

# CoolSign

## CoolSign Digital Media Network Installation Manual

HVS-ID-INS-CS-5.1, Issue 01

**Haivision**

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CoolSign is covered by U.S. Patent Number 7,136,906 “System for Electronically Distributing, Displaying and Controlling the Play Scheduling of Advertising and Other Communicative Media” and Patent Number 7,228,341 “Method and System for Electronically Distributing, Displaying and Controlling Advertising and Other Communicative Media.” CoolSign may also be covered by one or more pending United States patent applications.

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# About This Content

Welcome to the CoolSign Digital Media Network 5.1 Installation Manual. This documentation describes how to install, configure, and troubleshoot the CoolSign software.

## Topics Discussed

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## About Haivision™

Haivision is a global leader in delivering advanced video networking, digital signage, and IP video distribution solutions. Haivision offers complete end-to-end technology for video, graphics, and metadata to help customers build, manage and distribute their media content to users throughout an organization or across the Internet. Haivision has specific expertise in the enterprise, education, medical/healthcare, and federal/military markets.

Haivision acquired the assets of CS Software Holdings, LLC, including the CoolSign product technology, in November, 2010. This acquisition brought together Haivision's IP video streaming capabilities and CoolSign's feature-rich signage solution, with its sophisticated technology to control, schedule, distribute, display, and monitor digital media.

Haivision is based in Montreal and Chicago, with technical centers in Beaverton, Oregon; Austin, Texas; and Hamburg, Germany.

## Audience

This installation manual is focused towards an end-user, such as a content creator or network system administrator, who has a basic knowledge of telecommunications equipment, and IP/LAN networking concepts and terminology.

Related Topics...

[Reliability of Information](#) on page 9

## Reliability of Information

The information contained in this installation manual has been carefully checked and is believed to be entirely reliable. However, as Haivision improves the reliability, function, and design of its products, the possibility exists that this installation manual may not remain current.

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Related Topics...

[Obtaining Documentation](#) on page 9

## Obtaining Documentation

You can download product documentation through the Haivision Download Center at <http://www.haivision.com/download-center/>.



### NOTE

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- CoolSign Network Server Quick Start Guide
- CoolSign Stand-Alone Player Quick Start Guide
- CoolSign Personal Demo Server Quick Start Guide
- CoolSign Player Quick Start Guide
- CoolSign Installation Manual
- CoolSign Network Manager User's Guide
- CoolSign Content Creator User's Guide
- CoolSign Release Notes
- CoolSign Datasheet (contains hardware specifications)

Related Topics...

[Service Support](#) on page 10

## Service Support

For more information regarding service programs, training courses, or for assistance with your support requirements; contact Haivision Technical Support using our Support Portal at: <http://www.haivision.com/support-portal-home/>.

Related Topics...

[Reliability of Information](#) on page 9

## Document Conventions

The following conventions are used throughout this document.

### Typographic Conventions and Elements

<i>Italics</i>	Used for the introduction of new terminology or for words being used in a different context, and for placeholder or variable text.
<b>Bold</b>	Used for strong emphasis.
Monospaced	Used for code examples, command names, options, responses, error messages, and to indicate text that you enter.
Button	Indicates a button or some object that you click.
>	In addition to a math symbol, it is used to indicate a submenu. For instance, <b>File</b> > <b>New</b> where you would select the <b>New</b> option from the File menu.
...	Indicates that text is being omitted for brevity.

## Admonition Elements

The following admonition elements are used to advise and counsel that special actions should be taken.



### TIP

Indicates highlights, suggestions, or helpful hints.

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### NOTE

Indicates a note containing special instructions or information that may apply only in special cases.

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### IMPORTANT

Indicates an emphasized note. It provides information that you should be particularly aware of in order to complete a task and that should not be disregarded. IMPORTANT is typically used to prevent loss of data.

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### CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in damage to data or equipment, or minor to moderate injury. It may also be used to alert against unsafe practices.

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# 1. Introduction

Thank you for choosing CoolSign, the expert's choice in digital signage software. Before installing, configuring, and using the CoolSign software. Please read and understand the information provided in this installation manual. This manual:

- Provides basic definitions for the various software components that constitute a CoolSign digital signage network.
- Provides insight into best practices in designing your CoolSign network.
- Prepares you for the actual installation of the CoolSign software.

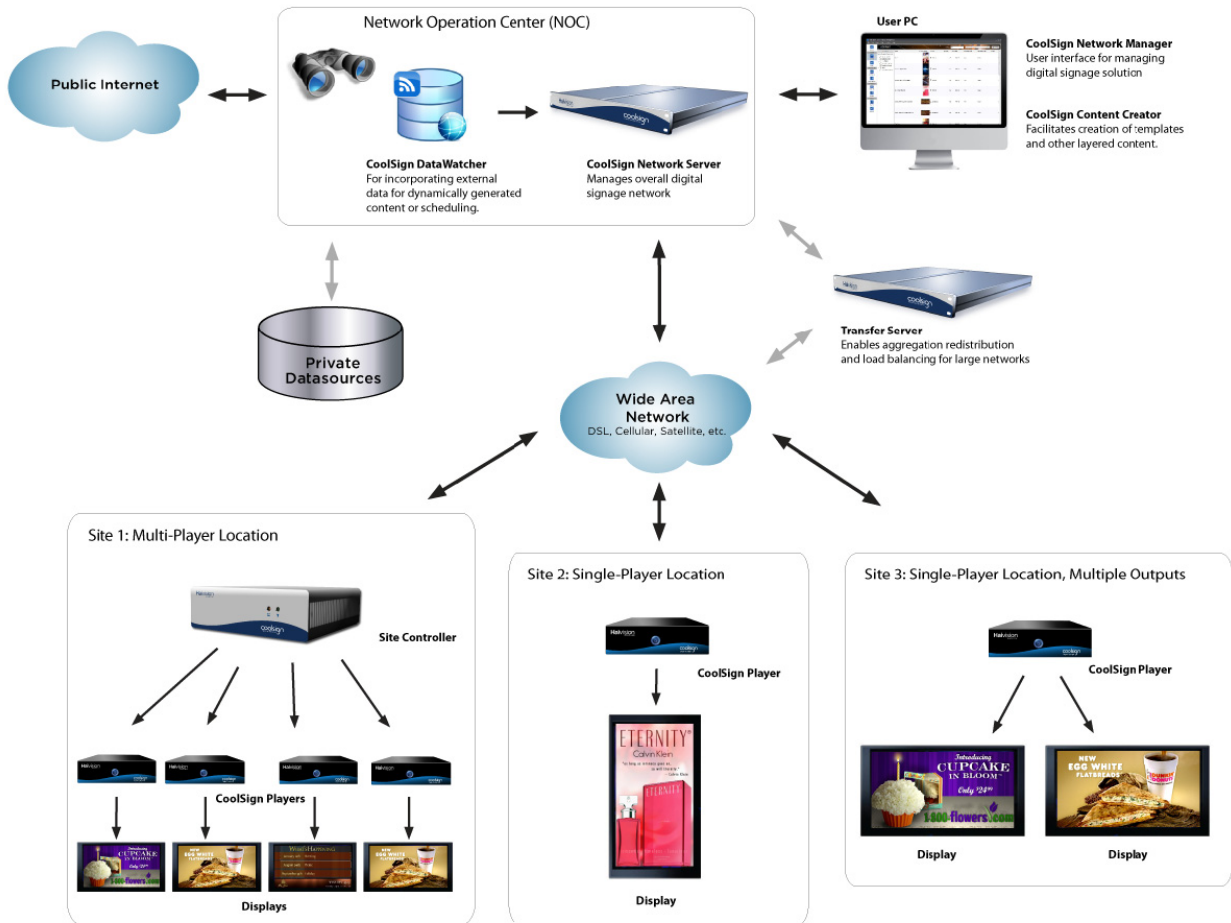
## Planning your Installation

When designing your CoolSign network, you will want to consider the network components (hardware and software) and the user roles. All of these can play a factor in determining your network topology.



## CoolSign Network Components

The CoolSign platform includes the following set of network devices and software programs, each of which plays a distinct role in managing and playing back content on your digital signage network.



## Hardware

The hardware makes up your physical network. A basic network can consist of (1) a Network Controller, (2) one or more Transfer Nodes, and (3) one or more Standalone Players.

### Network Controller

A CoolSign Network Controller serves as the central repository for all data related to a CoolSign network. All content, schedules, logs, and other data are stored on the network controller.

Any CoolSign application that needs to display or modify information about the network must first connect to the network controller. All transfer nodes and players also connect to the network controller to receive their content and scheduling instructions as well as to send status and log information.



#### NOTE

Every CoolSign network must have a single network controller.

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### Transfer Node

CoolSign Transfer Nodes act as intermediate data hubs in a CoolSign network. These nodes allow the aggregation of both data and network connections to provide scalability and load balancing in a large network. A transfer node automatically caches the content and objects sent to its child nodes, and aggregates log and status information sent from the child nodes.

A Transfer node connects to the Network Controller or to another Transfer node. For locations with multiple CoolSign players, you can use a transfer node to provide a single WAN access point. Networked Player

A CoolSign Player (CP) is a network service that displays scheduled CoolSign content on one or more connected display devices. Players must connect to the network controller either directly or through a transfer node to download content and receive schedules for playback.

### Standalone Player

A CoolSign Standalone Player (SAP) is a special configuration of the CoolSign player that has a built-in CoolSign network controller. You can still import content and create channels over the network on a standalone player, but you can only monitor and manage one standalone player at a time.

## Software

A number of software tools are provided to help you create and administer your CoolSign network, as well as to manage the content being displayed.

### CoolSign Network Manager

CoolSign Network Manager (CNM) acts as a window into the CoolSign network controller, and provides a Graphical User Interface (GUI) to manage the overall CoolSign network. You use the CNM to configure the signage network, handle content insertion and deletions, and access reports and status notifications.

### CoolSign Network Manager Lite

The CoolSign Network Manager (CNM) includes an easy-to-use, web-based interface, or *CNM Lite*, that allows:

- Designated users a limited set of CoolSign functionality via their browsers.
- Network Administrators sophisticated management of CNM Lite users.

Designed to access the CoolSign network from any PC platform, mobile device, or tablet; users can simply open their browser and perform basic content insertion/deletion and scheduling tasks. Limited to 25 Players and 50 channels per CNM Lite account.

### Data Watcher

CoolSign Data Watcher module enables you to import external data sources to populate data tables. The imported data can be central or local and is used to display dynamic content or to trigger specific content schedules. Examples of external data sources are URLs, RSS feeds, text files, and so forth.

The Data Watcher requires that the Network Controller has been installed. The Data Watcher is a separate installation:

- **Data Watcher Service** — installs on a player node, transfer node, or network controller where the CoolSign Agent is running.
- **Data Watcher Editor** — installs on a system running the CoolSign Network Manager (CNM).

### Content Wizard

CoolSign Content Wizard enables you to prepare standard media for insertion into the CoolSign network. Content elements, such as video and still images, are processed in the content wizard to provide user-maintained metadata (such as transition types, orientation and thumbnails) before being published into the CoolSign network.

### Content Creator

CoolSign Content Creator is a design tool that enables you to create *dynamic content*, or content that changes based upon user-defined parameters, that can pull data from data tables within the CoolSign network controller.

## Users (Roles)

In general, there are three types of users who access a CoolSign network:

- CoolSign Administrator
- Content Administrator
- Content Designer



### NOTE

Individuals who are serving in multiple roles should install all packages required for each role.

---

## CoolSign Administrator

A CoolSign Administrator can perform a number of different operations, including but not limited to scheduling content for playback, running reports to monitor playback, configuring CoolSign network nodes, or administering user rights for other administrators on the network. For users in this role, the following packages should be installed:

- **CoolSign Network Manager (CNM)**—Required for full access into the CoolSign network.
- **Content Wizard**—Required if content from a content designer is not provided in the CoolSign format (in other words, not prepared using Content Creator).

## Content Administrator

A Content Administrator can perform a limited set of tasks. Once a CoolSign Administrator has established permissions and assigned channels, the Content Administrator can manage the channels, upload and place content on the channels, and perform basic scheduling (such as, in-order and random). The Content Administrator role is usually performed by an office administrator, charge nurse, or entry-level user who accesses the network using the web-based interface, CNM Lite, from a browser on their computer, tablet, or mobile device.

## Content Designer

A content designer is someone who prepares content for distribution on the CoolSign network, usually a graphic/video artist. For users that perform this role, the following packages should be installed:

- **Content Wizard**—Required for anyone who prepares any content that is not developed in Content Creator for use on the CoolSign network.
- **Content Creator**—Optional, for those developing dynamic content for the CoolSign network.

## CoolSign Components and Configuration

The previous section introduced the components of a CoolSign network (hardware and software) and the typical user roles. This section discusses where each of those components resides in the network. There are two main classes of CoolSign software components:

- User-Controlled Software
- Back-End Services and Playback Software

### User-Controlled Software

The supported user control software and tools include: CoolSign Network Manager, Content Creator, Offline Updater, and DataWatcher. Install these user control software and tools on a computer that can connect via your network to the network controller using one of the following 32-bit or 64-bit operating systems: Microsoft Windows<sup>®</sup> 7, Microsoft Windows 8, Microsoft Windows Server<sup>®</sup> 2008, or Microsoft Windows Server<sup>®</sup> 2012 R2.

### Back-End Services and Playback Software

In addition to the content-related roles previously discussed, the CoolSign network also includes PC nodes that perform back-end services and manage playback such as content distribution, external data collection, and content playback.

#### Content Distribution

In a CoolSign network, two types of nodes are dedicated to content distribution: the network controller and the transfer node(s). These nodes act in a dual role, serving as repositories for content and content rules within the CoolSign network, and also as distributors of the content and content rules to the individual end-points on the network.

- **Network Controller**—The network controller is the main server on a CoolSign network. It stores all content and content rules and then distributes it to the appropriate child nodes on its network.
- **Transfer Node**—Transfer nodes act as intermediary data hubs, distributing content and content rules from the network controller to the individual player nodes on the network. A transfer node is installed as a separate machine between player nodes and the CoolSign network controller.

#### External Data Collection

If you're importing external data to populate dynamic content pieces, or using external data points to trigger playback of content, you can create instances of the Data Watcher to collect the necessary data and distribute it accordingly. There are two types of Data Watcher modules:

- **Central Data Watcher**—The central data watcher service can run either on the same machine as the network controller or on a separate machine on the network. Data

collected from a central data watcher instance is collected by the network controller and then distributed to the appropriate child nodes on the network.

- **Local Data Watcher**—To provide immediate data transfers, you can install localized data watcher services on transfer nodes or player nodes. Data from a local data watcher instance is collected by the transfer node or player node and then distributed to the appropriate child nodes on the network. When a local data watcher instance runs on a player node, only that node is aware of the collected data.

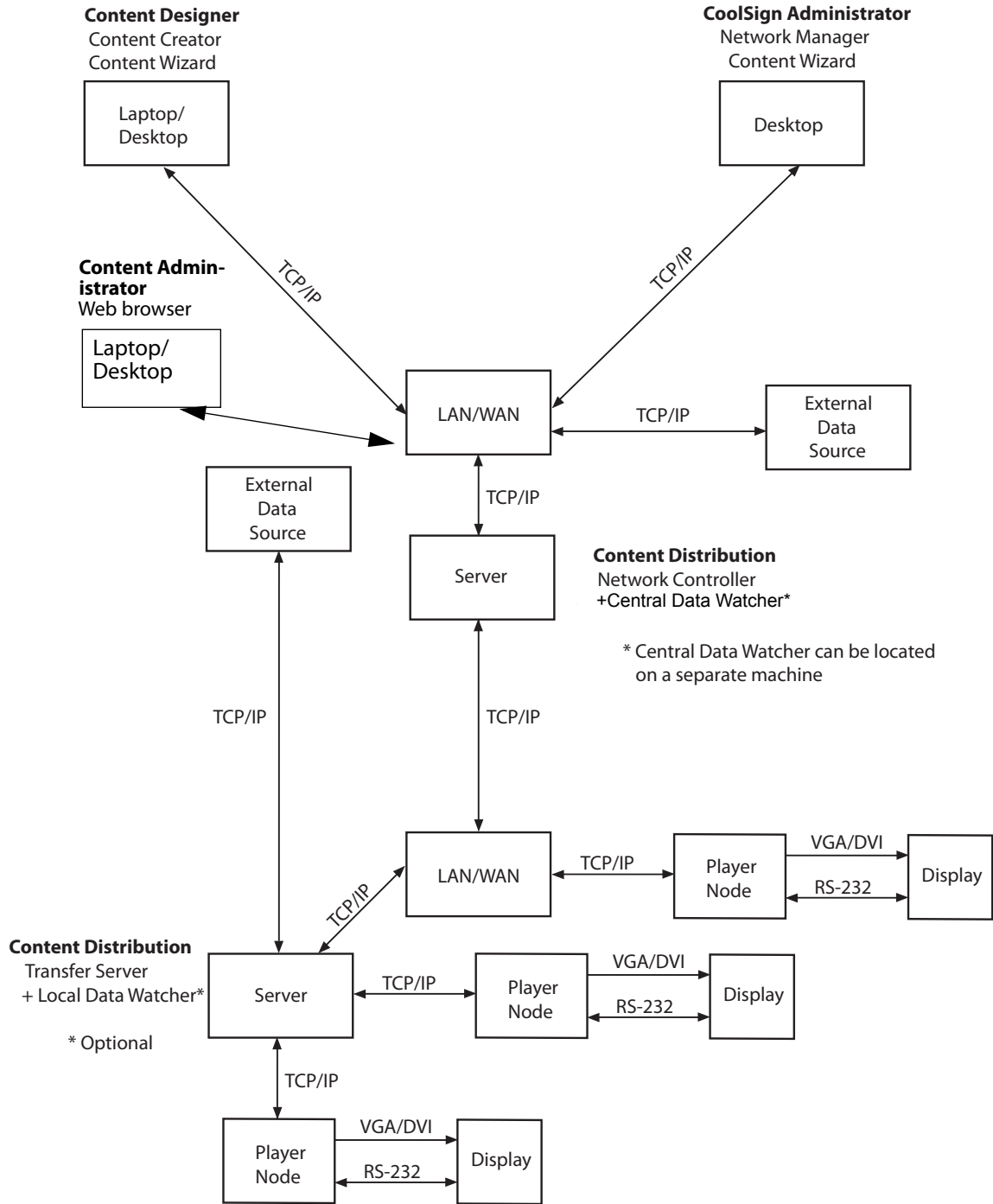
### Content Playback

Player nodes perform content playback. A player node normally has only the player node software and, if required, the local data watcher software running on its system.

### CoolSign Distributed Network Architecture

The following diagram illustrates an example of a recommended topology for a distributed CoolSign network.

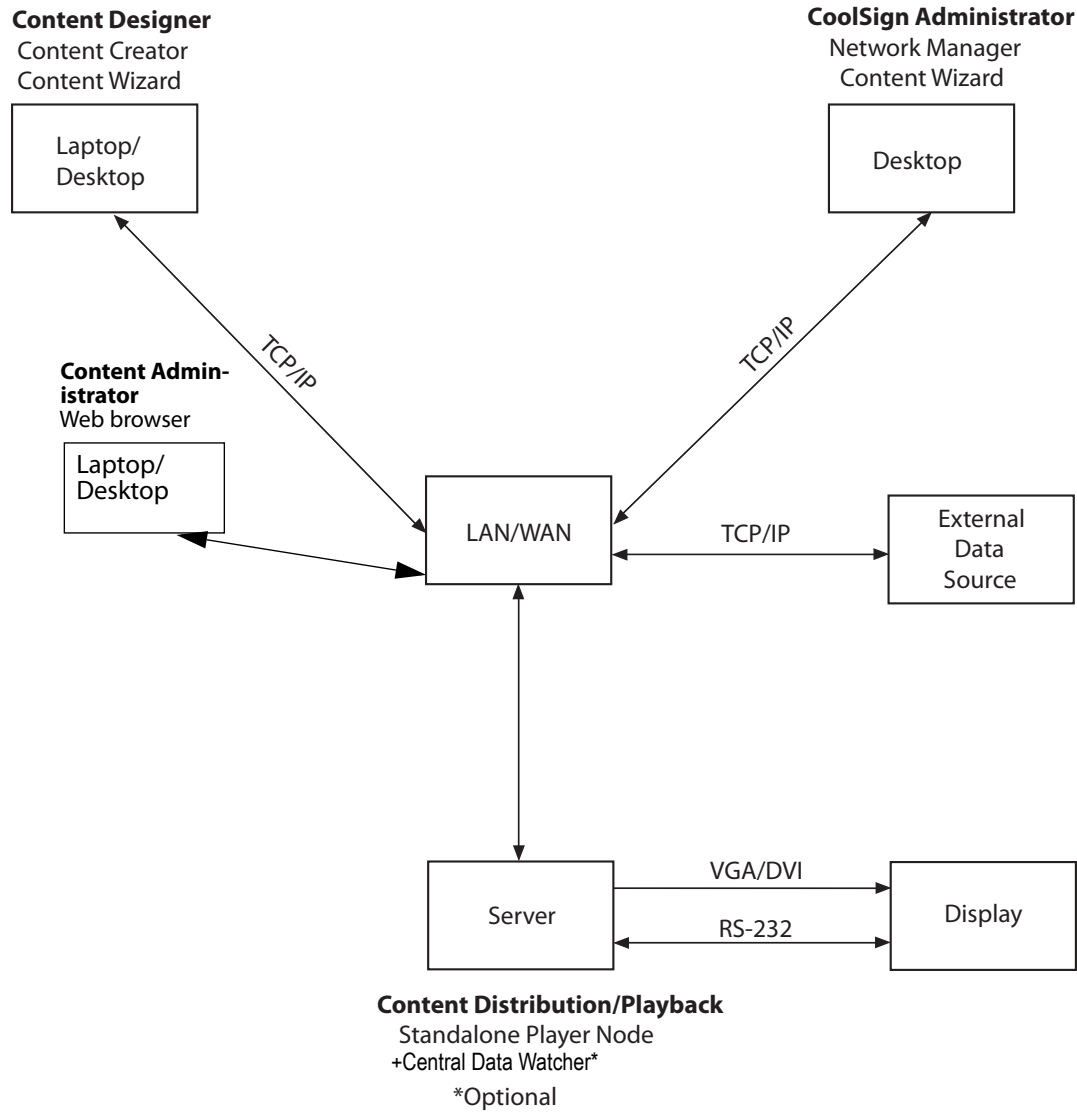
Figure 2 Sample Topology for a CoolSign Distributed Network



### CoolSign Standalone Network Architecture by Roles

The following diagram illustrates an example of a recommended topology for a standalone CoolSign installation.

Figure 3 Sample CoolSign Stand-Alone Installation





## Preparing to Install CoolSign

Once you've determined the correct network topology for your specific CoolSign installation, you should ensure that you have the appropriate hardware and product licenses to run each of the individual components.

### Hardware Requirements

Table 3-1 General Hardware Specifications

Specification	CoolSign Server			CoolSign Display Engine
	Base	Mid-Range	Premium	
Operating System	Windows Server 2008 R2	Windows Server 2008/2012 R2 64-Bit	Windows Server 2008/2012 R2 64-Bit	Windows 7 Embedded
Processor	Intel Dual Core Xeon 3 GHz	Intel Quad Core Xeon 3 GHz	3 x Intel Quad Core Xeon 3 GHz	i3 NUC 1.8 GHz
RAM	4 GB +	8 GB +	12 GB +	4 GB
Hard Drive	SATA RAID 5, 4x80 GB, 10KRPM	SATA RAID 5, 4x80 GB, 10KRPM	SATA RAID 5, 4x160 GB, 10KRPM	60 GB mSATA SSD
Graphics	—	—	—	Intel HD Graphics 4000 with 128 MB of onboard RAM — 2x HDMI ports
LAN	—	—	—	10/100 Mbps or Gigabit Ethernet



**NOTE**

The latest hardware and software recommendations for CoolSign network controllers, transfer nodes, and players are provided on the CoolSign datasheet, available at: <http://www.haivision.com/products/digital-signage/coolsign>.



---

**IMPORTANT**

As of CoolSign version 5.1, hexadecimal RS-232 control commands are supported.

---

## Software Requirements

The following software requirements are the prerequisites for a CoolSign installation:

- An appropriate operating system (32-bit or 64-bit operating systems: Microsoft Windows<sup>®</sup> 7, Microsoft Windows<sup>®</sup> 8.1<sup>1</sup>, Microsoft Windows Server<sup>®</sup> 2008 R2, or Microsoft Windows Server<sup>®</sup> 2012 R2).
- Microsoft .NET 4.0 Framework (available from the Haivision download center).
- Microsoft .NET3.5 (needed for Windows 8.1 only)
- Microsoft Silverlight
- Microsoft DirectX 9.0c
- Adobe Flash
- Microsoft Internet Explorer v7 or later<sup>2</sup>
- Microsoft Windows Media Player (CoolSign uses the application's WM9 Codecs)<sup>2</sup>

The latest hardware and software recommendations for CoolSign network controllers, transfer nodes, and players are provided on the CoolSign datasheet, available at:

<http://www.haivision.com/products/digital-signage/coolsign>

## Licensing Requirements

You need to fill out the CoolSign License Request Form to request the appropriate licenses. For more details, see [“Requesting CoolSign Licenses”](#) on page 23. The following product licenses are available from Haivision:

- **Network Controller (NC):**
  - **Enterprise Class Server**—Has no built-in limits on player or CNM/client counts.

- 
1. As of version 5.1, the CoolSign applications can be installed under Microsoft Windows 8.1. The DataWatcher is the only application that can be installed on any of the three CoolSign node types (Network Controller node, Transfer node, CoolSign Player). Authoring client applications such as the Content Creator and the Content Wizard should not be installed on any CoolSign nodes. The Network Manager application can be installed on a Network Controller or Transfer node (a dedicated Windows 7/8 PC is recommended).
  2. Typically included in the installation of the operating system. If you customized your operating system, you may need to install this application.

- **Multi-tenant Server**—Enables the use of domains and sub-domains to support multi-tenancy.
- **Transfer Node** (No license required)
- **CS Players (CP):**
  - **Stand-alone Player**—Enterprise-class server plus one player.
  - **Networked Players**—Player access licenses.

The CoolSign licensing model requires MAC addresses to create unique license keys for each installation. The number of MAC addresses needed is determined by the version of CoolSign, and by the software components needed.

### Acquiring MAC Addresses

For CoolSign software release v5.1 and higher, the following software components require you to submit MAC addresses:

- Network Controller
- Standalone Player Nodes

To determine the MAC address of Windows PC, do the following:

1. Click the **START MENU**.
2. Type `cmd` into the **Search** box, then click **Enter**.
3. At the prompt, enter:  
`ipconfig /all | more`
4. Once the command executes, locate the line under your specific network card that reads something similar to the following:  
Physical Address. . . . . : 00-CC-44-79-C3-AA  
This is the MAC address.

### Requesting CoolSign Licenses

Once you've collected the appropriate MAC addresses, you need to complete the CoolSign License Request form. You can access this request form at:

<http://www.haivision.com/eform/submit/licence-request>



#### NOTE

If this is your first visit to this site, you must register and setup an account to get access to the request form.

---

The form requires the following information:

- Reseller Company Information (if applicable)

- End-User Company and Contact Information
- Purchase Order Number (if applicable)
- Version of CoolSign Software
- Total number of Player Nodes
- MAC addresses as required



### IMPORTANT

When upgrading an existing CoolSign network, please be sure to reference the most recent previous order for the CoolSign network to be upgraded, and include the total number of CoolSign player nodes to be licensed post-upgrade.

For example, if you are adding five player nodes to an existing network controller that is currently servicing 30 player nodes, you would enter 35 player nodes in the appropriate field. If this information is not readily available, contact Haivision technical support for assistance.



### NOTE

All CoolSign players and servers are shipped with a label identifying the version of the software installed at factory. This information will help you with the installation and/or upgrade of software on your CoolSign network.

Once you've completed the CoolSign License Request form, submit it to the parties listed on the form.

## Downloading CoolSign Software

To download CoolSign software requires a Haivision account with a valid user name and password. If you do not have an account, you can request one when you access the site.

Once the request is submitted and processed, you'll receive your account credentials via e-mail.

To download CoolSign software, do the following:

1. Open your web browser and enter the following URL:  
<http://www.haivision.com/support/download-center>
2. Login with your CoolSign account credentials (e-mail address and password).
3. Under KULABYTE AND COOLSIGN SOFTWARE, download the minimum required software packages:
  - CoolSign Node Installer

- Network Manager Installer
  - DirectX9.0c
  - Microsoft .NET4 Framework Update Package
  - Microsoft .NET3.5 Framework Update Package (needed in Win 8.1 PN installation)
4. Download additional packages as needed. For example, if you want to create and update dynamic content, download the following:
    - Content Wizard Installer
    - Content Creator Installer
    - DataWatcher Service Setup
    - DataWatcher Editor Installer
  5. Once the software packages are downloaded please refer to the rest of this installation document and the *CoolSign Network Manager User's Guide* for more detailed information.

## Preparing a PC for CoolSign Installation



### IMPORTANT

In most cases, you should dedicate a PC to running only the CoolSign software. Running non-CoolSign software on a CoolSign node (especially a player) can result in poor performance or other issues and is not recommended or supported.



### NOTE

This installation guide assumes that you are working with a freshly installed Microsoft Windows 8, or Microsoft Windows 7 operating system.

Before running the CoolSign Node installer, you should follow these steps as necessary:

1. Install required 3rd-party software which includes:
  - Microsoft DirectX 9.0C, July 2007 or later (for player nodes only, available from our download center)
  - Microsoft WMP9 Codecs (for player nodes only, available from Microsoft)
  - Microsoft .NET Framework 4 (make sure you see both “Client Profile” and “Extended” in the program list)
  - Microsoft .NET Framework 3.5 (needed in Win 8.1 PN installation)
  - Latest Microsoft Windows Operating System updates.

2. Install the latest video drivers for the video card make and model (see the manufacturer's web site for details).
3. Install the latest audio drivers for the audio card make and model (see the manufacturer's web site for details).
4. Disable the Windows firewall.
5. Disable the Windows Automatic Update application.
6. Disable any antivirus software.
7. Ensure the Windows user account has FULL system administrator rights. Specifically, the Windows account in use must belong ONLY to the Administrators Group.
8. Download the latest release version of ALL necessary CoolSign installers and applications (see "[Downloading CoolSign Software](#)" on page 24).
9. Install Microsoft .NET 2.0 (ONLY required when installing the Network Controller (NC) on Windows XP).
10. Install Microsoft Internet Explorer version 7 or higher.

## About the Installation Process

CoolSign software components should be installed in a specific order that depends on the type of installation. The remainder of this manual describes the procedures for installing each of the software components.



### NOTE

Although you can install a complete CoolSign environment on just one computer, it is recommended that you use two computers to better understand the separate components and their functions.

---

## Installing a Distributed CoolSign Network

To install a distributed CoolSign network:

1. Install a CoolSign Network Controller on the computer that will be used to manage/administer the CoolSign network.



### IMPORTANT

If you're connecting to a Microsoft SQL server, you **MUST** install the database before you install the network controller.

---



### NOTE

If there is an existing Microsoft SQL Server Express 2005 installed, the node Installer tries to create a CoolSign database using integrated security. If the database cannot be accessed, it prompts you for valid credentials.

---

2. Install CoolSign Network Manager on the same computer as the CoolSign Network Controller.
3. Connect to the network controller by starting Network Manager and then import the appropriate license keys.
4. Install the Microsoft .NET4 Framework Update Package on the Network Controller.



### NOTE

All CoolSign nodes require this package and should receive it via the software inheritance mechanism.

---

5. Before installing a transfer node or networked player, turn off Windows time synchronization on *each* player as follows:
  - Double-click on the time in the Taskbar.
  - When the Date and Time Properties dialog appears, select the [Internet Time](#) tab and then uncheck the box labeled “Automatically synchronize with an Internet time server.”
  - Click OK.
6. Install a CoolSign Transfer Node on a separate computer (no license required).
7. Install a CoolSign Networked Player on a separate computer. Install the CoolSign Content Wizard.
8. Install CoolSign Local or Central Data Watcher (if necessary). For more information, see [“Installing the CoolSign Data Watcher”](#) on page 49.

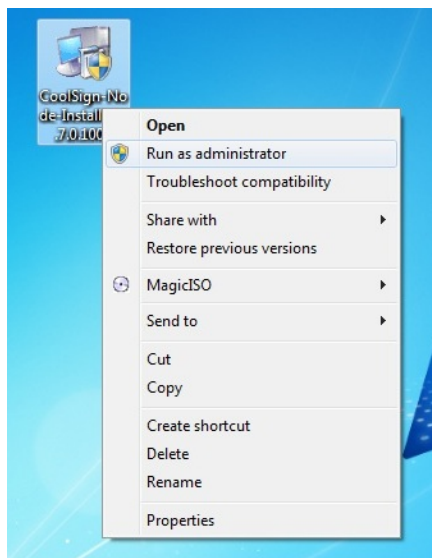
## 2. Installing CoolSign Software

The CoolSign software you downloaded (See [“Downloading CoolSign Software”](#) on page 24.) comes in the form of a self-extracting archive, containing the software components and an installation wizard called the CoolSign Node Installer. This wizard enables you to install one or more CoolSign software components on the PCs in your network.

### Installation with the CoolSign Node Installer

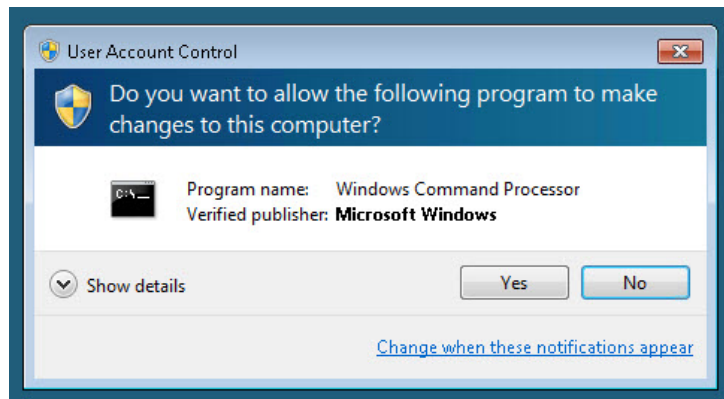
To run the CoolSign Node Installer:

1. Double-click the archive to extract its contents to your PC's hard disk.
2. To launch the CoolSign Node Installer, right-click the file CoolSign\_Node\_Installer.exe and select RUN AS ADMINISTRATOR from the popup menu.
3. If the option is unavailable or grayed out (User Access Control is disabled), double-click the installer to run it.





