



grass valley

A **BELDEN** BRAND

MEDIA TRANSFORMER

(ABR STREAMING) V7.2 AND V7.3

For sQ Server ISA-Only Systems

Installation Guide

Issue 2 Rev 4

2019-06-27

www.grassvalley.com

FCC Compliance

In order to comply with FCC/CFR47: Part 15 regulations, it is necessary to use high-quality, triple-screened Media or Monitor cable assemblies with integrated ferrite suppression at both ends.

Patent Information

This product may be protected by one or more patents.

For further information, please visit: www.grassvalley.com/patents/

Copyright and Trademark Notice

Copyright © 2019, Grass Valley Canada. All rights reserved.

Belden, Belden Sending All The Right Signals, and the Belden logo are trademarks or registered trademarks of Belden Inc. or its affiliated companies in the United States and other jurisdictions. Grass Valley, Media Transformer are trademarks or registered trademarks of Grass Valley Canada. Belden Inc., Grass Valley Canada, and other parties may also have trademark rights in other terms used herein.

Terms and Conditions

Please read the following terms and conditions carefully. By using Media Transformer documentation, you agree to the following terms and conditions.

Grass Valley hereby grants permission and license to owners of Media Transformer to use their product manuals for their own internal business use. Manuals for Grass Valley products may not be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, for any purpose unless specifically authorized in writing by Grass Valley.

A Grass Valley manual may have been revised to reflect changes made to the product during its manufacturing life. Thus, different versions of a manual may exist for any given product. Care should be taken to ensure that one obtains the proper manual version for a specific product serial number.

Information in this document is subject to change without notice and does not represent a commitment on the part of Grass Valley.

Warranty information is available from the Legal Terms and Conditions section of Grass Valley's website (www.grassvalley.com).

Title	Media Transformer Installation Guide
Part Number	Issue 2 Rev 4
Revision	2019-06-27, 08:42

Important Safety Information

This section provides important safety guidelines for operators and service personnel. Specific warnings and cautions appear throughout the manual where they apply. Please read and follow this important information, especially those instructions related to the risk of electric shock or injury to persons.

Symbols and Their Meanings



Indicates that dangerous high voltage is present within the equipment enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



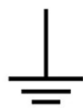
Indicates that the user, operator or service technician should refer to the product manuals for important operating, maintenance, or service instructions.



This is a prompt to note the fuse rating when replacing fuses. The fuse referenced in the text must be replaced with one having the ratings indicated.



Identifies a protective grounding terminal which must be connected to earth ground prior to making any other equipment connections.



Identifies an external protective grounding terminal which may be connected to earth ground as a supplement to an internal grounding terminal.



Indicates that static sensitive components are present, which may be damaged by electrostatic discharge. Use anti-static procedures, equipment and surfaces during servicing.



Indicates that the equipment has more than one power supply cord, and that all power supply cords must be disconnected before servicing to avoid electric shock.



The presence of this symbol in or on Grass Valley equipment means that it has been tested and certified as complying with applicable Underwriters Laboratory (UL) regulations and recommendations for USA.



The presence of this symbol in or on Grass Valley equipment means that it has been tested and certified as complying with applicable Canadian Standard Association (CSA) regulations and recommendations for USA/Canada.



The presence of this symbol in or on Grass Valley equipment means that it has been tested and certified as complying with applicable Underwriters Laboratory (UL) regulations and recommendations for USA/Canada.



The presence of this symbol in or on Grass Valley equipment means that it has been tested and certified as complying with applicable Intertek Testing Services regulations and recommendations for USA/Canada.



The presence of this symbol in or on Grass Valley product means that it complies with all applicable European Union (CE) directives.



The presence of this symbol in or on Grass Valley product means that it complies with safety of laser product applicable standards.

Warnings



A warning indicates a possible hazard to personnel, which may cause injury or death. Observe the following general warnings when using or working on this equipment:

- Appropriately listed/certified mains supply power cords must be used for the connection of the equipment to the rated mains voltage.
- This product relies on the building's installation for short-circuit (over-current) protection. Ensure that a fuse or circuit breaker for the rated mains voltage is used on the phase conductors.
- Any instructions in this manual that require opening the equipment cover or enclosure are for use by qualified service personnel only.
- Do not operate the equipment in wet or damp conditions.
- This equipment is grounded through the grounding conductor of the power cords. To avoid electrical shock, plug the power cords into a properly wired receptacle before connecting the equipment inputs or outputs.
- Route power cords and other cables so they are not likely to be damaged. Properly support heavy cable bundles to avoid connector damage.
- Disconnect power before cleaning the equipment. Do not use liquid or aerosol cleaners; use only a damp cloth.
- Dangerous voltages may exist at several points in this equipment. To avoid injury, do not touch exposed connections and components while power is on.
- High leakage current may be present. Earth connection of product is essential before connecting power.
- Prior to servicing, remove jewelry such as rings, watches, and other metallic objects.
- To avoid fire hazard, use only the fuse type and rating specified in the service instructions for this product, or on the equipment.
- To avoid explosion, do not operate this equipment in an explosive atmosphere.
- Use proper lift points. Do not use door latches to lift or move equipment.
- Avoid mechanical hazards. Allow all rotating devices to come to a stop before servicing.
- Have qualified service personnel perform safety checks after any service.

Cautions



A caution indicates a possible hazard to equipment that could result in equipment damage. Observe the following cautions when operating or working on this equipment:

- This equipment is meant to be installed in a restricted access location.
- When installing this equipment, do not attach the power cord to building surfaces.
- Products that have no on/off switch, and use an external power supply must be installed in proximity to a main power outlet that is easily accessible.
- Use the correct voltage setting. If this product lacks auto-ranging power supplies, before applying power ensure that each power supply is set to match the power source.
- Provide proper ventilation. To prevent product overheating, provide equipment ventilation in accordance with the installation instructions.

- Do not operate with suspected equipment failure. If you suspect product damage or equipment failure, have the equipment inspected by qualified service personnel.
- To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.
- This unit may have more than one power supply cord. Disconnect all power supply cords before servicing to avoid electric shock.
- Follow static precautions at all times when handling this equipment. Servicing should be done in a static-free environment.
- To reduce the risk of electric shock, plug each power supply cord into separate branch circuits employing separate service grounds.

Electrostatic Discharge (ESD) Protection



Electrostatic discharge occurs when electronic components are improperly handled and can result in intermittent failure or complete damage adversely affecting an electrical circuit. When you remove and replace any card from a frame always follow ESD-prevention procedures:

- Ensure that the frame is electrically connected to earth ground through the power cord or any other means if available.
- Wear an ESD wrist strap ensuring that it makes good skin contact. Connect the grounding clip to an *unpainted surface* of the chassis frame to safely ground unwanted ESD voltages. If no wrist strap is available, ground yourself by touching the *unpainted* metal part of the chassis.
- For safety, periodically check the resistance value of the antistatic strap, which should be between 1 and 10 megohms.
- When temporarily storing a card make sure it is placed in an ESD bag.
- Cards in an earth grounded metal frame or casing do not require any special ESD protection.

Battery Handling



This product may include a backup battery. There is a danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions. Before disposing of your Grass Valley equipment, please review the *Disposal and Recycling Information* at:

http://www.grassvalley.com/assets/media/5692/Take-Back_Instructions.pdf

Cautions for LCD and TFT Displays



Excessive usage may harm your vision. Rest for 10 minutes for every 30 minutes of usage.

If the LCD or TFT glass is broken, handle glass fragments with care when disposing of them. If any fluid leaks out of a damaged glass cell, be careful not to get the liquid crystal fluid in your mouth or skin. If the liquid crystal touches your skin or clothes, wash it off immediately using soap and water. Never swallow the fluid. The toxicity is extremely low but caution should be exercised at all times.

Mesures de sécurité et avis importants

La présente section fournit des consignes de sécurité importantes pour les opérateurs et le personnel de service. Des avertissements ou mises en garde spécifiques figurent dans le manuel, dans les sections où ils s'appliquent. Prenez le temps de bien lire les consignes et assurez-vous de les respecter, en particulier celles qui sont destinées à prévenir les décharges électriques ou les blessures.

Signification des symboles utilisés



Signale la présence d'une tension élevée et dangereuse dans le boîtier de l'équipement ; cette tension peut être suffisante pour constituer un risque de décharge électrique.



Avertit l'utilisateur, l'opérateur ou le technicien de maintenance que des instructions importantes relatives à l'utilisation et à l'entretien se trouvent dans la documentation accompagnant l'équipement.



Invite l'utilisateur, l'opérateur ou le technicien de maintenance à prendre note du calibre du fusible lors du remplacement de ce dernier. Le fusible auquel il est fait référence dans le texte doit être remplacé par un fusible du même calibre.



Identifie une borne de mise à la terre de protection. Il faut relier cette borne à la terre avant d'effectuer toute autre connexion à l'équipement.



Identifie une borne de mise à la terre externe qui peut être connectée en tant que borne de mise à la terre supplémentaire.



Signale la présence de composants sensibles à l'électricité statique et qui sont susceptibles d'être endommagés par une décharge électrostatique. Utilisez des procédures, des équipements et des surfaces antistatiques durant les interventions d'entretien.



Le symbole ci-contre signifie que l'appareil comporte plus d'un cordon d'alimentation et qu'il faut débrancher tous les cordons d'alimentation avant toute opération d'entretien, afin de prévenir les chocs électriques.



La marque UL certifie que l'appareil visé a été testé par Underwriters Laboratory (UL) et reconnu conforme aux exigences applicables en matière de sécurité électrique en vigueur au Canada et aux États-Unis.



La marque C-CSA-US certifie que l'appareil visé a été testé par l'Association canadienne de normalisation (CSA) et reconnu conforme aux exigences applicables en matière de sécurité électrique en vigueur au Canada et aux États-Unis.



La marque C-UL-US certifie que l'appareil visé a été testé par Underwriters Laboratory (UL) et reconnu conforme aux exigences applicables en matière de sécurité électrique en vigueur au Canada et aux États-Unis.



La marque ETL Listed d'Intertek pour le marché Nord-Américain certifie que l'appareil visé a été testé par Intertek et reconnu conforme aux exigences applicables en matière de sécurité électrique en vigueur au Canada et aux États-Unis.



Le marquage CE indique que l'appareil visé est conforme aux exigences essentielles des directives applicables de l'Union européenne en matière de sécurité électrique, de compatibilité électromagnétique et de conformité environnementale.



Le symbole ci-contre sur un appareil Grass Valley ou à l'intérieur de l'appareil indique qu'il est conforme aux normes applicables en matière de sécurité laser.

