Milestone Systems

XProtect® Transact Administrator's Guide

The Open Platform Company

Contents

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Target audience

This document is intended for system administrators. This document explains how to install and configure XProtect Transact as an add-on to a Milestone XProtect surveillance system.

Descriptions about how to browse transaction data and video recordings together using the XProtect Smart Client are available in the XProtect Transact User’s manual aimed at end users who solely use XProtect Transact for browsing transaction data and video recordings.

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Introduction

Product overview

XProtect Transact is a powerful tool for tracking transactions linked with video recordings of the transactions taking place.

XProtect Transact is an add-on to Milestone's IP video surveillance solutions XProtect Basis+, XProtect Professional, XProtect Enterprise and XProtect Corporate. Milestone XProtect XProtect Transact can combine your digital video monitoring with transaction data from many kinds of transaction data sources and for many purposes. You get a 1-to-1 correspondence of images to transactions and the transaction data is time-linked with simultaneous display of transactions and camera recordings.

Common transaction data sources are PoS (Point of Sale) or ATM (Automated Teller Machine) which enables you to easy investigate and prove fraud. But actually any transaction data source that you would like to time-link with digital video monitoring can be combined through XProtect Transact. A few examples of other transaction data sources and purposes are: number plate recognition for collection of road taxes, access control for combined visual identification for higher security—but the only limit is your imagination. Note, that some solutions might require additional programs and/or customizations.

The examples used in this manual show typical retail situations and transactions data from PoS (Point of Sale) or ATM (Automated Teller Machine). For these purposes, XProtect Transact speeds up investigations into fraud by integrating digital video surveillance images with PoS (Point of Sale) or ATM (Automated Teller Machine) transaction data: 1-to-1 correspondence of images to transactions. transaction data is time-linked with video images of cash registers/ATMs for simultaneous display of transactions and camera recordings. Whether the problem is internal or external perpetrators, it is easy to find suspicious transactions with XProtect Transact's features for searching transactions by cash register/ATM, camera, data, time or free text.

See also

Viewing transactions (see "View transactions" on page 49)

Interaction with Sources and Surveillance Solutions (on page 7)

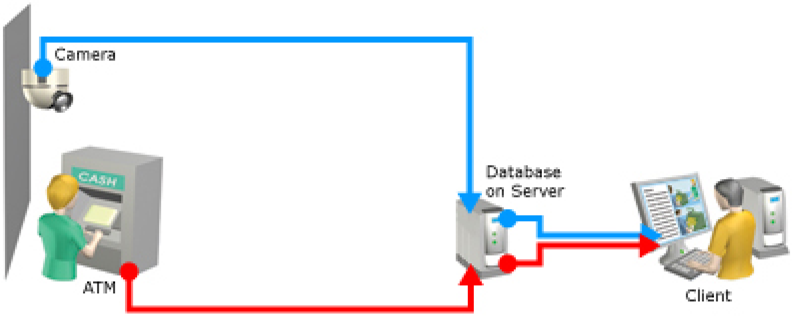
Interaction with sources and surveillance solutions

There are several components in the XProtect Transact communication flow. XProtect Transact consists of a Transact Server and a Transact Database.

The XProtect Transact Server has a service that listens for transactions from **sources**. Five different kinds of source exist: Serial ports, TCP clients, TCP XML, Troy boxes and an Analytics XProtect Transact provider (more types may be available in customized XProtect Transact installations). Sources, in turn, are connected to the actual devices on which the transaction data is generated (cash registers, ATMs, etc.).

When the XProtect Transact Server receives transaction data from a source, it stores the data in the XProtect Transact Database.

Video recordings are stored independently on your surveillance server, as defined through the configuration of your XProtect surveillance solution.



Example only: The blue arrows outline video recordings from the surveillance system, while the red arrows outline transaction data from sources.In addition to an ATM, transaction data may also come from a cash register or any other RS-232-enabled device.

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System requirements

Name	Description
CPU	Intel® Pentium 4 or compatible, minimum 2.4 GHz
RAM	512 MB
Network	Ethernet (100 Mbit recommended)
Operating System	• Microsoft® Windows® XP Professional • Microsoft Windows Server 2003 • Microsoft Windows Server 2008 • Windows Vista™ • Windows 7 (32-or 64-bit)
Software	• Microsoft .NET 4.0 framework required • XProtect Corporate 3.0 or newer • XProtectEnterprise 6.0 or newer • XProtect Professional 6.0 or newer • XProtect Basis+ 6.0 or newer required • XProtect Smart Client 6.0 or newer

Installation and licensing

Licensing

When you purchase XProtect Transact, you also purchase two types of licenses:

- **Software License Code (SLC):** A license to use the XProtect Transact application.
- **Connection License Key (CLK):** A license for a certain number of simultaneously opened transaction sources.

During the installation you are asked to enter both the SLC and the CLK. The Software License Code is printed on the Product License Sheet enclosed with the XProtect Transact software as well as on your order confirmation. You must, however, register your SLC (see "Register SLC" on page 12) to get the CLK.

You can add an unlimited number of transaction sources (see "Managing sources" on page 18) in XProtect Transact. You can, however, only view the number of simultaneous transaction sources corresponding to your CLK. At any time, you can obtain a new CLK (see "Obtaining additional licenses" on page 12) with more simultaneously viewed transaction sources.

Install the software

Read the License Terms on the Product License Sheet (enclosed with the software DVD) before installing XProtect Transact.

Prerequisites: If you are upgrading, read Upgrading from a previous version (see "Upgrade from a previous version" on page 11) first. Before installing the software, register your XProtect Transact Software License Code (SLC) (see "Register SLC" on page 12). When the license is registered, a Connection License Key (CLK) is generated. You need the CLK during the installation. Check that you have the latest version of Microsoft .NET Framework 3.0. You can download .NET Framework 3.0 from Microsoft's Download Center at www.microsoft.com/downloads (see http://www.milestonesys.com/?cid=413 - http://www.milestonesys.com/?cid=413).

If you are installing XProtect XProtect Transact on a computer running Windows Vista, you must run the installation as an administrator.

Install XProtect Transact on the same computer as the server for XProtect Enterprise or XProtect Professional or XProtect Basis+ or on the same computer as the management server for XProtect Corporate.

To install XProtect Transact, do the following:

1. Run the XProtect TransactInstaller.exe installation file (either from the DVD or internet). The wizard starts automatically.
2. Read and accept the license agreement.
3. Enter the SLC and CLK for your XProtect Transact solution.
4. **SQL Server Install/Select:** Choose between using an existing SQL 2005 Server on the network or setting up a SQL Server Express Edition on the computer itself.

Important: If you are updating from a previous version of XProtect Transact, we recommend you install the new database application (read Updating from a Previous Version on page).

- If you choose to setup a SQL Express Edition, **only** edit the **SQL services user** and **System administrator password** fields are required. For example, if your local security setup requires you to use another user than the one suggested per default. If you chose to use another user that the default, this user must already be known by the server.
- If you use the existing SQL database, **only** edit available SQL servers if required. For example, if your local security setup requires you to use another server than the one suggested per default.

This installation may take a short while, after which you are automatically taken to the following installation step.

5. **Database Create/Select:** If you are upgrading from a previous version, select whether you want to use your existing database or create a new one. Specify a database password manually **only** if your local security setup requires you to.
6. **Install Server:** On this installation step, the XProtect Transact server will be installed. Click **Next**.

   The XProtect Transact installation is complete.

   You can now begin to configure your XProtect Transact (see "Getting started" on page 14) in the **XProtect Transact Administrator** window.

Upgrade from a previous version

If you are updating from a previous version of XProtect Transact, note the following:

- Before you install XProtect Transact 2.5, you must remove the XProtect Transact software, XProtect Transact Plugin Installer and any XProtect Smart Client Plugins of the previous XProtect Transact version.
- XProtect Transact 2.5 uses a new database (Microsoft SQL Server 2005 Express Edition) compared to previous versions of XProtect Transact (Microsoft SQL Server Desktop Engine).
- XProtect Transact 2.5 can use the old database, but we recommend installing the new—and better—XProtect Transact 2.5 database.

If a previous XProtect Transact database is detected on the computer during the installation, you will be asked whether you want to install the new database Microsoft SQL Server 2005 Express Edition, or update the old database.

If you choose to install the new database, the old database and its content are moved to a new folder but remain on the computer and new transaction data will be stored in the new database. However, XProtect Transact 2.5 cannot read data from the old database or make it available for browsing or viewing.

If you have a lot of important data, update the old database. If you have less data, for example, seven days of transaction data, export the data from the old database with the export features in the XProtect Smart Client before you remove the previous XProtect Transact installation and install XProtect Transact 2.5 with the new database.

Even if the old database and its content remain on the computer, if you choose to install the new database, it is not possible for you to access the data in the old database by removing XProtect Transact 2.5 and reinstalling XProtect Transact 2.2. If it is very important for you to access the old database, you can contact your Milestone vendor.

For information about the export features in the XProtect Smart Client see Exporting Data and Recordings in the XProtect Smart Client in the XProtect Transact User's manual and the separate documentation for the XProtect Smart Client.

Register SLC

If you do not have your SLC, contact your vendor.

1. Go to the Milestone website at www.milestonesys.com, and click the Software registration link in the menu.
2. Log in to the Software Registration Service Center with your user name (e-mail address) and password.

   Tip: If you have not used the Software Registration Service Center before, click t➡he **New to the system?** link, and follow the instructions for registering yourself as a user, then log into the Software Registration Service Center by using your registered user name and password.
3. In the Software Registration Service Center, click the **Add SLC** link.
4. Type your SLC. Confirm that you want to add the SLC to your account, and then click **OK**.
5. Once your SLC has been added, click the **Main menu** link.
6. Click the **Logout** link to log out of the Software Registration Service Center.

   Tip: If you plan to use online activation when you activate your licenses, make sure you use the same user name (e-mail address) and password that you used when you registered the SLC.

Obtaining additional licenses

If you want to view more simultaneous transaction sources than you currently have licenses for, you must purchase additional licenses for these transaction sources. You can add and configure an unlimited number of transaction sources in XProtect Transact, but only simultaneously view the number of sources that are included your CLK.

To obtain additional licenses for your XProtect XProtect Transact system, contact your XProtect XProtect Transact vendor.

Once you have obtained the required additional licenses, do the following to activate them:

1. When you have received a confirmation about the purchase of the new licenses, go to the Milestone website, and click the **Software registration link in the menu.**
2. Log in to the **Software Registration Service Center** with your user name (e-mail address) and password.
3. Click the link representing your XProtect Transact SLC.

4. Copy the updated CLK's 16-digit hexadecimal number displayed on the page.
5. Start the XProtect Transact Administrator, and click the **General Settings** tab.
6. In the **Connection License Key (CLK)** field, replace the current CLK by pasting the updated CLK into the field.
7. If relevant, click the **Sources** tab, select an existing suspended source and click the **Resume** button to be able to view data from this source. You can also add new sources. See Managing Sources on page for more information.
8. Click **Close** to exit the XProtect Transact Administrator.

Getting started

Once the XProtect Transact Server is installed, you should perform the configuration tasks in this order.

Check that your XProtect Transact Server service settings are correct.

1. From the taskbar, right-click the **XProtect Transact Server Service Taskbar** icon. Select **Server Service Configuration...**.

   Tip: Server Services (see "Managing server service settings" on page 15) does not have to be running during configuration, they will be (re)started automatically when configuration setting are saved.

2. Verify that transaction data will be stored in the XProtect Transact Database for sufficiently long time to cover your organization's needs.

   By default, transaction data will be stored for seven days, but you can change this default value on the XProtect Transact Administrator window's General settings tab.

   Note that when defining individual sources (see next step), you can also define individual transaction data storage lengths for each source.

3. Add your XProtect Transact's sources. A source is a data source, typically a serial server, through which transaction data is fed to the XProtect Transact Server and subsequently stored in the XProtect Transact Database.

   As part of defining a source, you define a configuration for the source. A configuration handles the transformation of received data into presentable data. This is necessary because the initially received data typically consists of a single string of information, in which it can be difficult to see when individual transactions begin and end. If the data originates from a printer connection, it may furthermore contain non-printing control characters used for indicating line breaks, etc. By using configurations, the received data can be presented to end-users in a format matching real-life receipts. You can of course base your configurations on real transaction data sampled from your sources.

   Tip: XProtect Transact comes with a built-in configuration called **Epson default**. Because Epson is a widely recognized printer manufacturer, you can often save time by basing your configuration on a copy (see "Copy a configuration" on page 28) of the **Epson default** configuration.

4. Enable browsing and viewing of transaction (see "View transactions" on page 49) data together with video recordings using the **XProtect Smart Client**. Note that browsing of transaction data in the **XProtect Smart Client** requires a plugin.

See also

Managing sources (on page 18)

Managing Server Service Settings (on page 15)

Creating a configuration (see "Create a configuration" on page 23)

Viewing transactions (see "View transactions" on page 49)

Administration

The XProtect Transact Server listens for transactions from cash registers and other sources, and stores such transactions in the XProtect Transact Database. End-users can browse recordings and transaction data (see "View transactions" on page 49) with the **XProtect Smart Client**.

Managing server service settings

In the XProtect Transact **Server Service Configuration** window you define general settings for the XProtect Transact Server Service, and the ports and services used for communication between the XProtect Transact Server Service, the XProtect Transact Administrator, any XProtect Transact master/slave servers and the client applications.