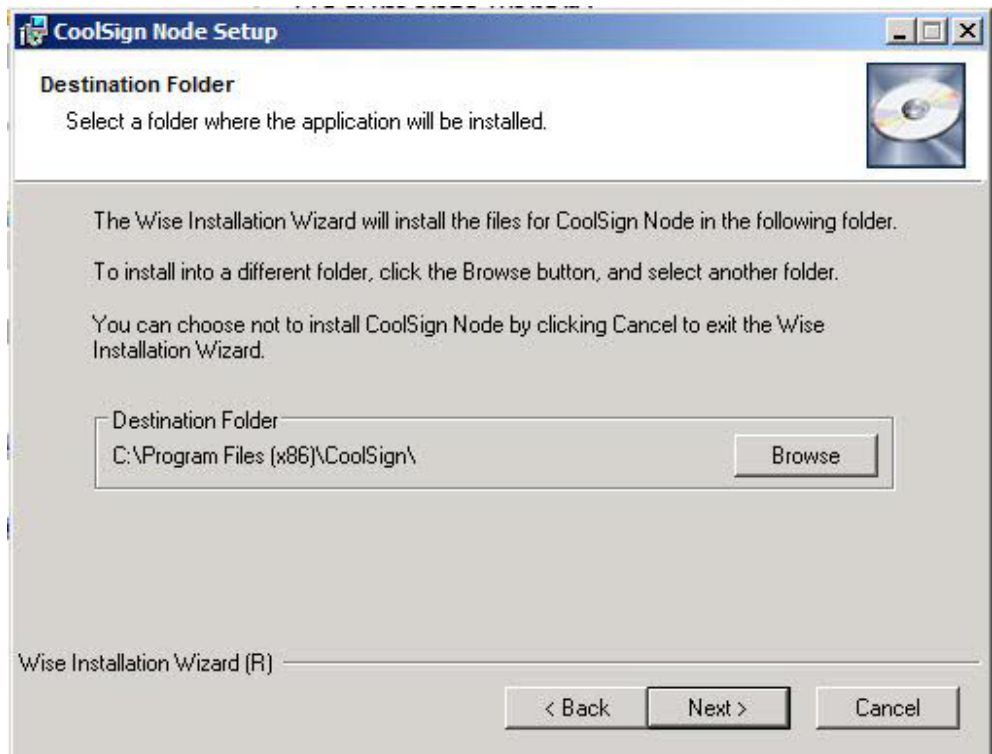
4. Click Yes when the User Account Control Screen appears.



5. Follow the CoolSign Node Installation Wizard instructions.

## CoolSign Node Installation Wizard Instructions — Step by Step

### Step 1: Select the Destination Folder



When prompted, select the folder where you want your CoolSign software installed. The default location is `C:\Program Files (x86)\CoolSign\`.

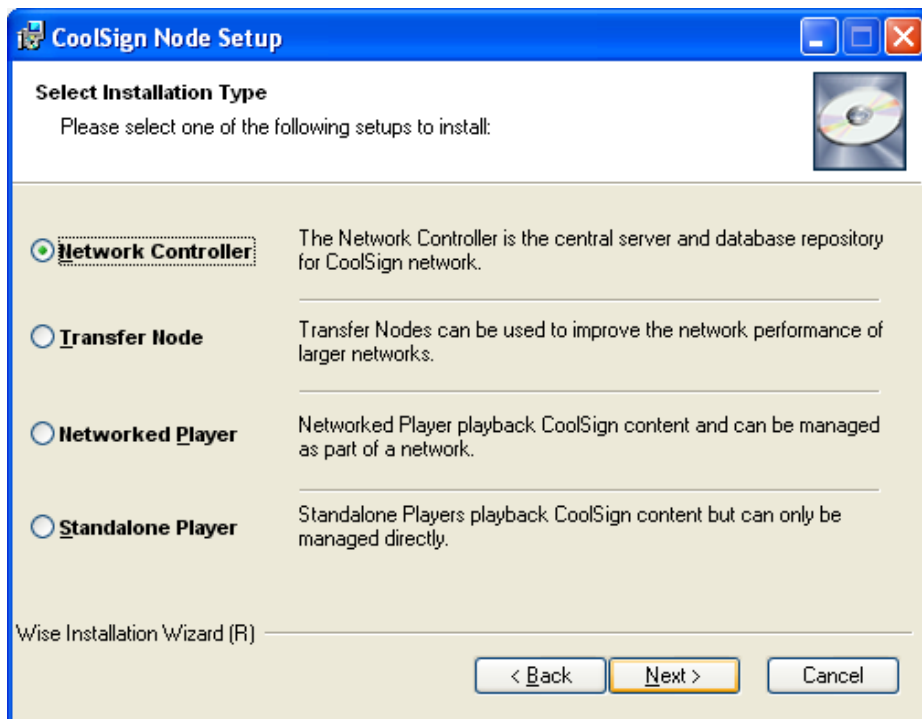
To change the installation folder:

1. Click **Browse**.
2. Select the desired folder location.
3. Click **Next** to continue.

**i** NOTE

If you want to install other CoolSign software on this PC, you should use the same installation folder.

Step 2: Select the Installation Type



To select your installation type:

1. Choose the installation type you want to install.
  - **Network Controller**—is the central server and database repository for a CoolSign network and should be installed first.

- **Transfer Node**—can be used to improve the network performance over larger networks.

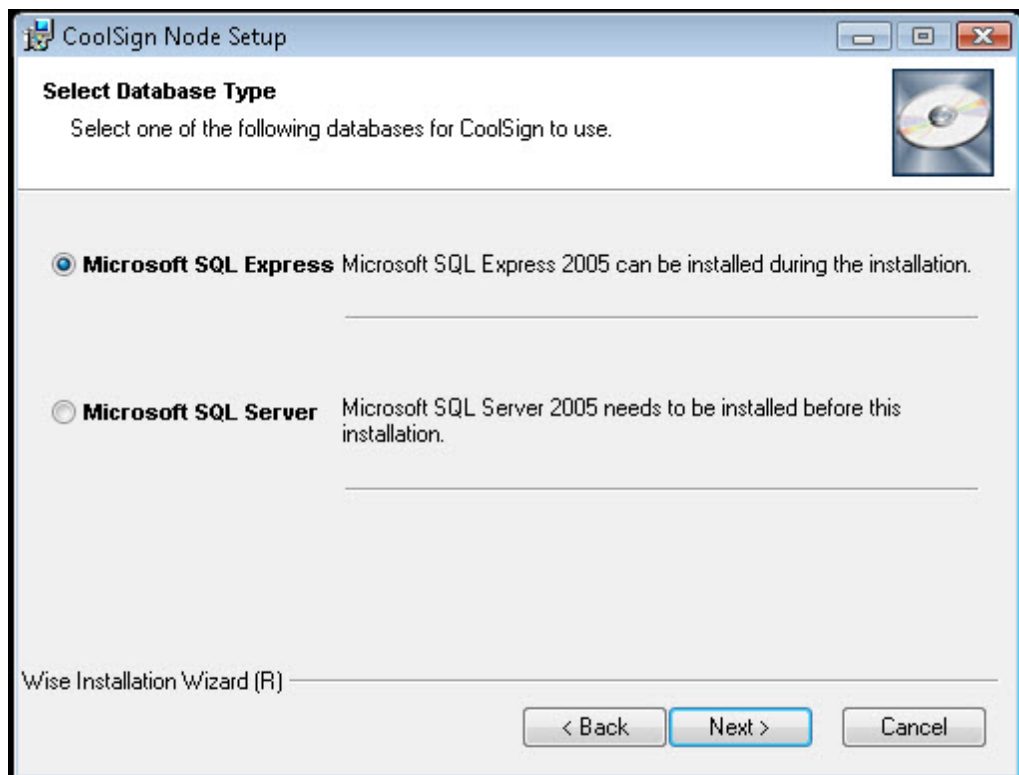
**i** NOTE

If installing a transfer node or networked player, the installer immediately copies the necessary installation files onto your PC.

- **Networked Player**—plays back CoolSign content and can be managed as part of a network.
- **Standalone Player**—plays back CoolSign content but can only be managed directly.

2. Click **Next** to continue.

### Step 3: Select Database Type



To select the database type:

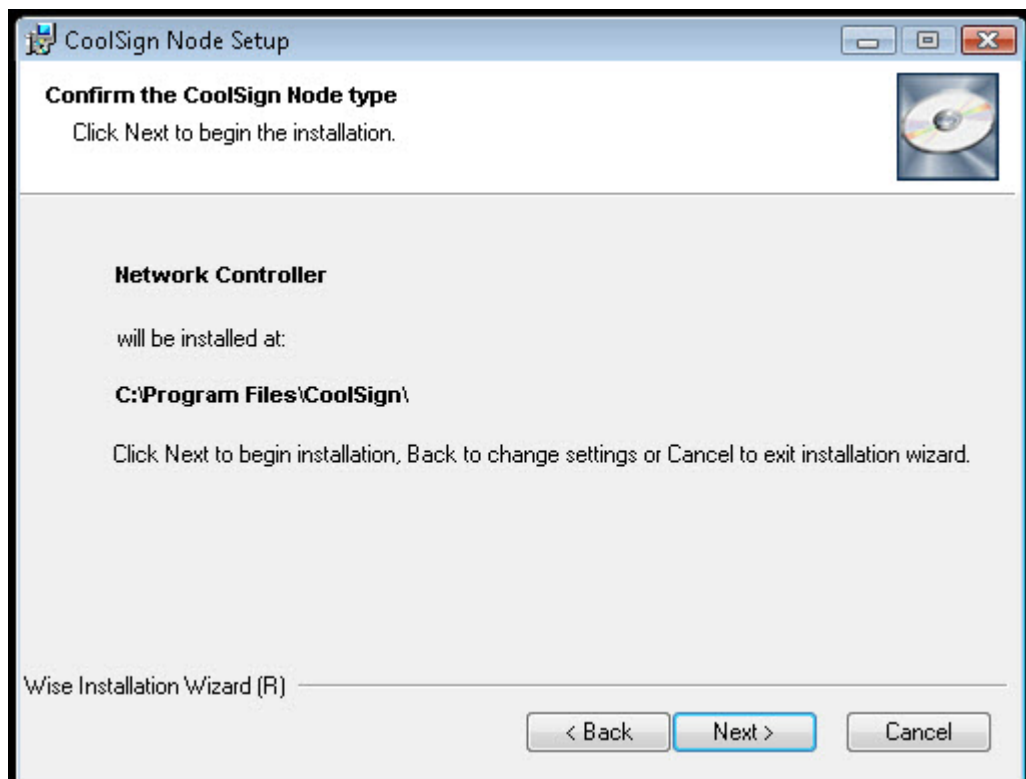
1. Select one of the following databases for CoolSign to use.
  - **Microsoft SQL Express**—ideal for small to moderate systems, you can install the network controller on the same machine where the database was installed.

- Microsoft SQL Server—recommended for large systems where you run the database and network controller on separate machines. In this instance, the Microsoft SQLServer needs to already be installed before performing this installation.

**i** NOTE

For information on configuring the database connection, see [10. "Connecting a Network Controller to an SQL Server"](#), on page 129.

2. Click **Next** to continue.
3. Click **Next** to begin the installation.



4. You can select various options for the CoolSign software being installed or you can accept the defaults and then change them later to fit your specific needs. For details about setting these options, see [“Step 7: Set Installation Options”](#) on page 34.

#### Step 4: Finish Installation

To finish the installation:

1. Verify that all install settings and configuration options are set correctly.
2. When you are ready to install the software, click **Finish**.

The computer automatically reboots to a new Windows user called CoolSign.

---

 NOTE

This might take a few minutes to complete, including installing SQL Server Express.

---

### Step 5: Run CoolSign Network Manager

Run CoolSign Network Manager to connect to a CoolSign network. See [“Connecting to a CoolSign Network”](#) on page 73.

To complete this installation you'll need to:

1. Run Network Manager.
2. Supply the connection information for your network.
3. Accept the license agreement.
4. Import the Network Controller product key (product license).

---

 NOTE

The CoolSign Network Manager Lite, or Web Interface, is bundled with the CoolSign software. Once the Network Controller is installed and running, enter the URL: `<IPAddress:NCLISTENPORT>/web/index.html` to access the web interface. For example: `http://50.34.128.10:4444/web/index.html`.

---

### Step 6: Install a Networked Player

---

 NOTE

During installation, you might see the networked player's status change from *initializing* to *stopping* and then to *starting*. This is normal behavior as it takes a little time for the initializing and configuring process to complete. Once complete, the networked player's status turns green and is labeled "OK." Afterwards, a default image (the CoolSign logo) appears on the Network Player.

---

To install a Networked Player:

1. Double-click `CoolSign_Node_Installer.exe` and from the popup menu select NETWORKED PLAYER.
2. Accept the default settings as they appear until you get to the Configure CoolSign software screen.

3. Enter the IP address/URL of the computer where you installed the Network Controller and Network Manager, or click on “Find Available Networks” and choose a network.
4. When the installation is complete, the Player computer reboots and configures itself with the settings you specified, and attempts to connect to the Network Controller (or Transfer Node). When the connection is made, the new player appears in the CNM application (under NETWORK MANAGER > PLAYERS). A default CoolSign channel is downloaded to the Player once it has joined the network.

### Step 7: Set Installation Options

In this step, you can select various options for the CoolSign software being installed.

**CoolSign Node Setup**

**Set installation options...**

The following options are available to customize your installation setup...

**System options**

- Create auto-login account
  - Username :
  - Password :
- Reboot system Weekly at 4:00:00 AM on U
  - Random Offset Minutes 30

**Desktop options**

- Auto-Launch Coolsign on system startup
- Lock down desktop (players only)

**Configuration options**

- Run Agent and Watchdog as Windows service
- Run Player as Windows ScreenSaver

< Back    Next >    Cancel



#### NOTE

The Run Player as Windows ScreenSaver is only available with Windows XP and Server 2003.

**Create Auto-Login Account**—Creates a new local administrator login account using the supplied login credentials and sets it to automatically log in during startup. We recommend that you check this box; otherwise, the CoolSign node requires you to manually log in after each restart.

**Reboot System**—Determines how often the CoolSign PC should automatically be rebooted.

- Network Controller—we recommend that you reboot the server once a week.
- Players and transfer nodes—we recommend that you reboot on a daily basis.

**Random Offset Minutes**—When checked, offsets the reboot schedule time randomly so that all of your nodes don't reboot at exactly the same time. You can set a maximum number of minutes before or after the scheduled reboot time, during which nodes can be rebooted randomly.

**Auto-Launch CoolSign on system startup**—When checked, the CoolSign application is launched automatically every time the system starts up. You should only uncheck this option when installing a demo system, or when installing on a shared PC where you want to manually start up CoolSign.

**Lock down desktop (players only)**—When checked, sets the desktop to black and hides any icons. We recommend that you keep this setting checked so that the Windows desktop is not visible during startup or software update.

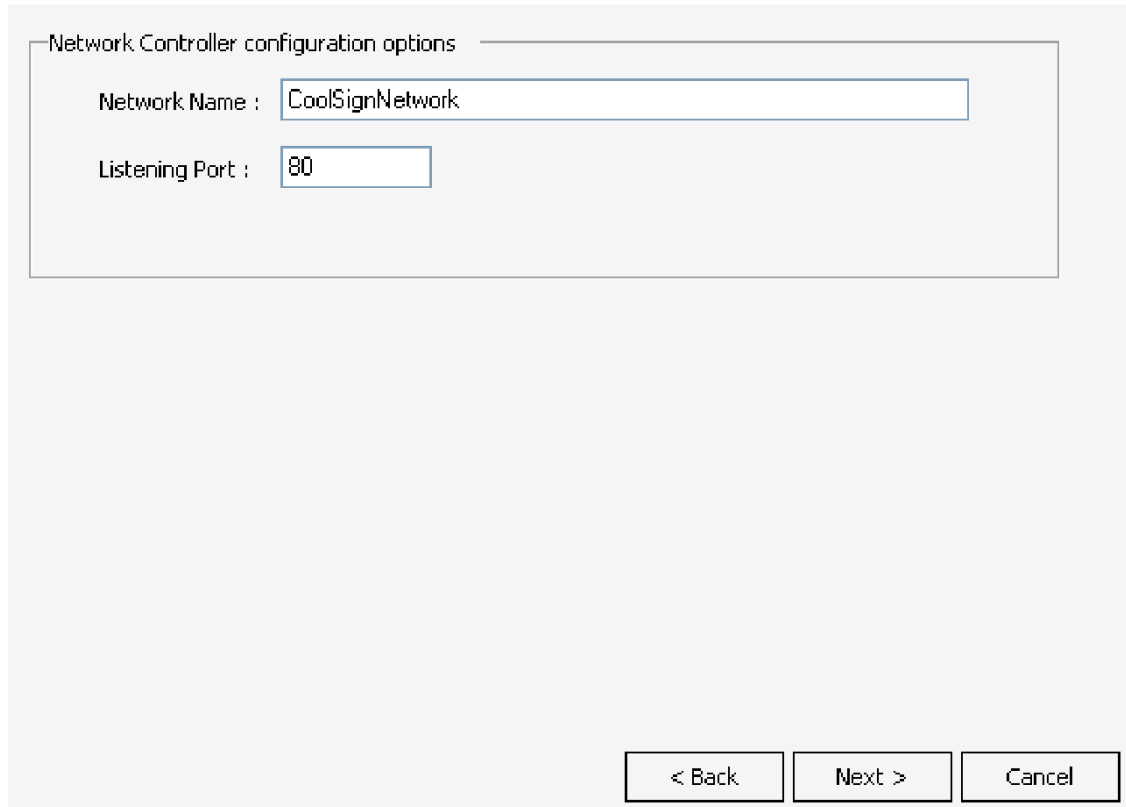
**Run Agent as Windows Service**—When checked, the CoolSign agent is installed as Window service processes. This enables you to remotely manage the agent software and doesn't require auto-login for this network controller or transfer node. Note that this option is disabled for player nodes because some organizations require this for security reasons.

When you're done setting these options, click [Next](#) to define the configuration options that apply to the type of node being installed.

- If you're installing the network controller, continue to [“Configure the Network Controller”](#) on page 36.
- If you're installing a transfer node, continue to [“Configure a Transfer Node”](#) on page 37.
- If you're installing a player node, continue to [“Configure a Player Node”](#) on page 38.

## Step 8: Configure Nodes

## Configure the Network Controller



The screenshot shows a dialog box titled "Network Controller configuration options". It contains two input fields: "Network Name" with the value "CoolSignNetwork" and "Listening Port" with the value "80". At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

**Network Name**—Sets the name of your network as it appears when connecting with CoolSign Manager and other applications.

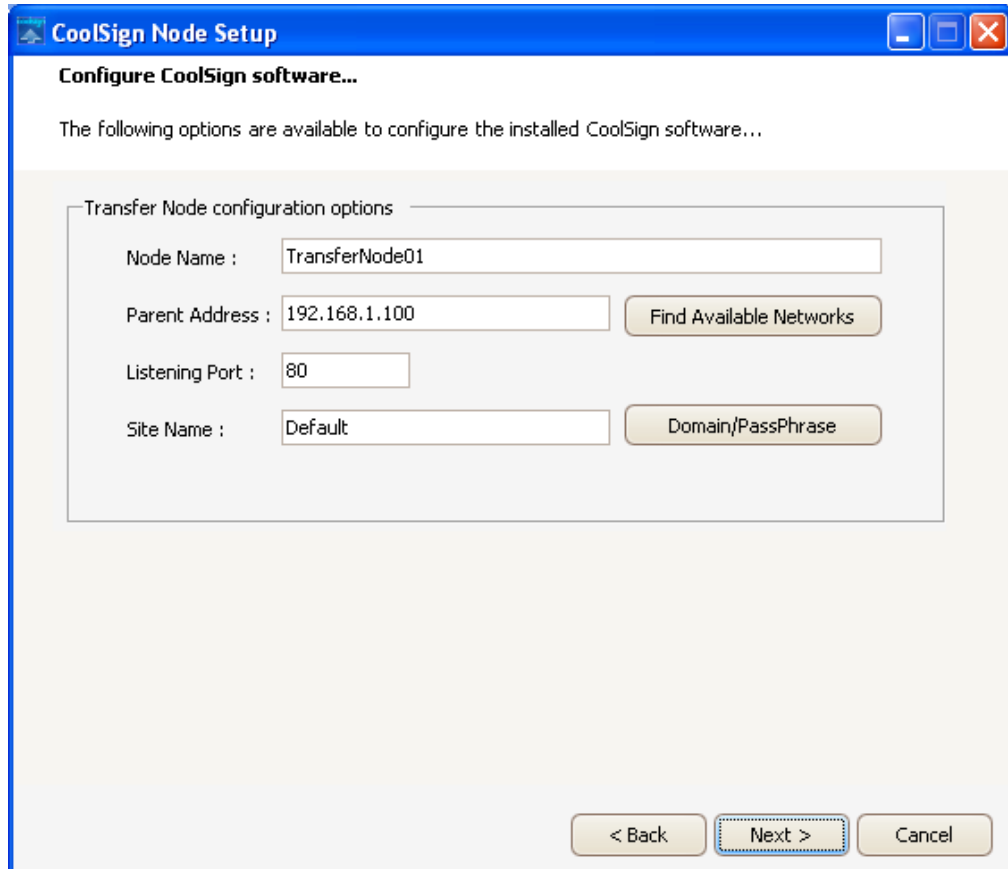
**Listening Port**—Defines the port number that the node should use to receive incoming requests from other nodes. The default listening port is 80. You can change the listening port if your networking infrastructure requires it or another application is already using the default port.

After selecting your configuration options:

1. Click **Next** to continue the installation process.
2. Click **Save Settings**. The node installer verifies your connection information again before saving the settings.
3. Click **Close** to continue the installation process.



## Configure a Transfer Node



**CoolSign Node Setup**

**Configure CoolSign software...**

The following options are available to configure the installed CoolSign software...

Transfer Node configuration options

Node Name :

Parent Address :

Listening Port :

Site Name :

< Back    Next >    Cancel

**Node Name**—Sets the name of this transfer node. The node name is used within CoolSign Manager and to reference the node.

**Parent Address**—Sets the IP address of the node to which this transfer node should connect. The parent address can be the DNS name (Machine01, AcmeJewelry01, etc.) or an IP address (for example, 192.168.50.01 or 127.10.2.4) of either the network controller or another transfer node. If the parent node is listening on a non-default port, you must include the port number in the address, preceded by a colon, for example: 192.168.1.100:555.

**Listening Port**—Defines the port number that the node should use to receive incoming requests from other nodes. The default listening port is 80. You can change the listening port if your networking infrastructure requires it or another application is already using the default port.

**Site Name**—If you enter the site name during installation, the node appears as a member of that site when you view it within CoolSign Manager. Alternatively, you can subsequently use CoolSign Manager to assign the node to a new site. For more information, see Chapter 13, *Managing Sites*, of the *CoolSign Network Manager User's Guide*.

**Domain/Passphrase**—Defines the domain/passphrase associated with the transfer node.

When you've finished specifying these configuration options, click **Next** to continue the installation process.

### Configure a Player Node

**CoolSign Node Setup**

**Configure CoolSign software...**

The following options are available to configure the installed CoolSign software...

**Player configuration options**

Player Name : MyPlayer

IP Address/URL of parent : 192.168.1.100 Find Available Networks

Listening Port : 80 Initial Mode :  Active

Site Name : Default Domain/PassPhrase  Staging

**Display configuration options**

Video resolution : 1024x768 @ 60 hz Orientation : Landscape (0°)

Displays :

Name	Type	Model	COMPort

Add... Edit... Remove

< Back Next > Cancel

**Player Name**—Sets the name of this player node. The node name is used within CoolSign Manager and to reference the node.

**IP Address/URL of Parent**—Sets the IP address of the network controller or transfer node to which this node should connect. The parent address can be the DNS name (Machine01, AcmeJewelry01, etc.) or an IP address (for example, 192.168.50.01 or 127.10.2.4). If the parent node is listening on a non-default port, you must include the port number in the address, preceded by a colon, for example: 192.168.1.100:555.

**Find Available Networks**—Displays any available CoolSign Networks that are currently running (available Network Controllers and /or Transfer nodes).

**Listening Port**—Defines the port number that the node should use to receive incoming requests from other nodes. The default listening port is 80. You can change the listening port if your networking infrastructure requires it or another application is already using the default port.

**Site Name**—If you enter the site name during installation, the node appears as a member of that site when you view it within CoolSign Manager. Alternatively, you can subsequently use CoolSign Manager to assign the node to a new site. For more information, see the “Managing Sites” chapter of the *CoolSign Network Manager User’s Guide*.

**Domain/Passphrase**—Defines the domain/passphrase associated with the player node.

**Initial Mode (Active/Staging)**—Choose Active mode for immediate, on-line use of the player. Choose Staging mode for off-line pre-production or testing purposes.

## Display Configuration Options

For both networked and standalone players, you can configure the video output resolution and orientation and add any displays which you intend to remotely control and monitor via a serial interface.

Display configuration options

Video resolution : 1280x1024 @ 60 hz Orientation : Landscape (0°)

Displays :

Name	Type	Model	COMPort

Add... Edit... Remove

You can define the following display configuration options:

**Video Resolution**—Sets the video card resolution and refresh rate at which the player should run. You can use CoolSign Manager to modify these settings after installation if desired.

**Orientation**—Sets the orientation to match the physical orientation of the display device connected to the player. The options are:

- **LANDSCAPE (0°)**—The display is in its normal TV orientation where the top of the screen is the top.
- **PORTRAIT (-90°)**—The display is rotated 90 degrees counter-clockwise so that the right-side of the screen is now the bottom.
- **PORTRAITCW (+90°)**—The display is rotated 90 degrees clockwise so that the right-side of the screen is now the top.
- **UPSIDEDOWN (180°)**—The display is rotated so that it is upside down.

The orientation setting also defines the format of your player. Landscape and UpsideDown orientations install a landscape-format player. Portrait and PortraitCW orientations install a portrait-format player.

If required, you can use CoolSign Manager to modify the orientation and format of a player after installation.

**Displays**—The CoolSign player can control supported display devices via a serial cable. With serial control of a display, you can use CoolSign Manager to remotely turn on or off the display, set the display to an alternate input, and monitor status for the device.

You can add as many displays as you have available COM ports. Most PCs only include one available serial port. You can purchase a serial port extender to add additional COM ports to your player PC.

The following procedures explain how to add, edit, and remove displays during node configuration. When you're done, click [Next](#) to continue the installation process.

To Add a New Display:



### IMPORTANT

Before adding a display through this dialog, you should first connect the display physically to the player PC with a serial cable. Adding a display before establishing the physical connection causes a display status error.

1. In the Display Configuration Options area, click **Add**. The Display Properties dialog appears:

Inputs Available	Name
Analog	CoolSign
Component	
DVI	
Composite	
S-Video	

2. Enter a name for the new display.
3. Select the brand and model of the display you have connected.



### IMPORTANT

The brand and model must exactly match the display connected to the player. Otherwise, the display control will most likely not work and report an error status.

4. Set the COM port to the player that the PC will use to communicate with the display.

5. Set the Display ID (if your display device supports daisy-chaining multiple devices).
6. Enter a name for each available input that you intend to use. You must keep one input labeled as CoolSign. For example, Component = DVD player, DVI = Satellite, and so forth.
7. If the display supports disabling the control buttons, you can check **Disable panel buttons**.
8. If the display supports auto-calibration, you can set the auto-calibration properties.
9. Click **OK** to close the Display Properties dialog.

#### To Edit a Display:

1. Select the display in the DISPLAY CONFIGURATION OPTIONS area.
2. Click **Edit** to open a Display Properties dialog.
3. Change any of the display's properties as appropriate.
4. Click **OK** to close the Display Properties dialog.

#### To Remove a Display:

1. Select the display in the Display Configuration Options area.
2. Click **Delete**.

## CoolSign Null Displays

For players that are connected to a display device that cannot be controlled via a serial interface, or for which CoolSign does not provide serial control support, you can add the CoolSign null display. The CoolSign null display acts as a placeholder for an actual physical display device. This enables you to use the display control to schedule when the player should turn on and off even without a serial-controlled display.



### NOTE

The CoolSign null display does not cause any status conditions or provide any feedback to determine if the actual display is working or not.

#### To Add a CoolSign Null Display:

1. In the Display Configuration Options area, click **Add**.
2. When the Display Properties dialog appears, select the following values:
  - Brand = CoolSign
  - Model = Null
3. Click **OK** to continue.

## After Installation

When the installation process completes, click **Finish** to exit the installer.

- If this the first time that you've installed the CoolSign software, Microsoft SQL Express automatically loads after the system reboots.
- For the network controller or transfer nodes, if your installation created an auto-login account (see [“Step 7: Set Installation Options”](#) on page 34), or if you are running the Agent and Watchdog as network services (see [“Step 7: Set Installation Options”](#) on page 34), the PC reboot does not require you to login.
- For player nodes, if you did not create an auto-login account on the node, you'll need to log in after the reboot, using the same account under which you installed CoolSign.



### IMPORTANT

If you are installing a CoolSign player on a Windows Vista system with User Account Control (UAC) enabled, a confirmation dialog appears after the first reboot. **You must click the dialog within two minutes after it appears; otherwise, you'll need to manually reboot the system to complete the installation process.**

- Player nodes automatically reboot a second time after installation. After the second reboot, the CoolSign player software launches and connects to the network.

## Using a Configuration File During Installation

Throughout this chapter, the installation procedure describes how to enter CoolSign configuration settings interactively during installation. You can also install CoolSign using an external configuration file.


When you install a CoolSign node, the installer creates a configuration file named `installSettings.xml` in the CoolSign folder. That file includes information about the type of CoolSign node along with all other information necessary to create an identical node.



### WARNING

You can only reuse the `installSettings.xml` file between like operating systems. For example, the `installSettings` for Windows XP does not work on Windows 7.

To use an installation configuration file:

1. Copy the CoolSign installation file (`CoolSign_Node_Installer.exe`) and configuration file (`installSettings.xml`) onto your PC where you want to install the new node.
2. From the  Start menu, select **RUN**, then type `cmd` to open a DOS command window.

3. In the command window, navigate to the folder that contains the CoolSign installation file.
4. To run the installer, issue the following command:  


```
CoolSign_Node_Installer.exe /qb /quiet  
CONFIGFILE="<full_path\installSettings.xml">
```

For example, if your installSettings.xml file is in the directory c:\temp, you would issue the following command:

```
CoolSign_Node_Installer.exe /qb /quiet  
CONFIGFILE="c:\temp\installSettings.xml"
```
5. After the installation process completes, your node reboots with the new CoolSign software installed.

## CoolSign Commands on the Start Menu

After you have installed CoolSign, the following commands are present on your Windows

 Start menu:

**START ADPLAYER**—Not used under normal circumstances. For details, contact Customer Support.

**START AGENT**—Not used under normal circumstances. For details, contact Customer Support.

**START WATCHDOG**—Restart CoolSign after you've issued the Stop All command.

**STOP ALL**—Stop the CoolSign network controller and all related processes.

**STOP WATCHDOG**—Not used under normal circumstances. For details, contact Customer Support.

**COOLSIGN CONFIGURATOR**—Launch the CoolSign Node Configurator so that you can reconfigure your installed nodes as needed. For details, see [9. "Configuring Installed Nodes"](#), on page 96.

**Data Watcher Configurator**—Use the Data Watcher Configurator to configure the Data Watcher.



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## 3. Installing CoolSign Content Wizard

The CoolSign® Content Wizard enables you to quickly convert existing digital media assets into content that you can use in a CoolSign network. This tool is intended for simpler content creation needs where you only want to use one media asset in each CoolSign content. Content created with this wizard can also be used on any CoolSign Network using version 5.1 of the CoolSign software.

### Hardware/Software Recommendations

You can download the hardware and software recommendations for CoolSign Content Wizard from Haivision's website at: <http://www.haivision.com/products/digital-signage/coolsign>.

### Installation

To install the Content Wizard:

1. If you have not already done so, download the Content Wizard Installer onto the PC where you wish to install it. See "[Downloading CoolSign Software](#)" on page 24.
2. Open the Content Wizard folder.
3. Double-click on SContent-Wizard-xxxx.msi to launch the installer application.
4. In the Welcome to Content Wizard Setup Wizard window, click the **Next** button.
5. In the Select Installation Folder window, verify that the destination folder is correct, then click **Next**.
6. In the Confirm Installation window, click **Next** to begin the installation process.
7. In the Installation Complete window, click the **Close** button.

### About Digital Video Codecs

By default, the CoolSign Content Wizard only provides support for MPEG-2, MPEG-1, and AVI digital video files. If you plan to use MPEG-4 and Windows Media Player 9 files, you must install the appropriate software to play back those file formats.

**Windows Media-player 9**—To use WMV files with Content Wizard, you must install Windows Media Player 9 or higher on your system. Windows Media Player 9 is available for download from [www.microsoft.com](http://www.microsoft.com).

#### Related Topics

- “About Content” on page 69 of the *CoolSign Network Manager User’s Guide*
- “Managing Content” on page 106 of the *CoolSign Network Manager User’s Guide*
- “Content Creation Basics” on page 25 of the *CoolSign Content Creator User’s Guide*
- “Advanced Content Creation” on page 41 of the *CoolSign Content Creator User’s Guide*

## 4. Installing CoolSign Content Creator

The CoolSign® Content Creator is a full-featured application for creating content for a Digital Media Network. It is specially designed to aid in the design and creation of content that uses dynamic data, but can be used as a general-purpose content animation tool as well.

### Hardware/Software Recommendations

CoolSign Content Creator has the following requirements:

- Pentium 4 1.8 GHz or better
- DirectX 9.0-compatible video card set to 1280 x 1024 (32-bit color) or higher
- DirectX 9.0c or higher
- 256 MB RAM
- 20 GB hard disk
- Microsoft .NET Framework 2.0 SP1

You can download the latest hardware and software recommendations for CoolSign Content Wizard from Haivision's website at: <http://www.haivision.com/products/digital-signage/coolsign>.

### Supported Media Formats

Audio	Image	Video	
MP3	bmp gif jpeg png psd	WMV Flash MPEG-1 MPEG-4	AVI M2V MOV MP4 (H.264 only) H.264

### Installation

To install the Content Creator:

1. If you have not already done so, download the Content Creator Installer onto the PC where you wish to install it. See "[Downloading CoolSign Software](#)" on page 24.

2. Open the Content Creator folder.
3. Double-click on Content-Creator-xxxx.msi to launch the installer application.
4. In the Welcome to the CoolSign Content Creator Setup Wizard window, click the [Next](#) button.
5. In the Select Installation Folder window, verify that the destination folder is correct, then click [Next](#).
6. In the Confirm Installation window, click [Next](#) to begin the installation process.
7. In the Installation Complete window, click the [Close](#) button.

