VBrick ENTERPRISE MEDIA SYSTEM

VBrick
Enterprise Media System

VEMS v5.0.1 Portal Server
Admin Guide

VBrick

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About VBrick Systems

Founded in 1997, VBrick Systems, an ISO 9001 certified vendor, is a privately held company that has enjoyed rapid growth by helping our customers successfully introduce mission critical video applications across their enterprise networks. Since our founding, VBrick has been setting the standard for quality, performance and innovation in the delivery of live and stored video over IP networks—LANs, WANs and the Internet. With thousands of video appliances installed world-wide, VBrick is the recognized leader in reliable, high-performance, easy-to-use networked video solutions.

VBrick is an active participant in the development of industry standards and continues to play an influential role in the Internet Streaming Media Alliance (ISMA), the MPEG Industry Forum, and Internet2. In 1998 VBrick invented and shipped the world's first MPEG Video Network Appliance designed to provide affordable DVD-quality video across the network. Since then, VBrick's video solutions have grown to include Video on Demand, Management, Security and Access Control, Scheduling, and Rich Media Integration. VBrick solutions are successfully supporting a broad variety of applications including distance learning and training, conferencing and remote office communications, security, process monitoring, traffic monitoring, business and news feeds to the desktop, webcasting, corporate communications, collaboration, command and control, and telemedicine. VBrick serves customers in education, government, healthcare, and financial services markets among others.

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Portal Server v5.0.1 Admin Guide

This *Portal Server Admin Guide* is written for anyone who will be using or evaluating the VBrick Enterprise Media System (VEMS) Portal Server. This includes system administrators, software developers, network technicians, and others. The VEMS Portal Server is a web-based portal for accessing and managing video assets including both live or stored audio and video files. The VEMS Portal Server is a key component in VBrick's Enterprise Media System. The VEMS Portal Server provides a simple, intuitive interface that auto-discovers available media assets in your network. Key components in VBrick's Enterprise Media System include:

- VEMS-VOD Video-on-Demand Servers – Provide all standard Video-on-Demand (VOD) features including support for MPEG, Windows Media, and H.264 for maximum flexibility.
- VBrick Hardware Encoders/Decoders – Rugged, reliable video appliances that can reside anywhere on your network to provide either distributed or high-density centralized encoding/decoding of WM (Windows Media) and H.264 video.
- VEMS IP Receivers – Leading-edge digital set top boxes that provide a low-cost standalone decoder for MPEG, Windows Media, and H.264 video assets.

Important Note

VEMS v5.0.1 supports Windows Media and H.264 technology (content, encoders and VOD servers). Existing MPEG-2 and MPEG-4 devices and content are compatible with VEMS 5.0.1 but have not been tested and will not be initially supported by VBrick. This means you can use existing MPEG content and devices at your own risk and that some VEMS functionality (e.g. video conferencing) that requires MPEG devices will not be available in VEMS v5.0.1 unless you have existing MPEG encoder/decoder assets. VBrick will provide full support for MPEG-2 and MPEG-4 in VEMS v5.1.

Similarly, the Portal Server client has not been tested and will not be initially supported on Macintosh PCs. Macintosh PCs will be supported in VEMS 5.1. Note that VBrick support for Linux PCs has been discontinued entirely. See the *Portal Server Release Notes* for other features not supported in this release.

Organization

Introduction	provides an overview of the application including server and desktop requirements and an overview of features and functionality.
Global Settings	explains high-level configuration settings and parameters that apply to the entire system.
Server Administration	provides detailed explanations of all VEMS Portal Server global settings and configuration options, as well as diagnostics and status windows.

Users and User Groups	explains how to configure the system for access control. It explains how to create users and groups with specific permissions and access to resources.
Configuring for SSL	explains how to securely configure the system using the Secure Sockets Layer.
Network Video Recording	explains how to configure and use an NVR to offload recording tasks from the Portal Server to a separate "recorder server" machine.
Auto Content Ingestion	explains auto content ingestion. This is the process whereby video content is automatically populated on the portal server.
Automatic System Backup	explains how to automatically backup the MySQL database and other key directories if you purchased Enterprise Media System Backup.
ACNS Configuration	explains how to configure the Portal Server and Cisco's Application and Content Networking System (ACNS) to work together.
Manual System Backup	explains how to manually backup the MySQL database and other key directories if you did not purchase Enterprise Media System Backup.
VBrick Internet Streaming	The VBrick Streaming Service is available for those users who wish to extend the ability to view live events to Internet clients.

Getting Help

If you need help, or more information about any topic, use the online help system. The online help is cross-referenced and searchable and can usually find the information in a few seconds. Use the tree controls in the left pane to open documents and the up and down arrows to page through them. Use the **Search** box to find specific information. Simply enter one or more words in the box and press Enter. The search results will return pages that have all of the words you entered—highlighted in yellow (Internet Explorer only). The **Search** box is not case-sensitive and does not recognize articles (a, an, the), operators (+ and –), or quotation marks. You can narrow the search by *adding* words.

If you can't find the information you need from the online help, or from your certified VBrick reseller, you can contact VBrick Support Services on the web. Support Services can usually answer your technical questions in 24 business hours or less. Also note that our publications team is committed to accurate and reliable documentation and we appreciate your feedback. If you find errors or omissions in any of our documents, please send e-mail to documentation@vbrick.com and let us know. For more information about any VBrick products, all of our product documentation is available on the web. Go to www.vbrick.com/documentation to search or download VBrick product documentation.

Note VBrick has made every effort to ensure that the information in this document is accurate at the time of publication. However if we find are errors or omissions, VBrick reserves the right to make changes without notice. To see the latest documentation for this product go to www.vbrick.com/documentation

Font Conventions

Arial bold is used to describe dialog boxes and menu choices, for example: **Start > All Programs > VBrick**

`Courier fixed-width font` is used for scripts, code examples, or keyboard commands.

`Courier bold fixed-width font` is used for user input in scripts, code examples, or keyboard commands.

This bold black font is used to strongly emphasise important words or phrases.

Folder names and user examples in text are displayed in this sans serif font.

User input in text is displayed in this bold sans serif font.

Italics are used in text to emphasize specific words or phrases.

Related Documents

VEMS Portal Server User Guide

VEMS Reporter User Guide

IPR Receiver Admin Guide

VOD-W Server Admin Guide

VOD-WM Server Admin Guide

Printer-Friendly

Click on the following link to print a hard copy of the document.

VEMS Portal Server User Guide

VEMS Portal Server Admin Guide

VEMS Portal Server Release Notes

▼ To save or print a PDF document:

1. Click once to open the PDF document in Acrobat Reader.
2. To save or print a PDF document, right-click and select **Save Target As** or **Print Target**.

Chapter 1

Introduction

Topics in this section

Portal Server Overview

VBrick's Enterprise Media System (VEMS) consists of a group of products that includes the VEMS Portal Server, VEMS Encoders, the VEMS-VOD Video-on-Demand Server, VEMS IP Receivers and StreamPlayer software. This integrated system delivers both live and on-demand audio and video over an IP-based infrastructure. The VEMS Portal Server functions as a video portal, permitting end users to view live and on-demand MPEG, WM (Windows Media), and H.264 streams on a Window PC, a Macintosh, a Linux PC (or a set top box). The VEMS Portal Server comes as software-only solution that can be installed on a Windows Server or as a pre-configured hardware/software combination.

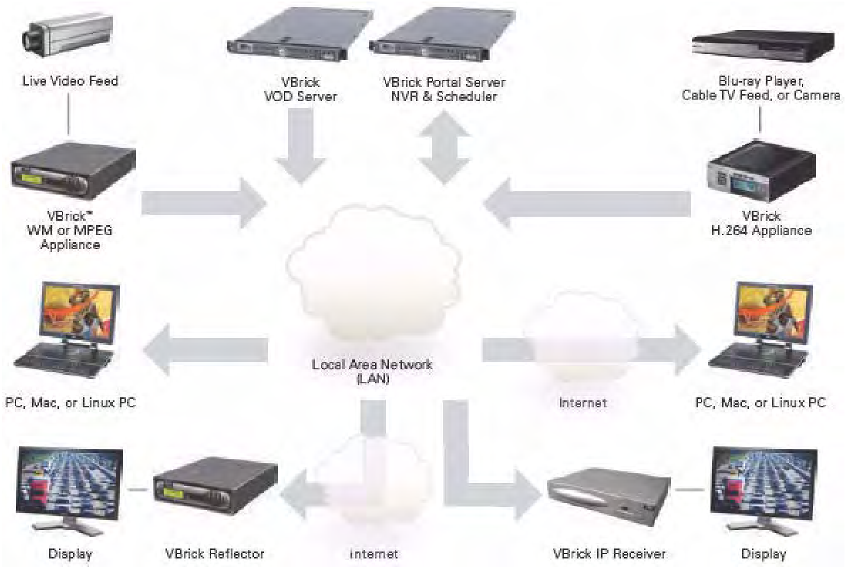


Figure 1. VBrick Enterprise Media System

The VBrick Enterprise Media System Portal Server is a web-based portal for accessing Live and On-Demand audio and video files. A key component of VBrick's Enterprise Media System, the VEMS Portal Server provides a simple interface to easily locate available media assets on your network. Upon accessing the main portal page, users can navigate or search for specific videos, select the video, and immediately begin viewing DVD quality video. For on-demand videos, users can **Fast Forward/Rewind** and **Seek** to specific points in the video. Standard access control functionality provides restriction of certain content to particular users, user groups, or IP receivers. An optional scheduling module allows users to schedule devices to send video, receive video, record video, or to initiate a two-way conference.

Server Requirements

The *minimum* server requirements include:

- Windows Web Server 2008.
- Pentium IV or Xeon Processor 1.26 GHz Minimum (2 GHz or higher recommended).
- RAM 512 MB Minimum (1 GB or more recommended).
- Hard Drive 36 GB Minimum (larger for frequent recording).

Note VBrick has tested the VEMS Portal Server on Windows Web Server 2008. Note also that VEMS Portal Server also will not operate correctly on a server that is configured as a primary domain controller or with other network-related services and software.

Desktop Requirements

Windows-based PC and Macintosh users access the VEMS Portal Server through a web browser. For Windows-based PCs, on the first access to the server, VBrick StreamPlayer software is automatically downloaded to the PC. StreamPlayer software lets end users select a stream and view TV-quality video directly on a PC. Macintosh users view MPEG-4 video through the QuickTime player.

Table 1. Desktop Requirements

PC Type	Requirements
Windows PCs	• Windows XP (SP 3) or Vista (SP 2). • 750 MHz Pentium III processor (Pentium IV required for H.264). • 512 MB RAM (1 GB recommended for H.264). • SVGA video card 1024x768, video card acceleration and 32 bit color recommended. • Minimum 250 MB hard disk space for installation. • Microsoft Internet Explorer 7.0 or higher. • Microsoft Windows Media Player 9.0 or higher. • Firefox 3.1 or higher. • DirectX Media Version 8.1 and higher.

Copyright Protection

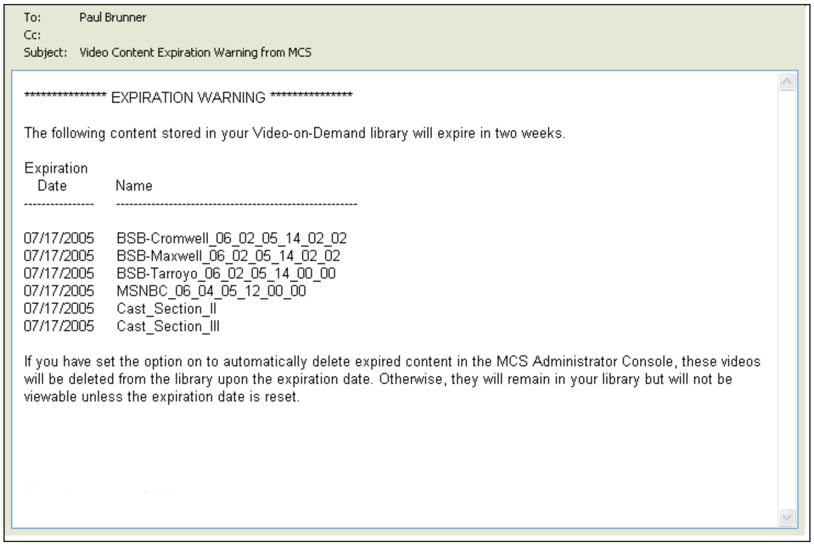
The Portal Server uses copyright restrictions and content expiration to protect the rights of content owners and to enforce rules against unauthorized usage or distribution. Copyright restrictions are specifically used to enforce license requirements. Content is often restricted to a limited number of viewers and you may need a license, for example, to view MPEG-2 content. In the Portal Server, **Max. Concurrent Viewers** is used to enforce copyright restrictions for any live, stored, or recorded video. If the number of concurrent viewers exceeds the configured value, the content will not play. (The **Max. Concurrent Users** restriction does not apply to viewers who tune in to a scheduled broadcast.)

Content expiration controls the length of time that specific content can be viewed. Content expiration is used for time-sensitive, copyrighted, or otherwise protected content that cannot be legally displayed after a specified date or a period of time. Users with appropriate permissions (see Copyright Restrictions & Expiration Privileges topic on page 119) can assign expiration dates or a viewing period when they use the **Add Video** feature. The viewing period starts at the time the content is added to the server. If desired, administrators can restrict expiration privileges to particular users or groups in which case only those specified users or groups (and administrators) can set content to expire.

Administrators can also assign an **Expiration Date** or **Viewing Period** for any stored video using the Modify VOD Content page. By default, recordings from live streams have no expiration date. However administrators can set default viewing periods for content recorded from specific live streams (see "Viewing Periods" in Stream Restrictions topic on page 30).

The VEMS Portal Server enforces content expiration by preventing the streaming or scheduling of content that is expired or will expire before the scheduled event. Once content has expired, administrators can set a new expiration date or viewing period. By default, expired content will remain in storage indefinitely unless you choose to delete it automatically using the **Set Expired VOD Content Treatment** option in Global Assignments.

The Portal Server writes to a log that tracks content expirations; administrators can view or purge this log as necessary (see Expired Content Log topic on page 95). In many installation an administrator is assigned to monitor and/or renew content that is about to expire. To facilitate this process, the Portal Server can be configured to automatically generate e-mail that notifies the designated administrator when content is about to expire by using the option in Global Assignments.



To: Paul Brunner
Cc:
Subject: Video Content Expiration Warning from MCS

```
*************** EXPIRATION WARNING ***************

The following content stored in your Video-on-Demand library will expire in two weeks.

Expiration
  Date         Name
---------------  ----------------------------------------------------

07/17/2005    BSB-Cromwell_06_02_05_14_02_02
07/17/2005    BSB-Maxwell_06_02_05_14_02_02
07/17/2005    BSB-Tarroyo_06_02_05_14_00_00
07/17/2005    MSNBC_06_04_05_12_00_00
07/17/2005    Cast_Section_II
07/17/2005    Cast_Section_III

If you have set the option on to automatically delete expired content in the MCS Administrator Console, these videos
will be deleted from the library upon the expiration date. Otherwise, they will remain in your library but will not be
viewable unless the expiration date is reset.
```

MySQL

The VEMS Portal Server is shipped with MySQL as the database. The MySQL database is installed as part of the Portal Server installation package. If the hardware/software combination was purchased from VBrick, MySQL will already be installed on your machine; the default user name is `root`. To protect the integrity of the database, you should change the default password (`vbrick_18`) after initial installation and periodically thereafter as explained below. To backup the MySQL database, see Automatic System Backup topic on page 149.

Note MySQL Query Browser is an Open Source front-end that provides a graphical interface to the MySQL database. MySQL Query Browser is available with the free software/open source GNU General Public License at to http://www.mysql.com

▼ To change the MySQL password:

1. Open a Command Prompt window.
2. At the C: prompt type `cd program files\mysql\mysql server 4.1\bin` and press **Enter**.
3. Type `mysql -uroot -pvbrick_18` and press **Enter**.
4. Type `set password for 'root'@'localhost'=password ('new_password');` (where `'new_password'` in single quotes is the new password) and press **Enter**.
5. Type `exit`.

Portal Server Features

End User Features

- Windows-based PCs, Macintoshes, or IPRs (connected to televisions or display monitors) can all access the Portal Server.
- Users can view video at **Full Screen** for a television-like user experience.
- Users can view Video-On-Demand assets with full VCR/DVD control, including **Play**, **Pause**, **Stop**, **Fast Forward**, **Rewind**, and **Seek**.
- Video can be viewed in a preview window or launched in multiple external, re-sizeable player windows (PC and Macintosh).
- IP Receiver users can use familiar **Channel Up/Down** keys and other hot keys on the IR remote control to navigate through video listings.
- Users can search through the list of Live or On-Demand videos by **Title**, **Tags**, **Description**, or other custom fields defined by an VEMS Portal Server administrator.
- Users can record and store videos on the VEMS-VOD Video-on-Demand server via VEMS Portal Server.
- Users can publish pre-recorded content and thumbnails directly to the VOD server.
- Users can view closed caption text (Windows-based PCs and IP Receivers only).
- Users can launch pre-configured emergency broadcasts. (Optional. Requires Scheduling module.)
- Users can schedule recordings or broadcasts. (Optional. Requires Scheduling module.)

