

**Milestone Systems**

XProtect® Advanced VMS

# Administrator's Getting Started Guide



The Open Platform Company



# Contents

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<b>COPYRIGHT, TRADEMARKS AND DISCLAIMER</b> .....	<b>4</b>
<b>ABOUT THIS GUIDE</b> .....	<b>5</b>
<b>PRODUCT OVERVIEW</b> .....	<b>6</b>
<b>ABOUT LICENSES</b> .....	<b>7</b>
<b>SYSTEM REQUIREMENTS</b> .....	<b>8</b>
<b>INSTALLATION OVERVIEW</b> .....	<b>9</b>
<b>INSTALLATION PRECONDITIONS</b> .....	<b>10</b>
<b>DETERMINE INSTALLATION METHOD</b> .....	<b>10</b>
<b>DETERMINE SQL SERVER TYPE</b> .....	<b>10</b>
<b>SELECT SERVICE ACCOUNT</b> .....	<b>11</b>
<b>ACTIVE DIRECTORY</b> .....	<b>11</b>
<b>CUSTOMIZE IIS</b> .....	<b>12</b>
<b>ABOUT VIRUS SCANNING</b> .....	<b>12</b>
<b>REGISTER SOFTWARE LICENSE CODE</b> .....	<b>13</b>
<b>INSTALL THE SYSTEM</b> .....	<b>14</b>
<b>INSTALL YOUR SYSTEM - SINGLE SERVER OPTION</b> .....	<b>14</b>
<b>INSTALL YOUR SYSTEM - DISTRIBUTED OPTION</b> .....	<b>15</b>
<b>INSTALL YOUR SYSTEM - CUSTOM OPTION</b> .....	<b>15</b>
<b>INSTALL THE RECORDING SERVER</b> .....	<b>17</b>
<b>INSTALLATION FOR WORKGROUPS</b> .....	<b>18</b>
<b>CONFIGURE THE SYSTEM IN MANAGEMENT CLIENT</b> .....	<b>19</b>



CHANGE SOFTWARE LICENSE CODE .....	21
<b>INSTALL CLIENTS.....</b>	<b>22</b>
INSTALL XPROTECT SMART CLIENT SILENTLY.....	22
INSTALL MILESTONE MOBILE SERVER .....	23
<b>DOWNLOAD MANAGER/DOWNLOAD WEB PAGE.....</b>	<b>24</b>
<b>PORTS USED BY THE SYSTEM .....</b>	<b>26</b>
<b>FAILOVER RECORDING SERVERS (REGULAR AND HOT STANDBY)</b> <b>.....</b>	<b>29</b>
INSTALL A FAILOVER RECORDING SERVER.....	29
SET UP AND ENABLE FAILOVER RECORDING SERVERS.....	29
ASSIGN FAILOVER RECORDING SERVERS .....	30
<b>FAILOVER MANAGEMENT SERVER.....</b>	<b>31</b>
<b>MANAGEMENT CLIENT OVERVIEW .....</b>	<b>32</b>
ABOUT LOGIN AUTHORIZATION.....	32
MANAGEMENT CLIENT WINDOW OVERVIEW .....	32
PANES OVERVIEW .....	34
MENU OVERVIEW .....	35
<b>PRODUCT COMPARISON CHART .....</b>	<b>38</b>
<b>INDEX.....</b>	<b>39</b>



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All names of people and organizations used in the examples in this text are fictitious. Any resemblance to any actual organization or person, living or dead, is purely coincidental and unintended.

This product may make use of third party software for which specific terms and conditions may apply. When that is the case, you can find more information in the file

**3rd\_party\_software\_terms\_and\_conditions.txt** located in your Milestone surveillance system installation folder.



## About this guide

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This guide briefly explains how to install your XProtect system as well as how to configure some of its basic features.

**For detailed feature descriptions, procedures for configuration and maintenance, download the XProtect Advanced VMS manual from [milestonesys.com](http://www.milestonesys.com) <http://www.milestonesys.com>.**

Your XProtect product also provides a very comprehensive built-in help system, that you can access by pressing **F1** in the Management Client.

Check our website for updates to make sure you install the most recent version of our software.



## Product overview

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This XProtect system is a fully distributed solution, designed for large multi-site and multiple server installations requiring 24/7 surveillance, with support for devices from different vendors. The solution offers centralized management of all devices, servers, and users, and empowers an extremely flexible rule system driven by schedules and events.

Your system consists of the following main elements:

- The **management server** - the center of your installation, consists of multiple servers
- One or more **recording servers**
- One or more **XProtect Management Clients**
- The **XProtect Download Manager**
- One or more **XProtect® Smart Clients**.
- One or more **XProtect Web Clients** and/or **Milestone Mobile clients** if needed

Your system also includes fully integrated Matrix functionality for distributed viewing of video from any camera on your surveillance system to any computer with XProtect Smart Client installed.

You can install your XProtect system on virtualized servers or on multiple physical servers in a distributed setup.

The system also offers the possibility of including the standalone XProtect® Smart Client – Player when you export video evidence from the XProtect Smart Client. XProtect Smart Client – Player allows recipients of video evidence (such as police officers, internal or external investigators, etc.) to browse and play back the exported recordings without having to install any software on their computers.

Your system can handle an unlimited number of cameras, servers, and users and across multiple sites if required. Your system can handle IPv4 as well as IPv6.



## About licenses

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When you purchase the system, you also purchase a certain number of licenses for the number of hardware devices, for example video encoders or cameras, that you want to run on the system. One hardware device license enables you to run as many camera, speaker, microphone, input, output and metadata devices that the hardware device consists of. It also enables you to run the hardware device multiple times on one site or multiple times on multiple sites.

You need a camera license for each enabled interconnected camera in a Milestone Interconnect setup.

If you purchase XProtect Access Control Module, you need a license for each door you want to configure for access control.

At first, when you have installed the various system components, configured the system, and added recording servers and cameras through the Management Client, the surveillance system runs on temporary licenses which need to be activated before a certain period ends. This is known as the grace period. You also need to activate licenses if you later add more cameras to the system.

When the new surveillance system is working, Milestone recommends that you activate your licenses before you make the final adjustments. If you do not activate your licenses before the grace period expires, all recording servers and cameras without activated licenses stop sending data to the surveillance system.