# 5. Installing the Data Watcher

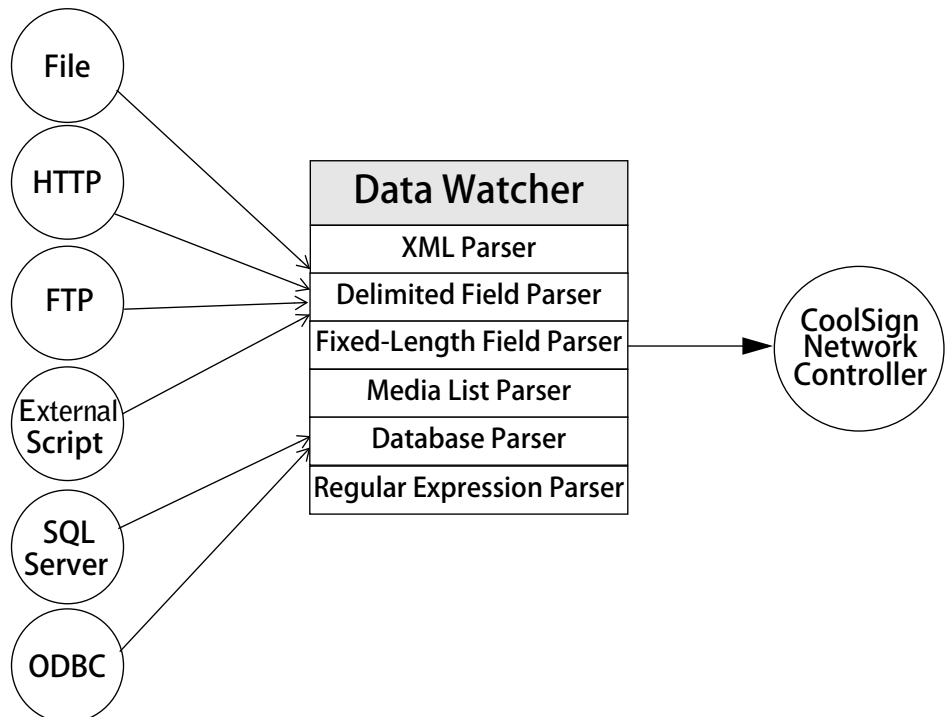
The CoolSign Data Watcher allows you to bring dynamic data from external data sources into your CoolSign network.



## NOTE

The Data Watcher Manager is not initially installed with CNM. You must install it separately.

## Installing the CoolSign Data Watcher



Installing the Data Watcher Manager is a two-step process:

- Installing the Data Watcher service (see [“Installing the Data Watcher service”](#) on page 50).

- Installing the Data Watcher Editor—the tool that you’ll use to configure Data Watchers to serve as a bridge between the data source and the CoolSign network (see [“Installing the Data Watcher Editor”](#) on page 55).

## Installing the Data Watcher service

The Data Watcher service can be installed on a Player node, Transfer node, or the Network Controller where the CoolSign agent is running.

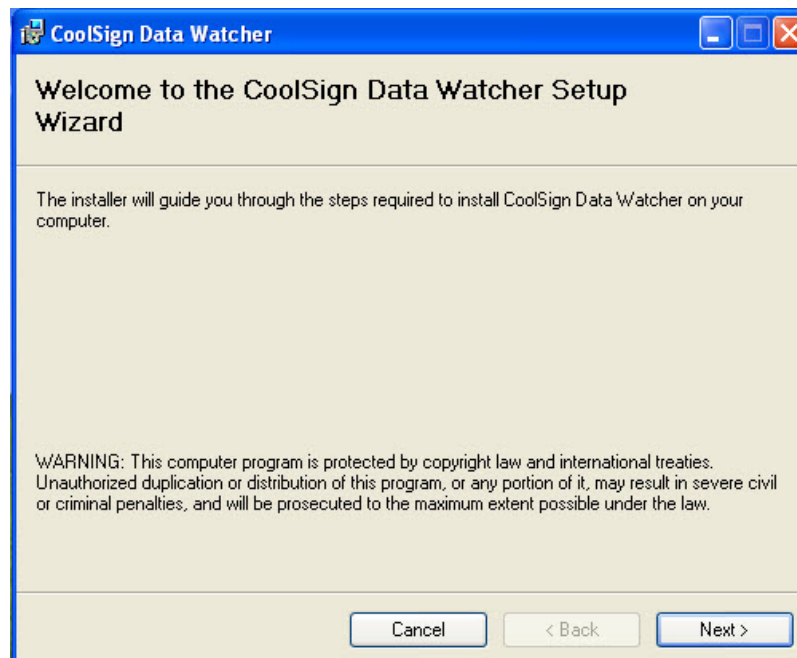


### NOTE

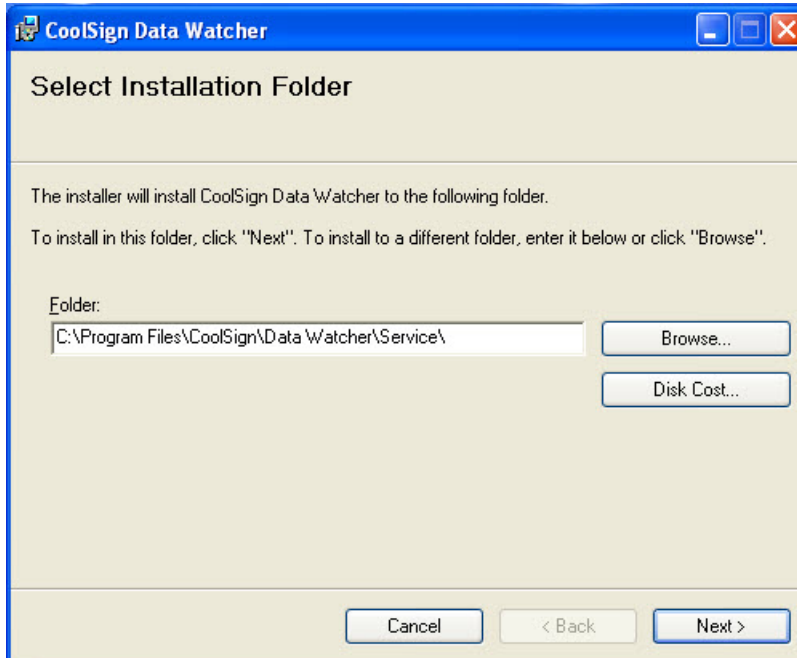
Connectivity to the CoolSign Network Controller is necessary to establish the initial Data Watcher account with appropriate privileges.

To install the Data Watcher service, perform the following steps:

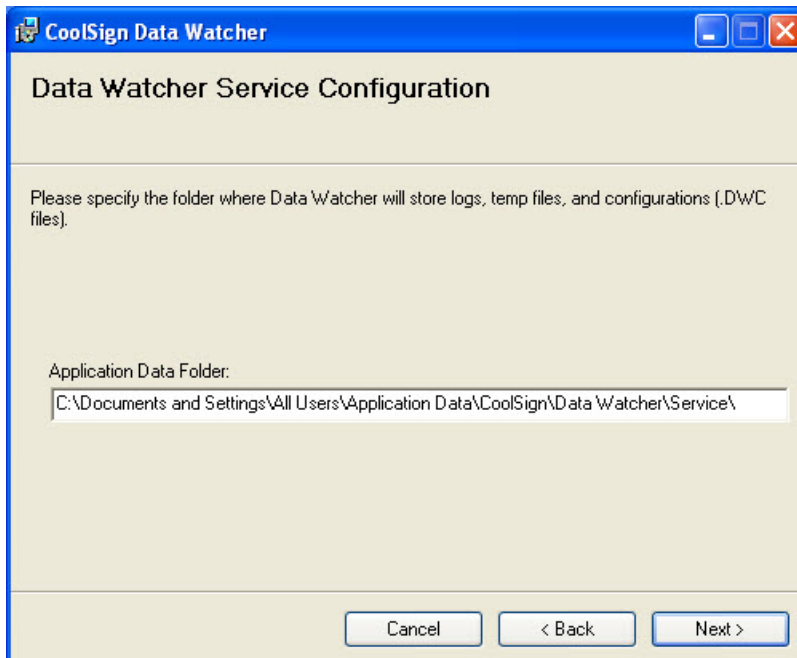
1. On the machine where you are installing the Data Watcher service, open the file ServiceInstaller.msi.
2. When the CoolSign Data Watcher Setup Wizard appears, click **Next** to continue.



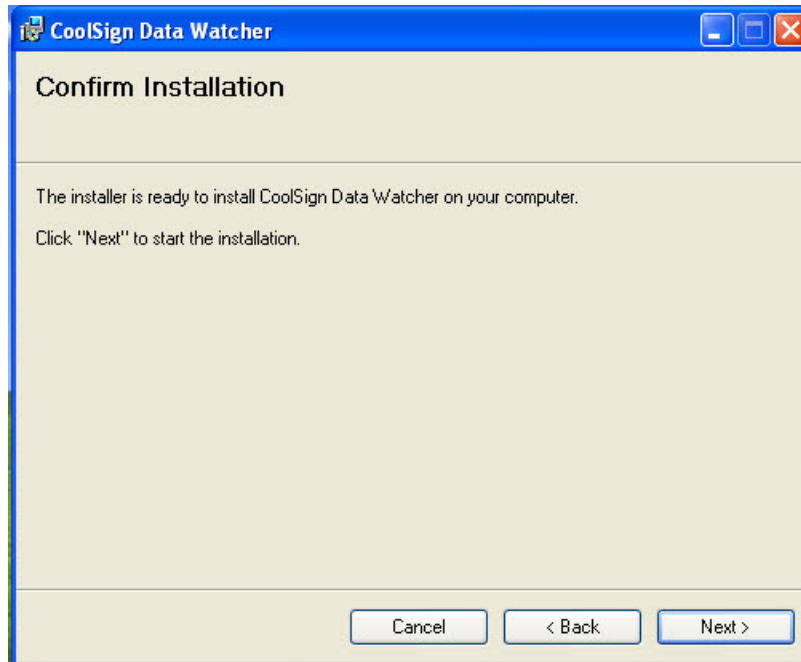
3. Select the folder where you want to install the Data Watcher service. The default location is C:\Program Files\CoolSign\DataWatcher\Service. Click Next to continue.



4. Specify the folder where Data Watcher will store logs, temp files, and configurations (.DWC files). Click Next to continue.



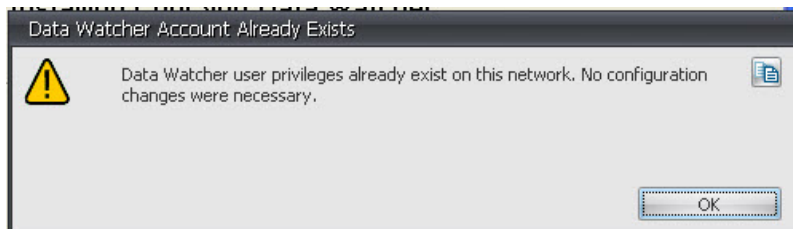
5. Confirm your installation details. Click **Next** to continue.



*The CoolSign Data Watcher installation begins.*

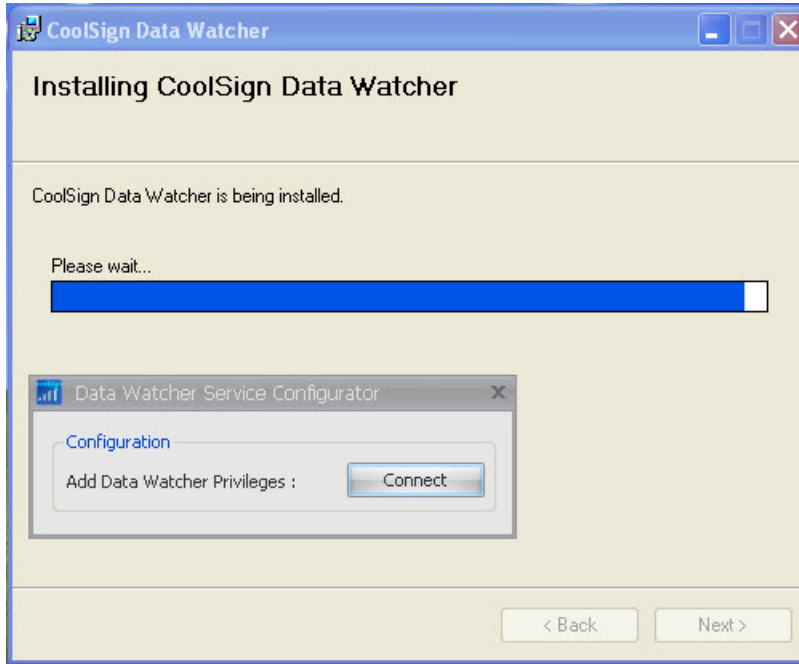
6. Before finishing, the installer verifies that a Data Watcher account exists with the necessary permissions to access files on the network share.

If the account already exists, a confirmation window appears, click **OK** to dismiss. Skip to Step 9.





7. If the account does not exist, you are prompted to connect to an existing Network Controller. Click **Connect**.



8. When prompted, supply your user name and password and select the network to which the Data Watcher service will connect. Then, click **Login**.



---

**i** NOTE

Because the Data Watcher is a service, you must run it from an account that has the necessary permissions to access files on the network share. Once the Data Watcher service is connected to the network, it creates a special user with the name *DataWatcher3*. This special user has limited capabilities and is used by the Data Watcher for all subsequent logins to the network.

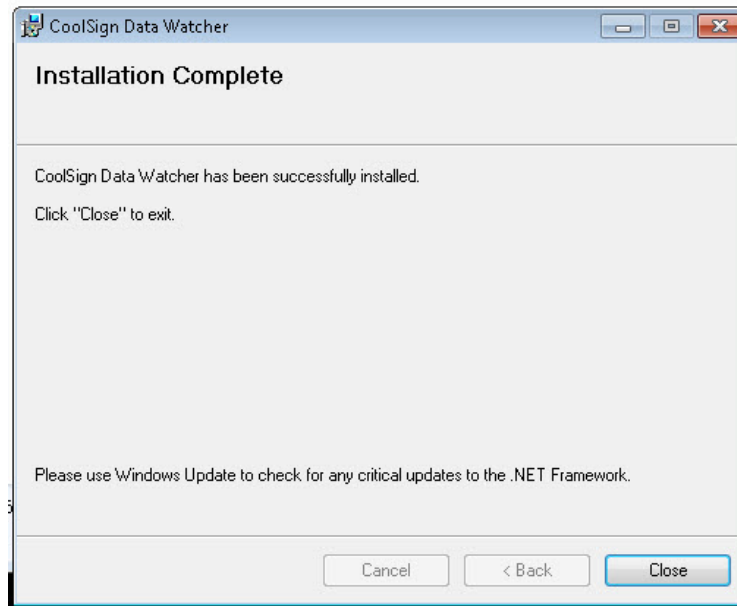
---

**!** CAUTION

If you modify or delete the *DataWatcher3* user via CNM or any other means, the Data Watcher service may become unable to connect to the network. In this case, you must either reinstall the Data Watcher service to re-create the *DataWatcher3* user, or else edit the Data Watcher service configuration (“Editing the Data Watcher Service Configuration” on page 247 of the *CoolSign Network Manager User’s Guide*) and log into the network again.

---

9. When the installation process completes, click **Close** to exit the setup wizard.



*The Data Watcher service is now running. For more information on the Data Watcher, refer to your user's guide.*

## Installing the Data Watcher Editor

The Data Watcher Editor is installed on an end-user machine where the Network Manager is also installed.

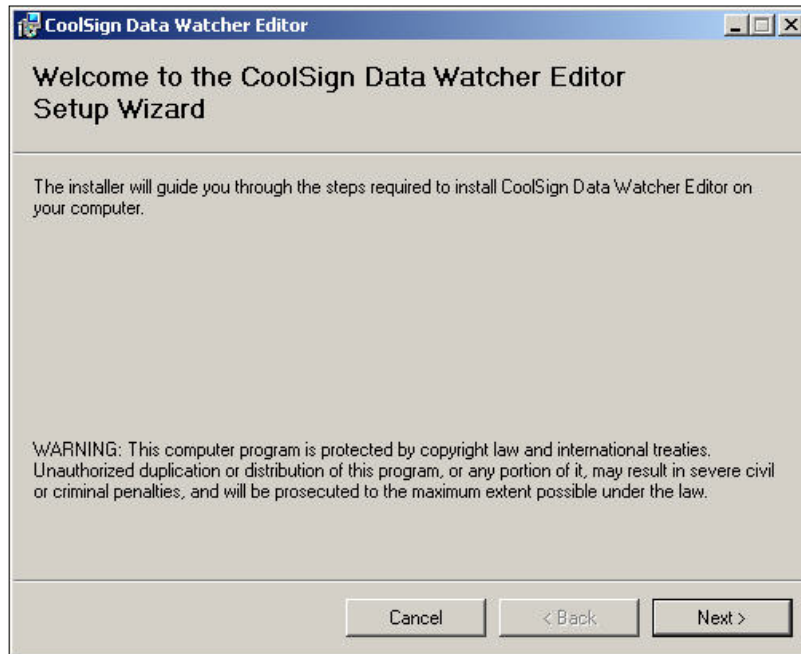


### NOTE

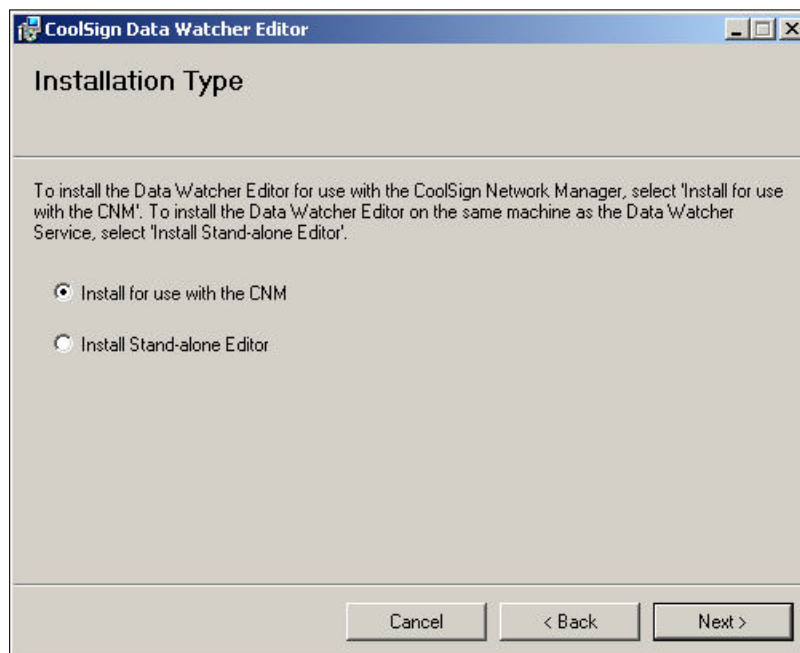
Before installing the Data Watcher Editor, be sure that you have already installed CNM version 5.1 or later.

To install the Data Watcher Editor, perform the following steps:

1. On the machine where CNM is installed, open the file DWEditorInstaller.msi.
2. When the CoolSign Data Watcher Editor Setup Wizard opens, click **Next** to continue.



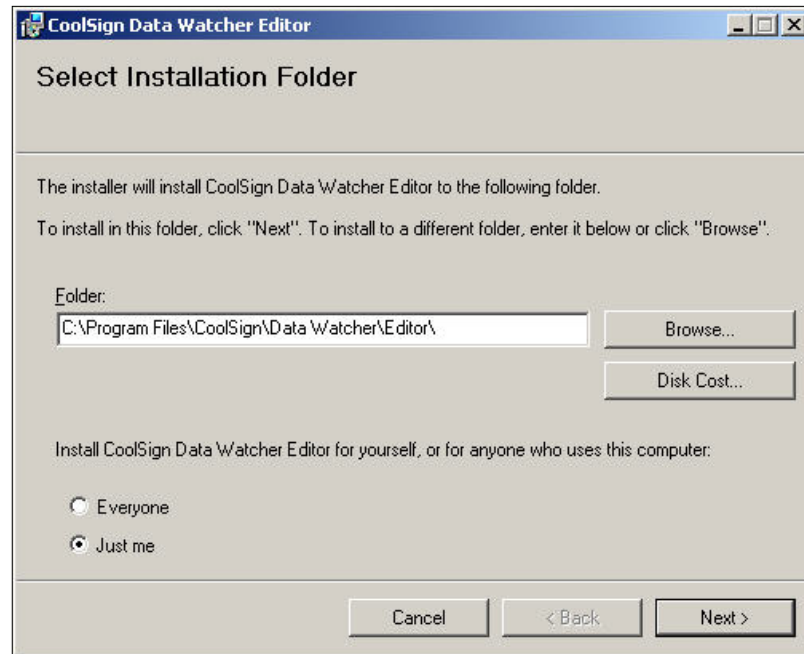
3. When prompted to do so, indicate whether you are installing the Data Watcher Editor for use with CNM, or as a standalone editor.



Some users prefer to install a standalone version of the Data Watcher Editor on the

transfer node or player where the Data Watcher service is running. With the standalone version, the Editor is not integrated with CNM, but can be used to edit and save Data Watcher configuration (DWC) files locally. As noted throughout this chapter, there are minor variations between the two versions of the Editor.

4. Select the folder in which you will install the Data Watcher Editor and click [Next](#). (The default location is C:\Program Files\CoolSign\DataWatcher\Editor.)



5. Confirm your installation details, then click [Next](#).

After installation is complete, start the Data Watcher service, then restart CNM. Once you've done that, you can use the Data Watcher Manager to perform dynamic data management in CNM.

#### Related Topics

- [“Using the Data Watcher Manager”](#) on page 213 of the *CoolSign Network Manager User's Guide*
- [“About Dynamic Data”](#) on page 207 of the *CoolSign Network Manager User's Guide*
- [“Managing Data Tables”](#) on page 273 of the *CoolSign Network Manager User's Guide*

---

## 6. Installing the Offline Update Imager

The CoolSign System allows you to manage a network of digital signs from a central location. Sometimes the sites or Player nodes needing changes to their schedules are not connected to the network. The Offline Update Imager application allows you to make these changes, to save them to media (such as a CD, DVD or USB thumb drive), and then to easily update the offline systems.

The Offline Update Imager application allows you to make schedule or content changes to an offline site or Player node. Some of the changes you can make with this application are:

- Adding/ deleting/ updating content.
- Assigning a new channel to a Player.
- Changing the duration of content.
- Changing the frequency setting for content.



### IMPORTANT

Any changes made to content, including adding content or changes to content settings in the CoolSign Content Manager, will require that the content be included when the update image is created.

---

## System Requirements

To create the update image, you will need to have Agent version 5.0.0.841 or later on the network controller on which the content and schedule reside. This version of the Agent is not needed to update offline nodes.


## Installing the Offline Update Imager

To install the Offline Update Imager application, follow these steps:

1. Download the Offline-Updater from the Haivision Download Center.
2. Double-click the *Offline-Updater-5.0.0.123.msi* to start the installation.
3. Click **Next** to continue with the *Offline Update Imager Setup Wizard*.
4. Specify the where the Offline Update Imager will be installed, and then click **Next**.

In the lower part of this dialog, you have the option to install this application for *Everyone* or *Just me* (the recommended setting is selected by default).

5. Click **Next** to begin the installation. You can follow the progress of the installation in this window.
6. When the installation is finished, the message *Installation Complete* appears. Click the **Close** button.

After the installation is completed, you will notice that the Offline Update Imager application is available in the  START menu.

### Related Topics

- “Using the Offline Update Imager” on page 347 of the *CoolSign Network Manager User’s Guide*

# 7. Upgrades

This section describes the procedures for upgrading a:

- CoolSign network from version 4.5.x (or higher) to version 5.1



## IMPORTANT

If you are upgrading from a version of CoolSign prior to 4.5, or if your network nodes are not all at the same version level, please contact Haivision Technical Support before attempting to upgrade.

---



## IMPORTANT

If you are running SQL Express 2005, you must upgrade your database to SQL 2008 or later for CoolSign 5.1.

---

## Upgrading a CoolSign Network

### Prerequisites

The following software requirements are the prerequisites for a CoolSign v5.1 installation:

- Windows Server 2008 R2, Windows 7, or Windows 8 with all applicable service packs applied.
- SQL Express/Standard 2008 or above
- Microsoft .NET Framework v4.0 (available from the [Haivision Download Center](#)).
- Microsoft DirectX (available from the [Haivision Download Center](#)).
- Adobe Flash (available from the [Haivision Download Center](#)).
- Microsoft Windows Media Player<sup>1</sup> (CoolSign uses the application's WM9 codecs).
- Microsoft Internet Explorer<sup>1</sup> v7 or later [**Network Manager Only**]

---

1. Typically included in the installation of the Windows operating system. However, if you customized your operating system, you may need to install this application.



## Preparing for the Upgrade

The tasks in this procedure focus on ensuring that the software is current and that all data is properly backed up.

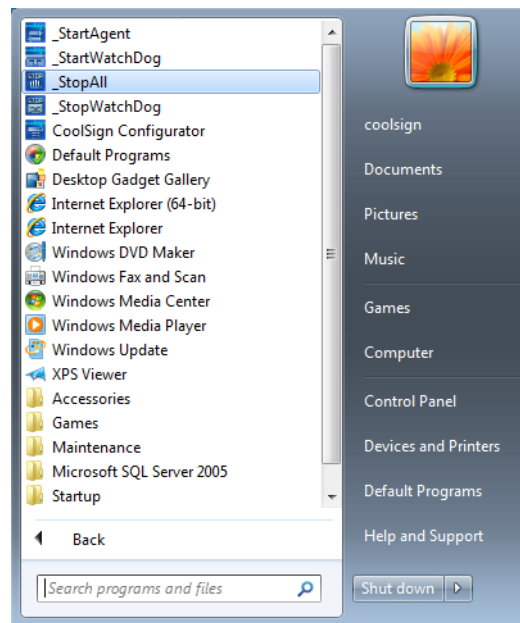
1. Ensure that the operating system on your devices is up-to-date:
  - Windows Server 2008 (64-bit or 32-bit) — SP2
  - Windows Server 2008 R2 (64-bit or 32-bit) — SP1
  - Windows Server 7 (64-bit or 32-bit) — SP1
2. Ensure that the running DB is SQL Express 2008 or above. To determine your specific edition of SQL Server, visit <https://support.microsoft.com/en-us/kb/321185>



### IMPORTANT

If you are running a version of SQL Express prior to 2008 you must first upgrade your database (see “[SQL Express 2005 Upgrade](#)” on page 69). If you are running SQL 2008 or above, then continue with the upgrade as described below.

3. Run the “STOPALL” script from the Windows  START menu to stop the Network Controller’s CoolSign components.



4. Create a backup of the CoolSign SQL database using SQL Server Management Studio.
  - **MSSMSE 2005 Express Edition**  
<http://www.microsoft.com/en-us/download/details.aspx?id=8961>
  - **MSSMSE 2008 Express Edition**  
<http://www.microsoft.com/en-us/download/details.aspx?id=7593>

5. Login to the SQL database instance using SQL SERVER MANAGEMENT STUDIO > DATABASES.
6. Right-click on the CoolSign database and from the popup menu select TASKS > BACK UP.
7. Select Backup type as “Full”, set the destination path, and click OK.

For detailed steps on creating the backup, please refer to the following Microsoft article:

- **Create a Full Database Backup (SQL Server)**  
<http://msdn.microsoft.com/en-us/library/ms187510.aspx>

8. Create a backup of the entire CoolSign directory.
  - For devices running Windows Server 2008 R2 or Windows 7, backup all files in:  
C:\ProgramData\CoolSign



#### NOTE

Both the CoolSign database and directory backups must be in sync.

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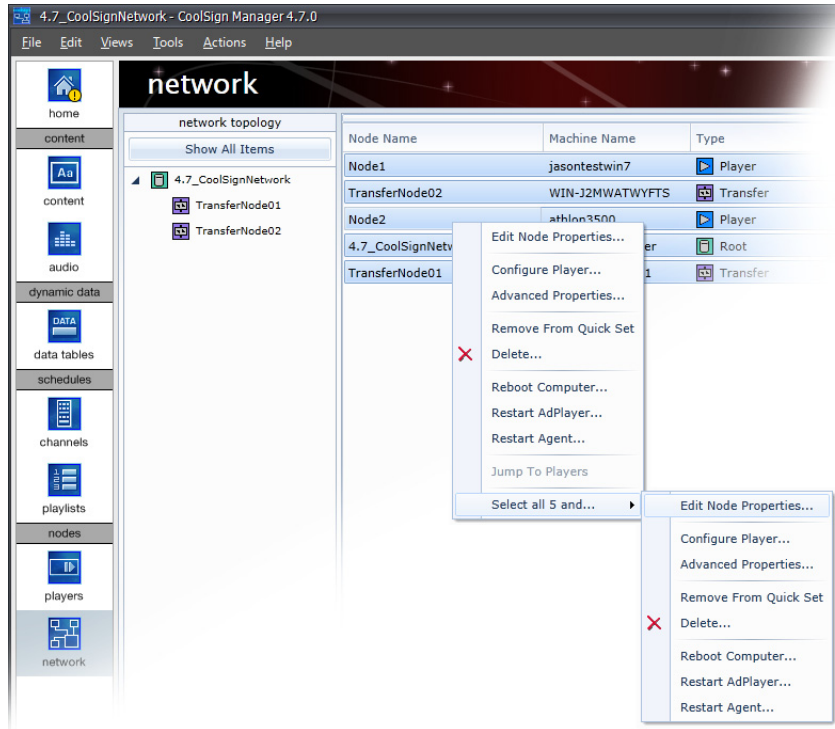
9. Once the backups are completed, you can restart the Network Controller’s CoolSign components.
10. Schedule a downtime period for your CoolSign network, during which you will perform the upgrade. There should not be any changes made to the network during this period.

## Upgrading your CoolSign Network

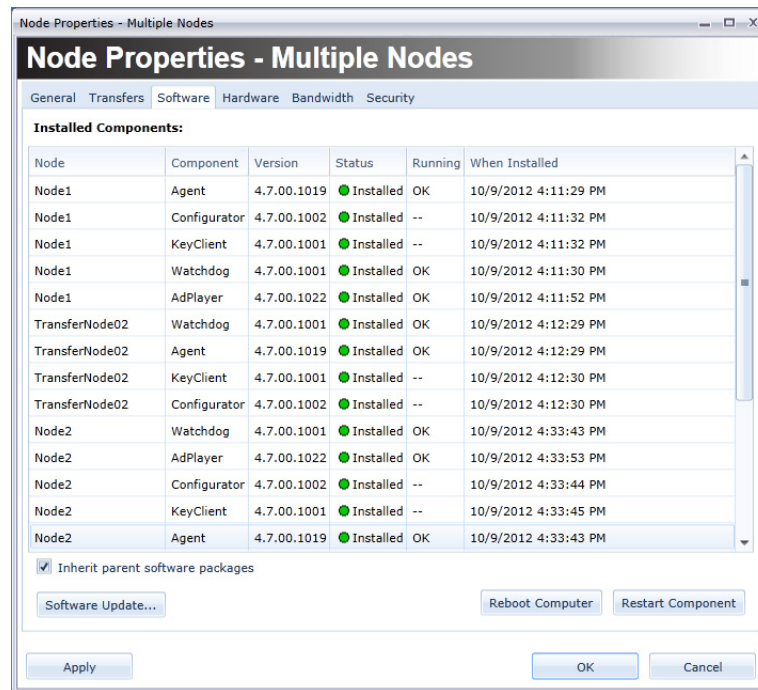
Before you begin:

1. In the CoolSign Network Manager in the Network window, select all nodes.

2. Right click on any of the selected nodes and choose EDIT NODE PROPERTIES.



3. When the Node Properties window appears, click on the Software tab.
4. Check the  Inherit parent software packages checkbox, and click OK.



5. If the Microsoft .NET4 Framework Update Package has not already been installed, download it from the Haivision Download Center, and install it:

<http://www.haivision.com/support/download-center> (login required)

---

 NOTE

All CoolSign nodes require this package and should receive it via the software inheritance mechanism.

---

6. Acquire a new CoolSign 5.1 License Key by completing and submitting the form “CoolSign License Key Request - SOFTWARE UPGRADE” (for existing installations), available from this page:

<http://www.haivision.com/eform/submit/licence-request> (login required)

7. Obtain a copy of the CoolSign 5.1 upgrade packages, including the CoolSign Network Manager (CNM) installer, from the [Haivision Download Center](#) (login required):

- CoolSign Network Manager (NetworkManager-5.n.n.msi)
- Content Creator (Content-Creator-5.n.n.msi)
- Content Wizard (SContent-Wizard-5.n.n.msi)
- Data Watcher Editor (Data-Watcher-5.n.n.msi)

## Upgrading the Network Controller

To upgrade the Network Controller, you will need to import and apply a series of software packages, in a specific order.

---

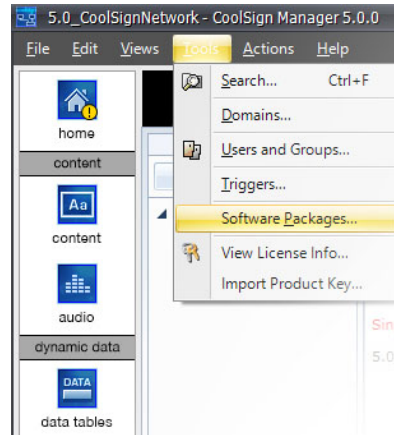
 NOTE

Please allow all child nodes to download a software package from the Network Controller (NC) before applying the next package.

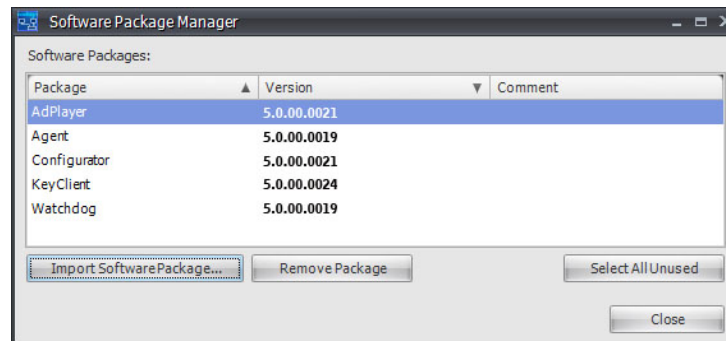
---

In each case, to import the software package do the following:

1. Choose **TOOLS > SOFTWARE PACKAGES**.



2. In the Software Package Manager window, click “IMPORT SOFTWARE PACKAGE.”



3. In the Open dialog, select the “Package.xml” file from the folder containing the software packages you had previously downloaded ([“Downloading CoolSign Software”](#) on page 24).
4. Click **OK**.