Name	Description
Service name	The name for the service communicating with the XProtect Smart Client. By default Service. You can change the name if another service has the same name.
Administration service name	The name for the service communicating with the XProtect Transact Administrator. By default Admin. You can change the name if another service has the same name.
Host	Specify the local IP address or host name of the XProtect Transact Server Service. Example of an IP address: 123.123.123.123 Example of a host name: OurDevice
Port	Specify the local port number on which communication between the XProtect Transact Server service, any XProtect Transact master/slave servers and the client applications should take place. The default port number is 9001. If you want to change the port number, make sure you select a port number which is not already in use for other purposes. Click the **Set** button to begin using the new port number. **Tip:** To verify which ports are in use on a given computer, select **Start** > **All Programs** > **Accessories** > **Command Prompt**. In the command prompt window, type **netstat -a** and press ENTER to display a list of all current TCP/IP network connections and listening ports. For more information about the various parameters to use with the **netstat** command, type **netstat /?** and press ENTER.
Protocol	Choose between http (default) and Net.Tcp. If you change from one protocol to the other, you need to restart the XProtect Transact Administrator, restart the surveillance system server, and restart the relevant Smart ClientXProtect Smart Clients for the change to take effect.
Outside host	Specify the outside IP address of the XProtect Transact Server service so it can be accessed over the internet.

Outside port	Specify the outside port number on which communication between the XProtect Transact Server service and the client applications should take place so they can communicate over the internet.

Sources and configurations

A **sourc**e is a data source through which transaction data is fed to the XProtect Transact Server and subsequently stored in the XProtect Transact Database. transaction data can originate from cash registers, ATMs, etc. The connection between the XProtect Transact Server and the cash registers, ATMs, etc. is in the XProtect Transact Administrator established through the definition of a source provider.

The data initially received from sources typically consists of a single long string of information, and includes control characters or other characters that are irrelevant and confusing when end-users want to view the transaction data. You can transform the transaction data of this kind into a presentable, reader-friendly form through configurations. Configurations are managed in the XProtect Transact Administrator window's **Sources** tab since configurations are associated with and customized to the different sources.

See also

Interaction with sources and surveillance solutions (on page 7)

Different source providers

There are five different kinds of source providers through which the transaction data is fed from a PoS, ATM or others to the XProtect Transact Server:

Name	Description
Troy Box XProtect Transact provider	Use when receiving transaction data from a Troy box on your network through port 9100. **Troy box** is a popular name for a Troy serial server. Provided the Troy box has been assigned an IP address, it is able to receive serial input from a cash register, ATM or any other RS-232 source and relay it to the XProtect Transact Server through your network.
Serial Port XProtect Transact provider	Use when receiving transaction data as input on the computer's own serial port.
TCP XML XProtect Transact provider	Use when receiving transaction data through a serial server device and the transaction data is fed as XML packages. It is prerequisite that the content of the XML packages includes a time stamp in the following format: **<Timestamp>date and time according the RFC 3339 standard</Timestamp>**.
TCP Client XProtect Transact provider	Use when receiving transaction through any kind of serial server device. This option also allows you to receive data directly from a PoS (Point of Sale) source, such as a cash register, provided the PoS source can be configured for this purpose.

Analytics XProtect Transact provider	Use when receiving alarm data in connection with the XProtect Analytics software. Additional kinds of sources may be available in customized XProtect Transact installations. When creating and editing a source (see "Managing sources" on page 18), the different source settings vary depending on your choice of source provider. See Managing Sources on page for more information about how to create or edit sources.

Reader-friendly data through configurations

You can omit and substitute characters and define where individual transactions begin and end, so end-users can view the transaction data in a format matching real-life till receipts, ATM receipts, etc. If the data originates from a printer connection, it may for instance contain unprintable characters used for indicating line breaks, when to cut off a till receipt, etc.

By creating a configuration, you can:

- Clearly define when individual transactions begin and end.
- Make sure line breaks are used as required.
- Filter out unwanted characters.
- Substitute characters, if required.

Tip: XProtect Transact comes with two built-in configurations called **Epson default** and **Analytics**. The **Analytics** configuration is only available for sources that use the source provider **TCP XML XProtect Transact provider**. **Epson default** is available for all the other source providers. Epson is a widely recognized printer manufacturer; thus Epson’s way of dealing with control characters is often supported by printers of other makes as well. You can often save time by basing your configuration on a copy (see "Copy a configuration" on page 28) of the **Epson default** configuration.

The built-in configuration for the **TCP XML XProtect Transact provider**, **Analytics**, contains the necessary configuration for transaction data received as XML packages through a serial server device. Further configuration is not needed.

Configurations are managed in the XProtect Transact Administrator window's **Sources** tab since configurations are associated with and customized to the different sources.

See also

Create a configuration (on page 23)

How to omit characters (see "Export/import a configuration" on page 29)

How to use substitutions (see "Use substitutions" on page 30)

How to add line breaks (see "Add line breaks" on page 31)

How to use start and stop masks (see "Use start and stop masks" on page 31)

Advanced event features

Through XProtect Transact's event and event group features you can get XProtect Transact to listen for occurrences of specific words, numbers, characters etc. in the transaction data and generate events when the specified occurrences are found. Sources are also associated to event groups in the XProtect Transact Administrator window's **Sources** tab. See Managing sources (on page 18) and Events and event groups (on page 38) for more information.

Managing sources

A source, also called a **source provider**, is a data source through which transaction data is fed to the XProtect Transact Server and subsequently stored in the XProtect Transact Database.

You define and edit the source settings for the XProtect Transact Server by clicking the **Sources** tab in the **XProtect Transact Administrator** window.

Add a new source

To add a source, do the following:

1. Either from the Start menu or the desktop shortcut, open the **XProtect Transact Administrator** window.
2. On the **Sources** tab, click **Add New...**.
3. In the **New Source** window, in the **Source name** field,specify a name for the new source. In the **Source providers** list, select the type of source. See Sources and configurations (on page 16) for more information about the available sources providers and their use.

   Tip: The source name can contain spaces and special characters, such as @, $, %, æ.
4. In the **Create Source** window, specify properties (see "The Create/Edit Source window" on page 19) for the source.
5. Select a standard configuration.
   - If you are defining a source that uses the source provider TCP XML XProtect Transact provider, select the standard configuration Analytics from the list in the Configuration section.
   - For all other source providers select the standard configuration Epson default from the list in the Configuration section.

   You can add a new configuration (see "Create a configuration" on page 23) or edit the standard configuration (see "Edit a configuration" on page 27) later.
6. If you have defined transaction events and event groups (see "Events and event groups" on page 38), you can associate the source with an event group in the **Event Group** list, to trigger actions through generic events defined in the surveillance system.
7. When ready, click **OK**.

   The new source will now appear in the **transaction sources list** on the **XProtect Transact Administrator** window's **Sources** tab.

Edit a source

To edit the properties and configuration of an existing source, do the following:

1. Either from the **Start** menu or the desktop shortcut, open the **XProtect Transact Administrator** window.
2. On the **Sources** tab, select the required source and click **Edit...**.
3. In the **Edit Source** window, change the necessary (see "The Create/Edit Source window" on page 19) settings for the selected source.
4. Click **OK** to save the changes.

Delete a source

To delete a source, do the following:

1. Open the **XProtect Transact Administrator** window.
2. On **Sources** tab, select the required source and click **Delete...**.
3. Click **Yes** to confirm the deletion.

Suspend/resume a source

When the source is running, you can click the **Suspend** button to stop the source. Since you only have Connection License Keys to view a certain number of sources simultaneously, this could be a reason for you to stop one source so you can start another. See Licensing (on page 10) for more information.

You can start or stop the connection from a suspended or running source selected in the transaction sources list. On the **XProtect Transact Administrator** window's **Sources** tab you can see whether your sources are running or suspended.

IMPORTANT: While the source is suspended, no transaction data will be fed from the source to the XProtect Transact Server and onwards to the client applications.

When the source is suspended, the button changes to **Resume**. Clicking the **Resume** button will lift the suspension, and data will again be fed from the source to the XProtect Transact Server and onwards to the client applications (provided the XProtect Transact Server service is running). See Managing server service settings (on page 15) for more information.

Refresh the status of sources

If a source is unavailable, the source in question will be displayed as **Disabled** on the **Sources** tab. When the source is available again, click the **Refresh** button to refresh the displayed status of the source in **XProtect Transact Administrator** window.

The Create/Edit Source window

Much of the content of the **Create/Edit Source** window is the same regardless of which type of source you are creating or editing.

Name	Description
Source name	Read-only field displaying the name of the source as defined in the **New Source** window.
Provider name	Read-only field displaying the type of the source as defined in the **New Source** window.
Time to store transaction	Specify how long transaction data from the source in question should be kept in the XProtect Transact Database. • **Default:**Use the XProtect Transact solution's default. Transaction data older than the default number of days will be deleted from the XProtect Transact Database, and will therefore not be available for browsing in the client applications. **Tip:** The default number of days the transaction data is stored if nothing else is specified for individual sources, is defined in the **XProtect Transact Administrator** window, on the **General settings** tab. • **For ever:** Store Transaction data for ever. Even when **Forever** is selected, the ability to store transaction data will be limited by the available disk space on the computer running the XProtect Transact Database. • **Days to store:** Specify the required number of days for which to store transaction data for the source in question. The number of days may be higher as well as lower than the XProtect Transact solution's default. Transaction data older than the specified number of days will be deleted from the XProtect Transact Database, and will therefore not be available for browsing in the client applications. Make sure the number of days is sufficiently high to cover your organization's needs.
COM Port	Select the COM port (i.e. serial port) to be used for receiving data from the source.
Bits per second	Select the bit rate (i.e. data transfer rate) with which data will be sent on the serial connection. The specified bit rate must match the bit rate used by device (cash register, ATM, etc.) connected to the serial port source.

Flow control	Select the flow control to be used on the serial connection. Flow control adjusts the flow of data from one unit to another, making sure that the receiving unit will be able to handle all the incoming data. The use of flow control is relevant in asynchronous communication, for example when the sending unit sends data faster than the receiving unit is able to receive it. • **None:** Do not use flow control. • **XonXoff:** Use the XonXoff flow control mechanism, with which the receiving unit sends an **Xoff** message to the sending unit when the receiving unit's buffer is full. When this is the case, the sending unit will stop sending data until it gets an **Xon** message from the receiving unit, indicating that the receiving unit is again ready to receive data. **Xon** and **Xoff** messages are sent as part of the data itself. • **CtsRts:** Use the CtsRts flow control mechanism, with which the sending unit sends an **Rts** (Ready to send) signal to the receiving unit when the sending unit has data to send. In turn the receiving unit will send a **Cts** (Clear to send) signal to the sending unit when the receiving unit is ready to receive data. **Cts** and **Rts** signals are sent on separate wires in the cable, apart from the data itself. • **DsrDtr:** Use the DsrDtr flow control mechanism, with which units send **Dsr** (Data set ready) and **Dtr** (Data terminal ready) signals when exchanging data. The selected flow control mechanism must match the flow control mechanism used by device (cash register, ATM, etc.) connected to the serial port source.
Parity	Enter the parity-checking protocol.
Data bits	If you have nonstandard devices, enter the number of data bits per byte that the device sends.
Stop bits	If you have nonstandard devices, enter the number of stop bits per byte that the device sends.
Configuration	From the list of existing configurations, select the configuration to use for the source. **Tip:** A single configuration can be used for several transaction data connections as long as the transaction data come from a source of the same type as the source for which the configuration was created.
Add New...	Opens the **Create Configuration** window, in which you can define the properties of a new configuration (see "Create a configuration" on page 23).
Edit...	Available only when an existing configuration is selected. Opens the **Edit Configuration** window, in which you can edit the properties of the selected configuration.

Delete	Available only when an existing configuration is selected. Lets you delete the selected configuration. You will be asked to confirm that you want to delete the configuration.
Copy...	Available only when an existing configuration is selected. Lets you copy the selected configuration, edit it as required and save it under a new name. Editing and saving takes place in the **Create Configuration** window. This may be especially relevant if you require two or more near-identical configurations, in which case you can base subsequent configurations on an existing one, thus minimizing your workload.
Event groups	The **Event group** section lets you associate the source with an event group or several event groups. The event group can then trigger actions through generic events defined in Milestone XProtect Enterprise or Milestone XProtect ProfessionalXProtect Professional. Some of the content of the **Create/Edit Source** window is specific for the source you have chosen.
Troy Box Sources	The **Troy Box properties** section lets you specify where to contact the Troy box on your network. The following field is available: **Host name/address:** Lets you specify host name or IP address of the Troy box. **Tip:** You do not need to specify a port number. XProtect Transact knows that Troy boxes always communicate through port 9100.
TCP XML or TCP Client Sources	The **TCP port properties** section lets you specify settings related to the TCP port on which the TCP XML or TCP client provider will be acting as source. The following fields are available: **Host name/address:** Lets you specify host name or IP address of the TCP XML or TCP client provider. **Port:** Lets you specify the port number on which communication with the TCP XML or TCP client source takes place.
Analytics XProtect Transact	**Service port:** This must be a unique number of your own choosing. **Source XSD File:** Here you attach an XSD file to the source configuration. The XSD files describe which XML format that can be saved in XProtect Transact using the source. If no XSD file is connected to the source, the provider will accept all valid XML. You can use any XSD and it is possible to use more than one at a time.

Managing configurations

You define and edit the configurations of sources from the **Sources** tab in the **XProtect Transact Administrator** window.

Create a configuration

You do not need to create new configurations for sources that use the source provider **TCP XML XProtect Transact provider**. Simply use the built-in configuration **Analytics**.