## System requirements

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**Important:** Your system no longer supports Microsoft® Windows® 2003 (however, you can still run/access clients from computers with Windows 2003).

**Important:** Your system no longer supports Microsoft® Windows® 32-bit OS (however, you can still run/access XProtect Web Client and XProtect Smart Client from computers with Windows 32-bit OS).

For information about the **minimum** system requirements to the various components of your system, go to the Milestone website <http://www.milestonesys.com/SystemRequirements>.



## Installation overview

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In general, your installation is handled by one common installer. Depending on your selections, this installer installs all or some of the following components:

- **Management server**, the center of your system installation. Typically installed on a dedicated server.
- **Recording server**, used for recording video feeds, communicating with cameras via video device drivers and other devices. Typically installed on one or more separate computers. The video device drivers are automatically installed along with the recording server.
- **Management Client**, used for configuration and day-to-day management of the system. Typically installed on the system administrator's computer or similar.
- **XProtect Smart Client**, feature-rich client used for accessing live and recorded video and other features from your XProtect system. Must be installed on users' computers.
- **Service channel**, enables automatic and transparent configuration communication between servers and clients in your system. By default installed on the management server but, if you need to increase performance, it can be installed on another server.
- **Event server**, handles alarms and maps. Does not have to be installed on the management server, better performance can often be achieved by installing it on another dedicated server.
- **Log server**, provides the necessary functionality for logging information from your system. By default installed on the management server but, if you need to increase performance, it can be installed on another server.

When installing the event server or log server, the URL address of the management server is expressed like this: `http://123.123.123.123`. If installing the event server or log server on the management server itself, this should be specified as `localhost`. The address can also include a port, like this: `http://123.123.123.123:2356` or `http://localhost:2356`.

The common installer saves all components on the management server's download web page. Once you have run the installer, single components can be (re-)installed from the management server download web page.

Follow these links to get through the basic installation:

- [Installation preconditions](#) (on page 10)
- [Install the system](#) (on page 14)
- [Configure the system in Management Client](#) (on page 19)
- [Install clients](#) (on page 22)
- [Install a failover recording server](#) (on page 29)



## Installation preconditions

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Read the installation preconditions before you start the actual installation.

### ***Determine installation method***

As part of the installation wizard, you must decide which installation method to use. Your selection depends on the organization needs, but has typically been determined when purchasing the system.

The options are:

- **Single Server:** installs all management server components, recording server, and XProtect Smart Client on the current computer. You only need to make a minimum of selections and all components are preselected in the un-editable component list. The SQL server is not in the list, but is also installed on the current computer.
- **Distributed:** installs only the management server components on the current computer. This means that the recording server and XProtect Smart Client are not visible in the un-editable component list. You must install the recording server, XProtect Smart Client, and SQL server on other computers.
- **Custom:** allows you to select freely among all management server components, recording server, and XProtect Smart Client to install on the current computer. By default, recording server is unselected in the component list, but you can edit this. Depending on your selections you must install the unselected components afterwards on other computers plus the SQL server.

For easy user and group management, Milestone recommends that you have Microsoft Active Directory® in place before you install your system. If you add the management server to the Active Directory after installing, you must re-install the management server, and replace users with new users defined in the Active Directory.

### ***Determine SQL server type***

Read the following information to determine which SQL server type is right for your organization:

The Microsoft SQL Server Express Edition is a "lightweight" version of a full SQL server. It is easy to install and prepare for use, and is often sufficient for systems with less than 300 cameras.

If you plan to perform frequent/regular backups of your database, Milestone recommends to use an existing SQL server on the network. You must have administrator rights on the SQL server.

For large installations (300 cameras or more), Milestone recommends using a full-scale existing SQL server on a dedicated computer on the network.

Milestone recommends that you install the database on a dedicated hard disk drive that is not used for anything else but the database. Installing the database on its own drive prevents low disk performance.



If you select **Distributed** or **Custom** as part of the installation wizard, you must decide what to do regarding the SQL server.

If you do not have an SQL server installed, the options are:

- **Install SQL Server 2008 Express on this computer.**
- **Use an existing SQL Server on the network:** When you use a dedicated computer for the SQL database on the network, the list of SQL servers that your account can access appears.

If you have an SQL server installed, the options are:

- **Use the installed Microsoft SQL Server Express database on this computer.**
- **Use an existing SQL Server on the network:** When you use a dedicated computer for the SQL database on the network, the list of SQL servers that your account can access appears.

You are also asked whether you want to create a new database, use an existing database, or overwrite an existing database.

- **Create new database:** For a new installation.
- **Use existing database:** If you are installing the database as part of upgrading to a newer version of the system, and you want to use your existing database.

## **Select service account**

As part of the installation wizard, you are asked to specify an account to run the services on the servers. The service always runs on that account when the server is running - no matter which account is used to log in:

- **This predefined account**

In a domain environment, you can choose to use a predefined network service account.

- **This account**

In a domain environment, you can select a user account from the domain.

In a workgroup environment, you must first set up an identical user account with access to the network drives on all servers in the system and then select this as your service account. The service only runs when this user is logged in.

## **Active Directory**

If you want to add users through the Active Directory service, a server with Active Directory installed, and acting as domain controller, must be available on your network.

If you do not install Active Directory, follow Installation for workgroups (on page 18) when you start the installation.



## ***Customize IIS***

If you install on Windows Server 2008, Milestone recommends that you customize the standard IIS installation:

1. In Windows **Start** menu, select **Control Panel**, then select **Programs and Features**.
2. In the **Programs and Features** window, click **Turn Windows features on or off**. This opens the **Windows Features** window (window name may be different depending on which operating system you are installing the service channel on).
3. In the **Windows Features** window, expand **Internet Information Services**.
4. Expand and select **Web Management Tools**, then expand and select **IIS 6 Management Compatibility**, then select **IIS Metabase and IIS 6 configuration compatibility**.
5. Expand and select **World Wide Web Services**, then expand and select **Application Development Features**, then select the following:
  - .NET Extensibility
  - ASP
  - ASP.NET
  - ISAPI Extensions
  - ISAPI Filters.
6. Expand and select **Security**, then select **Windows Authentication**.
7. Click **OK**.