Avertissements



Les avertissements signalent des conditions ou des pratiques susceptibles d'occasionner des blessures graves, voire fatales. Veuillez vous familiariser avec les avertissements d'ordre général ci-dessous :

- Un cordon d'alimentation dûment homologué doit être utilisé pour connecter l'appareil à une tension de secteur de 120 V CA ou 240 V CA.
- La protection de ce produit contre les courts-circuits (surintensités) dépend de l'installation électrique du bâtiment. Assurez-vous qu'un fusible ou un disjoncteur pour 120 V CA ou 240 V CA est utilisé sur les conducteurs de phase.
- Dans le présent manuel, toutes les instructions qui nécessitent d'ouvrir le couvercle de l'équipement sont destinées exclusivement au personnel technique qualifié.
- N'utilisez pas cet appareil dans un environnement humide.
- Cet équipement est mis à la terre par le conducteur de mise à la terre des cordons d'alimentation. Pour éviter les chocs électriques, branchez les cordons d'alimentation sur une prise correctement câblée avant de brancher les entrées et sorties de l'équipement.
- Acheminez les cordons d'alimentation et autres câbles de façon à ce qu'ils ne risquent pas d'être endommagés. Supportez correctement les enroulements de câbles afin de ne pas endommager les connecteurs.
- Coupez l'alimentation avant de nettoyer l'équipement. Ne pas utiliser de nettoyeurs liquides ou en aérosol. Utilisez uniquement un chiffon humide.
- Des tensions dangereuses peuvent exister en plusieurs points dans cet équipement. Pour éviter toute blessure, ne touchez pas aux connexions ou aux composants exposés lorsque l'appareil est sous tension.
- Avant de procéder à toute opération d'entretien ou de dépannage, enlevez tous vos bijoux (notamment vos bagues, votre montre et autres objets métalliques).
- Pour éviter tout risque d'incendie, utilisez uniquement les fusibles du type et du calibre indiqués sur l'équipement ou dans la documentation qui l'accompagne.
- Ne pas utiliser cet appareil dans une atmosphère explosive.
- Présence possible de courants de fuite. Un raccordement à la masse est indispensable avant la mise sous tension.
- Après tout travail d'entretien ou de réparation, faites effectuer des contrôles de sécurité par le personnel technique qualifié.

Mises en garde



Les mises en garde signalent des conditions ou des pratiques susceptibles d'endommager l'équipement. Veuillez vous familiariser avec les mises en garde ci-dessous :

- L'appareil est conçu pour être installé dans un endroit à accès restreint.
- Au moment d'installer l'équipement, ne fixez pas les cordons d'alimentation aux surfaces intérieures de l'édifice.

- Les produits qui n'ont pas d'interrupteur marche-arrêt et qui disposent d'une source d'alimentation externe doivent être installés à proximité d'une prise de courant facile d'accès.
- Si l'équipement n'est pas pourvu d'un modules d'alimentation auto-adaptables, vérifiez la configuration de chacun des modules d'alimentation avant de les mettre sous tension.
- Assurez une ventilation adéquate. Pour éviter toute surchauffe du produit, assurez une ventilation de l'équipement conformément aux instructions d'installation.
- N'utilisez pas l'équipement si vous suspectez un dysfonctionnement du produit. Faites-le inspecter par un technicien qualifié.
- Pour réduire le risque de choc électrique, n'effectuez pas de réparations autres que celles qui sont décrites dans le présent manuel, sauf si vous êtes qualifié pour le faire. Confiez les réparations à un technicien qualifié. La maintenance doit se réaliser dans un milieu libre d'électricité statique.
- L'appareil peut comporter plus d'un cordon d'alimentation. Afin de prévenir les chocs électriques, débrancher tous les cordons d'alimentation avant toute opération d'entretien.
- Veillez à toujours prendre les mesures de protection antistatique appropriées quand vous manipulez l'équipement.
- Pour réduire le risque de choc électrique, branchez chaque cordon d'alimentation dans des circuits de dérivation distincts utilisant des zones de service distinctes.

Protection contre les décharges électrostatiques (DES)



Une décharge électrostatique peut se produire lorsque des composants électroniques ne sont pas manipulés de manière adéquate, ce qui peut entraîner des défaillances intermittentes ou endommager irrémédiablement un circuit électrique. Au moment de remplacer une carte dans un châssis, prenez toujours les mesures de protection antistatique appropriées :

- Assurez-vous que le châssis est relié électriquement à la terre par le cordon d'alimentation ou tout autre moyen disponible.
- Portez un bracelet antistatique et assurez-vous qu'il est bien en contact avec la peau. Connectez la pince de masse à une *surface non peinte* du châssis pour détourner à la terre toute tension électrostatique indésirable. En l'absence de bracelet antistatique, déchargez l'électricité statique de votre corps en touchant une surface métallique *non peinte* du châssis.
- Pour plus de sécurité, vérifiez périodiquement la valeur de résistance du bracelet antistatique. Elle doit se situer entre 1 et 10 mégohms.
- Si vous devez mettre une carte de côté, assurez-vous de la ranger dans un sac protecteur antistatique.
- Les cartes qui sont reliées à un châssis ou boîtier métallique mis à la terre ne nécessitent pas de protection antistatique spéciale.

Manipulation de la pile



Ce produit peut inclure une pile de sauvegarde. Il y a un risque d'explosion si la pile est remplacée de manière incorrecte. Remplacez la pile uniquement par un modèle identique ou équivalent recommandé par le fabricant. Disposez des piles usagées conformément aux instructions du fabricant. Avant de vous séparer de votre équipement Grass Valley, veuillez consulter les *informations de mise au rebut et de recyclage* à :

http://www.grassvalley.com/assets/media/5692/Take-Back_Instructions.pdf

Précautions pour les écrans LCD et TFT



Regarder l'écran pendant une trop longue période de temps peut nuire à votre vision. Prenez une pause de 10 minutes, après 30 minutes d'utilisation.

Si l'écran LCD ou TFT est brisé, manipulez les fragments de verre avec précaution au moment de vous en débarrasser. veillez à ce que le cristal liquide n'entre pas en contact avec la peau ou la bouche. En cas de contact avec la peau ou les vêtements, laver immédiatement à l'eau savonneuse. Ne jamais ingérer le liquide. La toxicité est extrêmement faible, mais la prudence demeure de mise en tout temps.

Environmental Information

European (CE) WEEE directive.



This symbol on the product(s) means that at the end of life disposal it should not be mixed with general waste.

Visit www.grassvalley.com for recycling information.

Grass Valley believes this environmental information to be correct but cannot guarantee its completeness or accuracy since it is based on data received from sources outside our company. All specifications are subject to change without notice.

If you have questions about Grass Valley environmental and social involvement (WEEE, RoHS, REACH, etc.), please contact us at environment@grassvalley.com.

toc

Table of Contents

Media Transformer	i
FCC Compliance	ii
Patent Information	ii
Copyright and Trademark Notice	ii
1 Media Transformer (ABR Streaming) Configuration	1
Overview	1
Prerequisites	1
Upgrading	2
Registry Settings	2
Media Transformer Setup	3
Configure Operating System	3
Switch on Jumbo Packets	3
Turn off Firewall	3
Install Transformer Software	4
License	4
Obtain License using Disk ID	4
Install License	4
Transformer Settings	5
License	5
Network	6
Network: Clipnet	6
Options	7
HTTP	7
Startup	8
QTube Settings	8
Setting a Mixed Browse System	8
Allow Metadata Editing	8
Allow Clip Deletion	9
Server: Search	9
Essence: Audio	9
Essence: Video (PC)	10
Setting Group Area Constraints	10
IIS and Couch DB Setup	11
Install IIS and CouchDB	11
Security	11
About Certificates	11
Certificate Creation	11
Install Certificates on Each Client	12
Authentication	13
With Remote User Management	13
Search Service Setup	14
Search Service Overview	14
Web Server Port	14
ISA Settings	14
Customize Log Output	14
Install Search Service	15

Installation	15
Search Service Access	15
2 Load Balancer Configuration	17
Install and Configure NLB	18
Add Network Load Balancing Tools Feature to Server A and Server B	18
Configure the Cluster	18
Install and Configure IIS	21
Add the Web Server (IIS) Role to the Servers	21
Configure IIS Shared Configuration on Server A and Server B	21
Change Default Web Site Bindings	22
Installing ARR manually without WebPI	22
Configure ARR	23
Create and Configure a Server Farm	24
Configure Caching	25
Configure Health Test	26
Configure Load Balance	26
Configure Proxy	27
Configure Routing Rules	27
Configure Server Affinity	28
Force LBR Pass-through	28
Create and Configure Rewrite Rules	29
Configuring URL Rewrite	29
Contact Us	31

Media Transformer (ABR Streaming) Configuration

Overview

Prerequisites

To set-up the Media Transformer, the following is required:

- A working ISA sQ system that is configured to support a seat and has H.264 and/or MPEG-1 browse at 1.5 Mbit. The ISA system also needs the Search service installed.
- A newly-installed Windows Server 2016 64-bit operating system on an X8 motherboard.
- For convenience, customize the Windows Start menu to make Administrative Tools display on this menu.
- Sentinel Dongle Driver V7.4.2.exe
- Access to the Internet in order to download extra parts for IIS.
- An installer package containing Media Transformer.
- A synchronized clock in order to successfully connect to remote shares.
- VC9 Redistributable (VC Runtime) must be installed.
- The PC client must be logged in as 'Administrator'.

Note: The previous options are usually set on installation by trained engineers with knowledge of Windows and networking. If in doubt, always contact Grass Valley Support before changing any setting.

Upgrading

When upgrading from versions prior to V5.4 rev 8, note the following registry settings.

Registry Settings

Under its development name, the Media Transformer was previously known as the QTube Transformer in versions prior to V5.4 rev 8. Software settings are saved in the Window's Registry under a key called **QTube Transformer**.

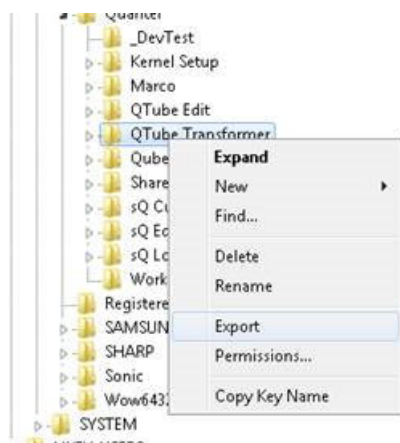


Fig. 1-1: AJA Devices

From release V5.4 rev 8 onwards, the key is called **Media Transformer**. Any existing registry settings must be migrated from the **QTube Transformer** key to the **Media Transformer** key.