To create a new configuration to a source, do the following:

1. Open the **XProtect Transact Administrator** window.
2. On the **Sources** tab, click **Add New...** if you want to add a new source or the **Edit**... button to edit an existing source. Define or – if required – edit the settings of the source. You are now ready to add your new configuration.
3. In the **Create/Edit Source** window, in the **Configuration** section, click the **Add New...** button.
4. In the **Create Configuration** window, in the **Name** field, type a name for the configuration.

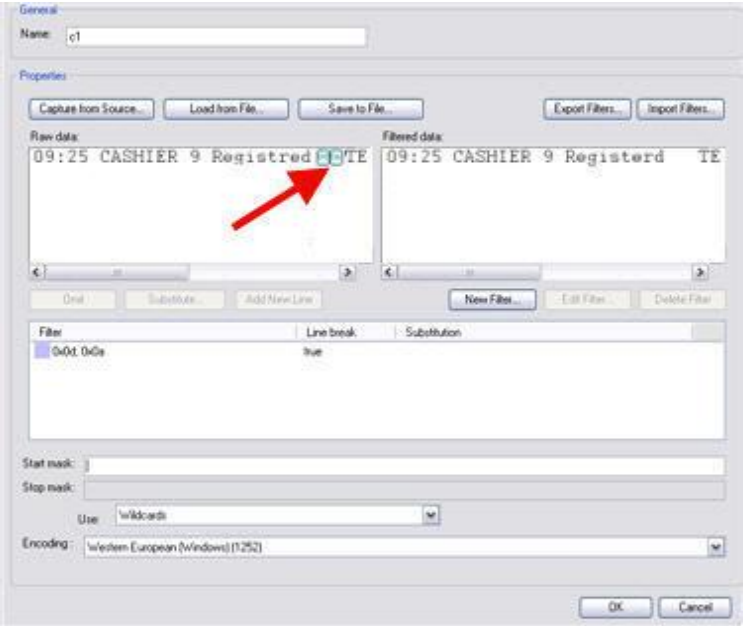
   Tip: The name may contain spaces and special characters, such as @, $, %, æ, etc.
5. Click the **Capture from Source** button to capture some sample transaction data on which to base your configuration. This will open the **Select Input Source** window.
6. In the **Select Input Source** window, select the required input source, then click the **Start** button to being capturing transaction data. Wait sufficiently long for at least one, but preferably more, transactions to complete, then click the **Stop** button. See How to Capture transaction Data on page for more information about capturing transaction data.
7. Click **OK** to return to the **Create Configuration** window, in which the captured transaction data will now appear in the **Raw data** field.
8. You are now ready to add filters: omit characters (define which characters to remove), add substitutions (define which characters to replace with other characters) and add line breaks.

An example configuration

The following is an example only. The example outlines the capture of a limited amount of raw (unformatted) transaction data, and how individual elements of the raw transaction data can subsequently be marked in order to be omitted, substituted, replaced with line breaks, indicate the beginning/end of a transaction, etc.

In this example, do the following:

1. Click and drag in the **Raw data** field to select two control characters (non-printing characters, typically used by printers for indicating line breaks, when to cut off a till receipt, etc.).



Name: c1

Raw data: 09:25 CASHIER 9 Registred □□TE

Filtered data: 09:25 CASHIER 9 Registerd   TE

Filter	Line break	Substitution
0x0d, 0x0a	true	

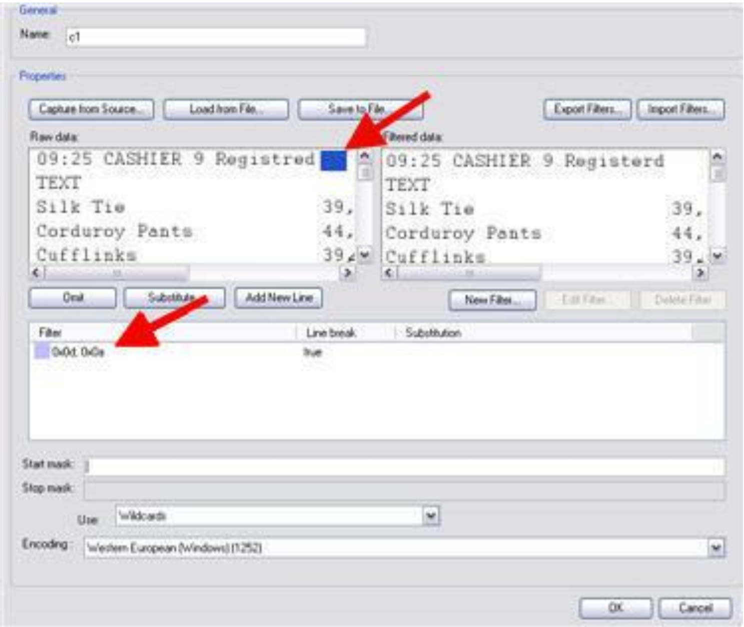
Start mask:

Stop mask:

Use: Wildcards

Encoding: Western European (Windows) (1252)

2. Click the **Add New Line...** button. A line break is inserted instead of the two control characters. Furthermore, information about the two control characters replaced by the line break appear in the **[Filter overview list]**:



Name: c1

Raw data:

```
09:25 CASHIER 9 Registred
TEXT
Silk Tie                  39,
Corduroy Pants            44,
Cufflinks                 39,
```

Filtered data:

```
09:25 CASHIER 9 Registerd
TEXT
Silk Tie                  39,
Corduroy Pants            44,
Cufflinks                 39,
```

Filter	Line break	Substitution
0x0d, 0x0a	true	

Start mask:

Stop mask:

Use: Wildcards

Encoding: Western European (Windows) (1252)

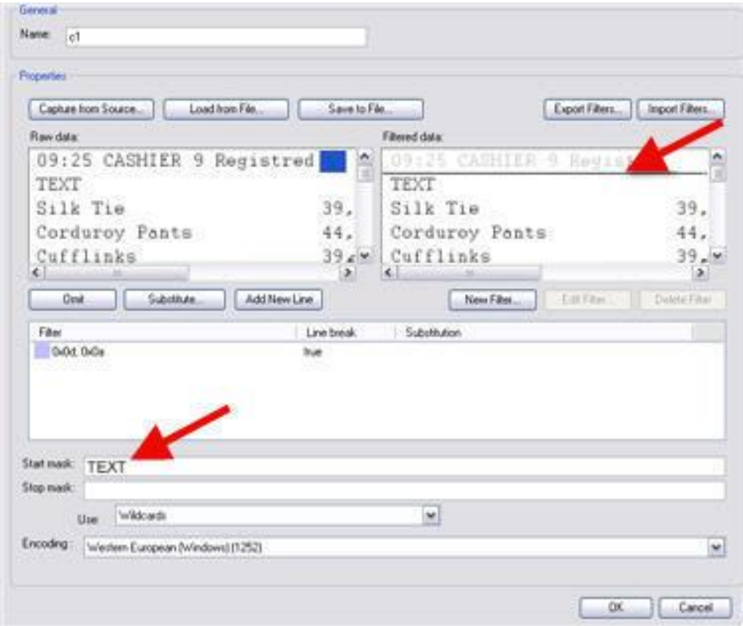
Also note how the **Filtered data** field changes accordingly. The **Filtered data** field provides a preview of how the transaction data will look when presented to end-users in the client applications.

In this example, the line break is all the formatting we require. In most cases, omissions (removal of certain content) and substitutions would be required as well. They are applied in a similar way, by dragging to select the required characters in the **Raw data** field, then clicking the relevant button. See also: How to omit characters (see "Omit characters in a source's configuration" on page 29), How to use substitutions (see "Use substitutions" on page 30) and How to add line breaks (see "Add line breaks" on page 31).

3. When the required filters (omissions, substitutions or line breaks) are in place, add a start mask (see "Use start and stop masks" on page 31). The start mask defines when a new transaction begins, and helps keep individual transactions separate.

For each transaction, a start mask followed by a new line is compulsory – otherwise no date will be recognized and fed into the system.

In this example we have noticed that all new transactions begin with the characters **TEXT**. We therefore type **TEXT** in the **Start Mask** field. In the **Filtered data** field, XProtect Transact automatically inserts a horizontal line above occurrences of the start mask, as an indication of the beginning of a new transaction:



Name: c1

Raw data:

```
09:25 CASHIER 9 Registred
TEXT
Silk Tie                     39.
Corduroy Pants               44.
Cufflinks                    39.
```

Filtered data:

```
09:25 CASHIER 9 Regis
TEXT
Silk Tie                     39.
Corduroy Pants               44.
Cufflinks                    39.
```

Filter	Line break	Substitution
0x0d 0x0a	true	

Start mask: TEXT

Stop mask:

Use: Wildcards

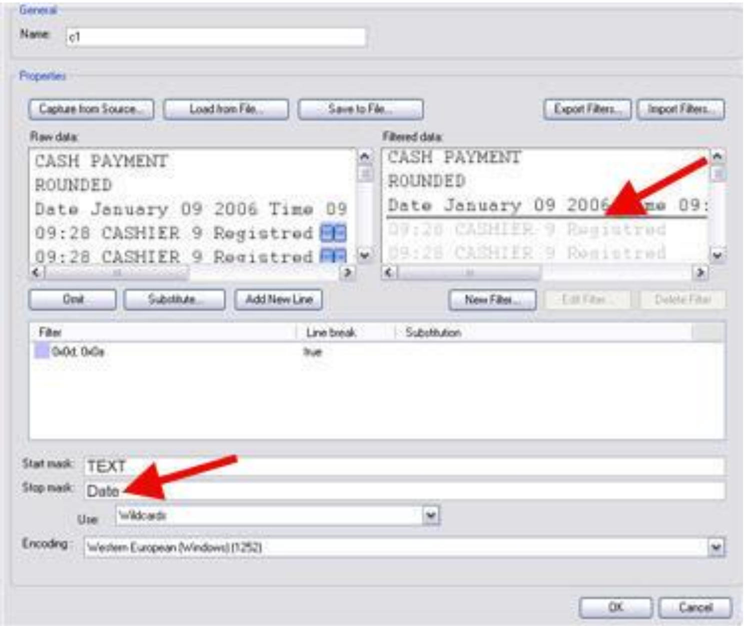
Encoding: Western European (Windows) (1252)

Note that start and stop masks are case sensitive; there is a difference between typing **TEXT** and **Text**.

1. Add a stop mask. The stop mask defines the end of a transaction.

A stop mask is not compulsory, but can be useful if the received data contains irrelevant information—perhaps information about opening hours or special offers—between actual transactions.

- We have noticed that all transactions end with a line beginning with the characters **Date**. We therefore type **Date** in the **Stop Mask** field. In the **Filtered data** field, XProtect Transact automatically inserts a horizontal line below occurrences of the stop mask, as an indication of the end of a transaction:



Name: c1

Raw data:

```
CASH PAYMENT
ROUNDED
Date January 09 2006 Time 09
09:28 CASHIER 9 Registred
09:28 CASHIER 9 Registred
```

Filtered data:

```
CASH PAYMENT
ROUNDED
Date January 09 2006 Time 09:
09:28 CASHIER 9 Registred
09:28 CASHIER 9 Registred
```

Filter	Line break	Substitution
0x0d 0x0a	true	

Start mask: TEXT

Stop mask: Date

Use: Wildcards

Encoding: Western European (Windows) (1252)

In this example, the stop mask occurred at the beginning of a line, but start and stop masks may appear anywhere on a line: When XProtect Transact detects a start mask anywhere within a line, it will know that a new transaction begins with that line. When XProtect Transact detects a stop mask anywhere within a line, it will know that a transaction ends with that line.

Tip: You can use wildcards in start and stop masks. A wildcard is a special symbol that stands for one or more characters. Three different methods for wildcard use, selected in the **Use** field, are available. See The Create/Edit Configuration window (on page 32) for more information about the **Use** field and other configuration settings.

1. When ready, click OK to save the configuration.

Configurations are saved together with the type of source (serial port, TCP client, TCP XML or Troy box) for which it has been created. However, exported filters can be used with configurations created for any type of source.

Tip: If you are going to create several near-identical configurations, you can use the **Copy...** button or the **Export Filters...** and **Import Filters...** buttons in the **Create/Edit Source** window to quickly create new configurations based on an existing configuration. See Copying a Configuration on page and Exporting/Importing a Configuration on page for more information.

Capture transaction data

You can capture sample transaction data on which to base your configuration. If relevant you can apply some filters and test your filters on the captured transaction data and see the result in the **Create/Edit Configuration** window while you are applying the filters.

To capture sample transaction data, do the following:

1. Access the **Select Input Source** window by clicking the **Capture from source...** button in the **Create/Edit Configuration** window.
2. In the **Select Input Source** window's top section, select the required input source. Properties of the selected source will be displayed in the **Select Input Source** window's lower section.

   Tip: The list will only contain input sources matching the type of source you are currently working with. Example: If you are currently working with a configuration for a serial port source, only serial port input sources will appear in the list.
3. Click the **Start** button to begin capturing transaction data. When clicked, the **Start** button changes to **Stop**.
4. Wait for at least one, but preferably more, transactions to complete. If the cash register, ATM, etc. providing the transaction data is visible from where you are situated, you will easily be able to determine how long to wait for. If the cash register, ATM, etc. is not visible, use the number of captured bytes (displayed near the bottom of the window after you click the **Start** button) as an indication of the amount of data captured. In most cases, capturing approximately 3000 bytes of data is enough.
5. Click **Stop** to stop capturing transaction data.
6. When ready, click **OK.** The captured transaction data is displayed in the **Create/Edit Configuration** window's **Raw data** field, ready for use when defining the properties of the configuration..