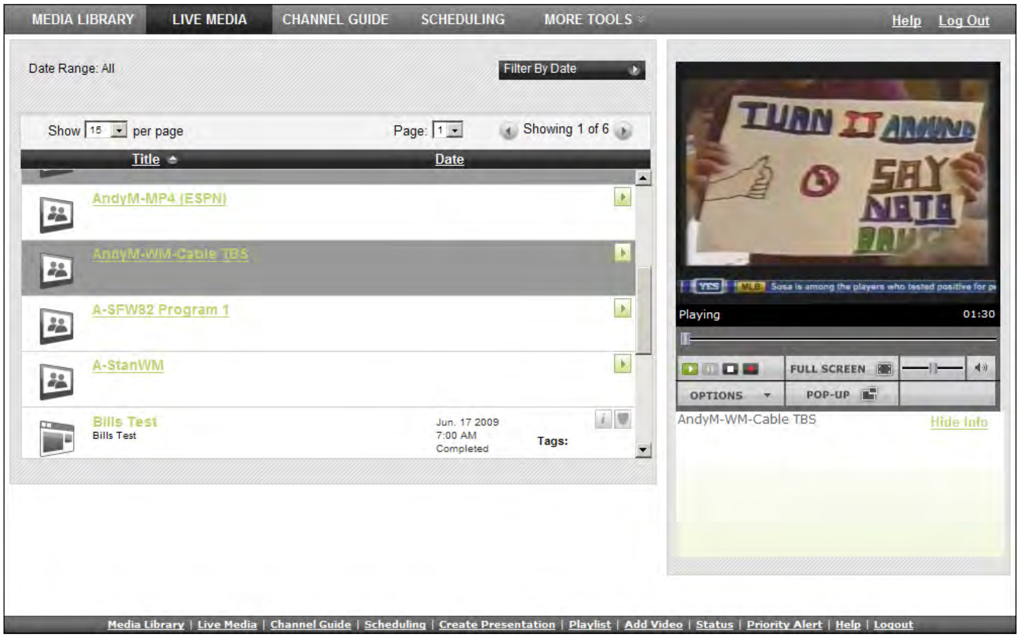


Figure 2. VEMS Portal Server Live Media

Administrative Features

- Access Control - allows administrators to allow/deny access to specific functions of the VEMS Portal Server server. Access control functionality can use the local VEMS Portal Server database or authenticate to an LDAP directory server.
- Clustering support – multiple VEMS-VOD Video-on-Demand servers can be clustered to increase total throughput. The VEMS Portal Server will automatically load balance all servers defined in VEMS Portal Server; no additional configuration is necessary. See Servers topic on page 31 for more.
- SSL/TLS security – the VEMS Portal Server can be set up to provide encrypted access to the Login pages and/or the Admin pages. See Configuring for SSL topic on page 125.
- Customer defined URLs – can be entered into the system and displayed in the VEMS Portal Server interface. The URLs can point to video assets or other assets such as PDFs or PowerPoint documents.
- Autoingestion to the VEMS-VOD server – content placed in autoingestion folders on the VEMS Portal Server will be automatically transferred and ingested into the VEMS-VOD server.
- Customized global messages can display on the VEMS Portal Server interface.
- Channel numbers can be assigned to live streams.
- Define a startup channel for IPRs – the IPR will automatically tune into this channel when users select the **Live TV** option.
- Emergency broadcasts – can define pre-configured emergency broadcast templates that can be launched instantaneously. See Priority Alert topic on page 70 for more.
- Status window – shows the status of videos being added, recorded, or ingested.
- Diagnostics window – displays a complete log of system events by source, time, and IP address.
- Custom fields and streams – the ability to add customized information and search parameters to live and stored streams.

- A Channel Guide Server can be configured to automatically provide third-party programming data for configured TV Stations.

Portal Server Components

VBrick Encoders/Decoders

VBrick's VB4000-5000-6000 Series MPEG-2 network video appliances provide DVD quality video and CD quality audio at 1–15 Mbps of bandwidth. MPEG-2 is the world's most popular digital compression technology and is used to encode DVDs as well as Digital Cable and Digital Satellite broadcasts. VBrick's VB4000-5000-6000 Series MPEG-4 encoders and decoders are versatile and reliable video appliances for one or two-way interactive communications over low or medium bandwidth IP networks. The VBrick MPEG-4 encoder/decoder can be used for webcasting, multicasting, transcoding, and two-way interactive video. Designed for streaming over the Internet at lower bit rates (56K, 128K, 384K) and over a LAN at higher rates (1Mbps and above). VBrick's WM (Windows Media) video appliances provide scalable quality at webcasting rates up to 2 Mbps. It features built-in live streaming server, automatic multicasting, and state-of-the-art reliability. A key benefit of the WM appliance is its compatibility with the Windows Media Player, thus eliminating the need for desktop player installation. VBrick H.264 appliances represent VBrick's newest networked video appliances. The new H.264 appliances can deliver vastly improved quality for a given bit rate, allowing organizations to deliver a better customer experience for any given bandwidth.

VEMS VOD Servers

VEMS Video on Demand (VOD) servers provide the VEMS Portal Server with a source of available video content organized in folders. The VOD content is displayed by name in the VEMS Portal Server user interface, along with the duration of the video, and associated descriptions, key words, and other custom information entered by an administrator. You play content from the VOD server by selecting the program name from the application interface (see the *Portal Server User Guide* for details). The VEMS Portal Server currently supports all of the VOD servers shown in Table 2. The configuration for each server is essentially the same (see Servers on page 31 for details) and there is little difference in functionality for end users.

VEMS servers can be LAN-based or Internet-based depending on how the range of Internet addresses is defined (see "Assign LAN/Internet Address Range" in Global Assignments topic on page 21). VOD servers accessible to Internet users are called Internet-zone servers; VOD servers assessable to LAN users only (within a secured corporate network and behind a firewall) are called LAN-zone servers.

Content added by users in the LAN zone will be ingested to all VOD servers for which they have permissions using the **Add Video** page. Users in the Internet zone have the **Add Video** page available only if they have permissions for at least one VOD server that is also in the Internet zone. Content added by LAN users is added to all configured servers that can handle the content (for example you cannot add MPEG content to a Windows Media server) and for which you have permission. The content available for viewing may also be limited by the server type. For example, Internet users will see only MPEG-4 and Windows Media content on VOD-D and VOD-WM servers respectively. LAN users however will see all content on all servers.

Table 2. Supported VEMS VOD Servers

Server Type	Description	Zone
VOD-W	Windows-based VOD-W VOD server. Available in three versions depending on throughput: VOD-50W, VOD-125W, and VOD-300W	LAN only
VOD-D	Darwin Open Source server for Linux, Windows, Mac, etc. Ingests and plays MPEG-4 content only. Requires an FTP server. Compatible but not sold or supported by VBrick.	LAN or Internet
VOD-WM-Standard	Microsoft Windows Media Server (unicast only). Requires an FTP server.	LAN or Internet
VOD-WM-Enterprise	Microsoft Windows Media Server (unicast or multicast). Requires an FTP server.	LAN or Internet

VEMS Internet-Based Servers

VEMS Portal Server supports the installation of LAN-based servers and Internet-based servers. As part of an VEMS Server installation, you can configure a VOD server to run in the "zones" (LAN or Internet) specified in Table 2. Before server configuration, you assign a range of IP addresses that define the LAN domain, or vice versa, that define the Internet domain. Any IP address outside that range will assumed to be from an Internet source, or vice versa, from a LAN source. (See "Assign LAN/Internet Address Range" in Global Assignments topic on page 21.)

You can purchase an Internet-based VOD-W or VOD-WM server from VBrick (in which case they are configured by VBrick) or you can purchase and configure a VOD-WM yourself using the Microsoft documentation (not recommended). You can also install a Darwin Open Source server which is fully-compatible with VEMS Portal Server but is not sold or supported by VBrick. (For more about downloading, installing, and configuring a Darwin server, go to: http://developer.apple.com/opensource/server/streaming/index.html) As noted, VEMS users can be on the Internet or on a LAN; Internet users can only access MPEG-4, Windows Media. and H.264 content stored on Internet-based servers. LAN users can access all content on all servers both inside and outside the firewall. To summarize, *Internet-based* servers and users are subject to the following limitations:

- Internet servers support MPEG-4 and Windows Media content only.
- Internet servers support unicast only (they do not support multicast).
- Internet VEMS users can add video only to VOD servers in the Internet zone.
- Internet users can only see MPEG-4, Windows Media, and H.264 content stored on Internet-based servers.
- Internet servers do not support VEMS scheduling features.

VEMS IP Receiver

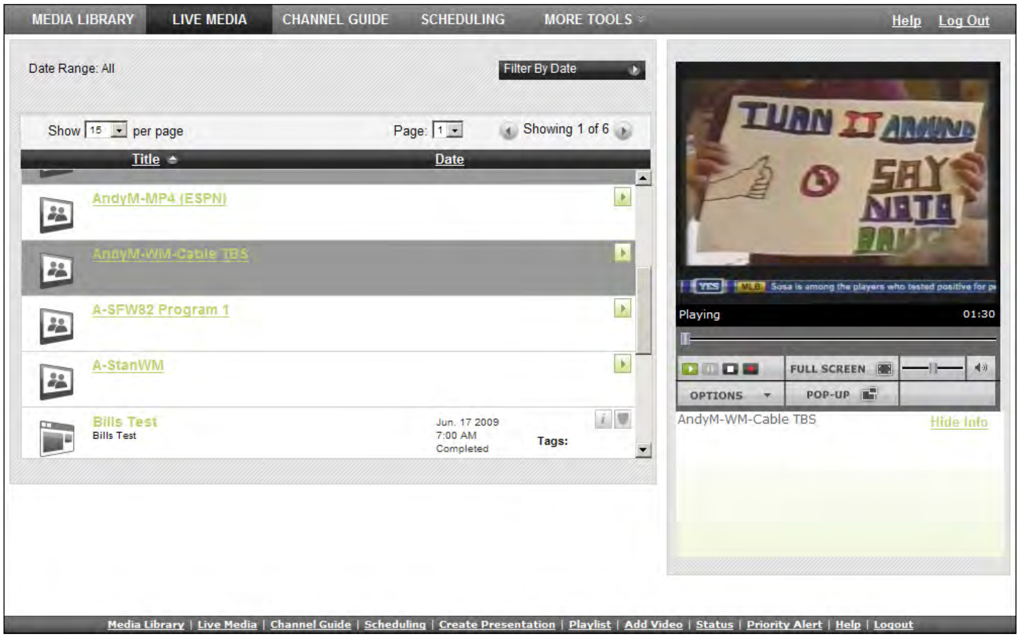
VEMS-IPRs access the VEMS Portal Server through a web browser within the IP Receiver. Using the IP Receiver remote control, users can navigate and search for specific on-demand content or live video streams, select a stream, and begin viewing television-quality video. IP Receiver users can also record video directly on the VEMS Portal Server using the remote control or the wireless keyboard. See the IP Receiver documentation for more about how to configure and use an VEMS IP Receiver.

VEMS Network Video Recorder

The VEMS Network Video Recorder and the VEMS Live Portal Server are optional components that are purchased and installed separately. They have different license files that must be installed separately. See Install/Replace License Files topic on page 15. The VEMS Network Video Recorder lets you off-load all recording tasks from the VEMS Portal Server machine to one or more separate "recorder server" machines. This optimizes recording performance and improves VEMS Portal Server performance as well. The Network Video Recorder uses VEMS

Portal Server components and typically requires two machines: the VEMS Portal Server is installed on one machine; the Network Video Recorder software is installed on a different machine. Once installed, the NVR machine is used for all VEMS Portal Server recording tasks. See Network Video Recording topic on page 137 for more information.

Note A standard VEMS Portal Server permits two concurrent recording operations. If you purchase a Network Video Recorder, the number of concurrent recording operations (10 or 40) is fixed by the terms of your licensing agreement with VBrick.


MEDIA LIBRARY
LIVE MEDIA
CHANNEL GUIDE
SCHEDULING
MORE TOOLS
Help
Log Out
Filter By Date
Title
Date
Playing
01:30
FULL SCREEN
OPTIONS
POP-UP
Hide Info
Tags:
Media Library | Live Media | Channel Guide | Scheduling | Create Presentation | Playlist | Add Video | Status | Priority Alert | Help | Logout

Date Range: All

Show 15 per page   Page: 1   Showing 1 of 6

AndyM-MP4 (ESPN)

AndyM-WM-Cable TBS

A-SFW82 Program 1

A-StanWM

Bills Test
Bills Test   Jun. 17 2009 7:00 AM Completed

AndyM-WM-Cable TBS

Figure 3. Live Portal Server User Interface

Distribution Servers

Distribution servers are used to load-balance the distribution of .jpg images and HTML pages when delivering large-scale presentations. After installing the Portal Server you will need to run DistributionServer.exe on each VEMS server present in your configuration. Distribution servers are used for "presentations" (live webinars) only and require a separate license. Auto-generated e-mail invitations from VEMS presentations will point to the load-balanced distribution servers if present.

Distribution servers can each handle approx. 5000 users. (For highest scalability, configure the webinar **Permission Mode** (on the Create Presentation > Permissions page) for "Everyone" and set a webinar password. See the *Portal Server User Guide* for more about presentations.) Distribution Servers serve Presentation/webinar HTML pages, PowerPoint Slides (converted and displayed as .jpg images), and reference material (Word documents, PDFs, etc. that been uploaded by a presentation creator). Distribution Servers also provide the following functionality.

Note The *Portal Server Release Notes* explain how to install and configure Distribution Servers and how to configure your system for presentations. The Zones topic in this document explains how to configure and use "zones" that point to specific servers.

- Zones (separately addressable internal and external "zones" for load-balancing and viewing video).
- Viewer questions (realtime questions from presentation viewers).
- Polling (view/respond to multiple-choice polls created by a presentation creator). Polling, viewer questions, and access log data are queued up and batched to the main Portal Server once every minute.
- Access logging (captures the IP address of each presentation viewer).

WM IP Receiver

VBrick's WM IP Receiver is similar to a conventional set top box but is significantly more stable, rugged, and reliable. It is designed for 24x7 operation, and built for enterprise networks that require a high degree of stability, security, and scalability. The WM IP Receiver is a robust, state-of-the-art device that meets the demanding requirements of VBrick's Enterprise Media System. The WM IPR plays Windows Media streams from VBrick WM appliances and Windows Media servers. The WM IPR is also a fully-featured VBrick VEMS client. This means that in addition to the ability to deliver video, subsequent WM IPR releases will provide scheduling, access logging, and device control from the Portal Server. For more information about the WM IPR, see the *IPR Admin Guide* in the Portal Server online help.

Portal Server Installation

Complete installation instructions for the Portal Server are provided in the *VEMS Portal Server Release Notes.* Once the Portal Server is installed, end users on Windows, Macintosh, and Linux machines may be prompted for additional download components as explained below. This only happens the first time they access the Portal Server. The Portal Server supports a wide variety of clients and video formats. See Supported VBrick Clients and Video Formats for a complete list.

Download Components

Windows PCs

If configured with the appropriate components, Windows PCs (with Internet Explorer or Firefox) can play all stream types including MPEG, Windows Media, and H.264. For Windows-based PC users, the Portal Server uses VBrick StreamPlayer software-based components to decode video streams on user desktops. The Portal Server downloads these components to each client machine the first time you access the Portal Server (depending on the **Specify Components to Download to Clients** setting in Global Assignments). No download is necessary for subsequent access. If this is a new installation, end users must answer Yes to security requests to download these components. After a download, you don’t have to restart your computer but must you must close the browser. These components are downloaded using .cab files.

In certain circumstances however, the use of .cabs is either not allowed or not feasible. In these cases, VBrick provides an `.msi` installer called `VBrickComponents.msi`. This installer installs the same components and allows end-users who cannot download .cabs to have full Portal Server functionality. This installer is located in the `Program Files\VBrick\MCS\utils` folder.

Note The component download setting will not affect previously-installed components. For example if you have StreamPlayer installed, you will be able to play MPEG-2 streams regardless of what components you specify for download.

With Firefox, users will also be prompted to install additional components the first time they launch a stream—if they are configured to receive these download components. Links for the appropriate stream types (MPEG, WM, or H.264) will be displayed in the area where the embedded player is normally displayed. These additional plugins *must* be installed. Firefox users will also be required to install an additional plugin when they use **Add Video** for the first time (again, if they are configured with this privilege).

Table 3. Supported Operating Systems and Browsers – Windows

Operating System	Browser
Windows XP (SP 2)	Internet Explorer 7.0 †, Firefox 3.1 †
Windows Vista	Internet Explorer 7.0 †, Firefox 3.1 †

† or higher

Locked-Down Windows PCs

As described above, the Portal Server automatically downloads components to client PCs depending on the Global Assignment setting. This download can be an issue in environments that have restrictions on client software installation. For playback of WM files, Portal Server uses the existing Windows Media Player components on the client PC and there is no need for the extra components to be downloaded. This means that Portal Server and WM can be used in some but not all restrictive or "locked-down" environments.

Even if downloads are configured, a client PC will still refuse to accept the component download if the Internet Explorer security feature **Download signed ActiveX controls** is disabled. When using Portal Server exclusively with WM streams and a WM VOD, the client PC can refuse to accept the downloaded components and all Portal Server features except **Add Video** will work. In this case you should uncheck the **Add Video Utility** in Global Assignments.

Some sites also require that their PCs be configured with certain Internet Explorer security settings. The Portal Server will not work on clients with Internet Explorer security set to **High**. The Portal Server *will* work at any level at or below **Medium**. If you start at **High**, the client will still work with Portal Server if you enable **Run ActiveX controls and plug-ins**, **Script ActiveX controls marked safe for scripting**, and **Active scripting**.

Since firewalls on LAN client PCs can also cause problems with Portal Server, it is recommended that firewalls be disabled on LAN clients. (In Windows XP with Service Pack 2, the firewall is enabled by default.) Portal Server's support for Internet clients is designed to work through firewalls. If you have Internet clients with firewalls see the description of LAN/Internet address ranges in Global Assignments topic on page 21.

Macintosh PCs

If configured with the appropriate components, Macintosh PCs (with Safari or Firefox) can play all stream types including MPEG, Windows Media, and H.264. In a Macintosh environment, if downloads are configured in Global Assignments, when you launch the VEMS Portal Server for the first time, the Home page (see Figure 2) displays a link prompting you to download components that are appropriate for your computer. If you agree, these components are automatically installed and no additional download is necessary for subsequent access. On Macintosh PCs, Portal Server functionality is the same as in Windows except that the **Add Video** feature is not available. Table 4 shows the stream types supported for each environment; Table 5 shows the operating systems that are tested and supported. Note that there are certain performance limitations in Macintosh environments; see the *VEMS Portal Server Release Notes* for information and recommendations.

Configuring a Macintosh for Tunneled Streams

You may need to perform certain configuration steps on a Macintosh before you can use QuickTime to view streams tunneled over HTTP from a VOD-W server.

▼ To configure QuickTime for tunneled streams:

1. Launch QuickTime on a Macintosh and click on the **Apple QuickTime** player to set focus on the task bar at the top of the screen.
2. Click **QuickTime Player** in the task bar and go to **QuickTime Preferences**.
3. On the **Advanced** tab, click on **Transport Setup** and then **Custom**.
4. Check the **Port ID** used for the HTTP **Transport Protocol**. The **Port ID** must match the **HTTP Tunneling Port** set on the Portal Server for the VOD-W server (default = 8000). If necessary, get this port number from your system administrator. See the *VOD-W Admin Guide* for more information.

Table 4. Supported Macintosh Stream Types

Environment	Supported Streams	Closed Captions †
Macintosh	Safari – MPEG-1, MPEG-2, MPEG-4, WM, H.264.	Supported for MPEG-1/MPEG-2 streams, and for MPEG-4 and WM with VBrick plugin.
	Firefox – MPEG-1, MPEG-2, MPEG-4, WM, H.264.	Supported for MPEG-1/MPEG-2 streams, and for MPEG-4 and WM with VBrick plugin.

† Closed captions are not currently supported on H.264 streams.

Table 5. Supported Macintosh Operating Systems and Browsers

Operating System	Browser †
Mac OS X 10.3 (Panther)	Safari 3.1.1, Firefox 2.0
Mac OS X 10.4 (Tiger)	Safari 3.1.1, Firefox 2.0
Mac OS X 10.5 (Leopard)	Safari 3.1.1, Firefox 2.0

† Use version shown or higher.