## ***About virus scanning***

As is the case with any other database software, if an antivirus program is installed on a computer running XProtect® software, it is important that you exclude specific file types and locations, as well as certain network traffic. Without implementing these exceptions, virus scanning uses a considerable amount of system resources. On top of that, the scanning process can temporarily lock files which likely results in a disruption in the recording process or even database corruption.

When you need to perform virus scanning, do not scan Recording Server directories containing recording databases (by default c:\mediadatabase\, as well as all folders under that location). Avoid also to perform virus scanning on archive storage directories.

Create the following additional exclusions:

- File types: .blk, .idx, .pic
- C:\Program Files\Milestone or C:\Program Files (x86)\Milestone and all subdirectories.
- Exclude network scanning on the following TCP ports:



Product	TCP ports
<b>XProtect® Advanced VMS system</b>	80, 8080, 7563, 25, 21, 9993
<b>XProtect® Mobile</b>	8081
<b>XProtect® Transact</b>	9001

or

- Exclude network scanning of the following processes:

Product	Processes
<b>XProtect Advanced VMS system</b>	VideoOS.Recording.Service.exe, VideoOS.Server.Service.exe, VideoOS.Administration.exe
<b>XProtect Mobile</b>	VideoOS.MobileServer.Service.exe
<b>XProtect Transact</b>	VideoOS.Transact.TransactService.exe

Organizations may have strict guidelines regarding virus scanning, however it is important that the above locations and files are excluded from virus scanning.

## Register Software License Code

Before installing, you must have the name and location of the license file that you received from Milestone.

The Software License Code (SLC) is printed on your order confirmation. Milestone recommends that you register your SLC before installation.

- Go to the Milestone website <http://www.milestonesys.com>.
- At the bottom of the page, click **Software Registration**. Alternatively select the **SOFTWARE** tab and then **Register your software**.
- Log into the software registration system with your user name and password.  
If you have not used the software registration system before, click the **New to the system?** link for registering yourself as a user and then log in.
- In the software registration system, click the **Add SLC** link.
- Type your SLC. When asked whether you want to add the SLC to your account, click **OK**.
- Once you have added your SLC, log out.



## Install the system

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Select one of the installation options:

- Install your system - Single Server option (on page 14)
- Install your system - Distributed option (on page 15)
- Install your system - Custom option (on page 15)

### ***Install your system - Single Server option***

1. If you are installing a version downloaded from the Internet, run the `MilestoneXProtectAdvancedVMSSystemInstaller.exe` file from the location where you saved it.

Alternatively, insert the software DVD. If the dialog box does not open automatically, run the `MilestoneXProtectAdvancedVMSSystemInstaller.exe` file from the DVD.

2. The installation files unpack. Depending on your security settings, one or more Windows® security warnings appear. Accept these and the unpacking continues.
3. When done, the **Milestone XProtect Advanced VMS** dialog box appears,
  - a) Select the **Language** to use during the installation (this is **not** the language your system uses once installed, this is selected later). Click **Continue**.
  - b) In **Type the location of the license file**, enter your license file from your XProtect provider. Alternatively, use the browse function to locate it. The system verifies your license file before you can continue. Click **Continue**.
  - c) Read the *Milestone End-user License Agreement*. Select the **I accept the terms in the license agreement** check box. Optionally, select the **Sign me up for the Customer Experience Improvement Program** check box. Follow the on-screen *Read more* link for further information on this.
4. Select **Single Server**. A list of components to install appears (you cannot edit this list). Click **Continue**.
5. Select **Files location** for the program file. In **Product language**, select the language in which your XProtect product should be installed. Click **Install**.
6. The software now installs. When done, you see a list of successfully installed components. Click **Close**.

Microsoft® IIS is automatically installed during the process. Afterwards, you may be prompted to restart your computer. Do so and after restart, depending on your security settings, one or more Windows security warnings may appear. Accept these and the installation completes.

7. When done, your installation completes and you can continue with configuration, see Configuration process (see "Configure the system in Management Client" on page 19).



## ***Install your system - Distributed option***

1. If you are installing a version downloaded from the Internet, run the `MilestoneXProtectAdvancedVMSSystemInstaller.exe` file from the location where you saved it.  
  
Alternatively, insert the software DVD. If the dialog box does not open automatically, run the `MilestoneXProtectAdvancedVMSSystemInstaller.exe` file from the DVD.
2. The installation files unpack. Depending on your security settings, one or more Windows® security warnings appear. Accept these and the unpacking continues.
3. When done, the **Milestone XProtect Advanced VMS** dialog box appears,
  - a) Select the **Language** to use during the installation (this is **not** the language your system uses once installed, this is selected later). Click **Continue**.
  - b) In **Type the location of the license file**, enter your license file from your XProtect provider. Alternatively, use the browse function to locate it. The system verifies your license file before you can continue. Click **Continue**.
  - c) Read the *Milestone End-user License Agreement*. Select the **I accept the terms in the license agreement** check box. Optionally, select the **Sign me up for the Customer Experience Improvement Program** check box. Follow the on-screen *Read more* link for further information on this.
4. Select **Distributed**. A non-editable list of components to be installed appears. Click **Continue**.
5. Select the type of SQL server database you want. Also specify the name of the SQL server. Click **Continue**.
6. Select either **Create new database** or **Use existing database** and name the database. If you choose the latter, select to **Keep** or **Overwrite** existing data. Click **Continue**.
7. Select **Files location** for the program file. In **Product language**, select the language in which your XProtect product should be installed. Click **Install**.
8. The software now installs. When done, you see a list of successfully installed components. Click **Close**.  
  
Microsoft® IIS is automatically installed during the process. Afterwards, you may be prompted to restart your computer. Do so and after restart, depending on your security settings, one or more Windows security warnings may appear. Accept these and the installation completes.
9. Install the recording server on a separate computer, see *Install the recording server* (on page 17).

## ***Install your system - Custom option***

Note that with this option you can select or clear all of the components to install, except the management server. The management server is by default selected in the component list and is always installed. If one is already installed, it is updated.



1. If you are installing a version downloaded from the Internet, run the `MilestoneXProtectAdvancedVMSSystemInstaller.exe` file from the location where you saved it.  
  