Tip: You can save captured transaction data in a **.capture** file, and load the previously captured and saved transaction data when you create a new configuration.

See also

The create/edit configuration window (on page 32)

Creating a configuration (see "Create a configuration" on page 23)

Edit a configuration

You do not need to edit the built-in configuration **Analytics** that is used in connection with the source provider **TCP XML XProtect Transact provider**. Simply use the built-in configuration **Analytics** as is.

To edit a new configuration to a source, do the following:

1. Open the **XProtect Transact Administrator** window.
2. On the **XProtect Transact Administrator** window's **Sources** tab, click the **Add New...** button if you want to add a new source or the **Edit**... button to edit an existing source.
3. In the **Create/Edit Source** window's **Configuration** section, click the **Edit...** button.

You can now edit the configuration.

Tip: If you are going to create several near-identical configurations, you can use the **Copy...** button in the **Create/Edit Source** window to quickly create new configurations based on an existing configuration for the same type of source. You can also use the Export Filters... and **Import Filters...** buttons in the **Create/Edit Configuration** window to quickly create new configurations based on an existing configuration for a different type of source.

Configurations are saved together with the type of source (serial port, TCP client, TCP XML or Troy box) for which it has been created. However, exported filters can be used with configurations created for any type of source.

See also

Copy a configuration (on page 28)

Export/import a configuration (on page 29)

Omit characters (see "Omit characters in a source's configuration" on page 29)

Use substitutions (on page 30)

Add line breaks (on page 31)

Use start and stop masks (on page 31)

The create/edit configuration window (on page 32)

Create a configuration (on page 23)

Copy a configuration

You do not need to edit or copy the built-in configuration **Analytics** that is used in connection with the source provider **TCP XML XProtect Transact provider**. Simply use the built-in configuration **Analytics** as is.

You can copy configurations of the same source type (serial port, TCP client, TCP XML or Troy box) for easy reuse of existing configurations.

To copy a configuration, do the following:

1. Open the **XProtect Transact Administrator** window.
2. On the **XProtect Transact Administrator** window's **Sources** tab, click the **Add New...** button if you want to add a new source or the **Edit**... button to edit an existing source. Define or, if required, edit the settings of the relevant source.
3. In the **Create/Edit Source** window's **Configuration** section, select the required configuration and click the **Copy...** button.

   Configurations are saved together with the type of source (serial port, TCP client, TCP XML or Troy box) for which it has been created. So if you have selected a serial port source, you can only select configurations defined for serial port sources. However, exported filters can be used with configurations created for any type of source.
4. Type a name for the configuration in the **Name** field and change the required settings.
5. Click **OK** to save your new configuration.

See also

Copy a configuration (on page 28)

Create a configuration (on page 23)

Edit a configuration (on page 27)

The create/edit configuration window (on page 32)

Export/import a configuration

If you want to reuse a configuration between different source types (serial port, TCP client or Troy box), you can export the configuration from one source type and import it when you create or edit the configuration for another source type.

Do the following:

1. Open the **XProtect Transact Administrator** window.
2. On the **Sources** tab, select a source that has the required source type (serial port, TCP client or Troy box) for your export.
3. In the **Edit Source** window's **Configuration** section, select the required configuration and click the **Edit...** button.
4. In the **Edit Configuration** window, click the **Export Filters...** button.
5. Specify a name for the export file and save it by clicking **Save**. The exported configuration's filters are saved as a **.filter** file.
6. Cancel the **Edit Configuration** window and close the **Edit Source** window.
7. On the **Sources** tab, select the source that should reuse the exported configuration settings and click the **Edit**... button. If you would like to add a new source, click the **Add New...** button. See Creating a Configuration on page for more information.
8. In the **Create/Edit Source** window's **Configuration** section, click **Add New...** or **Edit...** as required.
9. In the **Create/Edit Configuration** window, click **Import Filters....** Select your previously exported file and click **Open**.
10. Edit if relevant the imported filter settings. Specify a start mask and—if relevant—a stop mask and click **OK** to save your new configuration.

For each transaction, a start mask followed by a new line is compulsory – otherwise no date will be recognized and fed into the system.

Tip: If you are going to create several near-identical configurations for several sources of the same source type, you can use the **Copy...** button in the **Create/Edit Source** window.

See also

Copy a configuration (on page 28)

Create a configuration (on page 23)

Omit characters in a source's configuration

You can filter out unwanted information (single or several characters) in the raw, unformatted transaction data.

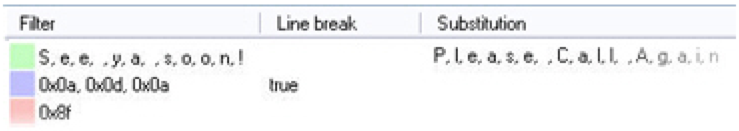
To omit characters in a source's configuration, do the following:

1. In the **Create/Edit Configuration**, window click and drag to select the characters in the **Raw data** field that you want to filter out.
2. Click the **Omit** button to filter out (remove) the selected characters.

You can immediately view the effect of your filter in the **Filtered data** field.

Tip: You can omit regular characters as well as control characters. Control characters are non-printing characters, typically used by printers for indicating line breaks, when to cut off a till receipt, etc. Example of a control character as it appears when displayed in the **Raw data** field: 0a

In the **Raw data** field, the selected characters are highlighted in light pink. The filtered out characters will also be listed and highlighted in light pink in the **[Filters overview field]**.



Filter	Line break	Substitution
🟩 S, e, e, , y, a, , s, o, o, n, !		P, l, e, a, s, e, , C, a, l, l, , A, g, a, i, n
🟦 0x0a, 0x0d, 0x0a	true	
🟥 0x8f		

Example of a substitution, a line break and an omission listed in the **[Filters overview field]**. In this example, the control character **0x8f** has been filtered out completely.

Tip: If you are not happy with an applied filter, you can always remove or edit it: Select the unwanted filter in the **[Filters overview field]**, then click the **Delete Filter** or **Edit Filter...** button.

Use substitutions

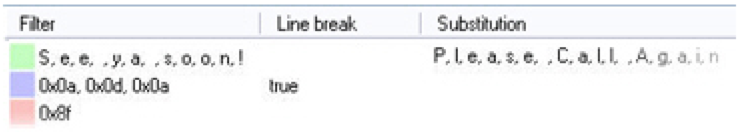
You can substitute information (one or more characters) in the raw, unformatted transaction data and replace it with new text or characters.

To substitute content in a source's configuration, do the following:

1. In the **Create/Edit Configuration** window click and drag to select the characters in the **Raw data** field that you want to substitute.
2. Click the **Substitute...** button to substitute (replace) the selected characters. In the **Edit Filter** window type the characters that you want replace the selected characters with in the **Substitution** field.

You can immediately view the effect of the substitution in the **Filtered data** field.

In the **Raw data** field, the selected characters will be highlighted in a light green color. The characters to be substituted will also be listed and highlighted in a light green color in the **[Filters overview field]**.



Filter	Line break	Substitution
🟩 S, e, e, , y, a, , s, o, o, n, !		P, l, e, a, s, e, , C, a, l, l, , A, g, a, i, n
🟦 0x0a, 0x0d, 0x0a	true	
🟥 0x8f		

Example of a substitution, a line break and an omission listed in the **[Filters overview field]**. In this example, the characters forming **See ya soon!** have been substituted with **Please Call Again.**

Tip: You can substitute regular characters as well as control characters. Note, however, that new control characters must be specified in Hex notation, e.g. ¥x[0-F][0-F].

Tip: If you are not happy with an applied substitution, you can always remove or edit it: Select the unwanted substitution in the **[Filters overview field]**, then click the **Delete Filter** or **Edit Filter...** button.

Add line breaks

You can replace one or more characters, including control characters, with a line break so the initially received transaction data which typically consists of a single long string of information, can be presented in more reader-friendly manner.

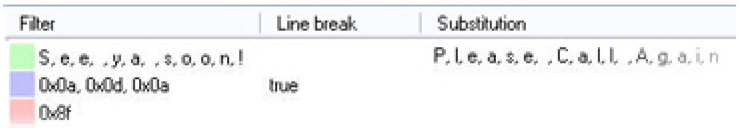
To add a line break, do the following:

1. In the **Create/Edit Configuration** window click and drag to select the characters in the **Raw data** field that you want to substitute with a line break.

2. Click **Add New Line....**

You can immediately view the effect of the new line break in the **Filtered data** field.

In the **Raw data** field, the selected characters will be highlighted in a light purple color. The characters to be replaced with a line break will also be listed and highlighted in a light purple color in the **[Filters overview field]**.



Filter	Line break	Substitution
🟩 S, e, e, , y, a, , s, o, o, n, !		P, l, e, a, s, e, , C, a, l, l, , A, g, a, i, n
🟦 0x0a, 0x0d, 0x0a	true	
🟥 0x8f		

Example of a substitution, a line break and an omission listed in the **[Filters overview field]**. In this example the control characters **0x0a0x0d0x0**a have been transformed into a line break.

Tip: If you are not happy with the applied line break, you can always remove or edit it: Select the unwanted line break in the **[Filters overview field]**, then click the **Delete Filter** or **Edit Filter...** button.

Use start and stop masks

You can define a start and stop mask to indicate where a transaction ends and a new begins. Horizontal lines are inserted in the **Filtered data** field to visualize where the transaction starts and ends, and will help to keep individual transactions separate. A stop mask is not compulsory, but can be useful if the received data contains irrelevant information, such as information about opening hours or special offers, between actual transactions.

To add a start or stop mask, do the following:

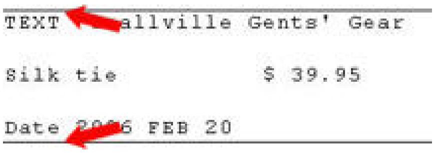
1. In the **XProtect Transact Administrator** window, on the **Sources** tab, click **Add New...** if you want to add a new source or **Edit**... to edit an existing source.

2. In the **Create/Edit Source** window, in the **Configuration** section, click **Add New...** or **Edit...** depending on whether you want to add or edit a new configuration.

3. In the **Raw data** field in the **Create/Edit Configuration** window find the characters in the transaction data that indicate that a transaction begins or ends.

4. Type the start mask in the **Start mask** field and the stop mask in the **Stop mask** field.

In the **Filtered data** field, the start and stop mask will be indicated by a horizontal line:



```
TEXT  allville Gents' Gear

Silk tie          $ 39.95

Date 2006 FEB 20
```

This example shows a horizontal line inserted before the start mask **TEXT** and after the stop mask **Date**.

Tip: You can use wild cards in start and stop masks. Start and stop masks are case sensitive, unless using regular expressions.

See also

The create/edit configuration window (on page 32)

The Create/Edit Configuration window

Configurations are managed in the **XProtect Transact** Administrator window's **Sources** tab since configurations are associated with—and customized to—the different sources. You access the two main configuration windows **Create Configuration** or **Edit Configuration** by clicking the **Add New...** button in the **Create Source** window or **Edit Source** window.

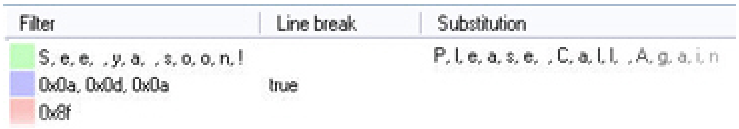
The **Create/Edit Configuration** window has the following content:

Name	Description
Name:	Lets you specify a name for the configuration. If required, the name may contain spaces and special characters, such as @, $, %, æ, etc.
Capture from Source...:	Opens the **Select Input Source** window, with which you can capture sample transaction data for use when creating the configuration. See How to Capture transaction Data on page for more information.
Load from File...:	Lets you load previously captured transaction data saved in a **.capture** file, and use the transaction data when creating the configuration.
Save to File...:	Lets you save any captured transaction data currently open in the **Create Configuration** window as a **.capture** file.
Export Filters...:	Lets you save the configuration's filters (omissions, substitutions or line breaks) as a **.filter** file, which can subsequently be imported and used in other configurations.
Import Filters...:	Lets you import previously exported **.filter** files.
Raw data:	Displays the raw transaction data, with indications of any added filters (omissions, substitutions or line breaks).

Filtered data:	Provides a preview of the transaction data as it will be presented in client applications when viewed by end-users, with the omissions, substitutions, line breaks and masks applied.
Omit:	Lets you filter out one or more characters selected in the **Raw data** field.
Substitute...:	Opens the **Edit Filter** window, with which you can substitute one or more characters selected in the Raw data field.
Add New Line:	Lets you replace one or more characters, including control characters, selected in the **Raw data** field with a line break.
New Filter...:	Opens the Edit filter window, with which you can create filters (omissions, substitutions or line breaks) by typing the required characters rather than by selecting them in the Raw data field.
Edit Filter...:	Opens the **Edit Filter** window, with which you can edit the filter you have selected in the **[Filters overview field]**.
Delete Filter:	Lets you delete an existing filter selected in the **[Filters overview field]**.
[Filters overview field]:	Lists existing filters (omissions, substitutions or line breaks).

If you create/edit a configuration for the source provider **TCP XML XProtect Transact provider**, the **Name** setting is the only available setting in the **Create/Edit Configuration** window, since no configuration is needed for this source provider.

Defined filters are highlighted with different colors. Unwanted content is indicated by a light pink color, substitutions by a light green color, and line breaks by a light purple color.



