can add new clusters from there. See section "Cluster Area" on page 27 and "Managing Engine Clusters" on page 35.
2.	Engine area	Area displaying metadata on all engines associated to Xsquare. See section "Engine Area" on page 30 and "Configuring Engines" on page 37.
3.	Selected Cluster Information area	Area displaying detailed information on the engine selected in the Engine area. See section "Selected Cluster Information Area" on page 32.
4.	Action buttons	Buttons allowing users to save/cancel, undo/redo actions performed in the Orchestration window. You will find a short description of each button in the table below.

General Action Buttons

Button	Description
Reset Orchestration	Resets the orchestration configuration to the default values (single default cluster, no engine configuration).
Refresh	Refreshes the Orchestration window.
Save	Saves the actions performed in the Orchestration window.
Cancel	Cancels all actions performed in the Orchestration window since the save or since you opened the window.
Undo (1)	Allows to undo, one by one, the actions stored in the undo buffer. The number of actions in the buffer is specified between brackets.
Redo (1)	Allows to redo, one by one, the actions stored in the redo buffer. The number of actions in the buffer is specified between brackets.

Working Process

In the Orchestration window, you will usually work in the following order:

1. Creating the required clusters in the Cluster area. See section "Managing Engine Clusters" on page 35.
2. Specifying the cluster settings whenever required or requested in the Selected Cluster Information area. See section "Selected Cluster Information Area" on page 32.
3. Setting the engine orchestration parameters and others in the Engine area. See section "Configuring Engines" on page 37.
4. Save the whole orchestration configuration.

3.1.4. Cluster Area

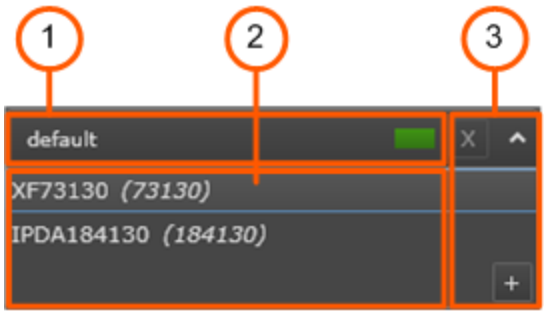
Introduction

The Cluster area in the Orchestration window shows the engine clusters defined in Xsquare, and the engines associated to each cluster.

The cluster position in the list determines the cluster priority in handling a specific job type: if the same job type is distributed between two clusters, the cluster positioned higher in the list will handle the shared job type in priority.

You manage the clusters from the Cluster area of the Orchestration window. See section "Managing Engine Clusters" on page 35 for more information on managing clusters.

The following illustration presents a single cluster box, not the whole cluster area that can consists of several cluster boxes, depending on the number of clusters defined.



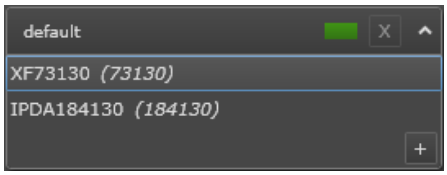
Field Description

The table below describes the various fields of the Cluster box:

Part	Name	Description
1.	Cluster name	Name of the cluster, and associated color. At installation, all engines associated to Xsquare are included in the default cluster which processes all job types.
2.	Engine names	Names of the associated engines. The name is made of the nickname assigned in the Engine List area, and the hardware serial number.
3.	Command buttons	
	X	Button to remove a cluster. You cannot remove the default cluster.
	^	Button to collapse the cluster box (display the cluster name only) or expand the cluster box (display the associated engines).
	+	Button to add a cluster. See section "Cluster Types" on page 28 for the list of cluster types.

3.1.5. Cluster Types

In the Cluster area of the Orchestration window, the list of available cluster types is displayed when you right-click the + icon in a Cluster box to add a cluster:



The table below describes the available cluster types, the jobs that each cluster will process, and the parameters you need to specify in the Selected Cluster Information area:

Cluster Name	Description	Needed Parameters
Ingest from EVS Server	The cluster engines will process the backup of trains triggered by the IPDirector Ingest Scheduler. This cluster will not handle usual train backups.	IP addresses of one/several source EVS server(s). Failing the IP address (es), all ingest jobs are routed to this cluster.
To EVS Server	The cluster engines will process jobs having an EVS server as first destination, including playlist rendering to an EVS server.	IP addresses of one/several destination EVS server(s). Failing the IP address (es), all jobs to EVS servers are routed to this cluster.
From EVS Server	The cluster engines will process jobs whose source material consists of clips or playlists from one or more specified EVS server(s).	IP addresses of the source EVS server (s). Failing the IP address (es), all jobs on clips of EVS servers are routed to this cluster.
From Folder	The cluster engines will process jobs using a source file located in one or more folders specified in the Selected Cluster Information area. This cluster will not handle jobs from an EVS server.	List of source folders
To Folder	The cluster engines will process the jobs having as first destination the folder(s) specified in the Selected Cluster Information area.	List of destination folders
Transfer to Avid Web Services	The cluster engines will process the jobs for which the referencing in the Avid Web Service is the first destination.	No parameter
Transfer to Avid TM	The cluster engines will process the jobs for which the referencing in the Avid TM is the first destination.	Name of the Avid Transfer Manager
Transfer to Final Cut Pro	The cluster engines will process the jobs for which the referencing in Final Cut Pro is the first destination.	No parameter
Transfer to Xedio	The cluster engines will process the jobs for which the referencing in Xedio is the first destination.	No parameter
EVS EDL	The cluster engines will process the jobs whose first destination requires the creation of an EVS EDL file.	No parameter

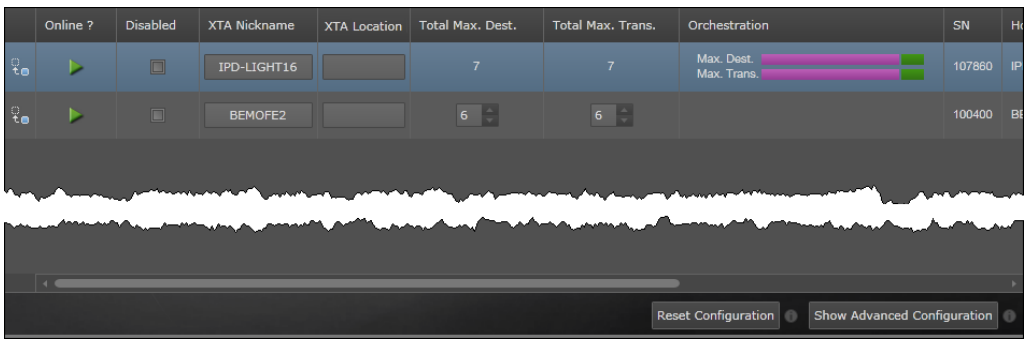
Cluster Name	Description	Needed Parameters
Playlist Rendering	The cluster engines will process the jobs of rendering a playlist EDL into a consolidated file and/or clip (in an EVS server). **Warning** When you assign an engine to this cluster, you need to make sure the associated engines have the Xsecure transcoding license, as not check is performed in the engine assignment.	No parameter
Playlist Export	The cluster engines will process the jobs that back up all playlist elements (EDL) into a list of files. With such a job, the engine will create child jobs internally.	No parameter
Removable Devices	The engines of the Removable Device cluster will process jobs having, a source or first destination, which is a lower performing storage (such as IPDrives Disks or USB keys) located on their local computer. Consequently, you should add to this cluster all engines installed on computers connected to a removable device being the source or first destination of XTAccess jobs. This cluster will always be at the top of the cluster list.	No parameter
Grab	The cluster engines will process the grab jobs.	No parameter

3.1.6. Engine Area

Introduction

The Engine area in the Orchestration window shows all engines (XTAccess) associated to Xsquare, as well as their configuration parameters.

You configure the XTAccess applications from this area. The XTAccess configuration is saved in the Xsquare database. Each time the configuration of an XTAccess is modified, the change is pushed to the engine, without requiring an engine reboot.