Alternatively, insert the software DVD. If the dialog box does not open automatically, run the `MilestoneXProtectAdvancedVMSSystemInstaller.exe` file from the DVD.
2. The installation files unpack. Depending on your security settings, one or more Windows® security warnings appear. Accept these and the unpacking continues.
3. When done, the **Milestone XProtect Advanced VMS** dialog box appears,
  - a) Select the **Language** to use during the installation (this is **not** the language your system uses once installed, this is selected later). Click **Continue**.
  - b) In **Type the location of the license file**, enter your license file from your XProtect provider. Alternatively, use the browse function to locate it. The system verifies your license file before you can continue. Click **Continue**.
  - c) Read the *Milestone End-user License Agreement*. Select the **I accept the terms in the license agreement** check box. Optionally, select the **Sign me up for the Customer Experience Improvement Program** check box. Follow the on-screen *Read more* link for further information on this.
4. Select **Custom**. A list of components to be installed appears. Apart from the management server, all elements in the list are optional. The recording server is by default deselected, but you can change this if needed. Click **Continue**.
5. Select the type of SQL server database you want. If relevant, also specify the name of the SQL server. Click **Continue**.
6. Select either **Create new database** or **Use existing database** and name the database. If you choose the latter, select to **Keep** or **Overwrite** existing data. Click **Continue**.
7. Select either **This predefined account** or **This account** to select the service account. If needed, enter a password and confirm this. Click **Continue**.
8. If you have more than one available IIS website, you can select any of these. However, if any of your websites have HTTPS binding, select one of these. Click **Continue**.
9. Select **Files location** for the program file. In **Product language**, select the language in which your XProtect product should be installed. Click **Install**.
10. The software now installs. When done, you see a list of successfully installed components. Click **Close**.  
  
Microsoft® IIS is automatically installed during the process. Afterwards, you may be prompted to restart your computer. Do so and after restart, depending on your security settings, one or more Windows security warnings may appear. Accept these and the installation completes.
11. Depending on your selections, install the remaining servers on other computers:
  - a) Go to the Management server's download web page from Windows' **Start** menu.
  - b) Select **Programs > Milestone > Administrative Installation Page** and copy the Internet address.



- c) Log into each of the computers to install:
    - Log server.
    - Event server.
    - Management Client.
  - d) Open an Internet browser, paste the address of the Management server's download web page into the address field and download the relevant installer.
  - e) Run the installer.
12. Install the recording server on a separate computer, see Install the recording server (on page 17).

## ***Install the recording server***

Once you have installed the management server, download the separate recording server installer from the management server's web page.

See Install a failover recording server (on page 29) if you want to install a failover server.

1. On the management server, go to the Management server's download web page from Windows' **Start** menu.
2. Select **Programs > Milestone > Administrative Installation Page** and copy the Internet address.
3. Log into the computer where you want to install the recording server.
4. Open an Internet browser, paste the address of the Management server's download web page into the address field and select the Recording Server installer. Save the installer somewhere appropriate and run it from here or run it directly from the web page.
5. Select the **Language** you want to use during the installation. Click **Continue**.
6. Select:
  - Typical:** to install a recording server with default values, or
  - Custom:** to install a recording server with custom values.
7. Specify the recording server settings:
  - Name.
  - Management server address.
  - Path to save recordings, and click **Continue**.
8. If you selected **Custom**:
  - a) Specify the number of recording servers you want to install on this computer. Click **Continue**.



- b) Specify the service account. If needed, enter a password and confirm this. Click **Continue**.
9. Select **Files location** for the program file. In **Product language**, select the language in which to install your system. Click **Install**.
10. The software now installs. When done, you see a list of successfully installed components. Click **Close**.

When you have installed the recording server, you can check its state from the **Recording Server service** icon.

11. When done, your installation completes and you can continue with configuration, see Configuration process (see "Configure the system in Management Client" on page 19).

## ***Installation for workgroups***

If you do not use a domain setup with an Active Directory server, but a workgroup setup, do the following when you install:

1. Log in to Windows using a common administrator account.
2. Depending on your needs, start the management or recording server installation and click **Custom**.
3. Depending on what you selected in step 2, select to install the Management or Recording Server service using a common administrator account.
4. Finish the installation.
5. Repeat steps 1-4 to install any other systems you want to connect. They must all be installed using a common administrator account.

You cannot use this approach when **upgrading** workgroup installations, see instead Alternative upgrade for workgroup.



## Configure the system in Management Client

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Here are the tasks typically involved in setting up the system.

Even if information is presented as a checklist, a completed checklist does not in itself guarantee that the system matches the exact requirements of your organization. To make the system match the needs of your organization, Milestone recommends that you monitor and adjust the system continuously.

For example, it is a good idea to test and adjust the motion detection sensitivity settings of individual cameras under different physical conditions (day/night, windy calm weather, and so on) once the system is running. The setup of rules, which determines most of the actions performed by the system (including when to record video), is another example of configuration which to a large extent depends on your organization's needs.



<input checked="" type="checkbox"/>	You have finished the initial installation of your system. See <a href="#">Install the system</a> (on page 14).
<input checked="" type="checkbox"/>	Change the trial SLC to a permanent SLC (if required). See <a href="#">Change Software License Code</a> (on page 21).
<input checked="" type="checkbox"/>	Log in to the Management Client.
<input type="checkbox"/>	Authorize use of your system's recording servers. See <a href="#">Authorize a recording server</a> .
<input type="checkbox"/>	Verify that each recording server's storage settings meet your needs. See <a href="#">About storage and archiving</a> .
<input type="checkbox"/>	Verify that each recording server's archiving settings meets your needs. See <a href="#">Archive settings properties</a> .
<input type="checkbox"/>	Detect the hardware (cameras or video encoders) to add to each recording server. See <a href="#">Add hardware</a> .
<input type="checkbox"/>	Configure each recording server's individual cameras. See <a href="#">About camera devices</a> .
<input type="checkbox"/>	Enable storage and archiving for individual cameras or a group of cameras. This is done from the individual cameras or from the device group. See <a href="#">Attach a device or group of devices to a storage</a> .
<input type="checkbox"/>	Enable and configure devices. See <a href="#">Working with devices</a> .
<input type="checkbox"/>	The behavior of the system is to a large extent determined by rules, such as when cameras should record, when PTZ (pan-tilt-zoom) cameras should patrol, when notifications should be sent. Create rules. See <a href="#">About rules and events</a> .
<input type="checkbox"/>	Add roles to the system. See <a href="#">About roles</a> .
<input type="checkbox"/>	Add users and/or groups of users to each of the roles. See <a href="#">Assign/remove users and groups to/from roles</a> .
<input type="checkbox"/>	Activate licenses. See <a href="#">Activate licenses (online)</a> or <a href="#">Activate licenses (offline)</a> .