Filter	Line break	Substitution
🟩 S, e, e, , y, a, , s, o, o, n, !		P, l, e, a, s, e, , C, a, l, l, , A, g, a, i, n
🟪 0x0a, 0x0d, 0x0a	true	
🟥 0x8f		

Example of a substitution, a line break and an omission listed in the **[Filters overview field]**.

Name	Description
Start mask:	Lets you define a start mask, meaning which characters in the transaction data you want to use for indicating the beginning of a new transaction.
Stop mask:	Lets you define a stop mask, meaning which characters in the transaction data you to use for indicating the end of a transaction.

Use:	You can use wildcards in start and stop masks. A wildcard is a special symbol that stands for one or more characters. Wildcards allow you to define start and stop masks without being 100% specific about the masks' character content. Two different types of wildcard use are available: **Wildcards:** The start and/or stop mask are case sensitive. The following wildcards can be used: ? (any one or more characters or digits), * (zero or more characters or digits). **Regular Expression:** Use regular expressions. A highly flexible method with which software developers and other people with programming knowledge can express how software should look for a text pattern, and what to do when the text pattern is found. Any case sensitivity, wildcards, etc. will depend entirely upon the way in which you use regular transactions in your environment. **Events:** Use already configured event patterns as a mask. If you select this option, you can select one or more events (see "Manage events" on page 39) to use as start and stop masks. If the search string of any of the selected events is found, the transaction is started or stopped. This makes it possible to re-use event configurations to start and stop transactions.
Encoding:	Lets you select required character set to convert the source's transaction data which is sent in bites to understandable text in your language.

See also

Edit filter window (see "The Edit Filter window" on page 34)

Export/import a configuration (on page 29)

The create/edit configuration window (on page 32)

Use start and stop masks (on page 31)

Add line breaks (on page 31)

Omit characters (see "Omit characters in a source's configuration" on page 29)

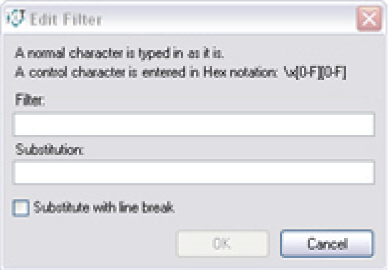
Use substitutions (on page 30)

Add line breaks (on page 31)

The Edit Filter window

In the **Edit Filter** window, you can create or edit filters (omissions, substitutions or line breaks). You can create new filters by clicking the **New Filter...** button and typing the required characters rather than by selecting them in the **Raw data** field. To edit an existing filter, select the required filter in the **[Filters overview field]** and click the **Edit Filter...** button.

The **Edit Filter** window contains the following settings:



A normal character is typed in as it is.
A control character is entered in Hex notation: \x[0-F][0-F]

Filter:

Substitution:

□ Substitute with line break

The Edit Filter window

Name	Description
Filter:	Field may be used for three purposes: • **If creating/editing an omission**: Type or edit the characters to be filtered out. • **If creating/editing a substitution**: Type or edit the characters to be substituted, then type/edit the characters you want to be used instead in the **Substitution** field. • **If creating/editing a line break**: Type or edit the characters to be replaced by a line break, then select the **Substitute with line break** check box.
Substitution:	Type or edit the characters to be used as substitution. The field is unavailable if the **Substitute with line break** check box is selected.
Substitute with line break:	Select if content of **Filter** field should be replaced by a line break. When this check box is selected any content in the **Substitution** field will be cleared.

See also:

Omit characters (see "Omit characters in a source's configuration" on page 29)

Use substitutions (on page 30)

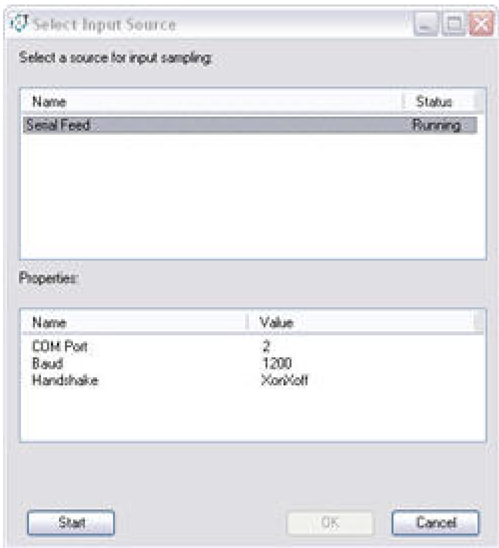
Add line breaks (on page 31)

The Select Input Source window

In the **Select Input Source** window you can capture sample transaction data for use when creating a configuration**.** You access the **Select Input Source** window by clicking the **Capture from Source...** button in the **Create/Edit Configuration** window. See How to Capture transaction Data on page for a step-by-step guide.

The **Select Input Source** window contains the following settings:

Name	Description
Select a source for input sampling:	Select the required input source from the list. The list will only contain input sources matching the type of source you are currently working with. Example: If you are currently working with a configuration for a serial port source, only serial port input sources will appear in the list.
Properties:	Names and values of the selected source are listed here.
Start/Stop:	Click the button to start or stop the capturing of transaction data.



Select a source for input sampling:

Name	Status
Serial Feed	Running

Properties:

Name	Value
COM Port	2
Baud	1200
Handshake	Xon/Xoff

The **Select Input Source** window; in this case only a single source is available for selection

Master/slave setup

You can set up several XProtect Transact servers in a master/slave relationship. The **XProtect Transact Administrator** window lets you define which servers you require as masters for the XProtect Transact server you are configuring. This enables XProtect Smart Client users to view transaction data from more than one XProtect Transact server.

You can get full benefit of a XProtect Transact master/slave setup if you have Milestone XProtect Enterprise or XProtect Corporate. This enables you to combine digital video monitoring from several surveillance servers with transaction data from all your XProtect Transact servers. If you have XProtect Professional or Milestone XProtect Basis+, you are still able to see transaction data from all your XProtect Transact master/slave servers and combine it with video from the surveillance server in the XProtect Smart Client.

- Prerequisites – XProtect Professional or Milestone XProtect Basis+ The XProtect Transact master server must be located on the same computer as the surveillance server.
- Prerequisites – Enterprise Servers The XProtect Transact master server must be located on the same computer as the Enterprise master server, and XProtect Transact slave servers must be located on the same computers as the Enterprise slave servers. The Enterprise

master/slave setup is defined in the ImageServer Administrator window. For more information see the separate Enterprise documentation.

- Prerequisites – Corporate The XProtect Transact master server must be located on the same computer as the Corporate management server. See Integrating with Milestone XProtect Corporate on page for more information.

Once XProtect Transact is installed and the master/slave relationship defined, the surveillance master server sends information to XProtect Smart Clients about how to connect to its XProtect Transact master and slave servers. Then XProtect Smart Clients and the XProtect Transact servers communicate directly with each other for fastest updates.

If you change a XProtect Transact slave's server service settings in XProtect Transact Server Service Configuration menu, you must ask the XProtect Smart Client users to log out and in of their XProtect Smart Clients to reload the slave's server service settings so that the data feed to the XProtect Smart Clients can continue.

A XProtect Transact server can be slave of any number of XProtect Transact master servers. It is a good idea to define more masters so you have transaction data redundancy. If the primary XProtect Transact master server for some reason should need maintenance, you can continue monitoring transaction data through one of the other XProtect Transact master servers.

See also

Manage master/slave setup (on page 37)

Create a view with transactions in the XProtect Smart Client (on page 51)

Manage master/slave setup

You can set up several XProtect Transact servers in a master/slave relationship. This enables you to view data from several XProtect Transact servers in the XProtect Smart Client.

You define the master servers for the XProtect Transact server you are configuring by clicking the **Masters** tab in the XProtect Transact Administrator window.

Edit a master server

Prerequisites: When you edit a master server for the XProtect Transact server, you need to enter the master server's server service settings. Have this information ready when editing the master/slave setup.

To edit a master server, do the following:

1. On the XProtect Transact server that is configured as slave, open the XProtect Transact Administrator and click the **Masters** tab.
2. Select the master server you want to edit, then click the **Edit...** button.
3. Edit the required settings in the **Master Information** dialog.

Remove a master server

To remove a master server from the list of master servers on the **Masters** tab, select the unwanted master server in the list and click **Delete**.

Update slave information

To send a slave server's server service settings to its master servers, click the **Update** button on the **Masters** tab.

When you change a slave server's server service settings information, it is immediately sent to the server's master servers. If, for some reason, a master server is not running when this happens, you are notified. When the master server is running again, you can click the **Update** button to resend the slave server's updated server service settings to its masters.

Master setup dialog elements

The **MasterInformation** window contains the following fields:

Name	Description
Administration service name	The administration service name of the master server.
Host	The IP address or host name of the master server.
Port	The port number of the master server.
Protocol	The protocol used by the master server.

Tip: You can find all of the information about the master server's server service settings on the master's **Server Service Setting** window in the right-click menu of the **XProtect Transact Server Service Taskbar** icon.

Define a master server

Prerequisites: When defining a master server for the XProtect Transact server you are configuring, you need to enter the master server's server service settings. Have information about the master server's server service settings ready when defining the master/slave setup.

To define a master server, do the following:

1. On the XProtect Transact server that is going to be configured as slave, open the XProtect Transact Administrator.
2. On the **Masters** tab, click **Add New...**.
3. Specify the administration service name, host name and port number of the master server, and click **OK.**

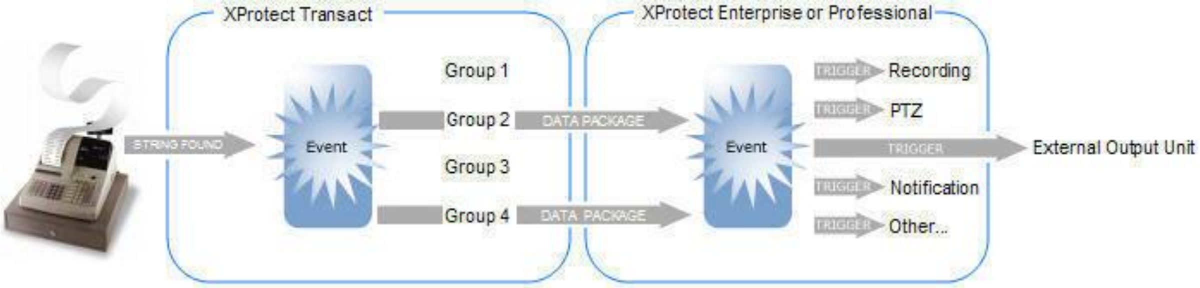
Events and event groups

Through XProtect Transact's event and event group features you can get XProtect Transact to listen for occurrences of specific words, numbers, characters etc. in the transaction data and generate events when the specified occurrences are found. When an occurrence is found a transaction event is triggered.

For easy and flexible usage of transaction events, you can group events in event groups. Each transaction event can be member of several groups. With event groups you also specify how transaction data is send to your surveillance system, and you can associate sources to an event group.

Transaction events are supported in XProtect Enterprise and XProtect Professional. To trigger transaction events in the surveillance system it is prerequisite that you define generic events in the surveillance system that match the criteria of the transaction events from XProtect Transact.

When a transaction event is triggered, the transaction event groups containing the event send a TCP or UDP data package to XProtect Enterprise or XProtect Professional. The data package is then analyzed by the generic events in the surveillance system. If the transaction event is matching specified criteria in a generic event, the actions specified in the generic event are triggered.



Example: The source's transaction data contains an occurrence that triggers a transaction event. The transaction event is member of event groups 2 and 4. Each group sends a TCP or UDP data package to the surveillance system on which defined generic events triggers one or more actions.

See also

Manage events (on page 39)

Manage event groups (on page 41)

Create a generic event triggered by transaction data (on page 43)

Test events (on page 44)

Manage events

Through XProtect Transact's event and event group features you can get XProtect Transact to listen for occurrences of specific words, numbers, characters etc. in the transaction data and generate events when the specified occurrences are found. For easy and flexible usage of transaction events, you can group events in event groups (see "Manage event groups" on page 41).

You define and edit the events on the **Events** tab in the **XProtect Transact Administrator** window.

Add an event

To add an event, do the following:

1. Open the **XProtect Transact Administrator** window.
2. On the **Events** tab, click the **Add New...** button. This will open the **New Event** window.
3. In the **Name** field, specify a name for the new event.
4. In the **Search string** field, write the string you would like to search for in the Transaction data. You can search for words, numbers and special characters that match the string you would like to find in the Transaction data. You can only search for one string at a time. A string can consist of several words or similar as long as this exactly matches the Transaction data.

For example, you can create a search string that looks for the occurrence of **Word1 Word2**. This will find occurrences of **Word1 Word2** but not occurrences of **Word2 Word1** or **Word1 Word3 Word2** and so on. Select **Case sensitive** if you would like to differentiate between upper and lowercase letters in the **Search string** field.