- 1 Open **regedit.exe**.
- 2 Navigate to **HKEY_LOCAL_MACHINE\SOFTWARE\Quantel\QTube Transformer**.
- 3 Right-click and select **export**.
- 4 Export this to a temporary folder.
- 5 Open this exported file in a text editor.
- 6 Within the text editor, perform a find and replace from string **'\SOFTWARE\Quantel\QTube Transformer'** to **'\SOFTWARE\Quantel\Media Transformer'**.
- 7 Save the changes to the file.
- 8 Back in **regedit.exe**, import the edited file.

This migrates the registry settings from **QTube Transformer** to **Media Transformer**.

Media Transformer Setup

Configure Operating System

The operating system must have specific settings applied to ensure all software components are linked together:

Switch on Jumbo Packets

- 1 From the **Start** menu, open the **Control Panel**.
- 2 Select **Hardware and Sound**.
- 3 In the **Devices and Printers** section, select **Device Manager**.
- 4 Click on the arrow to the left of **Network adapters** to expand it.
- 5 Right-click on the adapter pointing to the ISA and sQs (**quanet**) and select **Properties**.
- 6 Select the **Advanced** tab.
- 7 In the **Settings** list select **Jumbo Packet**.
- 8 Using the **Value** drop-down, select **9014**.
- 9 Click **OK**.

The cluster adapter remains on the normal 1500 MTU setting.

Turn off Firewall

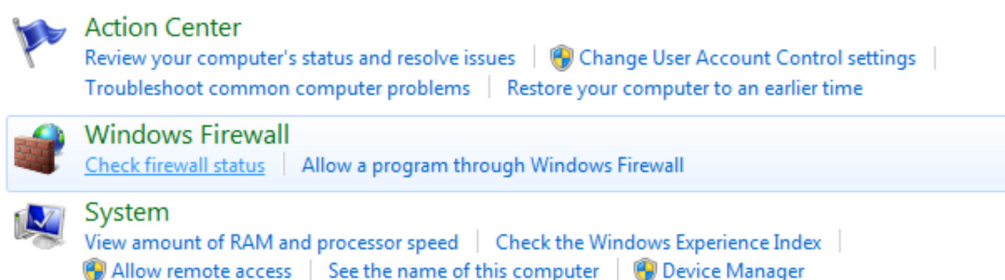


Fig. 1-2: AJA Devices

- 1 From the **Start** menu, load the **Control Panel**.
- 2 In the **System and Security** section, select **Check firewall status**.
- 3 In the left panel, select **Turn Windows Firewall on or off**.

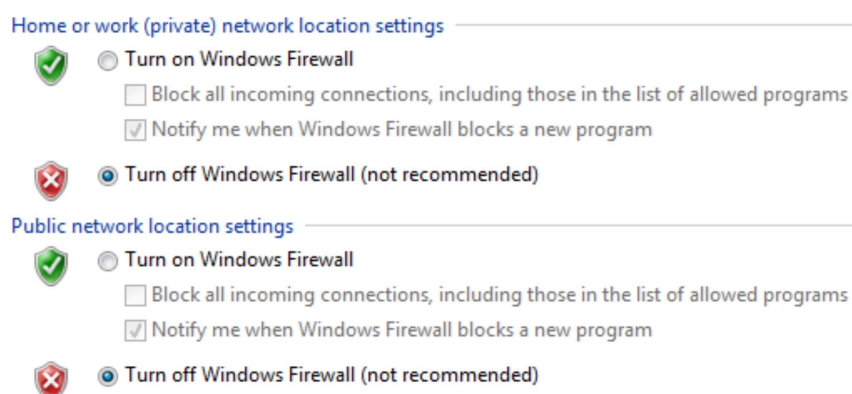


Fig. 1-3: AJA Devices

- 4 In **Home or work (private) network location settings**, select **Turn off Windows Firewall (not recommended)**.
- 5 In **Public network location settings**, select **Turn off Windows Firewall (not recommended)**.
- 6 Click **OK**.

Install Transformer Software

- 1 On the Transformer PC, login as Windows administrator and double-click the downloaded setup.exe file (alternatively, right-click the .exe file and select **Run as administrator**). This starts the Setup wizard.
- 2 Select **Media Transformer** from the product drop-down box and click **Install** in the bottom-right of the window. The end user license agreement then displays.
- 3 Read this carefully and then click **Agree** to accept the license agreement. The software now installs: this may take a few minutes.
- 4 Tick **Run now** and **Create shortcut on the Desktop** and then click **OK** in the bottom-right of the window. The software now starts.
- 5 When the software has finished loading, press <Ctrl>+<F9> to close the software.

Note: Running the software for the first time (step 4 above) is important as it populates the default registry settings.

License

Obtain License using Disk ID

- 1 Navigate to **C:\Data\Logs** and open the file named **Recent**. This opens the most recent activity log.
- 2 Press <Ctrl>+<F> to open the search tool.
- 3 Search the log for the phrase: **Valid locking code**.
Make a note of this code.
- 4 Contact Grass Valley support (see [Grass Valley Technical Support](#), on page 31) or your Grass Valley partner, giving them this code and quoting the corresponding order number.
Please allow at least one working day for the license to be created and sent to you.
- 5 When the license has been received, install it using the steps below.

Install License

To install the license:

- 1 In Windows, create the directory **C:\Data\Licenses**.

Note: Ensure that the 'licenses' folder is spelled as shown above in order for it to be correctly located by the software.

- 2 Place the supplied **lserverc.lic** license file in this directory.

Transformer Settings

After installing the license, settings must be configured in the Settings menu. Some settings are not described here, as they are optional, depending on user preference.

- 1 In Windows, navigate to:
Start – All Programs – Grass Valley – Media Transformer V#.# rev # – Settings.
- 2 Right-click **Settings** then select **Run as administrator.**

Note: Some of these options only become available after running the software up for the first time.

The scroll box at the top-left of the Settings application provides access to different menus:

License

- 1 From the top-left drop-down box, select **License.**

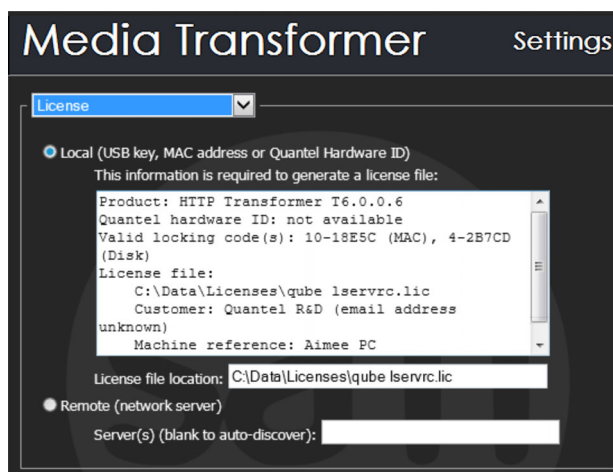


Fig. 1-4: License

- 2 Select **Local.**
- 3 Check that the License file location path is **C:\Data\Licenses\lservrc.lic.**

Network

- 1 From the top-left drop-down box, select **Network**.

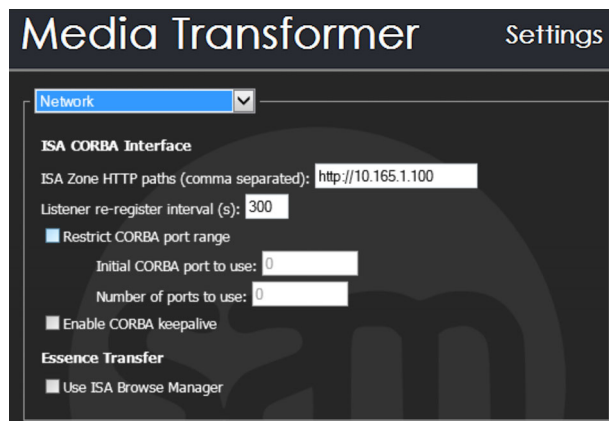


Fig. 1-5: Network

- 2 In the **ISA Zone HTTP paths** field, enter the location of the ISA Manager's ZonePortal IOR e.g., **http://my-isa/ZoneManager.ior**.
- 3 Deselect **Essence Transfer – Use ISA Browse Manager**.

Network: Clipnet

- 1 From the top-left drop-down box, select **Network: Clipnet**.

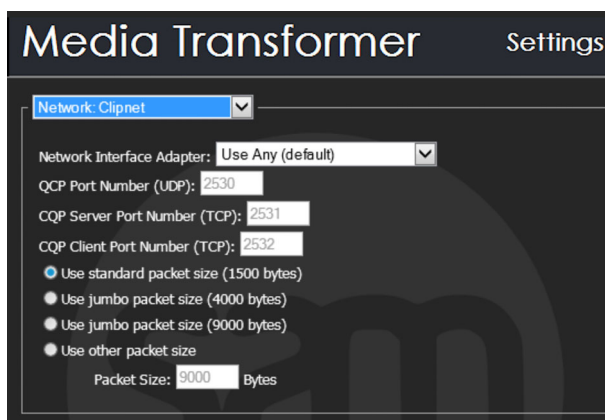


Fig. 1-6: Network: Clipnet

- 2 Set **Network Interface Adapter** to **quanet**.
- 3 Select **Use jumbo packet size (9000 bytes)**.

Options

If there is video encoded as DV100 or AVCI on the server, then the relevant license checks need to be enabled:

- 1 From the top-left drop-down box, select **Options**.

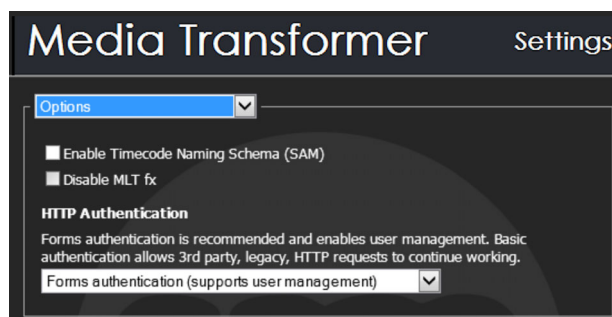


Fig. 1-7: Options

- 2 Tick either **Enable AVCI decode license**, **Enable AVCI encode license check** or **Enable DV100 license check** (depending on sQ formats enabled).

HTTP

The web interface defaults to port 80 which is already in use by IIS so it must be changed:

- 1 From the top-left drop-down box, select **Http Server**.