## Change Software License Code

If you run your installation on a trial Software License Code (SLC) during the first period, you can change it into a permanent SLC without any un- or reinstallation actions.

**Important:** This must be done locally on the management server. You **cannot** do this from the Management Client.

1. On the management server, go to the notification area of the taskbar.



2. Right-click the **Management Server** icon and select **Change License**.
3. Click **Import License**.
4. Next, select the SLC license file saved for this purpose. When done, the selected license file location is added just below the **Import License** button.
5. Click **OK** and you are now ready to register SLC. See Register Software License Code (on page 13).



## Install clients

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### *Install XProtect Smart Client silently*

You can deploy XProtect Smart Client or your surveillance software to users' computers using tools such as Microsoft Systems Management Server (SMS). Such tools let you build up databases of hardware and software on local networks. The databases can then, among other things, be used for distributing and installing software applications, such as XProtect Smart Client, over local networks.

1. Locate the Smart Client installation program (.exe) file - *MilestoneXProtectSmart Client.exe* or *MilestoneXProtectSmart Client\_x64.exe* for 32-bit and 64-bit versions respectively. You find the file in a subfolder under the folder **httpdocs**. The **httpdocs** folder is located under the folder in which your Milestone surveillance software is installed.

The path is typically:

**C:\Program Files\Milestone\XProtect Management Server\IIS\httpdocs\XProtect Smart Client Installer\[version number] [bit-version]\All Languages\en-US**

For example:

**C:\Program Files\Milestone\XProtect Management Server\IIS\httpdocs\XProtect Smart Client Installer\2014 (32-bit)\All Languages\en-US**

2. Run a silent installation using one of the following two options:

**a** Run with default parameter settings:

To run a silent installation using the default values for all parameters, start a command prompt (cmd.exe) in the directory where the installation program is located and perform the following command:

**>MilestoneXProtectSmart Client.exe --quiet**

This performs a quiet installation of the XProtect Smart Client using default values for parameters such as target directory and so on. To change the default settings, see below.

**b** Customize default parameters using an xml argument file as input:

To customize the default installation settings, provide an xml file with modified values as input. To generate the xml file with default values, open a command prompt in the directory where the installation program is located and perform the following command:

**>MilestoneXProtectSmart Client.exe --generateargsfile=[path]**

Open the generated arguments.xml file, using for example Windows Notepad, and perform any changes needed. Then, to run silent installation using these modified values, perform the following command in the same directory.

**>MilestoneXProtectSmart Client.exe --arguments=args.xml --quiet**



## ***Install Milestone Mobile server***

All XProtect system components, including the Milestone Mobile server, are available for separate download and installation from the management server's download web page (controlled by XProtect Download Manager):

1. On the management server, go to the Management server's download web page from Windows' **Start** menu, select **Programs, Milestone, Administrative Installation Page**.
2. Select the Milestone Mobile server installer. Save the installer somewhere appropriate and run it from here or run it directly from the web page.
3. Follow the instructions on the screen to install.

Once you have installed the Milestone Mobile server, you can use Milestone Mobile client and XProtect Web Client with your system. To reduce the overall use of system resources on the computer running the management server, install the Milestone Mobile server on a separate computer. For more information about how to do this, see the Milestone Mobile server manual, available on the Milestone website.

For more information about XProtect Download Manager, see Download Manager/download web page (on page 24).



## Download Manager/download web page

The management server has a built-in web page. This web page enables administrators and end users to download and install required XProtect system components from any location, locally or remotely.

Milestone XProtect Advanced VMS contains a set of administrative applications which are downloaded and installed from this page. User applications can be found on the default download page. If you want to view this page in another language, use the language menu in the top right corner.

**Recording Server Installer**  
The XProtect Recording Server has features for recording of video and audio feeds, and for communication with cameras and other devices in the surveillance system.

Recording Server Installer 6.0a (64 bit)  
All Languages

Recording Server Installer 6.0a (32 bit)  
All Languages

**Management Client Installer**  
The XProtect Management Client is the system's administration application, used for setting up hardware, recording servers, security, etc.

Management Client Installer 6.0a (64 bit)  
All Languages

Management Client Installer 6.0a (32 bit)  
All Languages

**Event Server Installer**  
The Event Server manages all event and map related communication. It stores events, image files and map configurations, and makes status information about the surveillance system available.

Event Server Installer 3.1a (64 bit)  
All Languages

Event Server Installer 3.1a (32 bit)  
All Languages

**Log Server Installer**  
The Log Server manages all system logging.

Log Server Installer v1.3a (64 bit)  
All Languages

Log Server Installer v1.3a (32 bit)  
All Languages

**Service Channel Installer**  
The Service Channel communicates configuration changes and updates, system messages, etc. between the server and clients.

Service Channel Installer 6.0a (32 bit)  
All Languages

**Mobile Server Installer**  
As part of surveillance system, the Mobile Server contains features for managing server- and administrator-based settings of the XProtect Mobile application.

Mobile Server Installer 3.1a (32 bit)  
All Languages

**Axis One-Click Connection Component**  
Secure tunnel server provided by Axis Communications

Axis One-Click Connection Component 2.05 (32 bit)  
English

The web page is capable of displaying two sets of content, both in a language version that by default matches the language of the system installation:

- One web page is targeted at **administrators**, enabling them to download and install key system components. Most often the web page is automatically loaded at the end of the management server installation and the default content is displayed. On the management server, you can access the web page from Windows' **Start** menu, select **Programs > Milestone > Administrative Installation Page**. Otherwise you can enter the URL:

*[http://\[management server address\]:\[port\]/installation/admin/](http://[management server address]:[port]/installation/admin/)*



[management server address] is the IP address or host name of the management server, and [port] is the port number which you have configured IIS to use on the management server. If not accessing the web page on the management server itself, log in with an account which has administrator rights on the management server.