NEW ! Field Description

The table below describes the various fields and buttons of the Engine area:

Name	Description
Online	Icon showing the engine (XTAccess) connection status:  when the engine is online  when the engine is offline  when the engine is online, but disabled.  when the engine is offline and disabled.
Disabled	Check box you can select to disable an engine, that is to say to prevent the engine from handling future jobs. The ongoing jobs are fully processed, then the queued or future jobs will be handled when the engine will be set online again.
XTA Nickname	Name assigned in Xsquare to the XTAccess engine. This a free-text field. When you modify the name in this field, it is automatically adapted in Xsquare user interface.
XTA Location	Description of the physical location of the XTAccess hardware. This a free-text field.
Total Max. Dest.	Maximum number of destinations the XTAccess engine can handle (transcoding jobs included). The field is read-only, and the value is assigned via the Orchestration field. Bear in mind that a job can contain several destinations.
Total Max. Trans.	Maximum number of destinations the XTAccess engine can transcode. The field is read-only, and the value is assigned via the **Orchestration** field.
Orchestration	Field from which you can specify the maximum number of destinations and transcoding jobs the XTAccess can handled in each cluster it belongs to. When you click the field, you access a dialog box where you can define the **Max. Dest.** and **Max. Trans.** parameters depending on the cluster.
SN	XTAccess serial number (non editable).
Hostname	Name of the host computer on which XTAccess is installed.
IP Address	IP address(es) of the host computer (non editable).
XTAccess Version	XTAccess version number (non editable).
XSecure License	XSecure license associated to XTAccess, and expiration date (non editable). It specifies if no XSecure license is associated.

Name	Description
Reset Configuration button	Button used to reset the configuration of the selected engine.
Show Advanced Configuration button	Button used to display additional configuration parameters at the right of the Engine grid.

When you click the **Show Advanced Configuration** button, you have access to more advanced parameters.

Please contact the EVS support before using them.

Name	Description
EDL Sub Jobs	Maximum number of child jobs XTAccess can handle simultaneously during a backup EDL + Clips.
File Reader No Buffering	Option to increase the performance when XTAccess writes on a non Windows storage.
Filename Encoding Mode	Option to increase the performance when XTAccess reads a non Windows storage.
QT Ref Optimization	Option which forces all QTRef files to be seen as growing files by XTAccess.
Vedio Group	Group the XTAccess engine belongs to in the Vedio application. You can specify a group.

3.1.7. Selected Cluster Information Area

General Description

The Selected Cluster Information area in the Orchestration window shows information on the cluster selected in the Cluster area.

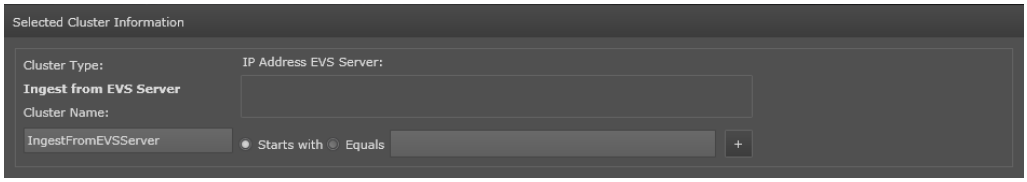
It also allows the users to specify some parameters to specify parameters Xsquare should take into account to know which jobs the engine should handle or not.

Illustration

The Selected Cluster Information area will be slightly different depending on the cluster type.

The following illustrations cover the various Selected Cluster Information areas you can encounter even if it does not present all of them:

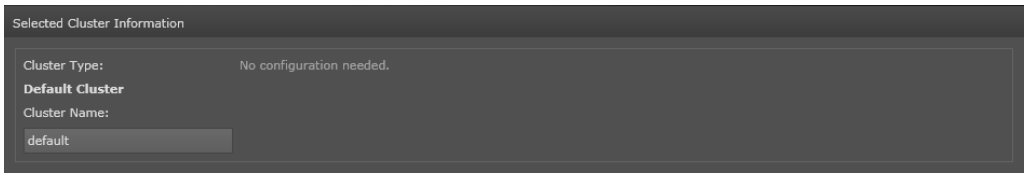
The Cluster Information area for **Ingest from EVS Server**, **From EVS Server** and **To EVS Server** clusters is similar to the following screenshot:



The Cluster Information area for **From Folder** and **To Folder** clusters is similar to the following screenshot:

The Cluster Information area for **Transfer to Avid TM** is as follows:

The Cluster Information area for other clusters is similar to the following screenshot. No additional parameter needs to be defined:



Field Description

The table hereafter describes the fields in the Selected Cluster Information area:

Field	Description	Available in cluster type
Cluster Type	Type of EVS cluster. This is the name of the cluster type you have selected. It cannot be modified.	All
Cluster Name	Name of the EVS cluster. This is the name you can assign to the cluster. By default, the name is the same as the cluster type (or an abbreviated form).	All
IP address EVS Server	GigE IP address of the EVS server(s) to be taken into account by the given cluster (optional): • In an **Ingest From EVS Server** cluster, only record trains of the specified EVS server(s) will be backed up by the cluster. • In a **From EVS Server** cluster, only the clips stored on the specified EVS server(s) will be processed by the cluster. • In a **To EVS Server** cluster, only the jobs whose first destination is one of the EVS server(s) specified will be processed by the cluster. If no IP address is defined, the cluster will process all jobs having an EVS server as source or destination.	Ingest From EVS Server, From EVS Server, To EVS Server
Destination Folders	Path to the folder(s) to be taken into account by the given cluster (compulsory): • In a **From Folder** cluster, only source files located in the specified folders will be processed by the cluster. • In a **To Folder** cluster, only the jobs whose first destination is one of the specified folders will be processed by the cluster.	From Folder, To Folder
Parameters	In an **Transfer to Avid TM** cluster, only the jobs to be sent to the Avid TM specified will be processed by the cluster.	Transfer to Avid TM

3.1.8. Managing Engine Clusters

Introduction

From the Cluster area of the Orchestration window, you can perform the following actions:

- add or remove clusters dedicated to a specific job type
- associate engines to a cluster, or remove the association.
- define the cluster priority in handling jobs.

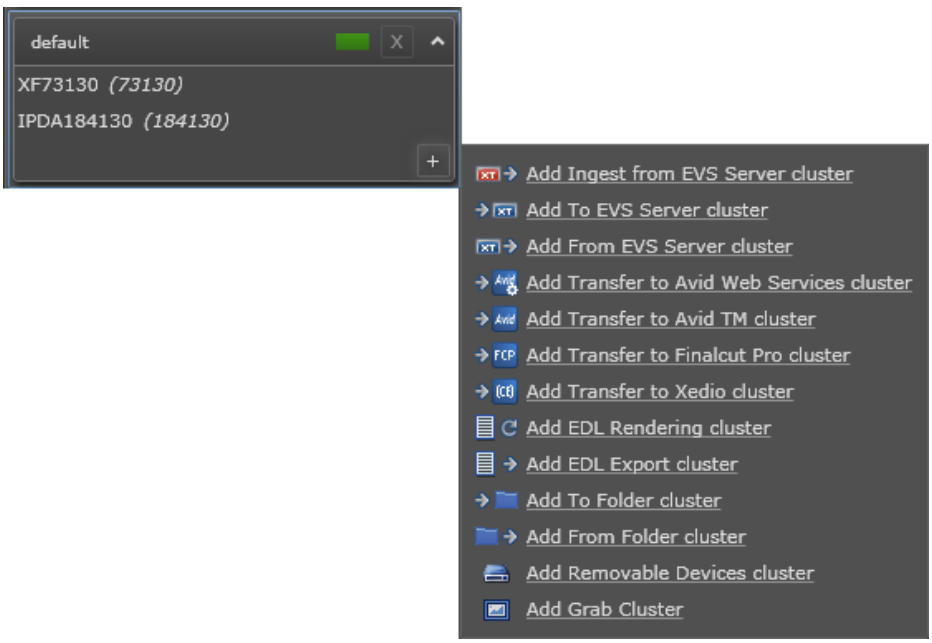
Possible Actions on Clusters

Note
When you add a cluster, bear in mind that the cluster position determines the cluster priority in handling a job type. In other words, if two clusters both handle the same job type, the cluster located higher in the list will handle that job type in priority. You can always change a cluster position in the cluster list.