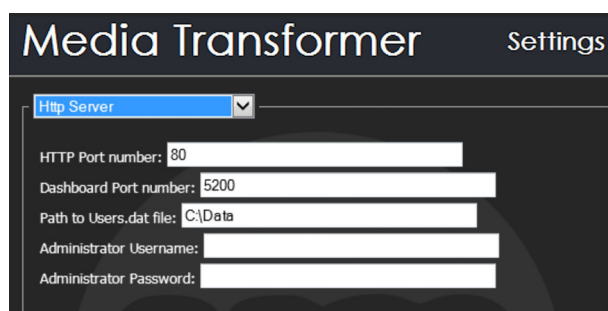


Fig. 1-8: HTTP Server

- 2 Set **HTTP Port number to 8080**.

Startup

- 1 From the top-left drop-down, select **Startup**.

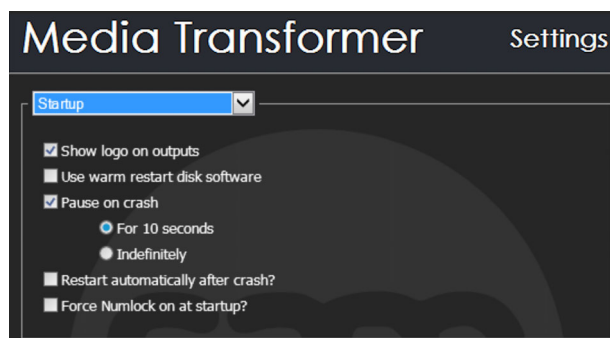


Fig. 1-9: Startup

- 2 Deselect **Pause on crash**.
- 3 Select **Restart automatically after crash?**.

QTube Settings

Setting a Mixed Browse System

If there is a mixture of clip formats being used in the system (e.g. MPEG-1 browse and H.264) the Media Transformer can be set to browse mixed formats.

- 1 From the top-left drop-down, select **QTube Settings**.

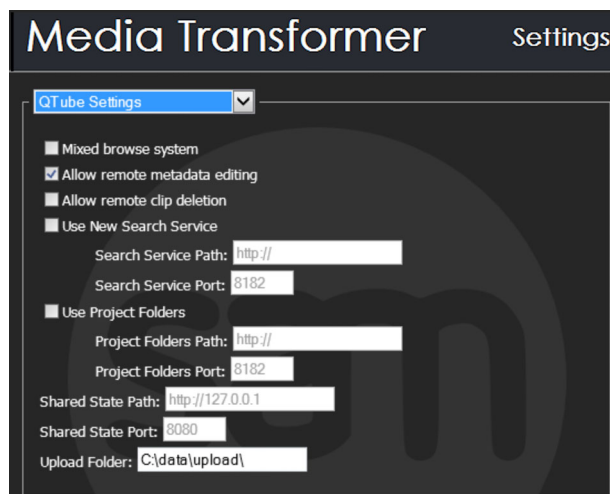


Fig. 1-10: QTube Settings

- 2 Select **Mixed browse system**.

Allow Metadata Editing

To be able to edit metadata in the QTube Browser and QTube Edit:

- 1 From the top-left drop-down, select **QTube Settings**.
- 2 Select **Allow remote metadata editing**.

Allow Clip Deletion

Whilst clips cannot be deleted from the QTube Browser, they can be deleted from QTube Edit. To enable this:

- 1 From the top-left drop-down, select **QTube Settings**.
- 2 Select **Allow remote clip deletion**.

Server: Search

Media Transformer settings allow search constraints to be set up on any connected client. To set up a search constraint:

- 1 From the top-left drop-down, select **Server: Search**.

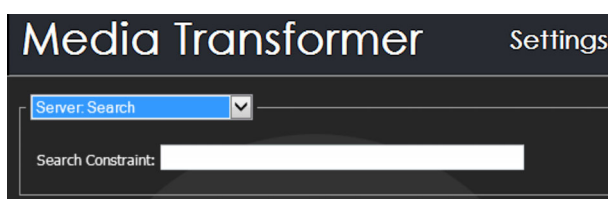


Fig. 1-11: Server Search

- 2 Enter a constraint in the **Search Constraint** field.

Constraints take the form: +AND+Metadata Type:Constraint

For example: +AND+Title:Recording

This example means that there is a search constraint that only allows users to search among clips that have 'Recording' as all or part of the title.

- 3 After entering the constraint in the **Search Constraint** field, click **OK**.

Essence: Audio

If the Transformer does not have a dedicated audio disk partition set the audio folder to a drive partition which has sufficient space to store audio for clips published via QTube. Transformer PCs supplied have enough space in the Data Partition to set this up.

- 1 From the top-left drop-down box, select **Essence: Audio**.

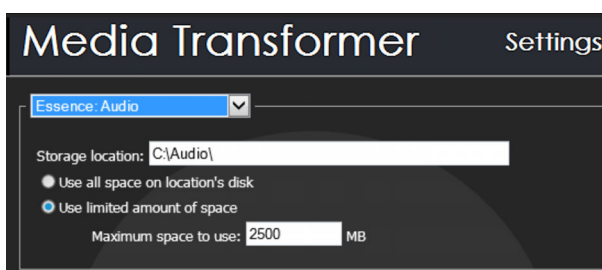


Fig. 1-12: Essence Audio

- 2 Ensure that the **Storage location** is set to **C:\Data\Audio**.
- 3 Tick **Use limited amount of space**. A default maximum space to use is assigned.
- 4 (Optional) Assign a sensible maximum space to be used for audio storage. For example, 15 GB audio space provides about two hours and forty-five minutes of 8-channel audio (figures are based on PAL system). This requires approximately 15360 MB to be allocated for audio storage.

Essence: Video (PC)

If the Transformer does not have a dedicated video disk partition set the video folder to a drive partition which has sufficient space to store video for clips published via QTube. Transformer PCs supplied have enough space in the Data Partition to set this up.

- 1 From the top-left drop-down box, select **Essence: Video (PC)**.

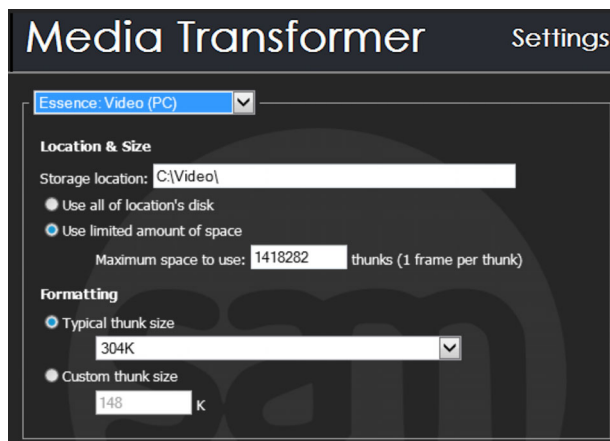


Fig. 1-13: Essence Video

- 2 Ensure that the **Storage location** is set to **C:\Data\Video**.
- 3 Tick **Use limited amount of space**. A default maximum space to use is assigned.

(Optional) Assign a sensible maximum number of 'thunks' to be used for video storage. For example, 51 GB provides space for approximately one hour of HD 100 Mbit data and two hours of SD IMX or DVCPro data. This requires approximately 95000 'thunks' to be allocated for video storage.

Setting Group Area Constraints

On the Transformer it is possible to set up exclusive areas for specific groups of users. For example, a specific area could be set up to be exclusively available to lead editors. The specific areas can be set up via the ISA manager. Setting group access through the Transformer affects all connected clients. To set up group access:

- 1 Open a file browser on the Transformer and navigate to the path:
SAM – Media Transformer\Quantel\QuentinCorba<Version Number>\Custom Settings\Config.
- 2 Double-click on **Allowed Publish Groups** in the right-hand panel.
- 3 Enter the group value in the **Value data** field (e.g. Editors).
- 4 Click **OK**.
- 5 Restart the Transformer PC.

IIS and Couch DB Setup

Install IIS and CouchDB

- 1 In the **C:\Data\<Transformer>\DLL_Data\Quantel\QCIFSBin\iis-support**, unzip the **TransformerBuild.zip** and run **LaunchMeAsAdministrator.bat**.
- 2 In order to verify, unzip **CheckConfig.zip** and run **LaunchMe.bat**.

Security

About Certificates

These settings depend on each organization's setup and there are several security options that can be chosen. These instructions describe how to create a self-signed certificate and then share it with any other machines in the cluster. A self-signed certificate is free to create and use.

The effect of this is that new visitors to the site are informed that it is a valid certificate but it has not been verified by a trusted site. This notification must be accepted and then the certificate must be saved locally.

It is the responsibility of each organization to arrange a server certificate from a 'Trusted Authority' should one be required. Grass Valley cannot apply for one on another organization's behalf (a restriction put in place by the signing authority). On receipt, it can be imported using the instructions below.

Certificate Creation

The certificate must be created on one PC and then imported to all others. To create self-signed certificates and then export:

- 1 **Go to Start – All Programs – Administration Tools – Internet Information Services (IIS) Manager.**
- 2 In the **Connections** panel, highlight the hostname (hostname\administrator). For example, **PVGIS-CC01 (PVGIS-CC01\quantel)**.
- 3 Double-click **Server Certificates** and select **Create Self-Signed Certificate...**

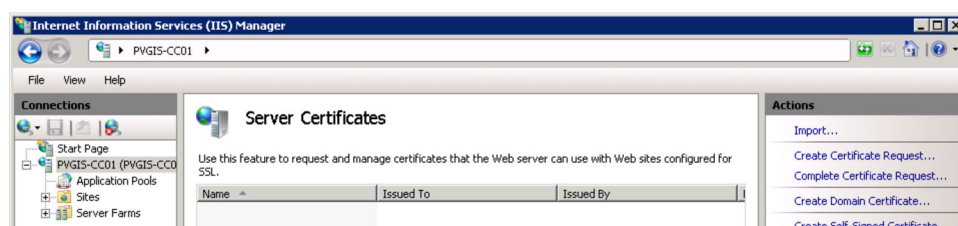


Fig. 1-14: Essence Video

- 4 In the **Specify a friendly name for the certificate** field, enter the domain name of the cluster.
- 5 Click **OK**.
- 6 From the **Actions** panel on the right, highlight the new certificate and click **Export...**
- 7 In the **Export to** field enter **C:\<cluster-name>**.
- 8 Enter a password into the **Password** and **Confirm password** fields.
- 9 Click **OK**.
- 10 Open Windows Explorer and navigate to where the certificate is stored and copy it to somewhere centrally available.

Install Certificates on Each Client

The certificate must be installed on each client PC, otherwise authorization is required each time the client PC is used. To import the certificate:

- 1 Go to **Start – All Programs – Administration Tools – Internet Information Services (IIS) Manager**.
- 2 In the **Connections** panel, highlight the hostname (hostname\administrator). For example, **PVGIS-CC01 (PVGIS-CC01\quantel)**.
- 3 Double-click **Server Certificates** and select **Import...** from the Actions panel.
- 4 Navigate to the shared location of the PFX file and enter the password it was created with.
- 5 Click **OK**.