- One web page is targeted at end **users**, providing them access to client applications with default configuration. On the management server, you can access the web page from Windows' **Start** menu, select **Programs > Milestone > Public Installation Page**. Otherwise you can enter the URL:

*[http://\[management server address\]:\[port\]/installation/](http://[management server address]:[port]/installation/)*

[management server address] is the IP address or host name of the management server, and [port] is the port number which you have configured IIS to use on the management server.

The two web pages have some default content so you can use them straight away after installation. As administrator however, by using the Download Manager, you can customize what should be displayed on the web pages. You can also move components between the two versions of the web page. To move a component, right-click it, and select the web page version you want to move the component to.

Even though you can control which components users can download and install in Download Manager, you cannot use it as a users' rights management tool. Such rights are determined by roles defined in the Management Client.

On the management server, you can access the XProtect Download Manager from Windows' **Start** menu, select **Programs > Milestone > XProtect Download Manager**.



## Ports used by the system

---

If nothing else is mentioned, the ports are both inbound and outbound. The port numbers are the default numbers. You can change the port numbers if needed.



Port number	Protocol	Used by	Purpose
<b>20 and 21</b>	FTP	Recording servers	Listening for event messages from devices.
<b>25</b>	SMTP	Recording servers	Listening for event messages from devices and for sending images to the surveillance system server via e-mail.
<b>80</b>	HTTP	The IIS on the management server	Running the Management Server service.
<b>443</b>	HTTPS	Management server and service channel	Authentication of basic users.
<b>554</b>	RTSP	Recording servers	Traffic that controls streaming from cameras.
<b>1024 and higher</b> (except the ports mentioned below)	HTTP	Recording servers	Outbound only. Traffic between cameras and servers.
<b>1234</b>	TCP/UDP	Event Server	Listening for generic events from external systems or devices.
<b>1235</b>	TCP	Event Server	Listening for generic events from external systems or devices.
<b>1433</b>	TCP	All processes in the system (among others management server, log server and event server)	Communication with the SQL Server.
<b>5210</b>	TCP	Recording servers and failover recording servers	Merging of databases after a failover recording server has been running.
<b>5432</b>	TCP	Recording servers	Listening for event messages from devices.
<b>7563</b>	TCP	Recording servers and XProtect Smart Client	Communication with the ImageServer interface. Also handling of PTZ camera control commands and for retrieving image streams from clients etc.



Port number	Protocol	Used by	Purpose
<b>7609</b>	HTTP	Report server and Data Collector Server service	Communication between the two. The port must always be kept open on the server running the Data Collector Server service.
<b>8080</b>	UDP	Management server	Communication between internal processes on the server.
<b>8844</b>	UDP	Failover recording servers	Communication between the servers.
<b>8990</b>	TCP	Management server	Monitoring the status of the Failover Server service.
<b>9090</b>	TCP	Event Server	Listening for analytics events from external systems or devices.
<b>9993</b>	TCP	Recording servers and management server	Communication between the two.
<b>11000</b>	TCP	Failover recording servers	Polling the state of recording servers.
<b>12345</b>	TCP	Management server and XProtect Smart Client	Communication between the system and Matrix recipients. You can change the port number in the Management Client.
<b>22331</b>	TCP	Event server, XProtect Smart Client and Management Client	Communication between the event server and the two others.
<b>52111</b>	TCP	XProtect Screen Recorder and recording servers	Communication between the two. You can change the port number in the Management Client.
<b>65101</b>	UDP	Recording servers	Listening for event notifications from the drivers.



## Failover recording servers (regular and hot standby)

---

### *Install a failover recording server*

**Important:** During the installation process, you are asked to specify a user account under which the **Failover Server service** should run. This user account must have administrator rights in the system. Note also that if you run workgroups, you should ignore the normal installation guidelines for installing recording servers and use the alternative installation method for workgroups.

Once you have installed the management server using the common installer, download the separate recording server installer from the management server's web page. As part of this installer, specify if you want to install a standard recording server or a failover recording server.

1. Go to the Management server's download web page and select the Recording Server installer. Save the installer somewhere appropriate and run it from here or run it directly from the web page.
2. Select the **Language** you want to use during the installation. Click **Continue**.
3. From the selection list, select **Failover** to install a recording server as a failover recording server.
4. Specify failover recording server properties. Click **Continue**.
5. When installing a failover recording server you must use the particular user account labeled **This account**. If needed, enter a password and confirm this. Click **Continue**.
6. Select **Files location** for the program file. In **Product language**, select the language in which to install your system. Click **Install**.
7. The software now installs. When done, you see a list of successfully installed components. Click **Close**.

When you have installed the failover recording server, you can check its state from the **Failover Server service** icon.

### *Set up and enable failover recording servers*

**Important:** If you have disabled the failover recording server, you must enable it before it can take over from the standard recording servers.

Do the following to enable a failover recording server and edit its basic properties:

1. In the **Site Navigation** pane, select **Servers > Failover Servers**. This opens a list of installed failover recording servers and failover groups.
2. In the **Overview** pane, select the required failover recording server.



3. Right-click and select **Enabled**. The failover recording server is now enabled.
4. To edit failover recording server properties, go to the **Info** tab.
5. When done, go to the **Network** tab. Here you can define the failover recording server's public IP address and more. This is relevant if you use NAT (Network Address Translation) and port forwarding. See the standard recording server's **Network** tab for more information.

To see the status of a failover recording server, hold your mouse over the icon in the system tray. A tooltip appears containing the text entered in the Description field of the failover recording server. This may help you determine which recording server the failover recording server is configured to take over from.

**Important:** The failover recording server pings the management server on a regular basis to verify that it is online and able to request and receive the configuration of the standard recording servers when needed. If you block the pinging, the failover recording server is not able to take over from the standard recording servers.