You can manage the clusters via the following actions:

Add a cluster

1. Click the + button in the cluster box located below the position where you want to insert a new cluster.
2. Select the requested cluster from the list displayed:



The new cluster is added above the cluster box where you have clicked the + button.

Remove a cluster

- Click the X button next to the cluster name you want to remove.

The cluster is removed, and the orchestration configuration of the engines associated to this cluster is updated accordingly.

Add an engine to a cluster

You can assign an engine to several clusters, and several engines to the same cluster.

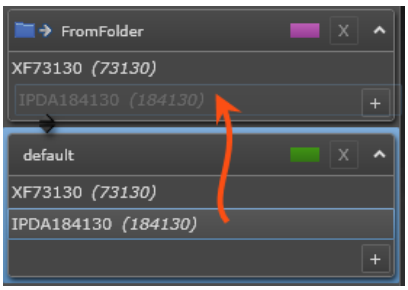
- Drag the engine from the Engine area and drop it into the requested cluster in the Cluster area:

If the engine assigned to a cluster is already assigned to another cluster, the engine will not be removed from the originally assigned cluster. The workload on this engine will be spread among two clusters, and you have to define this in the Orchestration field in the Engine area (See section "Configuring Engines" on page 37).

Move an engine from a cluster to another cluster

You can remove an engine from a cluster and assign it to another cluster as follows:

- Drag the engine from the cluster it should be removed from and drop it to the cluster it should be added to:

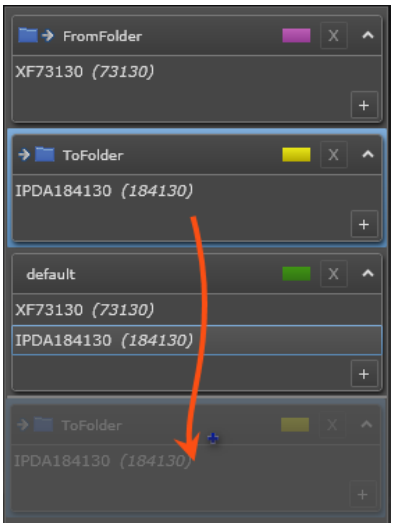


Remove an engine from a cluster

- Drag the engine from the Cluster box and drop it into the Engine area:

Set a cluster to a higher/lower priority in the job processing

- Drag the cluster to a higher or lower position in the cluster list and drop it at the requested position when you see a blue + arrow:



3.1.9. Configuring Engines

Introduction

From the Engine area in the Orchestration window, you can set the several parameters for each XTAccess associated to Xsquare.

The main configuration task consists in defining the orchestration settings for your XTAccess, that is the maximum number of destinations and transcoding jobs the XTAccess will be able to handle.

In addition, more advanced parameters can be set in Xsquare when you display the advanced settings.

Some other parameters have to be set in the XTAccess application on the host computer (Max. Log Size in MB, IP Retry, IP Retry Timeout, Enable Retry, MinFieldsToWriteBeforeRefinCEDB, EDL File extension).

See also "Engine Area" on page 30 for a description of the fields available in the Engine area.

Possible Actions on Engines

You can configure the engines using the following actions:

Disable an XTAccess

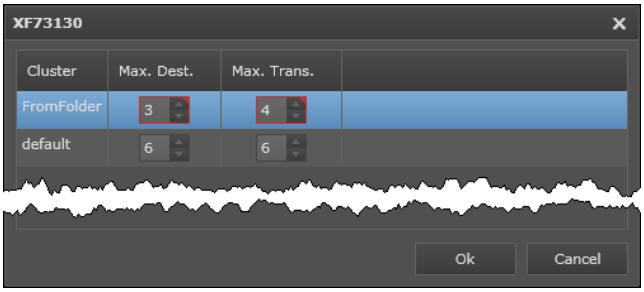
Select the check box in the **Disabled** field for the requested XTAccess.

Define the engine orchestration

This means you defined the maximum destinations + the maximum destinations with transcoding the XTAccess can handle in each cluster it belongs to.

1. Click the **Orchestration** field.

   A dialog box similar to the following one is displayed:



2. In this window, type the maximum destinations and maximum destinations with transcoding the XTAccess can handle in each cluster it belongs to.
3. Click **OK**.

The values in the Max. Dest. and Max.Trans. fields are adapted according to the entered values.

Assign a nickname to the XTAccess

Type the nickname for the XTAccess in the **Nickname** field of the requested XTAccess.

3.2. Job Templates and Encoder Profiles

3.2.1. Managing Templates and Profiles

Job Template & Encoder Profile Windows

General Description

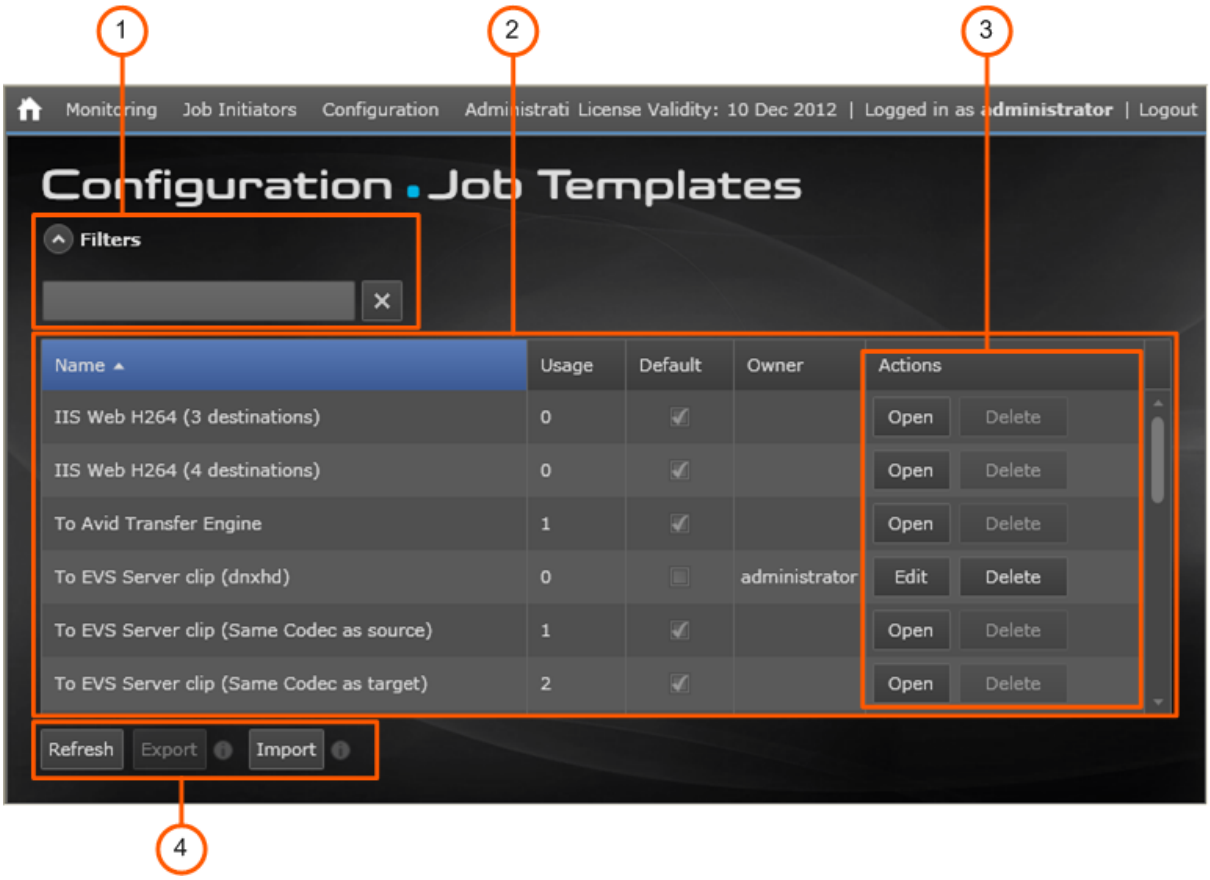
The Job Template window and Encoder/Wrapper Profile window are used to manage the job templates and encoder/wrapper profiles, mainly to perform the following actions:

- Creating, editing or deleting a customized job template or encoder/wrapper profile
- Importing or exporting a job template or encoder/wrapper profile definition to an XML file

From the Job Template window, you can access the Job Definition windows of all job templates.

