

Omnicast Best Practices
A Step by Step Guide to Assist in
Optimizing Your Omnicast System



Innovative Solutions

Genetec

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1 General Information

1.1 Document Revision

Date	Description
2011-05-23	Initial version of Omnicast Best Practices

1.2 Contacting Technical Assistance

Customers can reach the Genetec Technical Assistance Center (GTAC) using any one of the following methods:

- » Via the Genetec Technical Assistance Portal (GTAP) website:
<https://gtap.genetec.com>
- » Via telephone:
Phone: 1-514-856-7100
Toll Free: 1-866-338-2988 (Canada and US only)
Toll Free: +800 01818200 (Europe*)

From Monday to Friday, 8:00 AM to 8:00 PM (Eastern time, GMT -5h)

Customers should be ready to provide all relevant information describing the problem/question, including System ID and version information.

***Please visit <https://gtap.genetec.com> for a list of covered regions.**

1.3 Additional Help

An additional knowledge resource available to customers is the [GTAP Forum](#). This platform allows for the exchange of ideas and questions between GTAP members (Genetec clients and staff) in order to help users make better use of their systems. Please note this is not an extension of the GTAC, but simply a knowledge tool to enrich a user's experience. For proper support regarding a technical issue, please contact the GTAC as indicated in section 1.2 above.

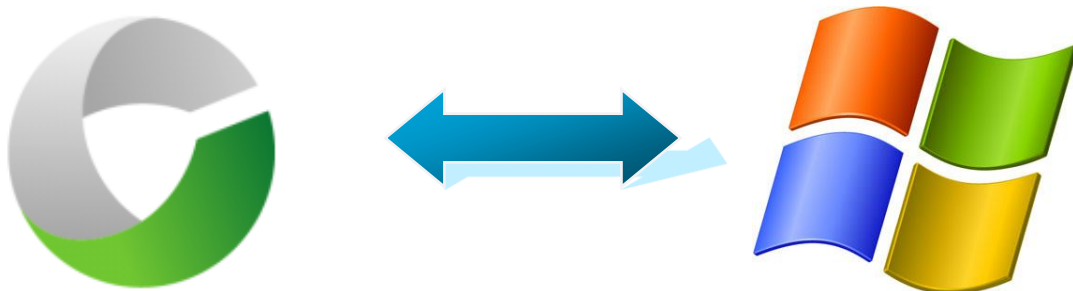
2 Optimizing Windows

2.1 Introduction

Optimize Your System for Peak Performance

There are a lot of ways to help speed up Windows and make your PC work better with Omnicast.

The following tips can help improve your Omnicast server or workstation's performance. These examples are for any Windows operating system that is supported by Omnicast.



2.2 Antivirus Configuration

The following configurations are required when an antivirus is installed on the same machine as an Omnicast server.

If the Omnicast servers and workstations require you to have an antivirus application installed, it is necessary to configure exclusions. Also be sure to disable features such as “Automated Scans” & “Scan upon Definition Update”, as well as any network monitoring or firewall services bundled with the antivirus software.

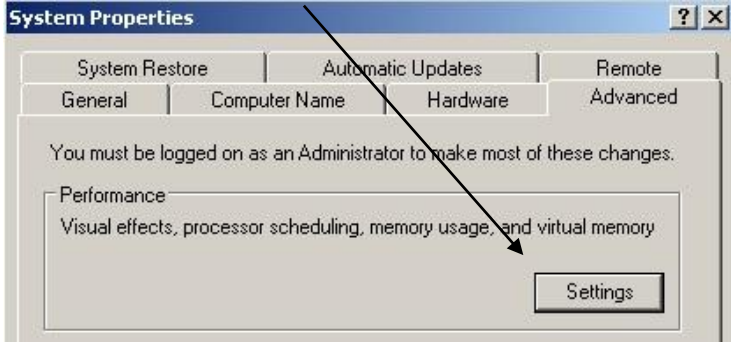

It is necessary to configure exclusions on your antivirus for the following locations:	
1	D:\VideoArchives (or wherever your video archives are being stored)
2	C:\Program Files\Microsoft SQL Server\MSSQL\$OMNICAST (or wherever your SQL databases and logs are being stored)
3	C:\ArchiverLogs, C:\DirectoryLogs and C:\GatewayLogs (or wherever your Omnicast logs are being saved)
4	C:\Program Files\Genetec Omnicast 4.X (or the location where the Omnicast Server software is installed)
5	C:\Program Files\Genetec Omnicast Client 4.X (or the location where the Omnicast Client software is installed)
6	C:\Program Files\Common Files\DVR Software 4.X (may vary depending on the operating system language)

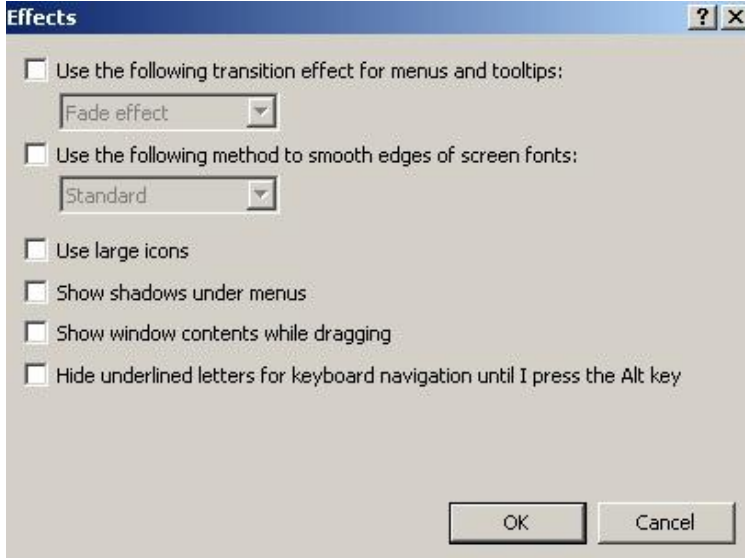
2.3 Disabling Visual Effects

Windows has a rich user interface with menus that slide into view, shadows that create three-dimensional effects, and rounded corners that soften the appearance of Windows. These visual effects may noticeably slow down its performance. To help improve the performance of your computer running Omnicast, you can disable visual effects. When you do so, you change only the graphical elements on your desktop; you can still do everything you've always done with your computer—only faster.

How to Disable All Visual Effects

1 of 3

Step	Process
1	Right-click My Computer and click Properties .
2	<p>The System Properties dialog box appears. Click the Advanced tab. In the Performance area, click Settings.</p> 
3	<p>The Performance Options dialog box appears. On the Visual Effects tab, select Adjust for best performance option.</p> 
4	Click OK on the Performance Options dialog, then OK once more on the System Properties dialog box to save and apply settings.

Step	Process
1	Right-click an empty space on the desktop, and then click Properties .
2	On the Appearance tab, click Effects .
3	The Effects dialog box appears. Uncheck all settings. 
4	Click OK on the Effects dialog box, then OK once more on the Properties dialog box to save and apply settings.


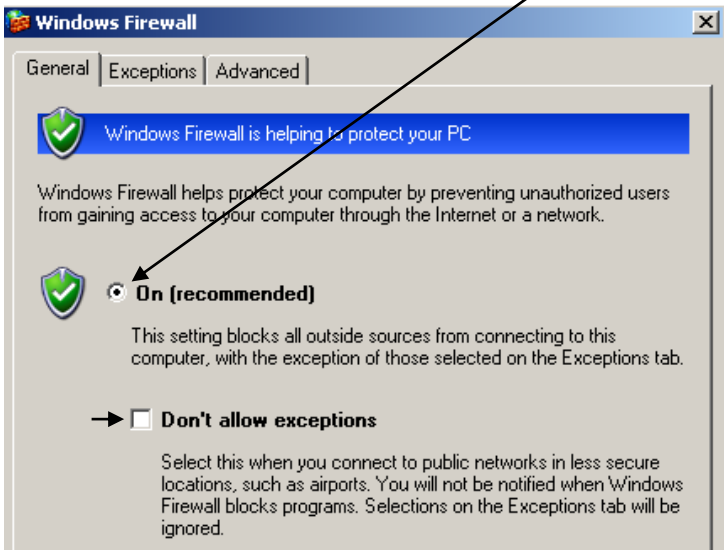
Step	Process
1	Right-click an empty space on the desktop, and then click Properties .
2	On the Themes tab, click Windows Classic in the Theme box.
3	Click OK .

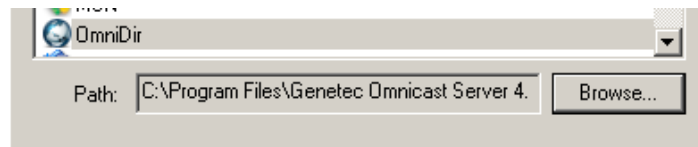
2.4 Windows Firewall

A firewall is software or hardware that checks information that comes from the Internet or from a network and, depending on your settings, will either block the information or let it through. A firewall can help prevent malicious software (such as worms) from gaining access to your computer.

If the Omnicast servers and workstations require you to have Windows Firewall enabled, there are certain procedures to follow which are described below.

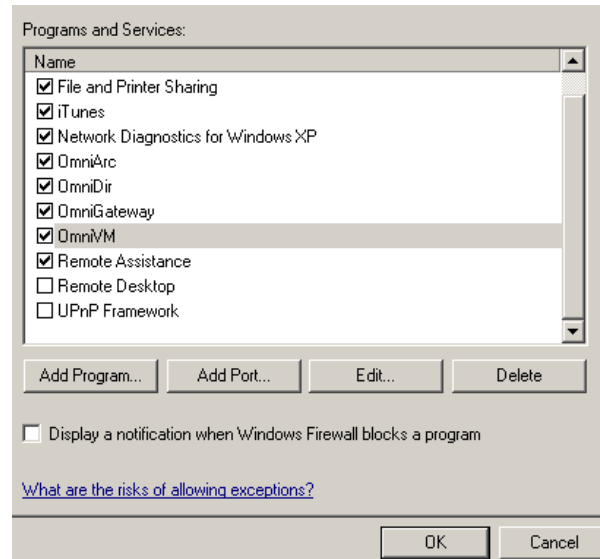
Enabling Windows Firewall and Setting Exceptions for Windows XP and Windows Server 2003

Step	Process
1	Click Start , click Control Panel , and then double-click Windows Firewall .  Windows Firewall
2	In the Windows Firewall window, verify that Windows Firewall is ON and “ Don’t allow exceptions ” is <i>unchecked</i> . 
3	In the Windows Firewall window, select the Exceptions tab.
4	Click the “ Add Program.. ” button.
5	If you are on an Omnicast server , click Browse and navigate to: 32-bit Windows: C:\Program Files\Genetec Omnicast Server 4.x 64-bit Windows: C:\Program Files (x86)\Genetec Omnicast Server 4.x



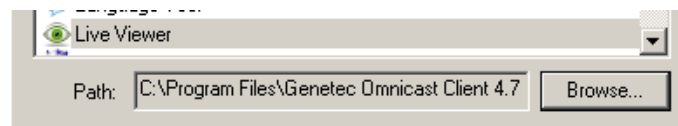
- 6 Add all the Omnicast services one by one (depending which service(s) is/are installed). Press **OK**.

OmniArc.exe
OmniDFC.exe
OmniDir.exe
OmniFed.exe
OmniGateway.exe
OmniME.exe
OmniVM.exe



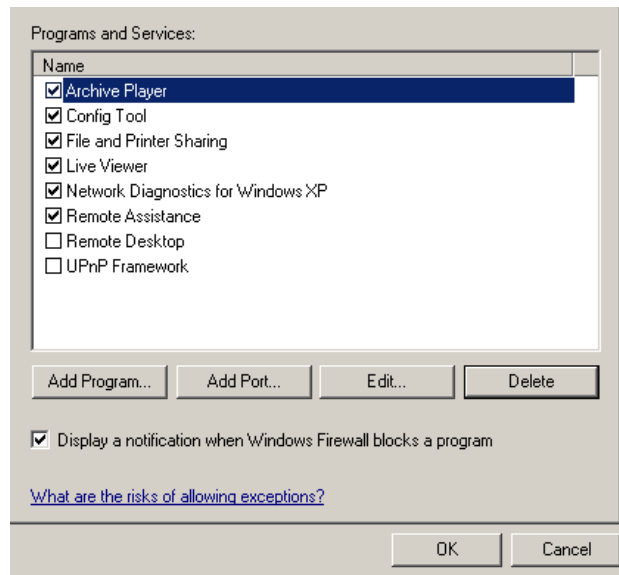
- 7 If you are on an **Omnicast client station**, click **Browse** and navigate to:

32-bit Windows: **C:\Program Files\Genetec Omnicast Client 4.x**
64-bit Windows: **C:\Program Files (x86)\Genetec Omnicast Client 4.x**


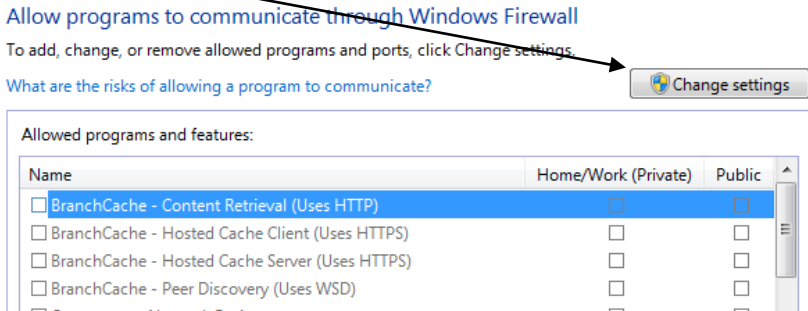
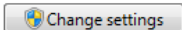


- 8 Add all the Omnicast Client applications one by one (depending which service is installed). Press **OK**.

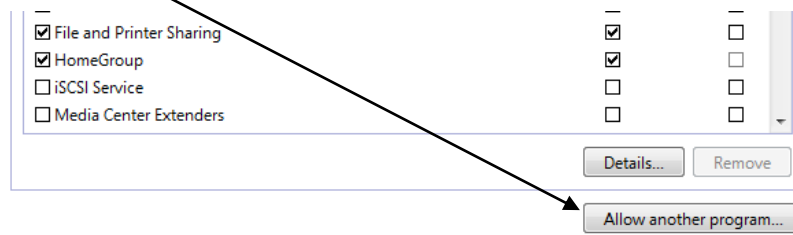
ConfigTool.exe
LiveViewer.exe
ArchivePlayer.exe



Setting Exceptions for Windows Server 2008, 2008 R2, Vista and 7

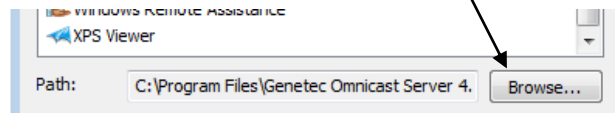
Step	Process															
1	Click Start , click Control Panel , and then double-click Windows Firewall . 															
2	Click “ Allow a program or feature through Windows Firewall ”.															
3	Click “ Change settings ”.  <p>Allow programs to communicate through Windows Firewall</p> <p>To add, change, or remove allowed programs and ports, click Change settings.</p> <p>What are the risks of allowing a program to communicate?</p> <p></p> <p>Allowed programs and features:</p> <table><tr><th>Name</th><th>Home/Work (Private)</th><th>Public</th></tr><tr><td><input type="checkbox"/> BranchCache - Content Retrieval (Uses HTTP)</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><input type="checkbox"/> BranchCache - Hosted Cache Client (Uses HTTPS)</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><input type="checkbox"/> BranchCache - Hosted Cache Server (Uses HTTPS)</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><input type="checkbox"/> BranchCache - Peer Discovery (Uses WSD)</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table>	Name	Home/Work (Private)	Public	<input type="checkbox"/> BranchCache - Content Retrieval (Uses HTTP)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> BranchCache - Hosted Cache Client (Uses HTTPS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> BranchCache - Hosted Cache Server (Uses HTTPS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> BranchCache - Peer Discovery (Uses WSD)	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/> BranchCache - Content Retrieval (Uses HTTP)	<input type="checkbox"/>	<input type="checkbox"/>														
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<input type="checkbox"/> BranchCache - Hosted Cache Server (Uses HTTPS)	<input type="checkbox"/>	<input type="checkbox"/>														
<input type="checkbox"/> BranchCache - Peer Discovery (Uses WSD)	<input type="checkbox"/>	<input type="checkbox"/>														

- 4 Click “**Allow another program...**”.

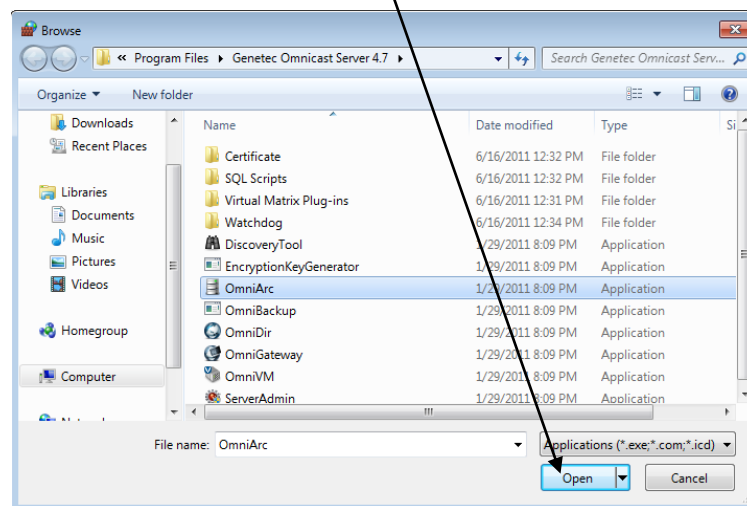


- 5 If you are on an **Omnicast server**, click **Browse** and navigate to:

32-bit Windows: **C:\Program Files\Genetec Omnicast Server 4.x**
64-bit Windows: **C:\Program Files (x86)\Genetec Omnicast Server 4.x**

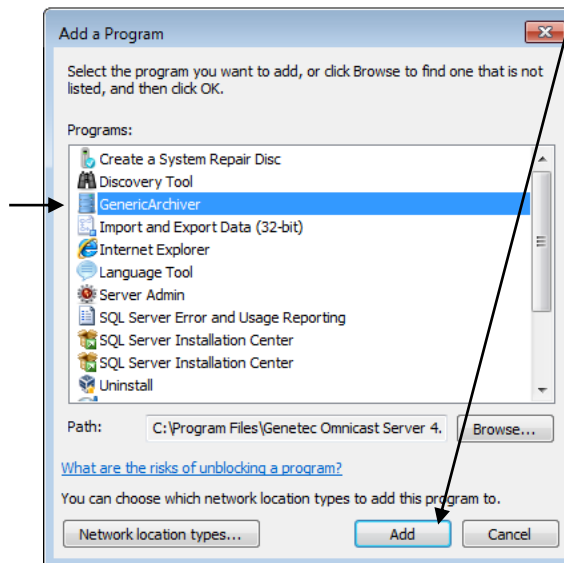


- 6 Select an Omnicast application. Press **Open**.