5. In the **Search type** field select between three ways of searching for the phrase specified in the **Search string** field:
   - **Simple:** Use simple search, with which any Transaction data containing an occurrence of the specified search string will be found.
   - **Exact:** Use exact match, with which occurrences of the specified search string will be found only if they are preceded and followed by a blank space. Example: If you specify the search phrase **return**, only occurrences in which the phrase **return** appears surrounded by spaces will be highlighted, whereas occurrences such as **returned item** will not.
   - **Wildcards:** Search using wildcards. Three different characters can be used as wildcards:
     - The asterisk character (*). Place a asterisk after the search string, with which occurrences of the specified search string will be found also if the search string is followed by any number of characters. Example: If you specify **return*** as your search string, all occurrences containing the letters **return**, such as **returned item, returns** and similar, will be highlighted.
     - The question mark character (?), with which any single character can be substituted. Example: If you specify the search phrase **j?ck**, all occurrences such as **jack**, **jock**, etc. will be highlighted. You may use several question mark characters in your search. Examples: **jac???n** or **j?cks?n**.
     - The hash character (#), with which any single digit can be substituted. Example: If you specify the search phrase **4#**, all occurrences such as **40**, **41**, etc. will be highlighted. You may use several hash characters in your search. Examples: **4##** or **12#4##7**.
   - **Reg Ex:** Search using the regular expressions.

     You must enclose your search criteria in quotation marks for them to be included in your search.

     For a list of regular expressions, go to Microsoft's MSDN website: http://msdn.microsoft.com/en-us/library/az24scfc.aspx.
6. In the **Event string** field specify the string that you want to send in a TCP/UDP data package to the surveillance system.
7. In the **Check if expression matches search string**, you can test whether the search type expression produces the results you want to see. Enter the result you want to test for and the area below the field displays the results of the test (for example, Match or No match).
8. Click **OK** to save your settings.

When you have created an event, an event group and a generic event in your surveillance system that matches the criteria in the Transaction event, you can test your Transaction event to verify that the specified action is triggered in your surveillance system.

See also

Manage event groups (on page 41)

Create a generic event triggered by Transaction data (on page 43)

Test events (on page 44)

Edit an event

To edit an event, do the following:

1. In the **XProtect Transact Administrator** window, on the **Events** tab, select the required event and click **Edit...**.
2. In the **Edit Event** window, change the required settings.
3. Click **OK** to save your settings.

Delete an event

To delete an event, select the required event on the **XProtect Transact Administrator** window's **Events** tab and then click **Delete**.

Manage event groups

For easy and flexible usage of transaction events, you can group events in event groups. Each transaction event can be member of several groups. With event groups you also specify how transactions data is send to your surveillance system, and you can associate sources to an event group. It is prerequisite that you define generic events in the surveillance system that match the criteria of the transaction events from XProtect Transact.

Transaction events are supported in XProtect Enterprise and XProtect Professional.

You define and edit the events groups on the **Event Groups** tab in the **XProtect Transact Administrator** window.

See also

Sources and configurations (on page 16)

Events and event groups (on page 38)

Manage events (on page 39)

Create a generic event triggered by transaction data (on page 43)

Test events (on page 44)

Add an event group

To add an event group, do the following:

1. Open the **XProtect Transact Administrator** window.
2. On the **Event Groups** tab, click the **Add New...** button. This will open the **New Event Group** window.
3. In the **Name** field, specify a name for the new event group.

4. In the **Address** field, specify the host name or IP address of your surveillance system.
5. In the **Port** field, specify the port number on which to send events to your surveillance system. It is prerequisite that the specified port number is the same as the one the surveillance system uses when listening for generic events.

   Tip: The surveillance systems listen for generic events on the port specified as **Alert Port** in the surveillance system (default is port 1234). From the surveillance system's Administrator click the **Advanced...** button in the **I/O Setup** window to access the **Advanced** window to verify which port number is used.

6. In the **Protocol** field, specify whether you want to send the events as TCP or UDP data packages to the surveillance system. The default protocol is UDP since it uses less bandwidth than TCP. If your network does not support UDP, simply select TCP.
7. To specify the group you can do one of two things.
   - In the Events list select one or more events that you want to include in the event group
   - In the **Match expression** field use the expressions (AND, OR and NOT) to match groups against each other. You can test the results of your filter criteria in the **Event string** field.

     Example: You have three event groups. For the third group, in the the **Match expression** field you enter "group1" or "group2". If events listed in group 1 or group 2 appear, group 3 will be triggered and the event you have set up for group 3 will be sent to the server.
8. Click **OK** to save your settings.

When you have created an event, an event group and a generic event in your surveillance system that matches the criteria in the transaction event, you can test your transaction event to verify that the specified action is triggered in your surveillance system.

See also

Create a generic event triggered by transaction data (on page 43)

Manage events (on page 39)

Test events (on page 44)

Edit an event group

To edit an event group, do the following:

1. In the **XProtect Transact Administrator** window, on the **Event Groups** tab, select the required event group and click **Edit...**.
2. In the **Edit Event Group** window, change the required settings.
3. Click **OK** to save your settings.

Delete an event group

To delete an event, in the **XProtect Transact Administrator** window, on the **Event Groups** tab, select the required event group and click **Delete**.

Create a generic event triggered by transaction data

Generic events in XProtect Enterprise or XProtect Professional can be based on the analysis of received TCP and UDP data packets as it is the case with transaction events from Milestone XProtect XProtect Transact.

To add a generic event in XProtect Enterprise or XProtect Professional, do the following:

1. In the **Administrator** window, click the **Generic Events...** button. This will open the **Generic Events** window.
2. In the **Generic Events** window, first select the **Generic** item, then click the **Add new event...** button. This will open the **Add New Event** window in which you can specify the new event.
3. Now specify information in the following fields:

Name	Description
Name	Specify a name for the event in the surveillance system. Note that event names must **not** contain the following characters: < > & ' " ¥ / : * ? | [ ]
Event Protocol	Lets you select which protocol the surveillance system should listen for in order to detect the transaction event. Select the same protocol as the protocol specified for the transaction event that is to trigger this generic event. You can also select **Any** to be able to receive both TCP and UDP data packages.
Event rule type	Select how particular the surveillance system should be when analyzing received data packages: **Match** if the received package must contain only the exact message specified in the **Event message include** field (see description in the following), **Search** if the received package must contain the message specified in the **Event message include** field, but may also have other content.
Event priority	Specify a priority between 0 (lowest priority) and 1000 (highest priority) for the event, in case a received data package matches more than one event.
Event rule string	In the **Event substring** field, specify the XProtect Transact event string or parts of it that you want the surveillance system to look for when analyzing the transaction data packages. Then click the **Add** button to add the specified term(s) to the **Event message include** field, the content of which is used when analyzing received data packages. You are furthermore able to use processing order parentheses and two different Boolean operators in the **Event message include** field by clicking the buttons to the right of the field.
Send Email if this event occurs	Select to send an e-mail alert automatically when the event occurs. To use e-mail alerts, the e-mail alert feature must be set up in the surveillance system's **E-Mail setup** window.
Send SMS if this event occurs	Select to send an SMS alert automatically when the event occurs. To use SMS alerts, the SMS alert feature must be set up in the surveillance system's **SMS settings** window.

When you have created an event, an event group and a generic event in your surveillance system that matches the criteria in the transaction event, you can test your transaction event to verify that the specified action is triggered in your surveillance system.

See also

Manage events (on page 39)'

Manage event groups (on page 41)

Test events (on page 44)

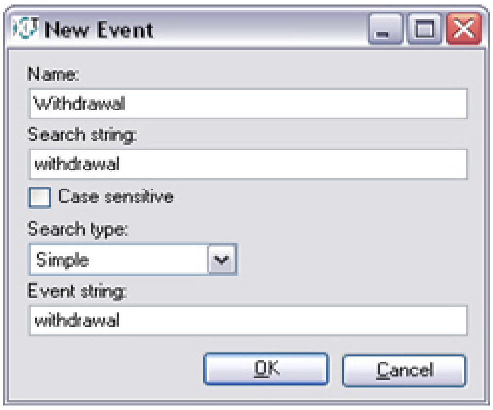
For more information about generic events see the separate documentation for XProtect Enterprise or XProtect Professional.

Test events

Once you have created a transaction event and added a generic event in your surveillance system that matches your transaction event, a quick and easy way to test your transaction event is to verify that an alarm or event is generated in XProtect Smart Client.

In this example we create a transaction event and a generic event in the surveillance system. Your required events may be different, but you can still use the outlined principles.

1. Create an event called **Withdrawal**, that listens for occurrences of the string **withdrawal** and sends the event string **withdrawal** to the surveillance system.



New Event

Name: Withdrawal

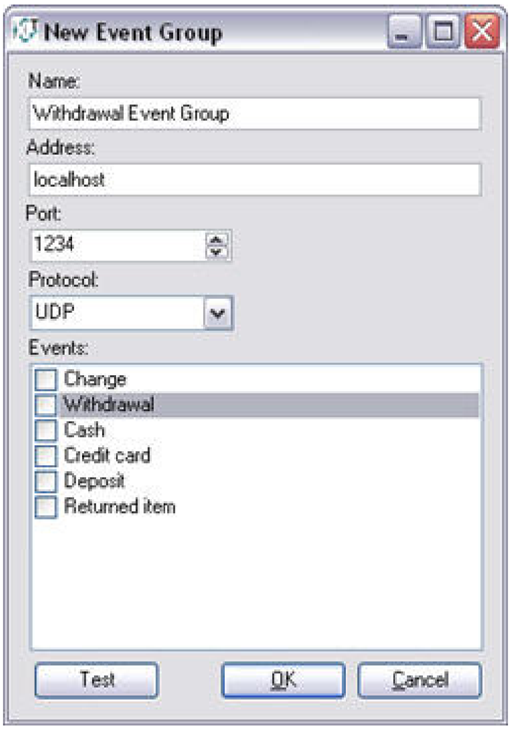
Search string: withdrawal

☐ Case sensitive

Search type: Simple

Event string: withdrawal

2. Create an event group called **Withdrawal Event Group** and fill in the necessary information about the surveillance systems address and port number. Select UDP as protocol.



New Event Group

Name: Withdrawal Event Group

Address: localhost

Port: 1234

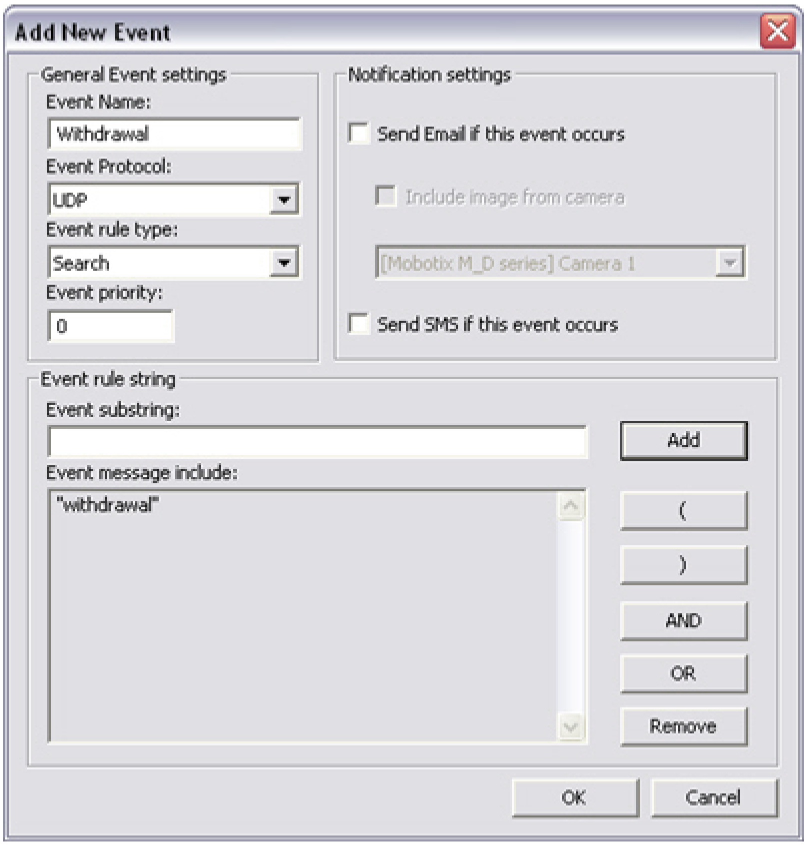
Protocol: UDP

Events:

□ Change
□ Withdrawal
□ Cash
□ Credit card
□ Deposit
□ Returned item

3. Create a generic event called **Withdrawal** in your surveillance system's **Administrator** application. See How to Create a Generic Event Triggered by transaction Data on page for more information. Make sure that the selected protocol and event (rule) string matches the one in the **Withdrawal Event Group** created in step 2.

Access to features in the Administrator application, including generic events, may require administrator rights.



Add New Event

General Event settings

Event Name: Withdrawal

Event Protocol: UDP

Event rule type: Search

Event priority: 0

Notification settings

□ Send Email if this event occurs

□ Include image from camera

[Mobotix M_D series] Camera 1

□ Send SMS if this event occurs

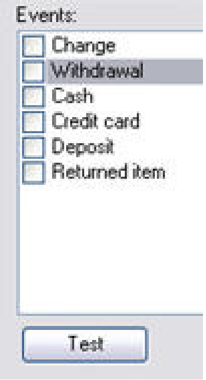
Event rule string

Event substring:

Event message include: "withdrawal"

4. In the **XProtect Transact Administrator** window, on the **Event Groups** tab, select the event group **Withdrawal Event Group**.

5. Select the **Withdrawal** event from the **Events** list and click **Test**.



Events:

□ Change
□ Withdrawal
□ Cash
□ Credit card
□ Deposit
□ Returned item

Example: The event **Withdrawal** is selected for testing. You can also test events that are already included in the event group.

6. Open the XProtect Smart Client and log into the required surveillance server to verify that an event matching your transaction event is generated in the Event list. See XProtect Smart Client's separate documentation for more information on how to view events from the alarm list.