From the Encoder / Wrapper Profile window, you can access the Encoder Profile windows of all encoder or wrapper profiles.

The following screenshot presents the Job Templates window. As the Encoder/Wrapper Profile window is designed in the same way, it is not illustrated below. The window parts and buttons described below are applicable to both windows:



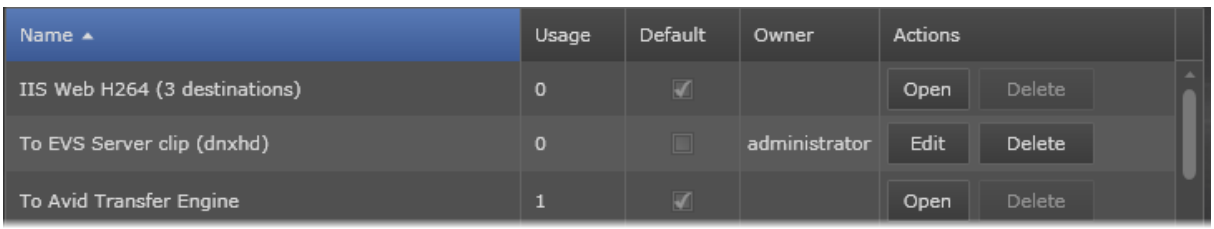
Area Description

The table below describes the various parts of the Job Templates window:

Part	Name	Description
1.	Filter area	The Filters area makes it possible to filter the list of job templates or encoder/wrapper profiles based on their name. See section "Filtering and Sorting Grid Items" on page 43
2.	Items grid	The Items grid (Job grid or Encoder/Wrapper grid) provide information on the job templates and encoder/wrapper profiles. See section "Fields in the Job Template & Encoder Profile Grids" on page 40. It also allows users to sort the grid items, and perform individual actions on the grid templates or profiles.
3.	Individual Action buttons	The actions that can only be executed on each item separately are available in the item grid. See section "Possible Actions on Job Templates and Encoder Profiles" on page 42.
4.	Collective Action buttons	The actions that can only be executed on one or more selected items are available below the grid. See section "Possible Actions on Job Templates and Encoder Profiles" on page 42.

Fields in the Job Template & Encoder Profile Grids

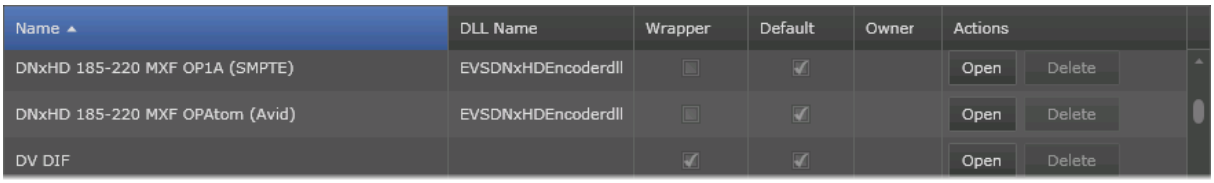
Job Template Grid



The table below describes the fields in the Job Template grid:

Field Name	Description
Name	Name of the job template
Usage	Number of job definitions the job template is used in
Default	Check box to specify whether the job template is predefined (selected check box) or customized (cleared check box)
Owner	User who created the job template. No owner is specified for predefined templates. The value is automatically filled in with the login of the user who creates a customized job template.
Actions	Actions that can only be performed on each grid item separately.

Encoder/Wrapper Profile Grid



The table below describes the fields in the Job Template grid:

Field Name	Description
Name	Name of the encoder or wrapper profile.
DLL Name	Name of the DLL that contains the encoder definition. This is not a relevant field for wrapper.
Wrapper	Check box to identify wrappers. The check box is only selected for wrappers.
Default	Check box to specify whether the job template is predefined (selected check box) or customized (cleared check box)
Owner	User who created the job template. No owner is specified for predefined templates. The value is automatically filled in with the login of the user who creates a customized job template.
Actions	Actions that can only be performed on each grid item separately.

Possible Actions on Job Templates and Encoder Profiles

The job templates and encoder/wrapper profiles are managed respectively from the Job Template window, and the Encoder/Wrapper Profile window.

The actions described in the table below are available in these windows:

Button	Description
Open	Opens the definition of the job template or encoder/wrapper profile of the corresponding row. This button is available for predefined templates or profiles. From the template or profile definition window, the user can then save the parameters of the predefined template or profile as a new one that can then be customized.
Edit	Opens the definition of the job template or encoder/wrapper profile of the corresponding row. This button is available for customized templates or profiles that can directly be modified. See section "Creating a Customized Job Template" on page 44 for more information on editing and customizing Job Templates.
Delete	Deletes the job template or encoder/wrapper profile of the corresponding row. This is only available for customized templates or profiles.
Refresh	Refreshes the window display.
Export	Exports the selected job templates or encoder/wrapper profiles into an XML definition file. It can then be imported into another Xsquare.
Import	Imports an XML definition file for job templates or encoder/wrapper profiles into Xsquare. Encoder or wrapper profiles can be imported when the profile definition file: • complies with the XML syntax rules AND • is validated by Xsquare If the profile definition file is not valid in Xsquare, this is specified between brackets next to the profile definition, and the profile definition is only available in XML format from when you open it.

Filtering and Sorting Grid Items

Introduction

You can filter and sort the grid items in the Job Template and Encoder/Wrapper Profile windows.

How to Filter the Grid Items

To filter the grid items based on the name of the items, proceed as follows:

1. If the filtering field is not displayed on the left of the **Filters** label, click the icon.

   The filtering field is now displayed

2. To search for job templates containing a string of characters, type the string in the filtering field.

   The grid items are automatically filtered, and only the items that contain the requested string are displayed.

3. To clear the search filter, click the cross next to the search field.

Note
If you hide the filtering field when a filtering condition is defined, this will not clear the filter.

How to Sort the Grid Items

To sort the grid items, in ascending or descending order, based on the values of one field, simply click the field header.

3.2.2. Customizing Job Templates and Encoder Profiles

Types of Job Templates

The job templates specify a job process and destination. Xsquare users select a predefined templates or create a custom template when they create a ScanXML, ScanFolder or Target.

Several job templates are available in Xsquare, whatever the job initiator. For each job initiator, predefined templates are available in Xsquare. They are grouped in five categories:

Job Templates	Description
Without Transcoding	The job definition does not include a transcoding action. This kind of job template includes templates to EVS servers, or to files
With Transcoding	The job definition includes a transcoding action. This kind of job template includes templates to EVS servers, or to files.
MultiDestination	The source material is processed for and sent to several destinations. Destinations to EVS servers and files can be combined in such templates.
To Avid Transfer Engine	The source material is made available to be processed by the Avid Transfer Manager.
Custom	If the available templates do not match your needs, you can create a new job template based on a predefined one. Once created, the customized job templates are available in the **Custom** category.