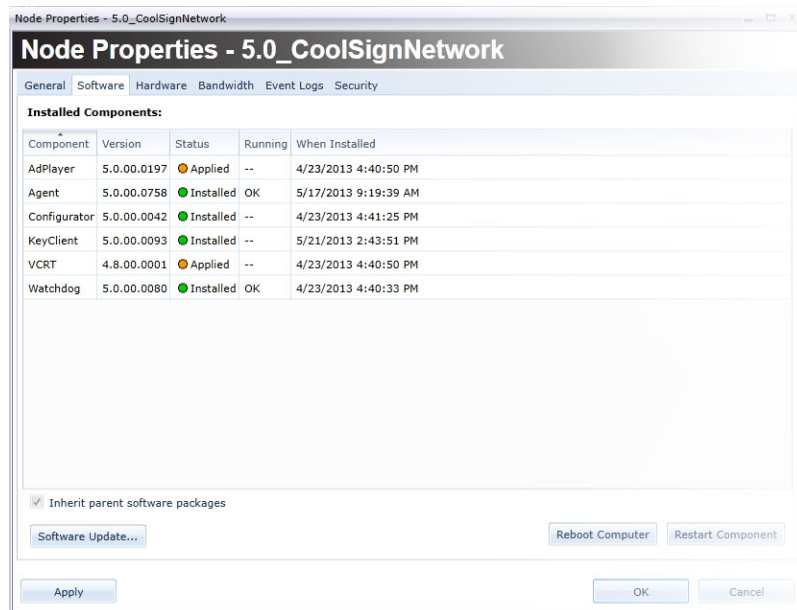
In each case, to apply the software package, do the following:



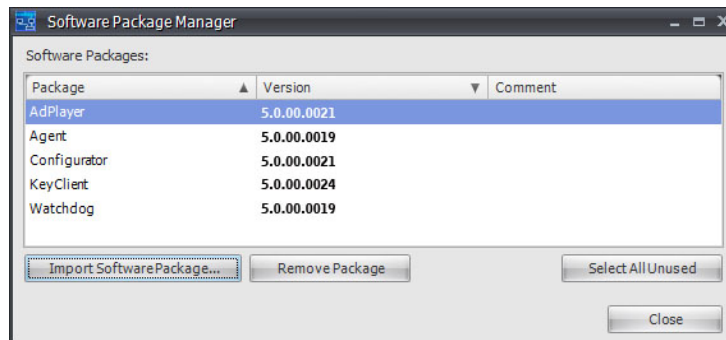
#### NOTE

Please allow all child nodes to download a software package from the Network Controller (NC) before applying the next package.

1. In the Node Properties window, click the **Software** tab, and then click the **Software Update...** button.



2. Select the package you want and click the **Apply** button.



To upgrade your Network Controller (NC), do the following:



### IMPORTANT

You must import and apply the packages **in the order specified** below to ensure a successful upgrade. Be sure to allow all child nodes to download a software package from the Network Controller (NC) before applying the next package.

1. Using the CoolSign Network Manager (CNM), import and apply the following version 5.1 packages to the NC (main server):

- Microsoft .NET4 Framework Update package
- KeyClient package
- WatchDog package
- AdPlayer package
- Configurator package
- Agent package
- Data Watcher package (if appropriate)

For information about the Data Watcher, see “Installing the Data Watcher service” on page 50 of the *CoolSign Network Manager Installation Manual*.

2. Uninstall the existing CoolSign Network Manager using the Windows “ADD/REMOVE PROGRAMS” control panel.
3. Double click the *Network Manager-5.n.n.msi* to install the CoolSign 5.1 Network Manager and follow the installation wizard’s instructions.
4. Using the CoolSign Network Manager (CNM), import and apply the DataWatcher (if appropriate), see “Installing the Data Watcher service” on page 50 of the *CoolSign Network Manager Installation Manual*.
5. Launch the CoolSign 5.1 Network Manager, connect to the Network Controller, and apply the 5.1 license key when prompted. See [“Requesting CoolSign Licenses”](#) on page 23.

## Upgrading Transfer Nodes

Transfer Nodes update automatically via the software inheritance mechanism.



### NOTE

If you are installing on nodes that are using different versions of CoolSign software, please verify that they have been updated with the Microsoft .NET 4 Framework Update Package.

---

## Upgrading Player Nodes

Player Nodes update automatically via the software inheritance mechanism.



### NOTE

If you are installing on nodes that are using different versions of CoolSign software, please verify that they have been updated with the Microsoft .NET 4 Framework Update Package.

## Updating the CoolSign Network Manager (CNM)

To update the CoolSign Network Manager:

1. Remove the existing CoolSign Network Manager using the Windows “ADD/REMOVE PROGRAMS” control panel *prior* to installing the 5.1 version.
2. Double-click the Network Manager-5.n.n.msi installation package to open the setup wizard.
3. Follow the instructions for the install.
4. When finished, launch the CoolSign Network Manager.
5. At the logon window, connect to the appropriate network and supply the license product key when prompted.

## Upgrading CoolSign Applications

To upgrade the CoolSign applications:

1. If the Microsoft .NET4 Framework Update Package has not already been installed, download it from the Haivision Download Center, and install it on the machine(s) hosting the CoolSign application(s):  
<http://www.haivision.com/support/download-center> (login required)
2. For each of the CoolSign applications below, you must uninstall the existing version(s) via the Windows “ADD/REMOVE PROGRAMS” control panel *prior* to installing the 5.1 version.
3. Obtain the installation packages from the [Haivision Download Center](#) (login required):
  - CoolSign Network Manager (Network Manager-5.n.n.msi)
  - Content Creator (Content-Creator-5.n.n.msi)
  - Content Wizard (Content-Wizard-5.n.n.msi)
  - Data Watcher Editor (Data-Watcher-5.n.n.msi)



4. Double-click the installation package (\*.msi), to open the setup wizard and follow the instructions.

## SQL Express 2005 Upgrade

This section describes the process to perform a side-by-side upgrade from SQL Server 2005 Express to SQL Server 2012 Express as described in the Microsoft SQL Server 2012 Upgrade Technical Reference Guide.

### Preparing for the Upgrade

Download Microsoft SQL Server 2012 Express installer and SQL Server Management Studio (same link for both)

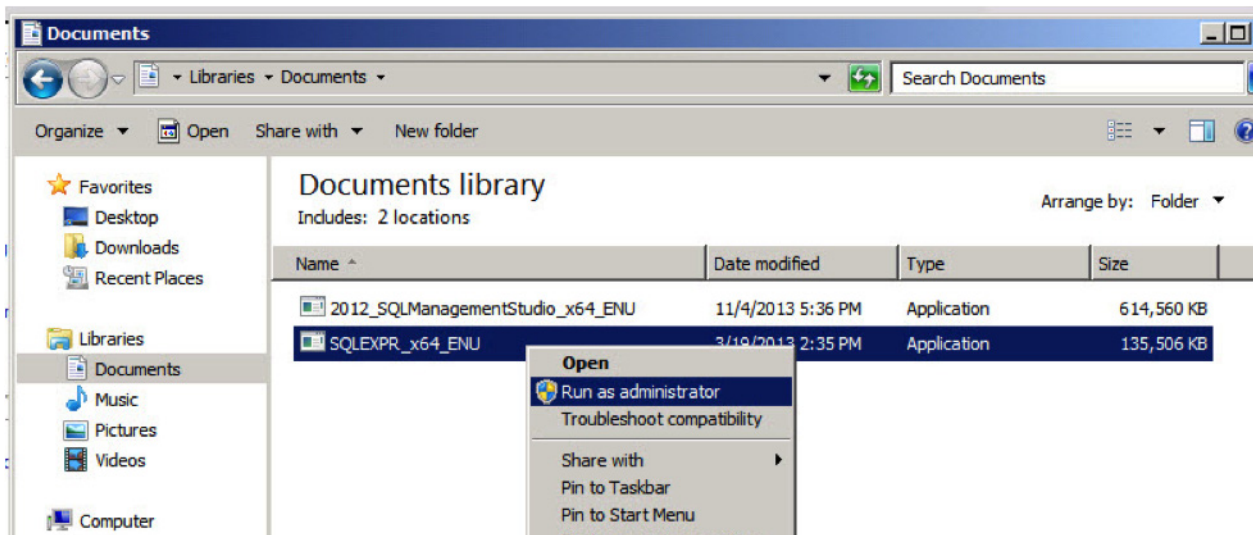
<http://www.microsoft.com/en-us/download/details.aspx?id=29062>

### Performing a Side-By-Side Upgrade

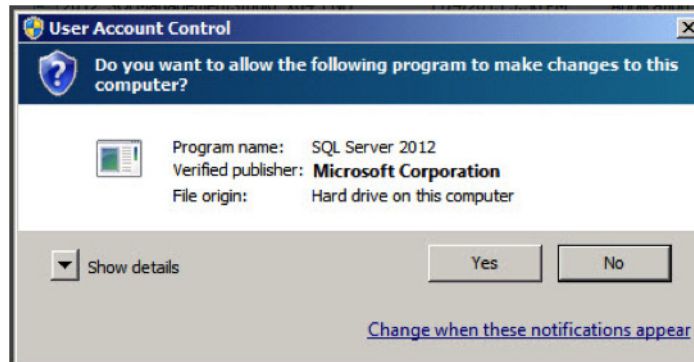
Regardless of which side-by-side upgrade method you use, the first step is installing the SQL Server 2012 relational database instance to which you plan to upgrade the SQL Server 2005/2008/2008 R2 relational database. When installing SQL Server 2012 on the same server together with SQL Server 2005/2008/2008 R2, make sure that you install SQL Server 2012 with a named instance to avoid overwriting the existing legacy SQL Server instance on the server.

### Install SQL Express 2012

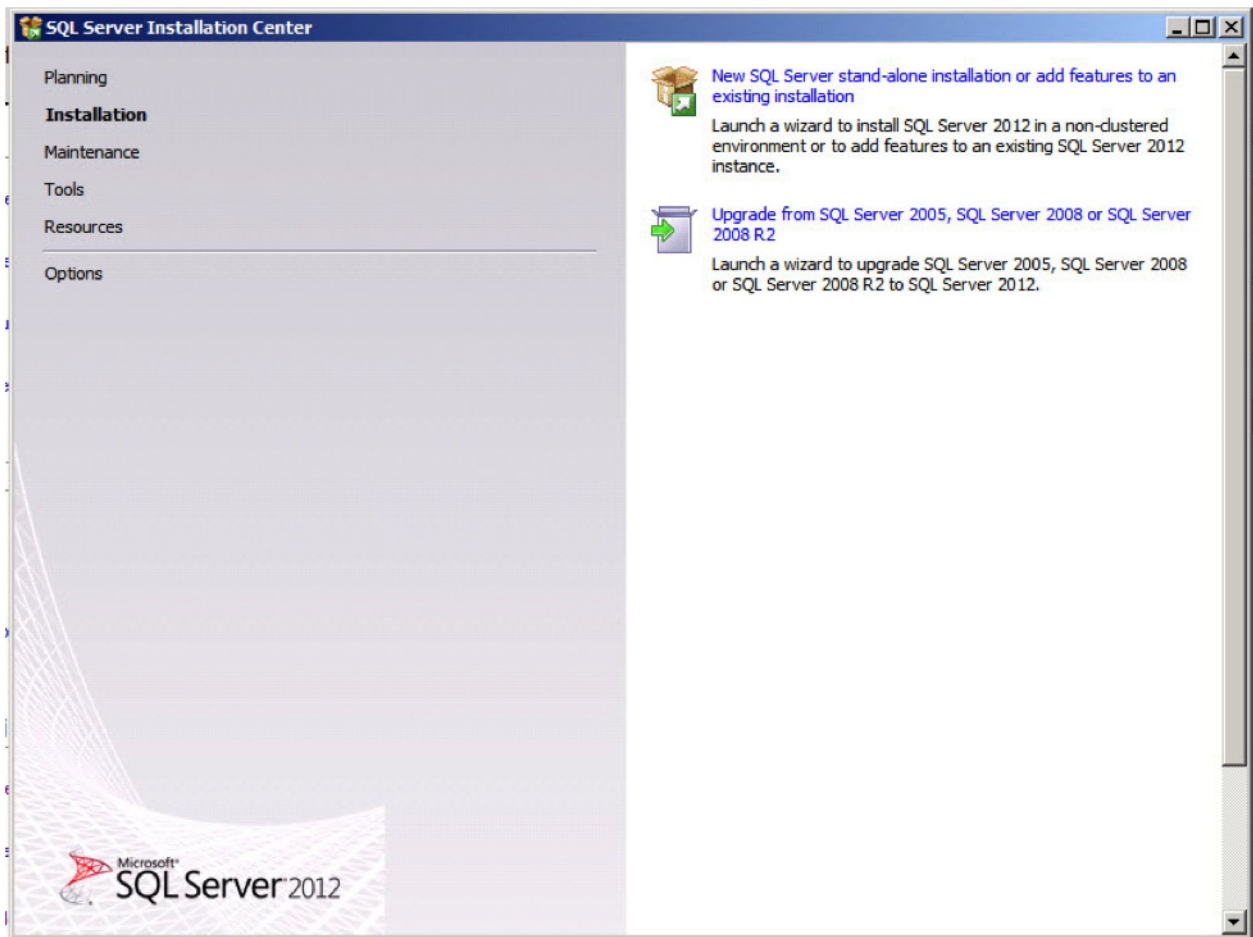
1. Run the SQLEXP\_x86/64\_ENU installer.



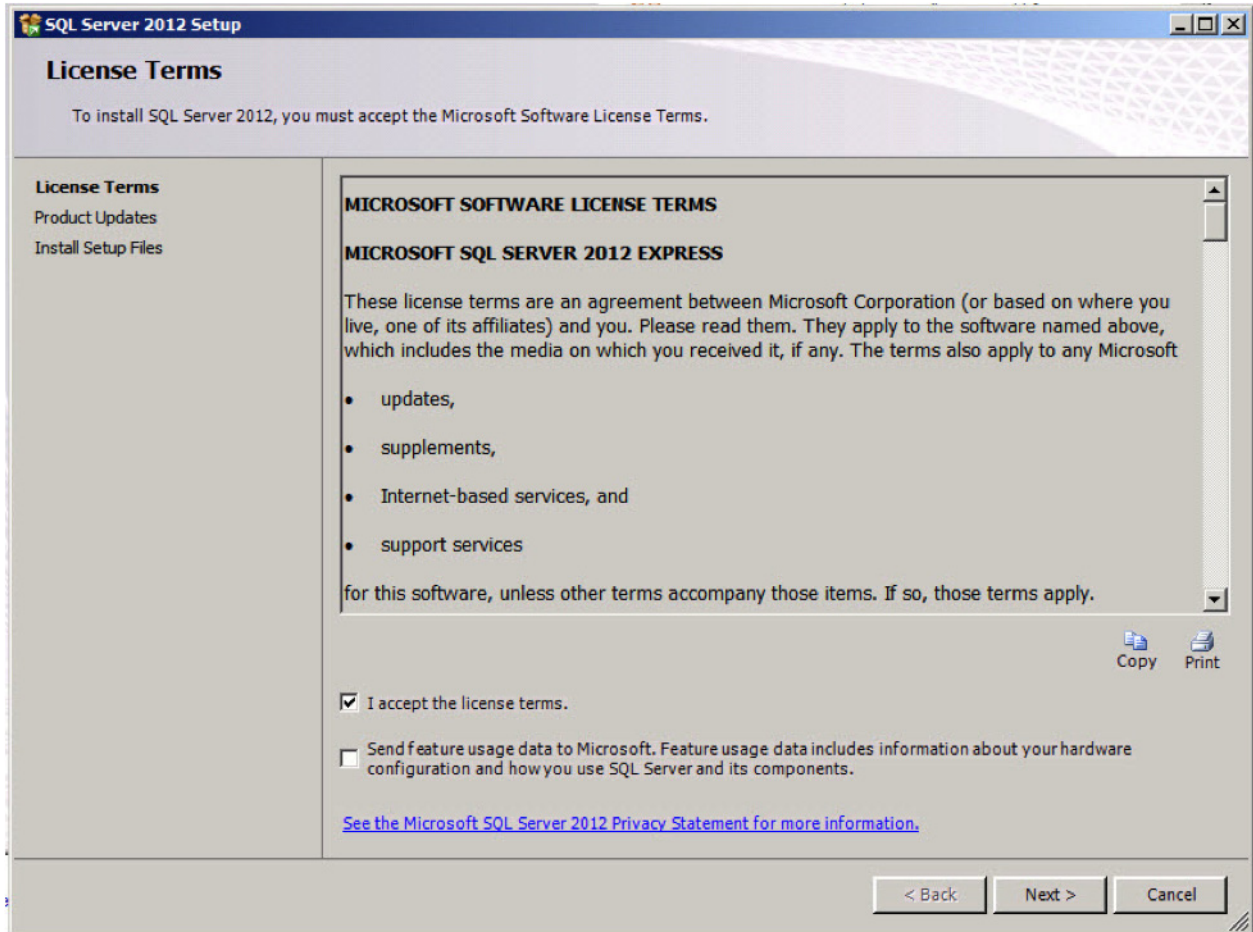
2. In the User Account Control window, press **Yes**.



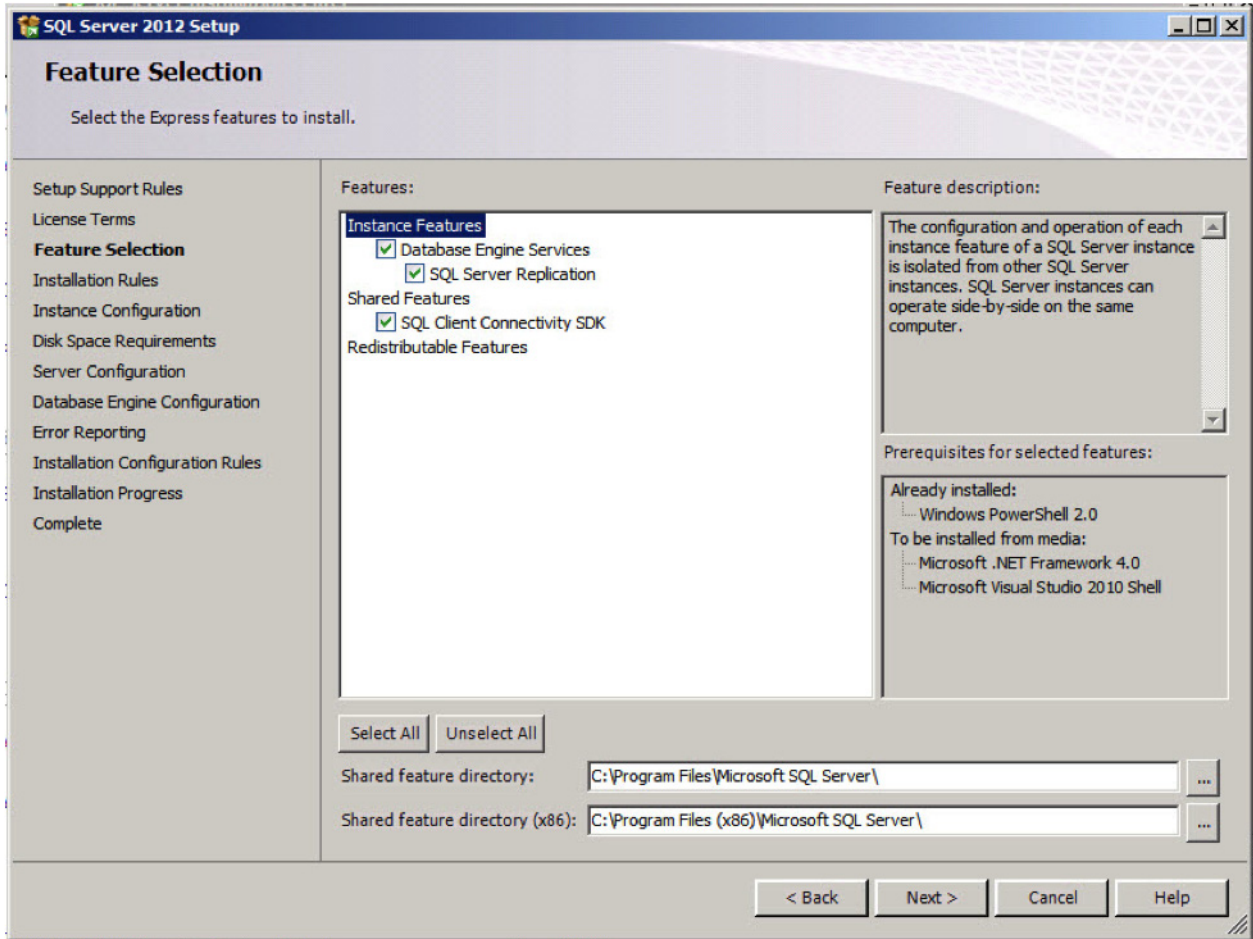
3. Select the link **New SQL Server stand-alone installation...**



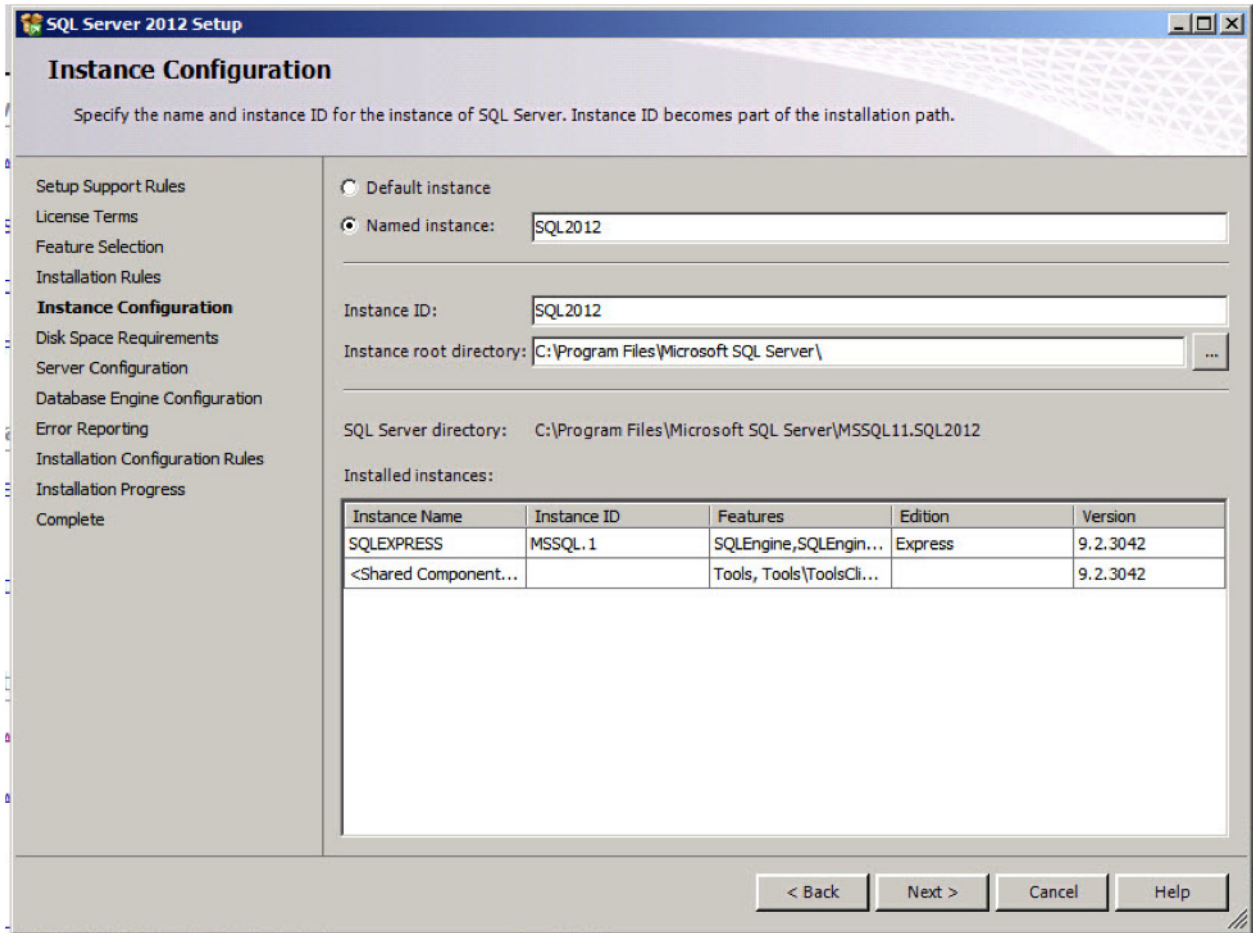
4. In the Product Updates window, select the “Include SQL Server product updates” check box, then click **Next**.
5. Accept the License Terms, then click **Next**.



6. In the Feature Selection, click **Next**.

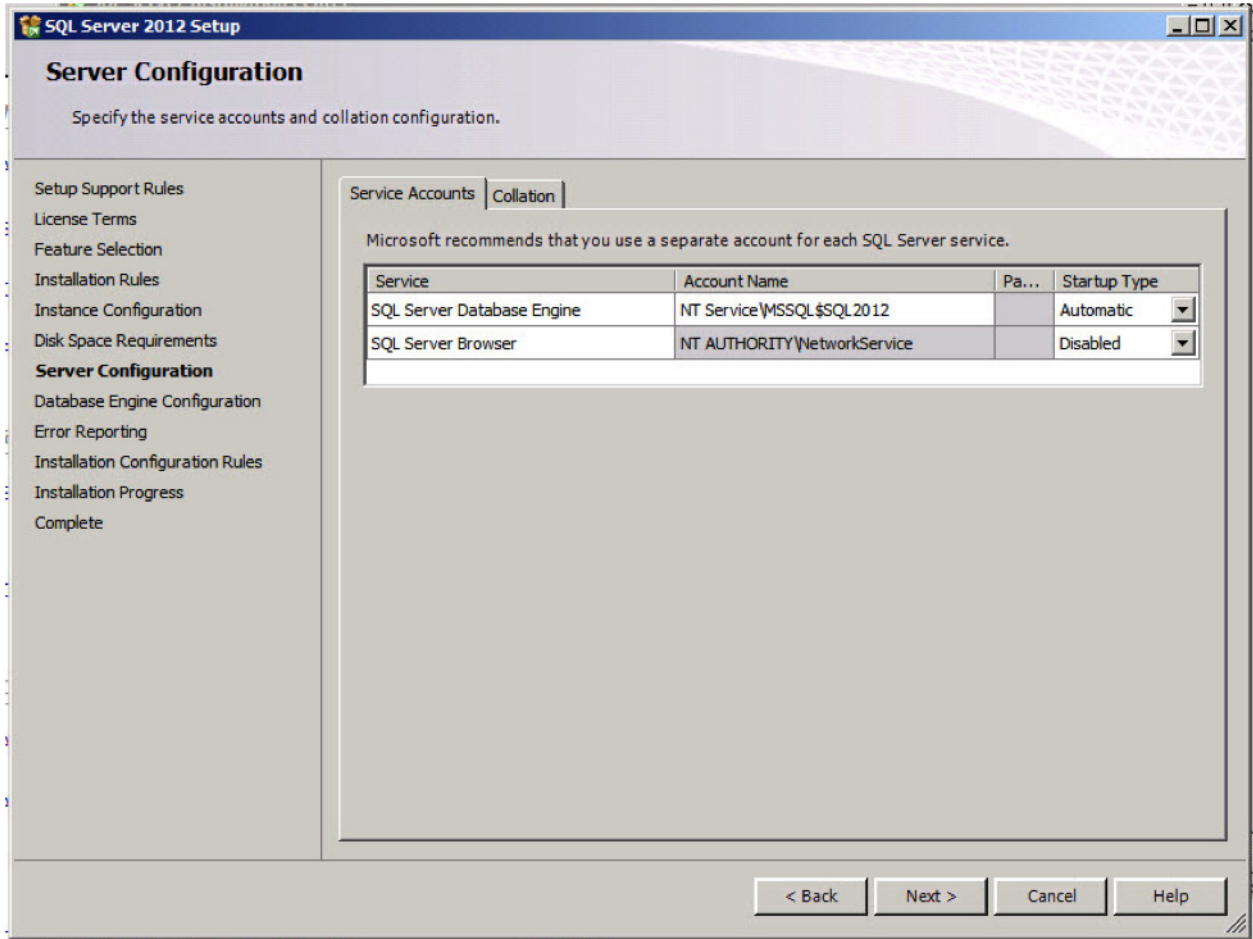


7. In the Instance Configuration window, click Named Instance and enter a name for the new database instance.



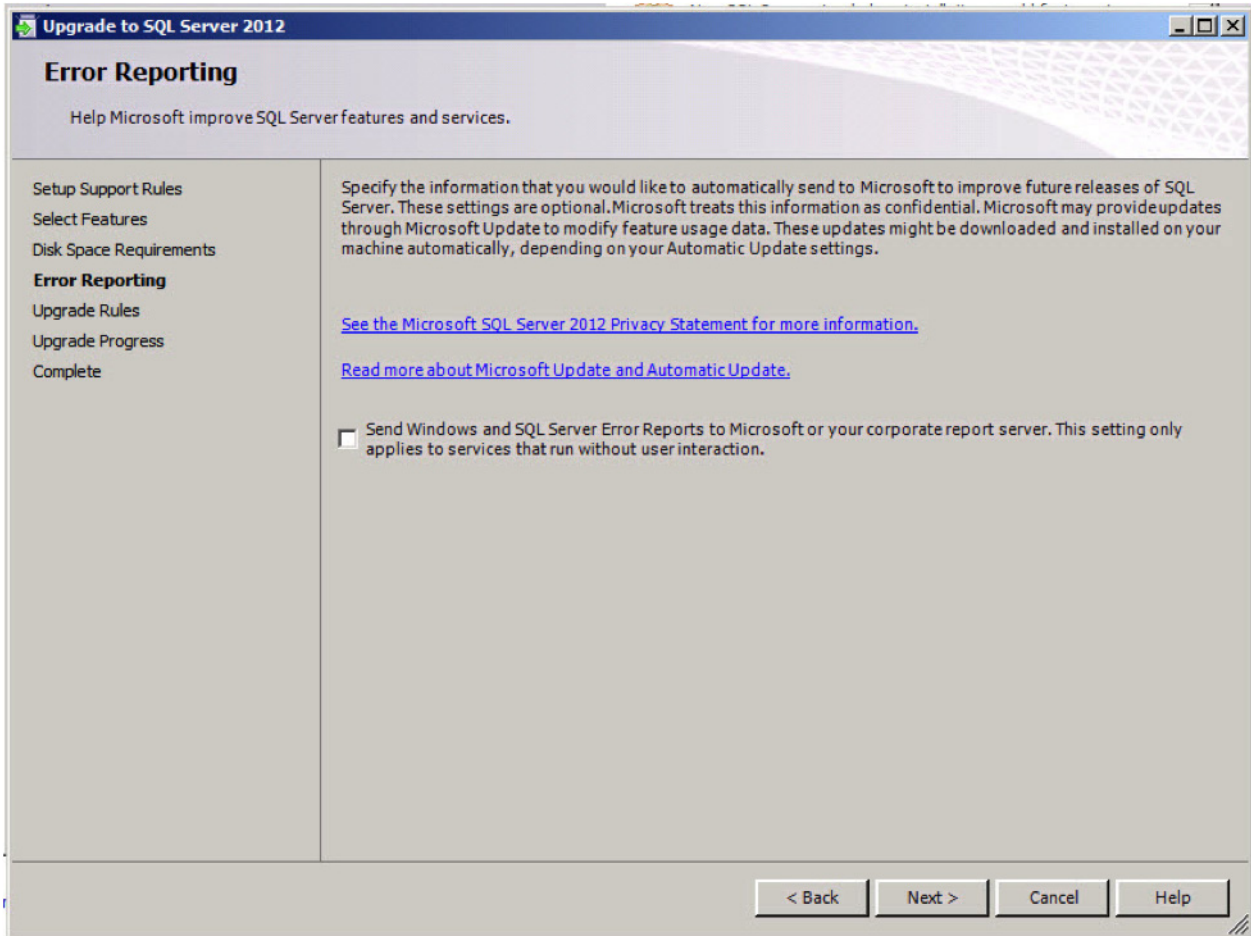


8. In the Server Configuration window, click **Next**.

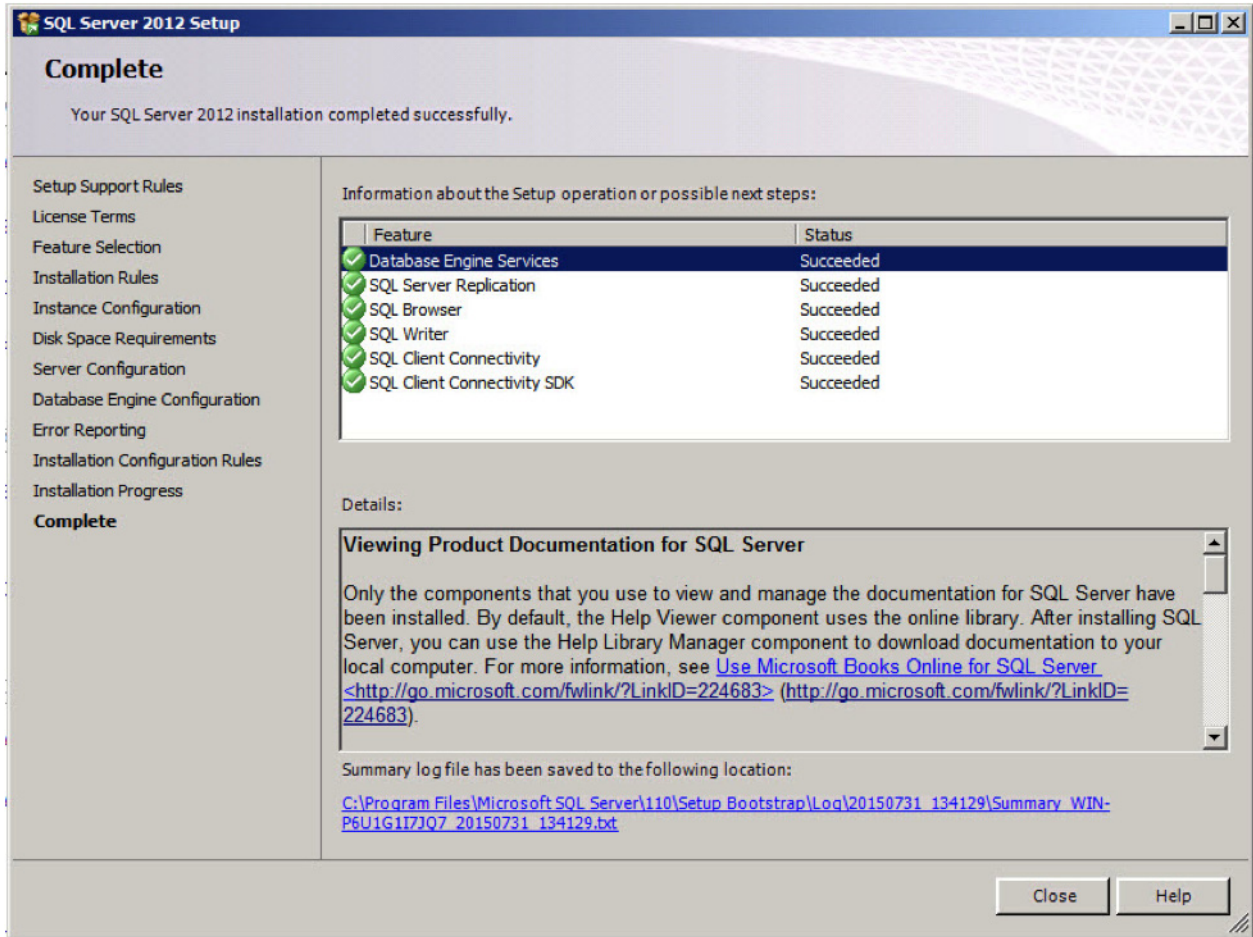


9. In the Database Engine Configuration window, under Authentication Mode, select Mixed Mode and specify the password for the SQL Server system administrator (sa) account, then click **Next**.