7

In the **Add a Program** window, confirm your selection and press **Add**.



Repeat steps 5 to 7 for all Omnicast applications listed below (depending which service(s) is/are installed)

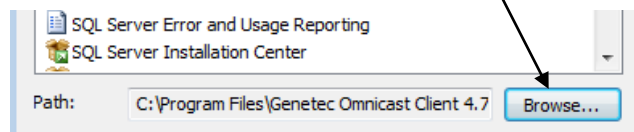
OmnArc.exe
OmnIDFC.exe
OmnIDir.exe
OmnIFed.exe
OmnGateway.exe
OmnIME.exe
OmnVM.exe
ServerAdmin.exe

8

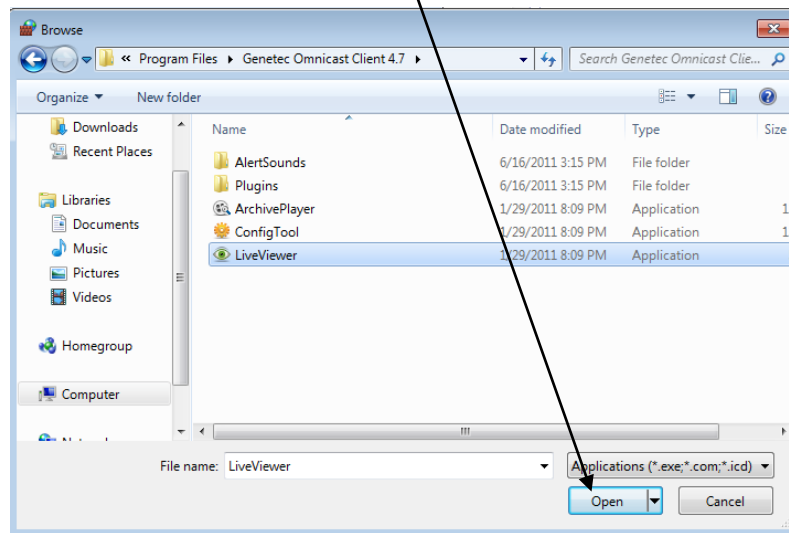
If you are on an **Omnicast client station**, click **Browse** and navigate to:

32-bit Windows: **C:\Program Files\Genetec Omnicast Client 4.x**

64-bit Windows: **C:\Program Files (x86)\Genetec Omnicast Client 4.x**



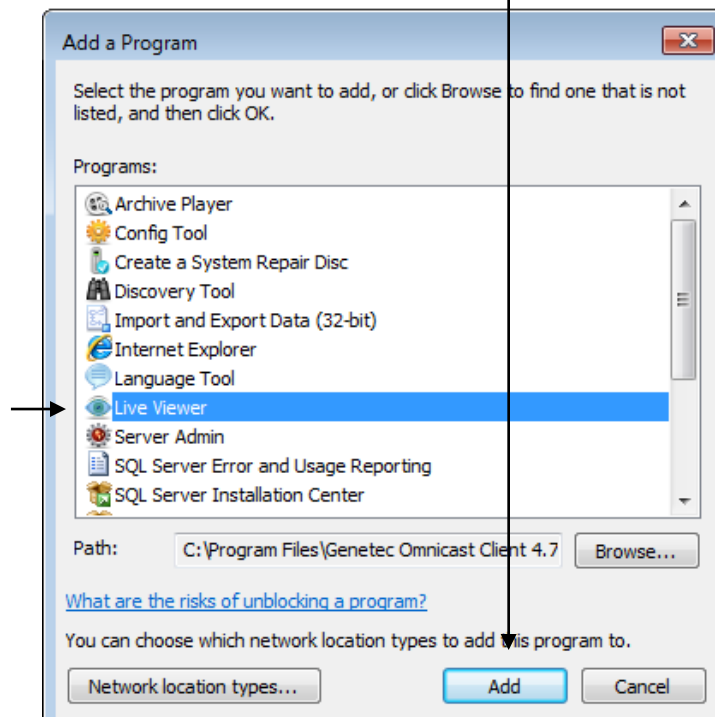
- 9 Select an Omnicast application. Press **Open**.



- 10 In the **Add a Program** window, confirm your selection and press **Add**.

Repeat steps 8 to 10 for all Omnicast applications listed below (depending which service(s) is/are installed)

ConfigTool.exe
LiveViewer.exe
ArchivePlayer.exe




11 Confirm your selections and press **OK**.

Note: Enable exceptions on all network types (E.g. Home/Work/Private), Public & Domain)

Allow programs to communicate through Windows Firewall


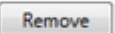
To add, change, or remove allowed programs and ports, click Change settings.

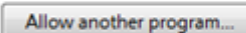
What are the risks of allowing a program to communicate?

 Change settings

Allowed programs and features:

Name	Home/Work (Private)	Public
<input checked="" type="checkbox"/> Directory	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Distributed Transaction Coordinator	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> File and Printer Sharing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> GatewayService	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> GenericArchiver	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> HomeGroup	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> iSCSI Service	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Live Viewer	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Media Center Extenders	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Netlogon Service	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Network Discovery	<input checked="" type="checkbox"/>	<input type="checkbox"/>



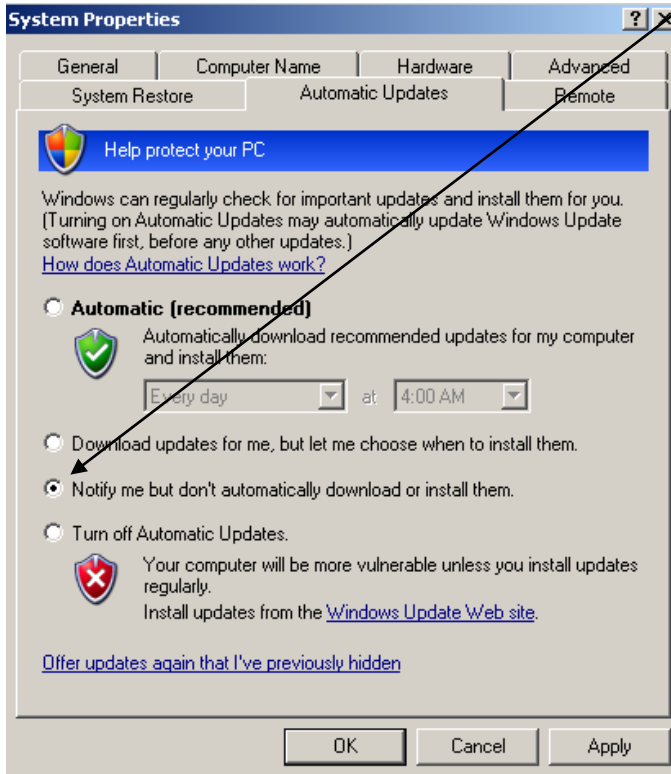
2.5 Windows Updates

Microsoft makes it very easy for you to install upgrades on your PC. Normally, Windows has the updates set on automatic, so it will immediately download and install them, pushing changes to your PC, especially in its major components. You can also have the opportunity to schedule the updates.

If your Omnicast server or workstation is connected to the Internet, these updates will automatically download and install. This will initiate a restart of your Windows system without proper planning. In this case, it is recommend to use the “Notify me but don’t automatically download or install them” feature. It is also recommended to have a maintenance plan in place that covers updating your machine periodically.

If your Omnicast server or workstation is *not* connected to the Internet, it is recommended to have updates pushed through the local network. It is also recommended to have a maintenance plan in place that covers updating your machine periodically.

Omnicast Server/Workstation Connected to Internet


Step	Process
1	Right click My Computer and click Properties .
2	In the System Properties windows, click the Automatic Updates tab, click Notify me but don't automatically download or install them . 
3	Click OK .

2.6 Uninstalling Unwanted Programs

Many PC manufacturers pack their computers with programs you might not want. Keeping the software on your computer might slow it down by using precious memory, disk space, and processing power.

It's a good idea to uninstall all the programs you don't plan on using. This should include both manufacturer-installed software and software you installed yourself but don't want any more, especially utility programs designed to help manage and tune your computer's hardware and software. Utility programs such as virus scanners, disk cleaners, and backup tools often run automatically at start-up, quietly taking up precious resources in the background where you can't see them. Often you have no idea they are even running.

Even if your PC is older, it might contain manufacturer-installed programs that you never noticed or have since forgotten about. It's never too late to remove these and get rid of the clutter and wasted system resources. Uninstalling these applications/utilities will increase the proficiency of your system while running Omnicast applications.

Step	Process
1	<p>Click Start, click Control Panel, and then double-click Add or Remove Programs.</p>  <p>Add or Remove Programs</p>
2	<p>In the Currently installed programs box, click the program that you want to remove, and then click Remove.</p>
3	<p>If you are prompted to confirm the removal of the program, click Yes.</p>

2.7 Disabling the Screen Saver

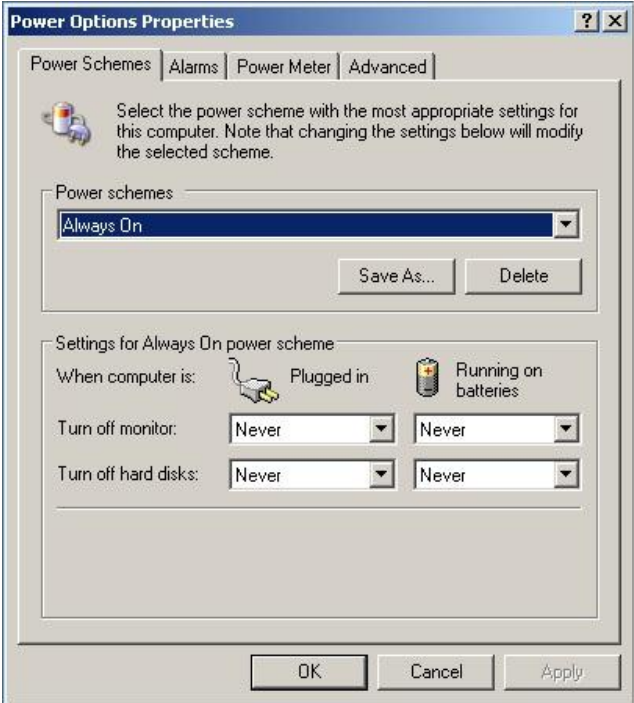
Turning off the screen saver is recommended on client workstations to improve performance and CPU usage. The default screen saver should be kept on Omnicast servers.

Step	Process
1	Click Start , click Control Panel , and then double-click Display .
2	In the Display Properties box, click the Screen Saver Tab.
3	Under the Screen Saver drop down menu select (None) . Apply the settings and close the window.

2.8 Disabling Power Management

The “Always On” power scheme should be set on servers/workstations used for video walls.

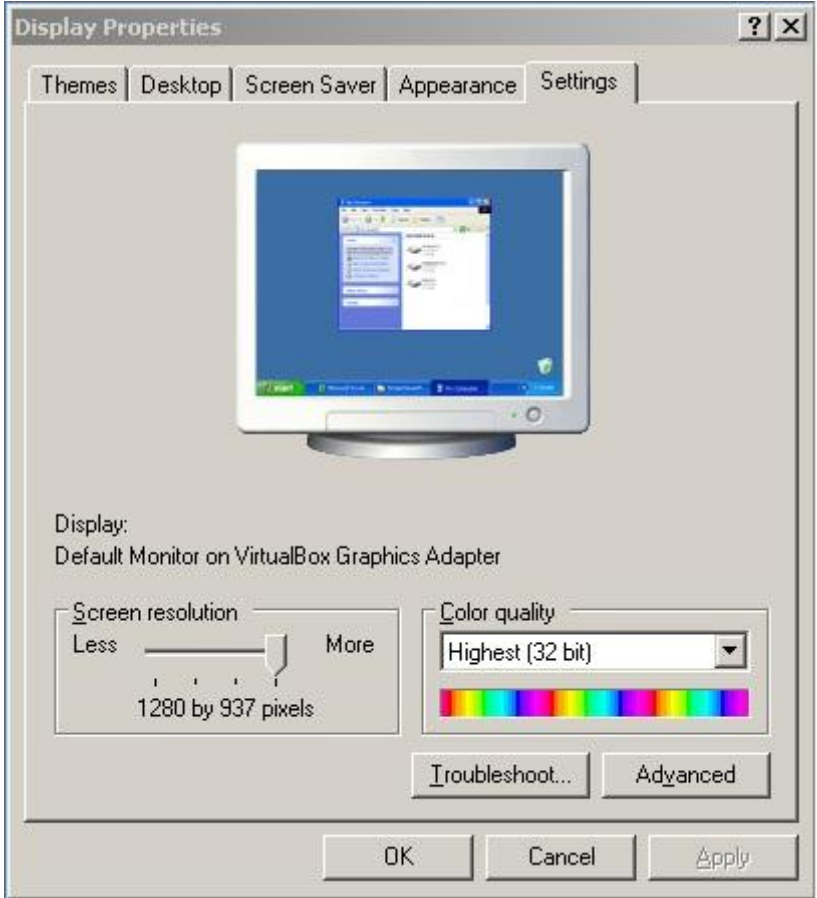
Step	Process
1	Click Start , click Control Panel , and then double-click Power Options .
2	In the Power Options Properties box, select Always On as the power scheme.
3	Under the Settings for Always On power scheme , select Never for all entities, apply the settings and close the window.



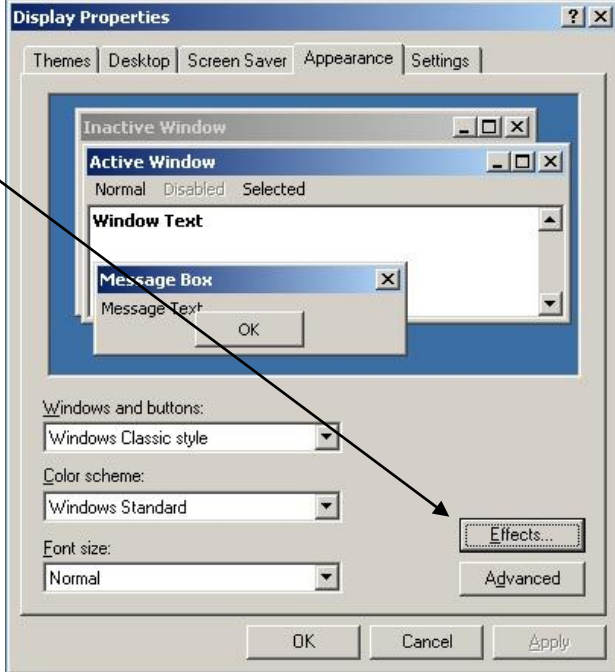
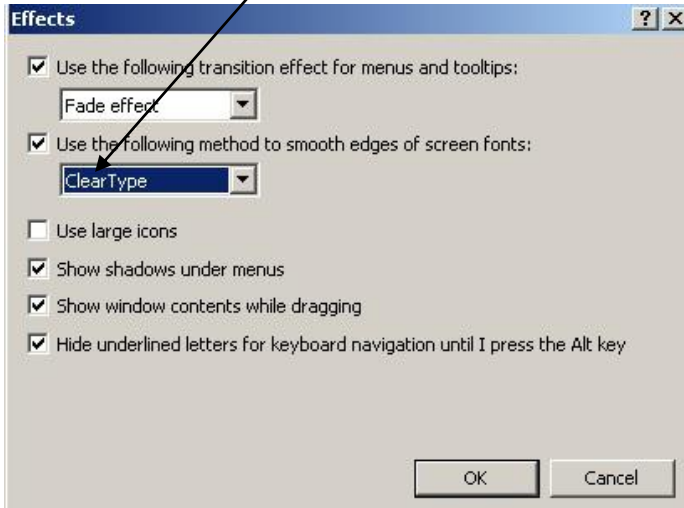
2.9 Display Resolution

Using the monitor's native resolution is recommended. This can be achieved by selecting the highest available resolution in your computer display settings.

Step	Process
1	Click Start , click Control Panel , and then double-click Display .
2	In the Display Properties box, click the Settings Tab.
3	Under Screen resolution select the highest resolution available. Under the Color quality dropdown box, select the highest available. Apply the settings and close the window.

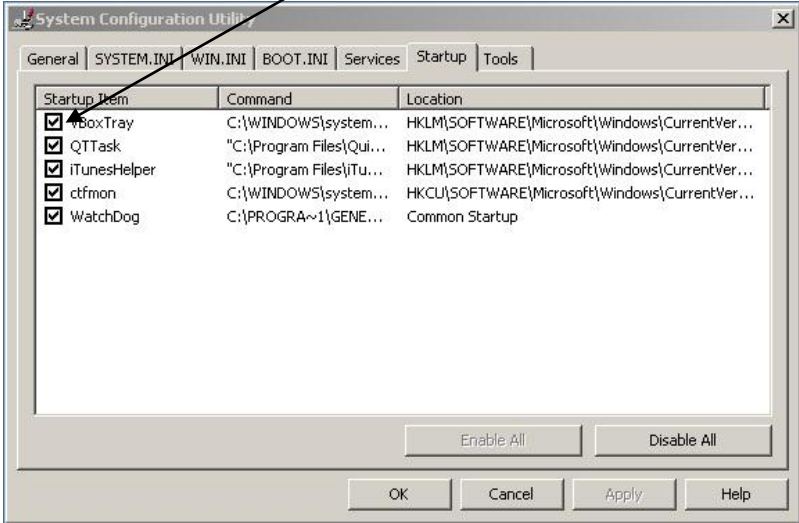


2.10 Enabling Cleartype (LCD/LED Monitors Only)

Step	Process
1	Click Start , click Control Panel , and then double-click Display .
2	In the Display Properties box, click the Appearance Tab.
3	Under the Appearance tab, select the Effects... button. 
4	In the Effects dialogue box, select Clear Type under the “ Use the following method to smooth edges of screen fonts: ” Press OK , apply the settings and close the window. 

2.11 Disabling Unused Start-up Applications

Step	Process
1	Click Start , click Run...
2	In the Run dialogue, type msconfig and press OK .
3	Under the System Configuration Utility dialogue box, select the Startup tab.
4	Beneath the Startup Item column, uncheck any unwanted startup applications. Apply the settings and close the window. Restart your computer.