Creating a Customized Job Template

Introduction

You can create a customized job template from:

- the job initiators windows (Targets, ScanFolder or ScanXML) available from the **Job Initiators** menu
- the Job Templates window available from the **Configuration** menu

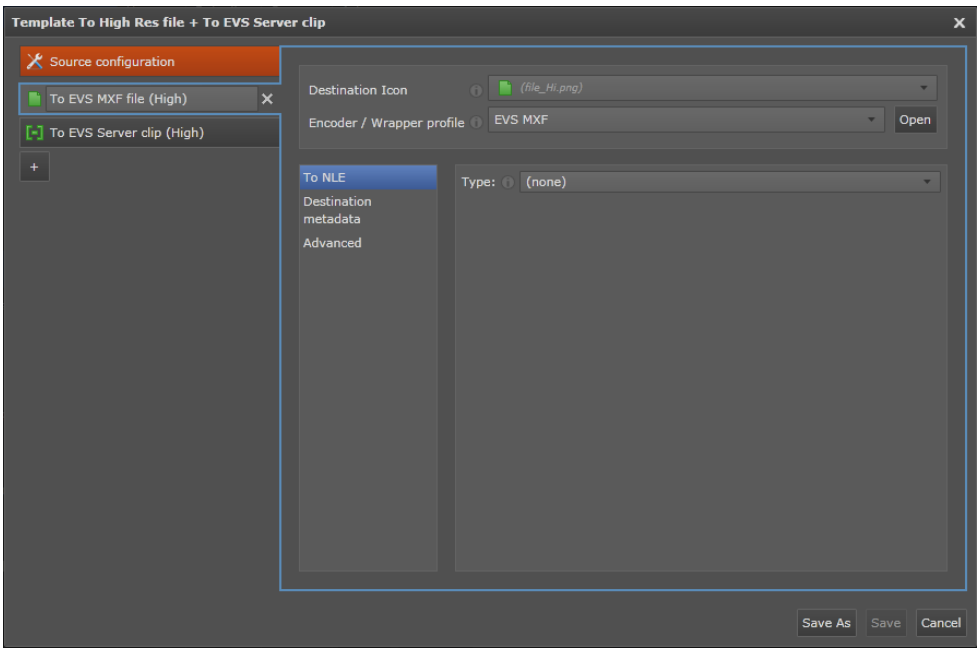
You should start from the definition of a predefined job template that is close to the requested customization.

How to Create a Customized Job Template

To create a customized job template, proceed as follows:

1. Open the job template that is close to the requested customization in one of the following ways:
   - From one of the job initiators window, click an **Edit** button in the **Template** column of the requested job initiator definition:
   - From the Job Templates window, click the **Open** button in the **Action** column of the requested template:

   The Job Template window opens:



2. In the Job Template window, edit the fields to create your custom template.

   The possible editing actions are described in the topic "Possible Actions for Customizing a Job Template" on page 46.

3. When you have customized the job template, click **Save As**.
4. Type a name for your customized job template.
5. Click **OK**.

The customized job template will now appear in the list of job templates in the Job Template window, and will be available in the **Template** drop-down field in the job initiators windows.

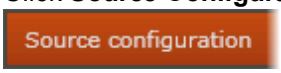
NEW ! Possible Actions for Customizing a Job Template

You can perform the following actions from the Job Template window:

Specify how the EVS Server source is selected

For multi-essence configurations, you need to specify how Xsquare will select an EVS server source.

1. Click **Source Configuration** on the top left part of the window

   The Source pane opens on the right.
2. In the Source pane, select the source type in the EVS Server Source selection area:
   - Select **Automatic** for automatic source selection by Xsquare (priority to intra codecs for grabs and to XDCAM codec for other jobs).
   - Select **XDCAM** or **Intra** if you want to force the use of a specific source. In this case, the job will fail if the source is not available on the EVS server.

See section "Source Selection in the Job Process" on page 48 for detailed information on source selection in the job process.

Warning
Note that the MTPC board of the EVS server must be connected to the same VLAN as Xsquare for Xsquare to be able to see the XDCAM source. You can check that the EVS server has been discovered in the EVS Server Monitoring window.

Specify settings related to the source type

You can specify settings related to the source type (clip, train backup, playlist or timeline backup, audio or graphic files) as follows:

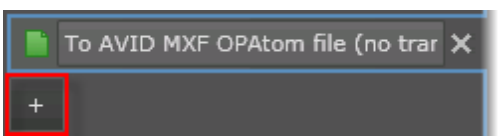
1. Click **Source Configuration** on the top left part of the window

   The Source pane opens on the right.
2. In the lower left area, select the source type whose parameters you want to define.
3. In the lower right area, fill in the fields based on the tooltip information.

Add a destination to the template

1. Select the **+** sign below the destination list:

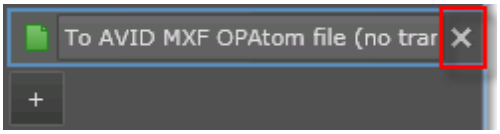
   

2. Select the requested destination type from the list.

3. Fill in all the requested parameters in the pane related to this destination, displayed on the right when the destination is selected.

Remove a destination

1. In the destination list, select the destination you want to remove.
2. Click the cross sign next to the selected destination:



3. Click **Yes** to confirm you want to delete the destination.

Change the destination icon

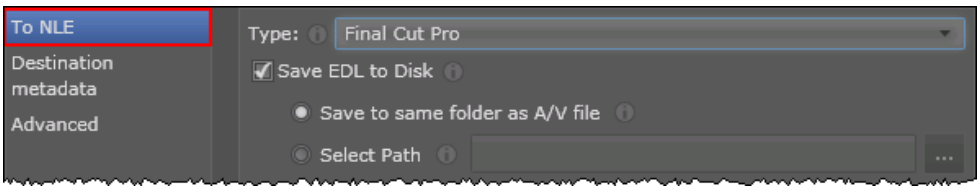
1. In the destination list, select the destination whose icon you want to change.
2. Select a new icon in the **Destination Icon** field, where all icons added in the Icons Manager window are available:

Change the wrapper or encoder to be used for the destination

1. In the destination list, select the destination whose wrapper/encoder you want to change.
2. Select another wrapper or encoder from the **Encoder / Wrapper Profile** field:

Specify settings related to the NLE system the generated file has to be checked into

1. In the destination list, select the destination whose NLE settings you want to edit.
2. Click the **To NLE** tab in the Destination pane.



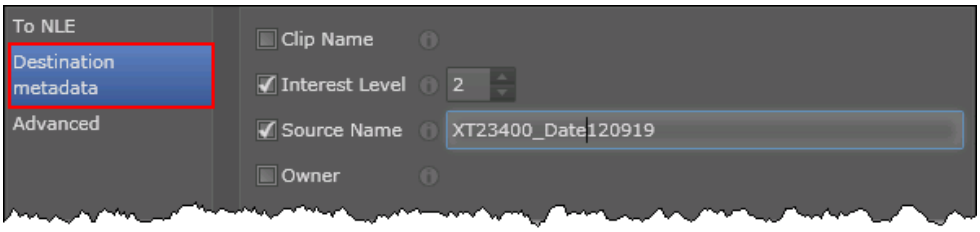
3. In the **Type** field, select the **NLE** the generated file has to be checked into.
4. Fill in the parameters specific to the selected NLE.

Specify metadata values that will overwrite the source metadata

This is mainly useful with ScanFolders.

1. In the destination list, select the destination whose metadata you want to set.

2. Click the **Destination metadata** tab in the Destination pane:



3. Select the check box of the metadata whose value has to be modified in the destination file.

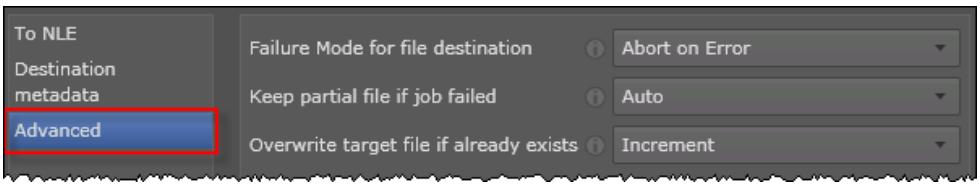
   A field appears on the right of the metadata field.

4. Enter the value in the field displayed on the right.

Set more advanced options

You can specify more advanced options, among others related to management, metadata XML file, timecode in destination file, 3D/Supermotion modes, or default autoname, as follows:

1. In the destination list, select the destination whose advanced options you want to set.
2. Click the **Advanced** tab in the Destination pane:



3. Edit the values of the requested fields. A tooltip for each parameter is displayed as you move the mouse pointer over the icon.