10. In the Error Reporting window, click **Next**.



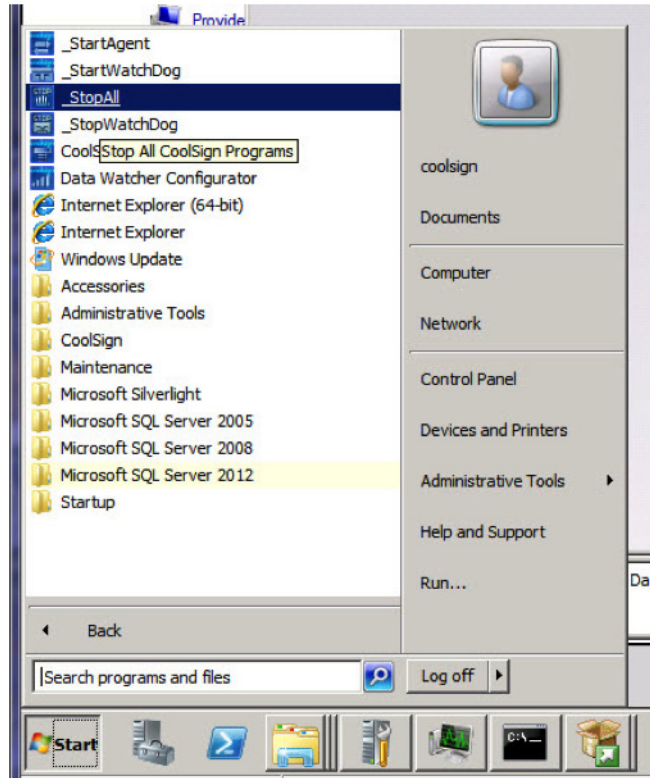
11. In the Complete window, click **Close**.





## Upgrading the SQL Express 2005 User database

1. Run the “\_StopAll” script from the Windows Start menu to stop the Network Controller’s CoolSign components.

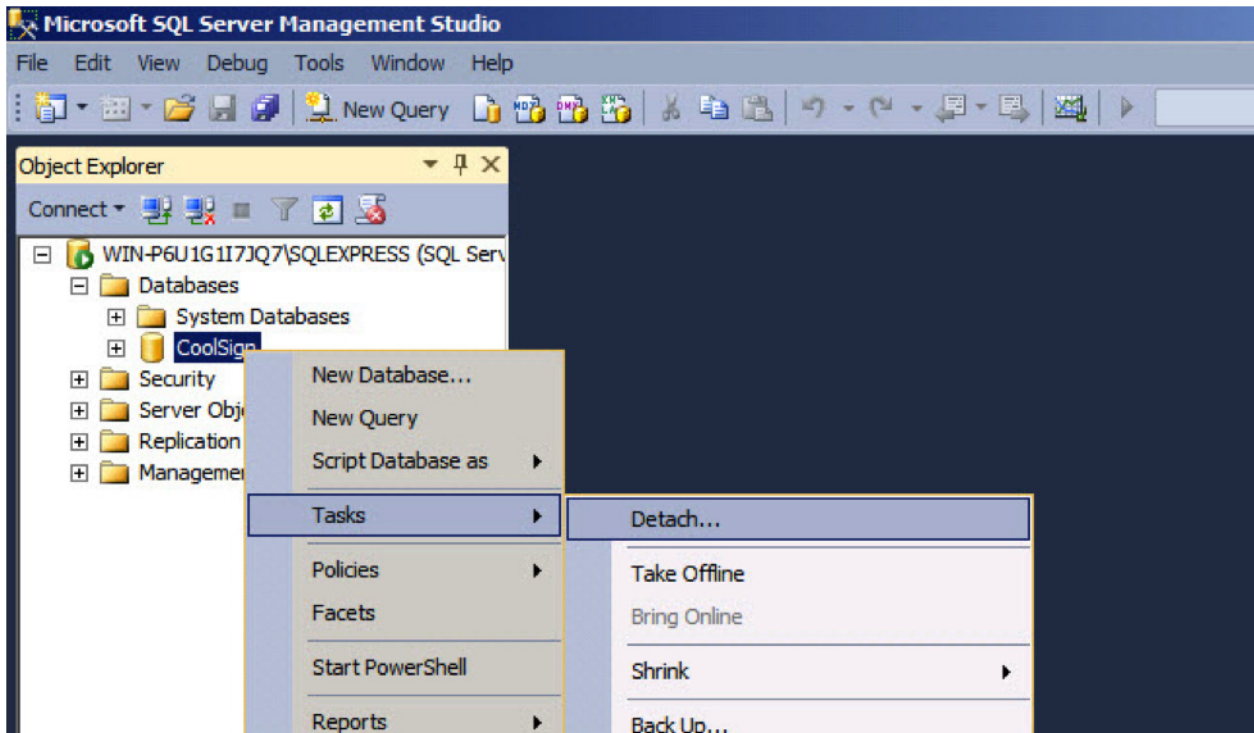


2. Install SQL Server Enterprise Manager (SSMS)

## Detach/Attach Upgrade Method

Take the following steps to upgrade a user database by using the detach/attach upgrade method:

1. Detach the database to be moved from the SQL Server 2005/2008/2008 R2 instance by using SQL Server Enterprise Manager (SSMS)



2. Copy the detached data file(s) and log file(s) to the new server.

Copy from SQL Express 2005 instance:

C:\Program Files(x86)\Microsoft SQL  
Server\MSSQL.1\MSSQL\Data\CoolSign.mdf

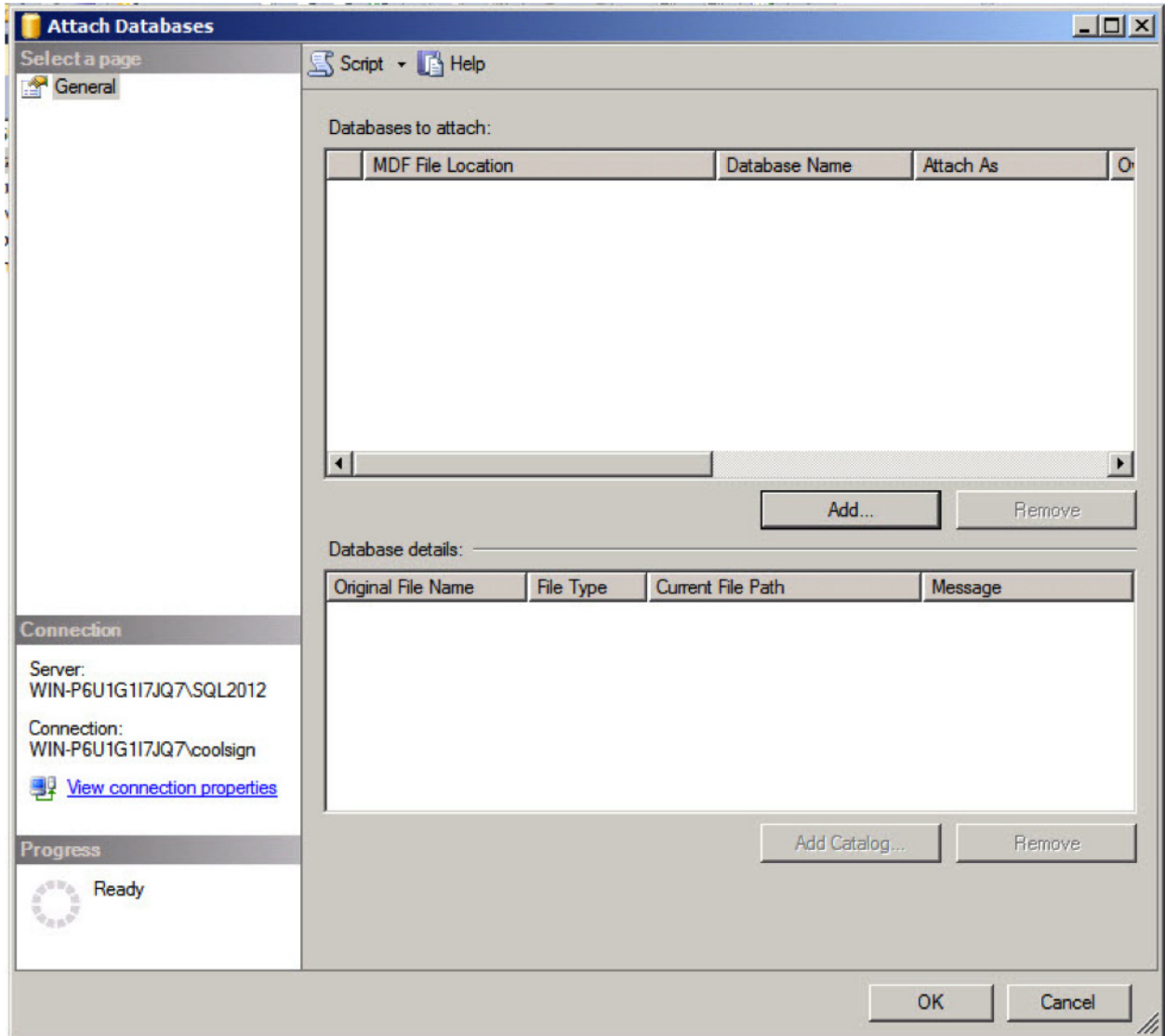
C:\Program Files(x86)\Microsoft SQL  
Server\MSSQL.1\MSSQL\Data\CoolSign\_log.LDF

Copy to CoolSign.mdf and CoolSign\_log.LDF to SQL Server 2012 instance

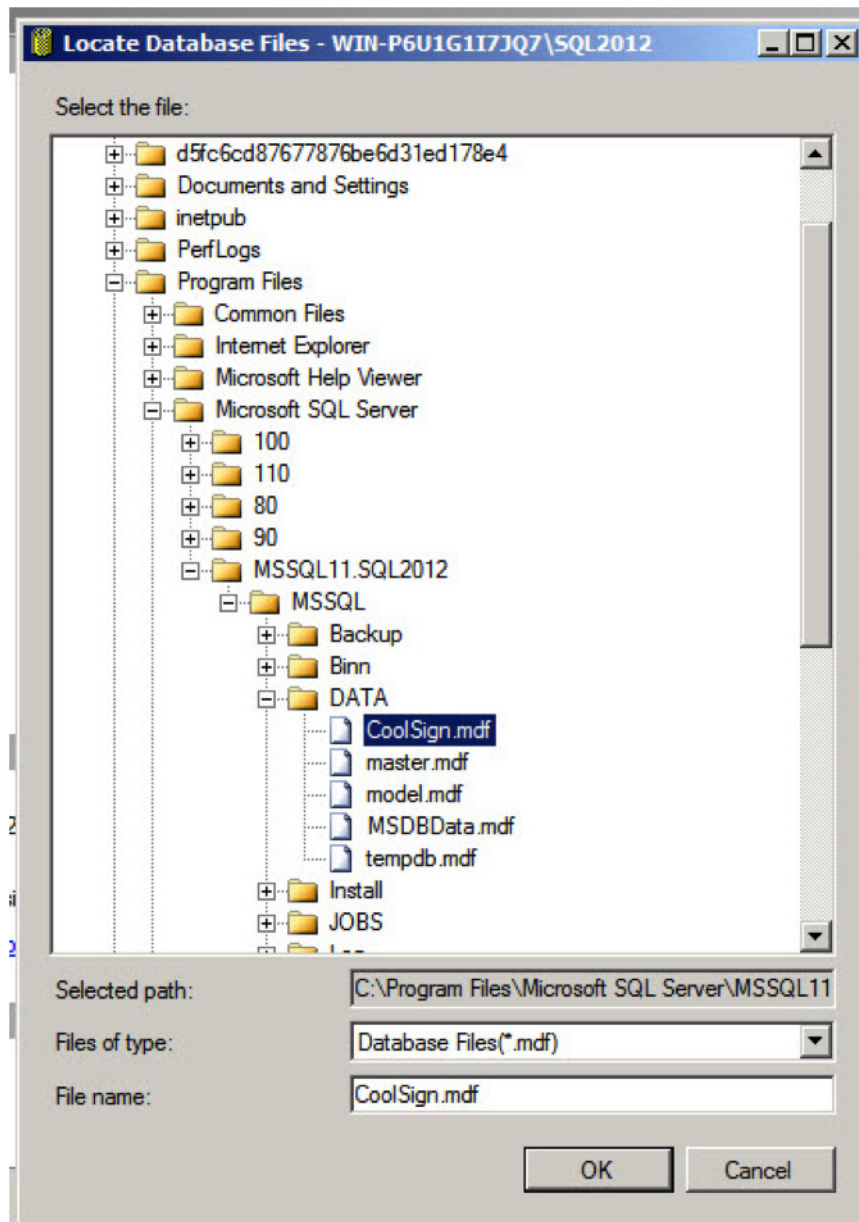
C:\Program Files\Microsoft SQL Server\MSSQL11.SQL2012\MSSQL\Data\



4. Press **Add**.



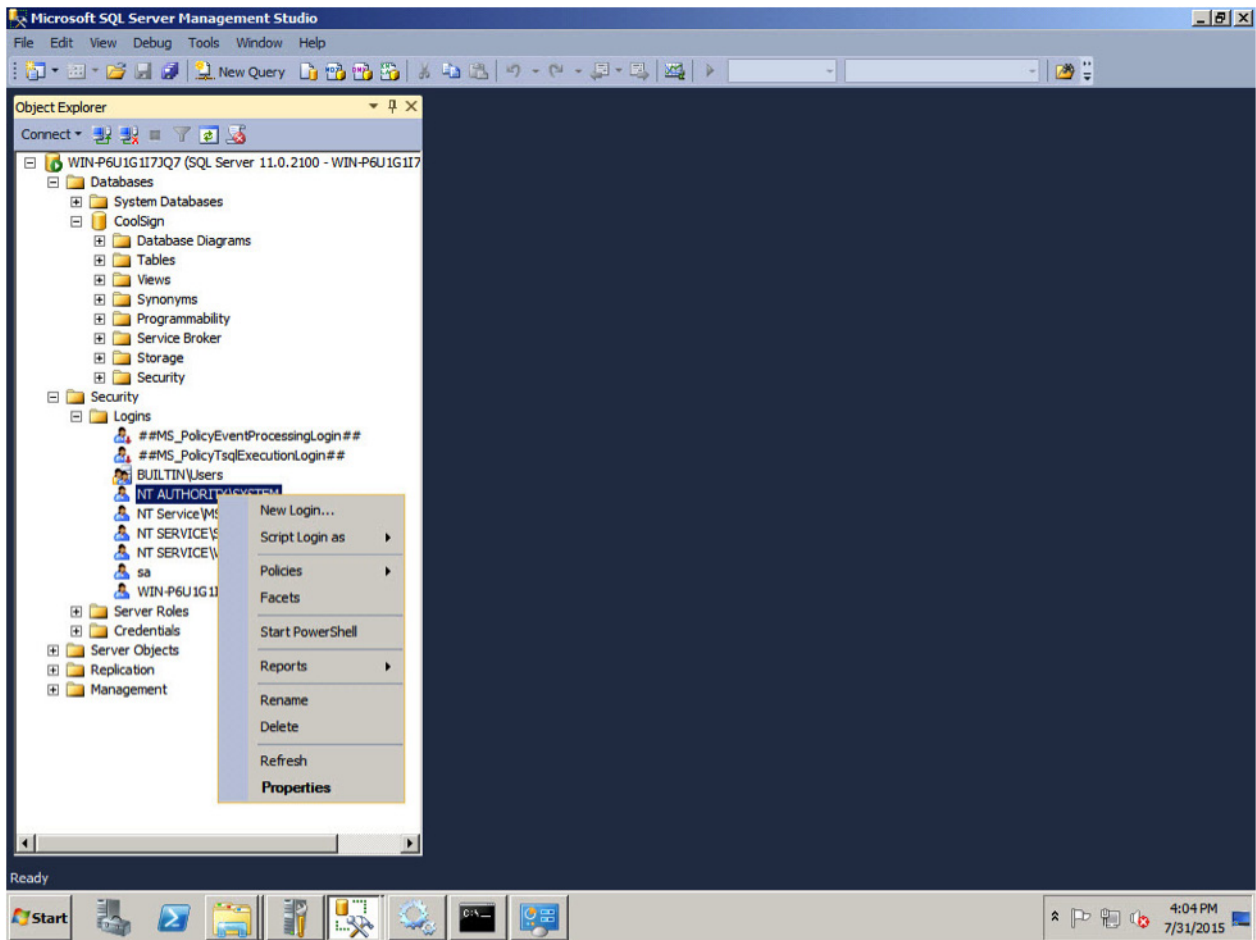
5. Locate the database files.



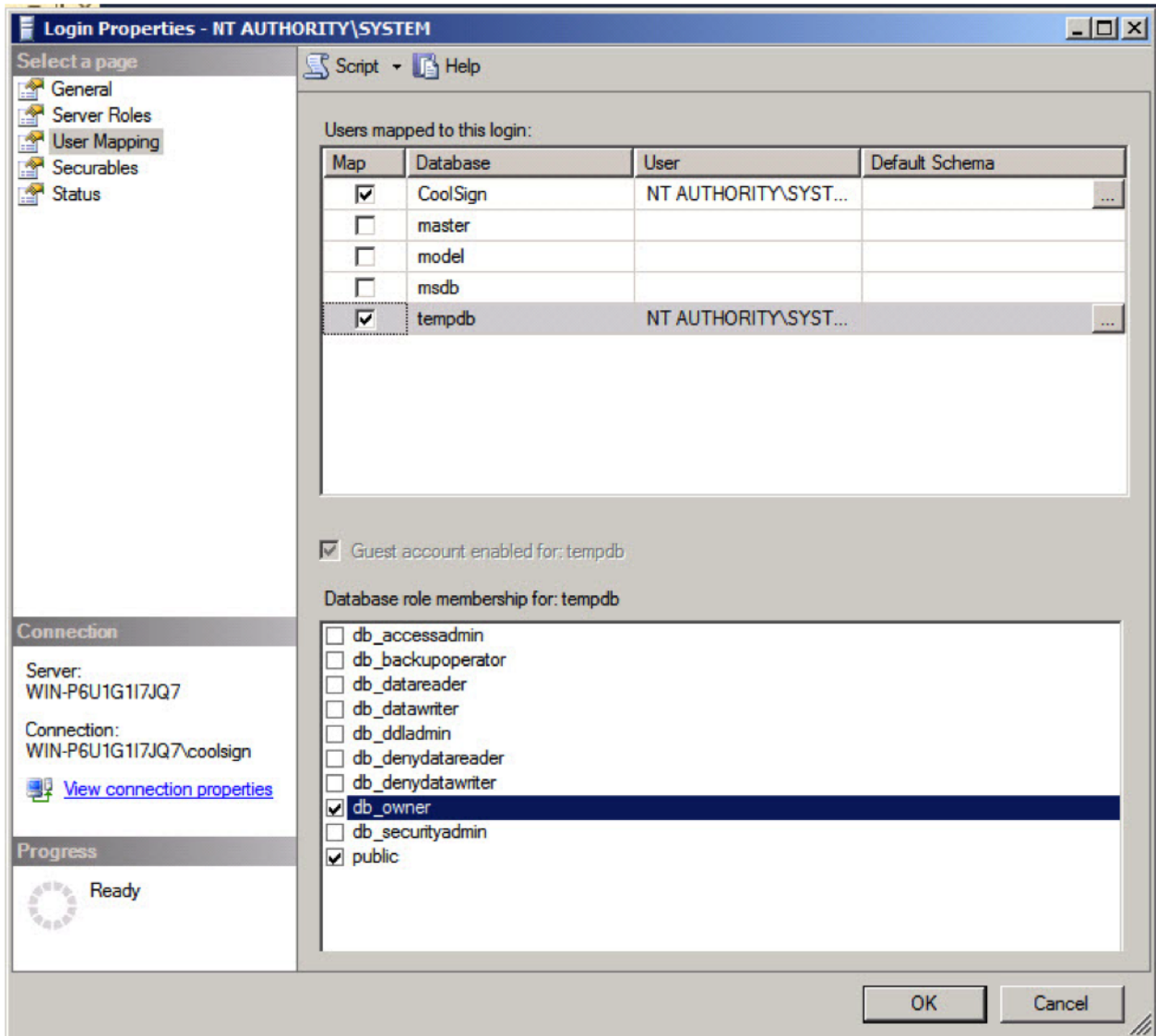
**NOTE**

If an access denied error is displayed at this point, it means that the windows user does not have security permissions setup and must be added manually (to both CoolSign.mdf and CoolSign\_log.ldf) before attaching the database.

6. Fix CoolSign and tempdb permissions. Go to Security > Logins, then right-click on NT AUTHORITY\SYSTEM and choose **Properties**.



7. Go to User Mappings and select “CoolSign” and “tempdb” options and set the tempdb role membership to db\_owner, then click **OK**.

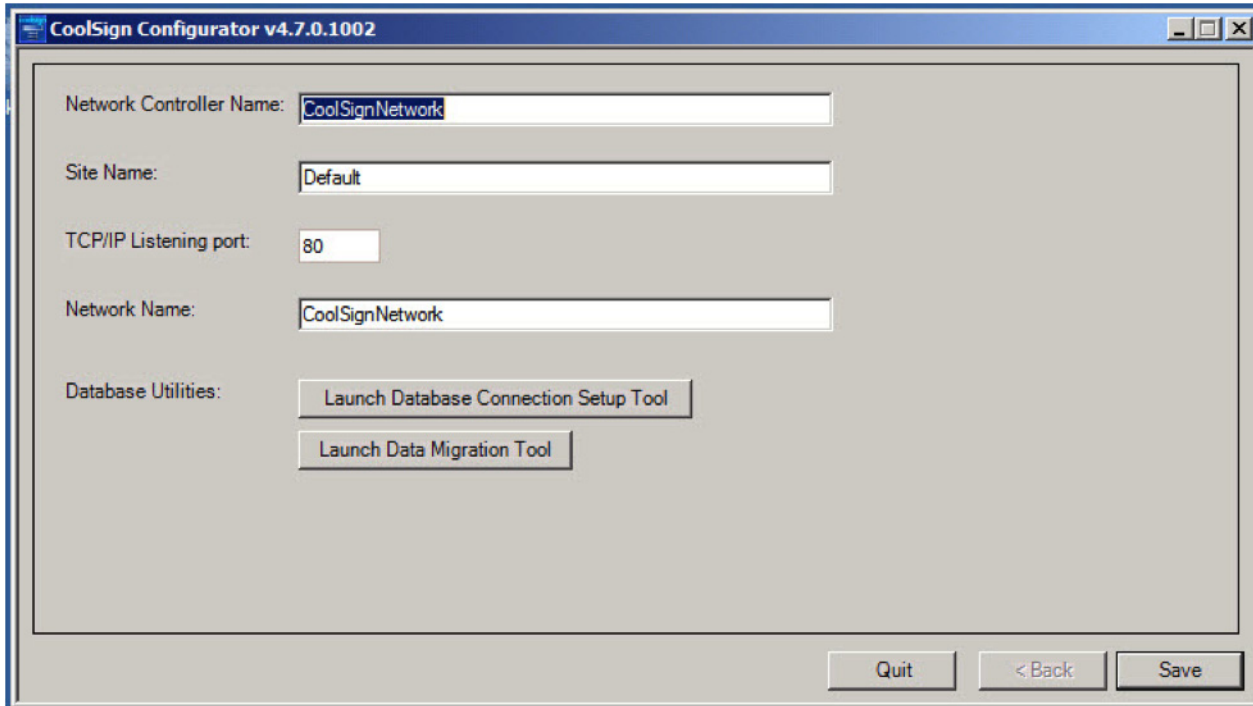




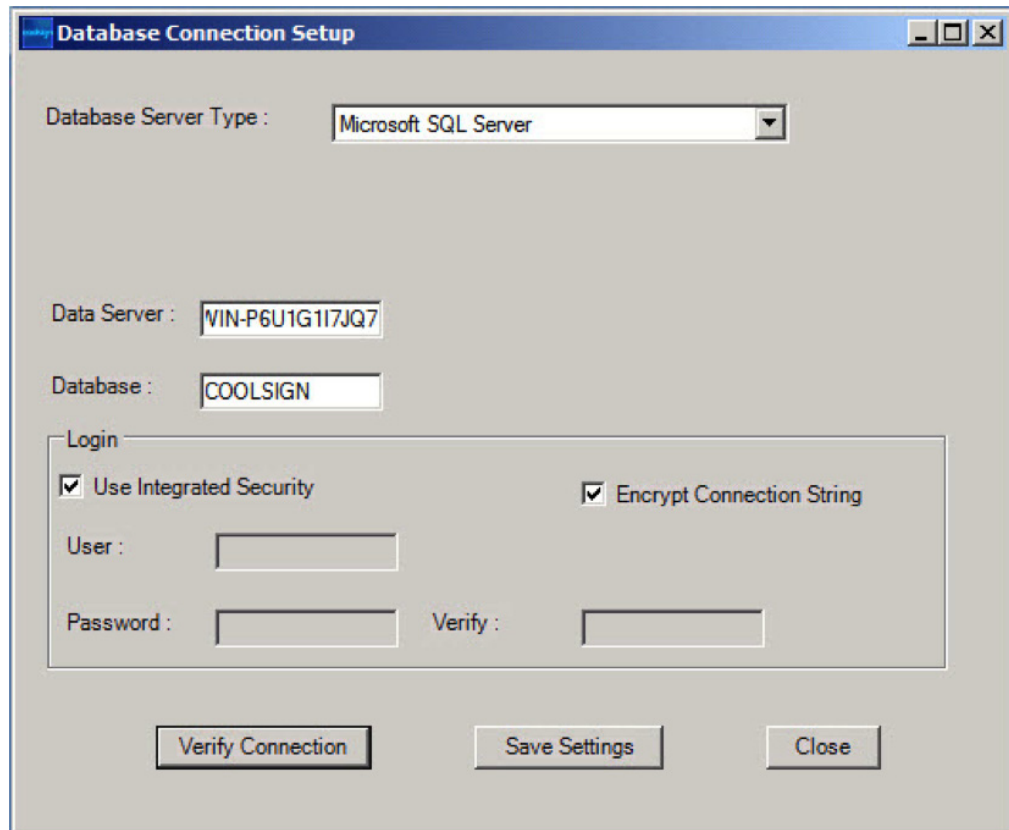




2. Select “Launch Database Connection Setup Tool”



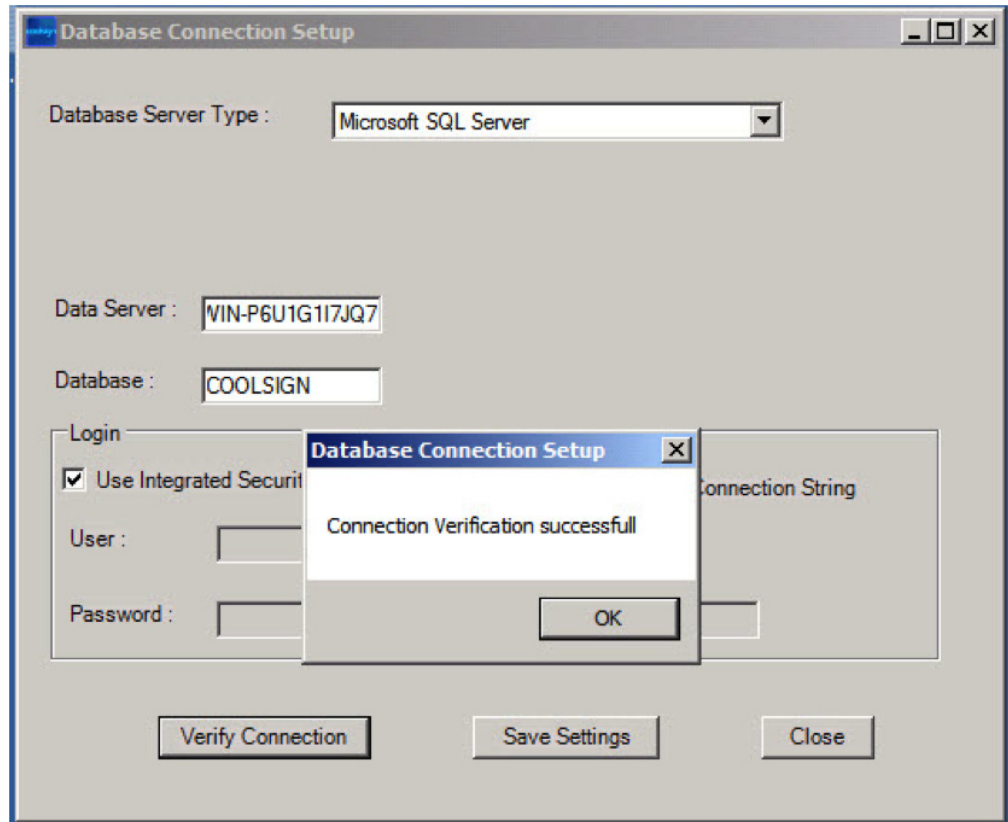
3. Select Microsoft SQL Server option from the dropdown menu.
4. Set the Data Server field to “Server\_Name\DB\_Instance\_Name”.
5. Set the Database field to COOLSIGN.
6. Select the “Use Integrated Security” option.



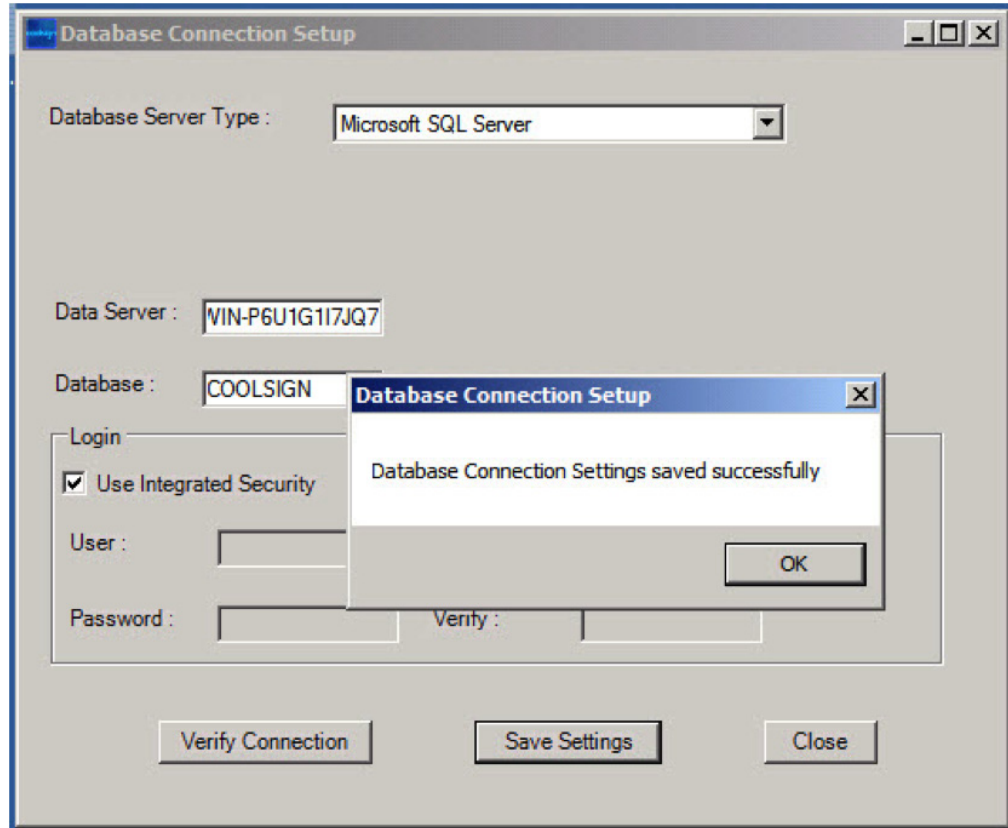
The screenshot shows a window titled "Database Connection Setup". It contains the following fields and options:

- Database Server Type:** A dropdown menu with "Microsoft SQL Server" selected.
- Data Server:** A text box containing "WIN-P6U1G117JQ7".
- Database:** A text box containing "COOLSIGN".
- Login:** A section containing:
  - Use Integrated Security
  - Encrypt Connection String
  - User:** An empty text box.
  - Password:** An empty text box.
  - Verify:** An empty text box.
- Buttons:** "Verify Connection", "Save Settings", and "Close".

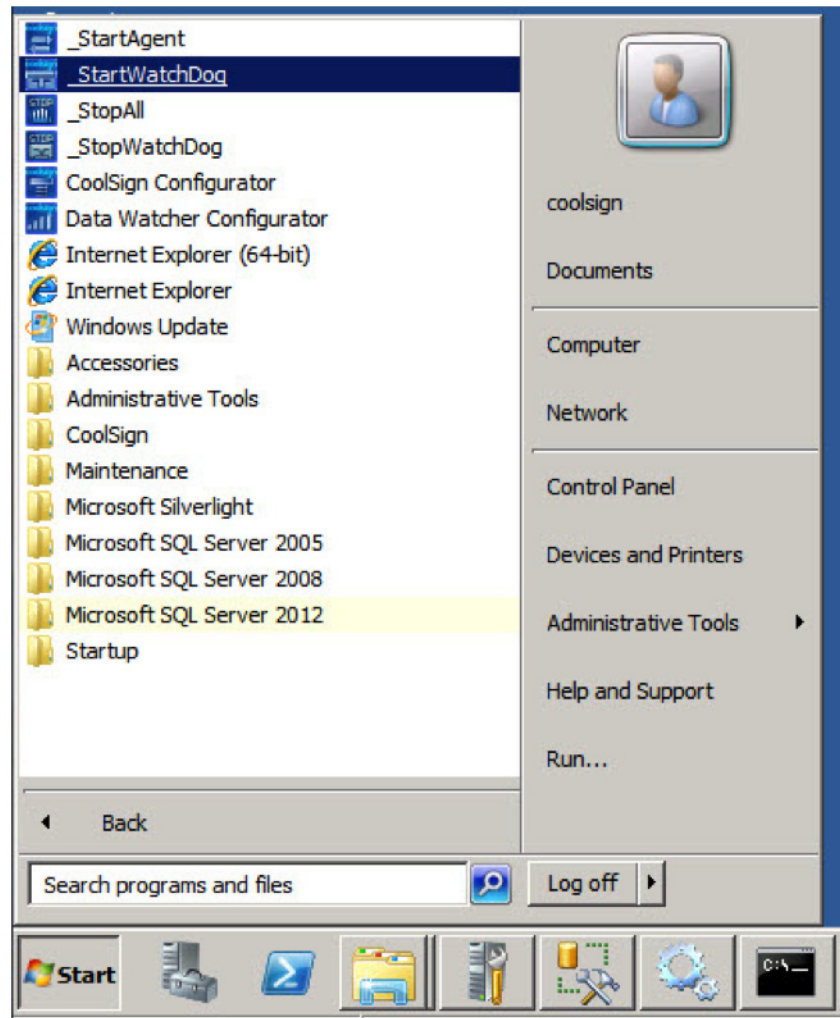
7. Click “Verify Connection”.