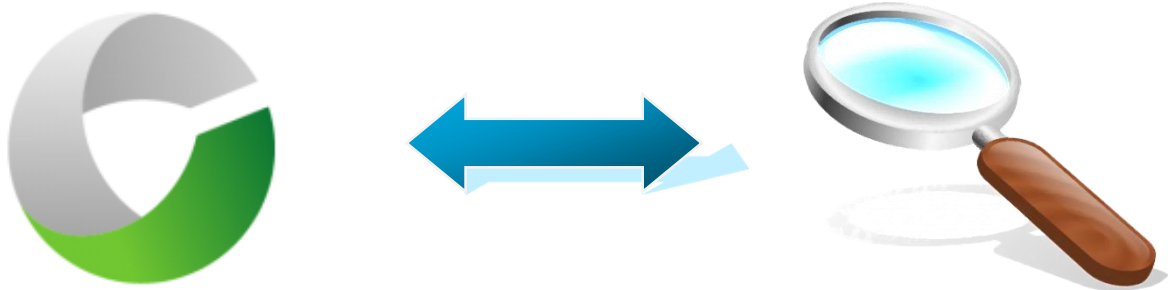
Startup Item	Command	Location
<input checked="" type="checkbox"/> BoxTray	C:\WINDOWS\system...	HKLM\SOFTWARE\Microsoft\Windows\CurrentVer...
<input checked="" type="checkbox"/> QTTask	"C:\Program Files\Qui...	HKLM\SOFTWARE\Microsoft\Windows\CurrentVer...
<input checked="" type="checkbox"/> iTunesHelper	"C:\Program Files\ITu...	HKLM\SOFTWARE\Microsoft\Windows\CurrentVer...
<input checked="" type="checkbox"/> ctfmon	C:\WINDOWS\system...	HKCU\SOFTWARE\Microsoft\Windows\CurrentVer...
<input checked="" type="checkbox"/> WatchDog	C:\PROGRA~1\GENE...	Common Startup

3 Optimizing Omnicast

3.1 Introduction

In every video management system ensuring all configurations are set to their optimal settings is a vital step.

The following tips can help optimize your Omnicast system. These examples are for any Windows operating system, whether it be a workstation or server.



3.2 Recommendations

3.2.1 Windows :

- A 64-bit operating system is recommended to run all Omnicast applications and services. Though Omnicast is a 32-bit application, a 64-bit architecture manages more memory. This will be more suitable to run Omnicast and the next Genetec Security Center platform.
- Omnicast **must not** be installed on a domain controller.
- If client applications (Live Viewer, etc.) are used for testing purposes on the servers, they must be exited upon finishing to save resources.

3.2.2 Disk Imaging:

- Disk imaging is **not** supported.

3.2.3 Network:

- Static IP addresses are recommended for Omnicast servers and video units. Avoid using DHCP.
- If network VLANs are being used, all VLANs must be managed by the network equipment, not the servers or clients. VLAN tagging in Windows is not supported.
- Windows may be used as an IGMP querier on a 3rd party server **not** running Omnicast. IGMP querying must be done on the network level if otherwise.

3.2.4 Archiving:

- Partition, LUN, and disk sizes should be 4-8 terabytes maximum in size

3.2.5 Omnicast Servers:

- No other hosting applications should be running in parallel with Omnicast. (Example: Web Servers, FTP Servers, Domain)

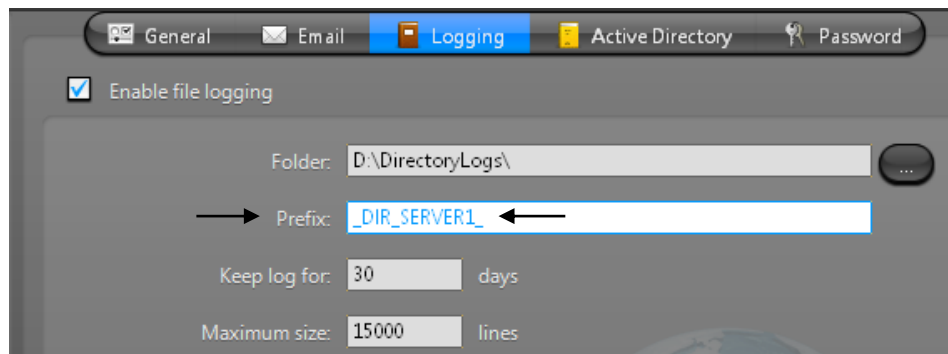
3.2.6 Logs:

- Rename prefix log names for Omnicast servers; this is especially recommended in a large scale Omnicast system.

Example of naming conventions:

Server	Prefix
Directory1	_DIR_SERVER1_
Gateway1	_GTW_SERVER1_
Gateway4	_GTW_SERVER4_
Archiver6	_ARC_SERVER6_
Archiver13	_ARC_SERVER13_

Prefix names can be set in **Server Admin > System > Omnicast Service > Logging**



3.2.7 Update Drivers


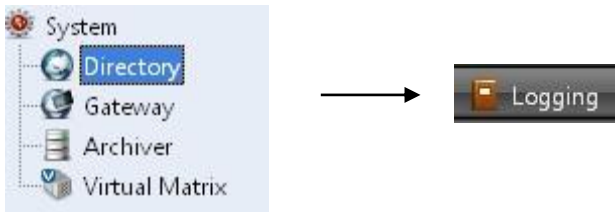
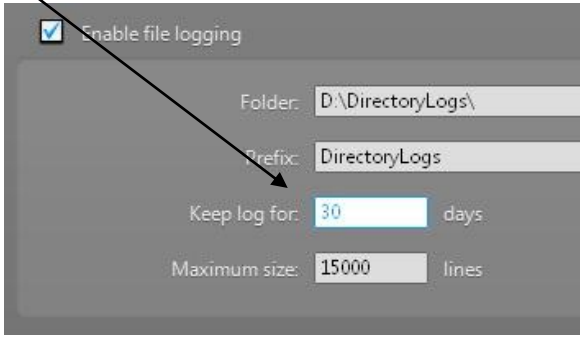
Update all hardware drivers to the latest version supported by the manufacturer on all Omnicast servers and workstations. These drivers should be downloaded from the manufacturer's website (e.g. HP, Dell etc.) opposed to the hardware component's website (e.g. NVIDIA, Intel etc.)

The most important drivers are:

- Video (Video cards and Direct X)
- Network (NICs)
- Chipset

3.3 Omnicast Logs

Omnicast logs should be kept as long as the video retention period. In case of missing video files these logs will allow for easy troubleshooting in order to investigate the root cause. This can be configured in the Server Admin.

Step	Process
1	Open the Omnicast Server Admin .  Server Admin
2	Select an Omnicast service , then press the Logging tab. 
3	Under “ Keep log for : ” set the value to the same as your Video Retention period. 
4	Repeat steps 2 and 3 for each Omnicast service.

3.4 Alarms


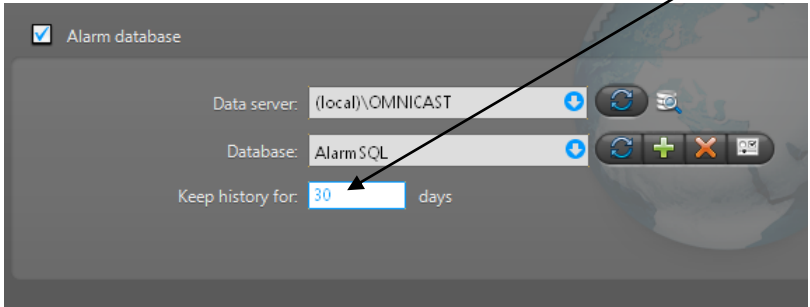
3.4.1 Alarm History

Alarm history kept in the database (AlarmSQL) is recommended to be the same as the retention periods of the cameras. Depending on the needs of the system, the alarm history may be set otherwise.


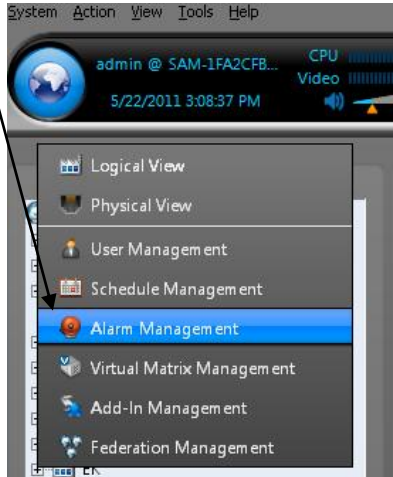
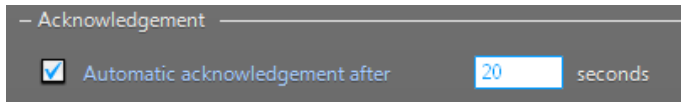
3.4.2 Alarm Acknowledgment

High volume Omnicast systems with many alarm entities have the ability to turn on a feature called “*Automatic Acknowledgment*”. This feature is especially useful when there are many alarms coming in at the same time.

3.4.1 Alarm History


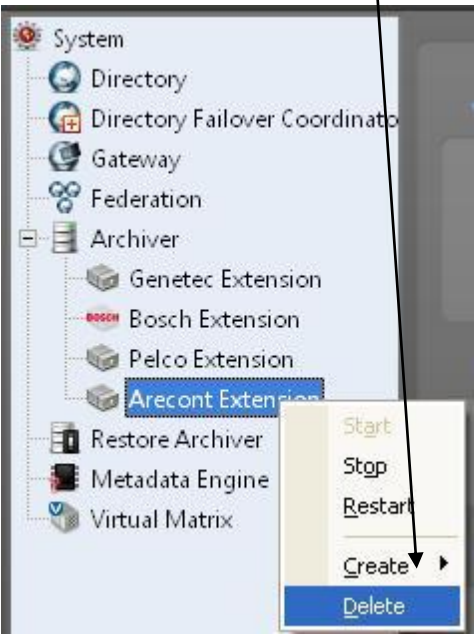
Step	Process
1	Open the Omnicast Server Admin . 
2	Select the Directory Service , then press the General tab. Under Keep history for , enter the retention period. 
3	Apply the settings.

3.4.2 Alarm Acknowledgment

Step	Process
1	<p>Open the Omnicast Config Tool and login to the Omnicast system.</p> <div><p>Config Tool</p></div>
2	<p>Navigate to Alarm Management.</p> <div></div>
3	<p>Select an alarm from the Alarm Management tree. Click the Properties button. Enable Automatic acknowledgement after.</p> <p>Set the amount of time it will take before the Alarm is acknowledged automatically.</p> <p><i>Example</i></p> <div></div>
4	<p>Repeat Step #3 for each alarm entity. Apply the Settings</p>

3.5 Deleting Unused Archiver Extensions

To save on precious Archiver resources, deleting unused Archiver extensions is recommended.

Step	Process
1	<p>Open the Omnicast Server Admin, stop the Archiver service.</p>  Server Admin
2	<p>Under the Archiver tree, right-click and Delete any unused extensions.</p> 
3	<p>Start the Archiver service.</p>

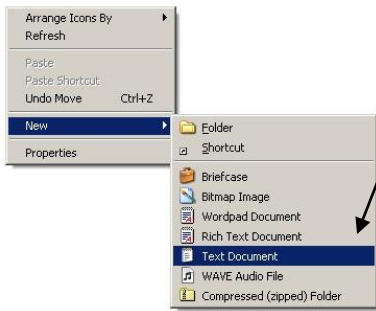
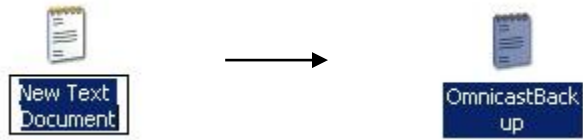
3.6 Configuring Scheduled Backups

Setting up scheduled backups is an important step in any Omnicast environment. These backups hold key system information such as databases and registry information. In case of system failure you will always be able to return your system to a previous backed up state.

Omnicast Backup supports the following features:

- Runs as a command line function
- Backs up the Omnicast databases (DirectorySQL, AlarmSQL, VideoArchiveSQL, ReportingSQL, AuxiliaryArchiveSQL, ObjectStore, etc.)
- Backs up the registry (includes the software license)
- Keeps the results of a single backup operation in a single .zip file
- Maintains the most recent backup files on disk
- Produces a detailed trace of all operations with optional timestamps

Step #1 – Creating the Omnicast Backup Batch File

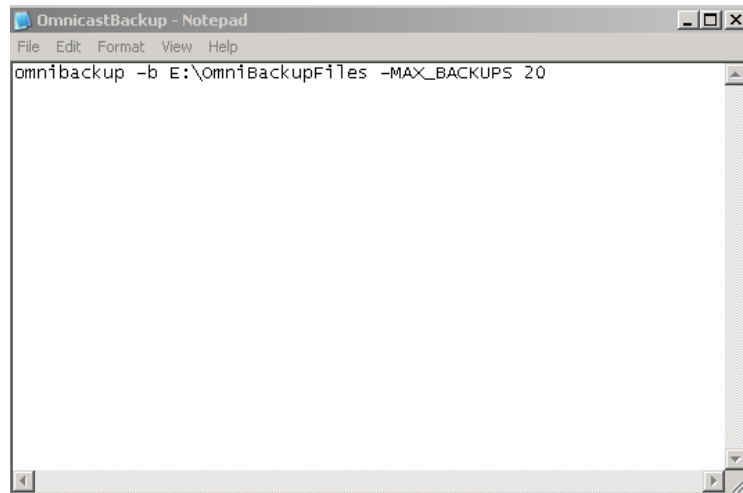
Step	Process
1	<p>Right-click on your desktop, navigate to New and select Text Document.</p> 
2	<p>Once the text document is created rename the file to: OmnicastBackup</p> 

- 3 Open the newly created **OmnicastBackup** text document.

Enter the following line : ***omnibackup -b X:\BackupFolder -MAX_BACKUPS 20*** (X= Drive with sufficient space to hold backups, avoid using the C drive)

Note: -MAX_BACKUPS 20 string will keep backup files for a maximum of 20 days.

Example:



- 4 Select **File** and **Save**, then close the text document.

- 5 Create a folder named: ***Omnicast Scheduled Backup*** on **C:**. Cut and Paste ***OmnicastBackup.txt*** to **C:\Omnicast Scheduled Backup**

- 6 Click **Start**, click **Run**, type **cmd**, and then click **OK**.

- 7 Using the **Command Prompt** window navigate to **C:\Omnicast Scheduled Backup**

Enter the following command line and press **Enter** :

rename OmnicastBackup.txt OmnicastBackup.bat

```
C:\>cd Omnicast Scheduled Backup
C:\Omnicast Scheduled Backup>rename OmnicastBackup.txt OmnicastBackup.bat
```

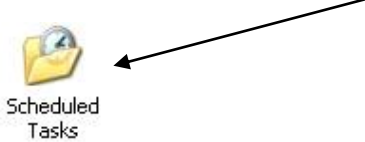
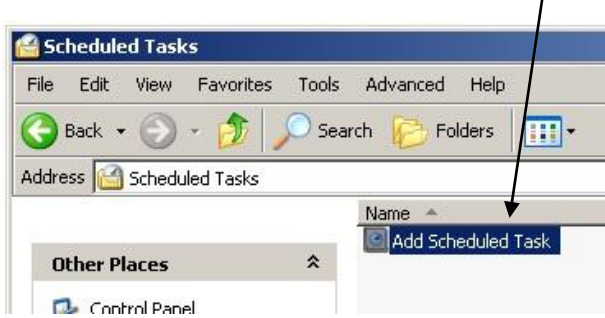
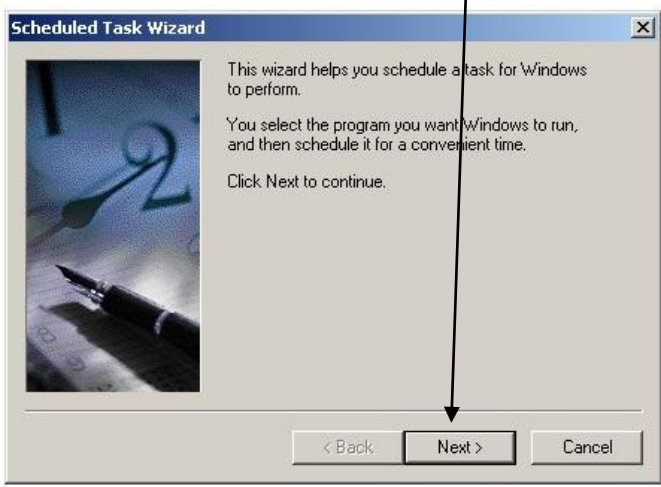
Upon completion you will have a **MS-DOS Batch File** located in **C:\Omnicast Scheduled Backup**



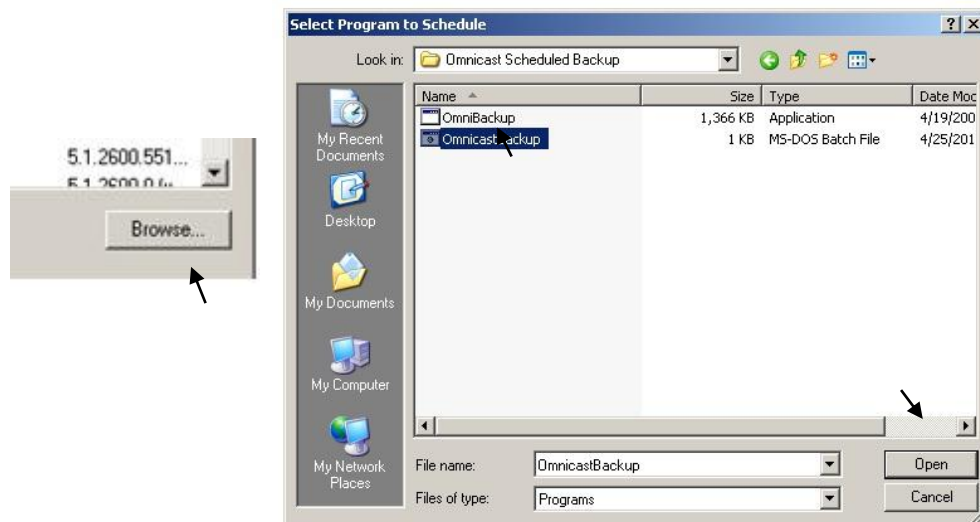
Step #2 – Copy OmniBackup.exe

Step	Process
1	<p>Navigate to OmniBackup.exe, located in one of the following locations:</p> <p>a) C:\Program Files\Genetec Omnicast Server 4.X</p> <p>or</p> <p>b) Omnicast Installation Material (located in “Tools/Free Omnicast Tools/Backup Tool” Folder)</p>
2	<p>Copy <i>OmniBackup.exe</i> and Paste in <i>Omnicast Scheduled Backup</i> folder (created in step #1-5)</p> <p>Upon completion you will have two files in the <i>Omnicast Scheduled Backup</i> folder.</p>

Step #3a – Creating a Scheduled Backup in Windows XP/Server 2003

Step	Process
1	<p>Click Start, click Control Panel, and then double-click Scheduled Tasks.</p>  <p>The image shows a yellow folder icon labeled "Scheduled Tasks". An arrow points from the top right towards the folder icon.</p>
2	<p>In the Scheduled Tasks window, double-click Add Scheduled Task.</p>  <p>The image shows the "Scheduled Tasks" window. The "Name" list on the right contains "Add Scheduled Task", which is highlighted. An arrow points from the top right towards this button.</p>
3	<p>In the Scheduled Task Wizard dialog box, click Next.</p>  <p>The image shows the "Scheduled Task Wizard" dialog box. It contains instructions: "This wizard helps you schedule a task for Windows to perform. You select the program you want Windows to run, and then schedule it for a convenient time. Click Next to continue." At the bottom, there are three buttons: "< Back", "Next >", and "Cancel". An arrow points from the top right towards the "Next >" button.</p>

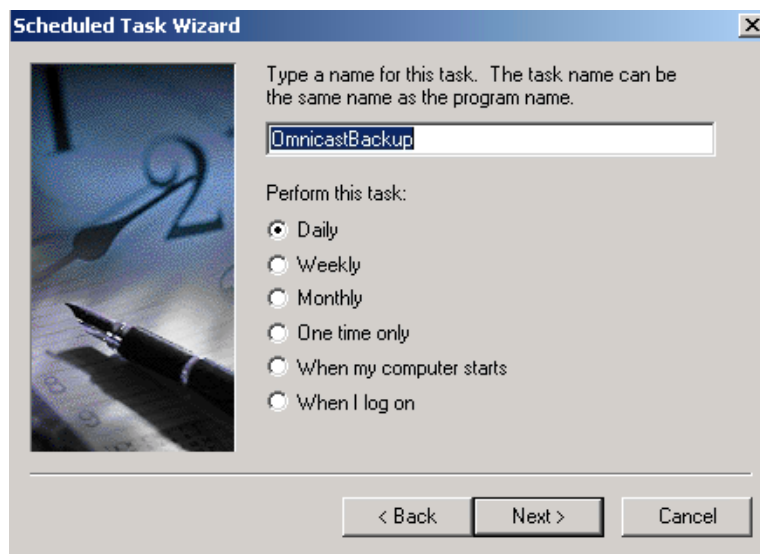
- 4 Click on **Browse**, then navigate to the **C:\Omnicast Scheduled Backup** folder and select the **OmnicastBackup.bat** file. Click on **Open**.