7. So far you have only tested the transaction event. The event must be included in an event group and a source must be associated with the event group before XProtect Transact listens for occurrences in the transaction data. If the test was successful, include the **Withdrawal** event in the event group **Withdrawal Event Group**, and if required associate sources with the event group.
8. You can include the event in other events groups. Repeat if relevant the test of the event in connection with the other events groups. If relevant select existing sources and associate them with event groups that include the **Withdrawal** event.

See also

Manage event groups (on page 41)

Managing sources (on page 18)

Storage and licensing settings

On the **General Settings** tab in XProtect Transact Administrator you can define the default number of days to store transaction data and update your XProtect Transact installation's licensing information.

Name	Description
Default days to store transactions	Specify the default number of days for which to store transaction data. If you do not specify otherwise, the default is seven days. Transaction data older than the specified number of days will be deleted from the XProtect Transact Database, and will therefore not be available for browsing in the client applications. Make sure the default number of days is sufficiently high to cover your organization's needs. The field lets you specify a **default** number of days, which will be used if nothing else has been defined for individual sources. See **Adding a New Source** in the Managing Sources topic on page for more information about how to define transaction storage periods for individual sources.
MAC Address	View the MAC address of your computer.
Software License Code (SLC)	View your **XProtect Transact** Administrator Software License Code (SLC)
Connection License Key (CLK)	Lets you update the Connection License Key (CLK). Below this field you can see how many sources you can view simultaneously.

See also

Licensing (on page 10)

XProtect Transact Server Service menu

1. You access the **XProtect Transact Server Service Icon** right-click menu from the taskbar.
2. Right-click the **XProtect Transact Server Service Icon** and a menu appears. In addition to **Help, About** and **Exit,** it contains the following:

Name	Description
Start Server Service	Lets you start the XProtect Transact Server service.
Stop Server Service	Lets you stop the XProtect Transact Server service. **IMPORTANT:** As long as the service is stopped, it will not find transactions from cash registers or other sources, and will therefore not store such transactions in the XProtect Transact Database.
Server Service Configuration...	This opens the **Server Service Configuration** window where administration of XProtect Transact Server Service settings is handled**.** See Managing Server Service Settings on page .
Open Administrator...	This opens the **XProtect Transact Administrator** window. See Managing Server Service Settings on page , Sources and Configurations on page **,** Master/Slave Setup on page **,** Events and Event Groups on page and License Settings on page for more information about how to configure the different XProtect Transact settings.
Show System Status...	This opens the **Show System Status** window where you get detailed information on all system sources and their current status.
Show Log...	This opens the **Show Log** window where you get detailed system log information.

View transactions

With the XProtect Smart Client application, you can view transaction data together with recordings of the transaction taking place.

In the **XProtect** Smart Client you simply create a view, select the required transaction data source (for example a particular cash register), then the required video sources (for example two cameras covering the area around the cash register from different angles), and you are ready to browse.

The time-linking of the transaction data and video recordings enables you to view and browse the transaction data and video recordings simultaneously.

Integrate with XProtect Corporate

If your organization has XProtect Corporate surveillance solutions and you want to view transaction data together with recordings from cameras defined in a XProtect Corporate solution, you must add the XProtect Transact master server in the XProtect Corporate Manager application, before XProtect Transact and XProtect Corporate can communicate with each other.

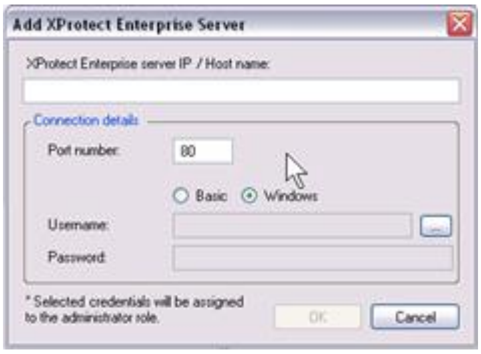
Prerequisite: The XProtect Transact Server and the XProtect Corporate Management Server must be installed on the same computer.

Tip: If you have several XProtect Transact servers in a master/slave relationship, define the XProtect Transact Server that shares the computer with the XProtect Corporate Management Server as master. See Managing Master/Slave Setup on page for more information.

When the communication between the XProtect Transact Server and the Corporate Management Server is established, you will be able to view transaction data together with recordings from Corporate cameras in XProtect Smart Clients.

To add a XProtect Transact Server in the XProtect Corporate Manager application, do the following:

1. Open the XProtect Corporate Manager.
2. From the **Tools** menu, select **XProtect Enterprise Servers...**
3. In the **Add/Remove Protect Enterprise Servers** window, click **Add...**.



Add XProtect Enterprise Server

XProtect Enterprise server IP / Host name:

Connection details

Port number: 80

○ Basic ● Windows

Username:

Password:

* Selected credentials will be assigned to the administrator role.

4. Enter the IP address or the host name of the required XProtect Transact server in the **XProtect Enterprise server IP / Host name** field.
5. Enter the port number used by the XProtect Transact server in the **Port number** field.

Tip: The XProtect Transact server's default port number is 9001; if in doubt, you can find the port number used by the required XProtect Transact server on the **Server Service Setting** window in the right-click menu of the **XProtect Transact Server Service Taskbar** icon.

6. Enter your user name and password in the **Username** and **Password** fields**.** You can do this in two ways:

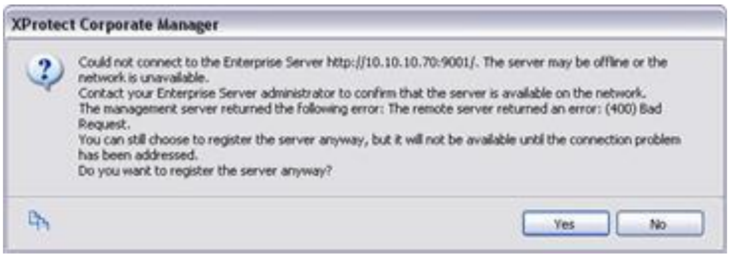
   - Select **Windows** and click the browse button to the right of the **Username** field to use the Windows authentication method which authenticates the administrator through the administrator's Windows login.

   - Select **Basic** and enter the XProtect Enterprise administrator's user name and password in the **Username** and **Password** fields.

   You must enter a user name, but the information is not used since access to transaction data is not restricted by user rights and Corporate roles.

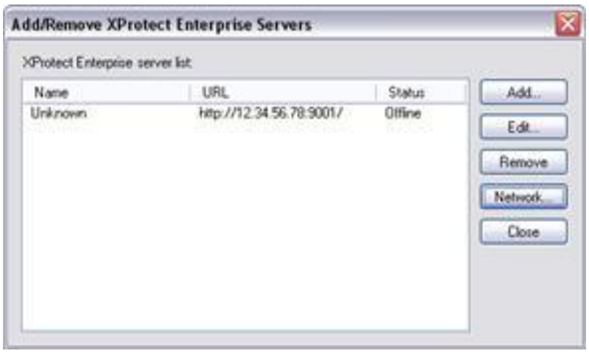
7. Click **OK** to close the **Add XProtect Enterprise Server** window.

   The following error message is shown:



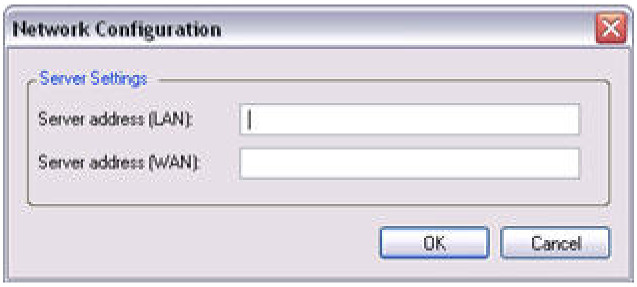
Could not connect to the Enterprise Server http://10.10.10.70:9001/. The server may be offline or the network is unavailable.
Contact your Enterprise Server administrator to confirm that the server is available on the network.
The management server returned the following error: The remote server returned an error: (400) Bad Request.
You can still choose to register the server anyway, but it will not be available until the connection problem has been addressed.
Do you want to register the server anyway?

8. Ignore the error message, and click **Yes** to add the XProtect Transact server. The XProtect Transact server is now listed in **Add/Remove Protect Enterprise Servers** window with the name **Unknown** and the status **Offline**.


Add/Remove XProtect Enterprise Servers
XProtect Enterprise server list
Add...
Edit...
Remove
Network...
Close

Name	URL	Status
Unknown	http://12.34.56.78:9001/	Offline

9. Click **Network...** to define that Corporate will be handling the token authentication of the XProtect Smart Clients.



Network Configuration

Server Settings

Server address (LAN):

Server address (WAN):

10. Specify the LAN IP address of the XProtect Corporate Management Server.
11. When you are ready, click **OK**.
12. Click **Close** to close the **Add/Remove Protect Enterprise Servers** window.

You are now ready to view transaction data together with recordings from Corporate cameras in XProtect Smart Clients. See Installing the XProtect Transact Plugin for the XProtect Smart Client on page and Creating a View with transactions in the Smart ClientXProtect Smart Client on page for more information.

Create a view with transactions in the XProtect Smart Client

If your XProtect Smart Client user rights permit you to create views, you can create views with transactions together with recordings. Simply create the required view with XProtect Transact content on the XProtect Smart Client's **Setup** tab.

Creating a view may not be necessary if views in shared groups are used in your organization. Views in shared groups can be shared among XProtect Smart Client users. If a view with XProtect Transact content is available in a shared group, you may simply select the view on the XProtect Smart Client's **Live** or **Browse** tabs, and begin live viewing or browsing of transaction data with matching video recordings. Consult your system administrator if in doubt about whether views in shared groups are available in your organization.

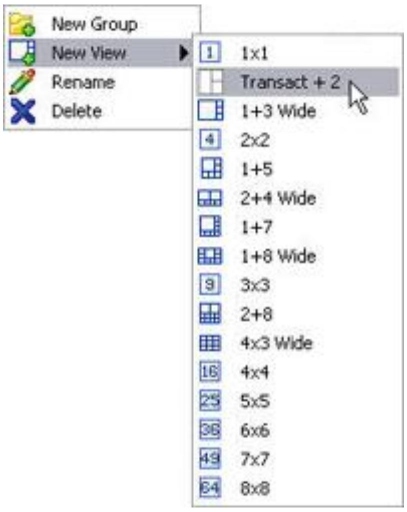
To create a view with XProtect Transact content, do the following:

1. Open and log in to the XProtect Smart Client.

Tip: For information about how to open and log in to the XProtect Smart Client, see separate documentation for your XProtect Smart Client.

1. In the XProtect Smart Client, select the **Setup** tab.
2. On the **Setup** tab, create a new view.

You may select any view layout from the list, but some layouts, such as the **Transact + 2** layout, are particularly suited for viewing transaction data and camera images together:



Example of available layouts; more layouts may be available in your version.

Depending on requirements and user rights, you may create the view in a shared or private group.

Tip: For further information about how to create views, see separate documentation for your XProtect Smart Client.

1. Drag the required cameras from the **Setup** tab's **System Overview** section to the view's camera slots.

2. This step, and the next, may not be necessary if you are using one of the XProtect Transact views particularly suited for viewing transaction data and camera images together.

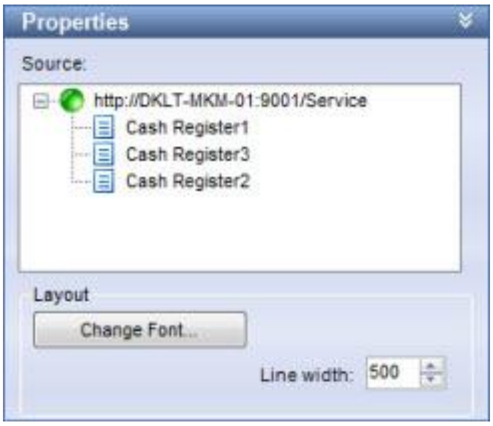
   Drag the **System Overview** section's **Transact Source** entry to the slot in which you want to view transaction data.

   The transaction data slot now changes color. However, you must still specify exactly which XProtect Transact source you want to view transaction data from.

   Tip: If more than one XProtect Transact source is available, and if enough positions are available in the view, you can include more than one XProtect Transact source in the view. You can also create several views with different transaction sources.

   See Status of transaction sources for information about the status bar of transaction view positions and the different possible states of a source.

3. Select the view's transaction data position, then expand the Setup tab's Properties section and expand the list over XProtect Transact servers:

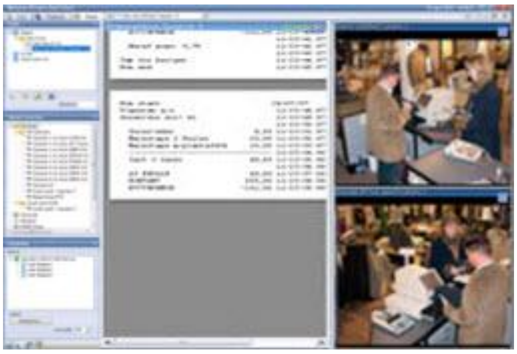


Color legend:

- Gray: Starting up (will only be visible on slow connections).
- Yellow: Getting status.
- Red: Unable to connect to server.
- Green: OK.

If color indication for a service is red, the system will keep trying every five seconds until contact is made to the server.

4. Once the required server connection is OK, click the source you wish to display in the transaction Data Position:



Repeat if your view should contain more than one XProtect Transact source.

The view is now ready for use.

Tip: You can change the font size used for displaying the transaction data as well as the line width. You change these settings in the Setup tab's Properties section.