- 8. If the connection verification succeeds, click “Save Settings” button. Otherwise check your settings.



9. Close the Database Connection Setup Utility.
10. Quit the Configurator.
11. To complete the upgrade, from the Windows Start menu select > All Programs > \_StartWatchdog.



---

# 8. Getting Started

CoolSign Network Manager (CNM) is your primary tool for controlling, managing, and monitoring the activities of your CoolSign digital media network. You can use CNM to:

- Import and manage CoolSign content.
- Create channels and playlists to schedule content for playback.
- Configure and manage CoolSign players connected to your network.
- Create and populate dynamic data tables to provide rich data sources for dynamic content.
- Remotely configure and monitor many aspects of your network including status, play history, bandwidth usage, and security settings.
- Connect to your network directly from your desktop PC over a local or wide-area network connection. Or use your browser to access the web-based interface.

## Topics Discussed

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<a href="#">Managing your Available Networks</a> . . . . .	93
<a href="#">Auto-Discovering Available CoolSign Networks</a> . . . . .	93
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<a href="#">About Product Keys</a> . . . . .	95
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## Prerequisites

If you haven't installed the necessary CoolSign software or set up your CoolSign network controller or players, you'll need to do this before using CNM. For detailed installation and setup instructions, download the *CoolSign Digital Media Network Installation Manual*, from: <http://support.haivision.com>.



### NOTE

All current CoolSign software requires Microsoft's .NET Framework 4.0 or later.

---

## Connecting to a CoolSign Network

When you launch CNM, a login dialog prompts you to enter your user name and password and enables you to select the available CoolSign network that you wish to connect to.

- If this is your first time running CNM, you'll be prompted to accept the CNM EULA agreement as well as enter the connection information for your network. For details, see [“Managing your Available Networks”](#) on page 93.
- If you want to allow users to log into the CoolSign network from an existing Windows domain account, you can streamline the user logon process **ONLY** if the Windows

domain accounts are in the same domain as the CoolSign Network Controller node. For details, see [“Using Windows Domain Security to Connect to CoolSign”](#) on page 322.



### TIP

If you're set up to connect to the CNM using your Windows credentials and instead you want to use CoolSign account credentials, you can hold down the left CTRL key while starting the CNM. Note that the following login window appears even if you are using domain security.



To connect to a CoolSign network:



### IMPORTANT

When your CoolSign Network is initially installed, it comes with one user account already created. The name for this account is `admin`, and the password is `password`. When you first log in to your network, you should immediately create new user accounts and change the password for the `admin` account. For more information see [“About Security”](#) on page 322 of the *CoolSign Network Manager User's Guide*.

1. Enter your user name.
2. Enter your password.



### NOTE

Passwords are case-sensitive. Make sure you don't accidentally have the `Caps Lock` key depressed when entering your password.

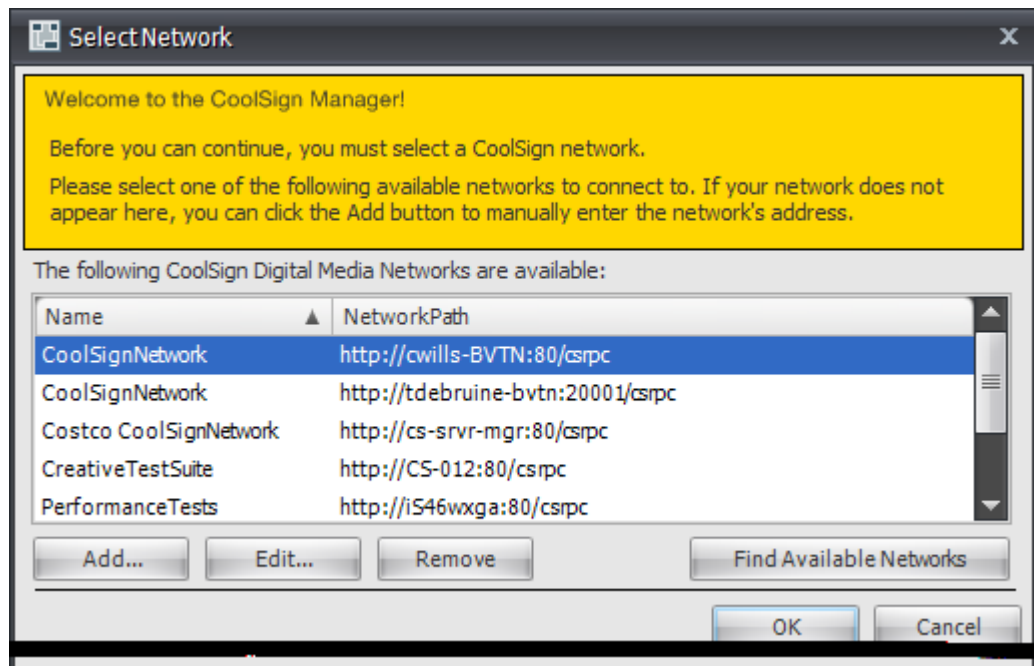
3. Select a network to which to connect.



4. Click the Login button.

## Managing your Available Networks

The first time you launch CNM, or if you have more than one network that you want to manage, you'll need to use the Select Network dialog to add to your list of available CoolSign digital media networks. You can use this dialog to manually add, edit, or remove CoolSign networks from your list of available networks or you can attempt to auto-discover any networks.



To open the Select Network dialog:

- From the Login dialog, click the Edit Networks button.

## Auto-Discovering Available CoolSign Networks

CNM can check to see if any CoolSign digital media networks are available on your local network. When auto-discovering available networks, any new networks are automatically added to your list of available networks. In addition, if any of the networks already listed are no longer available, they appear red to indicate that they currently aren't available.



### NOTE

A CoolSign network can only be auto-discovered if its Network Controller is located within the same network domain as your PC.

To auto-discover available CoolSign networks:

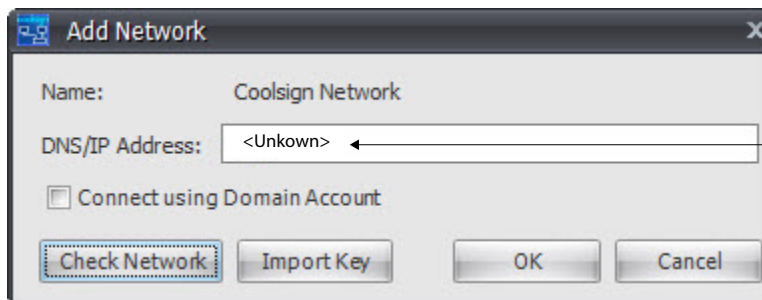
- Click the **Find Available Networks** button.

## Manually Managing Available CoolSign Networks

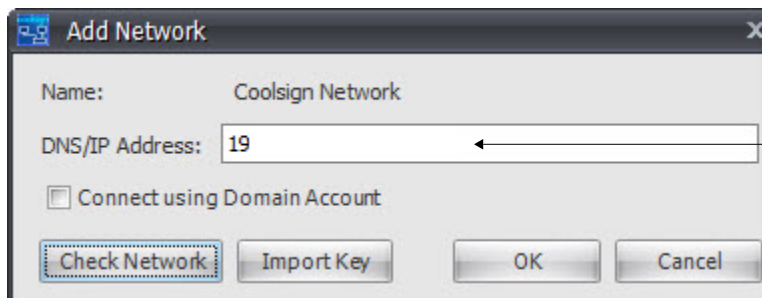
If CNM cannot discover a Network Controller on the CoolSign network to which you wish to connect, you must manually add the network to the list of available networks.

To add a new network:

1. From the **Select Network** dialog, click the **Add** button. The **Add Network** dialog appears.



Enter the new DNS name here.



Enter the IP address of the new network here. Example IP address shown.

2. Enter the IP address or DNS name of the Network Controller. For example, 192.168.1.10.
3. Click the **Check Network** button. If a network is online and available at the specified address, its name automatically appears.

### **i** NOTE

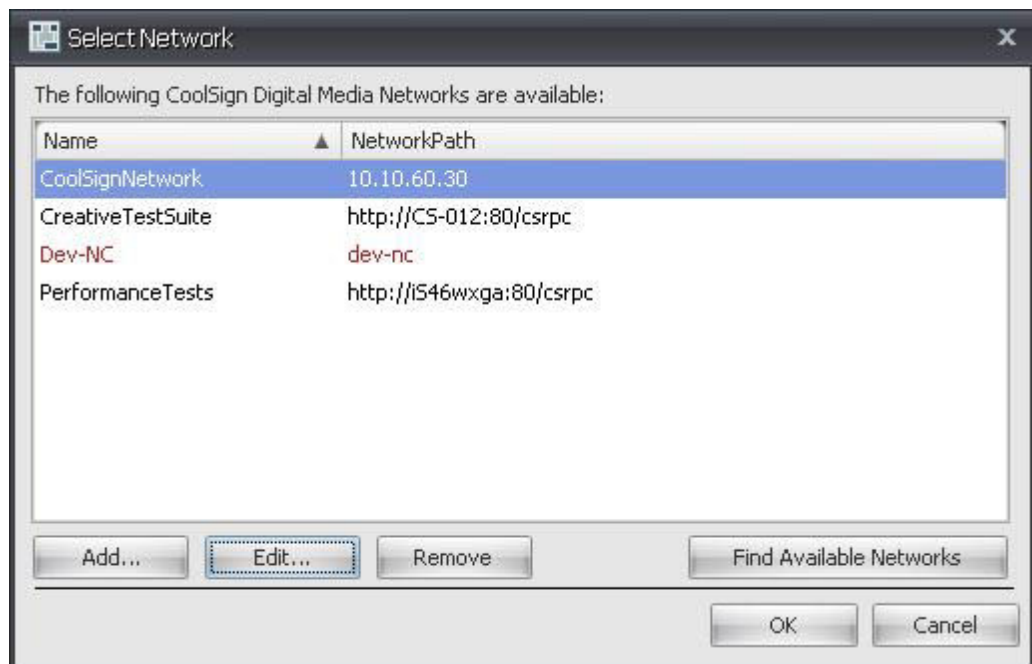
You cannot add a network that is not currently online. If you are having trouble connecting to a valid address, make sure that the Network Controller agent is running.

4. To connect using Domain Accounts, check the **Connect using Domain Account** box. This option causes CNM to use the Windows Domain account to log into the CoolSign network without displaying the Login dialog.

- For more information on using domain accounts, see [“Linking CoolSign Users/groups to Active Directory Groups”](#) on page 328 and “To assign group capabilities to a user:” on page 328 of the *CoolSign Network Manager User’s Guide*.
5. To import your license key from a valid product key file, click **Import Key**. For details, see [“About Product Keys”](#) on page 95.
  6. Click **OK**.

To edit the properties of an existing available network:

1. In the **Select Network** dialog, select the network in the list of available networks.



2. Click the **Edit** button.
3. Enter a new IP address or modify any properties.
4. Click **OK**.

To remove an available network:

1. In the **Select Network** dialog, select the network in the list of available networks.
2. Click the **Remove** button.

## About Product Keys

CoolSignCoolSign uses a product key system to license the functionality and features of the CoolSign Network Controller. If you are trying to connect to a CoolSign Network Controller that does not have a valid CoolSign product key, you must obtain one from either

your authorized CoolSign reseller or from CoolSign Technical Support. The product key is provided as a small text file. Visit <http://haivision.com/license> for more details.

CoolSign product keys are tied to the Network Interface Controller (NIC) address of the Network Controller's networking hardware. You'll need to provide the NIC address of the PC in order to have a product key generated.

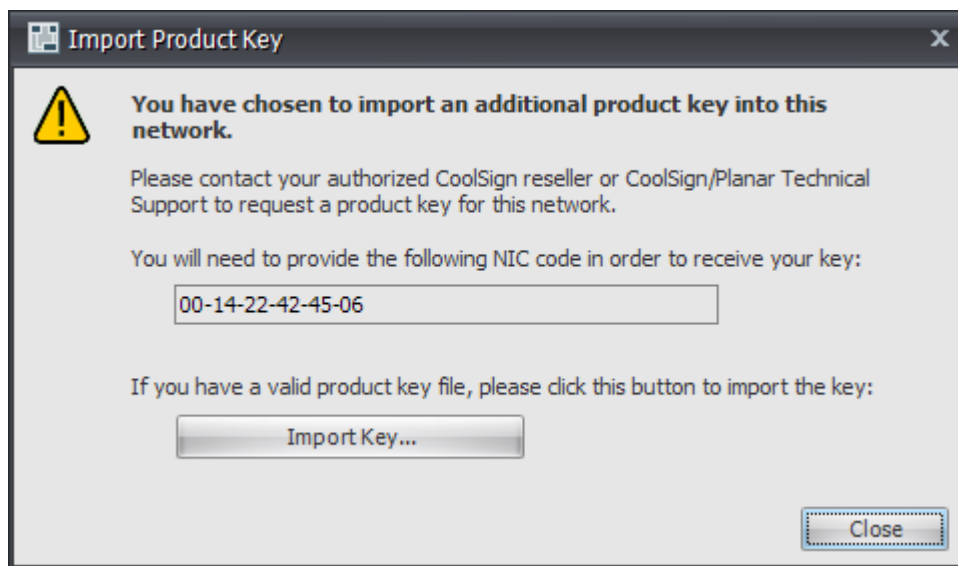


#### NOTE

The NIC address is sometimes referred to as a MAC address or as the physical address of your NIC.

## Keying your Network Controller

When CNM connects to an unkeyed network, it displays this warning dialog:



The dialog provides the NIC address that you must provide when requesting a key for your Network Controller.

If you already have a product key for your Network Controller, you can import the key through this dialog.

To import a network product key:

1. Click the **Import Key** button.
2. Select the **Product Key** file provided to you using the **Select File** dialog.
3. Click **OK**. You should be able to connect to your network after a few moments.

To view license info for your network:

- Choose TOOLS > VIEW LICENSE INFO. See [“Product Licenses”](#) on page 97.

## Importing Product Keys

You can import the product keys provided by CoolSign Technical Support directly into CNM to remotely key your nodes.

To import a product key:

1. Choose TOOLS > IMPORT PRODUCT KEY.
2. Select the product key text file provided to you by CoolSign Technical Support.
3. Click OK. The import tool lets you know how many valid keys were imported.

## Product Licenses

This section describes how to view current product license information and import product licenses. Product licenses can only be imported using product keys that are available from CoolSign Technical Support.

The following product licenses are now available from CoolSign.



### NOTE

Only the network controller and the player require licenses.

---

- Network controller:
  - Enterprise Class Server—has no built-in limits on player or CNM/client counts
  - Multi-tenant Server—Enables the use of domains and sub-domains to support multi-tenancy
- Transfer nodes: No license required
- Stand-alone Player—Enterprise class server and one player
- Networked Players—Player access licenses

For more details on transfer nodes, see 17. "Managing Nodes", on page 290.



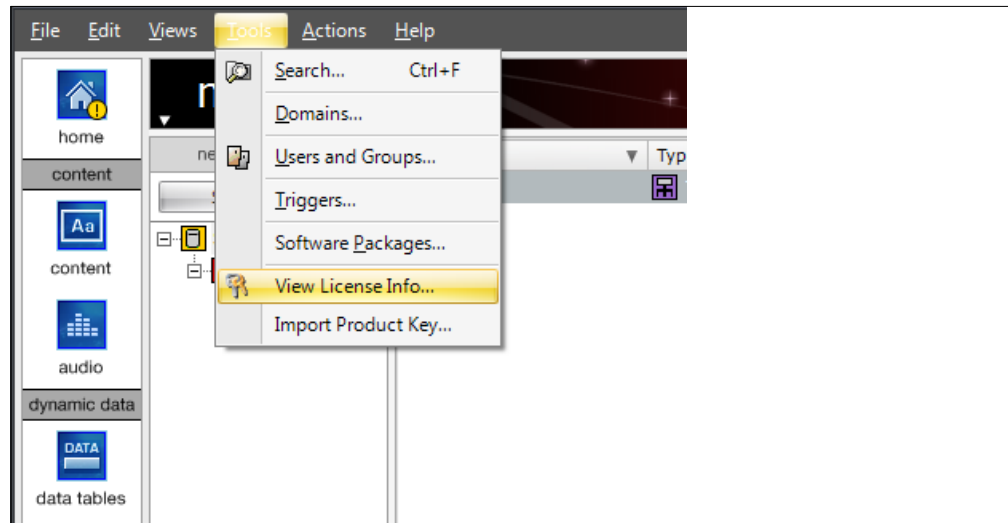
### NOTE

See *“CoolSign Distributed Network Architecture”* for the recommended topology for a distributed CoolSign network and *“CoolSign Standalone Network Architecture”* for the recommended topology for a standalone CoolSign installation. This information can be found in the *CoolSign Network Installation Guide*.

---

To view license information on your network:

1. Click TOOLS and then click VIEW LICENSE INFO...



This screen lists all the fixed Client Access Licenses (CALs) as well as any expired licenses. For details, see [“Managing Domains”](#) on page 102.

 A screenshot of the 'License Info' window. The title bar says 'License Info'. Below the title bar, there is a key icon and the text 'Demo NC : SW-CS-SRV-100 MT'. A table shows license details:
 

License Type	Total	In Use
Player Fixed	100	3
Expired License	0	--

 Below the table, it says 'The following users are currently logged into the system :'. A second table shows:
 

User	When Connected
admin	12/2/2011 11:16 AM

### **i** NOTE

For details about Fixed licenses, see [“Managing Domains”](#) on page 102.

2. If necessary, purchase your product licenses and import your product key(s). For details, see [“Importing Product Keys”](#) on page 97.

## Multi-Tenancy

This section describes how to log in as a CNM administrator and set up domains for tenant users. If a Multi-Tenancy product license was purchased, a CNM administrator can assign the necessary security settings to limit access among domains so customers can each have a CoolSign network that looks as though they are the sole client on the server. In other words, users can “share” a single CoolSign network in a secure way so that each one can safely think of the network as “their network.”



### NOTE

A domain is a sub-network made up of a group of clients and servers under the control of one central security database. Within a domain, users authenticate once to a centralized server (known as a domain control) rather than repeatedly authenticating to individual servers and services. Individual servers and services accept this user-based control on the approval of the domain controller.

## Initial Account and Password

When your CoolSign Network is initially installed, it comes with one user account already created. The name for this account is **Admin**, and the password is **password** (note that passwords are case sensitive). When you first log in to your network, you should immediately create new user accounts and change the password for the Admin account because being a member of the Master domain automatically makes you a member of the Everyone group in all other domains. Being a member of the Administrators group in the Master domain gives you full administrative (super user) access to all domains. For details about how to control who has access to your CoolSign Network, see “Security Strategies” on page 334 of the *CoolSign Network Manager User’s Guide*.

## About Domains

Keep the following in mind when setting up domains:

- When reading a list of users or roles, only users and roles from the user's domain are visible, unless the user is a member of the Master domain, in which case all users and roles in all domains are visible.
- Only members of the Master domain can read a list of domains.
- Only members of the Administrators group in the Master domain can create, update, and delete domains.

## About Sub-Domains

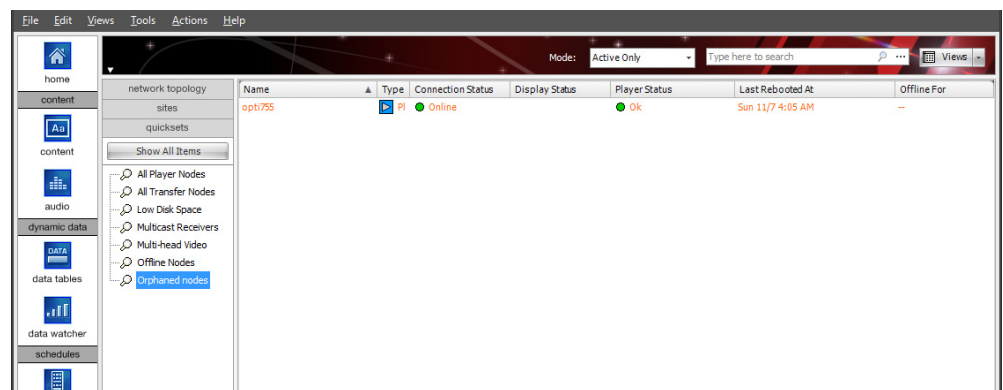
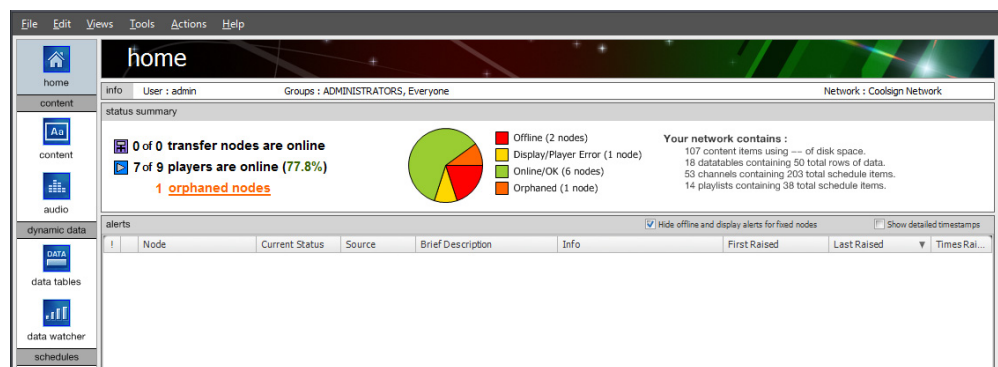
Keep the following in mind when setting up sub-domains (for tenants):

- The master administrator is the only one who can assign licenses and distribute, create sub-domains and pass phrases, and assign permissions.

- Tenants must get access to their respective sub-domains and pass-phrases from the master administrator.
- If a tenant mis-types a sub-domain pass phrase or a node pass phrase while attempting to join a sub-domain, that sub-domain is not accessible and instead joins a special domain that only the master administrator can see and have access to.

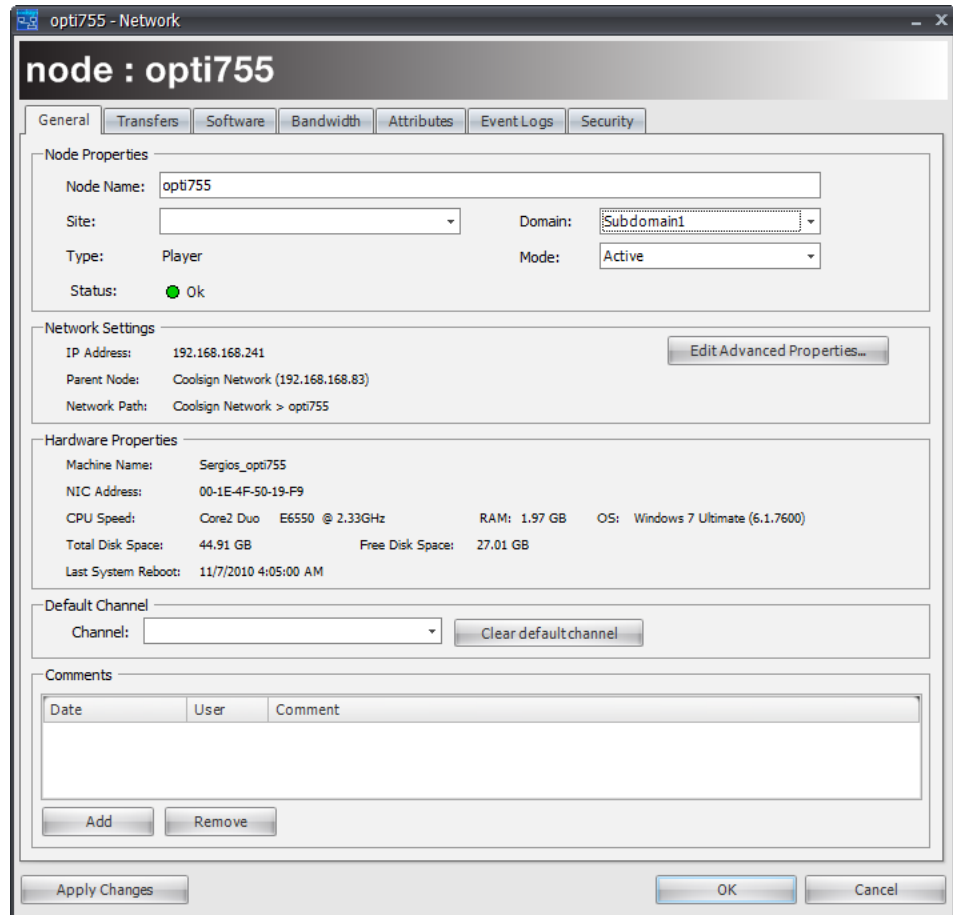
In order for the node to join the assigned tenant sub-domain, the master administrator must move it from the special domain into the assigned tenant domain.

To do this, the master administrator either clicks the Orphaned Nodes link on the home window or selects the Orphaned Nodes pre-defined quickset from the CNM.



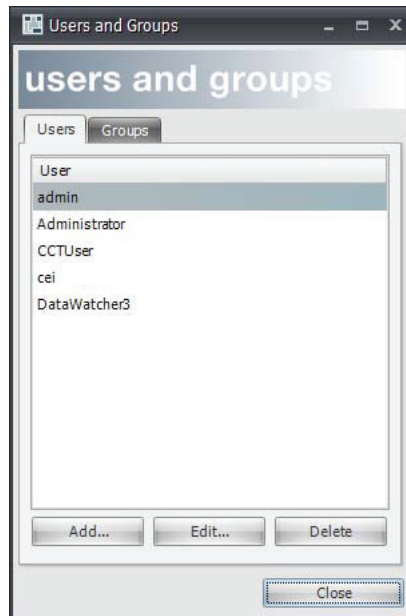


- The master administrator must edit the orphaned node properties and set the domain field to the correct sub-domain.



## Managing Domains

Following is a simplified domain structure based on the displayed groups and users. For details on how to add, edit, or update users and groups see “Managing Users and Groups” on page 325 of the *CoolSign Network Manager User’s Guide*.

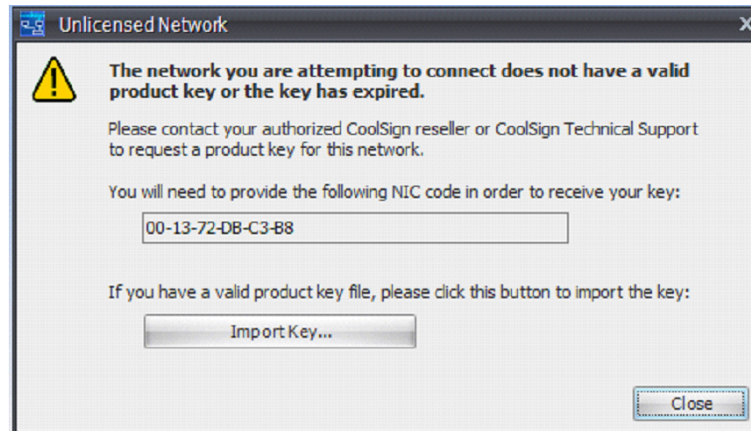


To add domains:

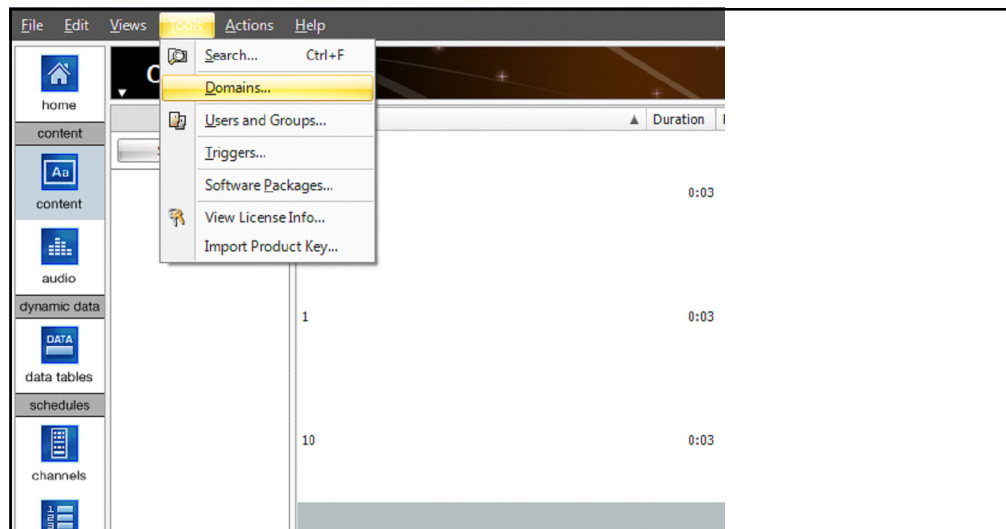
1. Login to the CNM. For details, see [“Connecting to a CoolSign Network”](#) on page 91 “.



2. If you haven't purchased and imported your product licenses, the following screen appears. For details see [“About Product Keys”](#) on page 95 and [“Product Licenses”](#) on page 97.

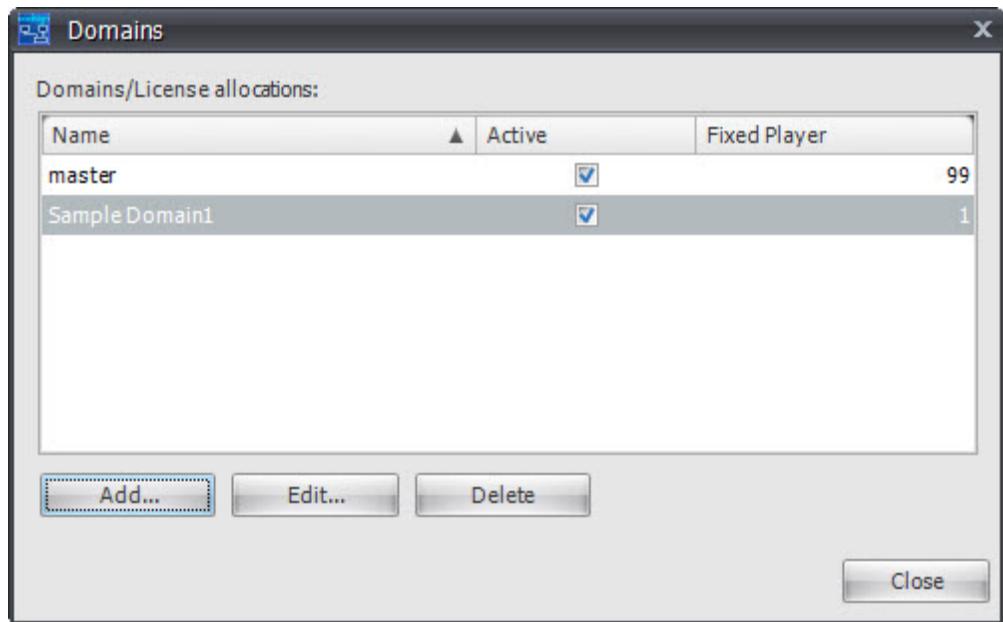


3. Click Tools and then click DOMAINS.



A current list of Domains and License Allocations appears. Note that if this is the first time accessing this screen only the “master” domain appears. In this example, master

appears, it is active, and has a player license assigned.



- **Active**—Displays whether or not a domain is active.
- **Fixed Client Access Licenses**—The number of client licenses that the server has available for assigning to network nodes. These licenses are consumed and assigned to nodes as they network. These licenses can be re-assigned a certain number of times (in the current implementation of the server, they can be re-assigned five times).

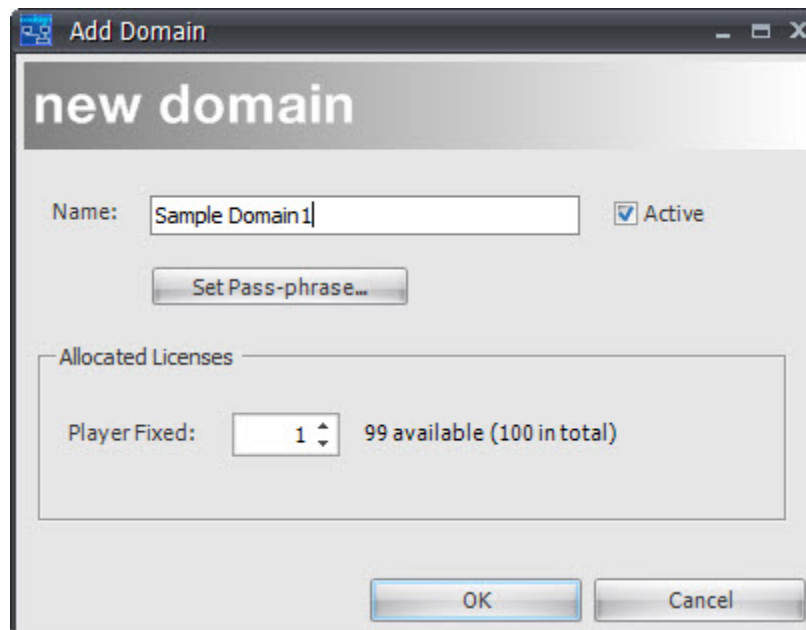
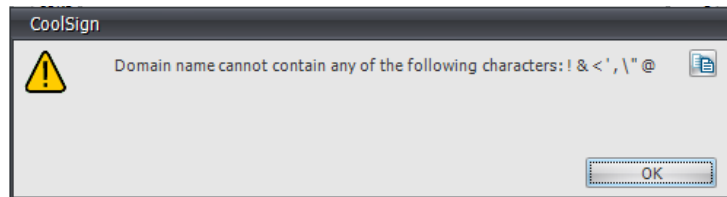
**i** NOTE

If a node is deleted from the server's database but then subsequently reconnects, the node re-acquires the same client access license that it had previously been assigned (if any), provided that this license has not already been reassigned to another node. The server attempts to assign all previously unassigned client access licenses before it reassigns previously used client access licenses.

4. Click **Add** and enter a domain name.

**i** NOTE

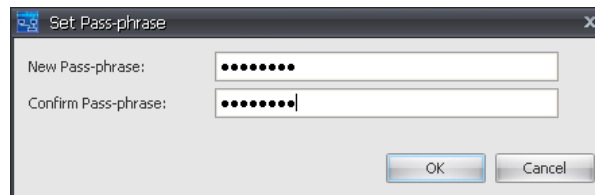
Domain names are limited to a maximum of 32 characters and cannot contain the characters **!**, **&**, **<**, **\**, **"**, or **@**.