Decoder Closed Captioning Support

The Portal Server supports live streams with closed captioning. It also supports closed captioning for MPEG-4 stored content as long as the content is recorded with closed captioning and stored on a VOD-W server. Closed captioning is not supported for NXG MPEG-4 stored content. The following table shows closed captioning support for VBrick decoders/IPRs, cross-referenced by live and stored content.

Table 6. Decoder Closed Captioning Support

	Live Content	Stored Content			
		VOD-W	VOD-WM	NXG	VOD-D
MPEG-2 Decoder	Yes	Yes	N/A	Yes	N/A
MPEG-4 Decoder	Yes	Yes	N/A	No	MPEG-4 only
Digital IP Receiver (STB)	Yes	Yes	N/A	MPEG-1/2 (no MPEG-4)	MPEG-4 only
WM-IP Receiver	No	N/A	No	N/A	N/A

Port Requirements

The drawing below, and the table that follows, show the required port configuration for various Portal Server devices. *All ports in the drawing are TCP except as noted.*

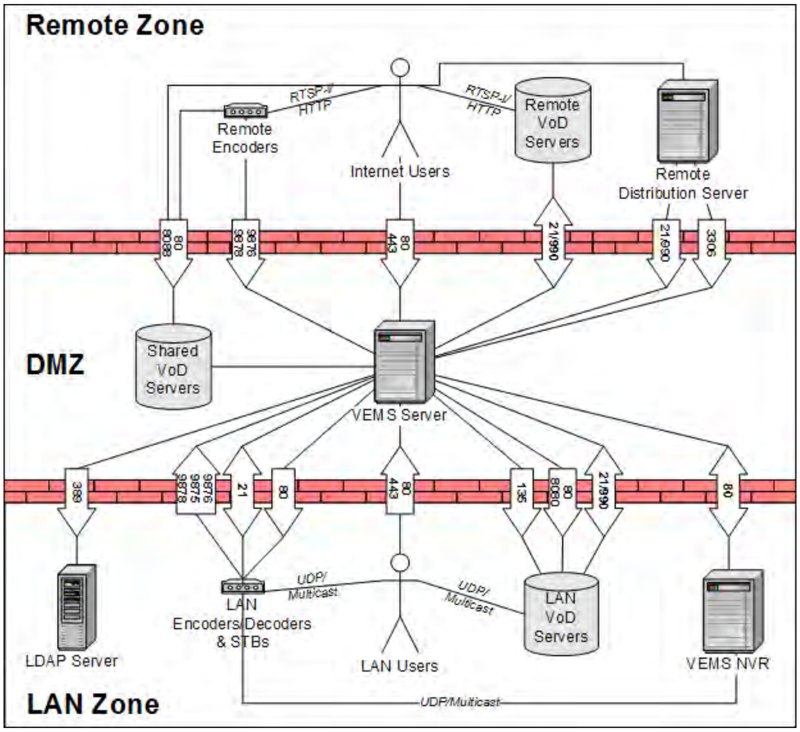


Table 7. Port Requirements

Zones	Port(s)	Description
Internet > DMZ	80/443 (TCP)	Web request from client to VEMS (http = 80, https = 443).

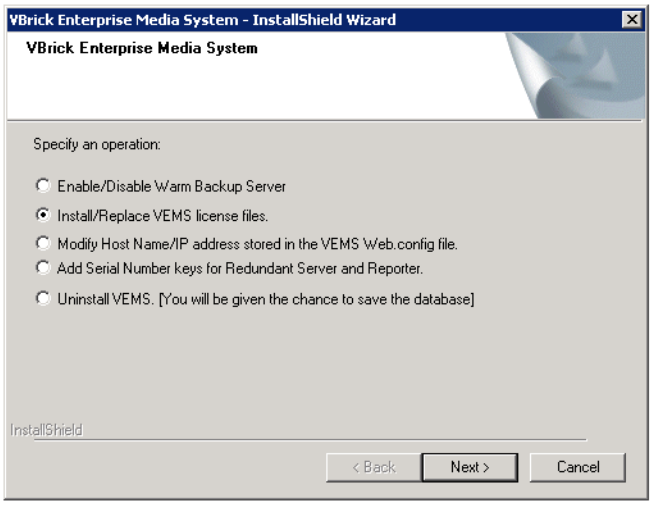
Zones	Port(s)	Description
Internet > DMZ	80 (TCP)	RTSP-I/HTTP Tunneling from client to shared VOD server.
Internet > DMZ	80 (TCP)	HTTP Push from presentation VBStar to shared VOD Server.
Internet > DMZ	9876/9878 (UDP)	Management/RTSP SAP announce from VBrick to VEMS.
Internet > DMZ	21/990 (TCP)	FTP/FTPS from client to VEMS (to AutoIngest folder) (990 for ftps).
Internet > DMZ	3306 (TCP)	MySQL database request from remote distribution server to VEMS.
Internet > DMZ	21/990 (TCP)	FTP/FTPS from remote distribution server to VEMS (using FTP sync).
Internet > DMZ	139/445 (TCP), 137/138 (UDP)	File copy from remote distribution server to VEMS (using DFS sync).
DMZ > Internet	21/990 (TCP)	FTP/FTPS from VEMS to VoD Server (Darwin/Windows Media/FTP).
LAN > DMZ	80/443 (TCP)	Web request from client to VEMS (http = 80, https = 443).
LAN > DMZ	9875/9876/9878 (UDP)	Multicast/Management/RTSP SAP announce from VBrick to VEMS.
LAN > DMZ	21 (TCP)	FTP from VBStar to VEMS (auto-FTP to VEMS Auto-Ingest directory).
DMZ > LAN	21 (TCP)	FTP from VEMS to VBStar (content discovery).
DMZ > LAN	80 (TCP)	Management command from VEMS to VBrick/STB.
DMZ > LAN	80/8080 (TCP)	Web service request from VEMS to VoD Server (Infovalue/NXG).
DMZ > LAN	21/990 (TCP)	FTP/FTPS from VEMS to VoD Server (Darwin/Windows Media/FTP).
LAN > DMZ	21 (TCP)	FTP from VoD Server (NXG/Infovalue) to VEMS.
DMZ >LAN	135 (TCP)	Management command from VEMS to Windows Media (DCOM).
DMZ > LAN	80 (TCP)	Web service request from VEMS to Network Video Recorder (NVR).
LAN > DMZ	80 (TCP)	Web service request from Network Video Recorder (NVR) to VEMS.
DMZ > LAN	389 (TCP)	LDAP lookup from VEMS to LDAP Server (e.g., Active Directory).

Uninstall/Change Configuration

Use the following steps when you want to uninstall VEMS or change VEMS configuration options. For example you may need to enable/disable a warm backup server or modify the host name of the VEMS server.

▼ To uninstall or change the configuration:

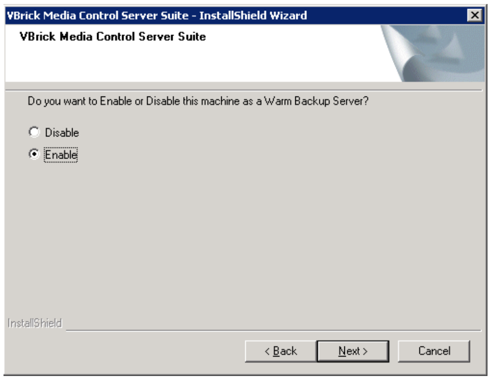
1. Go to **Start > Control Panel > Programs and Features > VBrick Enterprise Media System**.
2. Click the **Uninstall/Change** button.

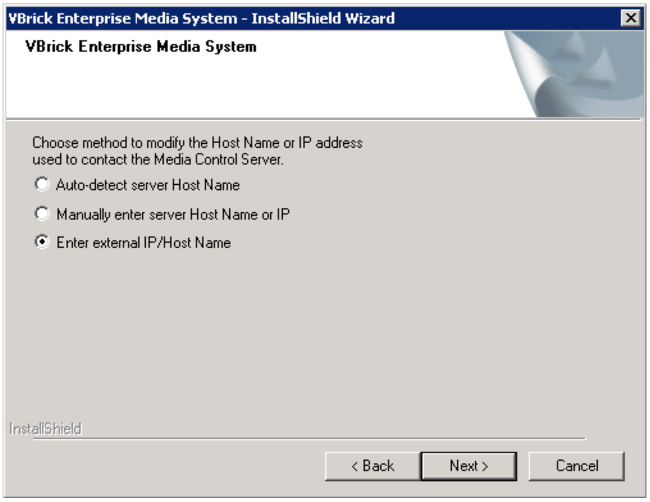

VBrick Enterprise Media System - InstallShield Wizard
VBrick Enterprise Media System
InstallShield
< Back
Next >
Cancel

Specify an operation:

○ Enable/Disable Warm Backup Server
● Install/Replace VEMS license files.
○ Modify Host Name/IP address stored in the VEMS Web.config file.
○ Add Serial Number keys for Redundant Server and Reporter.
○ Uninstall VEMS. [You will be given the chance to save the database]

3. Select the operation you wish to perform and click **Next**. A description of each of the options is listed below.

Enable/Disable Warm Backup Server	If you purchased Enterprise Media System Backup, two Portal Servers will be present—one of which must be configured as a warm backup. Use this option (and the popup shown below) to enable or disable the backup server. If you enable one server, you must disable the other. Default = Disable. See Automatic System Backup topic on page 149 for more information.  VBrick Media Control Server Suite - InstallShield Wizard VBrick Media Control Server Suite Do you want to Enable or Disable this machine as a Warm Backup Server? ○ Disable ● Enable InstallShield < Back · Next > · Cancel
Install/Replace VEMS license files	Use this option, as directed, to install a Portal Server license file. See Install/Replace License Files.

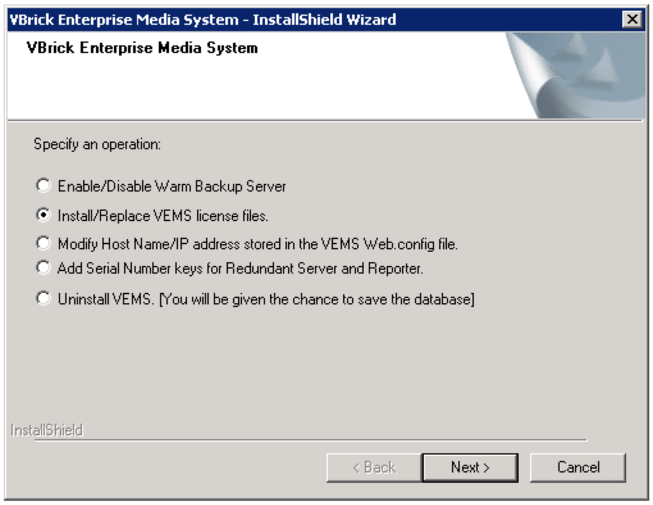
Modify Host Name/ IP address stored in VEMS Web.config file	Use this option to modify certain values in web.config.  VBrick Enterprise Media System - InstallShield Wizard VBrick Enterprise Media System Choose method to modify the Host Name or IP address used to contact the Media Control Server. ○ Auto-detect server Host Name ○ Manually enter server Host Name or IP ● Enter external IP/Host Name • Auto-detect server Host Name – If you change the host machine name, use this option to auto-detect the Portal Server Host Name. • Manually enter server Host Name or IP – If you change the host machine name, use this option to manually enter the Portal Server Host Name. This name must match the machine name on which Portal Server is installed. • Enter external IP/Host Name – Used to configure an **Internet Link** for the "Content Sharing" feature in the client application (a **LAN Link** is configured by default and always present). Enter a valid external IP address for your VEMS server to display an "Internet" link on the client page; blank out the field to remove the link. When content sharing is enabled, Portal Server users can share any stored VOD content by clicking the envelope icon ✉ on the "Info" page associated with each stream. This will launch an e-mail that includes a hyperlink to the selected content.
Add Serial Number keys for ETVBackup and ETVReporter	Required for optional ETV Backup and ETV Reporter components. If not installed, these applications will not run.
Uninstall VEMS	Remove all VEMS Portal Server components. You are prompted to save the database as desired.

Install/Replace License Files

You are prompted to install serial numbers and license files(`.lic`) as part of the Portal Server installation process. Different Portal Server functionality is available depending on the type of license you purchase and install. (For example if you do not install a Scheduler license, you will not see a **Scheduler** option in the Portal Server client application.) After initial installation you can install a different license as necessary using **Programs and Features** functionality in Windows Web Server 2008. All of the different license files are explained in Table 8.

▼ To install or replace VEMS license files:

1. Go to **Start > Control Panel > Programs and Features > VBrick Enterprise Media System**.
2. Click the **Uninstall/Change** button.



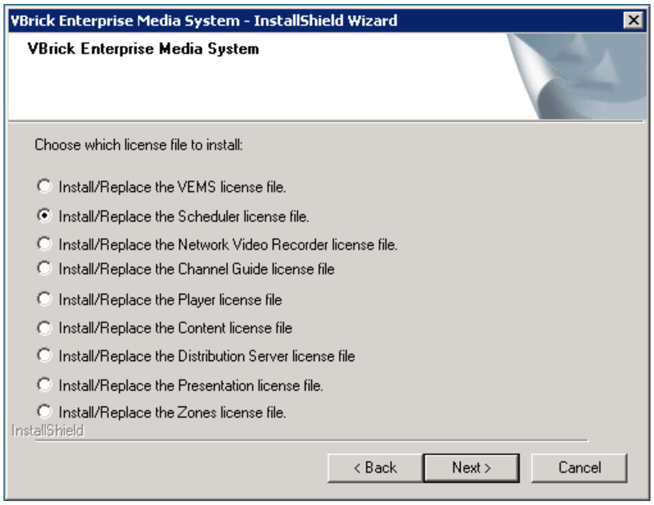
VBrick Enterprise Media System - InstallShield Wizard

VBrick Enterprise Media System

Specify an operation:

○ Enable/Disable Warm Backup Server
● Install/Replace VEMS license files.
○ Modify Host Name/IP address stored in the VEMS Web.config file.
○ Add Serial Number keys for Redundant Server and Reporter.
○ Uninstall VEMS. [You will be given the chance to save the database]

3. Select **Install/Replace VEMS license files**, click **Next**, and install the appropriate licenses. See Table 8 Portal Server License File Types for a description of each file type.



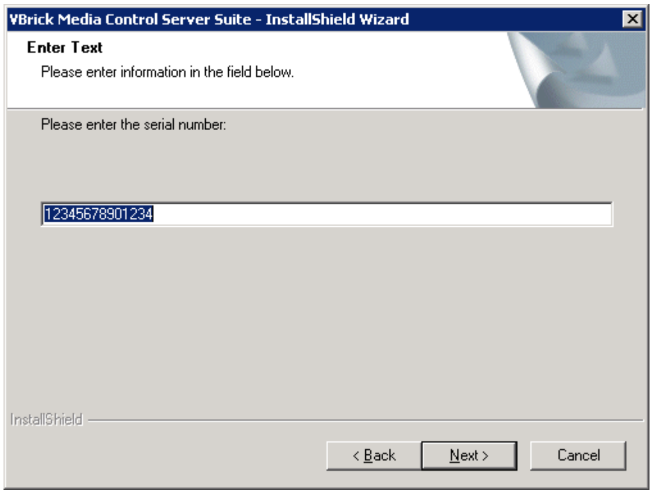
VBrick Enterprise Media System - InstallShield Wizard

VBrick Enterprise Media System

Choose which license file to install:

○ Install/Replace the VEMS license file.
● Install/Replace the Scheduler license file.
○ Install/Replace the Network Video Recorder license file.
○ Install/Replace the Channel Guide license file
○ Install/Replace the Player license file
○ Install/Replace the Content license file
○ Install/Replace the Distribution Server license file
○ Install/Replace the Presentation license file.
○ Install/Replace the Zones license file.

4. A serial number is required for some components (for example Redundant Server and Reporter). Enter a serial number and confirm if necessary. If the serial number window pops up and is already filled in, click **Next** to continue. If the serial number field is empty, enter the serial number you received from VBrick Support Services (or from the "License Activation Keys & Serial Numbers" card that was included with the VEMS Product CD), and click **Next**.



VBrick Media Control Server Suite - InstallShield Wizard

Enter Text

Please enter information in the field below.

Please enter the serial number:

12345678901234

5. When prompted, navigate to the folder with your license (.lic) file. License files are obtained by using the "License Activation Keys & Serial Numbers" card included with the Product CD. The "Software License Activation" document, also included, explains how to activate your licenses using these keys. Note that multiple license files may be shown if you purchased optional VEMS components. *Select the appropriate license file.* (For more about license files, see "Installing Serial Numbers and License Files" in the *Portal Server Admin Guide*.)
6. **Repeat these steps for each VEMS component.** When done, manually close the window and launch the application. There is no need to restart the host machine.

Table 8. Portal Server License File Types

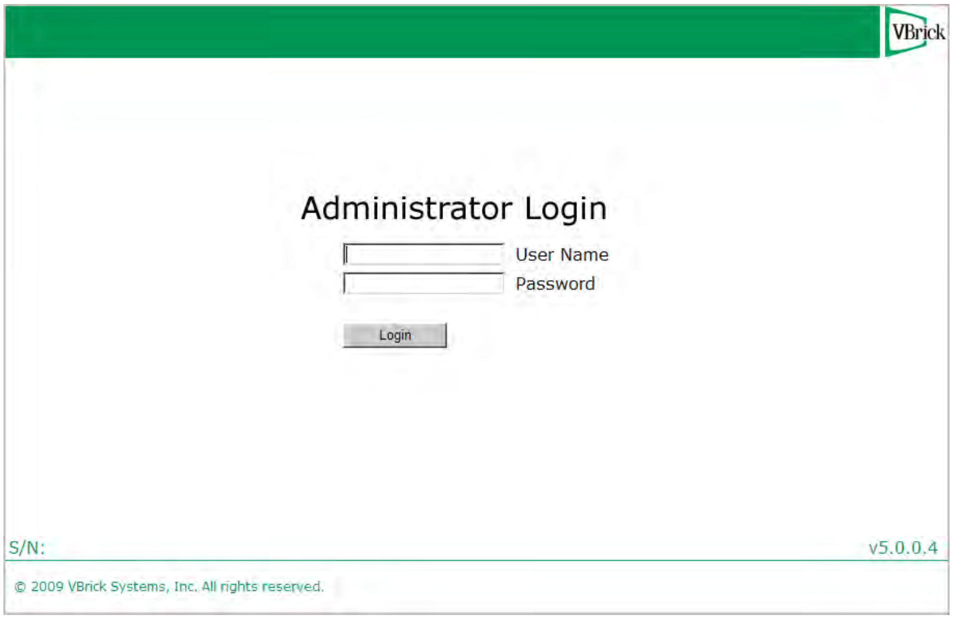
License File	Description	If not installed ...
VEMS	Use this option, as directed, to install a Portal Server license file.	You will not be able to run the Portal Server.
Scheduler	Enables the broadcast or recording of future events. See the *VEMS Portal Server User Guide* for more information.	The Add option will not be shown Scheduler page in client application.
Network Video Recorder	A Network Video Recorder is a standalone recorder option that can speed up recording operations and/or enhance Portal Server performance. (See VEMS Network Video Recorder on page 8.)	There will be a "record" failure for more than two concurrent record requests.
Channel Guide	Enables access to the Channel Guide Server for TV Stations that are typically provided by a third-part content provider.	There will be no TV Stations or access to the Channel Guide server.
Player	The embedded Windows Media Player has restrictions on the number of licensed users. Use this option to select a license file that modifies the number of allowed users for various MPEG-1, MPEG-2, and MPEG-4 streams.	A popup message will be displayed when you try to launch a stream.