- 5 Select how often you would like to have your Omnicast system backed up and click **Next**.

Note: It is recommended to have daily backups


Example:



- 6 Set entities and press **Next**.

Example:

Daily Backup set 12:00 AM



The screenshot shows the 'Scheduled Task Wizard' dialog box. On the left is a graphic of a clock and a pen. The text reads: 'Select the time and day you want this task to start.' Below this, 'Start time:' is followed by a dropdown menu showing '12:00 AM'. Then 'Perform this task:' is followed by three radio button options: 'Every Day' (which is selected), 'Weekdays', and 'Every' followed by a dropdown showing '1' and the word 'days'. Below that, 'Start date:' is followed by a dropdown showing '7/ 5/2011'. At the bottom are three buttons: '< Back', 'Next >', and 'Cancel'.

- 7 Set your Windows Login Information and press **Next**.



The screenshot shows the 'Scheduled Task Wizard' dialog box. On the left is the same clock and pen graphic. The text reads: 'Enter the name and password of a user. The task will run as if it were started by that user.' Below this are three input fields: 'Enter the user name:' with the text 'Computer Name\User' entered, 'Enter the password:', and 'Confirm password:'. Below these fields is a note: 'If a password is not entered, scheduled tasks might not run.' At the bottom are three buttons: '< Back', 'Next >', and 'Cancel'.

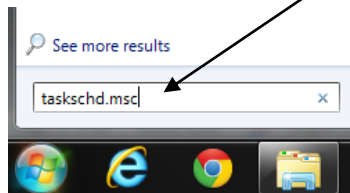
- 8 Confirm details and press **Finish**.



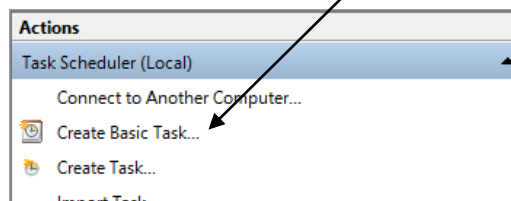
Step #3b – Creating a Scheduled Backup in Windows Server 2008, 2008 R2, Vista and 7

Step	Process
------	---------

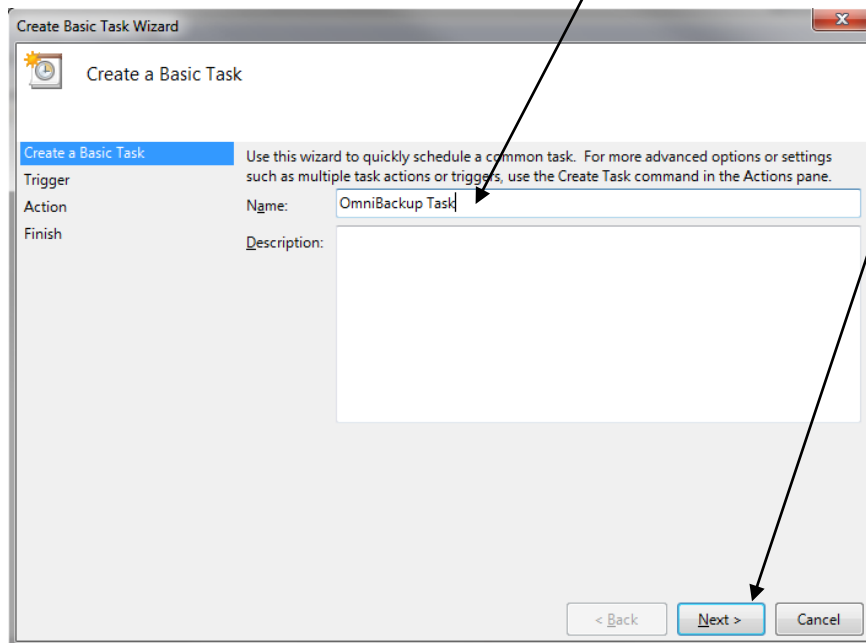
- | | |
|---|--|
| 1 | Click Start , type taskschd.msc in the Search programs and files field and press Enter . |
|---|--|



- | | |
|---|--|
| 2 | In the Task Scheduler window, click Create Basic Task... |
|---|--|



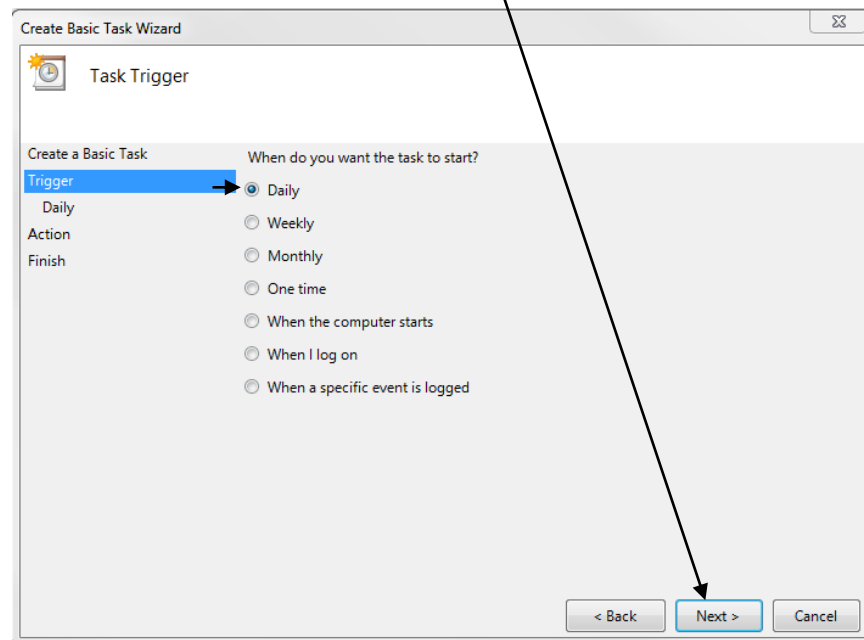
- 3 In the **Create Basic Task Wizard** window, enter a name for the task, click **Next**.



- 4 **Select** how often you would like to have your Omnicast system backed up and click **Next**.

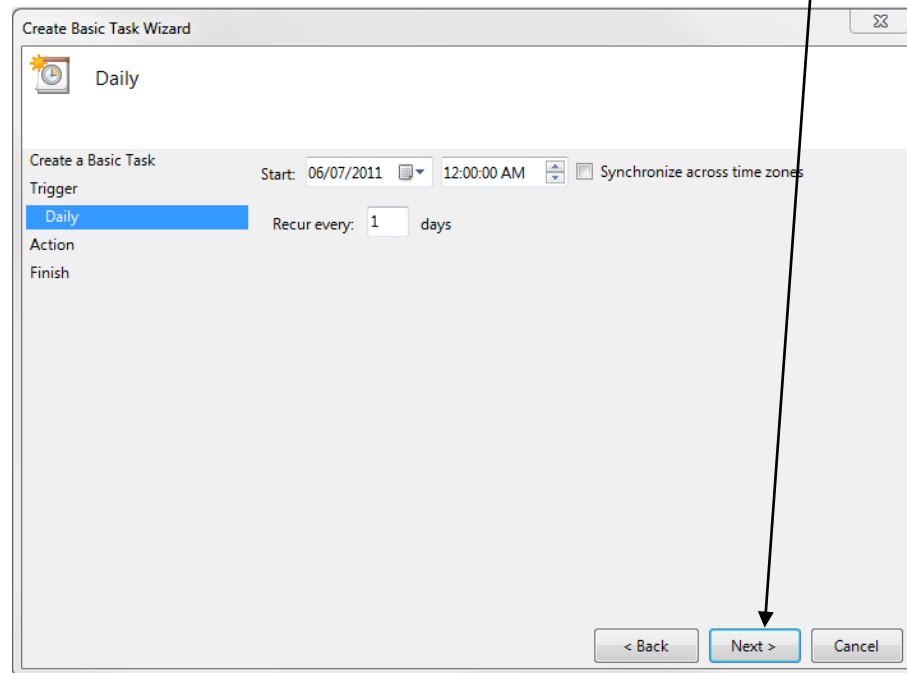
Note: It is recommended to have daily backups.

Example:

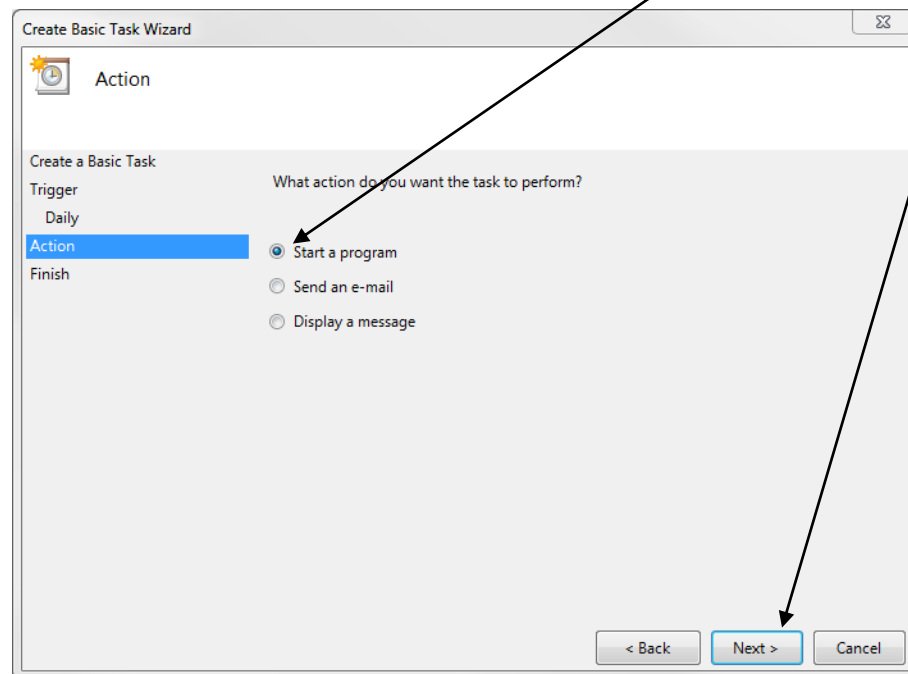


- 5 Set entities and press **Next**.

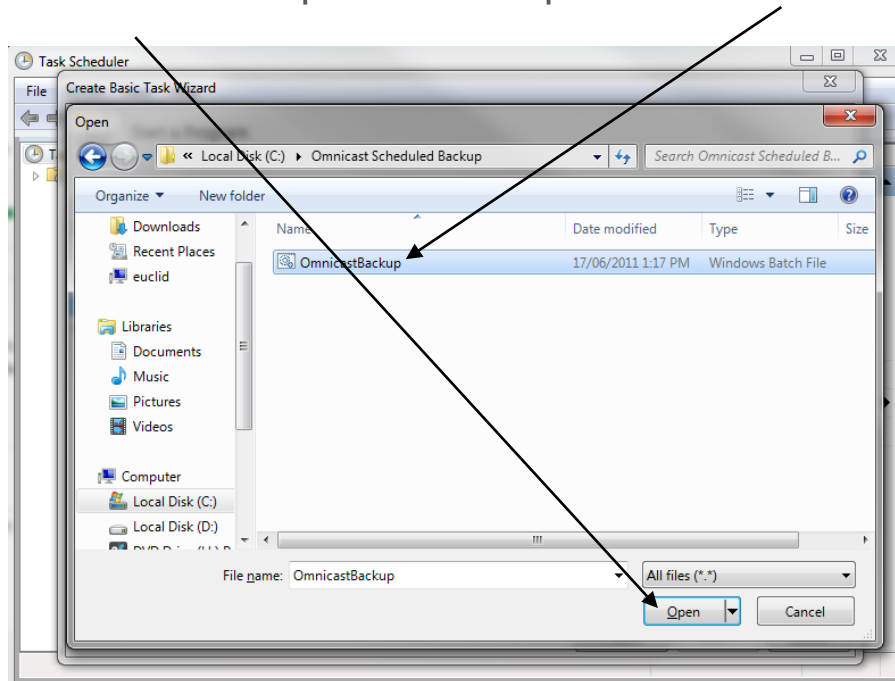
Example:



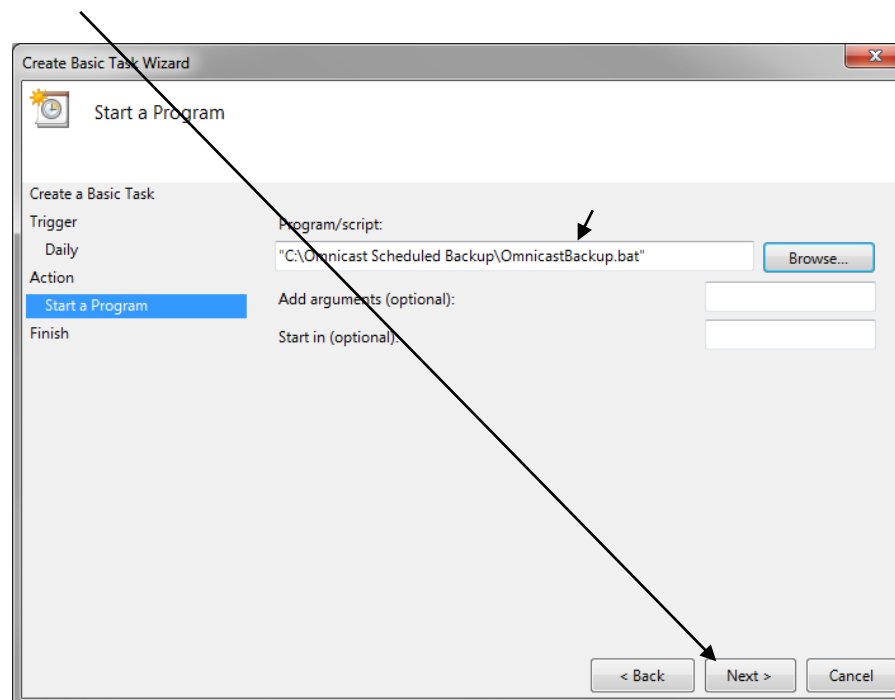
- 6 Select **Start a program** and press **Next**.



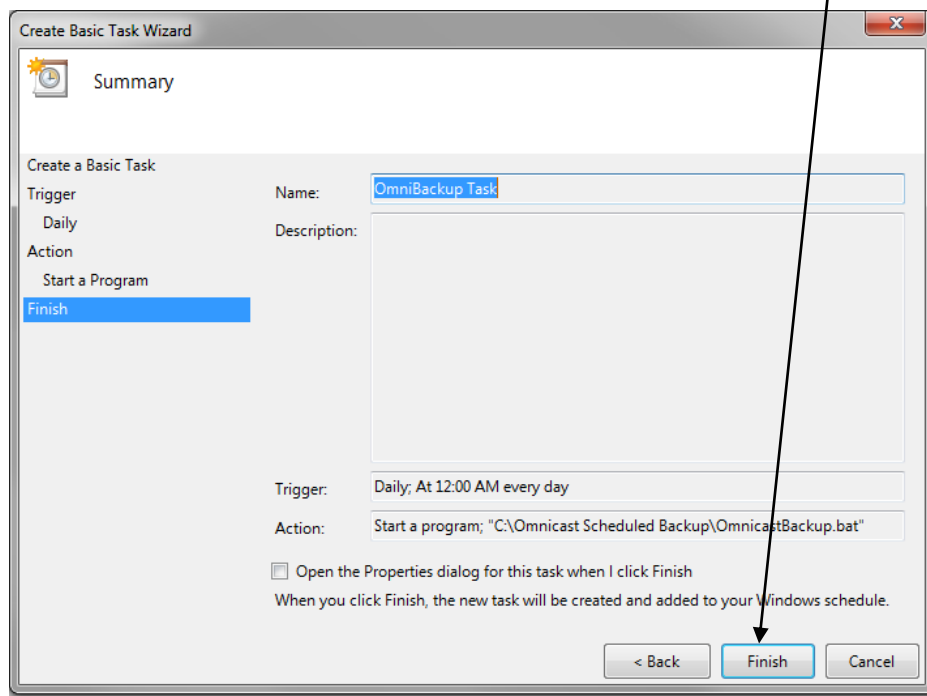
- 7 Click on **Browse**, then navigate to the **C:\Omnicast Scheduled Backup** folder and select the **OmnicastBackup.bat** file. Click on **Open**.



- 8 Confirm the **Program/script** selection and press **Next**.


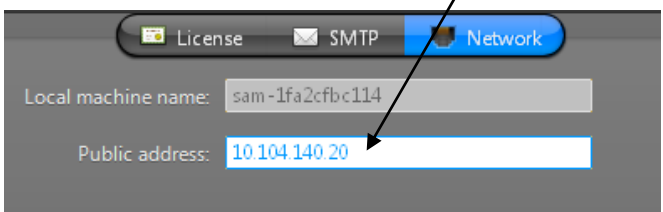


9 Confirm details and press **Finish**.



3.7 Failover/Reverse Gateway Network Settings


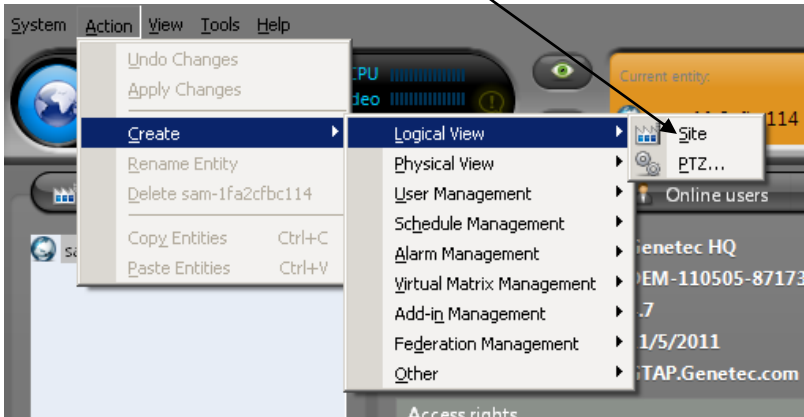
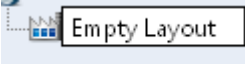
If the Omnicast system utilizes Directory failover and the Failover Directory is located outside of the main Directory's LAN, the Public Address field in the Server Admin should be populated. This is used so the main server can be accessed from outside its current LAN. This configuration is mandatory for any system running a DFC (Directory Failover Coordinator) or multiple Gateways.