When a certificate has been created or imported it must be 'bound' to the relevant port:

- 6 Go to **Start – All Programs – Administration Tools – Internet Information Services (IIS) Manager**.
- 7 In the **Connections** panel, highlight the hostname (hostname\administrator). For example, **PVGIS-CC01 (PVGIS-CC01\quantel)**.
- 8 Expand **Sites** and highlight **Default Web Site**.

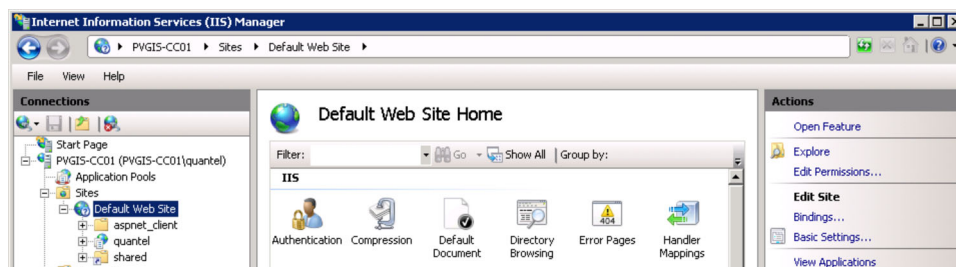


Fig. 1-15: Essence Video

- 9 Select **Edit Site – Bindings...** from the **Actions** panel on the right.
- 10 If all testing is finished, select **http** from the list of Site Bindings and click **Remove**.
- 11 Click **Add...** to add site bindings.



Fig. 1-16: Essence Video

- 12 Set **Type** to **https** and set **IP address** to **All Unassigned**.
- 13 Set **Port** to **443** (for https).
- 14 Set **SSL Certificate** to the installed certificate and click **OK**.

Authentication

- 1 Launch the IIS Manager program. Go to **Start – All Programs – Administration Tools – Internet Information Services (IIS) Manager**.
- 2 In the **Connections** panel, highlight the hostname (hostname\administrator). For example, **PVGIS-CC01 (PVGIS-CC01\quantel)**.

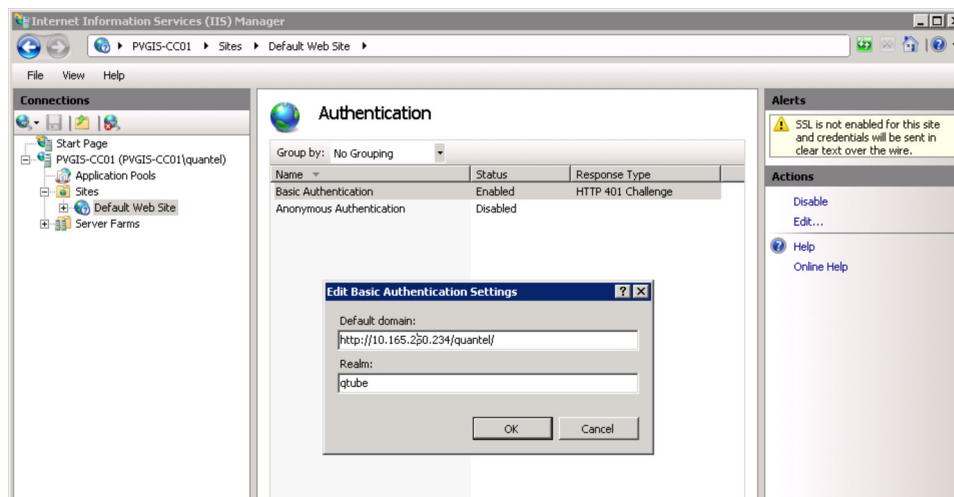


Fig. 1-17: Essence Video

- 3 Double-click **Authentication** from the central panel.

With Remote User Management

When utilizing Remote User Management:

- 1 Right-click on **Anonymous Authentication** and select **Enable**.
- 2 Right-click on **Basic Authentication** and select **Disable**.
- 3 Right-click on **Form Authentication** and select **Enable**.
- 4 Click **OK**.

Search Service Setup

Note: Do not install the search service on the ISA Manager.

Search Service Overview

Each Zone that has a Media Transformer attached to it requires a Search service. The Search service is a separate zipped package (**Search V2.0.1.0.zip**) which can be installed on any PC or on the Transformer, but must not be installed on the ISA Manager.

Note: Any changes made to the ISA Manager may seriously impact work-flow and system network traffic. DO NOT change any settings unless you are a qualified engineer. Always contact Grass Valley support for advice beforehand.

Web Server Port

By default, the Search service starts on port 8182. This setting can be changed by editing the attribute **webserverPort** in the configuration file. The configuration file for the Search service is located at **webserver/quantel/config.xml**. As a shortcut, execute **bin/configure.bat**.

```
<?xml version="1.0"?>
<config>
  <!-- REST Web service configuration file -->
  <webserverPort>8182</webserverPort>
  <isa>
    <!--Comma-separated list of ISA Managers IOR URLs. At least one entry must be specified.-->
    <URLs>http://localhost:80</URLs>
    <!--Name of an ISA Manager database user with at least read-only privileges on the clips table.-->
    <user>quantel</user>
    <!--Password of the database user mentioned above.-->
    <password/>
    <!--How long (in seconds) to wait between attempts to connect to the ISA Manager.-->
    <connectionRetryTimeout>10</connectionRetryTimeout>
    <!--How often (in seconds) to expect to hear from the ISA Manager.-->
    <heartbeatPeriod>10</heartbeatPeriod>
  </isa>
  <searchService>
    <!--URL of a Solr server to use for data indexing and searching.-->
    <solrURL>http://localhost:${webserverPort}/solr</solrURL>
    <!--Filter out accents in ISOLatin1 Characters prior to search.-->
    <filterISOLatin1Characters>true</filterISOLatin1Characters>
    <!-- Use this section to store arbitrary properties. The Search Service will store those properties and make them available via its RESTful API. -->
    <meta> </meta>
  </searchService>
</config>
```

Fig. 1-18: Essence Video

ISA Settings

The Search service can only index one ISA Zone. The Search service must be configured with the URL of an ISA in that Zone. An ISA master/slave URL pair can also be specified. Given an ISA URL in the form **http://[host]:[port]/ZoneManager.ior** the Search service attempts to fetch the IOR at the following **URL: http://[host]:[port]/ZoneManager.ior**.

The Search service also requires the appropriate user name and password for accessing the ISA database via JDBC.

Customize Log Output

The log output of the Search service can be customized before it is started. This can be done by overriding the logback configuration file located at **webserver/quantel/extra/logback.xml**. By default, log files are produced under the folder **webserver/logs**.

Install Search Service

Installation

To install the search service:

- 1 Add the ISA Master and slave to the machine's HOST file that is running the search service.
- 2 Extract the Search service zip and copy the folder to **c:\Data**.
- 3 Rename the folder '**search**'.
- 4 In the **search** folder is a folder called **bin**. Open this and run **addshortcuts.bat**. This creates a folder on the desktop with shortcuts.
- 5 Browse to the shortcut folder on the desktop and run **configure.bat**.
- 6 Add the ISA Master and slave address in the following URLs:
http://10.165.26.10:80
http://10.165.26.11:80
- 7 `</URLs><bindAddress>local_IP_Address</bindAddress>`
The local IP address should be the IP address of the network adapter that the Search Service PC uses to connect to the ISA Manager.
- 8 Check the **config** file to make sure no other settings need to be changed for a site specific install. In most of cases nothing needs to change.
- 9 Save and close the **config** file.
- 10 Run **start_search.bat**.
- 11 Enter the following URL into a web browser. This must be done on the machine where the search service is running.
http://localhost:8182/quantel/search/select?q=*

An XML formatted page with a list of clips displays.

In case of issues with running the search service, the logs are located in the following file path:

c:\Data\Search\Search\webserver\logs

Search Service Access

Ensure that the property 'SearchPath' in the ISA Manager is set to the location of where the Search service resides so that it can be found by the QTube Transformer For example, if the Search service PC's IP address is **10.10.10.10** then the path should be set to:

http://10.10.10.10:8182/. To set up the 'SearchPath':

- 1 On the ISA Manager web interface, navigate to **Configure – Properties**.
- 2 In the **Property** column, locate **searchpath**:
 - If the **searchpath** property doesn't exist, create and configure it by following steps 3 - 6.
 - If the **searchpath** property exists but is not set correctly, update the existing setting by selecting **searchpath**. Edit the settings by following steps 4 - 6.
- 3 Press **Add property** and set the name as '**searchpath**'.
- 4 Set the value to the following:
http://{IP address of search service}:8182/
- 5 Press **searchpath** and enter the correct IP for the search service.
- 6 Press **Create** and then **Refresh database** at the top of the page.

The Search service can be controlled by tools located under the bin folder. Most tools use the search.bat command line interface. Execute **search.bat -help** for some help messages on how to use it.

The Search service needs to be running, in order to populate the server bin with clips. Execute **bin\start_search.bat** to start the Search service.

The Search service is ready when “- **Waiting for an indexing operation to be submitted.**” has been displayed in the console window.

To check that the Search service is running, open the following URL:

[http://localhost:\[port\]/quantel/search/select?q=*](http://localhost:[port]/quantel/search/select?q=*)

Alternatively, execute **search -status**.

Execute **stop_search.bat** or **search -stop** to stop the Search service.

Load Balancer Configuration



Install and configure Internet Information Services (IIS) with Application Request Routing (ARR) and Windows Network Load Balance.

This example is based on using X8 Supermicro Servers with 32 GB RAM installed and dual 10 Gb NICs (X520-2). For the configuration 1 Gb NIC from each server is used for management and RDP.

Server A win 2012 R2 Datacenter

1 Gb NIC 10.165.190.160 - no gateway configured

10 Gb NIC 10.165.185.160 - JumboFrames enabled and with gateway configured

Server B win 2012 R2 Datacenter

1 Gb NIC 10.165.190.161 - no gateway configured

10 Gb NIC 10.165.185.161 - JumboFrames enabled and with gateway configured

NLB Cluster IP Address **10.165.185.163**

On both servers an account with same username and password with administration privileges is required.

Disable the firewall on all profiles for both servers.

Install and Configure NLB

Add Network Load Balancing Tools Feature to Server A and Server B

- 1 Open **Server Manager - Add Roles and Features** and select **Features**.
- 2 Expand **Remote Server Administration Tools**.
- 3 Expand **Feature Administration Tools**.
- 4 Select **Network Load Balancing Tools**.