Source Selection in the Job Process

NEW !

Introduction

This section describes how Xsquare determines the source to take into account in the job process when the source is located on an EVS server running a multi-essence configuration.

The source taken into account partly depends on the value defined in the EVS Server Source Selection setting in the job template.

Single Value for EVS Server Source

If the **EVS Server Source Selection** setting is set to **XDCAM** or **Intra** in the underlying job template, Xsquare will exclusively take into account the EVS source type specified in the setting (XDCAM or Intra codecs).

If the requested source is not available, the job will fail.

Automatic Value for EVS Server Source

If the **EVS Server Source Selection** setting is set to **Automatic** in the underlying job template, Xsquare will select the source as follows:

1. If **Xsquare cannot connect to the MTPC board** of the EVS server, Xsquare will define the clip source as **Intra**, and look for an Intra clip.

   If no Intra clip exists, the job will fail (even if an XDCAM clip exists).

2. If **Xsquare can connect to the MTPC board** of the EVS server and the **job is a grab**, the engine will use in priority the Intra clip as the source:

Available source on the EVS server	Codec used as source
Intra + XDCAM	Intra
XDCAM only	XDCAM
Intra only	Intra

3. If **Xsquare can connect to the MTPC board** of the EVS server and the job is **any other process** (copy, rewrap, restore, transcoding action, referencing in an NLE, etc.), the engine will use in priority the XDCAM clip as the source:

Available source on the EVS server	Codec used as source
Intra + XDCAM	XDCAM
XDCAM only	XDCAM
Intra only	Intra

3.3. Icons Manager

The Icons Manager window makes it possible to store the icons you want to associate to the job template in order to symbolize the job destination.

The windows are displayed in the upper part of the window, and the buttons to add  , remove  , import or export the icons are displayed at the bottom of the window.

Once your icons are imported, they will all be available in the job template definition, via the **Destination Icons** field.

4. Administration

4.1. Users and Access

4.1.1. User and Access Window

Introduction

The User window allows administrators to manage users and their access rights.

It is only accessible to users logged on as administrators.

Field Description

The table below describes the various fields of the User and Access window

Item	Description
Username field	User name used to log into Xsquare
Password field	User password used to log into Xsquare
Password Validation field	User password used to validate the first entered password
Level field	Access right level assigned to the user. Three access rights are available: Monitoring, Configuration and Administrator. See section "User Levels" on page 51 for more information on the various user levels.
Last Login Date field	Date and time the user logged on for the last time.
Save button field	Saves changes related to the user defined on the corresponding row
Cancel button	Cancels changes related to the user defined on the corresponding row

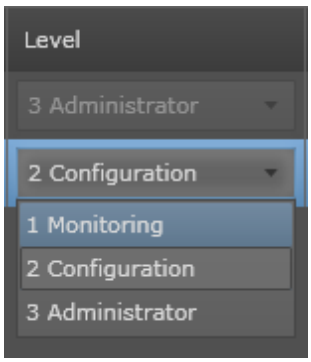
Item	Description
Add button (+)	Adds a row to define a new user, its credentials and right level
Refresh button	Refreshes the window display

4.1.2. User Levels

Introduction

When you define a user, you assign a user level to this user, which is associated with a set of rights to use the application.

Three levels or access rights are available in the Users and Access window, when you define the credentials and rights for a user, more precisely via the **Level** field:



Monitoring Rights

Users with Monitoring rights have only access to the Xsquare Monitoring window, and cannot manage the job priorities, nor cancel or retry a job.

Configuration Rights

Users with Configuration rights have access to the following features:

- access to the Xsquare/XTAccess/Orchestration configuration
- managing and configuring all XTAccess available on the Xsquare system
- creating Targets, templates and encoder profiles
- modifying their own Targets, templates and encoder profiles
- seeing (read-only) the default templates and encoder profiles
- using the Retry/Cancel functions on their own jobs, but not changing the job priority.

Administration Rights

Users with Administration rights have access to the following features:

- access to the Xsquare/XTAccess/Orchestration configuration

- managing and configuring all XTAccess available on the Xsquare system
- creating Targets, templates and encoder profiles
- modifying all the Targets, template and encoder profiles available on the Xsquare system
- managing the associations of Xsquare and XTAccess
- creating users
- using the Retry/Cancel functions on all jobs
- changing the priority of all scheduled jobs

4.1.3. Adding a User

Introduction

Administrators can add new Xsquare users from the Administration > Users & Access menu, which opens the User and Access window.

How to Add a User

To add a user, proceed as follows:

1. Click the  button.
   This adds a new row.
2. In the new row, do the following:
   - Enter a username in the **Username** field
   - Enter the user password twice, in the **Password** field and in the **Password Validation** field.
   - Select the level of user rights associated to the user in the **Level** field. See section "User Levels" on page 51 for more information on user levels.
3. Click the **Save** button in the row corresponding to the newly added user.

The user is now defined in Xsquare, and he/she can directly connect to the application.

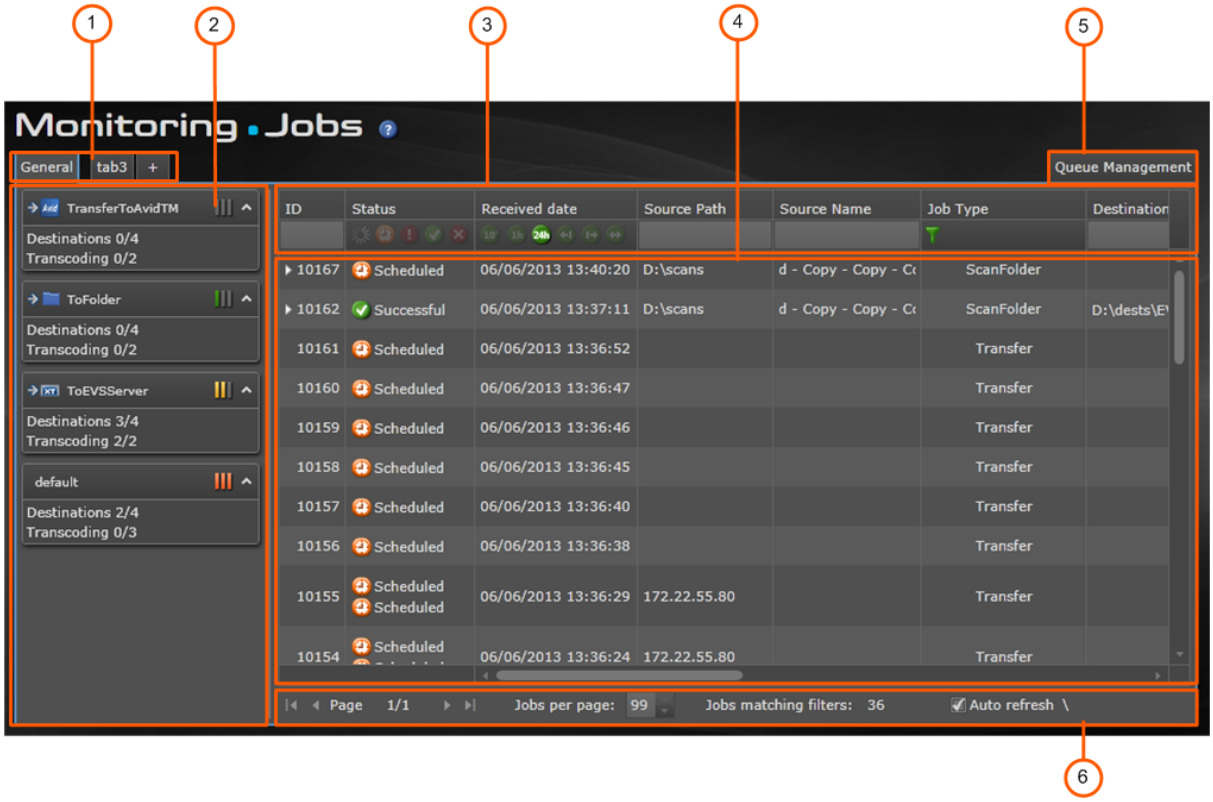
5. Monitoring

5.1. Job Monitoring Window

General Description

From the Job Monitoring window, you can monitor all the operations processed by the various engine clusters. Various filters can be applied to restrict the jobs displayed on screen.