## *Assign failover recording servers*

On the **Failover** tab of a recording server, you can choose between 3 different types of failover setups:

- a No failover setup
- b A primary/secondary failover setup
- c A hot standby setup.

If you select **b** and **c**, you must select the specific server/groups. With **b**, you can also select a secondary failover group. If the recording server becomes unavailable, a failover recording server from the primary failover group takes over. If you have also selected a secondary failover group, a failover recording server from the secondary group takes over in case all failover recording servers in the primary failover group are busy. This way you only risk not having a failover solution in the rare case when all failover recording servers in the primary, as well as in the secondary, failover group are busy.

1. In the **Site Navigation** pane, select **Servers > Recording Servers**. This opens a list of recording servers.
2. In the **Overview** pane, select the wanted recording server, go to the **Failover** tab.
3. To choose failover setup type, select either **None**, **Primary failover server group/Secondary failover sever group** or **Hot standby server**. You cannot select the same failover group as both primary and secondary failover group nor select regular failover servers already part of a failover group as hot standby servers.
4. Next, click **Advanced failover settings**. This opens the **Advanced Failover Settings** window, listing all devices attached to the selected recording server. If you selected **None**, Advanced failover settings are available. Any selections are kept for later failover setups.
5. To specify the level of failover support, select **Full Support**, **Live Only** or **Disabled** for each device in the list. Click **OK**.
6. In the **Failover service communication port (TCP)** field, edit the port number if needed.



## Failover management server

---

Multiple management servers may be relevant for your organization in case you want to establish a failover management server. This is basically done by configuring management servers in a clustering setup as described in the XProtect Advanced VMS manual.



## Management Client overview

### About login authorization

If you encounter a second dialog during login, you need additional login authorization to get access to the Management Client.

When you log into the Management Client, you may be asked to for additional authorization of your login. You need a person who has the rights to authorize you to enter their credentials in the authorization login window.

If you do not know who can authorize you, ask your system administrator.

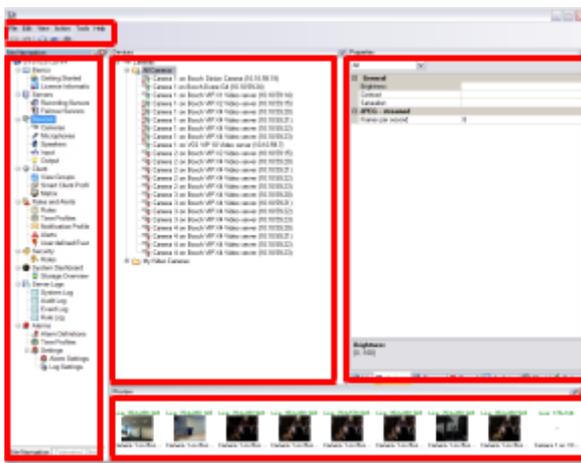
### Management Client window overview

The Management Client window is divided into panes. The number of panes and layout depend on your:

- system configuration
- task
- available functions.

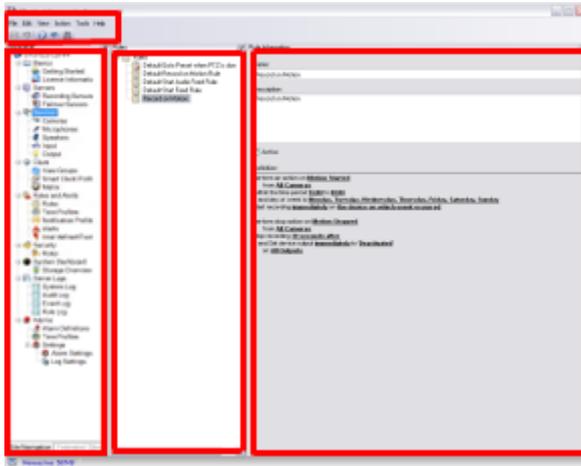
Below are some examples of typical layouts:

- When you work with recording servers and devices:

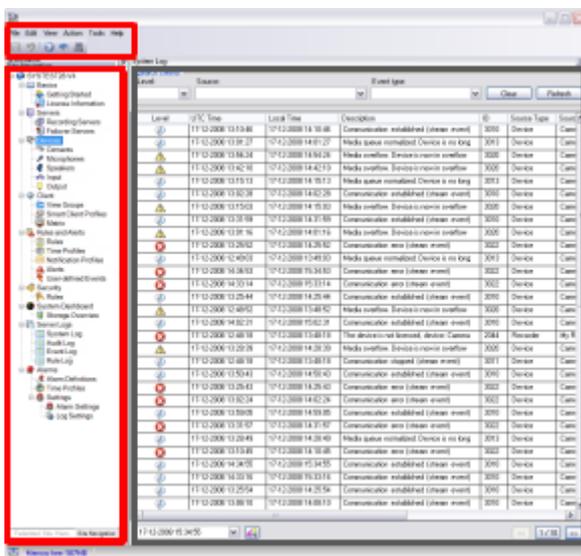




- When you work with rules, time and notification profiles, users, roles:



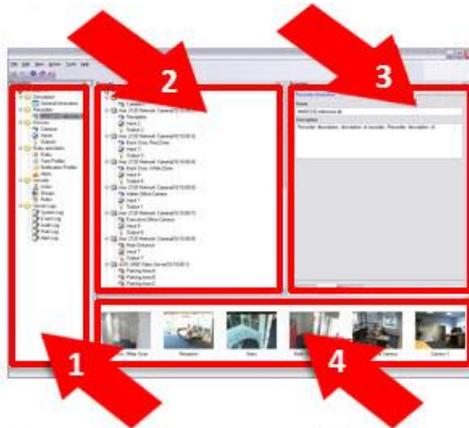
- When you view logs:





## Panes overview

The illustration outlines a typical window layout. You can customize the layout so it may look different on your computer.



1. Site Navigation pane and Federated Sites Hierarchy pane
2. Overview pane
3. Properties pane
4. Preview pane

**Site Navigation pane:** This is your main navigation element in the Management Client. It reflects the name, settings and configurations of the site that you have logged in to. The site name is visible at the top of the pane. The features are grouped into categories that reflect the functionality of the software.

**Federated Site Hierarchy pane:** This is your navigation element that displays Milestone Federated Architecture sites and their parent/child links.