License File	Description	If not installed ...
Content	Used to install third-party content purchased from VBrick.	The purchased content ingestion will fail.
Distribution Server	Use to install one or more Distribution Server license files. See Distribution Servers topic on page 8.	You will be unable to communicate with the distribution servers.
Presentation	Used to create rich media presentations with PowerPoint slides and a video stream.	The "Create Presentation" feature will not be available in client application.

Admin Console Login

The VEMS Portal Server can be administered from Windows-based PCs using Internet Explorer 7.0 or higher only. The Admin Console pages are best viewed at 1024x768 resolution. The Admin Console is not supported on Macintoshes or IP Receiver, or with Firefox or other browsers. In order to access the administrative functions enter the following address in the Internet Explorer browser of the PC where `myserveraddress` is the host name or IP address of the VEMS Portal Server. The session will timeout after 20 minutes of inactivity. `admin` is both the default user name and password.

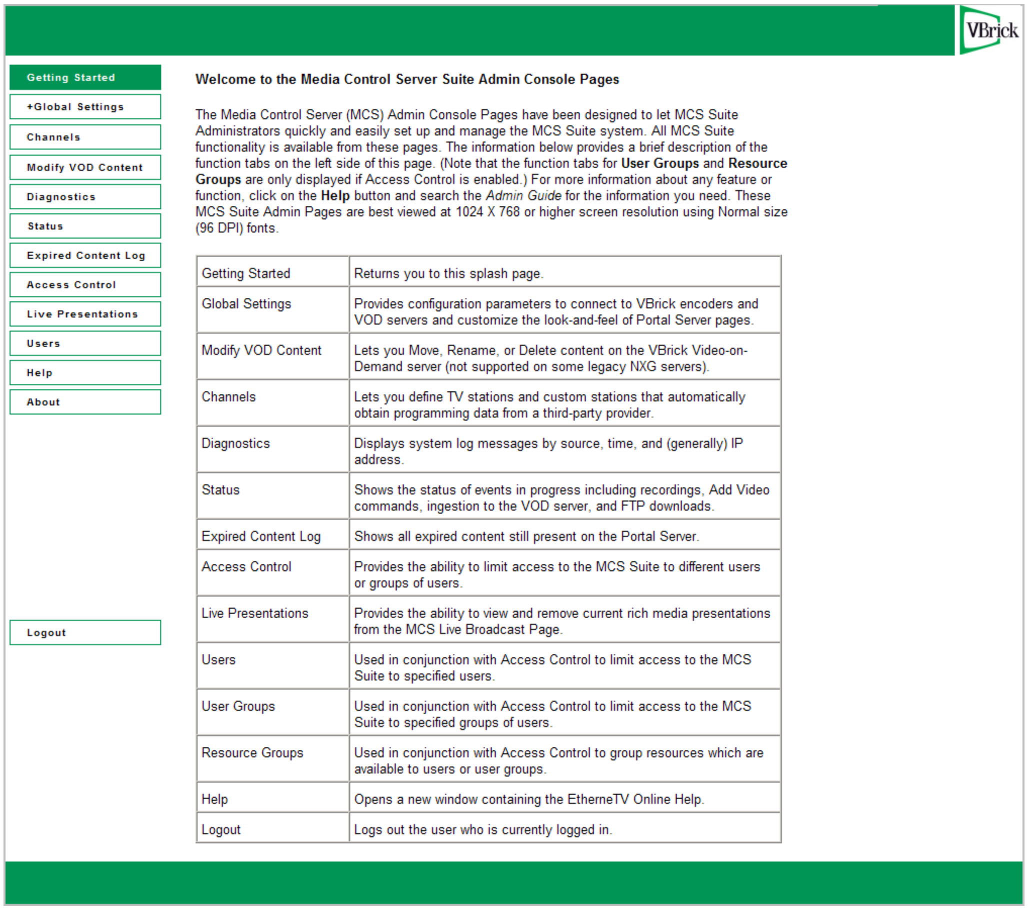
http://myserveraddress/admin/



Note As a standard best practice, VBrick recommends changing the default administrator User Name and Password. Go to **Global Settings > Global Assignments** on the Admin Console.

Admin Console Options

Login to the VEMS Portal Server Admin pages with a valid user name and password to display the following window. This window provides access to all admin configuration options.



Welcome to the Media Control Server Suite Admin Console Pages

The Media Control Server (MCS) Admin Console Pages have been designed to let MCS Suite Administrators quickly and easily set up and manage the MCS Suite system. All MCS Suite functionality is available from these pages. The information below provides a brief description of the function tabs on the left side of this page. (Note that the function tabs for **User Groups** and **Resource Groups** are only displayed if Access Control is enabled.) For more information about any feature or function, click on the **Help** button and search the *Admin Guide* for the information you need. These MCS Suite Admin Pages are best viewed at 1024 X 768 or higher screen resolution using Normal size (96 DPI) fonts.

Getting Started	Returns you to this splash page.
Global Settings	Provides configuration parameters to connect to VBrick encoders and VOD servers and customize the look-and-feel of Portal Server pages.
Modify VOD Content	Lets you Move, Rename, or Delete content on the VBrick Video-on-Demand server (not supported on some legacy NXG servers).
Channels	Lets you define TV stations and custom stations that automatically obtain programming data from a third-party provider.
Diagnostics	Displays system log messages by source, time, and (generally) IP address.
Status	Shows the status of events in progress including recordings, Add Video commands, ingestion to the VOD server, and FTP downloads.
Expired Content Log	Shows all expired content still present on the Portal Server.
Access Control	Provides the ability to limit access to the MCS Suite to different users or groups of users.
Live Presentations	Provides the ability to view and remove current rich media presentations from the MCS Live Broadcast Page.
Users	Used in conjunction with Access Control to limit access to the MCS Suite to specified users.
User Groups	Used in conjunction with Access Control to limit access to the MCS Suite to specified groups of users.
Resource Groups	Used in conjunction with Access Control to group resources which are available to users or user groups.
Help	Opens a new window containing the EtherneTV Online Help.
Logout	Logs out the user who is currently logged in.

Table 9. Admin Options

Option	Description
Getting Started	The VEMS Portal Server splash page shown above.
Global Settings	Provides system-wide configuration parameters to connect to VBrick encoders and VOD servers as well as to customize the look of the VEMS Portal Server pages.
Channels	Lets you define TV stations and custom stations that obtain programming data from a third-party provider.
Modify VOD Content	Provides the ability to Move, Rename, or Delete assets on the VEMS-VOD Video-on-Demand server. (Not supported on some legacy NXG servers.)
Diagnostics	Displays system log messages by source, time, and (generally) IP address.
Status	Shows the status of events in progress including recordings, Add Video commands, ingestion to the VOD server, and FTP downloads.
Expired Content Log	Shows all expired content still present on the Portal Server. Use Purge All to delete unwanted content.

Option	Description
Access Control	Provides the ability to limit access to the VEMS Portal Server system to different users or groups of users.
Live Presentations	Provides the ability to view and remove current live presentations from the Live Media page.
Users†	Used in conjunction with Access Control to limit access to the VEMS Portal Server system to different users.
User Groups†	Used in conjunction with Access Control to limit access to the VEMS Portal Server system to different groups of users.
Resource Groups†	Used in conjunction with Access Control to group resources which can then be provided to users or user groups.
Help	Displays the VEMS Portal Server online help system in a new window.
About	Displays the VEMS version number as well as the license and serial number status for each installed module.
Logout	Logs out the user who is currently logged in.

† Users, User Groups, and Resource Groups are only displayed if Access Control is enabled. See Users and User Groups topic on page 109 for a description of these functions.

Internet Explorer 7.0 Configuration

The Admin Console and the Portal Server user interface support the browsers shown in Table 3 and in Table 5. When using Internet Explorer 7.0, there are additional security settings required for compatibility with the Portal Server.

▼ To configure the Portal Server for Internet Explorer 7.0:

1. Go to **Tools > Internet Options > Security** and select **Custom level**.
2. Under **Active X controls and plugins** set the following parameters:
   - **Allow previously unused ActiveX controls to run without prompt** – Enable
   - **Automatic prompting for ActiveX controls** – Disable
   - **Display video and animation on a webpage that does not use external media player** – Enable
   - **Download signed ActiveX controls** – Prompt
   - **Run ActiveX controls and plug-ins** – Enable
   - **Script ActiveX controls marked as safe for scripting** – Enable

Chapter 2

Global Settings

Global Settings include configuration settings and parameters that apply to the entire system. Global Settings include all of the following.

Topics in this section

Global Assignments

Global Assignment are listed below. Most are self-explanatory and consist of text boxes where you enter appropriate values.

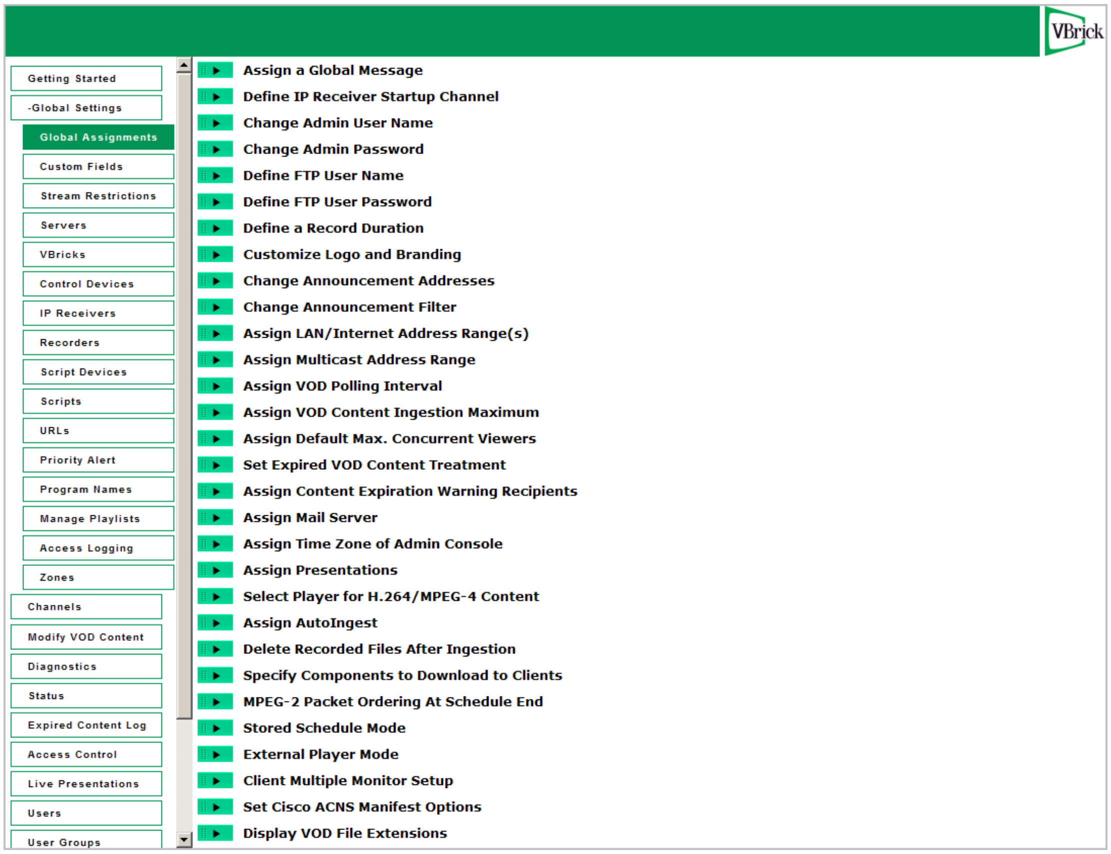
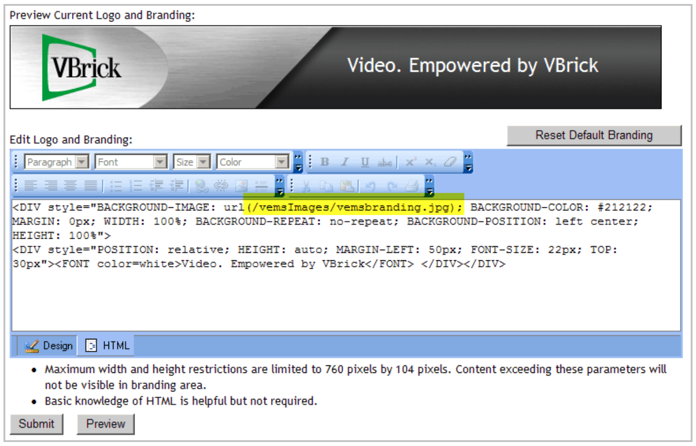

VBrick
Getting Started
-Global Settings
Global Assignments
Custom Fields
Stream Restrictions
Servers
VBricks
Control Devices
IP Receivers
Recorders
Script Devices
Scripts
URLs
Priority Alert
Program Names
Manage Playlists
Access Logging
Zones
Channels
Modify VOD Content
Diagnostics
Status
Expired Content Log
Access Control
Live Presentations
Users
User Groups
Assign a Global Message
Define IP Receiver Startup Channel
Change Admin User Name
Change Admin Password
Define FTP User Name
Define FTP User Password
Define a Record Duration
Customize Logo and Branding
Change Announcement Addresses
Change Announcement Filter
Assign LAN/Internet Address Range(s)
Assign Multicast Address Range
Assign VOD Polling Interval
Assign VOD Content Ingestion Maximum
Assign Default Max. Concurrent Viewers
Set Expired VOD Content Treatment
Assign Content Expiration Warning Recipients
Assign Mail Server
Assign Time Zone of Admin Console
Assign Presentations
Select Player for H.264/MPEG-4 Content
Assign AutoIngest
Delete Recorded Files After Ingestion
Specify Components to Download to Clients
MPEG-2 Packet Ordering At Schedule End
Stored Schedule Mode
External Player Mode
Client Multiple Monitor Setup
Set Cisco ACNS Manifest Options
Display VOD File Extensions

Table 10. Global Assignments

Item	Description
Assign a Global Message	The global message will be displayed in the message area of the Portal Server user interface when there is no program information available. Enter the message text and click Submit. Example: *There will be an all hands meeting today at 4:00 PM in the boardroom*. Note that if you are running the Portal Server on a IP Receiver, the message area will not display more than 4 lines of text.
Define IP Receiver Startup Channel	When an IP Receiver (in VEMS Portal Server Start mode) accesses the **Watch Live Media** page, it can be set to automatically play a defined channel in the Preview Window. Highlight that channel from the list and click Submit. If there are no channels listed, channels must first be defined as Customized Live Streams.
Change Admin User Name	Change the default admin user name of `admin`. Use any combination of alphanumeric and special characters *except* slashes, quotes, or commas.
Change Admin Password	Change the default admin password of `admin`. Use any combination of alphanumeric and special characters *except* slashes, quotes, or commas.

Item	Description
Define FTP User Name	VEMS Portal Server is defaulted for "anonymous" FTP access which is configured in Windows IIS Default FTP Site. If a more secure FTP access is desired, the User Name can be changed in IIS (see the Windows Server documentation for details). The same User Name should be entered here. Use any combination of alphanumeric and special characters *except* slashes, quotes, or commas.
Define FTP User Password	VEMS Portal Server is defaulted for "anonymous" FTP access which is configured in Windows IIS Default FTP Site. If a more secure FTP access is desired, the Password can be changed in IIS (see the Windows Server documentation for details). The same Password should be entered here. Use any combination of alphanumeric and special characters *except* slashes, quotes, or commas.
Define a Record Duration	Applies to the on-demand **Record** pushbutton only (not to scheduled recording). Defines the maximum duration (default 120 minutes) allowed for a continuous recording. Maximum record duration limited only by size of hard drive.

Item	Description

Customize Logo and Branding	This feature let's you brand the Portal Server with a custom image and text of your choice. Use this built-in design editor to replace the 760x104 px default banner image (`vemsbranding.jpg`) and the customizable text that is superimposed on the banner. (These are the only customizable elements in the Portal Server user interface.) The editor has Submit, Preview, and Reset buttons. Use **Preview** to see how your changes will look; use **Reset Default Branding** to discard your changes and revert to the initial VEMS branding; use **Submit** to actually publish your changes to the Portal Server. The **Submit** button will save your changes to the database and update the live Portal Server page. *Always be sure to preview your changes before and after a "submit."*
	The editor has a **Design** view with extensive formatting controls like Microsoft Word and an **HTML** view for experienced HTML users. Use one or both editors to customize the Portal Server page that your end users will actually see. Experiment with the controls: you can add images, insert hyperlinks, and customize the style, color, and font of the text as necessary. You can also use an outside editor like Front Page and then paste and test the generated HTML code in the Portal Server editor.
	
	 Preview Current Logo and Branding:
	VBrick
	Video. Empowered by VBrick
	Edit Logo and Branding:
	Reset Default Branding
	Paragraph
	Font
	Size
	Color
	Design
	HTML
	Submit
	Preview
	`<DIV style="BACKGROUND-IMAGE: url(/vemsImages/vemsbranding.jpg); BACKGROUND-COLOR: #212122; MARGIN: 0px; WIDTH: 100%; BACKGROUND-REPEAT: no-repeat; BACKGROUND-POSITION: left center; HEIGHT: 100%">`
	`<DIV style="POSITION: relative; HEIGHT: auto; MARGIN-LEFT: 50px; FONT-SIZE: 22px; TOP: 30px"><FONT color=white>Video. Empowered by VBrick</FONT> </DIV></DIV>`
	• Maximum width and height restrictions are limited to 760 pixels by 104 pixels. Content exceeding these parameters will not be visible in branding area.
	• Basic knowledge of HTML is helpful but not required.