Step	Process
1	Open the Omnicast Server Admin . 
2	Under System , select the Network tab. Under Public address , enter the IP of the main server. 
3	Apply the settings.




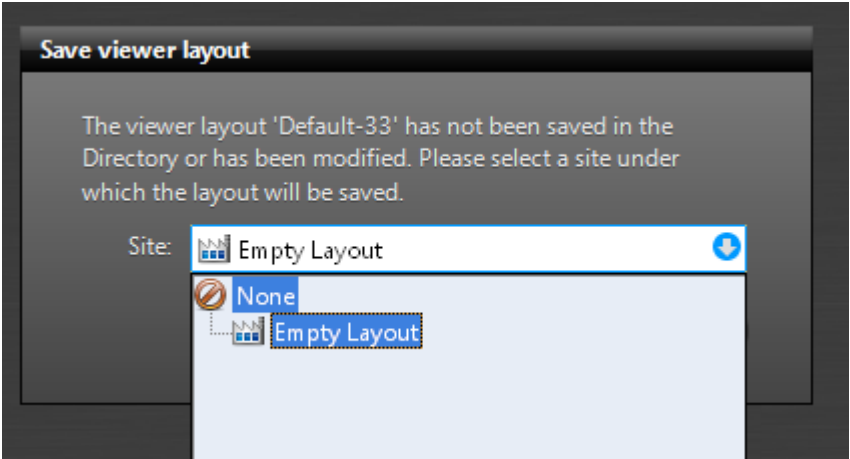
3.8 Setting Empty Layout for Administrators

Setting an empty layout in Live Viewer for administrators will help you connect faster and avoid system lock ups when troubleshooting, especially when Omnicast clients are open on the server.

Step #1 – Creating an Empty Layout Site

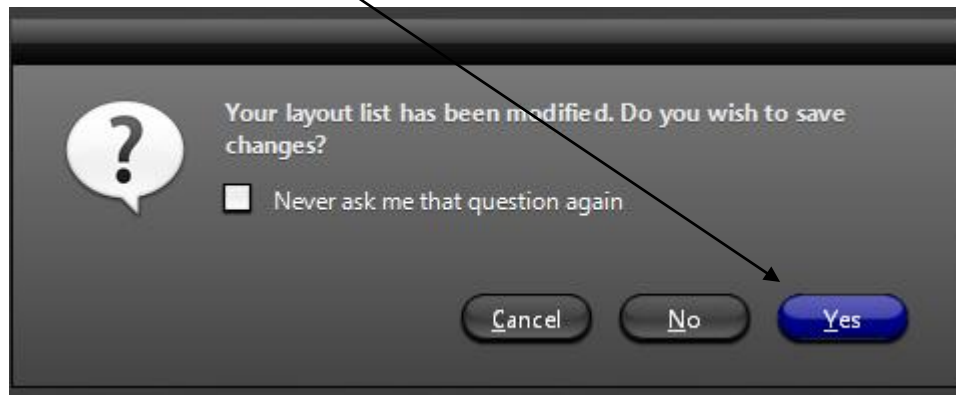
Step	Process
1	<p>Launch Omnicast Config Tool and log on as an administrator.</p> 
2	<p>Click Action > Create > Logical View > Site</p> 
3	<p>Name the newly created site Empty Layout.</p> 

Step #2 – Creating an Empty Layout in Live Viewer

Step	Process
1	<p>Launch Omnicast Live Viewer and log on as an administrator.</p> 
2	<p>Using the Change pattern button, select the 1 pane layout.</p> 
3	<p>Click on the pencil to enter edit mode and select Save</p> 
4	<p>In the Save viewer layout box, select the Empty Layout site and click Save.</p> 

5

Exit **Live Viewer**. Select **Yes** when asked to save changes.







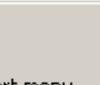
3.9 Automatic Start-up of Omnicast Applications

Depending on your Omnicast environment, you may want to set your workstation to automatically start an Omnicast application when starting Windows. This can be done using one of the methods below.

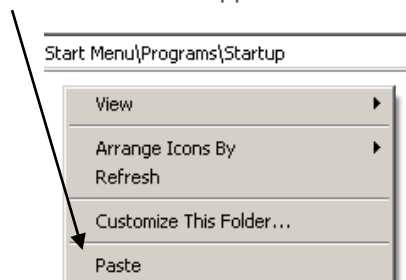
Method #1: Windows will automatically start an Omnicast application and the user will be prompted to login.

Method #2: Windows will automatically start an Omnicast application and log in using predefined user credentials without user intervention.

Method #1







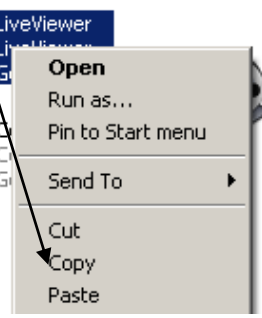
Step	Process
1	<p>Navigate to:</p> <p><i>C:\Program Files\Genetec Omnicast Client 4.X</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>LiveViewer LiveViewer Genetec Inc.</p> </div> <div style="text-align: center;">  <p>ArchivePlayer ArchivePlayer Genetec Inc.</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>ConfigTool ConfigTool Genetec Inc.</p> </div> </div> <p>Right-click and Copy an Omnicast application of your choice.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>LiveViewer LiveViewer Genetec Inc.</p> </div> <div style="border: 1px solid gray; background-color: #f0f0f0; padding: 5px;"> <p>Open</p> <p>Run as...</p> <p>Pin to Start menu</p> <p>Send To ▶</p> <hr/> <p>Cut</p> <p>Copy</p> <p>Paste</p> </div> <div style="text-align: center;">  <p>ArchivePlayer ArchivePlayer Genetec Inc.</p> </div> </div>

- 2 Navigate to the Windows Startup folder:
C:\Documents and Settings\<LOCAL USER>\Start Menu\Programs\Startup
Right-click and **Paste** the Omnicast application from the above step.

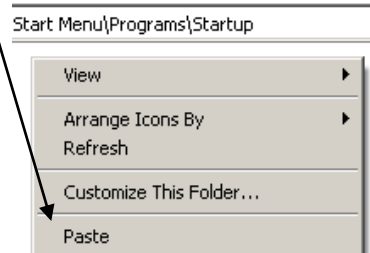


Restart the workstation. The Omnicast application(s) will now start automatically.

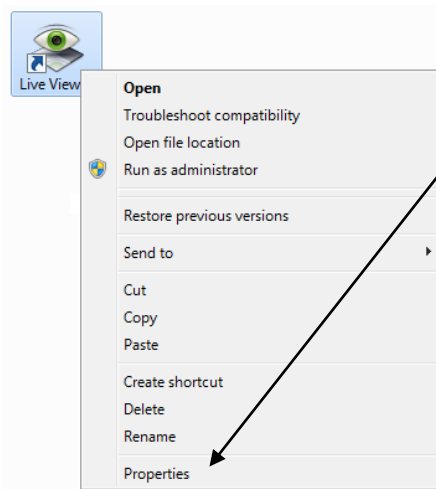
Method #2

Step	Process
1	<p>Navigate to:</p> <p><i>C:\Program Files\Genetec Omnicast Client 4.X</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>LiveViewer LiveViewer Genetec Inc.</p> </div> <div style="text-align: center;">  <p>ArchivePlayer ArchivePlayer Genetec Inc.</p> </div> </div> <div style="text-align: center; margin-top: 10px;">  <p>ConfigTool ConfigTool Genetec Inc.</p> </div> <p>Right-click and Copy an Omnicast application of your choice.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>LiveViewer LiveViewer Genetec Inc.</p> </div> <div style="text-align: center;">  <p>ArchivePlayer ArchivePlayer Genetec Inc.</p> </div> </div> <div style="text-align: center; margin-top: 10px;">  <p>ConfigTool ConfigTool Genetec Inc.</p> </div> 

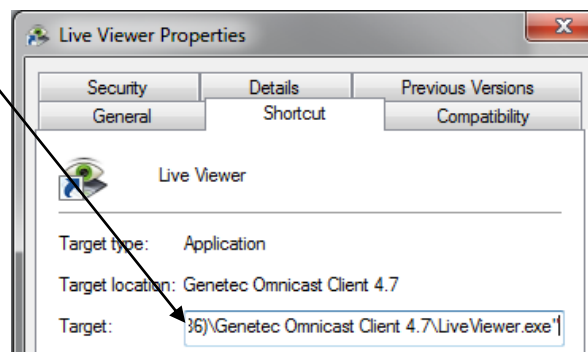
- 2 Navigate to the Windows Startup folder:
C:\Documents and Settings\<LOCAL USER>\Start Menu\Programs\Startup
Right-click and **Paste** the Omnicast application from the above step.



- 3 Navigate to the Windows Startup Folder:
C:\Documents and Settings\<LOCAL USER>\Start Menu\Programs\Startup
Right-click the Omnicast application of your choice and select **Properties**.



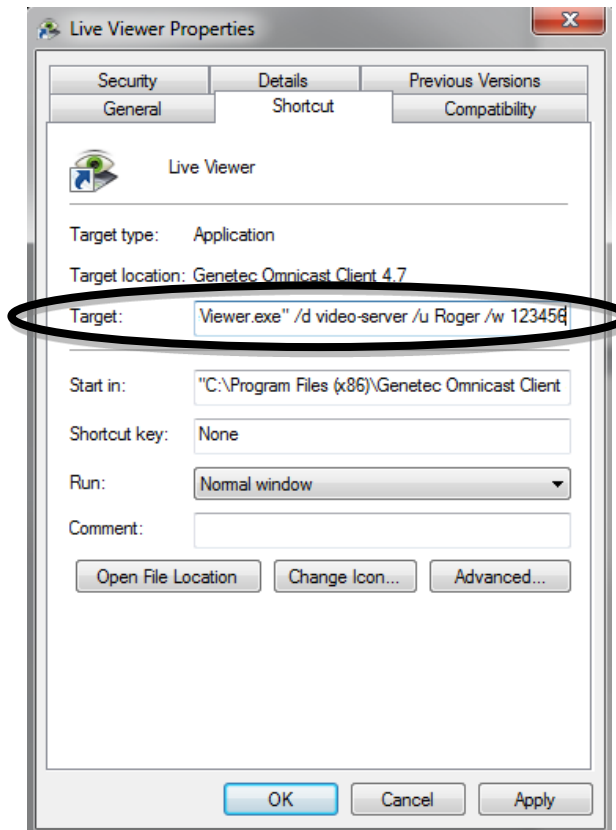
- 4 In the **Target** field, edit the target as follows:



Example

If you wish to launch the Live Viewer application and have it automatically connect to the Directory named *video-server* with the username *Roger* and password *123456*, the resulting target line would be:

"C:\Program Files(x86)\Genetec Omnicast Client 4.X\LiveViewer.exe" /d video-server /u Roger /w 123456



Note:

application.exe" [/d gateway-name] [/u user-name] [/w password]

- /d Specify the gateway name
- /u Specify the user name
- /w Specify the password

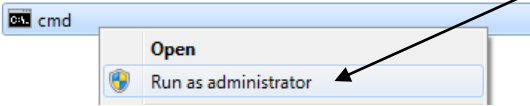

- 4 Click **OK**, restart the workstation. The Omnicast application will now start and log in automatically.

3.10 Windows NTP Synchronization

The Windows Time service (W32Time) is designed to maintain date and time synchronization for computers running Windows. W32Time is based on the Simple Network Time Protocol (SNTP) designed to ensure loose synchronization only, which means the clocks of all Windows machines in a forest will agree within 20 seconds of one another (or 2 seconds difference within a particular site).

If there is a domain controller on the network, every computer on that domain will automatically be synchronized with that computer. Otherwise, manual configurations need to be made. Once configured, the Time Server will synchronize the client clock periodically. It is recommended to use a dedicated network clock source instead of using the PC as a time server.

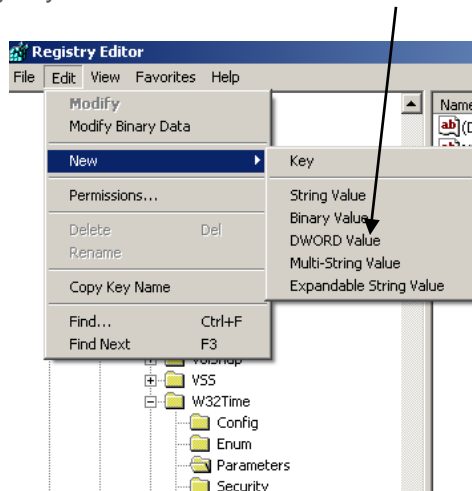
On the PC Used as the Time Server:

Step	Process
1	<p><u>Windows XP, Server 2003</u></p> <p>Click Start, click Run, type cmd, and then click OK.</p> <p><u>Windows Server 2008, 2008 R2, Vista and 7</u></p> <p>Click Start, click Run, type cmd, right-click cmd and select Run as administrator</p> 
2	<p>Using the Command Prompt window, stop your time service by typing the following command followed by Enter:</p> <p><i>net stop w32time</i></p>  <p>Close the Command Prompt window.</p>
3	<p>Click Start, click Run, type regedit, and then click OK.</p>

4 Using the **Registry Editor** window navigate to the following registry keys:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Parameters

5 Create the following two registry keys:
NameLocalNTP (DWORD value), *value=1*
ReliableTimeSource (DWORD value), *value=1*

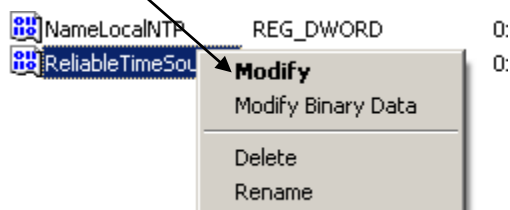
To create a registry key select **Edit > New > DWORD Value**



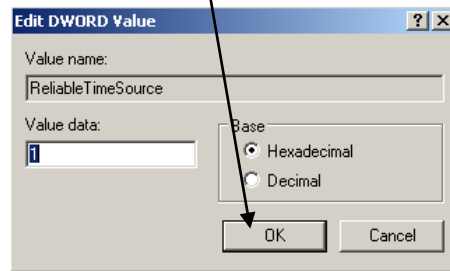
Rename the key to an appropriate value.

Name	Type	Data
(Default)	REG_SZ	(value not set)
NtpServer	REG_SZ	time.windows.com,0x1
ServiceDll	REG_EXPAND_SZ	C:\WINDOWS\system32\w3
ServiceMain	REG_SZ	SvchostEntry_W32Time
Type	REG_SZ	NTP
NameLocalNTP	REG_DWORD	0x00000001 (1)
ReliableTimeSource	REG_DWORD	0x00000001 (1)

Right-click the key and select **Modify**.



Set it to the correct value and press **OK**.



6 Close the **Registry Editor** window.

7 Click **Start**, click **Run**, type **cmd**, and then click **OK**.

8 Using the **Command Prompt** window, start your time service by typing the following command followed by **Enter**:


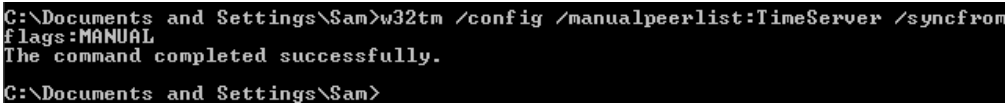
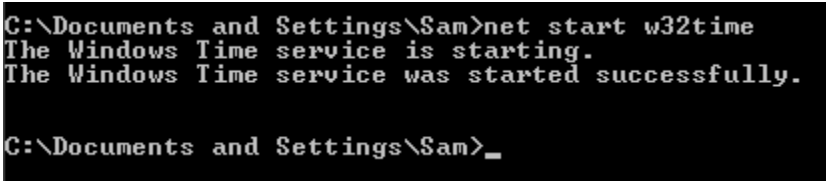
net start w32time

```
C:\Documents and Settings\Sam>net start w32time
The Windows Time service is starting.
The Windows Time service was started successfully.

C:\Documents and Settings\Sam>_
```

Close the Command Prompt window.

On the PCs Used as SNTP Clients:

Step	Process
1	Click Start , click Run , type cmd , and then click OK .
2	<p>Using the Command Prompt window stop your time service by typing the following command then press Enter:</p> <p><i>net stop w32time</i></p> 
3	<p>In the same Command Prompt window enter the following command, then press Enter:</p> <p><i>W32tm /config /manualpeerlist:<ntpserver> /syncfromflags:MANUAL</i></p> <p>Note: <ntpserver> = Time Sever Name or IP</p> 
4	<p>In the same Command Prompt window, enter the following commands then press Enter:</p> <p><i>Net start w32time</i></p> 

W32tm /config /update

```
C:\Documents and Settings\Sam>W32tm /config /update
The command completed successfully.
C:\Documents and Settings\Sam>_
```

W32tm /resync (forces the 1st synchronization to the time server)

```
C:\Documents and Settings\Sam>w32tm /resync
Sending resync command to local computer...
```

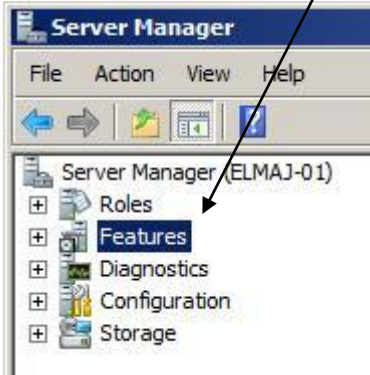

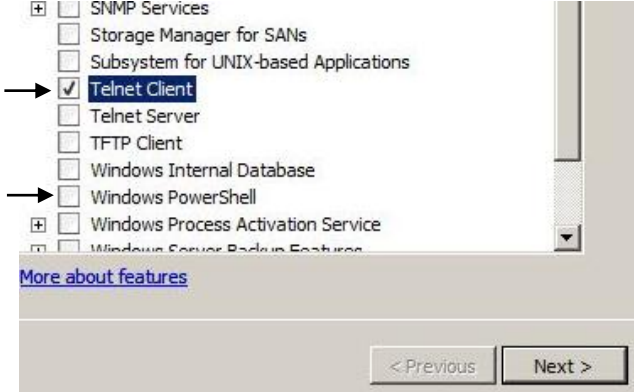
Close the **Command Prompt** window.