5. Click Set Pass-phrase... to enter and confirm a new pass-phrase.

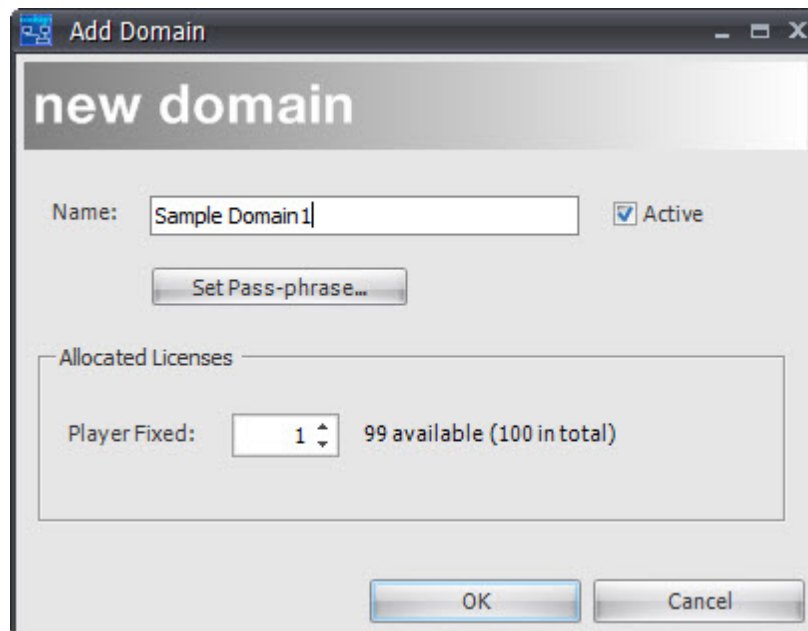
**i** NOTE

A domain must have a specific pass phrase associated with it. This prevents tenants from accessing domains other than their own. Pass phrases should be unique enough so they can't be easily guessed or mistakenly entered. Also note that a pass phrase is not the same as a password when setting up your CNM network.

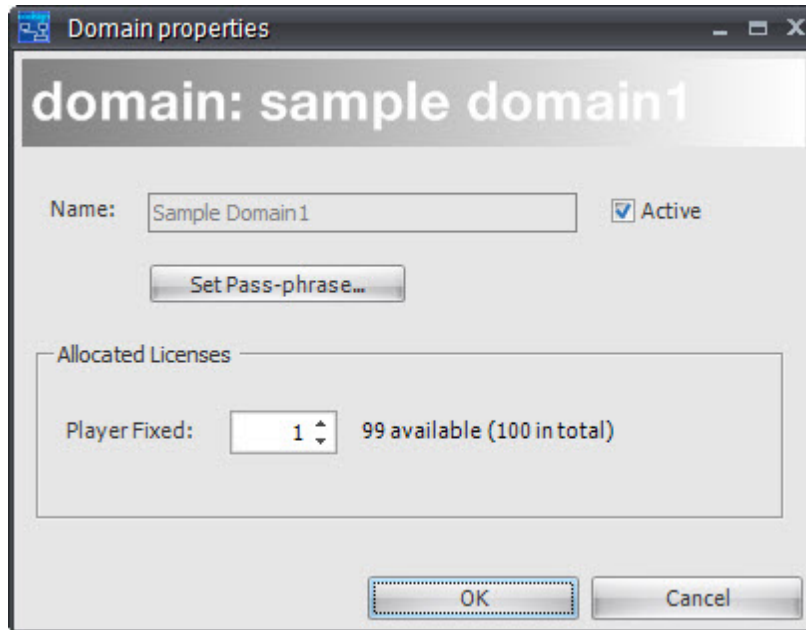


To edit domains:

1. Click Edit from the Domains screen.



2. From the Edit Domain screen, de-activate a domain and/or modify any allocated licenses.



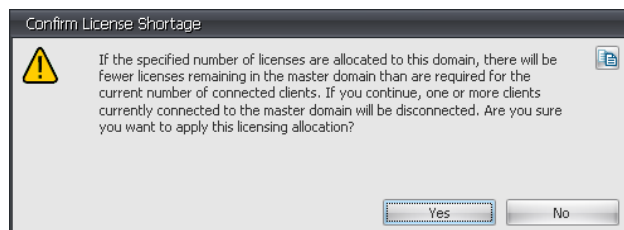
3. Press OK to apply your changes.

---

**i** NOTE

If you attempt to allocate more licenses than there are available, the following screen appears explaining that the specified number of domain licenses exceeds the number of players that are connected to your network.

---



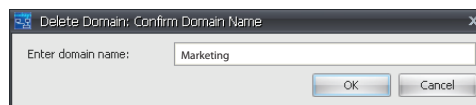
To delete domains:



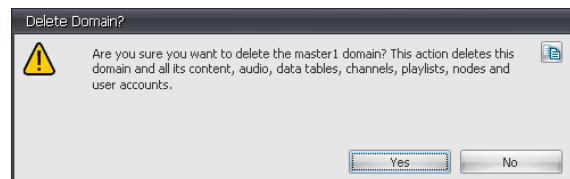
## WARNING

When you delete a domain everything associated with that domain (content, audio, data tables, channels, playlists, players, user accounts, capabilities, and security) will be lost. So to make sure that you really want to delete the domain, you have to enter the name as shown.

1. If you're sure you want to delete the domain, Click **Delete**, enter the domain name, and then click **OK**.



2. Click **Yes** to finish.



## Users and Groups

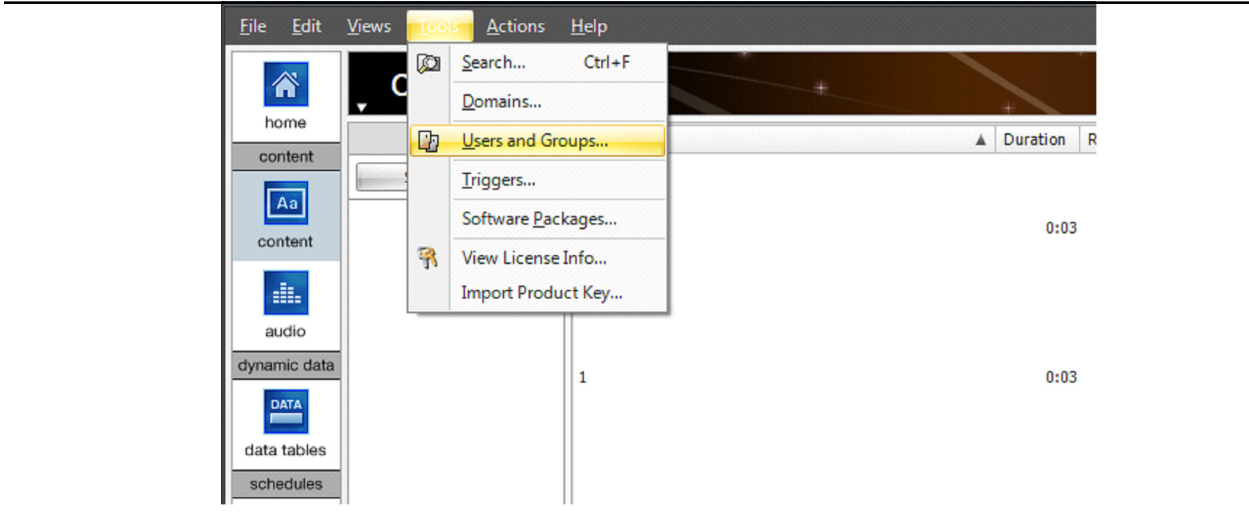
You can manage the users and groups that are allowed access to domains and sub-domains from the User and Groups dialog.

For more details, see “Managing Users and Groups” on page 325 of the *CoolSign Network Manager User's Guide*. This section explains how to manage users, groups, and special groups including how to assign capabilities to control access as well as password management. This section also explains security strategies to help you manage the security access to your CoolSign network.

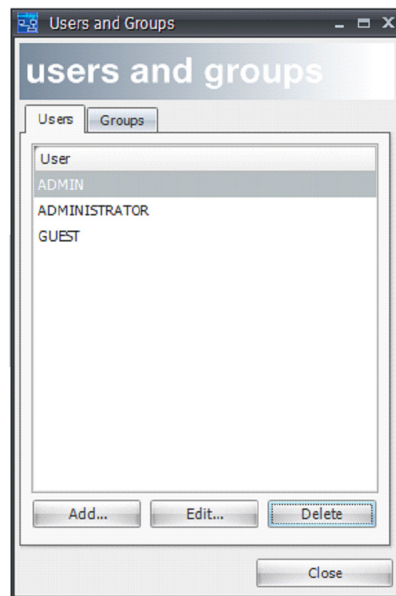


To add a new user:

1. Click Tools and then click USERS AND GROUPS.



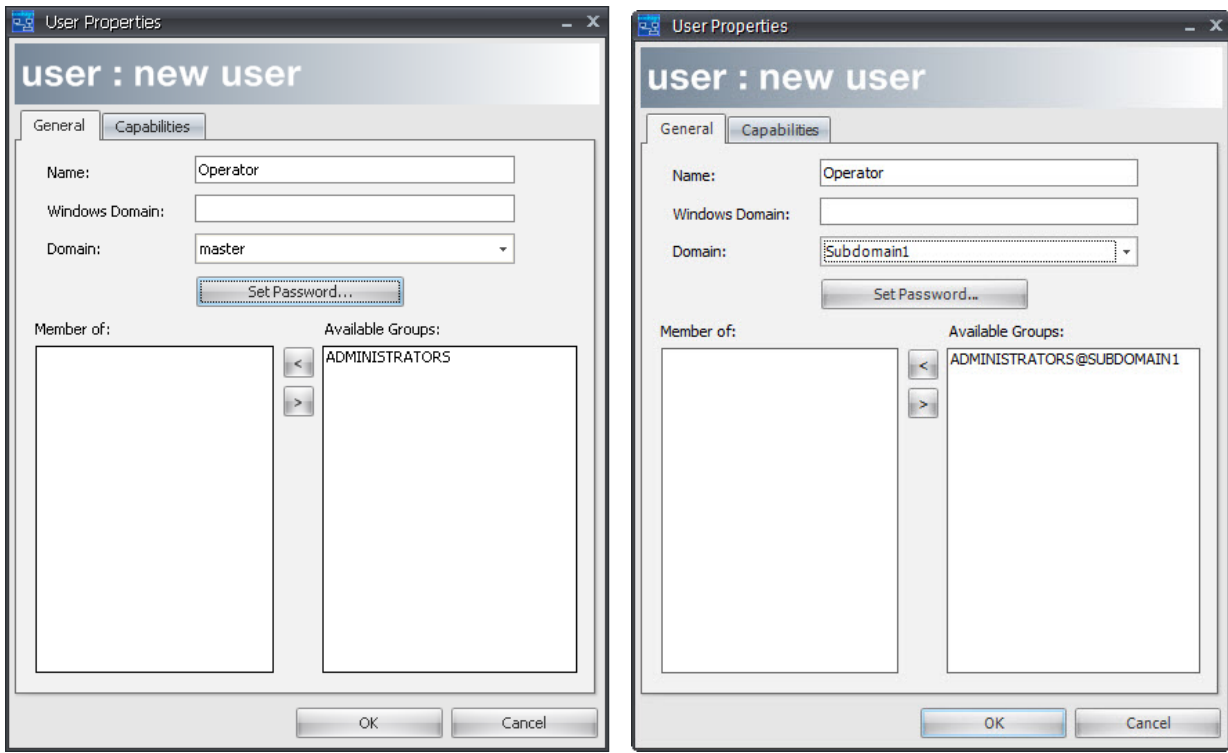
A current list of Users and Groups appears. Note that if this is the first time accessing this screen only “User”, “ADMINISTRATOR”, “ADMIN”, and “GUEST” appear.



2. Click Add.

### **i** NOTE

Only tenant users with “Administrator” rights can create users and groups within their own sub-domains.



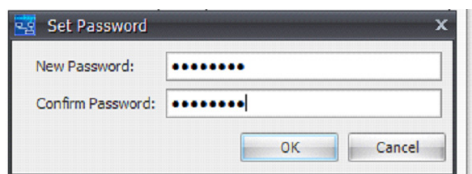
Master Domain

Tenant Domain

When creating a tenant user, the tenant user name becomes [UserName]@[SubDomainName]. If it is a master domain user, then it's just the user name.

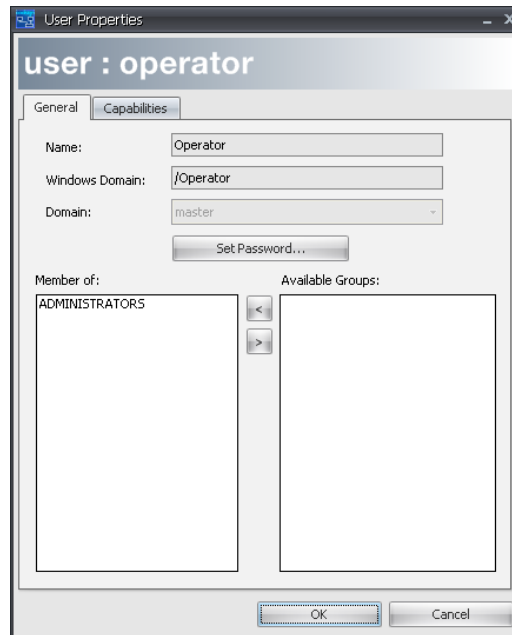
For example, if the Name input here is Operator and the domain is the master, then the user name is Operator; however, if the domain is a tenant domain (Subdomain1), then the user name becomes Operator@Subdomain1

3. Select a domain from the “Domain” drop-down menu.
4. Set a password and then click **OK**.



5. Select an available group (or groups) and then click the right-arrow to move it (or them) to the “Member of:” column.

6. Click OK.



Once the tenant's credentials are created, the tenant can use them to log into the appropriate sub-domain network via CNM:

**user:** user\_name@domain\_name

**password:** user\_password



#### NOTE

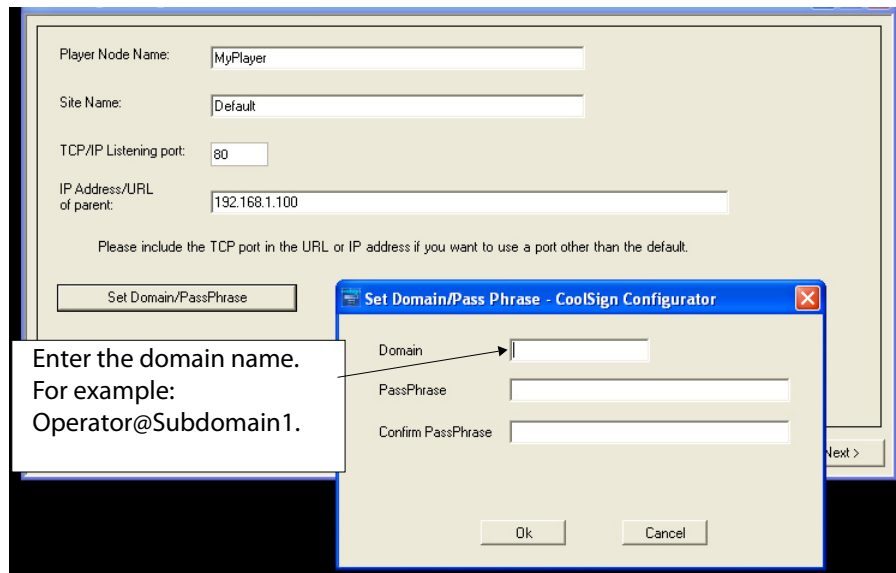
Users in the master domain don't need to specify the @domain\_name.

To Edit or Delete Users and Groups:

For details, see “Managing Users and Groups” on page 325 of the *CoolSign Network Manager User's Guide*.

## CoolSign Configurator

CoolSign Configurator is used to join player nodes to domains during configuration. Player nodes must be configured with the name of the Domain and a specific pass phrase associated with that domain. They should be made simple so technicians are able to easily enter them but unique enough so they can't be easily guessed or mistakenly entered. For example, you wouldn't want tenant A to be able to configure a player to connect to the network in such a way that it shows up as one of tenant B's players.

**NOTE**

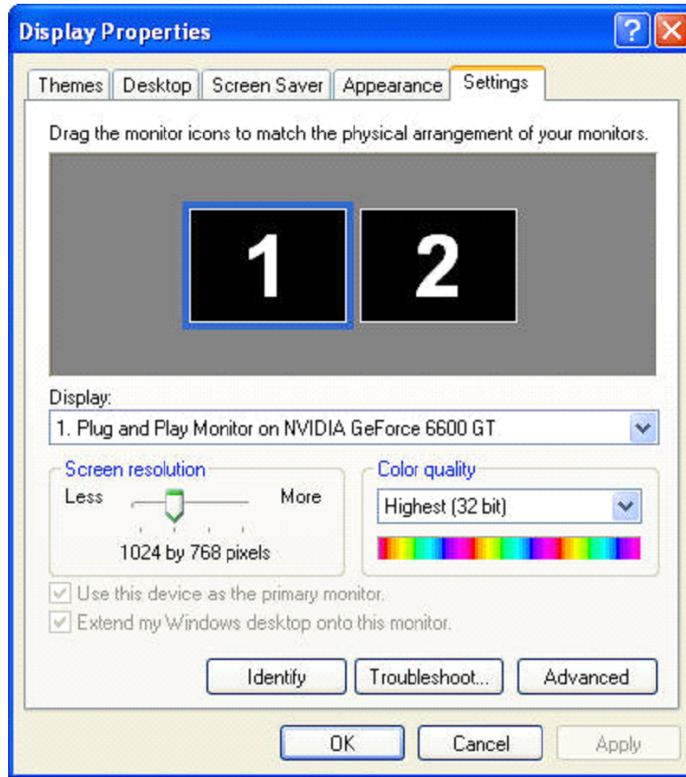
Acceptable domain character names are limited to: a-z, A-Z, 0-9, a dash (-), underscore (\_), and period (.). Also note that you cannot use spaces.

## Configuring a Multi-Output AdPlayer

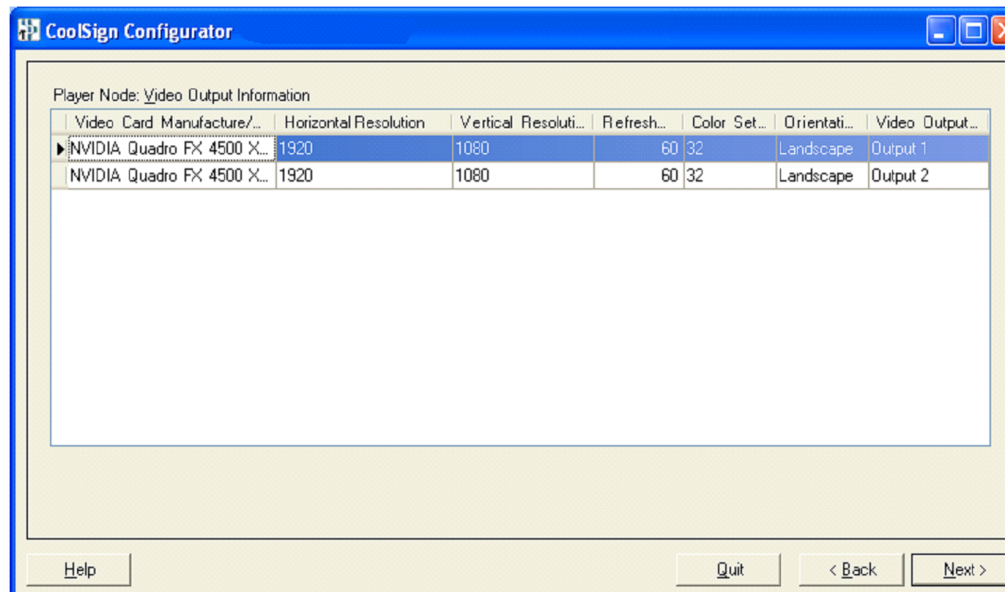
With CoolSign Configurator and software release 5.1, you can take advantage of dual and quad-output video cards with the ability to provide a separate channel to each output (multi-output) or span a single channel across multiple video outputs (spanned). Setting up a multi-output player is accomplished using the CNM only and is independent of the video card in use. Setting up a spanned AdPlayer requires the configuration of the manufacturer-provided software specific to each video card. Instructions are illustrated using a recommended video card from ATI.

To configure a multi-output AdPlayer:

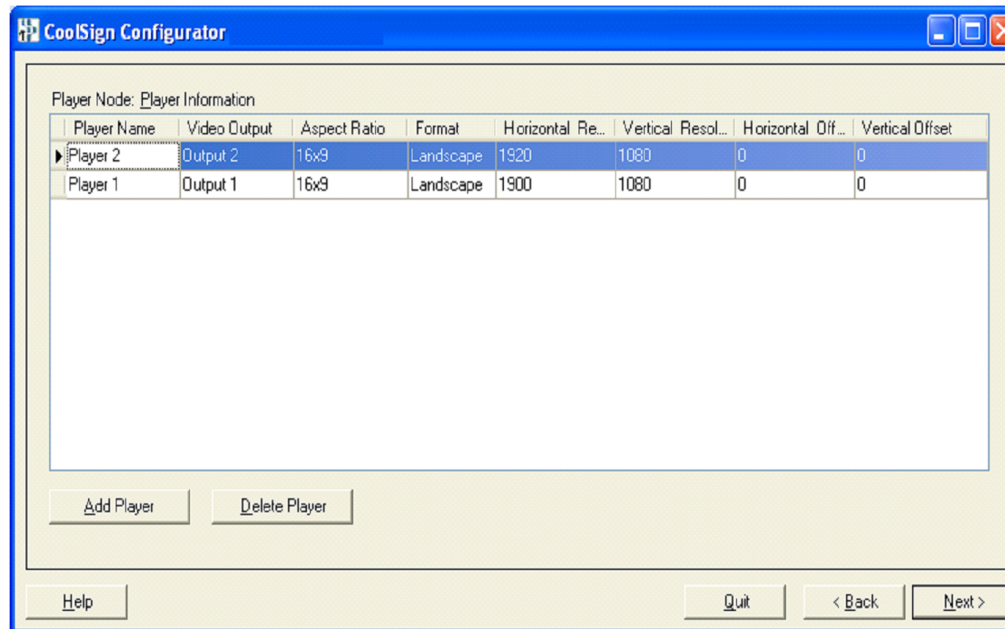
1. Open the Display control panel located in the **START > SETTINGS > CONTROL PANEL**.
2. From the **Settings** tab of the Display Properties window, confirm that all needed outputs are active on the video card. Enable any disabled outputs by selecting the display and checking the box labeled “Extend my Windows desktop onto this monitor”. Click **OK** to save these changes.



3. Open the CoolSign Configurator from the Start menu. Click Next to advance to the second window labeled Player Node: Video Output Information. Enter the Horizontal and Vertical Resolution, Refresh, Color Set, Orientation, and Video Output Name for each output.



4. Click **Next** to advance to the third window labeled **Player Node: Player Information**. Click **Add Player** and select an output to associate with the player. Enter the Aspect Ratio, Format, Horizontal and Vertical Resolution, Horizontal and Vertical Offset.
5. Click **Quit** to exit.



# 9. Configuring Installed Nodes

After you have installed your CoolSign system, you might want to configure it differently. For example, you might want to connect to a different network controller on a different network.

The following sections explain how to use the CoolSign Configurator to reconfigure your installed nodes as needed.

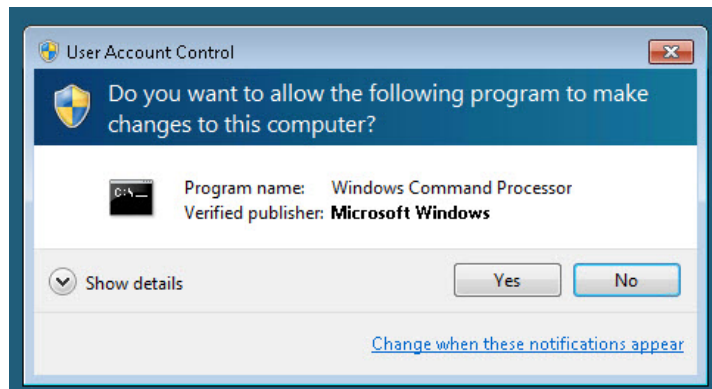
- [“Launch the CoolSign Node Configurator”](#) on page 115
- [“Configuring the Network Controller”](#) on page 116
- [“Configuring a Transfer Node”](#) on page 117
- [“Configuring Player Node”](#) on page 118

You can use CoolSign Manager to change some of the settings in this chapter. For details, Chapter 17, "Managing Nodes" of the *CoolSign Network Manager User's Guide*.

## Launch the CoolSign Node Configurator

To launch the CoolSign Node Configurator:

1. Click Yes when the User Account Control Screen appears.

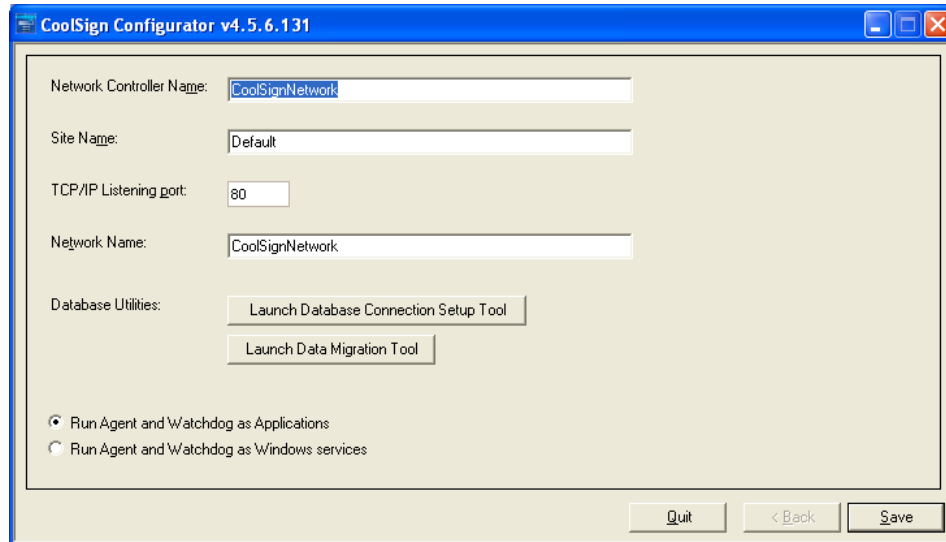


### NOTE

This screen only appears with Windows Vista and Windows 7 if the User Access Control (UAC) option is selected. If turned off, proceed to Step 2.

2. Open the Windows Start menu and select COOLSIGN CONFIGURATOR. Note that to use the Configurator, you must have a keyboard attached to the node.

## Configuring the Network Controller



You can define the following display network controller configuration options:

**Network Controller Name**—The name of the network controller node, as displayed in CoolSign Manager. Note that you can use CoolSign Manager to change the network controller name.

**Site Name**—The name of the site that the network controller node is associated with, and appears in CoolSign Manager. For network controllers, this name might not be necessary, since you'll probably not need to associate it with a site. Note that you can use CoolSign Manager to change the site name. You can also create new site names, as described in Chapter 13, "Managing Sites" of the *CoolSign Network Manager User's Guide*.

**TCP/IP Listening Port**—The port number that the network controller uses to receive incoming requests from other nodes, as well as any CoolSign Manager applications. The default listening port is 80. You can change the listening port if your networking infrastructure requires it or another application is already using the default port.

**Network Name**—The name of your network as it appears when connecting with CoolSign Manager and other applications.

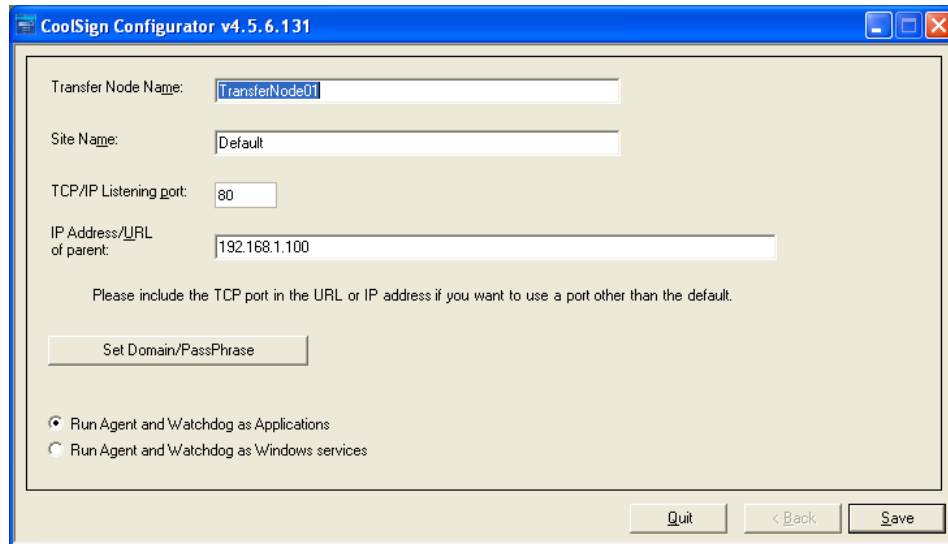
**Database Connection Setup**—Click this button to connect your CoolSign network controller to a SQL Server database. For details, see [“About the Installation Process”](#) on page 26.

**Run Agent and Watchdog as Windows services**—If you want to install the CoolSign Agent and Watchdog as Windows service processes, select this radio button. This configuration enables you to remotely manage the Agent software and doesn't require auto-login for this network controller. Note that some organizations require this for security reasons.



To save your changes to the network controller configuration, click **Save**. The configurator then reboots the network controller node.

## Configuring a Transfer Node



The screenshot shows the CoolSign Configurator v4.5.6.131 window. The configuration fields are as follows:

- Transfer Node Name: TransferNode01
- Site Name: Default
- TCP/IP Listening port: 80
- IP Address/URL of parent: 192.168.1.100

Below the fields, there is a button labeled "Set Domain/PassPhrase". At the bottom, there are two radio buttons: "Run Agent and Watchdog as Applications" (selected) and "Run Agent and Watchdog as Windows services". At the bottom right, there are three buttons: "Quit", "< Back", and "Save".

You can define the following display transfer node configuration options:

**Transfer Node Name**—The name that is displayed for the transfer node in CoolSign Manager. Note that you can use CoolSign Manager to change the node name.

**Site Name**—The name of the site that the transfer node is associated with. Usually, this is a descriptive term that indicates the site's geographic location, such as "San Francisco, CA". Note that you can use CoolSign Manager to change the site name. You can also create new site names, as described in Chapter 13, "Managing Sites" of the *CoolSign Network Manager User's Guide*.

**TCP/IP Listening Port**—The port number that the transfer node should use to receive incoming requests from other nodes. The default listening port is 80. You can change the listening port if your networking infrastructure requires it or another application is already using the default port.

**IP Address or URL of parent**—The IP address or URL of the node to which this transfer node should connect. The parent node is either the network controller or another transfer node, depending on your network configuration. If the parent node is listening on a non-default port, you must include the port number in the address, preceded by a colon, for example: 192.168.1.100:555.

**Run Agent and Watchdog as Windows services**—If you want to install the CoolSign Agent and Watchdog as Windows service processes, select this radio button. This configuration enables you to remotely manage the Agent software and doesn't require auto-login for this transfer node. Note that some organizations require this for security reasons.

To save your changes to the transfer node configuration, click **Save**. The configurator then reboots the transfer node.

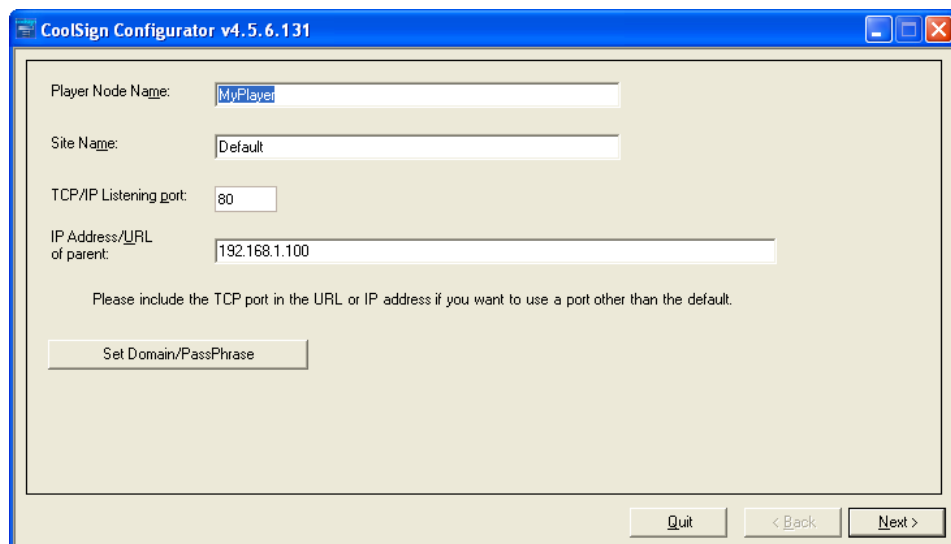
## Configuring Player Node

Configuring a player node is a 6-step process:

1. **Node Information** (see [“Node Information”](#) on page 118)—Define the name of the node; the site with which it is associated; the IP address it connects to; and the port that it listens on.
2. **Video Output Information** (see [“Video Output Information”](#) on page 119)—Identify the video card settings and calibration interval, and assign a name to the video output.
3. **Audio Output Information** (see [“Audio Output Information”](#) on page 120)—Set the volume and assign a name to the audio output.
4. **Player Information** (see [“Player Information”](#) on page 121)—Name the player and specify the resolution and location of the image that CoolSign is delivering.
5. **Displays Information** (see [“Displays Information”](#) on page 122)—Specify the configuration of the displays, the display inputs, the COM ports, and the video outputs (only applies if you are using serial control for the displays).

This process applies equally to both networked players and Standalone Players. Differences between the two types of players are noted clearly in this section.

## Node Information



The screenshot shows the 'CoolSign Configurator v4.5.6.131' window. The 'Node Information' screen contains the following fields and controls:

- Player Node Name:** A text box containing 'MyPlayer'.
- Site Name:** A text box containing 'Default'.
- TCP/IP Listening port:** A text box containing '80'.
- IP Address/URL of parent:** A text box containing '192.168.1.100'.
- A note below the IP field: 'Please include the TCP port in the URL or IP address if you want to use a port other than the default.'
- A button labeled 'Set Domain/PassPhrase'.
- Navigation buttons at the bottom: 'Quit', '< Back', and 'Next >'.

You can define the following configuration options in this screen:

**Player Node Name**—The name of this player node. The node name is used within CoolSign Manager and to reference the node. Note that you can use CoolSign Manager to change the node name.

**Site Name**—The name of the site that this node will be associated with. Usually, this is a descriptive term that indicates the site’s geographic location, such as “San Francisco, CA”. Note that you can use CoolSign Manager to change the site name. You can also create new site names, as described in Chapter 13, "Managing Sites" of the *CoolSign Network Manager User’s Guide*.