Change Announcement Addresses	*Changing these from the defaults is highly discouraged and should only be done if advised by a VBrick technician or Network Administrator.* Changes the Management, Multicast, and RTSP addresses on which Announcements (SAPs) are received. By default all VBrick devices are set to the same addresses and ports as the defaults in VEMS Portal Server. These have to match on all devices for proper functionality.
Change Announcement Filter	Filters SAP announcements so that only the specified IP addresses are shown on the Live Media page in VEMS Portal Server. Wildcards are allowed. For example 255.*.*.* displays only those addresses in the range 255.0.0.0 – 255.255.255.255.

Item	Description
Assign LAN/Internet Address Range(s)	Define the range(s) of IP addresses that define the LAN or the Internet domain for the first two zones available at your site. (See Zones on page 79 to configure any additional zones.) Any IP addresses outside the range are assumed to be from the domain you did *not* select. Check one option and, if necessary, use the text box to enter the range(s) separated by a comma, a semicolon, or a new line. For details, see VEMS Internet-Based Servers on page 7. • All Users, Servers, and VBricks are in the LAN Domain (default). • All Users, Servers, and VBricks are in the Internet Domain. • Specify LAN Address Range(s); assume users/servers/VBricks outside this range(s) are in the Internet domain. • Specify Internet Address Range(s); assume users/servers/VBricks outside this range(s) are in the LAN domain. • Always use TCP protocol (HTTP Tunneling/RTSP Interleaving) for MPEG-4 and Windows Media content – Use only with Internet-compatible (VOD-D, VOD-W, and VOD-WM) servers. If checked, the Portal Server will always use HTTP tunneling or RTSP interleaving using the **HTTP Tunneling Port** defined for the server (see Add VOD Server on page 32). **Note**: Standard VBrick IP Receivers do not support HTTP tunneling and will not play MPEG-4 content if this option is selected.
Assign Multicast Address Range	Defines the current multicast IP address range and port range. The default multicast IP range is 225.1.1.0–239.128.255.255. The default port range is 1040–65534.
Assign VOD Polling Interval	Not generally changed. Defines the interval at which the Portal Server polls the VOD server(s) for new content (default 120 minutes). This is only used to poll for content added to the VOD from an interface *other than VEMS Portal Server*. When adding a server, use **Sync Now** to sync the program listings on the client Browse Video Library page with the content on the new server. Use **Hide content for VOD Servers experiencing connection problems** to prevent end users from seeing unavailable content and to enable rollover to the **Default Server Address(es)** specified on the **Zones** page (see Zones on page 79 for more information). Default = checked. If this option is unchecked, there will be no rollover to default servers in the event of a server failure.

Item	Description
Assign VoD Content Ingestion Maximum	Defines the maximum number of simultaneous video files that can be ingested to the VOD Video-on-Demand server. The default is set to 2. Increasing the default may increase the speed at which files will be transferred to the VOD server, but may result in playback issues from the Video-on-Demand server. VBrick recommends keeping the default of 2 for all supported VOD servers.
Assign Default Max. Concurrent Viewers	Defines the *default* maximum concurrent viewers allowed for new live or stored (VOD) content. An entry on the **Stream Restrictions** page or the **Modify VOD Content** page will override these value for live and stored streams respectively.
Set Expired VOD Content Treatment	Specifies whether expired content will be kept or automatically deleted at the expiration date.
Assign Content Expiration Warning Recipients	Enter one or more semicolon separated e-mail address for the person(s) responsible for renewing copyrighted or otherwise protected content. When you configure or change either the recipient or the mail server, the Portal Server will attempt to send a test message. Check that this message is successfully delivered. The Portal Server validates the e-mail address but cannot detect other mail delivery failures. If the user's mail box is full, for example, the message will not reach its intended recipient to warn of impending content expiration. For more about content expiration, see Copyright Protection on page 2.
Assign Mail Server	Required field. SMTP mail server name used for Content Expiration messages and Presentation invitations. (For an example go to Microsoft Exchange > Tools > E-mail Accounts > E-mail > Microsoft Exchange Server > servername.) An e-mail to the assigned Content Expiration Warning Recipient(s) is generated when you configure or change this field. If you enter a user name and password, these credentials will be used to send e-mail to external domains that require user authentication. If user name and password are blank, the default network credentials are used. Note that in some environments, the default credentials will not allow e-mail delivery to domains outside the specified mail server host.
Assign Time Zone of Admin Console	Most times shown in the client interface are converted to the user's local time zone. The times displayed for Custom Programs in the Channel Guide and Diagnostics on the Admin console however are displayed in the currently selected time zone for the Admin Console. Use the dropdown list box to select a time zone for the admin console.

Item	Description
Assign Presentations	VBPresenter is used to create multimedia presentations that can be launched from the Portal Server. The **Current Presentations Directory** defines the virtual directory on the Portal Server where the live presentations are stored—the default is `Presentations`. *Do not change except as directed.* During a new Portal Server installation, the required virtual and physical directories are automatically created. To use a different virtual directory, create the virtual directory in IIS and enter only the virtual directory name in this field—*do not enter the complete path*. The **Current Presentations User** is a pseudo VBPresenter user who will be given permission to publish to specified directories and VOD servers. You must configure Configure an VEMS Presentation User; contact VBrick Support Services if you need help.
Select Player for H.264/ MPEG-4 Content	Select the player to use for H.264/MPEG-4 content on Windows/Macintosh clients: • VBrick Player – users will be prompted to install a VBrick plugin the first time they launch H.264/MPEG-4 content. • Apple QuickTime Player – VBrick plugin not required. Does not support access logging.
Assign AutoIngest	The current autoingest via XML user name that has access and publishing rights to a VOD server. See AutoIngest Content via XML on page 145 for more information.
Delete Recorded Files After Ingestion	Used with scheduled recording and push button recording. Specifies whether or not to delete the recorded file from the NVR after ingestion. Enabled by default.

Item	Description
Specify Components to Download to Clients	This setting defines whether the Portal Server will download additional components to client machines when the client first makes contact with the Portal Server—before any streams or assets are selected for playback (see Download Components on page 9 for more information.) *Any changes to these settings apply to new client machines only and will not affect previously configured machines.* The settings here apply to Internet and/or LAN users as defined in the **Assign LAN/ Internet Address Range(s)** in Global Assignments (see above). The default is to download all components to all clients. For Windows clients you can selectively choose any combination of settings; for Macintosh or Linux clients, any one selection will download all components for all clients. • MPEG-1 Video Support – makes MPEG-1 files playable. • MPEG-2/1 Video Support – makes both MPEG-2 and MPEG-1 files playable. • MPEG-4/H.264 – makes MPEG-4/H.264 files playable. • WM Video Support for Firefox on Windows PC – makes Windows Media files playable on Firefox. • 'Add Video' Utility – enables or disables the "add video" functionality on client machines.
MPEG-2 Packet Ordering at Schedule End	Network hardware infrastructure determines the order in which packets arrive at a destination. To improve video quality, VBrick MPEG-2 appliances reorder packets by default. Since this reordering can cause an increase in latency and affect applications like video conferencing, you can set packet ordering to disabled at schedule end.
Stored Schedule Mode	Used when creating a live broadcast schedule for stored content. Note that the following parameters are "sticky." They remain associated with the schedule even if the Stored Schedule Mode is subsequently changed. • Content Centric – content titles are shown; content servers are not shown. The content is downloaded from load-balanced servers. • Server Centric – content servers are shown with a tree control for selecting content. The content is downloaded from a specific server and is not load balanced.
External Player Mode	Windows only. Determines whether or not multiple streams can be displayed by launching external player windows. Default = Single. You can launch multiple windows but you can only record one stream at a time.
Client Multiple Monitor Setup	The Portal Server supports dual client monitors. However, if you experience problems when using a second monitor, disable the DirectX component VMR9.

Item	Description
Set Cisco ACNS Manifest Options	Check the box to enable generation of a Cisco ACNS Manifest File. (The Cisco ACNS server must be configured to point to this file.) Select the files (MPEG-4 and/or WM) to include in the file, and specify a Manifest Generation Interval (default = 10 minutes) that defines how often the file will be regenerated. Click Generate Now to create an "on demand" file. ACNS copies all MPEG-2 and WM video files to all (Windows Media, Darwin, and VOD-W) servers in your VEMS system. Additional configuration steps are required on the VOD-W server only. See ACNS Configuration on page 163 for more about ACNS.
Display VOD File Extensions	Check the box to display file extensions (for example .mp4 or .wmv) in the Portal Server Media Library.

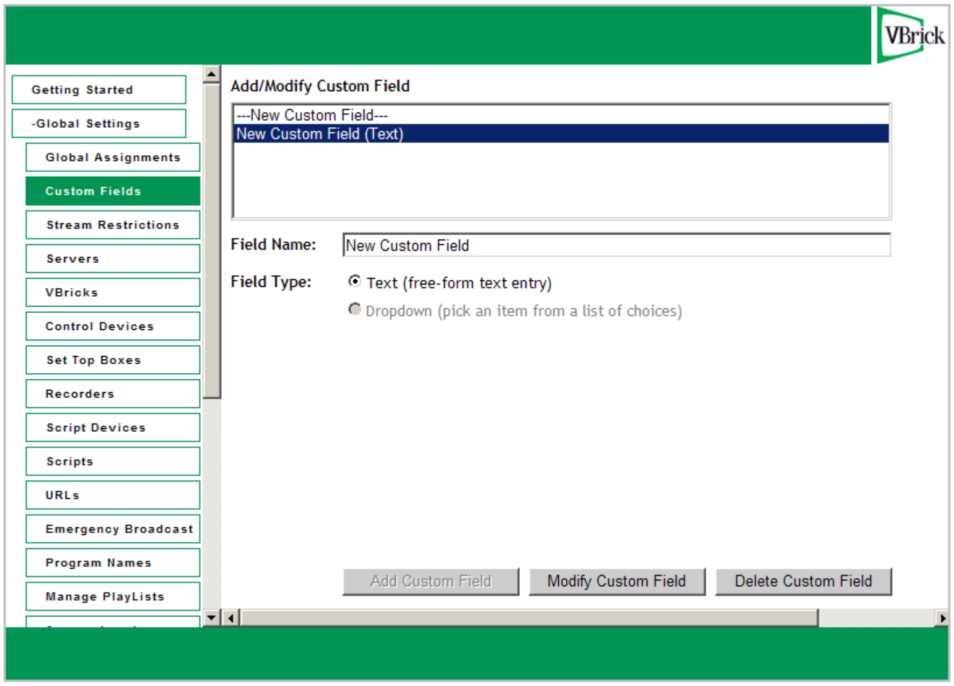
Custom Fields

Custom fields are used to add additional fields to the Info pages associated with stored videos and live broadcast streams. All stored videos, and those live streams that have been "customized," have an **Info** hyperlink. By default, the Info page has fields for **Description** and **Tags**. The Custom Fields functionality lets you add additional "custom" fields that are appropriate to your business or application. This lets you provide more information on the page and it also makes it easier to search for specific streams. (All defined fields are listed in the dropdown list box next to the **Search** button.)

When you add a custom field using this function, the field is available to administrators as a selection in the **Customize Streams** window. It is also available to end users as the **Modify Info** button on the Info pages associated with stored videos (if they have content publishing permissions).

▼ To create a Custom Field:

1. Go to **Global Settings > Custom Fields**.



Add/Modify Custom Field

---New Custom Field---
New Custom Field (Text)

Field Name: New Custom Field

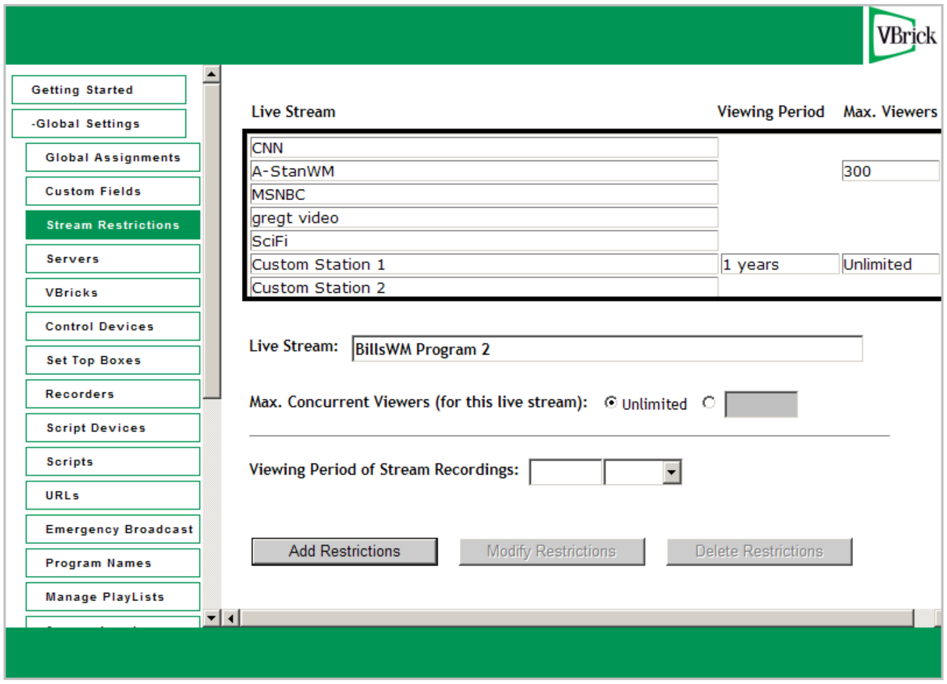
Field Type: ● Text (free-form text entry)
○ Dropdown (pick an item from a list of choices)

2. Enter a **Field Name** and a **Field Type**. If you select **Dropdown**, you can add items one at a time followed by **Add Item**. These items will populate a dropdown list box on the **Customize Streams** page.
3. When done, click **Add Custom Field**. The field will be added to the panel at the top of the window; it will also be available as an option when you are customizing a stream.

Add/Modify Custom Field	This panel shows the existing custom fields that have previously been defined.
Field Name	The field name you want to display on the Info page for this stream or video.
Field Type	This determines how the field will be displayed on the **Customize Streams** page, either as a text field or as a dropdown list box.

Stream Restrictions

Use this page to set and the viewing period for live stream recordings and the maximum number of concurrent viewers. There are no default expiration dates for live streams when a recording is made but administrators can automatically set the content from a specific stream to expire by setting a viewing period. For more about content expiration see Copyright Protection on page 2.



Live Stream	Viewing Period	Max. Viewers
CNN		
A-StanWM		300
MSNBC		
gregt video		
SciFi		
Custom Station 1	1 years	Unlimited
Custom Station 2		

Live Stream: BillsWM Program 2

Max. Concurrent Viewers (for this live stream): ● Unlimited ○

Viewing Period of Stream Recordings:

Live Stream	Click on any live stream shown in the list to populate this field.
Max. Concurrent Viewers	Set the maximum number of concurrent viewers for this stream to unlimited or any number greater than zero.
Viewing Period of Stream Recordings	Set the length of the viewing period for a file recorded with this stream in hours, days, weeks, months, or years. The file will no longer be available for viewing at the end of the period and will be deleted or saved as configured in Global Assignments > Set Expired VOD Content Treatment.

Servers

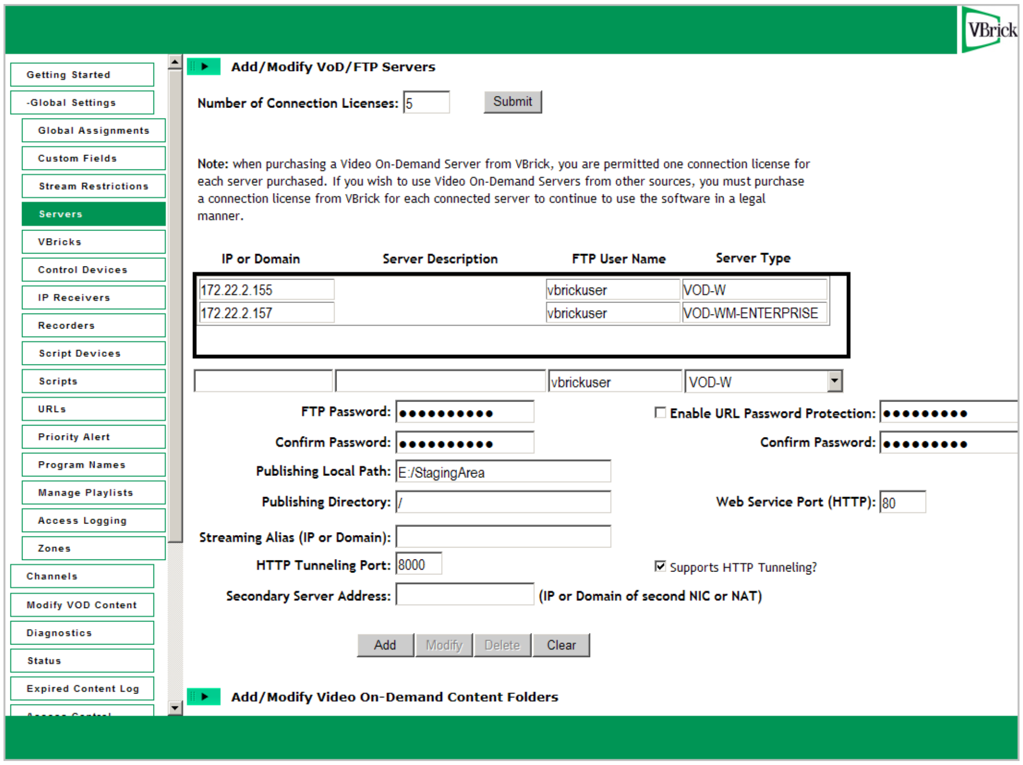
Use the **Servers** page to add or modify VOD, FTP, and file servers, or to add or modify VOD Content Folders. Note that you can cluster multiple servers to increase throughput: the VEMS Portal Server will automatically load balance all servers defined on the **Servers** page; no additional configuration is necessary. Note that content added by users in the Internet zone will only be ingested to VOD servers in the Internet zone for which they have permissions. Content added by users in the LAN zone will be ingested to all VOD servers for which they have permissions. See VEMS VOD Servers on page 6 for more about VEMS servers.

Note It may take up to 20 minutes for new server content to be displayed in the VEMS Portal Server. To make content available immediately, go to **Global Settings > Global Assignments > Assign VOD Polling Interval** and click **Sync Now.**

Add VOD Server

Use this window to add Video-On-Demand Server(s) to the VEMS Portal Server. If the network supports Windows 98 users, you *must* use the IP address of the VOD server—not the host name. After selecting a **Server Type** VBrick recommends you keep the default settings for FTP Password, Publishing Local Path, Publishing Directory, etc. unless there is a compelling reason to change them. Nor is it necessary to create a Streaming Alias. Leave this parameter blank unless you are using HTTP Tunneling.

Adding VOD-W, VOD-D, and NXG Servers



Add/Modify VoD/FTP Servers

Number of Connection Licenses: 5

Note: when purchasing a Video On-Demand Server from VBrick, you are permitted one connection license for each server purchased. If you wish to use Video On-Demand Servers from other sources, you must purchase a connection license from VBrick for each connected server to continue to use the software in a legal manner.