The Job Monitoring window contains the areas highlighted on the screenshot below:



Area Description

The table below describes the various parts of the Job Monitoring window:

Part	Name	Description
1.	View tabs	Each tab corresponds to a monitoring view. By default, the **General** tab only is available. By clicking the  button right of the tabs, and assigning a name to the view, you can add a monitoring view.
2.	Cluster area	It displays the clusters defined in the Orchestration window. By selecting a given cluster, you will display in the Job grid only the jobs handled by the selected cluster. See section "Cluster Area" on page 57 for more information on the displayed information.
3.	Column headers and filters area	It displays the column headers and column filters. See section "Manipulating and Analyzing Monitoring Data" on page 58 for more information on the grid display, sorting and filtering features.
4.	Job grid	Each row of the grid displays information on a given job. See section "Job Grid" on page 55 for more information on the displayed information.
5.	Queue Management tab	It displays the jobs that have not yet been processed, and are still in the queue. It allows you to view all jobs in the queue, and to manage the job order in the queue.
6.	Display Information bar	This bar displays general information on the jobs displayed in the job grid, mainly from left to right: • Number of pages containing jobs that match the defined filter, and buttons to move to the next/previous page and to the first/last page. • Number of jobs displayed on a page. You can directly edit the field value, and the display is automatically adapted accordingly. • Number of jobs matching the defined filters. • Check box to activate / deactivate the automatic information refresh.

5.2. Job Grid

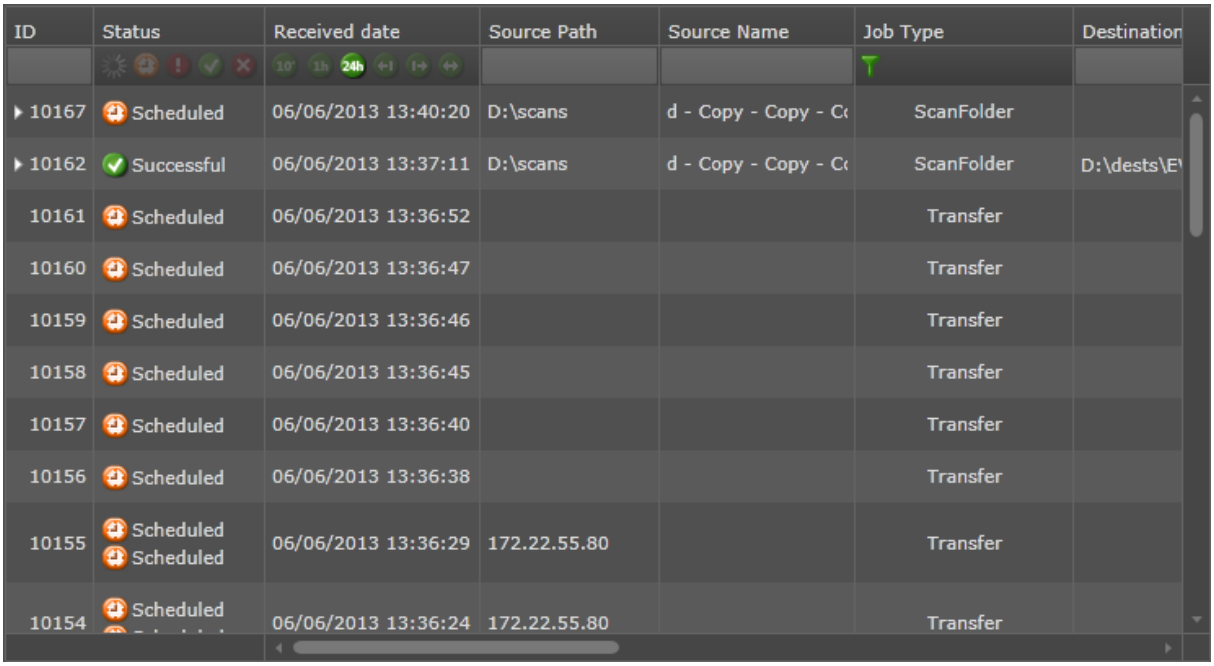
Introduction

The Job Grid area in the Monitoring window shows metadata on the jobs that you are monitoring.

Combinable column filters are available below the column headers.

This section describes the fields in the Job grid, and describe filtering rules.

The screenshot below shows the first general columns in the Job Grid in the Monitoring window:



ID	Status	Received date	Source Path	Source Name	Job Type	Destination
10167	Scheduled	06/06/2013 13:40:20	D:\scans	d - Copy - Copy - C	ScanFolder	
10162	Successful	06/06/2013 13:37:11	D:\scans	d - Copy - Copy - C	ScanFolder	D:\dests\E
10161	Scheduled	06/06/2013 13:36:52			Transfer	
10160	Scheduled	06/06/2013 13:36:47			Transfer	
10159	Scheduled	06/06/2013 13:36:46			Transfer	
10158	Scheduled	06/06/2013 13:36:45			Transfer	
10157	Scheduled	06/06/2013 13:36:40			Transfer	
10156	Scheduled	06/06/2013 13:36:38			Transfer	
10155	Scheduled Scheduled	06/06/2013 13:36:29	172.22.55.80		Transfer	
10154	Scheduled	06/06/2013 13:36:24	172.22.55.80		Transfer	

NEW ! Field Description

The table below describes the fields available by default in the Job Grid area. If you want to display other fields or hide displayed field, you can right-click a column header and select or unselect the field from the contextual menu.

Field Name	Description
ID	Job identifier in Xsquare. If a job contains sub-jobs, you can click the right arrow in front of the parent job ID to display the associated sub-jobs: 
Status	Status of the job in Xsquare. The following statuses are available:  job in progress  job scheduled  job failed  job successful  job canceled
Received Date	Date and time when Xsquare has received the job request. This is the local date and time on the computer on which the Xsquare application is installed. The following filters can be applied on date fields:  jobs received in the last 10 minutes  jobs received in the last hour  jobs received in the last 24 hours  jobs received before a given date  jobs received after a given date  jobs received between two dates UTC time is used internally. The time zone depends on the client machine configuration (usually local time). You need to restart your browser after changing the computer's time zone.
Source Path	Location of the source material: • In case of an EVS server, the GigE IP address(es) is/are mentioned. • In case of a shared folder, the full path is specified as follows: `\\ComputerName\FolderName`.
Source Name	Name of the source material: • In case of a clip, the LSMID and EVS server number are specified. • In case of a file, the file name and extension are specified.
Job Type	Type of job

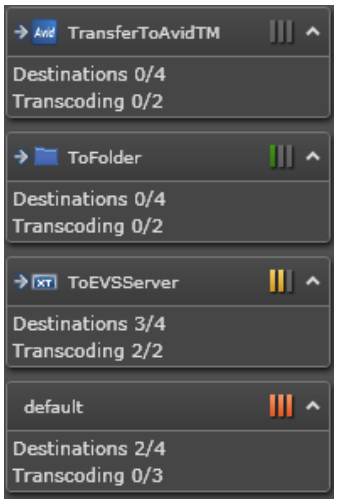
Field Name	Description
Destination	Location where the job output will be stored: • In case of an EVS server, the GigE IP address(es) is/are mentioned. • In case of a shared folder, the full path is specified as follows: `\\ComputerName\FolderName`.
Message	Message giving information on the outcome of the job.
Frames/s	Transfer rate in number of frames per second.
MBytes/s	Transfer rate in megabytes per second. This information is not always available.
Cluster	Cluster which has executed the job.
XTA Nickname	Name of the computer on which is installed the engine that has processed the job.

Note
When a job has cancel/retry history, an asterisk is displayed next to the job ID. This means that the displayed job results from a merge of the original job and cancel/retry operations.