The parent server that you are logged in to, your home site, is always at the top. If you adopt its point of view, you can view all its linked children and downwards in the parent/child hierarchy.

**Overview pane:** Provides an overview of the element you have selected in the **Site Navigation** pane, for example a detailed list. When you select an element in the **Overview** pane, it typically displays the properties in the **Properties** pane. When you right-click elements in the **Overview** pane you get access to the management features.

**Properties pane:** Displays properties of the element selected in the **Overview** pane. Often, properties are displayed across a number of tabs:



Example of properties displayed on tabs



**Preview pane:** The **Preview** pane appears when you work with recording servers and devices. It shows preview images from the selected cameras or displays information about the state of the device. The example shows a camera preview image with information about the resolution and data rate of the camera's live stream:

Live: 640x480 88kB

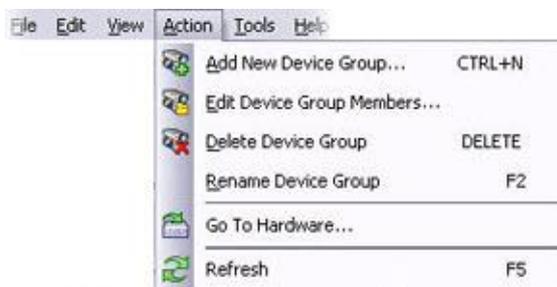


Camera 5

By default, the information shown with the camera preview images concerns live streams. This is displayed in green text above the preview. If you want recording stream information instead (red text), select **View > Show Recording Streams** in the menu.

Performance can be affected if the **Preview** pane displays preview images from many cameras at a high frame rate. To control the number of preview images, and their frame rate, select **Options > General** in the menu.

## Menu overview



Example only - some menus change depending on context.

### File menu

You can save changes to the configuration and exit the application. You can also back up your configuration, see About backing up and restoring your system configuration.

### Edit menu

You can undo changes.



## ***View menu***

Name	Description
<b>Reset Application Layout</b>	Reset the layout of the different panes in the Management Client to their default settings.
<b>Preview Window</b>	Toggle the <b>Preview</b> pane on and off when working with recording servers and devices.
<b>Show Recording Streams</b>	By default, the information shown with preview images in the <b>Preview</b> pane concerns live streams of the cameras. If you want information about recording streams instead, select <b>Show Recording Streams</b> .
<b>Federated Site Hierarchy</b>	By default, the <b>Federated Site Hierarchy</b> pane is enabled.
<b>Site Navigation</b>	By default, the <b>Site Navigation</b> pane is enabled.

## ***Action menu***

The content of the **Action** menu differs depending on the element you have selected in the **Site Navigation** pane. The actions you can choose from are the same as when you right-click the element. The elements are described in Management Client elements.



Name	Description
<b>Refresh</b>	Is always available and reloads the requested information from the management server.

### ***Tools menu***

Name	Description
<b>Registered Services</b>	Manage registered services. See About the service channel.
<b>Enterprise Servers</b>	Add XProtect Enterprise servers to your system and manage the integration of the added servers. See About XProtect Enterprise servers.  You can also use the feature to migrate from an XProtect Enterprise system to XProtect Corporate. This is described in a separate document.  Only supported if your system: - runs XProtect Corporate - uses IPv4 - works with XProtect Enterprise servers running XProtect Enterprise version 6.0 and up
<b>Effective Roles</b>	View all roles of a selected user or group. Only relevant if you run XProtect Corporate.
<b>Options</b>	Opens the Options dialog box, which lets you define and edit global system settings. Only relevant if you run XProtect Corporate.

### ***Help menu***

You can access the help system and information about the version of the Management Client.



## Product comparison chart

XProtect Advanced VMS comes in two versions:

- XProtect Expert
- XProtect Corporate

The complete feature list is available on the product overview page on the Milestone website <http://www.milestonesys.com/Software/XProtect-IP-Video-Surveillance/xprotectproducts/>.

Below is a list of the differences between the two products:

Name	XProtect Expert	XProtect Corporate
Milestone Interconnect	Remote site	Central/remote site
Milestone Federated Architecture	Remote site	Central/remote site
Recording server failover and hot stand-by recording server	-	✓
Remote connect services	-	✓
Multi-stage video storage	XProtect Corporate database Live databases + 1 archive	XProtect Corporate database Live databases + unlimited archives
Reduce frame rate (grooming)	-	✓
Video data encryption (recording server)	-	✓
Database signing (recording server)	-	✓
Time controlled user access rights	-	✓
Bookmark function	Manual only	Manual and rule-based
Overall security	Client user rights	Client user rights/ administrator user rights
XProtect Management Client profiles	-	✓
XProtect Smart Client profiles	3	Unlimited
XProtect Smart Wall	optional	✓
Evidence lock	-	✓



# Index

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## A

- About licenses • 7
- About login authorization • 31
- About this guide • 5
- About virus scanning • 12
- Active Directory • 11
- Assign failover recording servers • 29

## C

- Change Software License Code • 19, 20
- Configure the system in Management Client • 9, 14, 18, 19
- Copyright, trademarks and disclaimer • 4
- Customize IIS • 12

## D

- Determine installation method • 10
- Determine SQL server type • 10
- Download Manager/download web page • 22, 23

## F

- Failover management server • 30
- Failover recording servers (regular and hot standby) • 28

## I

- Install a failover recording server • 9, 17, 28
- Install clients • 9, 21
- Install Milestone Mobile server • 22
- Install the recording server • 15, 17

- Install the system • 9, 14, 19
- Install XProtect Smart Client silently • 21
- Install your system - Custom option • 14, 15
- Install your system - Distributed option • 14, 15
- Install your system - Single Server option • 14
- Installation for workgroups • 11, 18
- Installation overview • 9
- Installation preconditions • 9, 10

## M

- Management Client overview • 31
- Management Client window overview • 31
- Menu overview • 34

## P

- Panes overview • 33
- Ports used by the system • 25
- Product comparison chart • 37
- Product overview • 6

## R

- Register Software License Code • 13, 20

## S

- Select service account • 11
- Set up and enable failover recording servers • 28
- System requirements • 8



#### **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](http://www.milestonesys.com).