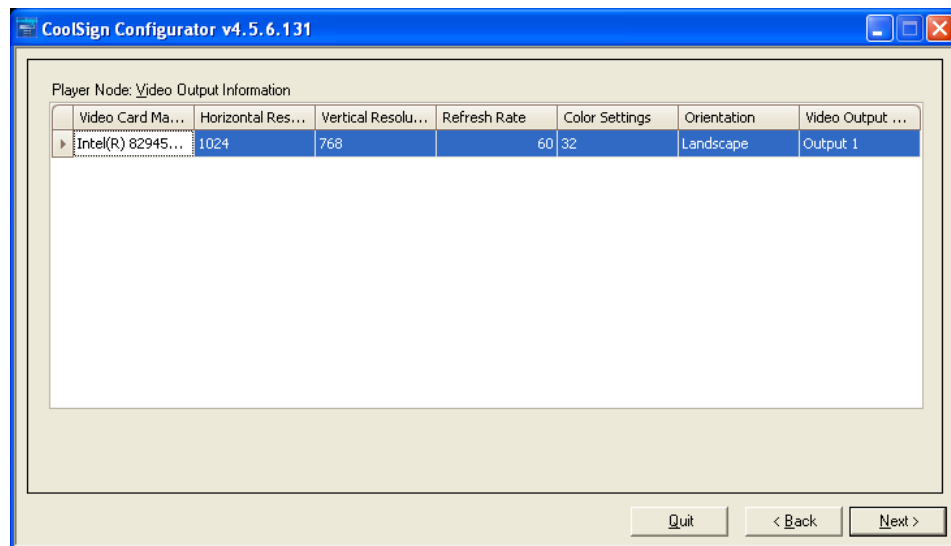
**TCP/IP Listening port**—**For networked players**, this is the port number that the node should use to receive incoming requests from other nodes. The default listening port is 80. You can change the listening port if your networking infrastructure requires it or another application is already using the default port. **For Standalone Players**, verify that this port is set to 8080.

**IP Address or URL of parent**—**For networked players**, the parent node is either the network controller or another transfer node, depending on your network configuration. If the parent node is listening on a non-default port, you must include the port number in the address, preceded by a colon, for example: 192.168.1.100:555. **For Standalone Players**, verify that the IP address is set to “localhost”.

When you’re done, click **Next** to continue the player node configuration process.

## Video Output Information

In this screen, you identify the video card settings and calibration interval, and assign a name to the video output.



You can define the following configuration options in this screen:

**Horizontal Resolution and Vertical Resolution**—These fields must match the horizontal and vertical resolution settings that are displayed in the Windows Display control panel for the video card.

**Refresh Rate**—The refresh rate (also called vertical frequency) that has been set for the video card.

**Color Settings**—Select the bit depth for the video card: 32 or 16.

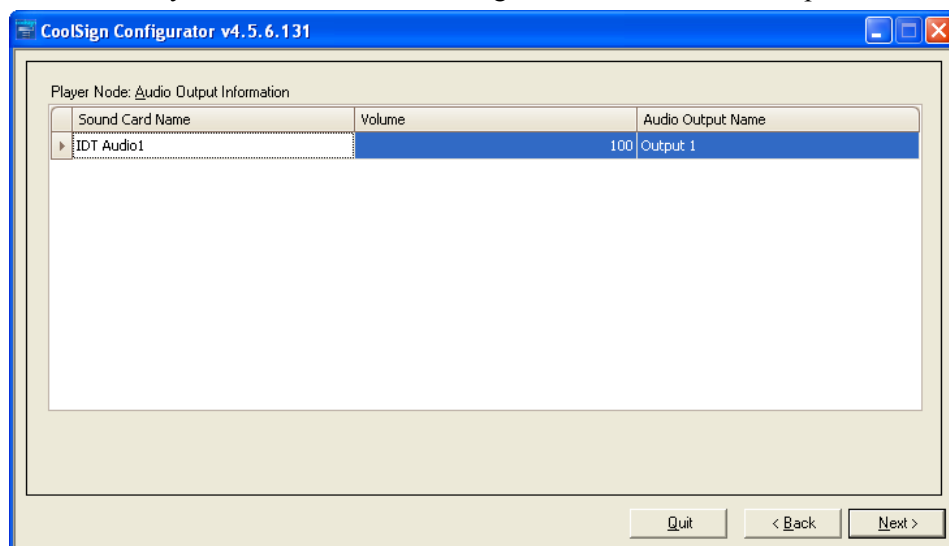
**Orientation**—The orientation of the displays attached to the player node. All players running on a player node must have the same orientation.

**Video Output Name**—If the video card has more than one output, assign a name to each output.

When you're done, click **Next** to continue the player node configuration process.

## Audio Output Information

In this screen, you set the volume and assign a name to the audio output.



You can define the following configuration options in this screen:

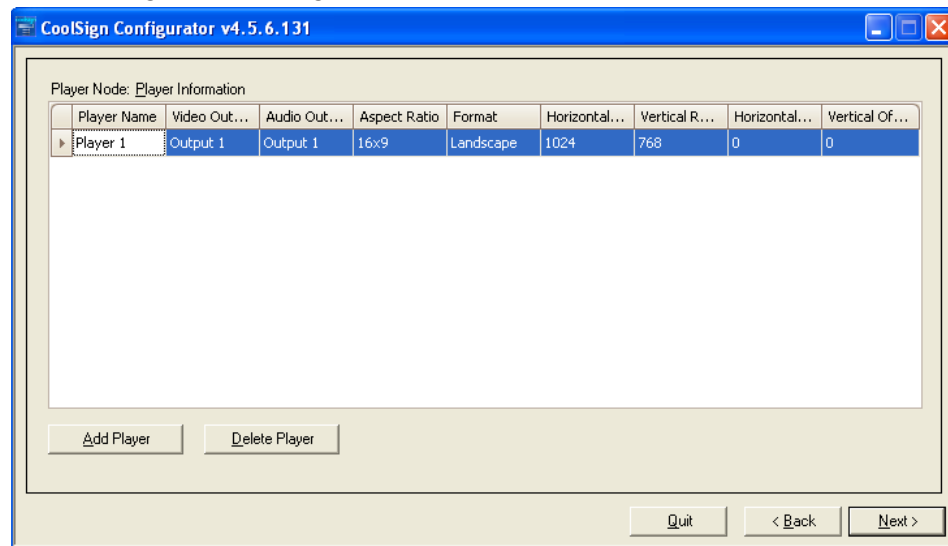
**Volume**—Click to change the volume for this audio output, with 0 being no audio and 100 being the maximum volume. If your speakers are connected, you can hear the sound as you increment or decrement.

**Audio Output Name**—If the audio card has more than one output, assign a name to each output.

When you're done, click **Next** to continue the player node configuration process.

## Player Information

In this screen, you can name the player and specify the resolution and location of the image that CoolSign is delivering.



You can define the following configuration options in this screen:

**Player Name**—You can use CoolSign Manager to change this setting.

**Video Output Name**—If the player has only one video output, you can just use the default setting.

**Audio Output Name**—If the player has only one audio output, you can just use the default setting.

**Aspect Ratio**—Select the appropriate format for the displays that are attached to this player node.

**Format**—Landscape, Portrait, or Audio (only allow audio content such as MP3 files to be scheduled on this player node).

**Horizontal Resolution and Vertical Resolution**—These are the logical resolutions for the player and are dependent on the orientation of the displays attached to this player.

- If the player is driving displays in portrait orientation, the vertical resolution is the larger of the two resolution numbers. For example, for a portrait-oriented display showing content with a 848 x 480 resolution, the horizontal resolution for the player should be 480 and the vertical resolution for the player should be 848.
- If the player is driving displays in landscape orientation, the horizontal resolution is the larger of the two resolution numbers. For example, for a landscape-oriented display

showing content with a 848 x 480 resolution, the horizontal resolution for the player should be 848 and the vertical resolution for the player should be 480.

---

 NOTE

In most cases, there is only one player and one video output for a player node, and the CoolSign content fills the entire screen of the displays attached to the player. In this case, the horizontal and vertical resolutions for the player should be the same as, or the reverse of (depending on the orientation), the resolution settings for the video card.

---

**Horizontal Offset and Vertical Offset**—These settings determine where to place the upper left-hand corner of the player window—how many pixels (horizontally and vertical) from the upper left of the display (in landscape mode). These settings are always relative to the orientation that you are using. These offsets are typically used only if the CoolSign content occupies a portion of the screen, or if the display has unusual requirements. If the CoolSign content is expected to fill up the display screen (as is normally the case), these offsets should usually be set to zero.

When you're done, click [Next](#) to continue the player node configuration process.

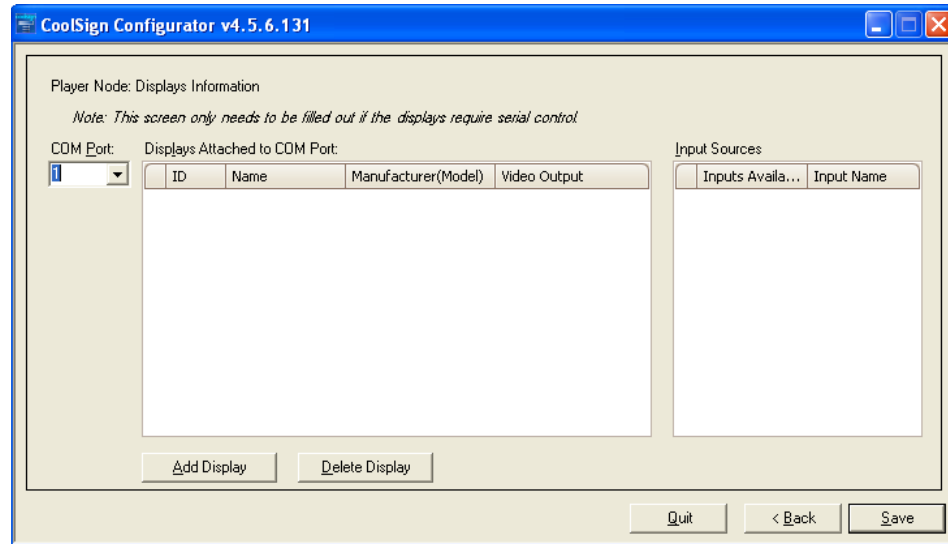
## Displays Information

The CoolSign player can control support display devices via a serial cable. With serial control of a display, you can use CoolSign Manager to remotely turn on or off the display, set the display to an alternate input, and monitor status for the device.

You can add as many displays as you have available COM ports. Most PCs only include one available serial port. You can purchase a serial port extender to add additional COM ports to your player PC.

**NOTE**

You can skip this section if you are not using serial control for the displays.



You can define the following configuration options in this screen:

**COM Port**—The number of the COM port that you want to configure. After selecting the COM port, you can click Add Display and configure the displays that are connected to it.

**ID**—Select the ID number of the display you are configuring. It must match the ID number that you specified when you set up the display. See Chapter 11, "Managing Players" of the *CoolSign Network Manager User's Guide*.

**Name**—Enter a descriptive name for the display (such as, "South Mall Entrance"). This name makes it easier to identify the location of the display within CoolSign Network Manager.

**Manufacturer/Model**—Select the display brand and model from the pull-down menu.

**NOTE**

The manufacture (brand) and model must exactly match the display connected to the player. Otherwise, the display control will most likely not work and will report an error status.

**Video Output**—If the player node only has one video output, you can skip this step.

**Input Name**—In the Input Sources panel, enter a name for each available input that you intend to use. You must keep one input labeled as "CoolSign". If you are using CoolSign

to switch between other video sources, enter a descriptive name (such as “TV”) for the input that is connected to the video source(s).

Each input name must be unique, and none of them can be “Off”. These names appear in CoolSign Manager and are used to schedule the displays attached to this player node. If this display uses more than one video source, make sure that the input names are sufficiently descriptive, as this makes it easy to identify the video source that you are scheduling. You only need to name those inputs that you are actually connecting a video source.

- If more than one display is attached to a COM port, click [Add Display](#) again, then configure the next display.
- If you are using more than one COM port, select the next COM port, then click [Add Display](#) again and configure the next display.



#### NOTE

Only displays that use the same serial commands can use the same COM port. This means that the displays must be from the same manufacturer and usually must also be the same model.

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To save your changes to the player configuration, click [Save](#). The configurator reboots the player node twice, then opens the AdPlayer with a blank screen.

## Configuring a Player Node for Multi-Output

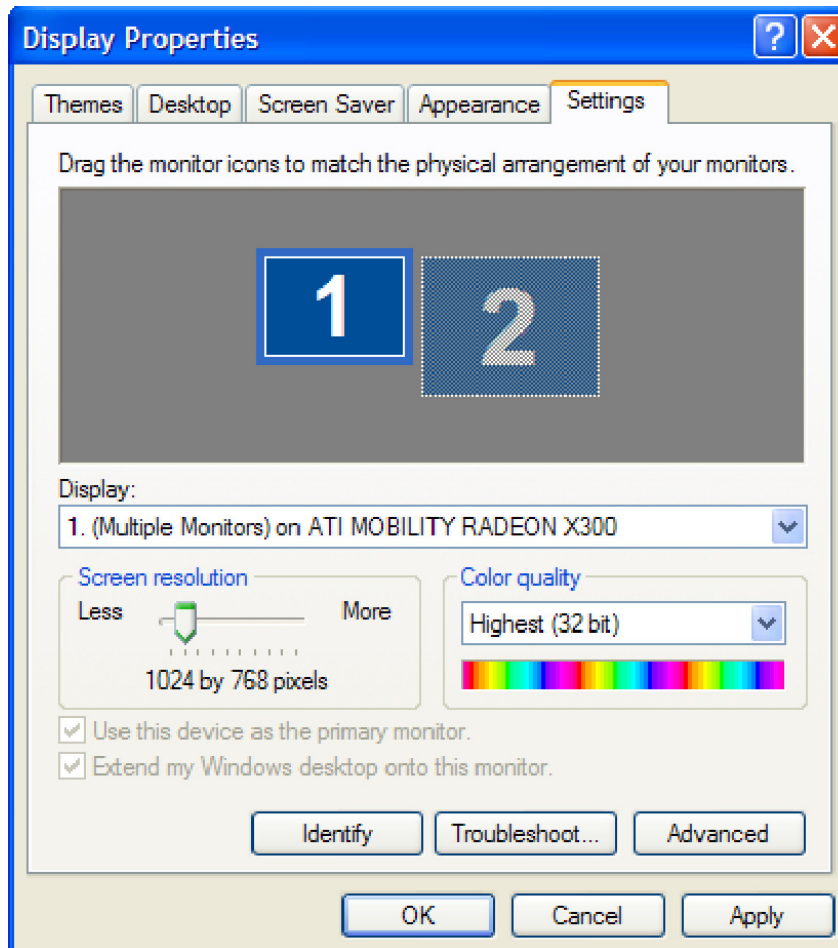
CoolSign takes advantage of dual and quad-output video cards with the ability to provide a separate channel to each output (multi-output) or to span a single channel across multiple video outputs (spanned). While setting up a multi-output player is accomplished using the CoolSign Network Manager only and is independent of the video card in use, setting up a spanned player node requires you to configure the manufacturer-provided software specific to each video card. The examples in this section use a recommended video card from ATI.

To configure a player node for multi-output:

1. From the Windows Start menu, open the Control Panel.
2. Open the Display control panel.



3. In the DISPLAY PROPERTIES window, select the Settings tab:



4. Confirm that all needed outputs are active on the video card.

---

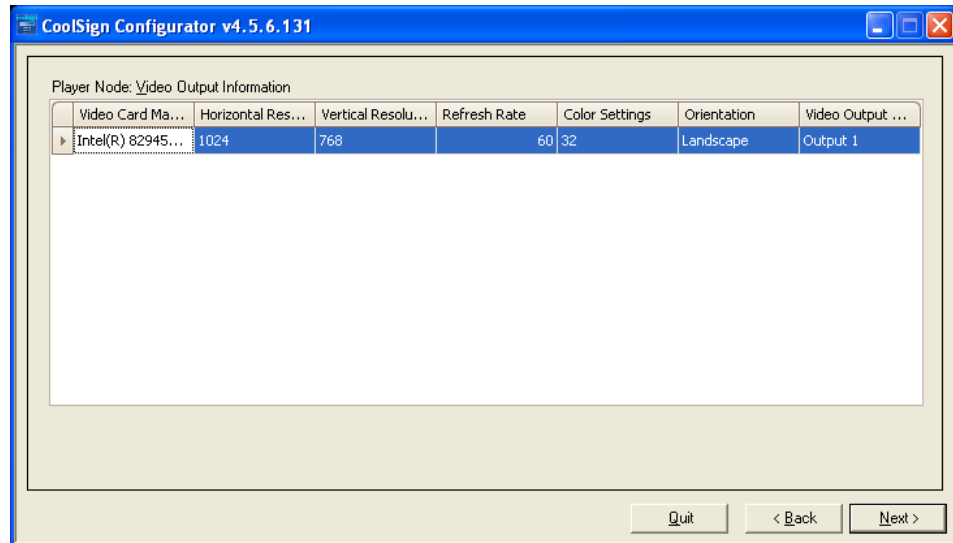
**i** NOTE

To enable any disabled outputs, select the display and choose “Extend my Windows desktop onto this monitor”.

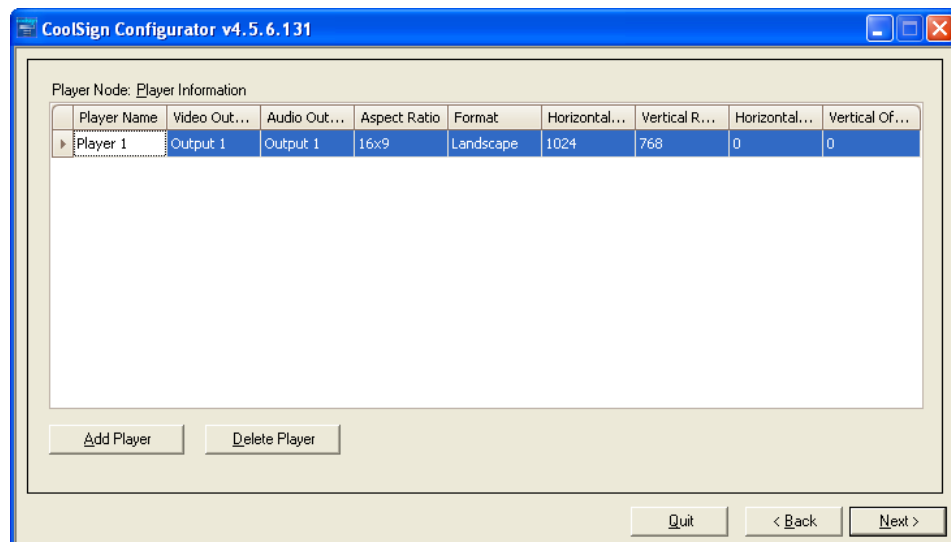
---

5. To save your changes, click OK.

- In the CoolSign Configurator, advance to the Video Output Information screen:



- For each output, specify the Horizontal and Vertical Resolution, Orientation, and Video Output Name. For details about these settings, see [“Video Output Information”](#) on page 119.
- When you’re done, click **Next**. In the Player Information window, add a player. Then specify the following values for the new player: associated Video Output, Aspect Ratio, Format, Horizontal and Vertical Resolution, and Horizontal and Vertical Offset. For details about these settings, see [“Audio Output Information”](#) on page 120.



- When you’re done, click **Next**, then click **Save** to save your changes.

## Keyboard Navigation Tips

While using the CoolSign Configurator, you can perform many tasks from the keyboard. Refer to the following table:

Table 9-1 Configurator Keyboard Shortcuts

To do this . . .	Press . . .
Go to the next field	TAB
Open a drop-down menu	ALT-▼
Move through a pull-down menu	Use the arrow keys
Select an item from a pull-down menu	ENTER
Advance to the next screen	ALT-N
Go back to a previous screen	ALT-B
Save configuration settings	ALT-S (for player nodes, only available on Displays screen)
Add a player node	ALT-A (only available on the Player Node: Player information screen)
Delete the selected player node	ALT-D (only available on the Player Node: Player information screen)
Add a display	ALT-A (only available on the Player Node: Displays screen)
Delete the selected display	ALT-D (only available on the Player Node: Displays screen)

The following keyboard commands are available when the AdPlayer window is in the front of all other windows on a screen.

Table 9-2 AdPlayer Keyboard Shortcuts

To do this . . .	Press . . .
Toggle the cursor	V
Toggle the taskbar	T
Toggle calibration mode	C
Toggle FPS display	F (not available on legacy machines while video is running)

Table 9-2 AdPlayer Keyboard Shortcuts (Cont.)

To do this . . .	Press . . .
Capture the screen image	CTRL-S (the image file is located at AdPlayer\Thumbnail.jpg). Not available on legacy machines while video is running.
Capture the screen image, scaled to 1/4 of the original size	CTRL-SHIFT-S (the image file is located at AdPlayer\Thumbnail.jpg). Not available on legacy machines while video is running.

---

# 10. Connecting to an SQL Database

This section explains how to connect your CoolSign Network Controller to an SQL database:

- Connect a CoolSign Network Controller to an SQL Server.
- Migrate existing data from file system-based tables to SQL tables.

## Connecting a Network Controller to an SQL Server

Connecting a Network Controller to your SQL database is straightforward. Normally you supply all of the needed connection information when you install the Network Manager. It is also possible to configure the connection for an existing Network Manager, using the Configurator utility.



### IMPORTANT

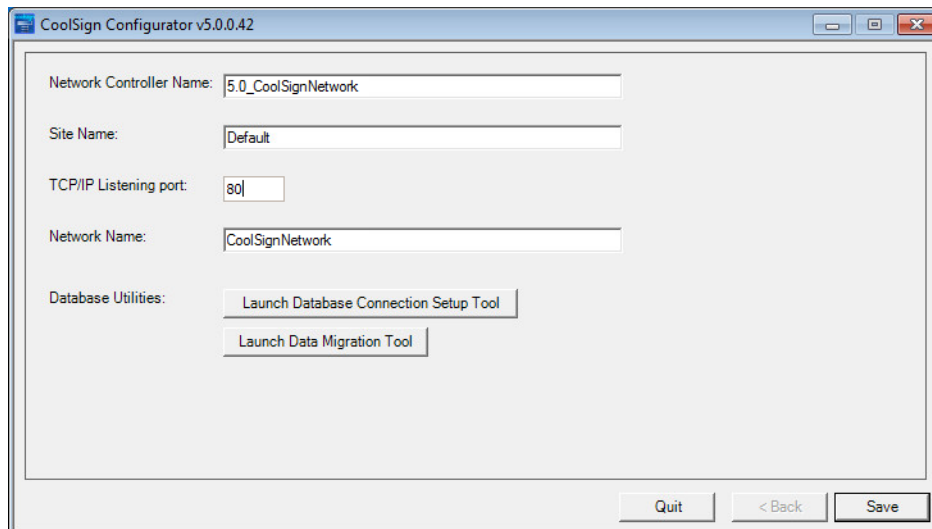
If this is a migration process, you must first restart the database before it can accept connections.

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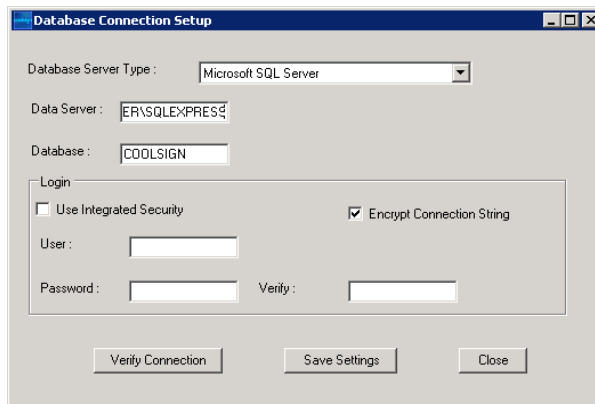
To connect a Network Controller to an SQL Server, do the following:

1. From the Windows  Start menu, open the CoolSign Configurator.

2. When the Configurator starts up, click **Launch Data Connection Setup Tool**.



3. The Database Connection Setup window appears enter the appropriate data in the fields.:



- In the **Data Server** field, enter the location of the database server, in the form machine\_name\DB\_instance (for example, DEMO\_SERVER\SQLEXPRESS).
- In the **Database** field, enter the name of the CoolSign database (for example, CoolSign).
- In the **User** and **Password** fields, enter the credentials needed to access the database.



#### NOTE

The user MUST have READ/WRITE permissions for the specified database.

4. To check if the connection settings are correct, press the **Verify Connection**.
5. Once the connection to the database server is verified, click **Save Settings**, then **Close**.

---

# A. Troubleshooting

This section explains how to repair or uninstall your CoolSign system.

## Repair Your Installation

In certain circumstances, you might find it desirable or necessary to repair a CoolSign node—that is, to restore the installation to its initial state.



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### CAUTION

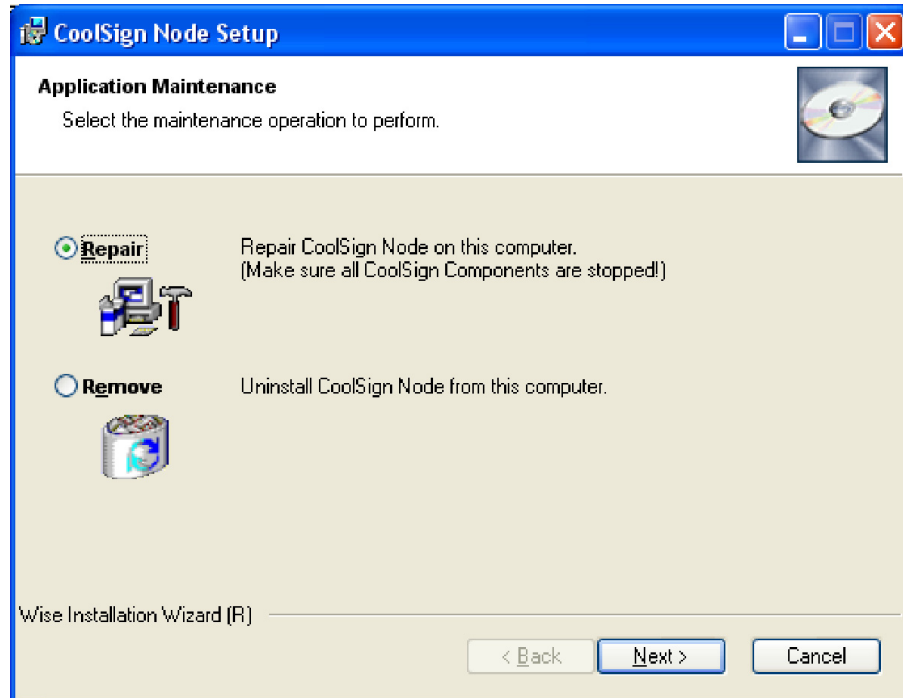
Be aware that this procedure restores CoolSign to the original installation state. All changes to settings since the initial installation are lost.

---

To repair a CoolSign node:

1. Make sure that all CoolSign components are stopped.
2. In the CoolSign installation directory, double-click `CoolSign_Node_Installer.exe`.

3. When the Application Maintenance screen appears, select **Repair**. Then click **Next**.



4. Follow the on-screen instructions that guide you through the repair process.
5. When the wizard concludes the repair process, click **Finish**. The CoolSign system reboots.

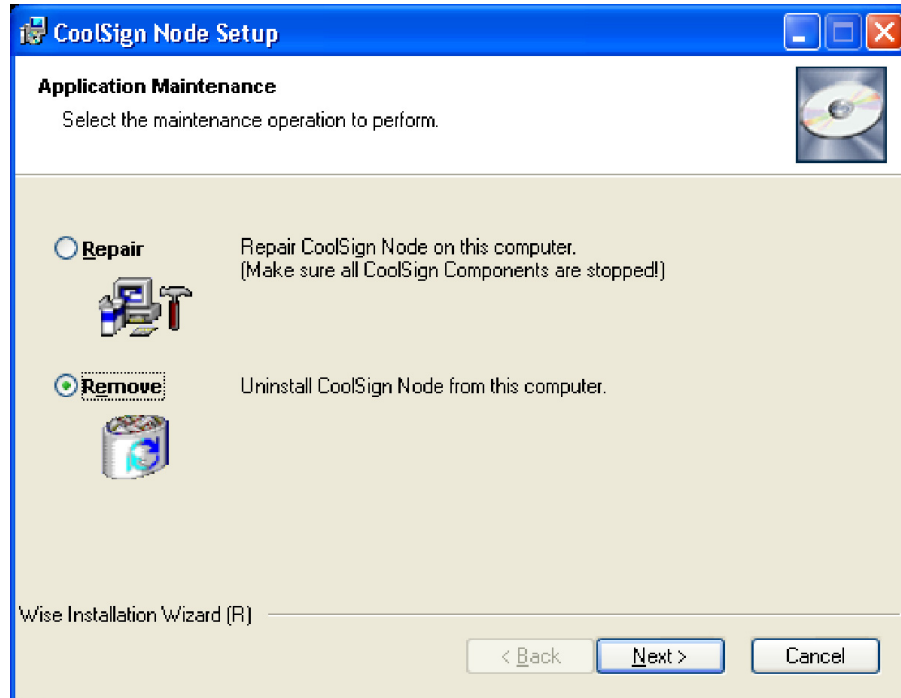
## Uninstalling CoolSign

To uninstall CoolSign:

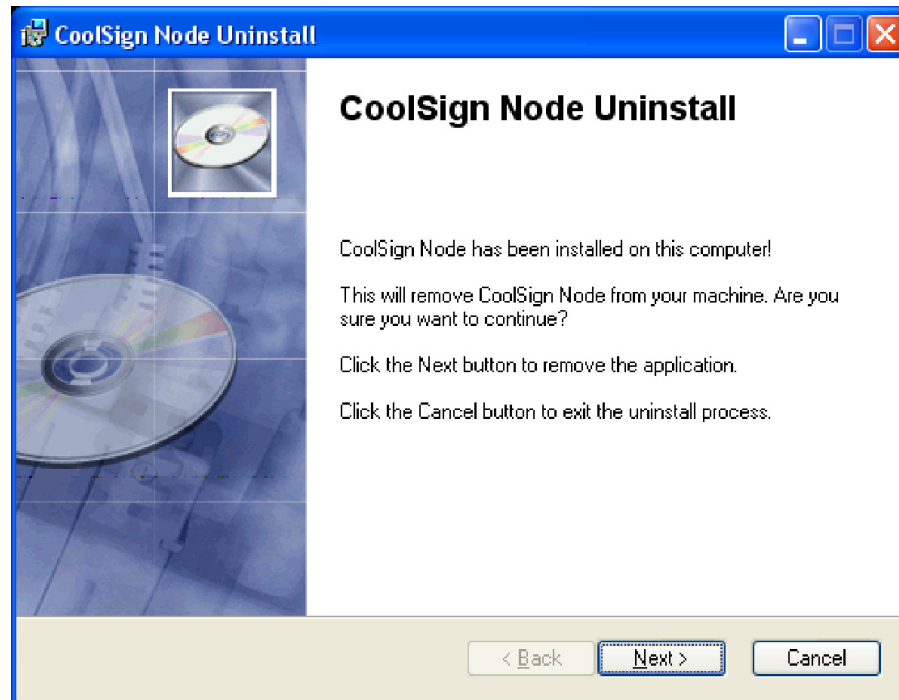
1. Make sure that all CoolSign components are stopped.
2. In the CoolSign installation directory, double-click `CoolSign_Node_Installer.exe`.



3. When the Application Maintenance screen appears, select **Remove**. Then click **Next**.



4. When the following screen appears, click **Next** to remove CoolSign from the node.



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**i** NOTE

After the uninstall script finishes, you must uninstall the CoolSign database, as described in [“Uninstalling the CoolSign Database”](#) on page 134.

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## Uninstalling the CoolSign Database



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**IMPORTANT**

Uninstalling CoolSign does not remove the CoolSign database from the server. It is your responsibility to remove the database.

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To remove SQL Express from your PC:

1. Use any SQL client tool to delete the CoolSign database.
2. Remove the database server from the computer:
  - In the Windows Control Panel, select *Add/Remove Programs*.
  - Remove the database server from the list of programs.

## B. Keyboard Shortcuts

### CoolSign Configurator

While using the CoolSign Configurator, you can perform many tasks from the keyboard. Refer to the following table:

Table B-1 Configurator Keyboard Shortcuts

To do this . . .	Press . . .
Go to the next field	TAB
Open a drop-down menu	ALT-▼
Move through a pull-down menu	Use the arrow keys
Select an item from a pull-down menu	ENTER
Advance to the next screen	ALT-N
Go back to a previous screen	ALT-B
Save configuration settings	ALT-S (for player nodes, only available on Displays screen)
Add a player node	ALT-A (only available on the Player Node: Player information screen)
Delete the selected player node	ALT-D (only available on the Player Node: Player information screen)
Add a display	ALT-A (only available on the Player Node: Displays screen)
Delete the selected display	ALT-D (only available on the Player Node: Displays screen)

## Ad Player

The following keyboard commands are available when the AdPlayer window is in the front of all other windows on a screen.

Table B-2 AdPlayer Keyboard Shortcuts

To do this . . .	Press . . .
Toggle the cursor	V
Toggle the taskbar	T
Toggle calibration mode	C
Toggle FPS display	F (not available on legacy machines while video is running)
Capture the screen image	CTRL-S (the image file is located at AdPlayer\Thumbnail.jpg). Not available on legacy machines while video is running.
Capture the screen image, scaled to 1/4 of the original size	CTRL-SHIFT-S (the image file is located at AdPlayer\Thumbnail.jpg). Not available on legacy machines while video is running.

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## C. Warranties

## C. Warranty Information

### Haivision One (1) Year Limited Warranty

Haivision warrants its hardware products against defects in materials and workmanship under normal use for a period of ONE (1) YEAR from the date of equipment shipment (“Warranty Period”). If a hardware defect arises and a valid claim is received within the Warranty Period, at its option and to the extent permitted by law, Haivision will either (1) repair the hardware defect at no charge, or (2) exchange the product with a product that is new or equivalent to new in performance and reliability and is at least functionally equivalent to the original product. A replacement product or part assumes the remaining warranty of the original product or ninety (90) days from the date of replacement or repair, whichever is longer. When a product or part is exchanged, any replacement item becomes your property and the replaced item becomes Haivision’s property.

#### EXCLUSIONS AND LIMITATIONS

This Limited Warranty applies only to hardware products manufactured by or for Haivision that can be identified by the “Haivision” trademark, trade name, or logo affixed to them. The Limited Warranty does not apply to any non-Haivision hardware products or any software, even if packaged or sold with Haivision hardware. Manufacturers, suppliers, or publishers, other than Haivision, may provide their own warranties to the end user purchaser, but Haivision, in so far as permitted by law, provides their products “as is”.

Haivision does not warrant that the operation of the product will be uninterrupted or error-free. Haivision does not guarantee that any error or other non-conformance can or will be corrected or that the product will operate in all environments and with all systems and equipment. Haivision is not responsible for damage arising from failure to follow instructions relating to the product’s use.

This warranty does not apply:

- (a) to cosmetic damage, including but not limited to scratches, dents and broken plastic on ports;
- (b) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes;
- (c) to damage caused by operating the product outside the permitted or intended uses described by Haivision;
- (d) to a product or part that has been modified to alter functionality or capability without the written permission of Haivision; or
- (e) if any Haivision serial number has been removed or defaced.

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*If you have questions, please contact Haivision Systems, Inc., 4445 Garand, Montréal, Québec, H4R 2H9 Canada.*