By default, the time synchronization will occur once every 45 minutes until 3 good synchronizations occur, then once every 8 hours (3 per day in total).

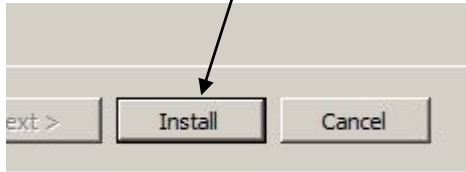
3.11 Enabling “Telnet” and “Power Shell” Features in Windows 2008

Telnet Client allows a computer to connect to a remote Telnet server and run applications on it. This feature is used for troubleshooting various Omnicast components.

PowerShell is a command-line shell and scripting language that helps administrators achieve greater productivity and control system administration more easily.

Step	Process
1	Click Start , and select Server Manager .
2	From the left panel in Server Manager , click on Features . 
3	Click on Add Features . 
4	From the available list of features, scroll down and select Telnet Client and Windows PowerShell , then click Next . 

- 5 On the **Confirmation** page, click on **Install**.



- 6 Once installation is completed, click on **Close**.

4 Securing Omnicast

4.1 Introduction

Security is always a high priority when it comes to video management systems. The following tips will help secure your Omnicast system.



4.2 Recommendations

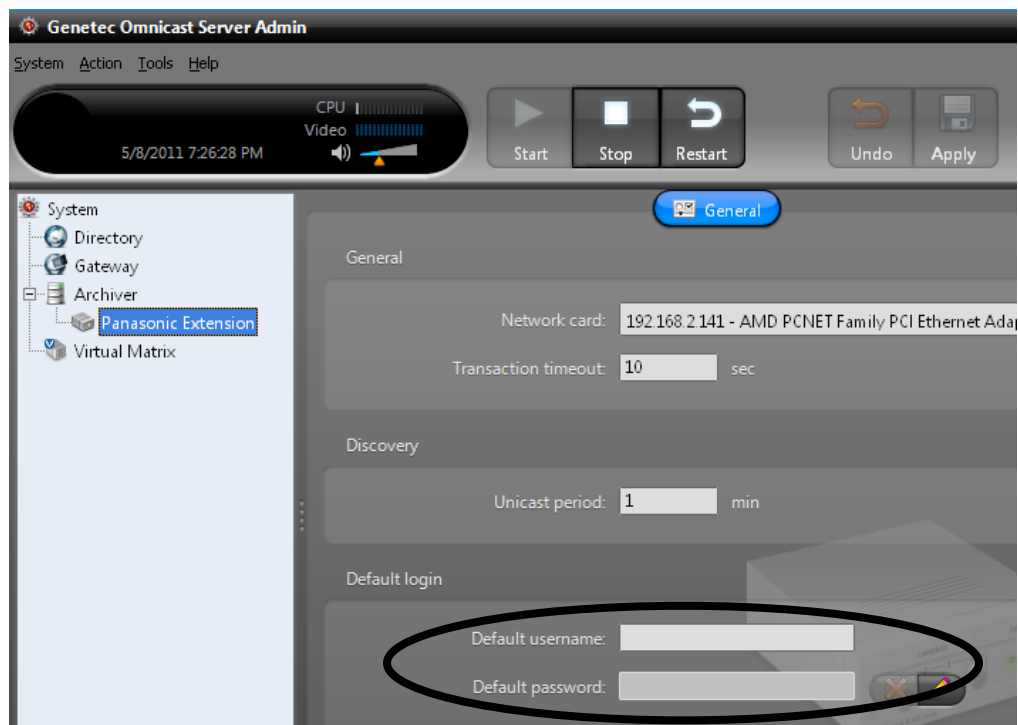
4.2.1 System Units :

- Change the default username and password of any video units or encoders attached to your system.

Note: If credentials are changed on video units used on an existing Omnicast System, they will need to be re-added to Omnicast for proper functionality.

Set these changed credentials in **Server Admin > System > Archiver > Archiver Extension > General > Default login**

Example:



4.2.2 Omnicast Specific :

- Always set a password for the Admin user.
- In the case of a Federated Omnicast system, create a new user with limited rights and a password. This user should only be used to access the Federation service.

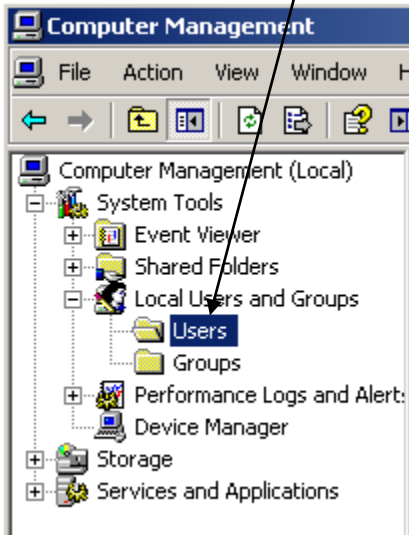
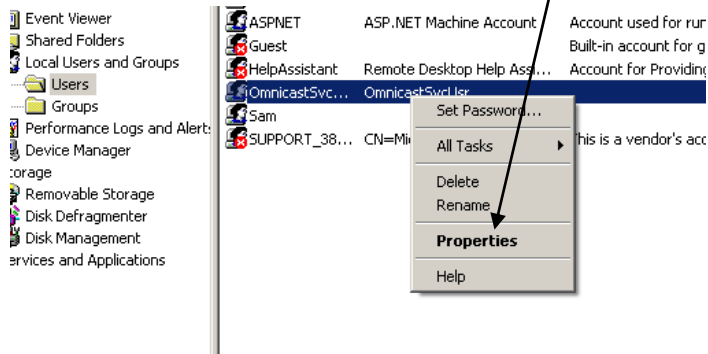
4.2.3 Windows Specific :

- Windows updates should be installed periodically. This will always insure a secure Omnicast environment.

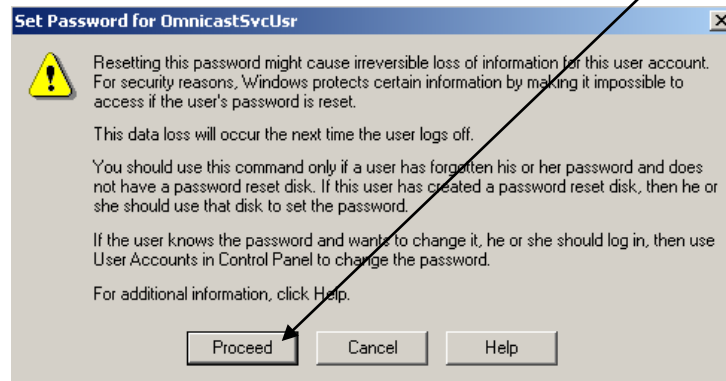
4.3 Securing Omnicast Services

By default, the Omnicast installation will create a new user on your Windows system (OmnicastSvcUsr) to run all of your Omnicast services. To create a more secure environment it is recommended to change the password of the OmnicastSvcUsr. Another option is to select a user to run all Omnicast services during the initial Omnicast Server installation.

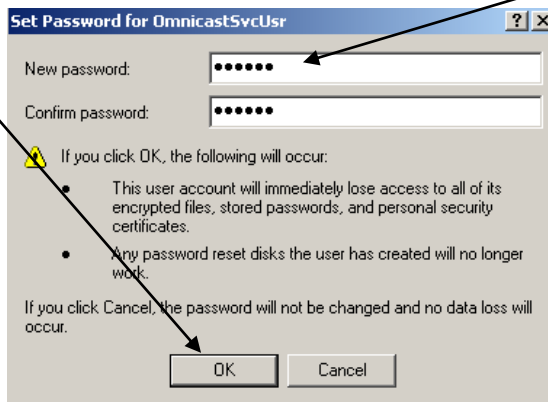
Changing the “OmnicastSvcUsr” Password

Step	Process
1	<p>Click Start, click Run, type compmgmt.msc, and then click OK.</p> <p>Note: Administrator rights are required to make any changes to the OmnicastSvcUsr.</p>
2	<p>In the Computer Management window, navigate to Computer Management (Local) > System Tools > Local Users and Groups > Users</p> 
3	<p>Right-click the OmnicastSvcUsr and select Set Password.</p> 

- 4 In the **Set Password for OmnicastSvcUser** window, select **Proceed**.



- 5 In the **Set Password for OmnicastSvcUser** window, enter a **New password** and press **OK**. Close all windows.



- 6 Click **Start**, click **Run**, type **services.msc**, and then click **OK**.

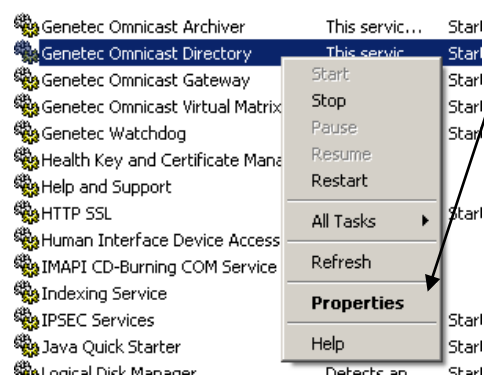
- 7 In the **Services** Window, navigate to your **Genetec Omnicast services**.

Depending on your Omnicast System, you may have several Omnicast services :

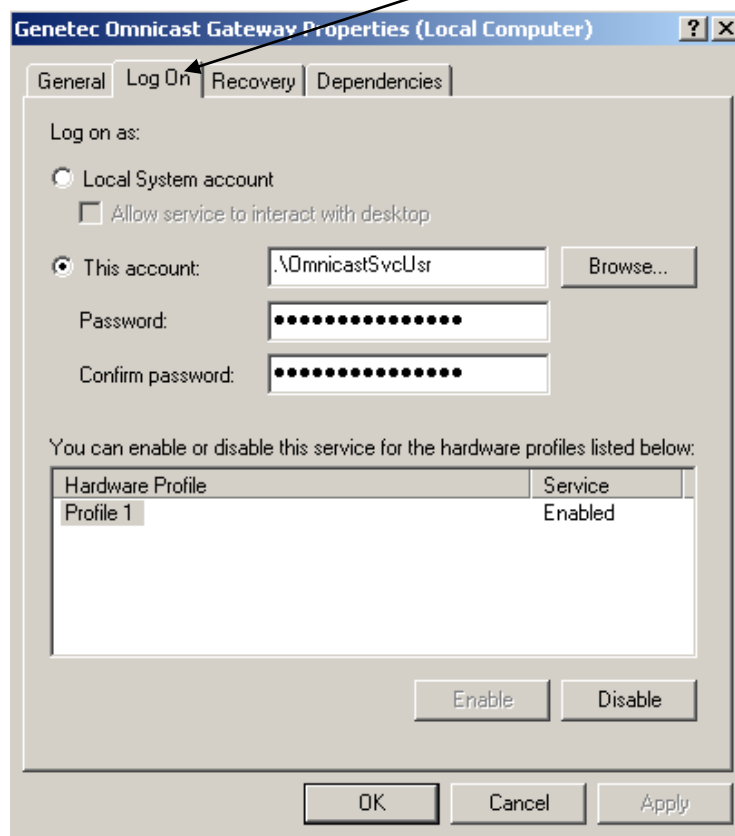
- *Genetec Omnicast Directory*
- *Genetec Omnicast Directory Failover Coordinator*
- *Genetec Omnicast Gateway*
- *Genetec Omnicast Virtual Matrix*
- *Genetec Omnicast Archiver*
- *Genetec Omnicast Restore Archiver*
- *Genetec Omnicast Auxillary Archiver*
- *Genetec Omnicast Federation Server*
- *Genetec Omnicast Metadata Engine*

- 8 For each **Genetec Omnicast** service listed in your **Services** window, change the password to the newly created one.

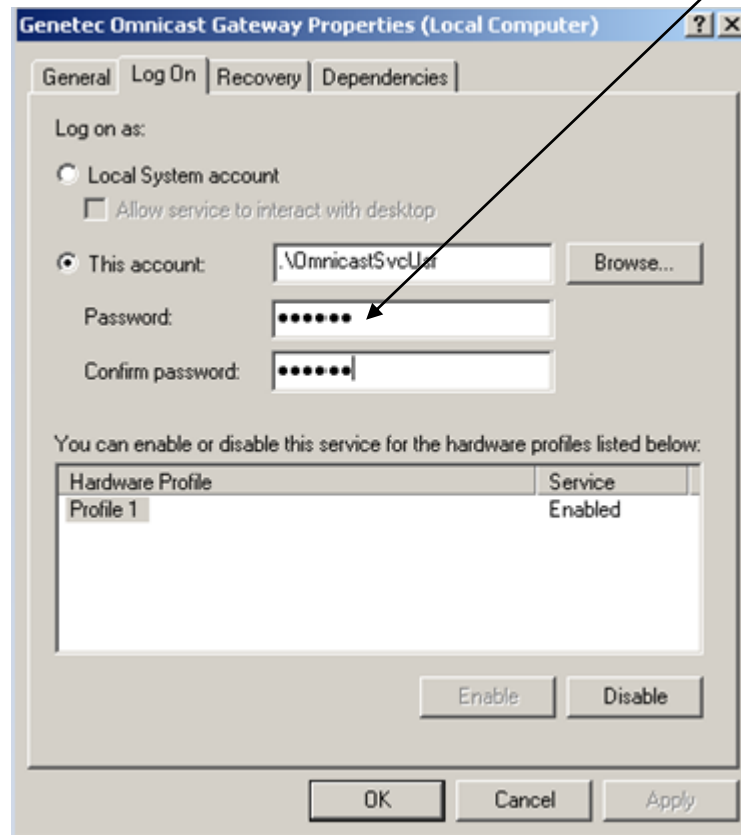
- 9 Right-click a Genetec Omnicast service and select **Properties**.



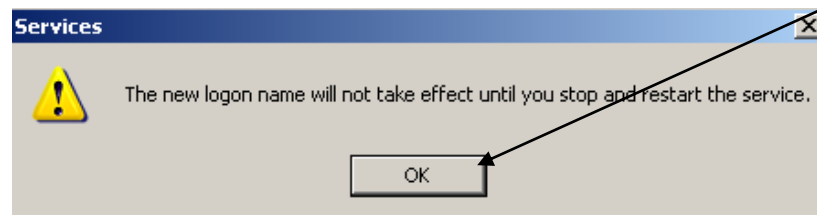
- 10 In the service's **Properties** window, select the **Log On** tab.



- 11 In the service's **Properties** window, change the **Password** to the newly created password made in Step #5.



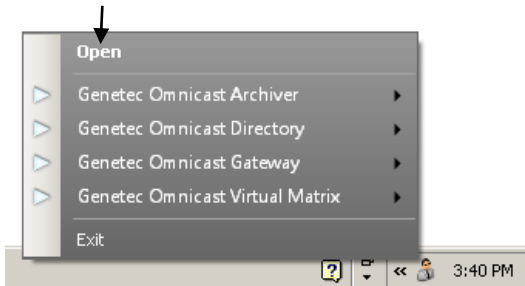
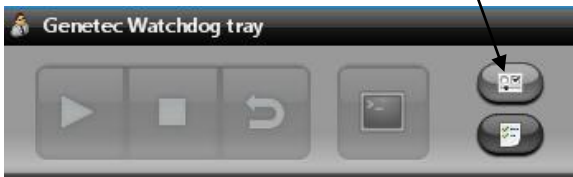
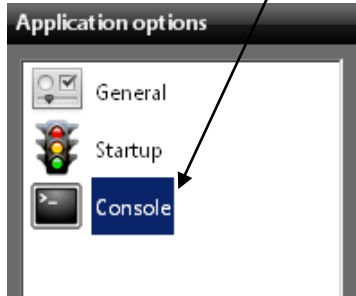
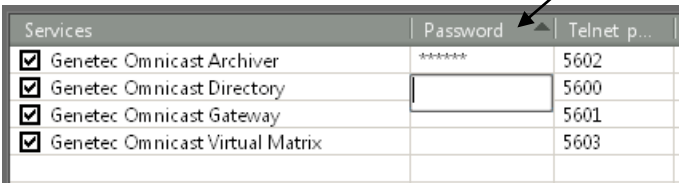
- 12 Upon setting a new user, click **Apply**. In the **Services** dialogue window, click **OK**.



Close all windows and restart your computer for the new setting to take effect.

4.4 Setting Up a Password for the Omnicast Console

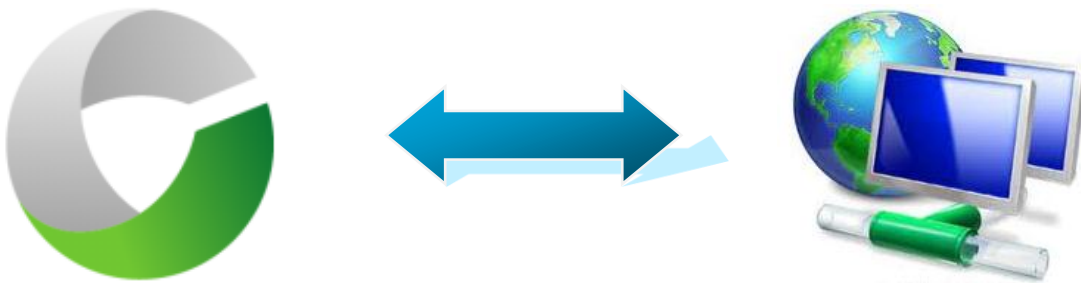
The Omnicast Console uses the Windows Telnet feature to debug any one of the Omnicast services. This is used for troubleshooting and monitoring of the Omnicast system. Setting a password restricts any unauthorized users from telnetting into any one of the Omnicast services.

Step	Process															
1	<p>Open the Genetec Watchdog tray.</p> 															
2	<p>In the Genetec Watchdog tray window, select the Options button.</p> 															
3	<p>In the Application options window, select Console.</p> 															
4	<p>Define a password for each Omnicast service in the Password column.</p>  <table><tr><th>Services</th><th>Password</th><th>Telnet p...</th></tr><tr><td><input checked="" type="checkbox"/> Genetec Omnicast Archiver</td><td>*****</td><td>5602</td></tr><tr><td><input checked="" type="checkbox"/> Genetec Omnicast Directory</td><td></td><td>5600</td></tr><tr><td><input checked="" type="checkbox"/> Genetec Omnicast Gateway</td><td></td><td>5601</td></tr><tr><td><input checked="" type="checkbox"/> Genetec Omnicast Virtual Matrix</td><td></td><td>5603</td></tr></table>	Services	Password	Telnet p...	<input checked="" type="checkbox"/> Genetec Omnicast Archiver	*****	5602	<input checked="" type="checkbox"/> Genetec Omnicast Directory		5600	<input checked="" type="checkbox"/> Genetec Omnicast Gateway		5601	<input checked="" type="checkbox"/> Genetec Omnicast Virtual Matrix		5603
Services	Password	Telnet p...														
<input checked="" type="checkbox"/> Genetec Omnicast Archiver	*****	5602														
<input checked="" type="checkbox"/> Genetec Omnicast Directory		5600														
<input checked="" type="checkbox"/> Genetec Omnicast Gateway		5601														
<input checked="" type="checkbox"/> Genetec Omnicast Virtual Matrix		5603														
5	<p>Press OK and close the Omnicast Watchdog tray window.</p>															

5 Optimizing Omnicast's Network

5.1 Introduction

The optimization of your Omnicast Network will lead to enhanced performance and security, this is often overlooked. In this section you will learn how to optimize and harden your network connections efficiently and effectively.