Back up and restore the Transact Database

Back up

The Transact Server stores data in a database. You can choose to store the database in two different ways:

- **Network SQL Server:** Lets you store XProtect Transact data in a database on an existing SQL Server on your network. XProtect Transact points to the database location on the SQL Server.
- **SQL Server Express Edition:** Lets you store XProtect Transact data in a SQL Server Express Edition database on the XProtect Transact Server itself.

Milestone always recommends that you back up your XProtect Transact database: having a backup gives you the ability to restore your XProtect Transact data in a disaster recovery scenario. Backing up also has the added benefit that it flushes the SQL Server's transaction log.

About the SQL Server transaction log

Each time a change in the XProtect Transact data occurs, the SQL Server will log the change in its transaction log—regardless whether it is a SQL Server on your network or a SQL Server Express edition. The transaction log is essentially a security feature that makes it possible to roll back and undo changes to the SQL Server database. The SQL Server by default stores its transaction log indefinitely, and therefore the transaction log will over time add more and more entries. The SQL Server's transaction log is by default located on the system drive, and if the transaction log just grows and grows, it may in the end prevent Windows from running properly.

Flushing the SQL Server's transaction log from time to time is a good idea. Flushing it does not in itself make the transaction log file smaller, but it prevents it from growing out of control. XProtect Transact does not, however, automatically flush the SQL Server's transaction log at specific intervals.

You can do several things on the SQL Server itself to keep the size of the transaction log down, including truncating and/or shrinking the transaction log (for numerous articles on this topic, go to support.microsoft.com and search for **SQL Server transaction log**). However, backing up the XProtect Transact database is generally a better option since it flushes the SQL Server's transaction log **and** gives you the security of being able to restore your XProtect Transact data in case something unexpected happens.

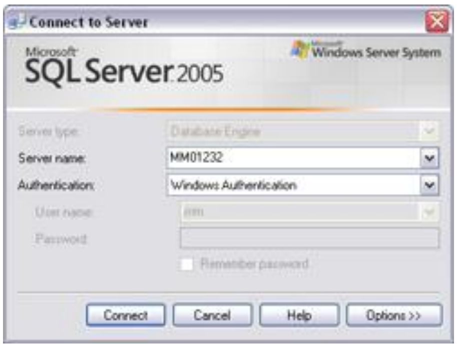
Prerequisites

You need:

Microsoft® SQL Server Management Studio Express, a tool that can be downloaded for free from the Microsoft download website. Among its many features for managing SQL Server databases are some easy-to-use backup and restoration features. Download and install the tool on your existing Management Server. Other backup tools than SQL Server Management Studio Express will also work, but this guide describes the use of SQL Server Management Studio Express.

Back up the database

Stop the XProtect Transact Server service to prevent changes to the database being made during the backup process. Note that XProtect Transact will not work while the XProtect Transact Server service is stopped. It is important that you remember to start the service again once you have finished backing up the database.



Server type: Database Engine
Server name: MM01232
Authentication: Windows Authentication
User name:
Password:
□ Remember password

1. Open Microsoft SQL Server Management Studio Express from the Windows **Start** menu.
2. When you open the tool, you are prompted to connect to a server.
3. Specify the name of the required SQL Server (in the example illustration in the following, the server is called **MM01232**), and connect with the user account under which the database was created.

Tip: You do not have to type the name of the SQL server: if you click inside the Server name field and select **<Browse for more...>**, you can select the required SQL Server from a list instead.

Once connected, you see a tree structure in the **Object Explorer** in the left part of the window. Expand the SQL Server item, then the **Databases** item. We are primarily interested in the **VIDEOOS_XProtect Transact** database.

1. Right-click the **VIDEOOS_XProtect Transact** database, and select **Tasks** > **Back Up...**
2. On the **Back Up Database** dialog's **General** page, do the following:
   - Under **Source**: Verify that the selected database is **VIDEOOS_XProtect Transact** and that the backup type is **Full**.
   - Under **Destination**: A destination path for the backup is automatically suggested. Verify that the path is satisfactory. If not, remove the suggested path, and add another path of your choice.
3. On the **Back Up Database** dialog's **Options** page, do the following:
   - Under **Reliability**: Select **Verify backup when finished** and **Perform checksum before writing to media.**
4. When ready, click **OK** to begin the backup. When backup is finished, you see a confirmation. Eit Microsoft SQL Server Management Studio Express after this.
5. During the backup process, the XProtect Transact Server service was stopped to prevent database changes being made until you were done. Remember to start the XProtect Transact Server service again.

Restore the database

Most users never need to restore their backed-up XProtect Transact database, but if you ever have the need, use the following process:

1. Stop the XProtect Transact Server service to prevent changes to the database being made during the backup process. Note that XProtect Transact does not work while the XProtect Transact Server service is stopped. It is important that you remember to start the service again once you have finished restoring the database.
2. Open Microsoft SQL Server Management Studio Express from Windows' **Start** menu. When you open the tool, you are prompted to connect to a server. Specify the name of the required SQL Server and connect with the default settings.
3. Once connected, you see a tree structure in the **Object Explorer** in the left part of the window. Expand the SQL Server item, then the **Databases** item.
4. Right-click the **VIDEOOS_XProtect Transact** database, and select **Tasks** > **Restore** > **Database...**
5. In the **Restore Database** dialog's **General** page, do the following: Under **Source for restore**, select **From device**, and click the button to the right of the field.
6. In the **Specify Backup** dialog's **Backup media** list, make sure that **File** is selected. Then click the **Add** button.
7. In the **Locate Backup File** dialog, locate and select your backup file **VIDEOOS_XProtect Transact.bak**. Then click **OK**.
8. Back in the **Specify Backup** dialog, the path to your backup file is now listed. Click **OK**.
9. Back on the **Restore Database** dialog's **General** page, your backup is now listed under **Select the backup sets to restore**. Make sure you select the backup by selecting the check box in the **Restore** column.
10. Now go to the **Restore Database** dialog's **Options** page, and select **Overwrite the existing database**. Leave the other options as they are.
11. When ready, click **OK** to begin the restoration. When the restoration is finished, you will see a confirmation. When finished, exit Microsoft SQL Server Management Studio Express.

Tip: If instead you get an error message telling you that the database is in use, try exiting Microsoft SQL Server Management Studio Express completely, then repeat steps 1-10.

Important: During the backup process, the XProtect Transact Server service was stopped to prevent database changes being made until you were done. Remember to start the XProtect Transact Server service again.

Remove the software

You can remove your XProtect Transact installation in the following ways:

Remove the software from Windows and the Download Manager

To remove the XProtect Transact software, follow the normal Windows procedure for uninstalling programs (see the Windows Help for more information).

If your surveillance system includes the Download Manager, you should also remove the XProtect Transact plugin from the Download Manager.

1. Open the Download Manager.
2. Hide the feature from the download web page by clearing the check boxes and then clicking **OK**. To remove the XProtect Transact software completely, click the **Remove features...** button in the Download Manager.
3. Select the XProtect Transact features you want removed from the surveillance server and click **Remove**. You will be asked to confirm the removal.
4. If your surveillance system does not include the Download Manager, you should make sure that any links to XProtect Transact are removed from the Surveillance server's download pages available to XProtect Smart Client users.

Remove the SQL Server Express database

IMPORTANT: Removing the XProtect Transact Database will also remove all content of the database.

To remove the XProtect Transact Database, including all of its content, do the following:

1. On the computer on which the XProtect Transact software is installed, select **Microsoft SQL Server 2005** entry and the follow the normal Windows procedure for uninstalling programs (see the Windows Help for more information).
2. In the **Microsoft SQL Server 2005 Uninstall** window, select **VIDEOOS_XProtect Transact:Database Engine** and click **Next**. If you cannot select **VIDEOOS_XProtect Transact:Database Engine**, select **Remove SQL Server 2005 instance components** first.
3. You are asked to confirm that you want to remove **Microsoft SQL Server 2005 (Database Engine: VIDEOOS_XProtect Transact)** from the computer. If you are sure that you want to remove the database, click the **Finish** button and follow the remaining instructions.

Get help

You can access the XProtect Transact help system by pressing F1 on your keyboard.

The help system is context-sensitive, which means it automatically displays a help topic relevant to the area you are working with. Help topic texts may contain various types of links, notably expanding drop-down links that display detailed information when you click them.

Tip: If you want to quickly collapse all texts from expanding drop-down links in a help topic, click the title of the topic on the **Contents** tab.

When you print a help topic, the topic is printed as you see it on your screen. Therefore, if a topic contains expanding drop-down links, click each required drop-down link to display the text in order for it to be included in your printout. This allows you to create targeted printouts, containing exactly the amount of information you want.

Glossary

A

ATM: Automated Teller Machine; an unattended machine that dispenses cash when a personal coded card is used. ATMs are often placed outside banks.

AVI: A popular file format for video. Files in this format carry the .avi file extension.

C

CLK: Connection License Key; a registration key required for every transaction data source that can be viewed simultaneously on the surveillance system. If you do not have system administration responsibilities, you do not have to deal with CLKs. System administrators obtain CLKs as part of the software registration process. System administrators enter the CLK during installation and can update the CLK information in the XProtect Transact Administrator application.

Codec: A technology for compressing and decompressing audio and video data, for example in an exported AVI file. MPEG and Indeo are examples of frequently used codecs.

Configuration: 1) The way a software or hardware system is set up. 2) In this software specifically: Settings determining how received transaction data are transformed into presentable data, through the use of so-called filters and masks. This is necessary because the initially received transaction data typically consists of a single long string of information, in which it can be difficult to see when individual transactions begin and end.

Control Character: Non-printing characters; typically used by receipt printers for indicating line breaks, when to cut off a till receipt, etc.

D

DirectX: A Windows extension providing advanced multimedia capabilities.

DLK: Device License Key; a registration code required for every device (IP network camera or IP video server) installed on the surveillance system. If you do not have system administration responsibilities, you do not have to deal with DLKs. System administrators obtain DLKs as part of the software registration process. System administrators use the Import DLKs... feature in the Administrator application to import DLKs into the surveillance system.

Driver: A small program used for controlling / communicating with a device.

F

Fisheye: A technology that allows creation and viewing of 360-degree panoramic images.

FPS: Frames Per Second, a measure indicating the amount of information contained in motion video. Each frame represents a still image, but when frames are displayed in succession the illusion of motion is created. The higher the FPS, the smoother the motion will appear. Note, however, that a high FPS may also lead to a large file size when video is saved.

Frame Rate: A measure indicating the amount of information contained in motion video. Typically measured in FPS (Frames Per second).

H

Host: A computer connected to a TCP/IP network. A host has its own IP address, but may -depending on network configuration - furthermore have a name (host name) in order to make it easily identifiable.

HTTP: HyperText Transfer Protocol, a standard for exchanging files across the internet. HTTP is the standard used for formatting and transmission of data on the world wide web.

I

I/O: Short for Input/Output.

IP: Internet Protocol; a protocol (standard) specifying the format and addressing scheme used for sending data packets across networks. IP is often combined with another protocol, TCP (Transmission Control Protocol). The combination, known as TCP/IP, allows data packets to be sent back and forth between two points on a network for longer periods of time, and is used when connecting computers and other devices on the internet.

IP Address: Internet Protocol address; the identifier for a computer or device on a network. Used by the TCP/IP protocol for routing data traffic to the intended destination. An IP address consists of four numbers, each between 0 and 256, separated by full stops (example: 192.168.212.2).

IPIX: A technology that allows creation and viewing of 360-degree panoramic images.

M

MAC Address: Media Access Control address, a 12-character hexadecimal number uniquely identifying each device on a network.

MPEG: A group of compression standards and file formats for digital video developed by the Moving Pictures Experts Group (MPEG). MPEG standards use so-called lossy compression as they store only the changes between frames, removing often considerable amounts of redundant information: Keyframes stored at specified intervals record the entire view of the camera, whereas the following frames record only pixels that change. This helps greatly reduce the size of MPEG files.

P

PoS: Point of Sale.

PTZ: Pan/Zoom/Tilt; a highly movable and flexible type of camera.

R

RS-232: Shot for Recommended Standard 232; a standard interface for connecting serial devices.

S

SLC: Software License Code; a product registration code required for using the surveillance system software. If you do not have system administration responsibilities, you do not have to deal with SLCs. System administrators use SLCs when installing and registering the software.

Source: A data source through which transaction data is fed to the server and onward to the client applications. Three different kinds of sources exist: Serial ports, TCP clients and Troy boxes. Sources, in turn, are connected to the actual devices on which the transaction data is generated (cash registers, ATMs, etc.).

T

TCP: Transmission Control Protocol; a protocol (standard) used for sending data packets across networks. IP is often combined with another protocol, IP (Internet Protocol). The combination, known as TCP/IP, allows data packets to be sent back and forth between two points on a network for longer periods of time, and is used when connecting computers and other devices on the internet.

Troy Box: Popular name for a Troy serial server.

V

Video Server: A device, typically a standalone device, which is able to stream video from a number of connected client cameras. Video servers contain image digitizers, making it possible to connect analog cameras to a network.

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About Milestone Systems

Founded in 1998, Milestone Systems is the global industry leader in open platform IP video management software. The XProtect platform delivers powerful surveillance that is easy to manage, reliable and proven in thousands of customer installations around the world. With support for the widest choice in network hardware and integration with other systems, XProtect provides best-in-class solutions to video enable organizations – managing risks, protecting people and assets, optimizing processes and reducing costs. Milestone software is sold through authorized and certified partners. For more information, visit:

www.milestonesys.com.