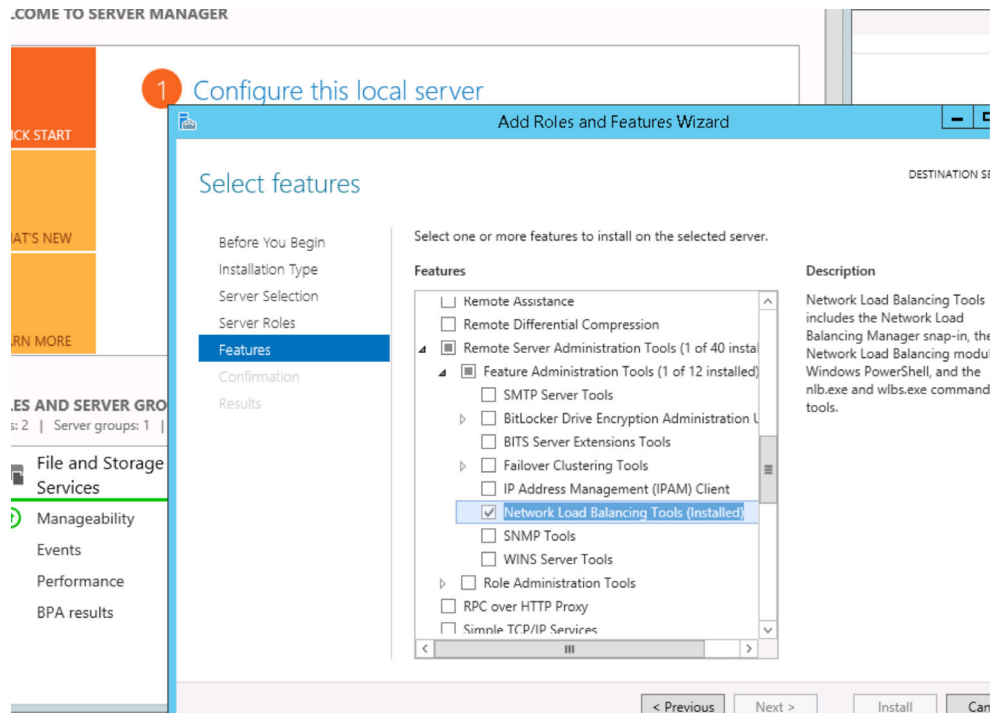


Fig. 2-1:

- 5 Install and wait for the service to become available.

Configure the Cluster

Note: Check that the NLB feature is installed on both servers before proceeding further.

NLB is configured using the NLB Manager from one of the servers but this completes the NLB cluster configuration on both servers.

- 1 From one of the servers start the command prompt and type **nlbmgr**
- 2 Open NLB Manager window and click **Options - Credentials** and enter the admin username and password previously created on both servers.
- 3 Go to **Cluster - New** and in the **Host** field type the IP address of Server B, for example.

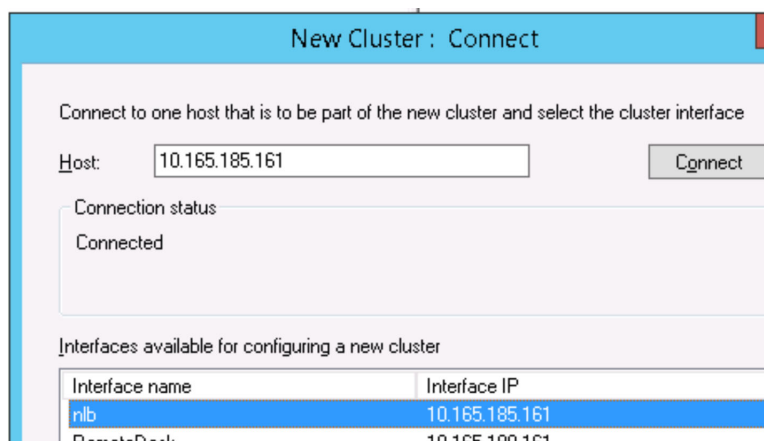


Fig. 2-2: Essence Video

- 4 Select NLB interface 10.165.185.161 and click **Next**.
- 5 Click **Next** again.
- 6 In **New Cluster: Cluster IP Address** window click **Add**.
- 7 Enter the IP address of the cluster and the subnet mask.

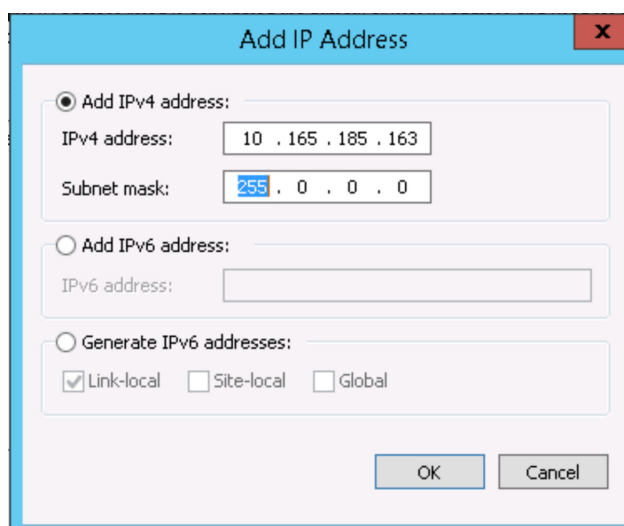


Fig. 2-3:

- 8 Click **OK**.
- 9 Click **Next**.
- 10 In **New Cluster: Port Rules** window click **Edit** and use the following screenshot as a reference for configuring the Port Rules.

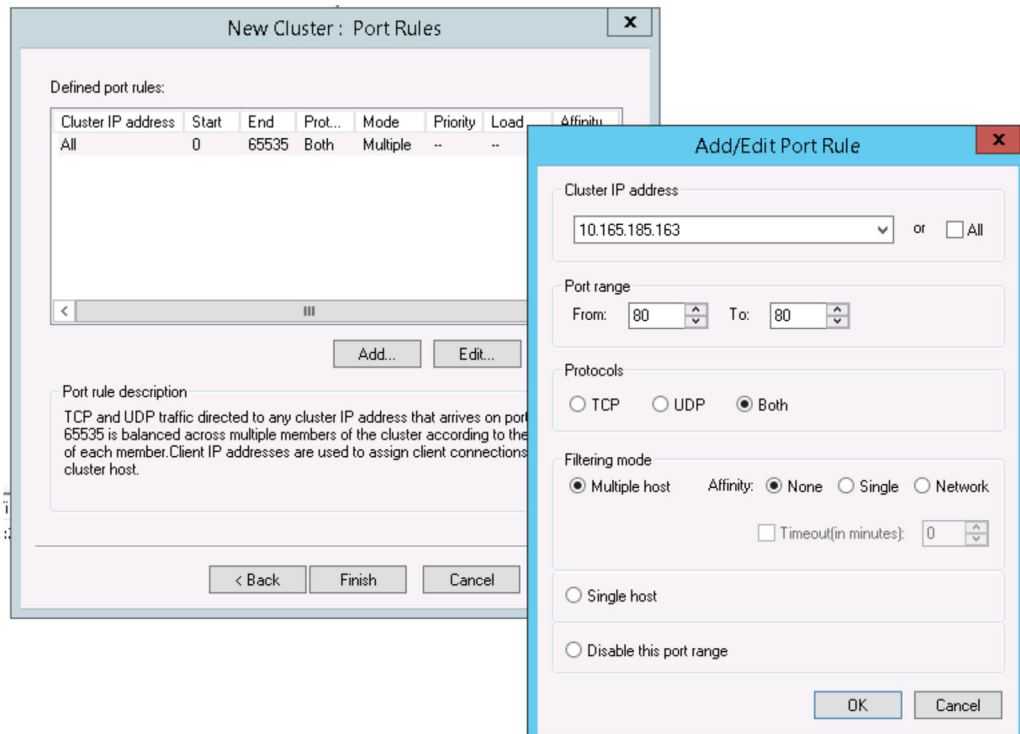


Fig. 2-4:

- 11 Click **OK**.
- 12 Click **Finish**.

The NLB cluster is configured. After approximately one minute the NLB Manager window displays the server B (NLB2) status as **Converged**.

Host configuration information for hosts in cluster {10.165.185.163}		
Host (Interface)	Status	Dedicated IP address
NLB2(nlb)	Converged	10.165.185.161

Fig. 2-5:

Now add Server A to the Cluster.

- 13 Go to **Cluster - Add Host** and repeat the same steps as for the configuration of server B previously.

After configuring server A in the NLB Manager window the cluster status will be as follows:

Host (Interface)	Status	Dedicated IP address
NLB2(nlb)	Converged	10.165.185.161
NLB1(NLB)	Converged	10.165.185.160

Fig. 2-6:

From another PC, ping the IP address of the cluster. A successful reply confirms the NLB cluster is configured correctly.

Install and Configure IIS

Add the Web Server (IIS) Role to the Servers

- Go to **Server Manager - Add Roles and Features** and select **Web Server (IIS)**

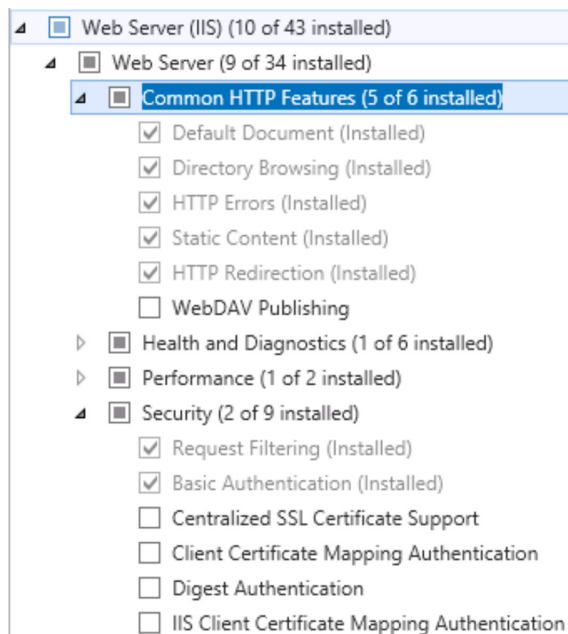


Fig. 2-7:

Configure IIS Shared Configuration on Server A and Server B

Open the **Internet Information Services (IIS) Manager** and open **Shared Configuration**.

- Enable this feature by ticking the box. Then define a physical path where the configuration files and encryption keys will be stored.

The example in the following screenshot uses the username of the local administrator. Set a random encryption password that must be remembered in order to configure the second server to use IIS with a shared config.