5.2 Recommendations

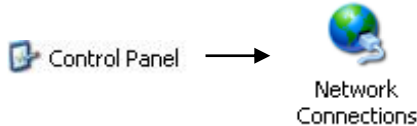

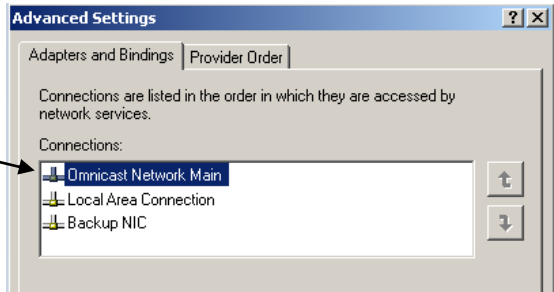
5.2.1 Network Devices:

- Enable Internet Group Management Protocol (IGMP) **snooping** on **Layer 2** devices.
- Enable Internet Group Management Protocol (IGMP) **querier** on **Layer 3** devices.
- Enough IGMP groups must be allocated for the system. These groups are used for the following :
 - I. Camera streams
 - II. Sequences
 - III. Analog monitors
 - IV. Video walls
 - V. Multicast test address
- Link Aggregate Groups (LAGs) not recommended.
- In the case NIC teaming is used, ensure all network equipment supports it. Also, it is recommended to configure the teaming in failover mode. If other modes are required, like load balancing, ensure that the switch is configured properly to support the teaming mode.
- Upgrade to the latest supported firmware for all network devices (e.g. switches, routers etc.)

5.3 Network Adapter Binding Order

When you install Windows, the order of the connections may vary depending on how the network adapters are enumerated. You can use the method below to reorder adapters and bindings, and to change the interface metric on the network adapters.

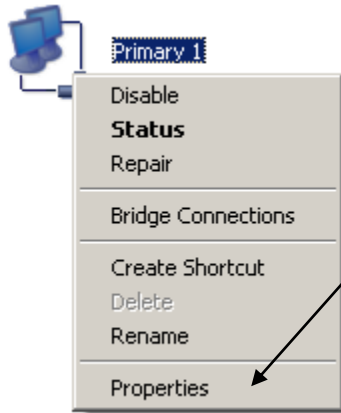
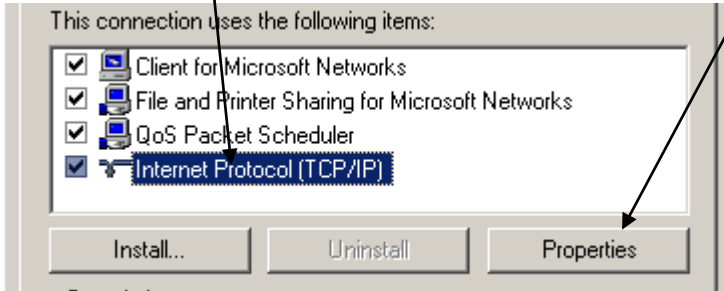
You may have several network connections that are connected to different networks. In this case Omnicast will need to use the first connection in the network connections list. You may want to make sure that the **Omnicast network connection** is at the **top** of the list. It is also recommended to disable any unused NICs and rename any current NICs (example: *Omnicast Network Main*)

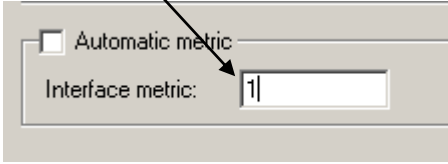
Step	Process
1	<p>Navigate to Control Panel > Network Connections</p>  <p>The diagram shows a 'Control Panel' icon with an arrow pointing to a 'Network Connections' icon.</p>
2	<p>Open Advanced > Advanced Settings...</p>  <p>The screenshot shows the 'Network Connections' window. The 'Advanced' menu is open, and 'Advanced Settings...' is selected. The 'Network Tasks' section is visible at the bottom.</p>
3	<p>In the Connections area, select the network adapter that is associated with Omnicast and move it up to the first position. Use the arrow buttons to move the connection.</p>  <p>The screenshot shows the 'Advanced Settings' window. The 'Connections' list contains 'Omnicast Network Main', 'Local Area Connection', and 'Backup NIC'. An arrow points to the 'Omnicast Network Main' entry, and the up arrow button is highlighted.</p>

5.4 Setting Up the Interface Metric

Changing the interface metric will make one network adapter more favorable for all TCP/IP connections. This will optimize all Omnicast services. This should be done on the Omnicast NIC only.

Note: Please follow Section 5.3 of this guide prior to setting up interface metric.

Step	Process
1	Click Start , click Run , type ncpa.cpl , and then click OK .
2	The available connections will appear in the Network Connections window.
3	Right-click the network adapter used for your Omnicast network, and click Properties . 
4	Click the General tab and under the “ This connection uses the following items: ” box, select Internet Protocol (TCP/IP) . Then, click Properties . 

5	In the Internet Protocol (TCP/IP) Properties dialog box, click the General tab , and then click Advanced .
6	On the IP Settings tab, click to clear the Automatic metric check box. Then, type the value of 1 
7	Click OK three times to close all windows.


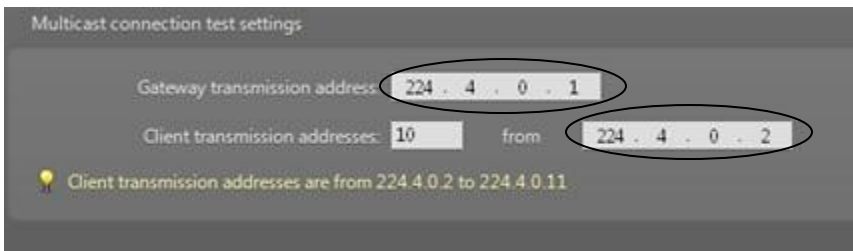
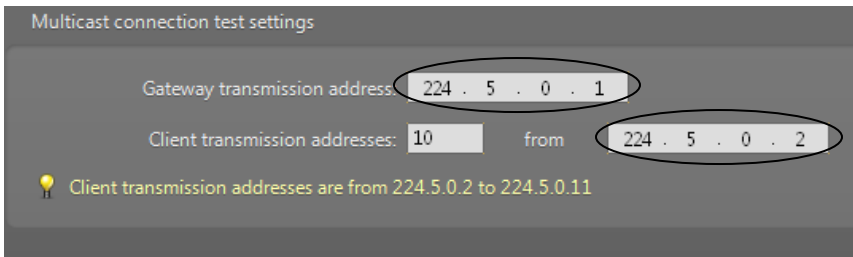
5.5 Multicast Connection Test Settings

In order to test the multicast connectivity with a client, the Gateway specifies two IP addresses: one for the client to receive multicast transmissions from the Gateway, another for the Gateway to receive transmissions from the client.

The Gateway uses a pool of addresses for client transmissions, which it assigns in turn to connecting clients. Using multiple client transmission addresses helps avoid network congestions, especially when the Gateway restarts.

If your Omnicast system utilizes more than one Gateway, it is recommended to change the multicast connection test IPs in the Server Admin for each Omnicast Gateway server in the system.

Changing the Multicast Connection Test Setting

Step	Process
1	<p>Run Server Admin on the server running the Gateway service.</p> <div> Server Admin</div>
2	<p>Navigate to System > Gateway > General > Multicast connection test settings</p> <p><i>Example:</i></p> <p>Gateway #1</p> <div></div> <p>Gateway #2</p> <div></div>

5.6 Multicast Registry Settings

If multicast streaming is enabled in the Omnicast system but multicast is not properly enabled on the server, you may experience the following:

- The unit-Archiver setting on the camera is set to Unicast UDP and the stream is being recorded in the Archiver, yet you see “waiting for signal” when trying to view the live stream directly on the Gateway server.
- All Omnicast services do not detect multicast supported on the Gateway, even when they are on the same server as the Gateway.
- When you try to join a multicast group using a 3rd party multicast tester, it fails and there are no IGMP packets leaving the server (shown in a packet trace).

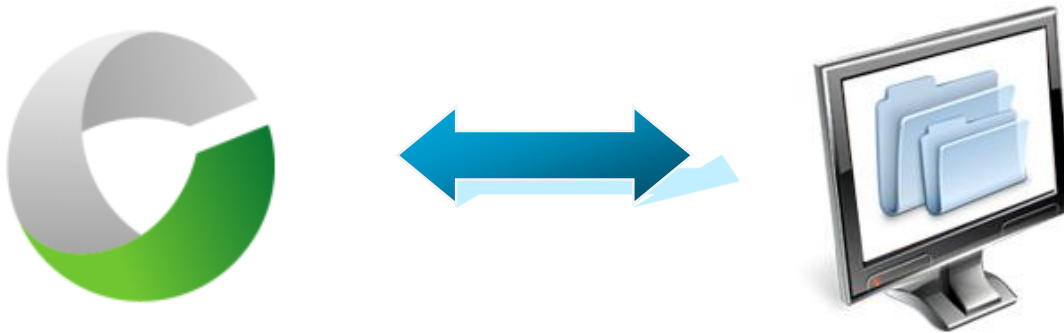
Ensuring that your Windows registry is set to the correct IGMP versions will help you avoid the above mentioned network issues.

Step	Process
1	Click Start , click Run , type regedit , and then click OK .
2	<p>Using the Registry Editor window, navigate and edit the following registry keys:</p> <p>I. HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\</p> <p>IGMP Level = 2</p> <p>II. HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\</p> <p>IGMPVersion = 3 (for layer 2) or 4 (for layer 3)</p>

6 Optimizing Omnicast's Storage

6.1 Introduction

An integral part of Omnicast is its Archiver service. Optimizing this part of Omnicast will allow for a clean and efficient archiving environment.



6.2 Recommendations

6.2.1 Storage :

- New Technology File System (NTFS) is the preferred file system for archiving.
- The preferred New Technology File System (NTFS) cluster size is “**Largest Available**”.
- Storage-level disk compression is not recommended.
- Do not create multiple partitions on the same disk (*logical drives*) and use them for archiving.

Example

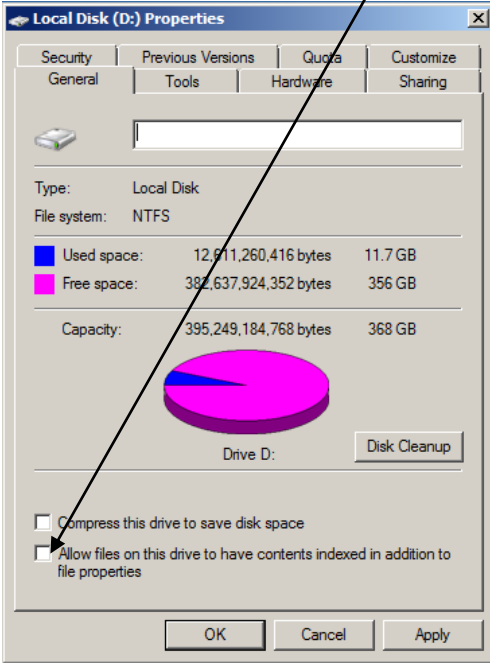
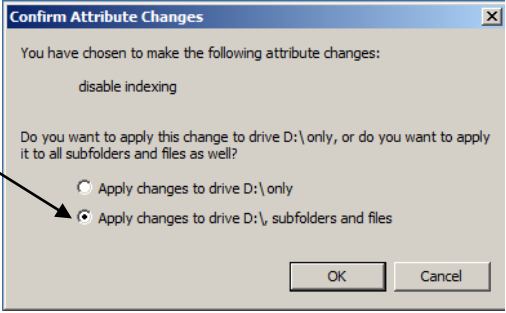
☒ Disk A = 2 Terabytes → Full disk size used as 1 partition **Drive D: (2TB)**

☒ Disk B = 2 Terabytes → Full disk size split into multiple partitions **Drive F: (1TB) , Drive G: (1TB)**

- Do not archive on the same disk used to run Windows. Using the same disk *could* crash Windows due to Windows running out of disk space.
- Archiving disks must be dedicated to the Archiver and must not be used by other software.
- Do not allocate the same disk to multiple Archivers.
- If Archiver backups are enabled, they must not be done on the same physical disk as the one recording the original video.
- Storage LUN sizes are recommended to be 4-6 Terabytes each

6.3 Disabling Storage Indexing


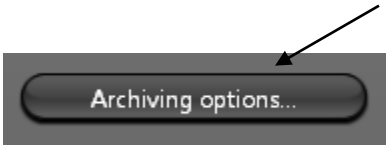
It is recommended to deactivate the indexing service on the video archive drive(s).

Step	Process
1	Go to My Computer .
2	Right-click on the drive that is storing your video archives and go to Properties .
3	<p>In the General tab, remove the check mark next to “allow indexing service to index this disk for fast file searching”.</p> 
4	Click Apply .
5	<p>Select Apply changes to X:\, subfolders and files, and press OK and close all windows.</p> 

6.4 Setting Video File Sizes

The recommendations below are applicable to Omnicast systems with larger retention periods (6 months +) and set to continuous recording. Configuring these file sizes properly will provide more organized and efficient disk drives.

If recording at a **lower** bit rate, it is recommended to set your output files to a **larger** size per file.



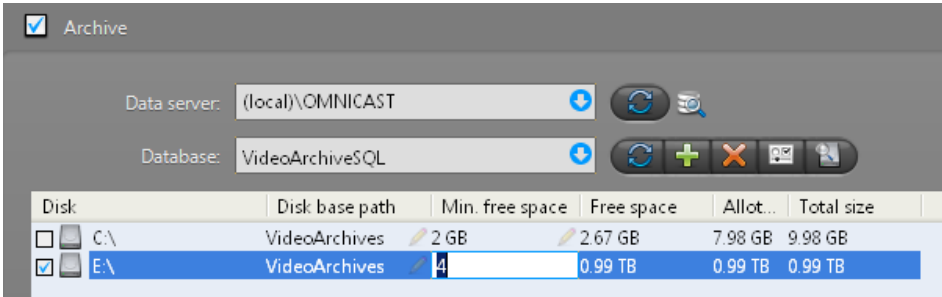
Step	Process										
1	<p>Run Server Admin on the server running the Archiver service.</p>  Server Admin										
2	<p>Navigate to System > Archiver > Archiving > Archiving Options ...</p> 										
3	<p>In the Archiving Options window, under Video files, set the values to what is recommended below:</p> <table><thead><tr><th>Recording Frames per Second (FPS)</th><th>Video Files Maximum Length (mins)</th></tr></thead><tbody><tr><td>2</td><td>60</td></tr><tr><td>4</td><td>45</td></tr><tr><td>5-7</td><td>30</td></tr><tr><td>6-8</td><td>20</td></tr></tbody></table>	Recording Frames per Second (FPS)	Video Files Maximum Length (mins)	2	60	4	45	5-7	30	6-8	20
Recording Frames per Second (FPS)	Video Files Maximum Length (mins)										
2	60										
4	45										
5-7	30										
6-8	20										

6.5 Archiver Minimum Free Space

To ensure that the Archiver will be able to delete and create new files without any errors, a minimum free space should be defined in the Server Admin of the Archiver. This free space will not be used for video storage. Therefore, this additional video storage must be added in excess of the required video storage.

Minimum Free Space Rules

Partition (disk) Size	Minimum Free Space
8 Terabytes	16 Gigabytes
4 Terabytes	8 Gigabytes
1 Terabyte	4 Gigabytes
500 Gigabytes	2 Gigabytes

Step	Process
1	Run Server Admin on the server running the Archiver service.  Server Admin
2	Navigate to System > Archiver > Archiving . Set “Display minimum free space in:” to GB . 
3	Set “Min free space” as per the <i>Minimum Free Space Rules</i> listed above. 
4	Apply settings

7 Omnicast and Database Preventive Maintenance

7.1 Introduction

Ensuring Omnicast performs optimally requires keeping a disciplined maintenance routine. This will insure stability of the system.


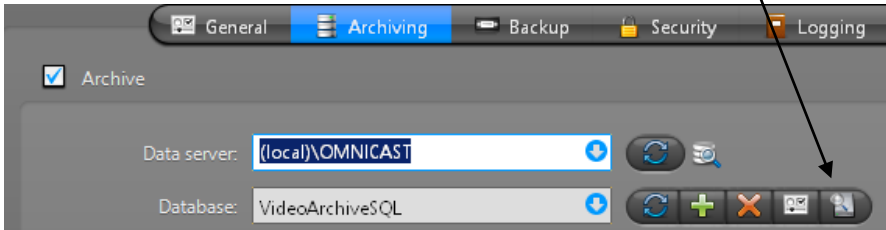


7.2 Omnicast Orphan/Missing Files Clean-up


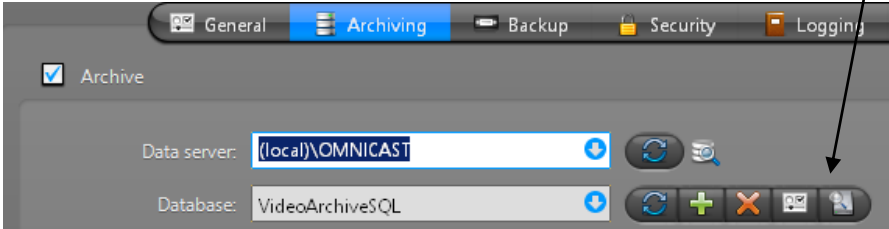
An orphan file is a video file that is no longer referenced by a designated archive database. These files, if not deleted manually, will stay on disk forever, since the Archiver can only delete files that are referenced by its database.

A missing file is a video file that no longer exists on any Archiver storage capacity. Cleaning the database of these old entries is also recommended.

Orphan File Search

Step	Process
1	Run Server Admin on the server running the Archiver service.  Server Admin
2	Navigate to System > Archiver > Archiving . . Click the Find orphan files button. 
3	Select a folder and click Search . A search progress window will be displayed while the tool is searching for orphan files under the selected folder. All G64 files that are not referenced by the Archiver database will be listed in the Orphan Files list.
4	Choose how you wish to handle the orphan files. You have the choice to delete or to quarantine the selected files. If you choose to quarantine the selected files, you will be prompted to enter a quarantine folder.
5	Click OK when you are finished.