IP or Domain	Server Description	FTP User Name	Server Type
172.22.2.155		vbrickuser	VOD-W
172.22.2.157		vbrickuser	VOD-WM-ENTERPRISE
		vbrickuser	VOD-W

FTP Password: ●●●●●●●●●● □ **Enable URL Password Protection:** ●●●●●●●●●

Confirm Password: ●●●●●●●●●● **Confirm Password:** ●●●●●●●●●

Publishing Local Path: E:/StagingArea

Publishing Directory: / **Web Service Port (HTTP):** 80

Streaming Alias (IP or Domain):

HTTP Tunneling Port: 8000 ☑ Supports HTTP Tunneling?

Secondary Server Address: **(IP or Domain of second NIC or NAT)**

Add/Modify Video On-Demand Content Folders

Figure 4. Add VOD-W Server

Number of Connection Licenses	Enter the number of VOD servers you purchased from VBrick. Default = 0. When purchasing a VOD server from VBrick, you are allowed one connection license per server. If you wish to use a VOD server purchased elsewhere, you must buy a connection license from VBrick for each connected server to comply with licensing requirements.
IP or Domain	This is the primary IP address or Host Name of the VOD server for LAN users (see also **Secondary Server Address** below). The Server Name or IP address entered into the VEMS Portal Server must be accessible by the VEMS Portal Server. (If the network supports Windows 98 users, you *must* use the IP address.)
Server Description	This allows the administrator to define a descriptor such as location.

FTP User Name	This is the FTP user name that the Portal Server uses when publishing content to the server. The default user name for NXG, VOD-D, VOD-WM, and FTP servers is `vbrickuser`. The default user name for VOD-W servers is `anonymous`. The FTP User Name refers to a user account that already exists on the server. If the FTP User Name is changed on any VOD server, it must be changed here as well. Use any combination of alphanumeric and special characters.
Server Type	• NXG – Linux-based Kasenna VOD server. • VOD-W – Windows-based InfoValue VOD server. • VOD-D – Darwin Open Source server for Linux, Windows, Mac, etc. Ingests and plays MPEG4 content only. Requires an FTP server. See Creating a VOD-D FTP Server on page 40. • VOD-WM-Standard – Microsoft Windows Media Server (unicast only). Requires an FTP server. See Creating a VOD-WM FTP Server on page 39. • VOD-WM-Enterprise – Microsoft Windows Media Server (unicast or multicast). Requires an FTP server. See Creating a VOD-WM FTP Server on page 39. • FTP – Use FTP only if you want to copy from the Recorder server to another FTP server in which case it records to `ftp:\root`. • File-Server – Any Windows computer with an FTP server running can be configured as a progressive download file server. See Add File Server on page 40.
FTP Password	The FTP password the Portal Server uses when publishing content to the server. The default FTP password for NXG, VOD-D, VOD-WM, and FTP servers is `vbrickuser`. The default FTP password for VOD-W servers is `anonymous`. If the FTP Password is changed on the server, it must be changed here as well. Use any combination of alphanumeric and special characters.
Publishing Local Path	Maps the Publishing Directory to the physical location on the VOD server.
Publishing Directory	Used for Add Video, FTP, or Record. The logical path to a folder under `FTP` root. This is the staging area on the VOD server from which files are ingested to the destination folder.
Streaming Alias (IP or Domain)	Some content hosts (PowerStream, Akamai, etc.) use one host name for FTPing and indexing content, and another host name for streaming content. If necessary, use this field to identify the host name alias for streaming content. *Be aware that if you specify a Streaming Alias here, it overrides all other addresses (LAN and Internet) that have been defined for streaming content.* In other words, one alias is used for all streaming for all users.

HTTP Tunneling Port	VOD-W, VOD-WM and VOD-D servers can stream to clients via the HTTP protocol. By default this uses port 80. If another process on the server (for example a web server) is also using the HTTP protocol, there will be a conflict on this port. This setting lets you select a different port (1–65535 with limitations) to be used when streaming via HTTP. This setting *must* correspond with the port setting on the server. See "Assign LAN/Internet Address Range > Always use TCP protocol for MPEG-4 content" in Global Assignments on page 21.
Secondary Server Address	A VOD server can have two addresses: one for Internet users and one for LAN users (see also **IP or Domain** name above). This is the secondary server address for Internet users. It is the IP address or domain name of a second NIC or a NAT.
Supports HTTP Tunneling?	*VOD-W only.* Determines whether or not the server supports HTTP tunneling. Default = checked. Go to Global Assignments to actually enable HTTP tunneling. See "Assign LAN/Internet Address Range > Always use TCP protocol for MPEG-4 content" in Global Assignments on page 21. Uncheck if you are using a VOD-W server installed *before* Portal Server v4.2.
Web Service Port (HTTP)	The Portal Server and the VOD-W communicate using a web service configured to use port 80 by default. If you choose to tunnel over port 80, you must use a different port for the web service communication using this parameter. You must configure the VOD-W to use this same port for the web service. See "Using HTTP Tunneling" in the *VOD-W Admin Guide* for more details.
Enable URL Password Protection	*VOD-W only.* Default = unchecked. To enable URL password protection, check the box and enter and confirm a password. *The password must match the password configured on the VOD-W server.* Default password = `vbrickkey`. If checked, all video requests sent to VOD-W servers by the VEMS Portal Server will have a security token embedded in the URL. The VOD-W server will validate and deny the request if the token is absent or invalid.

Configuring a QuickTime Streaming Server

A Darwin Streaming Server runs on Windows Server and other platforms and is configured on the Portal Server Admin pages. A Darwin server is the open source version of Apple's QuickTime Streaming Server. It is supported by the open source community and not by Apple. Darwin servers are compatible with Linux, Windows, and Macintosh desktops. They ingest and play MPEG-4 content only and require an FTP server (see Creating a VOD-D FTP Server on page 40.) For more about downloading, installing, and configuring a Darwin server, go to http://developer.apple.com/opensource/server/streaming/index.html

A QuickTime Streaming Server (QTSS) is a Unix-based device that runs on Mac OS X. QTSS is delivered as part of Mac OS X Server and provides enhanced administration and media management tools that are not available as part of the open source project. The following instructions explain how to configure a QuickTime Server so that it is fully compatible with the VBrick Portal Server. When properly configured, the Portal Server will recognize, display, and play content stored on the QTSS and will record content to the QTSS. A QuickTime Streaming service is part of Mac OS X Server. It is not related to the Portal Server application and is configured separately. *This procedure has been tested on Mac OS X 10.5*. It may work on other Mac OS X versions but this has not been verified by VBrick.

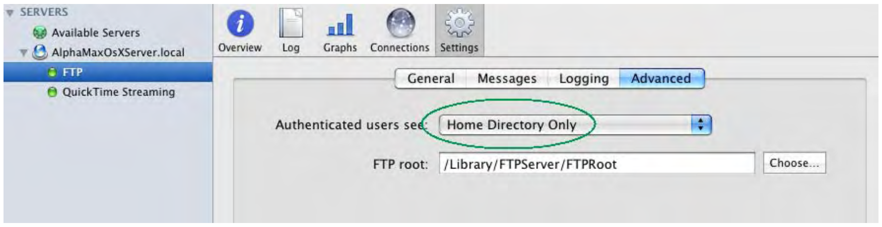
Note This procedure explains how to configure the QTSS to work with the VEMS Portal Server. It assumes you have a working administrator knowledge of Mac OS X. You can use other methods but this is the only method used and tested by VBrick.

A typical installation of QuickTime Streaming Service (QTSS) under Mac OS X Server will set the default content to be served from `\Library\QuickTimeStreaming\Movies`. A typical installation of FTP service will set the default **Authenticated users see** to `FTP Root And Share Points` and the **FTP Root** to `/Library/FTPServer/FTPRoot`. These defaults must be modified as explained below.

▼ To configure a QuickTime Streaming Server:

On the Mac QuickTime Server

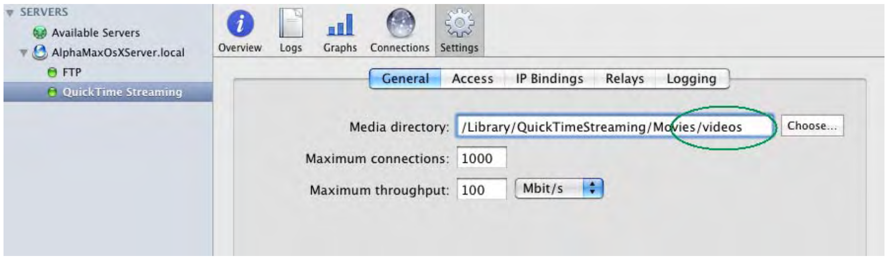
1. Create another user in the Mac OS X environment naming it for example `content` and set the home folder for this user to `/Users`.
2. Create a folder under `/Users/content` called `videos`.
3. Open a Terminal window in Mac OS X and login as the administrator e.g `su`
4. In the Terminal window, navigate to the content folder: `cd /Users/content`
5. In the Terminal window, set the permissions to allow the world to read/write to the videos folder: `chmod 777 videos`
6. In the Terminal window, navigate to the QuickTime Streaming Service publishing point: `cd /Library/QuickTimeStreaming/Movies`
7. In the Terminal window, create a link to the `videos` folder: `In -s /Users/content/videos videos`
8. Open the Server Admin interface to manage the FTP service. Go to **Advanced**, set **Authenticated Users see** to `Home Directory Only` using the dropdown, and then click **Save**.



Authenticated users see: Home Directory Only

FTP root: /Library/FTPServer/FTPRoot

9. If you will be using this QuickTime Streaming server *exclusively* with the Portal Server click on **QuickTime Streaming** and append `videos` to **Media directory** path. If you will *not* be using this QuickTime server exclusively with the Portal Server, skip this step and add a Streaming Alias when configuring the Portal Server in Step 4 below.
10. Save and restart the server when done.



Media directory: /Library/QuickTimeStreaming/Movies/videos

Maximum connections: 1000

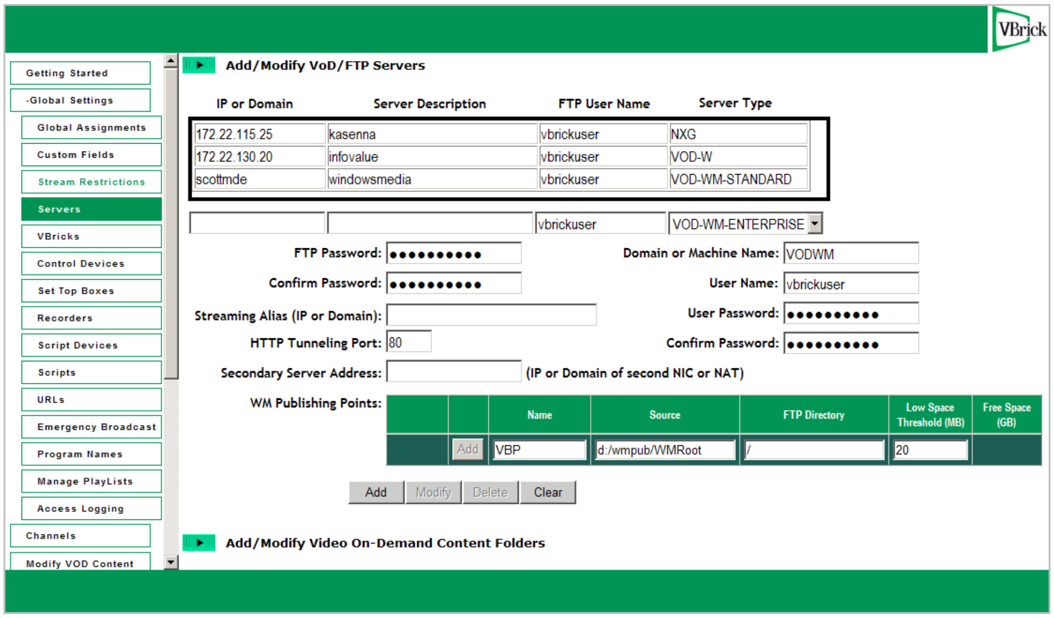
Maximum throughput: 100 Mbit/s

On the VBrick Portal Server

1. Open the Portal Server Admin Console and go to Global Settings > Servers.
2. Add a VOD-D server with the IP address, FTP User Name = `content`, and FTP Password.
3. Set the **Publishing Directory** folder to `/videos`.
4. If you skipped Step 9 above when configuring the QTSS, configure a **Streaming Alias** for `server_name/videos` or `ip_ address/videos`.
5. After successfully completing these steps you will be able to read and write content from the QuickTime server.

Adding VOD-WM Servers

Although the VOD-WM Enterprise server supports numerous multicast types, the Portal Server creates and displays only "File" multicasts which stream a single file. A Windows Media server administrator can create other multicast types using the Windows Media Services interface but these multicast types are not supported and may not be displayed in the Media Library. Note that the **Free Space** option (see below) is only available if you run the `EnableQueryDiskSpace.reg` utility.



Add/Modify VoD/FTP Servers

IP or Domain	Server Description	FTP User Name	Server Type
172.22.115.25	kasenna	vbrickuser	NXG
172.22.130.20	infovalue	vbrickuser	VOD-W
scottmde	windowsmedia	vbrickuser	VOD-WM-STANDARD
		vbrickuser	VOD-WM-ENTERPRISE

FTP Password: ●●●●●●●●●●

Confirm Password: ●●●●●●●●●●

Streaming Alias (IP or Domain):

HTTP Tunneling Port: 80

Secondary Server Address: (IP or Domain of second NIC or NAT)

Domain or Machine Name: VODWM

User Name: vbrickuser

User Password: ●●●●●●●●●●

Confirm Password: ●●●●●●●●●●

WM Publishing Points:

	Name	Source	FTP Directory	Low Space Threshold (MB)	Free Space (GB)
Add	VBP	d:/wmpub/WMRoot	/	20	

Add/Modify Video On-Demand Content Folders

Figure 5. Add VOD-WM Server

Domain or Machine Name	When the VEMS Portal Server and the VOD-WM server reside in the same domain, this is the name of that domain. When workgroups are being used, this is the machine name of the VOD-WM server. Note: the machine name is *not* the IP address of the server.	
User Name	The name of a valid user that has administration privileges on the VOD-WM server or the network domain. If the VOD-WM Server is within a domain, the name entered here will be a domain user. That domain user must have administration privileges on the VOD-WM Server. If the VOD-WM Server is part of a workgroup, the name entered here will be a local user with administration privileges on the VOD-WM Server. A local user with administrator privileges having the same name must also exist on the VEMS Portal Server. Note: The VEMS Portal Server and VOD-WM Server(s) must all be within a domain or part of a workgroup. Any topology that mixes servers in domains and servers in workgroups will not work or will be extremely slow.	
User Password	The valid password of the user specified above.	
WM Publishing Points	Name	The publishing point on the VOD-WM (default = VBP) server where content will be accessed and managed by the VEMS Portal Server. *Note: this setting must correspond to an existing, valid publishing point on the server.*
	Source	Local path to the publishing point. Default = `d:/wmpub/WMRoot`. Do not change for first publishing point.
	FTP Directory	Path to user-created FTP directory. See Creating a VOD-WM FTP Server.
	Low Space Threshold	Optional. Default = 20 MB. If the available disk space on this publishing point is less than the specified value, the publishing point with the largest amount of free space will be used.
	Free Space	Optional. This option automatically calculates the free space (in GB) available on disk when you add a new publishing point or refresh the publishing point list. This feature can consume server resources and is disabled by default. To enable (or disable) this option (on VOD-WM servers or File Servers), go to `<install_dir>\program files\VBrick\MCS\utils`, run `EnableQueryDiskSpace.reg` or `DisableQueryDiskSpace.reg` respectively, and reboot the server when done.

Adding Publishing Points to a VOD-WM Server

In a typical scenario, first you configure the publishing point on the Windows Media server, *then* you configure the publishing point on the Portal Server with matching values. Additional publishing points are required to make content available when you add disk space to a Windows Media server. As shown on the previous window, a Windows Media Server supports multiple publishing points. *In this context, publishing points are used to discover your content via FTP.* Use the following steps, **in the order shown**, to create a new publishing point. Note that as explained below, you must create a virtual FTP directory in IIS for *each* publishing point on the WM Server.

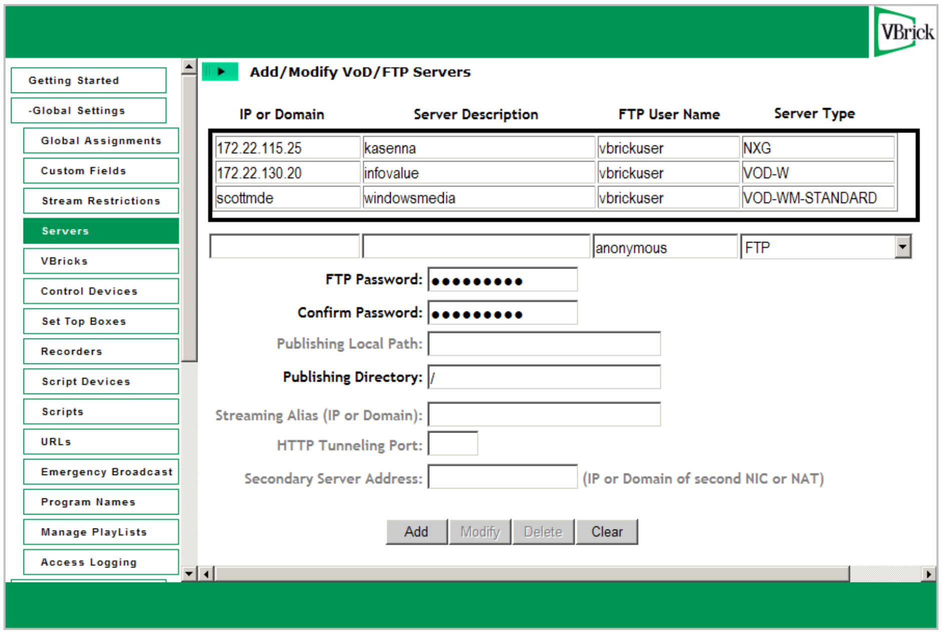
▼ To add a publishing point:

1. Create an FTP server on the WM server. See Creating a VOD-WM FTP Server on page 39.
2. Create a publishing point on the WM Server.
   a. Go to **Start > Administrative Tools > Windows Media Services**.
   b. Right-click on the server_name and select **Add Publishing Point (Wizard)**.
   c. Add a meaningful publishing point name and click Next.
   d. Select **Files (digital media or playlists) in a directory** and click Next.
   e. Select **On-demand publishing point** and click Next.
   f. Specify the location of your content, for example `d:\WMPub\WMRoot` and click Next.
   g. Skip through the remaining steps and click **Finish** when done.
3. To create a virtual directory on the WM server for this publishing point:
   a. Go to **Start > Administrative Tools > Internet Information Services (IIS) Manager**.
   b. Navigate to the Default FTP Website. Right-click and select **New > Virtual Directory**.
   c. For **Alias**, use the Publishing Point name from Step 3 above and click Next.
   d. Enter the path to the content directory for this FTP site and click Next.
   e. Allow **Read** and **Write** permissions and click Next.
   f. Click **Finish** when done.
4. In the Portal Server, configure the publishing point **Name**, **Source**, and **FTP Directory** to match the values you used for the publishing point on the Windows Media server.