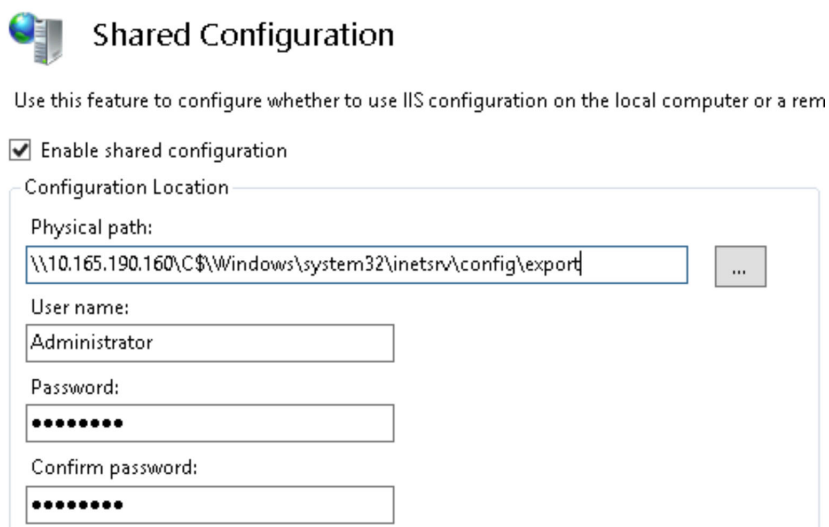


Fig. 2-8:

- Enable Shared Configuration on the second server and use the same Physical path, same username and password and same encryption key pass.

Change Default Web Site Bindings

Open **Default - Bindings** - select **http protocol** - click **Edit** and add the IP cluster IP address and port 80.



Fig. 2-9:

From the other server check that the Bindings are the same as on the server that has been changed.

Installing ARR manually without WebPI

Note: ARR must be installed on both servers

Microsoft's Application Request Router (ARR) IIS Extension is a complex piece of software which integrates with several other components to do its job. These components are URL Rewrite, Web Farm Framework and ARR's External Cache module. For everything to work correctly, all components must be installed in a specific order. Several years ago, Microsoft introduced the Web Platform Installer (WebPI) mechanism, which makes it easy to manage installed components, and this is a good way to install ARR and all its components properly.

Occasionally, there may be reasons to not use the WebPI installation option. For example, when installing ARR on the Server Core edition of Windows, where WebPI cannot be used. If so, another option is installing it using the IExpress package, which includes all the components together. To use this, download it from www.microsoft.com.

A further option is to install the components manually, which requires all components to be downloaded separately from www.microsoft.com:

- 1 Firstly, Stop IIS. From a command prompt, type **net stop was /y** and **net stop wmsvc /y**:

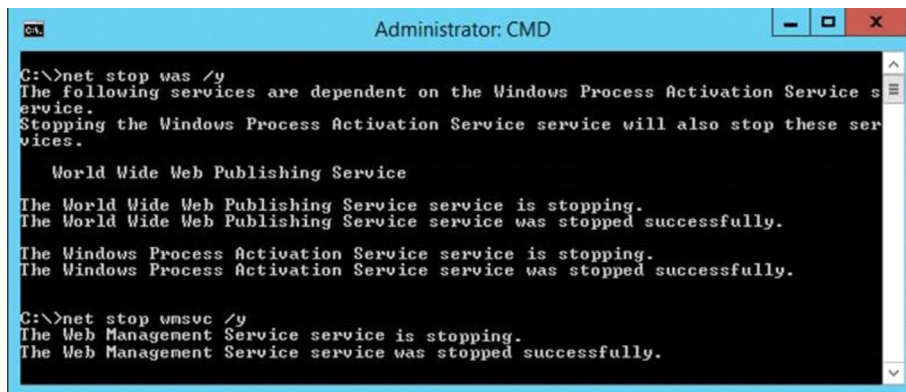


Fig. 2-10:

Note: WMSVC is the IIS Web Management Service, which may not be enabled on the server. If it is not enabled, "The Web Management Service service is not started." displays. This warning can be ignored.

- 2 Download and install the Web Farm Framework module.
- 3 Download and install the External cache module.
- 4 Download and install the URL Rewrite module.
- 5 Download and install ARR itself.
- 6 Restart the IIS services (or, reboot the server).

Note: If downloading to an X86 server, for example, windows 2008, download the X86 version of these components.

Configure ARR

- 1 Open IIS Manager on one server and open Application Request Routing Cache.

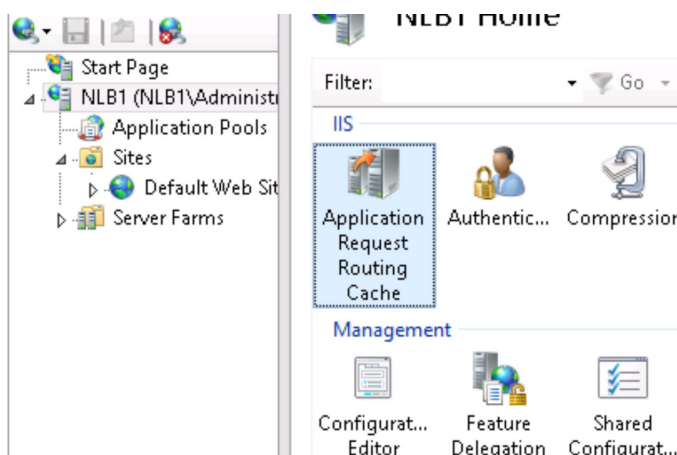


Fig. 2-11:

- 2 In the right panel click **Server Proxy Settings**.

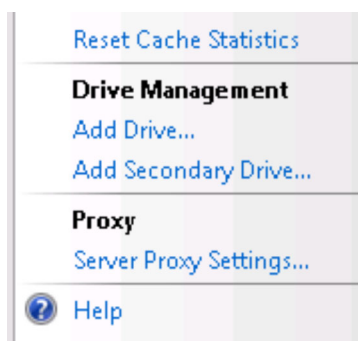


Fig. 2-12:

- 3 Tick **Enable the Proxy**.
- 4 Click **Apply** from the right panel in the **Action** section.

From the other server check that the Server Proxy Settings are the same as on the server that has been changed.

Create and Configure a Server Farm

- 1 Open IIS Manager and on Server Farms Create New Server Farm.

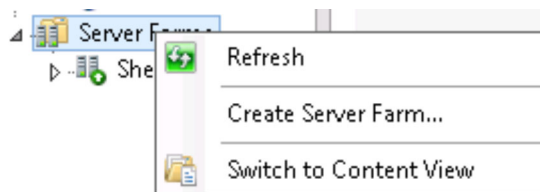


Fig. 2-13:

- 2 Type a name for the New Server Farm and click **Next**.

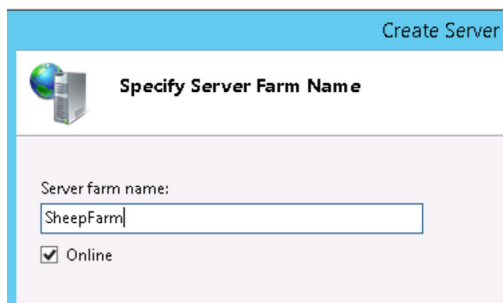


Fig. 2-14:

- 3 Add the IP addresses of the machines to be part of the web farm (machines behind the load balancer).
- 4 Click **Add** to add a new machine and **Finish** once the list of servers is complete.
- 5 Click **Yes** to create the appropriate rewrite rules.

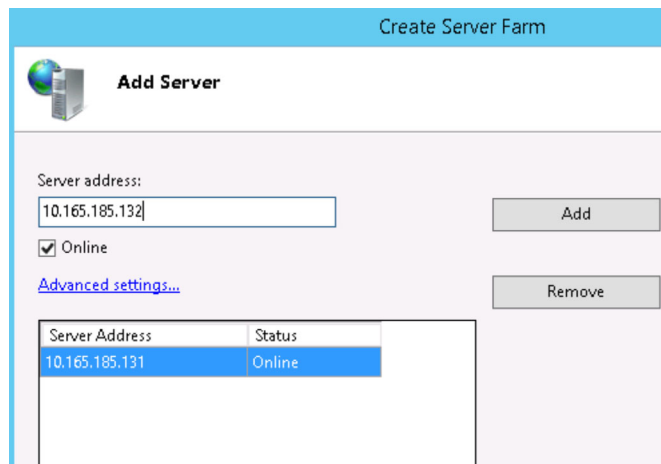


Fig. 2-15:

- 6 Once finished, inspect the servers in the IIS Manager by expanding the Server Farms tree down to the Servers section.

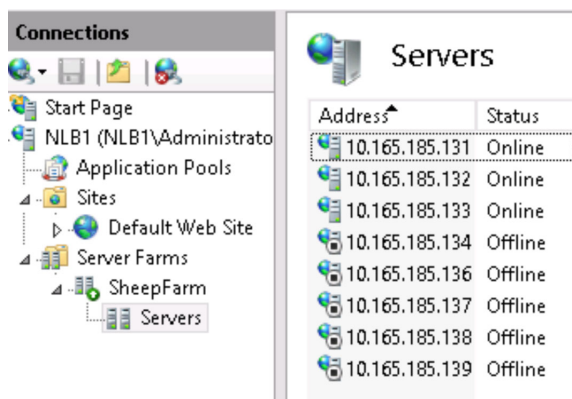


Fig. 2-16:

7 Click on the name of the farm to display the options available for configuring the Farm

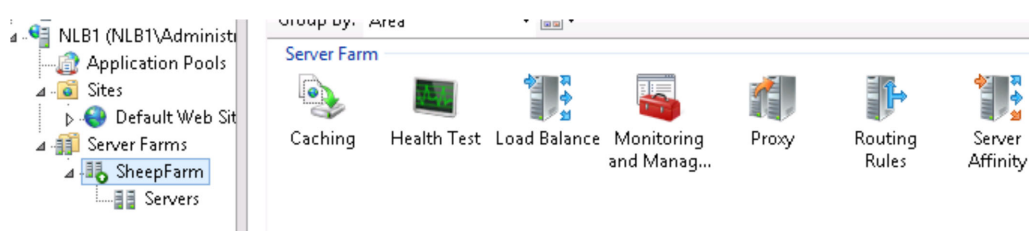


Fig. 2-17:

Configure the Server Farm options according to the following screenshots, clicking **Apply** on the right-hand side of the screen after each change:

Configure Caching

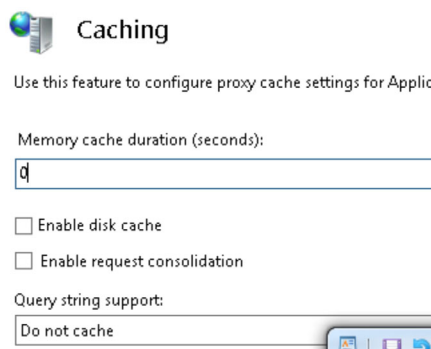
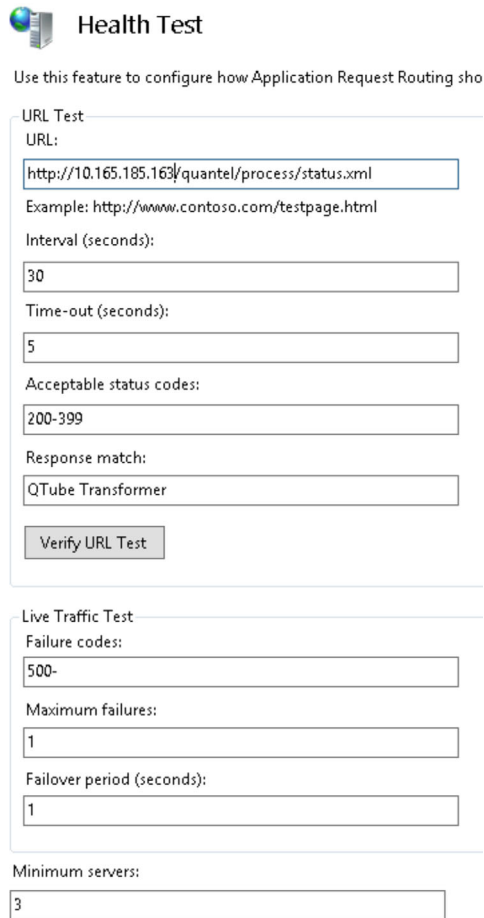


Fig. 2-18:

Configure Health Test



Health Test

Use this feature to configure how Application Request Routing sho

URL Test

URL:

Example: http://www.contoso.com/testpage.html

Interval (seconds):

Time-out (seconds):

Acceptable status codes:

Response match:

Live Traffic Test

Failure codes:

Maximum failures:

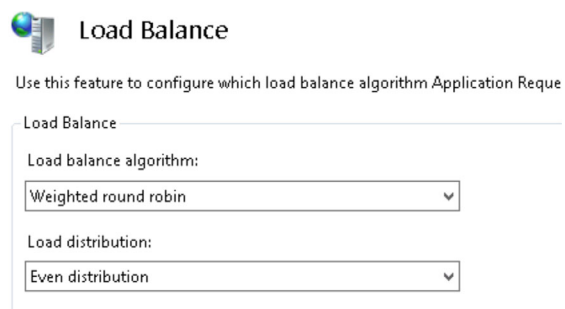
Failover period (seconds):

Minimum servers:

Fig. 2-19:

Note: The URL Test has the IP Address of the CLUSTER 10.165.185.163 previously configured on NLB cluster.

Configure Load Balance



Load Balance

Use this feature to configure which load balance algorithm Application Reque

Load Balance

Load balance algorithm:

Load distribution:

Fig. 2-20:

Configure Proxy

Proxy

Use this feature to configure proxy settings for Application Request Rout

HTTP version:

Keep alive

Time-out (seconds):

Reverse rewrite host in response headers

Custom Headers

Preserve client IP in the following header:

Include TCP port from client IP

Forward encoded client certificate in the following header:

Mark request logs with GUIDs in the following header:

Buffer Setting

Response buffer (KB):

Response buffer threshold (KB):

Fig. 2-21:

Configure Routing Rules

Routing Rules

Use this feature to define simple URL Rewrite rules in Application Re

Routing

Use URL Rewrite to inspect incoming requests

Enable SSL offloading

Requests with the following extensions are not forwarded:

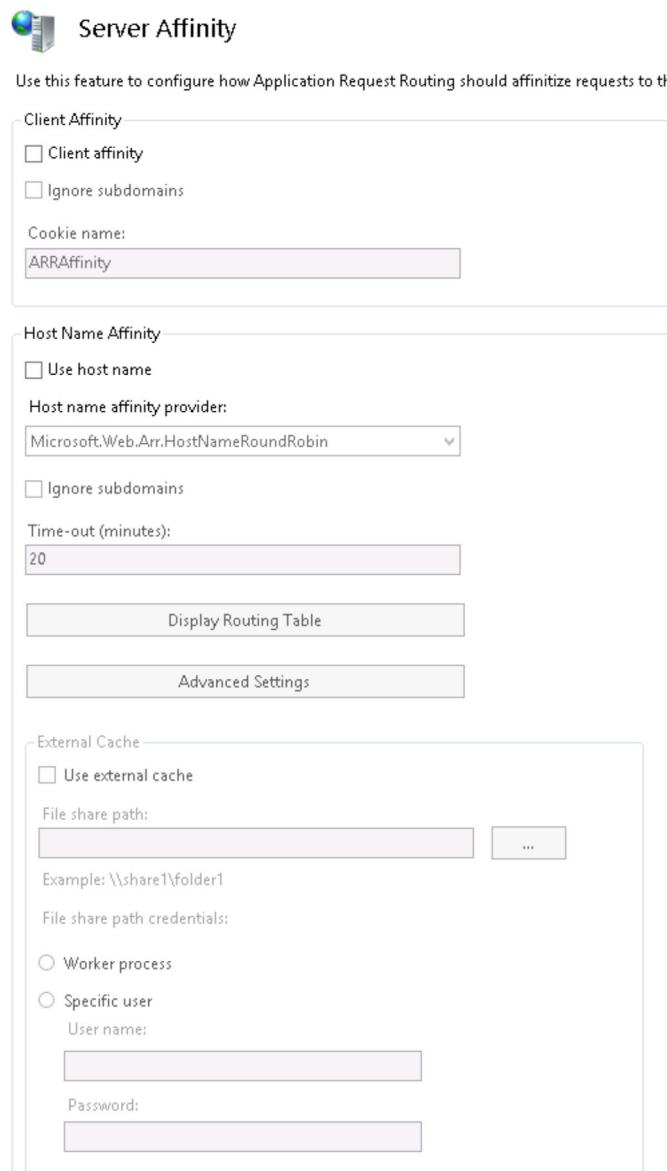
Example: *.jpg, *.css, *.gif

Requests with the following patterns are not forwarded:

Example: /images/*, */templates/*

Fig. 2-22:

Configure Server Affinity



Server Affinity

Use this feature to configure how Application Request Routing should affinity requests to th

Client Affinity

Client affinity

Ignore subdomains

Cookie name:
ARRAffinity

Host Name Affinity

Use host name

Host name affinity provider:
Microsoft.Web.Arr.HostNameRoundRobin

Ignore subdomains

Time-out (minutes):
20

Display Routing Table

Advanced Settings

External Cache

Use external cache

File share path:
Example: \\share1\folder1

File share path credentials:

Worker process

Specific user

User name:
Password:

Fig. 2-23:

To test the Transformer cluster use the URL <http://10.165.185.163/quantel> where the IP address "10.165.185.163" is the IP address of the NLB Cluster.

Force LBR Pass-through

This setting allows administrators of a Transformer system to force all Grass Valley VIBE clients that connect to use LBR pass-through. LBR pass-through requires that the sQ stores browse as H264. LBR pass-through means that much less CPU is used when streaming a clip in Grass Valley VIBE and so a Transformer can support up to 20 clients connected to it instead of 4. However, it does mean that clients lose the adaptive bitrate functionality meaning that they must ensure they have at least enough bandwidth to stream the native browse from the Transformer. For normal H264 browse, this should be at least 4 Mb/s.

In order to force LBR Pass-through on all clients accessing a transformer:

- 1 Open **C:\inetpub\wwwroot\go\config.txt**
- 2 Add the following:

```
"passThrough" : {  
  "override" : true,  
  "value" : true  
},
```
- 3 Save the file to another folder (e.g. Documents)
- 4 Copy the file back to the '...go' folder.

Create and Configure Rewrite Rules

Configuring URL Rewrite

There are some URL Rewrite rules you need to configure on a load balancer in order to ensure certain operations will work correctly. Do the following:

- On the load balancer, open IIS Manager.
- In the left pane, labeled **Connections**, click on the name of the server (e.g. WIN-LRRF990fAF\quantel)
- In the right pane select **URL Rewrite**.
- You now need to add a set of rules. Repeat this process for each rule:
 - On the far right select **Add Rule(s)**.
 - Select **Inbound rules** -> **Blank rule**. Click **OK**.
 - Give the rule a unique name, add the values below, and click **Apply**.

Create the following rules:

- Name: **HTTPS Rewrite**
 - Requested URL: **Matches the Pattern**
 - Using: **Wildcards**
 - Pattern: *
 - Ignore case: **True**
 - Logical grouping: **Match Any**
 - Conditions:
 - Condition input: **{QUERY_STRING}**
 - Check if input string: **Matches the Pattern**
 - Pattern: **HTTPS**
 - Ignore case: **True**
 - Server Variables:
 - Server variable name: **SERVER_PORT_SECURE**
 - Value: **HTTPS**
 - Replace the existing value: **True**
 - Action type: **Rewrite**
 - Rewrite URL: **{R:1}**
 - Append query string: **TRUE**
 - Stop processing of subsequent rules: **FALSE**

- Name: **StickySession**
 - Requested URL: **Matches the Pattern**
 - Using: **Wildcards**
 - Pattern: ***quantel*;redirect=*;***
 - Ignore case: **TRUE**
 - Logical grouping: **Match Any**
 - Conditions: **None**
 - Server Variables: **None**
 - Action type: **Rewrite**
 - Rewrite URL: **http://{R:3}/quantel/{R:2}{R:4}**
 - Append query string: **TRUE**
 - Stop processing of subsequent rules: **TRUE**

- Name: **ARR_ServerFarm_HTTP**
 - Requested URL: **Matches the Pattern**
 - Using: **Wildcards**
 - Pattern: *****
 - Ignore case: **TRUE**
 - Logical grouping: **Match Any**
 - Conditions: **None**
 - Server Variables: **None**
 - Action type: **Route to Server Farm**
 - Action Properties:
 - Scheme: **http://**
 - Server farm: **<Name of server farm>**
 - Path: **/{R:0}**
 - Stop processing of subsequent rules: **FALSE**



Grass Valley Technical Support

For technical assistance, contact our international support center, at 1-800-547-8949 (US and Canada) or +1 530 478 4148.

To obtain a local phone number for the support center nearest you, please consult the Contact Us section of Grass Valley's website (www.grassvalley.com).

An Online form for e-mail contact is also available from the website.

Corporate Head Office

Grass Valley
3499 Douglas-B.-Floreani
St-Laurent, Quebec H4S 2C6
Canada
Telephone: +1 514 333 1772
Fax: +1 514 333 9828
www.grassvalley.com