5.3. Cluster Area

Introduction

In the Monitoring window, the Cluster area provides information on the jobs that are scheduled or processed by a given cluster.



Field Description

The table below describes the various fields of the Cluster area:

Part	Name	Description
1.	Cluster name	Name of the cluster and associated icon as defined in the Orchestration window.
2.	Cluster Load icon NEW !	Provides information on the number of jobs scheduled in the cluster, and therefore on the workload on the cluster: No job is scheduled in the cluster. From 0 to 6 jobs are scheduled in the cluster. From 6 to 15 jobs are scheduled in the cluster. More than 15 jobs are scheduled in the cluster.
3.	Destinations X/Y	Displays the number of destinations being processed by the cluster (X) out of the maximum destinations it can handle (Y). The maximum destinations is defined in the Orchestration window.
4.	Transcoding X/Y	Displays the number of destinations with transcoding being processed by the cluster (X) out of the maximum destinations with transcoding it can process (Y). The maximum destinations with transcoding is defined in the Orchestration window.

Warning
If the Cluster Load icon is red, it means your cluster receives more jobs than its maximum capacity. It is recommended to modify your cluster definition.

5.4. Manipulating and Analyzing Monitoring Data

Sorting Job Grid Items

By clicking a column header, you sort the rows based on the values of this column.

The column header the sorting is based on is highlighted in blue, and a down or up arrow is displayed above the column header to identify the sorting order (ascending/descending):

Filtering Job Grid Items

The field is available below the column header allows you to type or select a search filter for a given column:

The following rules are applicable when you define a filter:

- The filters defined on each column are associated by an AND operator.
- The field values selected in one filter are associated by an OR operator
- The filters based on text entered by the user do not support wildcards.
- When a filter based on selectable values is defined on a column, the icon is green . Otherwise, it is gray .

Changing the Job Grid Display

You can modify the Job Grid display by right-clicking in a column header.

This opens a contextual menu from which you can:

- reset the filters and sorting
- reset the column layout
- select columns to be displayed or hidden
- show all columns or only general columns

Getting Detailed Information on Monitoring Data

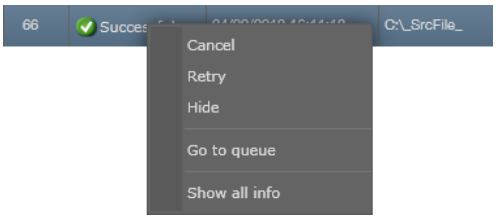
You can get more detailed information on monitoring data by right-clicking a row and selecting **Show all info** from the contextual menu.

You can also view the full error message, by double-clicking the message for a given job in the **Message** column.

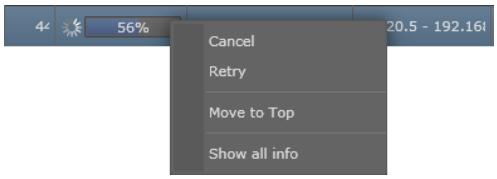
5.5. Managing Monitored Jobs

Introduction

Several actions that allow users to manage monitored jobs are available from a contextual menu when you right-click a row in the Job Grid area of the Monitoring window, or in the Queue Management tab. The following screenshots show these contextual menus:



Job Grid contextual menu in Monitoring window



Job Grid contextual menu in Queue Management tab

NEW ! Available Commands on Monitored Jobs

Menu Item	Description
Cancel	Allows users to cancel a job scheduled or in progress.
Retry	Allows users to retry a failed or canceled job.
Hide	Allows users to hide a job they no longer want to be displayed in the grid. You can apply this to jobs you have already dealt with, for example. It does not purge the job, but only hide it.
Go to queue	Allows users to open the Queue Management tab.
Move to Top	Allows user to move the selected job to the first position in the Queue Management tab, for the job to be processed in priority.
Show all info	Opens a pane with detailed information on the selected job.

5.6. EVS Server Monitoring Window

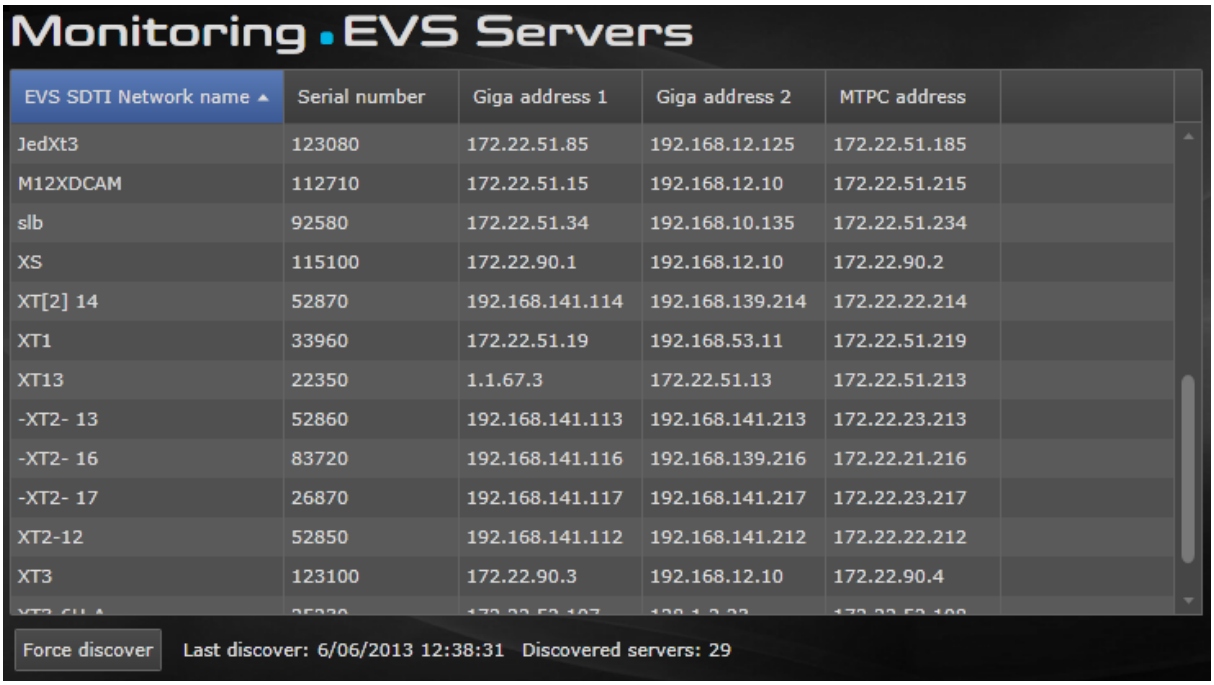
NEW ! Introduction

The EVS Server Monitoring window displays the list of EVS servers detected on the network.

This window allows users to check that:

- the EVS servers defined as the destination in the Job Definition
- the EVS servers used as the source in a multiessence configuration

have effectively been discovered and identified on the network.



Field Description

The table below describes the various fields of the EVS Servers window, from left to right:

Part	Name	Description
1.	EVS Server Name	Name of the EVS Server in the SDTI network. This corresponds to the **Net Name** field displayed in the Server Monitoring page on the EVS Server (SHIFT+F5).
2.	Serial Number	Serial number of the EVS Server. The EVS Server serial number is displayed in the Server Monitoring page on the EVS Server (SHIFT+F5).
3.	Giga address 1	First gigabit IP address of the EVS server. This is defined in the EVS Configuration window, in the Network tab.
4.	Giga address 2	Second gigabit IP address of the EVS server. This is defined in the EVS Configuration window, in the Network tab.
5.	MTPC address	IP Address of the PC LAN of the EVS server. This is defined in the EVS Configuration window, in the Server tab.

Status Bar

Every five minutes, Xsquare searches for new EVS servers on the network through the PC LAN connection. The discovered EVS servers are then added to the grid.

The status bar at the bottom of the EVS Server Monitoring window displays the following information on the EVS Server discovery (from left to right):

- **Force Discover** button to force the discover process without waiting for the next automatic discovery
- Date and time of the last discovery process
- Number of EVS servers discovered on the network

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