Note

- The publishing point name within a server must be unique. You cannot add a publishing point that already exists in VEMS database.
- The publishing point FTP directory within a server must be unique.
- If free space information is available at the time a publishing point is added, it must be greater than the entered **Low Space Threshold**.
- Publishing points located within another publishing point are not supported although publishing points on the same drive are supported. For example, two publishing points with **Source** `c:\pub1` and `c:\pub2` are supported but two publishing points with **Source** `c:\pub1` and `c:\pub1\pub2` are not supported.

Add FTP Server



Add/Modify VoD/FTP Servers

IP or Domain	Server Description	FTP User Name	Server Type
172.22.115.25	kasenna	vbrickuser	NXG
172.22.130.20	infovalue	vbrickuser	VOD-W
scottmde	windowsmedia	vbrickuser	VOD-WM-STANDARD
		anonymous	FTP

FTP Password: ●●●●●●●●●

Confirm Password: ●●●●●●●●●

Publishing Local Path:

Publishing Directory: /

Streaming Alias (IP or Domain):

HTTP Tunneling Port:

Secondary Server Address: (IP or Domain of second NIC or NAT)

Figure 6. Add FTP Server

Using Secure FTP

VBrick's FTP client supports secure FTP connections from the end user (client), Portal Server and NVR to the VOD servers. This is accomplished using FTP over SSL (FTPS protocol). Having a client that supports FTPS however, is not enough to have secure FTP connections throughout the system. The FTP servers on all VOD servers also need to support FTPS for a secure connection to exist. If a secure connection cannot be established, the client will revert to the standard FTP protocol. The FTP server on Windows platforms (IIS) does not currently support FTPS. *Therefore, to have secure connections, you must install a third-party add-in on all Windows VOD servers.* Of the various solutions available, VBrick recommends FTP Guardian. FTP Guardian is a wrapper for IIS that serves as a proxy between a secure client and an unsecured IIS. You change the FTP port of IIS to an arbitrary port (10021 for example), then you start the FTP Guardian service. It binds to port 21 and all incoming FTP clients communicate using a secure front that proxies the calls to IIS on port 10021. Be aware that this add-on, for Windows servers only, is not sold or supported by VBrick. It requires a server wrapper and additional .dlls.

▼ To install FTP Guardian:

1. Go to http://www.tcpdata.com/ftpg_license.shtml
2. Click and run **Download ftp Guardian Server Wrapper - 600K** on the VOD server.
3. Click **Download SSL Libraries - 380K** on the VOD server.

Then open the .zip file and copy `libeay32.dll` and `ssleay32.dll` into `C:\Program Files\ftpgs`

Creating a VOD-WM FTP Server

If you are using a VOD-WM-Enterprise or VOD-WM-Standard (Microsoft Windows Media) server, you must install and configure a standard FTP server on the VOD-WM server as explained below. (For more about Microsoft Windows Media servers see VEMS VOD Servers on page 6.)

▼ To create a Microsoft Windows Media FTP server:

On the Microsoft Windows Media Server:

1. Install the FTP server.
2. Set the default FTP directory to the Microsoft Windows Media Server's default Publishing Point directory.
3. Create and configure an FTP user account with full permissions (read/write, rename/delete etc.) on the directory specified above. If using the VBrick default, this account's user name is `vbrickuser` and the password is `vbrickuser`. Hint: use the settings of the `anonymous` account as an example.
4. Verify that the directory specified in Step 2 above is set to allow the FTP user account full permissions.

On the Portal Server:

5. When the Microsoft Windows Media Server is created or modified, specify the user name and password created in Step 3 above in the **FTP User Name** and **FTP Password** fields on the **Add/Modify VOD/FTP Servers** page.

Creating a VOD-D FTP Server

If you are using a VOD-D (Darwin) server, you must install and configure a standard FTP server on the VOD-D server as explained below. (For more about Darwin servers see VEMS VOD Servers on page 6.)

▼ To create a Darwin FTP server:

On the Darwin Server:

1. Install a standard FTP server on port 21.
2. Set the default FTP directory to the Darwin Server's Media Folder directory (also called the Publishing Point) or create a virtual directory of the FTP root pointing to the Darwin server's Media Folder.
3. Create and configure an FTP user account with full permissions (read/write, rename/delete etc.) on the directory created above. If using the VBrick default, this account's user name is `vbrickuser` and the password is `vbrickuser`. Hint: use the settings of the `anonymous` account as an example.
4. Verify that the directory created in Step 2 above is set to allow the FTP user account full permissions.

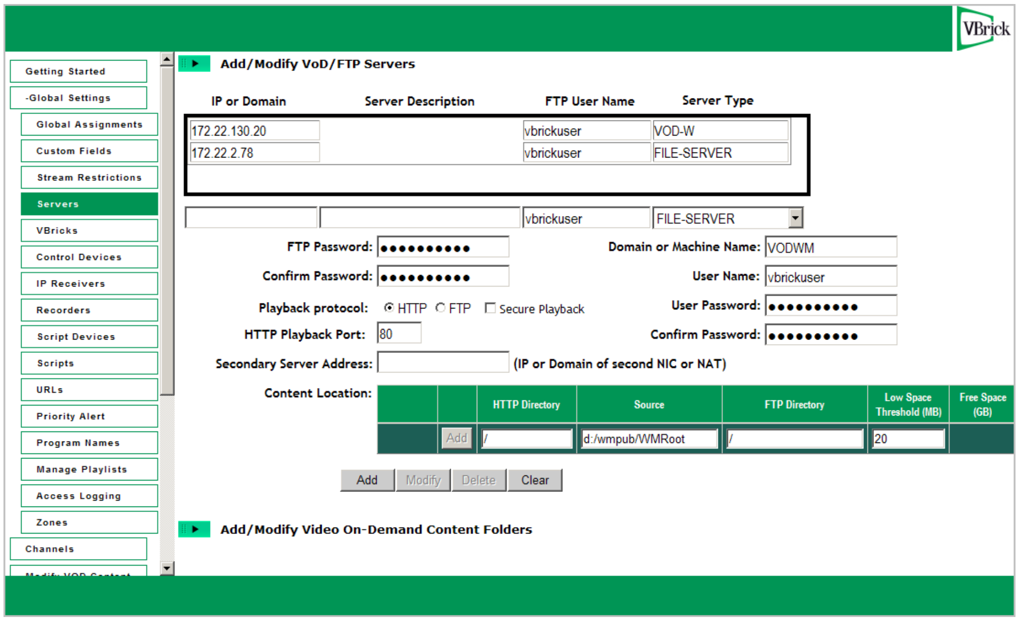
On the Portal Server:

5. When the Darwin Server is created or modified, specify the user name and password created in Step 3 above in the **FTP User Name** and **FTP Password** fields on the **Add/Modify VOD/FTP Servers** page.

Add File Server

Any Windows computer with an FTP server running can be configured as a progressive download file server (for Windows Media files only). Progressive download is a method of delivering audio and video that involves caching and playing the downloaded portion of a file while a download is still in progress via FTP. Recorded WM files are automatically ingested to all VOD and file servers if the user has access rights and publishing permissions. A progressive download file server can provide secure (encrypted) playback if configured for SSL. (Note: You can also use a WM encoder with a hard drive for progressive download. See

VBrick Configuration on page 46.) Note that the **Free Space** option (see below) is only available if you run the `EnableQueryDiskSpace.reg utility.`



Add/Modify VoD/FTP Servers

IP or Domain	Server Description	FTP User Name	Server Type
172.22.130.20		vbrickuser	VOD-W
172.22.2.78		vbrickuser	FILE-SERVER
		vbrickuser	FILE-SERVER

FTP Password: ●●●●●●●●●●

Confirm Password: ●●●●●●●●●●

Playback protocol: ● HTTP ○ FTP □ Secure Playback

HTTP Playback Port: 80

Secondary Server Address: (IP or Domain of second NIC or NAT)

Domain or Machine Name: VODWM

User Name: vbrickuser

User Password: ●●●●●●●●●●

Confirm Password: ●●●●●●●●●●

Content Location:

	HTTP Directory	Source	FTP Directory	Low Space Threshold (MB)	Free Space (GB)
Add	/	d:/wmpub/WMRoot	/	20	

Add/Modify Video On-Demand Content Folders

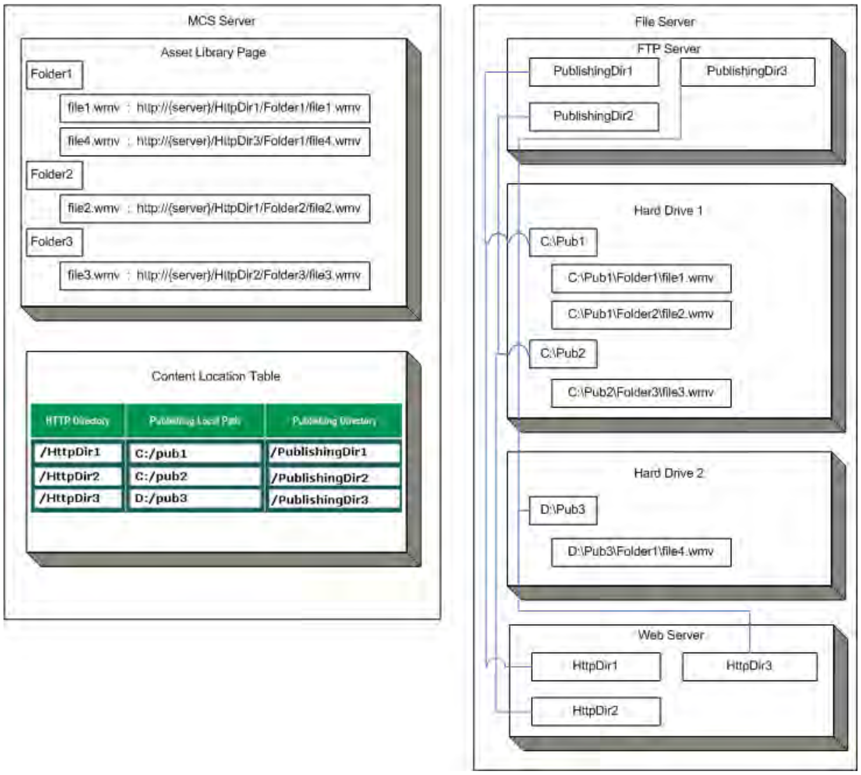
Figure 7. Add File Server

Playback Protocol	• HTTP – Use HTTP if there is a web server running on the file server. For details, see Using HTTP Playback below. • FTP – Use FTP if there is no web server running on the file server. For details, see Using FTP Playback below. • Secure Playback – Use Secure Playback if the file server is configured for SSL. For details, see Using Secure Playback below.
HTTP Playback Port	• 80 – default port for HTTP playback. • 443 – default port for HTTPS playback. To use Secure Playback, the file server must be configured for SSL.
Domain or Machine Name	Displayed when **Free Space** option is enabled. When the Portal Server and the file server reside in the same domain, this is the name of that domain. When workgroups are being used, this is the machine name of the file server. Note: the machine name is *not* the IP address of the server.

User Name	Displayed when **Free Space** option is enabled. The name of a valid user that has administration privileges on the file server or the network domain. If the file server is within a domain, the name entered here will be a domain user. That domain user must have administration privileges on the file server. If the file server is part of a workgroup, the name entered here will be a local user with administration privileges on the file server. A local user with administrator privileges having the same name must also exist on the Portal Server. Note: The VEMS Portal Server and file server(s) must all be within a domain or part of a workgroup. Any topology that mixes servers in domains and servers in workgroups will not work or will be extremely slow.	
User Password	Displayed when **Free Space** option is enabled. The valid password of the user specified above.	
Content Location	HTTP Directory	Shown if playback protocol is HTTP. The virtual directory on the file server where content will be accessed and managed by the VEMS Portal Server.
	Source	The complete path to the physical location of the content on the file server.
	FTP Directory	Path to a user-created virtual FTP directory. See Add FTP Server on page 39 for more information.
	Low Space Threshold	Optional. Default = 20 MB. If the available disk space on this publishing point is less than the specified value, the publishing point with the largest amount of free space will be used.
	Free Space	Optional. This option automatically calculates the free space (in GB) available on disk when you add a new publishing point or refresh the publishing point list. This feature can consume server resources and is disabled by default. To enable (or disable) this option (on VOD-WM servers or File Servers), go to `<install_dir>\program files\VBrick\MCS\utils`, run `EnableQueryDiskSpace.reg` or `DisableQueryDiskSpace.reg` respectively, and reboot the server when done.

Using HTTP Playback

If you select HTTP for **Playback Protocol**, Figure 8 shows sample content location. The FTP server has three corresponding publishing directories that map to three local paths. These publishing directories are needed for the Portal Server to discover contents in the file server and to publish new content. The file server also has a web server running with three corresponding HTTP directories that map to those three local paths. The Portal Server constructs an HTTP URL for each file and the Portal Server client downloads the file from the web server inside the file server. By default, HTTP is played back over Port 80.


MCS Server
Asset Library Page
Folder1
file1.wmv : http://{server}/HttpDir1/Folder1/file1.wmv
file4.wmv : http://{server}/HttpDir3/Folder1/file4.wmv
Folder2
file2.wmv : http://{server}/HttpDir1/Folder2/file2.wmv
Folder3
file3.wmv : http://{server}/HttpDir2/Folder3/file3.wmv
Content Location Table
File Server
FTP Server
PublishingDir1
PublishingDir3
PublishingDir2
Hard Drive 1
C:\Pub1
C:\Pub1\Folder1\file1.wmv
C:\Pub1\Folder2\file2.wmv
C:\Pub2
C:\Pub2\Folder3\file3.wmv
Hard Drive 2
D:\Pub3
D:\Pub3\Folder1\file4.wmv
Web Server
HttpDir1
HttpDir3
HttpDir2

HTTP Directory	Publishing Local Path	Publishing Directory
/HttpDir1	C:/pub1	/PublishingDir1
/HttpDir2	C:/pub2	/PublishingDir2
/HttpDir3	D:/pub3	/PublishingDir3

Figure 8. Content Location for HTTP Playback

Using FTP Playback

If you select FTP for **Playback Protocol**, Figure 9 shows sample content location. In the example there are three folders: `c:\Pub1`, `c:\Pub2` and `d:\Pub3`. The FTP server has three publishing directories that map to those three folders. (Note that only one publishing point is actually required.) The Portal Server constructs an FTP URL for each file and the Portal Server client downloads the file from the FTP server inside the file server. Multiple content locations can on the same hard drive. For example, `c:\pub1` and `c:\pub2` are on drive C. This is necessary to preserve the current file structure on the file server but you cannot create a content location inside another content location. Secure FTP playback is not supported. Note that Portal Server users cannot create thumbnails when **Playback Protocol** is set to FTP.

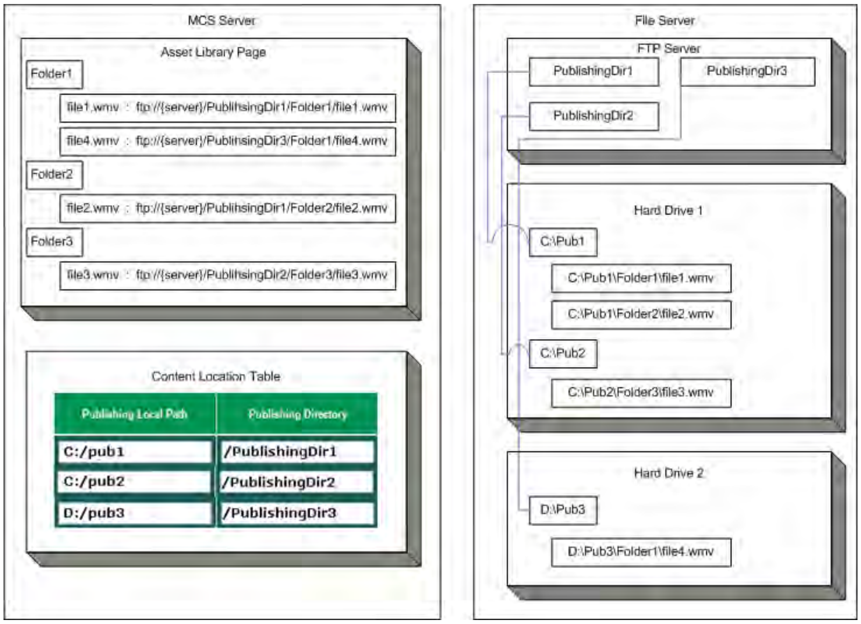

MCS Server
Asset Library Page
Folder1
file1.wmv : ftp://{server}/PublihsingDir1/Folder1/file1.wmv
file4.wmv : ftp://{server}/PublihsingDir3/Folder1/file4.wmv
Folder2
file2.wmv : ftp://{server}/PublihsingDir1/Folder2/file2.wmv
Folder3
file3.wmv : ftp://{server}/PublihsingDir2/Folder3/file3.wmv
Content Location Table
Publishing Local Path
Publishing Directory
C:/pub1
/PublishingDir1
C:/pub2
/PublishingDir2
D:/pub3
/PublishingDir3
File Server
FTP Server
PublishingDir1
PublishingDir3
PublishingDir2
Hard Drive 1
C:\Pub1
C:\Pub1\Folder1\file1.wmv
C:\Pub1\Folder2\file2.wmv
C:\Pub2
C:\Pub2\Folder3\file3.wmv
Hard Drive 2
D:\Pub3
D:\Pub3\Folder1\file4.wmv

Figure 9. Content Location for FTP Playback

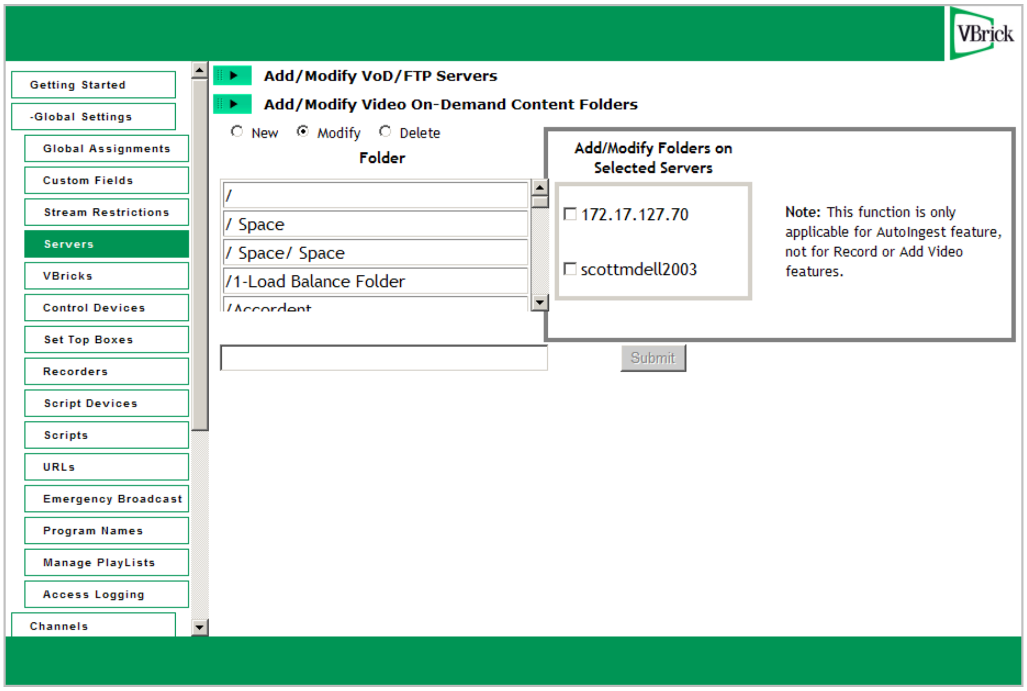
Using Secure Playback

If you select Secure Playback for **Playback Protocol**, the file is progressively downloaded *and* encrypted. In order to use secure playback, the *file server* must be configured for SSL with a digital X.509 certificate from a trusted certificate authority. Secure download is only valid for HTTPS. By default, HTTPS is played back over Port 443. Note that Portal Server users cannot create thumbnails when **Playback Protocol** is set to Secure Playback.