Missing File Search

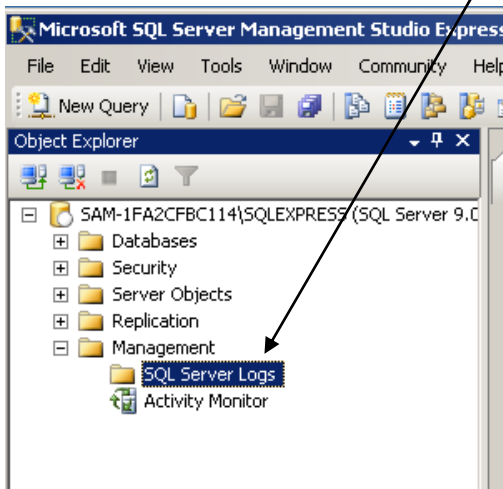
Step	Process
1	<p>Run Server Admin on the server running the Archiver service</p>  <p>Server Admin</p>
2	<p>Navigate to System > Archiver > Archiving. . Hold SHIFT and click the Find orphan files button.</p> 
3	<p>Select a folder and click Search. A search progress window will be displayed while the tool is searching for missing files under the selected folder. All G64 files that are referenced by the Archiver database but not in any Archiver storage capacities will be listed in the Missing Files list.</p>
4	<p>Choose how you wish to handle the missing files. You have the choice to delete or to quarantine the selected files. If you choose to quarantine the selected files, you will be prompted to enter a quarantine folder.</p>
5	<p>Click OK when you are finished.</p>

7.3 Reviewing SQL Logs

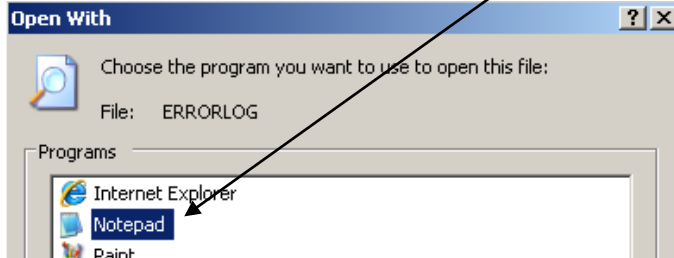
Review the SQL Server error logs to ensure that processes have completed successfully (for example, backup and restore operations, batch commands, or other scripts and processes). This can be helpful to detect any current or potential problem areas, including automatic recovery messages (particularly if an instance of SQL Server has been stopped and restarted), kernel messages, or other server-level error messages.

View the SQL Server error log by using **SQL Server Management Studio** or any text editor. By default, the error log is located at *Program Files\Microsoft SQL Server\MSSQL.n\MSSQL\LOG\ERRORLOG* and *ERRORLOG.n* files.

Review Logs via SQL Management Studio


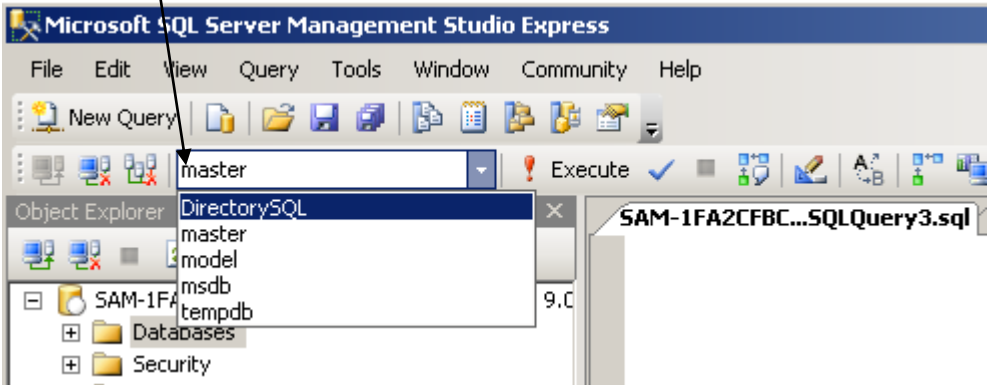
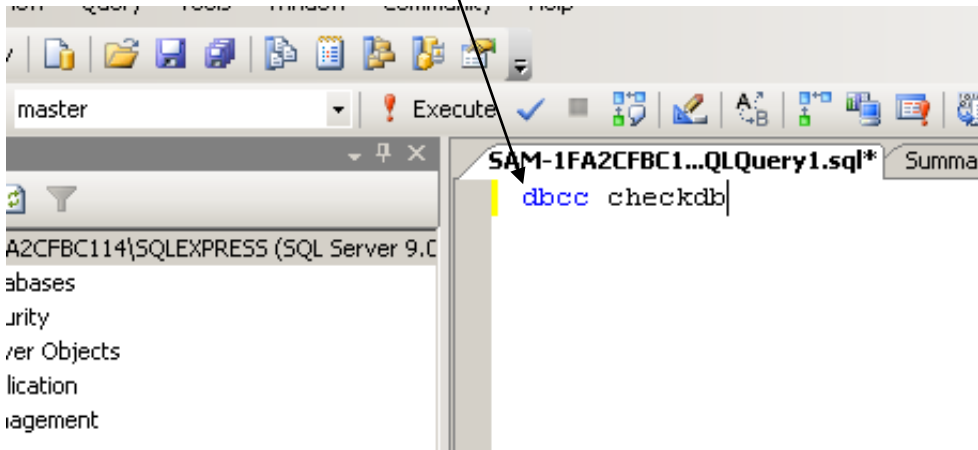
Step	Process
1	Run SQL Management Studio , log into your Omnicast data server database.
2	In the Microsoft SQL Server Management Studio , expand the SQL Server .
3	In the Object Explorer , expand Management → SQL Server Logs .  A screenshot of the Microsoft SQL Server Management Studio Express interface. The 'Object Explorer' pane on the left shows a tree view of the server's structure. The 'Management' folder is expanded, and 'SQL Server Logs' is selected. An arrow points from the text 'SQL Server Logs' in the step description to the 'SQL Server Logs' folder in the screenshot.
4	Choose the error log you want to see, for example the current log file. The date beside the log indicates when a log was changed the last time.
5	Double-click the log file or right-click on it and select View SQL Server Log . In the left-hand window, you see a list of all error logs. In the right-hand window, you see the content of the selected files.

Review Logs via Notepad

Step	Process
1	Navigate to: <i>C:\Program Files\Microsoft SQL Server\MSSQL10_50.OMNICAST\MSSQL\Log</i>
2	Open the ERRORLOG file of your choice and select Notepad in the Open With window. Select OK . 

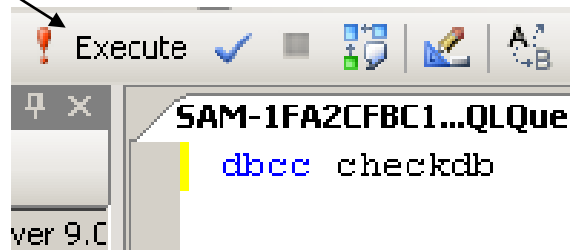
7.4 Running SQL Queries

SQL Queries will check the logical and physical integrity of all the objects in the specified database. It is recommended to run these steps on an offline backup of the database, not on the live database wherever possible.

Step	Process
1	Run SQL Management Studio , log-in to your Omnicast Data Server database.
2	In the Microsoft SQL Server Management Studio Express , select New Query . 
3	Select a database. 
4	Upon Selecting a database , type dbcc checkdb in the query field. 

5

Click **Execute**.



6

Review the report generated, and verify there are no errors.

Repeat Steps 3-6 for each Database (Master, Model...)

8 Recommended 3rd Party Software

The following software is recommended for use with your Omnicast system. This will ensure easy troubleshooting when system issues occur, especially when calling into Technical Support.

Wireshark

Wireshark is a network protocol analyzer. It lets you capture and interactively browse the traffic running on a computer network. It has a rich and powerful feature set and is the world's most popular tool of its kind. It runs on most computing platforms including Windows, OS X, Linux, and UNIX.

Network professionals, security experts, developers, and educators around the world use it regularly. It is freely available as open source, and is released under the GNU General Public License version 2.

It is developed and maintained by a global team of protocol experts, and is an example of adisruptive technology.

<http://www.wireshark.org/>

Microsoft SQL Management Studio

Microsoft SQL Server Management Studio is a free, easy-to-use graphical management tool for managing SQL Server 2005 Express Edition and SQL Server 2008 R2. SSMSE can also manage instances of the SQL Server Database Engine created by any edition of SQL Server 2005 and SQL Server 2008 R2.

SQL Server 2005 Express

<http://www.microsoft.com/downloads/en/details.aspx?FamilyID=c243a5ae-4bd1-4e3d-94b8-5a0f62bf7796#Overview>

SQL Server 2008 Express R2

<http://www.microsoft.com/express/Database/InstallOptions.aspx>

Microsoft Debug Diagnostics

The Debug Diagnostic Tool (DebugDiag) is designed to assist in troubleshooting issues such as hangs, slow performance, memory leaks or fragmentation, and crashes in any user-mode process. The tool includes additional debugging scripts focused on Internet Information Services (IIS) applications, web data access components, COM+ and related Microsoft technologies.

<http://www.microsoft.com/downloads/en/details.aspx?familyid=28bd5941-c458-46f1-b24d-f60151d875a3&displaylang=en>

Sysinternals

The Sysinternals Troubleshooting Utilities have been rolled up into a single suite of tools. This file contains the individual troubleshooting tools and help files. It does not contain non-troubleshooting tools like the BSOD Screen Saver or NotMyFault.

<http://technet.microsoft.com/en-us/sysinternals/bb842062>

Remote Desktop Connection Manager

RDCMan manages multiple remote desktop connections. It is useful for managing server labs where you need regular access to each machine such as automated check-in systems and data centers. It is similar to the built-in MMC Remote Desktops snap-in, but more flexible. Very useful tool for large Omnicast systems.

<http://www.microsoft.com/downloads/en/details.aspx?FamilyID=4603c621-6de7-4ccb-9f51-d53dc7e48047>

NetTime

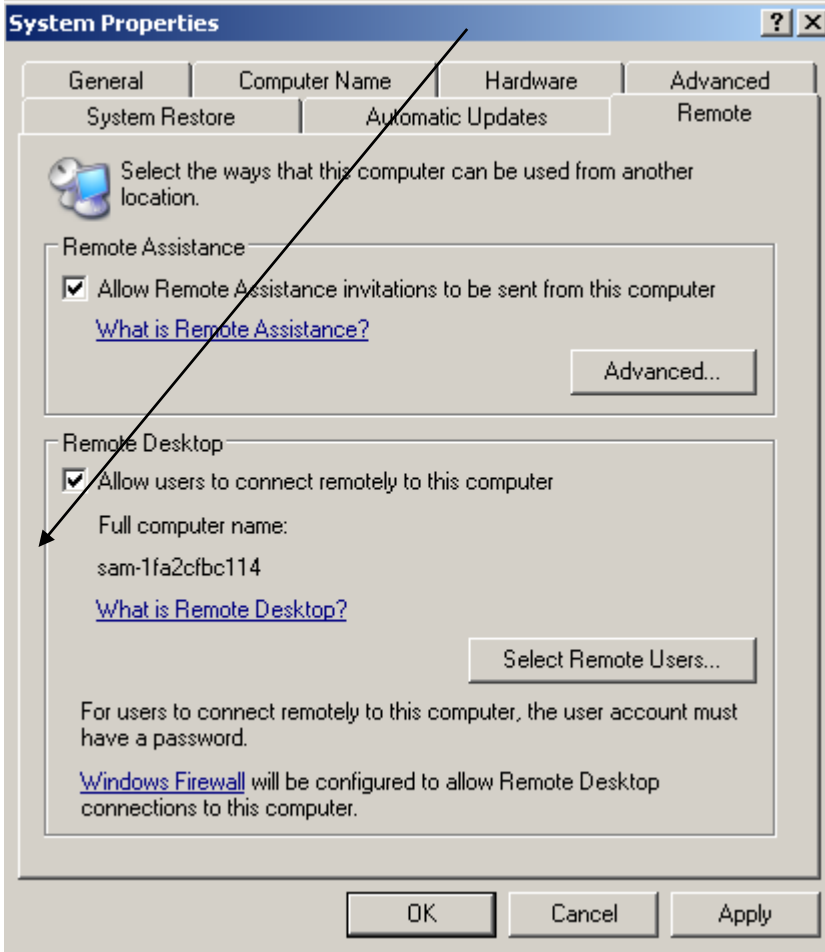
NetTime is a simple time synchronization client for all versions of Windows. Its main claim to fame is that it is small, simple and unobtrusive.

<http://www.timesynctool.com>

9 Useful Tips

9.1.1 Enable Remote Desktop

Enabling Remote Desktop will allow for easy troubleshooting. Remote Desktop should be enabled on all Omnicast servers and client workstations.

Step	Process
1	Click Start , click Control Panel , and then click System .
2	<div><div><p>Click the Remote tab, click select the Allow users to connect remotely your computer check box, and then click OK.</p></div><div></div></div>

9.1.2 Cameras, Encoders, Decoders

- Check compatibility in *Omnicast Release Notes*.
- Upgrade to the latest supported firmware listed on Genetec's Technical Assistance Portal (GTAP):

<https://gtap.genetec.com/>

9.1.3 Omnicast Applications

Avoid accessing all Omnicast applications through Remote Desktop, VNC and Citrix Viewer

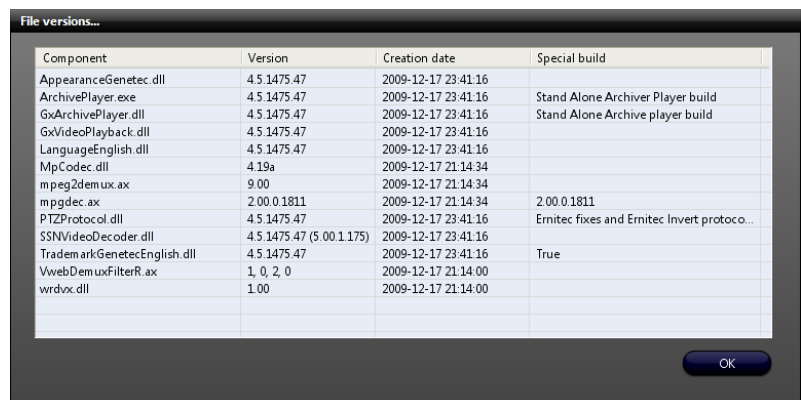
9.1.4 Entities Globally Unique Identifier (GUID)

- 1) In the **Config Tool**, select an *entity*
- 2) Navigate to the **Identity** tab
- 3) Place your cursor in the **Description** field
- 4) Press **CTRL + SHIFT + R**
- 5) The **GUID** will be displayed

9.1.5 Special Build Description for DLLs

- 1) In any Omnicast application, go to **Help/About**
- 2) Hold the CTRL+SHIFT keys and press the **File Versions** button
- 3) All the DLLs loaded by the application will appear, along with special build descriptions. This is useful to identify fixes that have been applied to the system.

Note: only DLLs loaded by the application will be displayed. DLLs loaded by Omnicast services will **not** be displayed.



Component	Version	Creation date	Special build
AppearanceGenetec.dll	4.5.1475.47	2009-12-17 23:41:16	
ArchivePlayer.exe	4.5.1475.47	2009-12-17 23:41:16	Stand Alone Archiver Player build
GxArchivePlayer.dll	4.5.1475.47	2009-12-17 23:41:16	Stand Alone Archive player build
GxVideoPlayback.dll	4.5.1475.47	2009-12-17 23:41:16	
LanguageEnglish.dll	4.5.1475.47	2009-12-17 23:41:16	
MpCodec.dll	4.19a	2009-12-17 21:14:34	
mpeg2demux.ax	9.00	2009-12-17 21:14:34	
mpgdec.ax	2.00.0.1811	2009-12-17 21:14:34	2.00.0.1811
PTZProtocol.dll	4.5.1475.47	2009-12-17 23:41:16	Ernitec fixes and Ernitec Invert protoco...
SSNVideoDecoder.dll	4.5.1475.47 (5.00.1.175)	2009-12-17 23:41:16	
TrademarkGenetecEnglish.dll	4.5.1475.47	2009-12-17 23:41:16	True
VwebDemuxFilterR.ax	1.0.2.0	2009-12-17 21:14:00	
wrdvix.dll	1.00	2009-12-17 21:14:00	

9.1.6 Express Archiver Statistics

When refreshing the Archiver's statistics, the Archiver normally has to check all video files on the recording drives. This process can take several minutes.

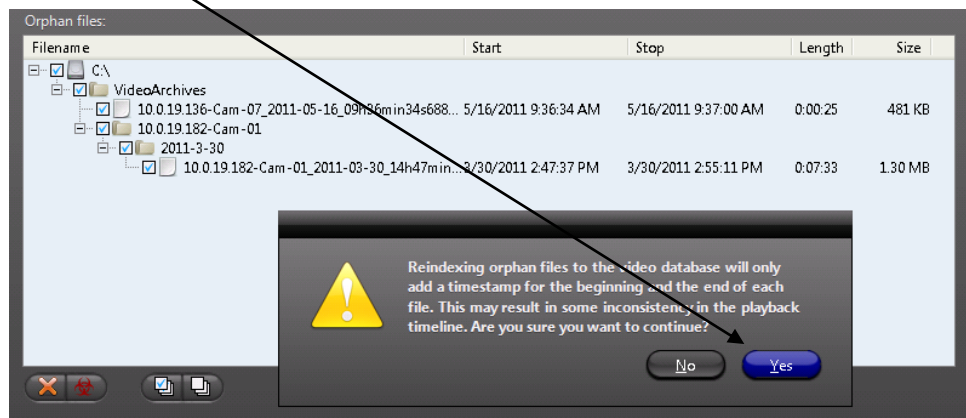
In order to refresh the statistics faster:

- 1) In **Omnicast Config Tool > Physical View > Archiver > Statistics**
- 2) Hold **SHIFT** and press the **refresh** button
- 3) This will refresh all the information except for "Disk usage"

9.1.7 Re-Indexing Video Files

This functionality is built-into Omnicast versions 4.4 and later (HF294 makes it available in 4.2)

- 1) In **Server Admin > Archiver > Archiving** start an **orphan files** search
- 2) All the video files not referenced in the database will appear during the search
- 3) To re-index the video files, hold **SHIFT** and press the **Quarantine** button
- 4) You will receive a warning asking if you want to re-index the orphan files in the VideoArchive SQL database. Select **YES**



- 5) All selected orphan files will be re-indexed in the database

Annex

Genetec Technical Assistance Portal (GTAP) Article Links

Antivirus Configurations – Page #8

KB Article # **KBA00191**

<https://gtap.genetec.com/Library/KnowledgeBaseArticle.aspx?kbid=191>

Windows NTP Synchronization – Page #36

KB Article # **KBA00022**

<https://gtap.genetec.com/Library/KnowledgeBaseArticle.aspx?kbid=22>

Automatic Start-up of Omnicast Applications – Page #46

KB Article # **KBA00162**

<https://gtap.genetec.com/Library/KnowledgeBaseArticle.aspx?kbid=162>

Multicast Registry Settings – Page #58

KB Article # **KBA00275**

<https://gtap.genetec.com/Library/KnowledgeBaseArticle.aspx?kbid=275>