Note A file server using secure playback can be configured with an IP address or a host name. If the server certificate is issued for an IP address, you must use the IP address; if issued for a host name, you must use the host name. Otherwise, the video will not play and a message will indicate the security certificate was issued for a different website.

Add/Modify Video On Demand Content Folders

Add/Modify Video On Demand Content Folders can be used to organize content on a specific Video-on-Demand server. The Portal Server periodically polls certain folders for presence of content and if found ingests the content onto multiple VOD servers. Any files FTPed into a particular folder in the Autoingest folder will automatically be ingested into the corresponding folder on the VOD server(s). You must add these folders using the window shown below. (See Auto Content Ingestion on page 143 for more about autoingestion.) Existing folder structures on a VOD server will be mirrored in the Portal Server. However you will still need to associate those folders with other server(s) if the file is to be autoingested onto multiple servers.



Note: This function is only applicable for AutoIngest feature, not for Record or Add Video features.

This function is useful for VBrick VBStar appliances to easily transfer content from their hard drives to the VOD server. (It can also be helpful for users who acquire content outside of the VEMS Portal Server, for example from StreamPlayer Plus.) When a folder is created, you must check a box in **Add/Modify Folders on Selected Servers** to associate the folder with a server for autoingestion. VEMS Portal Server checks these folders every 5 minutes and ingests new content if present. This feature only applies to Autoingest; it does not apply to **Record** or **Add Video**.

Note that empty folders are not displayed on the Portal Server client interface. These folders are only displayed when they have content. As the folder structure is created in this section, autoingest folders will be created in the FTP root path. For example, if the FTP root path is `d:\inetpub\ftproot`, then folders that are created in the **Add/Modify On-Demand** content folders will also be created in the `d\inetpub\ftproot\mcs\autoingest` folder.

Autoingested content can go into any folder that has been associated with a server or servers using the **Add/Modify Folders on Selected Servers** check boxes shown above. If using a VBStar, be sure to associate a folder with a server for autoingest. This enables the folder that the VBStar will FTP files into. This function is not associated with a user or group permission and is controlled only by the Administrator. See Auto Content Ingestion on page 143 for a more detailed description of the Autoingestion functionality.

Note Use the **Delete** button to remove non-empty folders only. Use the **Modify** button to change AutoIngest settings in the **Add/Modify Folders on Selected Servers** pane.

Creating Subfolders

Use the following steps to create a subfolder in an existing folder.

▼ To create a subfolder:

1. Highlight any existing folder name, for example `/Bill` as shown in the previous window, and click **New**.

2. Type the new subfolder name in the text field, preceded by a forward slash, for example **/Bill/temp**, and click **Submit** when done.

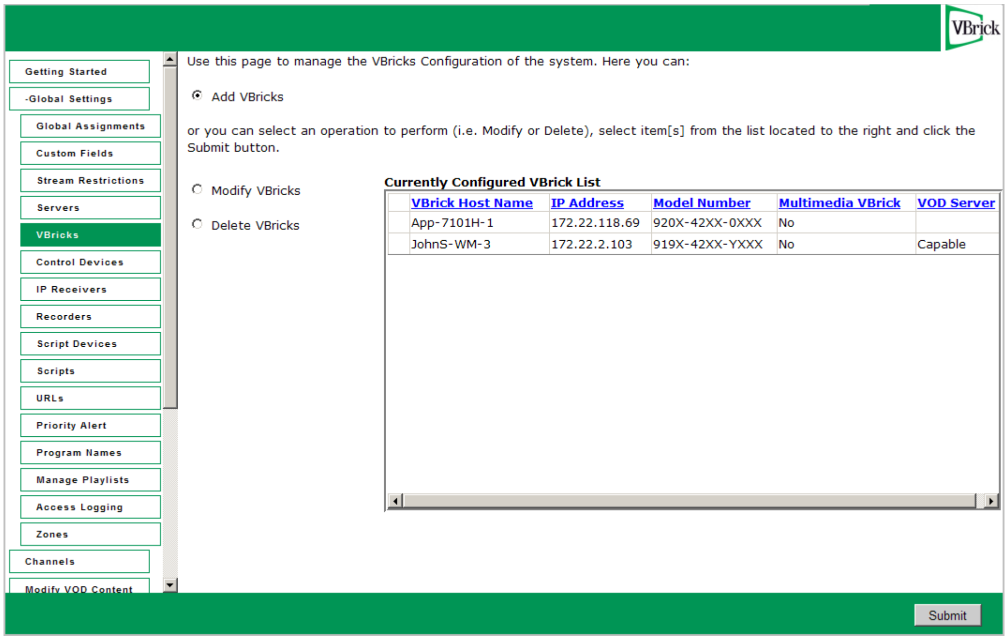
VBricks

All VBricks must be configured in VEMS Portal Server before they can be managed and used for scheduled events. (VBrick configuration is only required if you are using the **Scheduling** feature. Once configured, all VBricks in the system are shown on the following window. In the VEMS Portal Server, SAP (Session Announcement Protocol) announcements are sent to the Portal Server by network-connected VBrick devices (encoders and/or decoders). The **Select VBrick** panel in the next screen shows VBrick appliances (encoders and decoders) that have announced their presence on the network but have not been configured for use in VEMS Portal Server. (Note that if you delete a VBrick from the **Currently Configured VBrick List**, it will not be shown as available until you logout and log back in to the Admin Console.)

VBrick Configuration

▼ To add a VBrick configuration:

1. Go to **Global Settings > VBricks**. The information in the panel indicates whether a VBrick can be used for multimedia or for progressive download (as a VOD server).



Use this page to manage the VBricks Configuration of the system. Here you can:

● Add VBricks

or you can select an operation to perform (i.e. Modify or Delete), select item[s] from the list located to the right and click the Submit button.

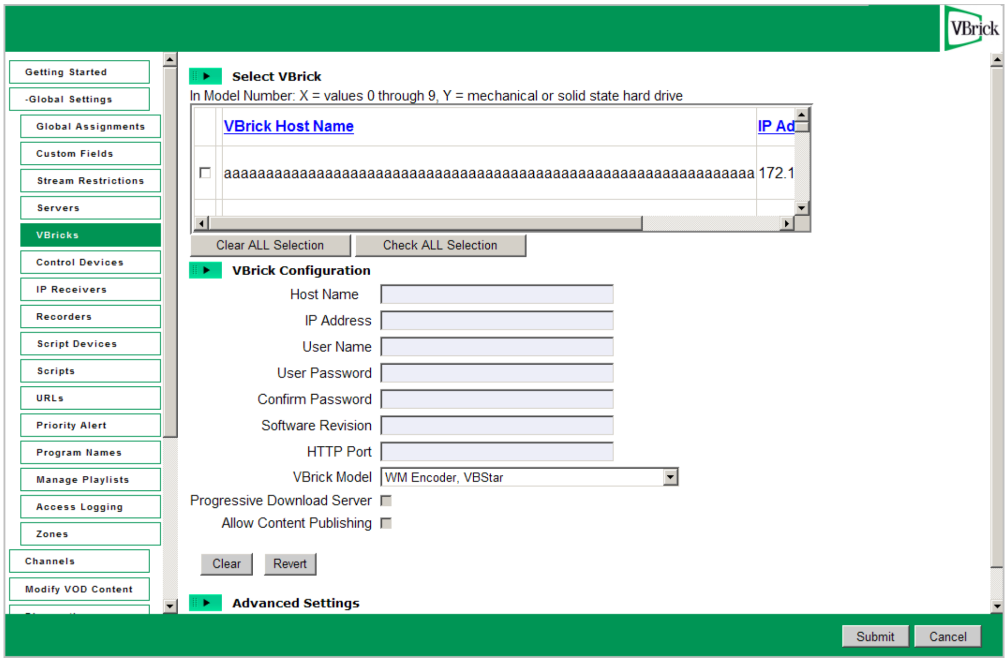
○ Modify VBricks

○ Delete VBricks

Currently Configured VBrick List

	VBrick Host Name	IP Address	Model Number	Multimedia VBrick	VOD Server
	App-7101H-1	172.22.118.69	920X-42XX-0XXX	No	
	JohnS-WM-3	172.22.2.103	919X-42XX-YXXX	No	Capable

2. Select **Add VBricks** and click **Submit**.



Select VBrick

In Model Number: X = values 0 through 9, Y = mechanical or solid state hard drive

	VBrick Host Name	IP Ad
□	aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa	172.1

VBrick Configuration

Host Name
IP Address
User Name
User Password
Confirm Password
Software Revision
HTTP Port
VBrick Model: WM Encoder, VBStar
Progressive Download Server □
Allow Content Publishing □

Advanced Settings

3. In **Select VBrick**, select one or more existing VBricks for which a SAP has been received. If you select one VBrick, this populates the **VBrick Configuration** panel. (If you select multiple VBricks, it does not populate the panel; if you need to configure the VBricks, you must add them one at a time.)
4. Complete or modify the fields in **VBrick Configuration** as necessary. Note that you must enter a User Name and Password and confirm that Password or the configuration will fail.
5. Click **Submit** when done. This adds the new configuration to the list of configured VBricks shown on the previous page.

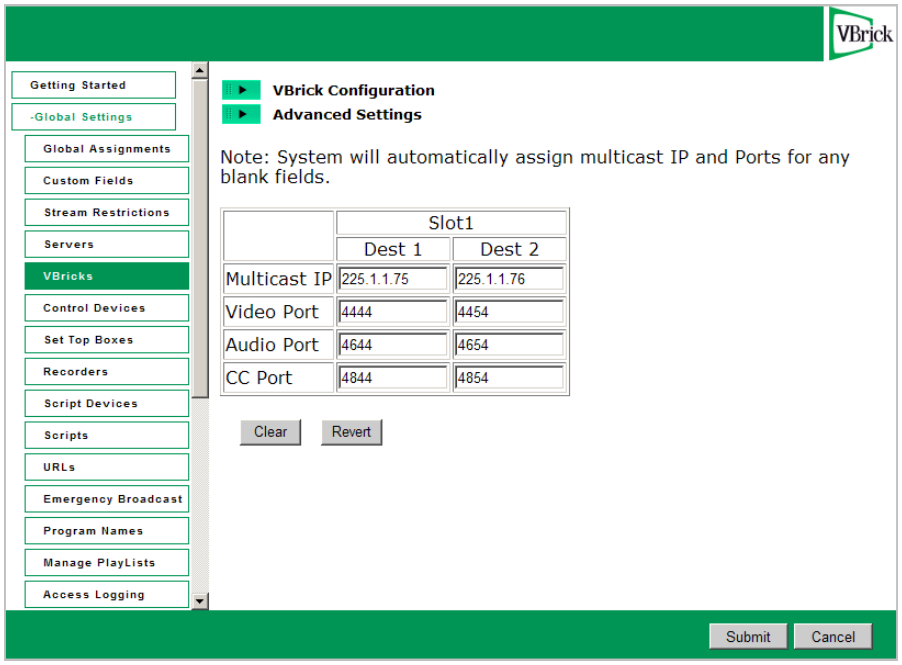
Note The only time you will manually complete the VBrick Configuration fields is when you are defining the configuration for a VBrick that will be added to the network at a later time. In this case, you will need to know the following configuration data in advance.

Host Name	Required. Host name of VBrick.
IP Address	Required. IP address of VBrick.
User Name	Defaults to system-defined value if blank.
User Password	Defaults to system-defined value if blank.
Confirm Password	Defaults to system-defined value if blank. Must match User Password if entered above.
Software Revision	Optional. To get the Software Revision, use IWS (for MPEG and WM) or VBAdmin (for H.624).
HTTP Port	Optional. To get the HTTP Port, use IWS (for MPEG and WM) or VBAdmin (for H.624).
VBrick Model	Select from the dropdown. Advanced settings are enabled if you select an encoder or a VBStar.

Progressive Download Server	Check this box to enable a WM encoder (with v4.2.1 or higher software) with a hard drive (a VBStar) as a progressive download server. All .wmv files stored in the D:\public folder of the VBStar will be available in the Media Library for progressive download. (You can also use a file server for progressive download. See Add File Server on page 40.)
Allow Content Publishing	All WM recordings will be published to the VOD servers *and* to this VBStar if the user has access rights and publishing permissions. Note that ingestions to the VBStar will fail when the 60 GB hard drive is full.

Advanced Settings

Advanced settings are enabled if you select a VBrick encoder or a VBStar. *Note that the Portal Server will attempt to retrieve and autofill the Multicast IP addresses and Port numbers.* You can modify these fields as necessary.



VBrick Configuration

Advanced Settings

Note: System will automatically assign multicast IP and Ports for any blank fields.

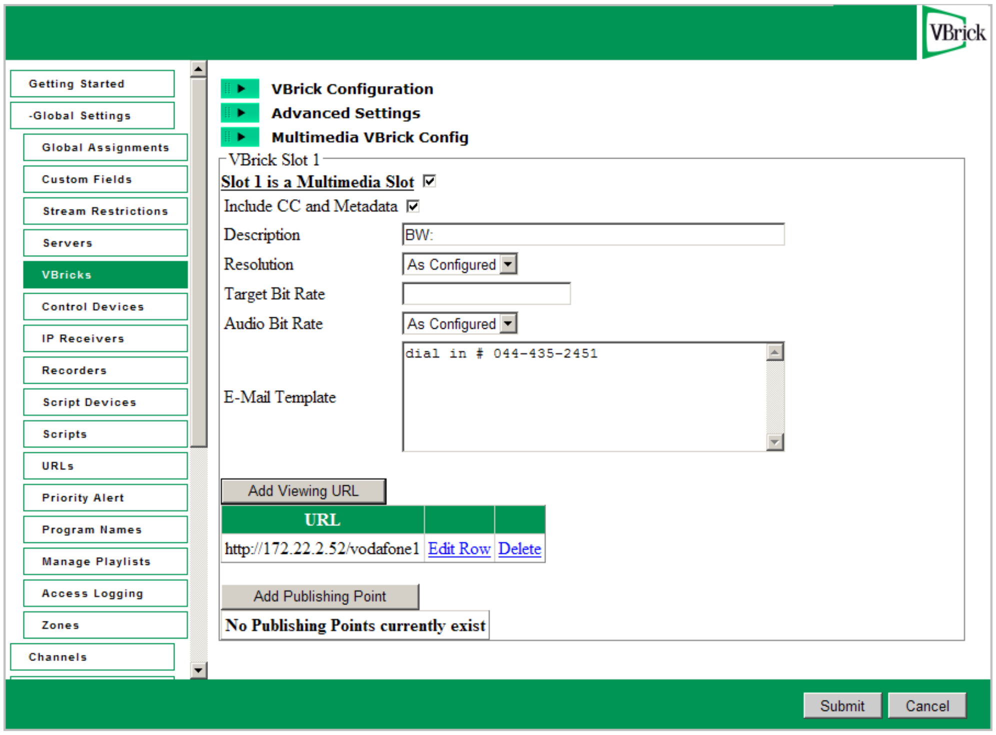
	Slot1	
	Dest 1	Dest 2
Multicast IP	225.1.1.75	225.1.1.76
Video Port	4444	4454
Audio Port	4644	4654
CC Port	4844	4854

Note The following values are stored in the Portal Server database only. Depending on how a scheduled event is configured, they may be saved and written back to the VBrick device after the scheduled event runs.

Multicast IP	Destination multicast IP address.
Video Port	Destination video port.
Audio Port	MPEG-4 devices only. Destination audio port.
CC Port	MPEG-4 devices only. Closed captioning port.

Multimedia VBrick Configuration

These settings are only enabled when you add or modify a VBrick that has a WM encoder in at least one slot. By completing these fields you are defining the encoder as a **Multimedia VBrick** that can be used for presentations and in specialized end-user environments. For example, in some environments, the Portal Server can be configured to use a multimedia VBrick for rich media presentations. In this scenario, the settings for **Resolution**, **Target Bit Rate**, and **Audio Bit Rate** are used at presentation runtime and will override existing settings on the VBrick encoder.



VBrick Configuration
Advanced Settings
Multimedia VBrick Config

VBrick Slot 1

Slot 1 is a Multimedia Slot ☑
Include CC and Metadata ☑
Description: BW:
Resolution: As Configured
Target Bit Rate:
Audio Bit Rate: As Configured
E-Mail Template: dial in # 044-435-2451

URL		
http://172.22.2.52/vodafone1	Edit Row	Delete

No Publishing Points currently exist

Slot 1 is a Multimedia Slot	Default = not checked. Lets you define the multimedia-specific fields listed below. Slot 2 (if present) can also be configured for multimedia.
Include CC and Metadata	Default = not checked. Include closed captions and metadata if available in the stream.
Description	Text field used for descriptive text.
Resolution	Select an available resolution from the dropdown or choose **As Configured** to use the current VBrick setting.
Target Bit Rate	Enter desired value. Blank = use current VBrick setting.
Audio Bit Rate	Select from an available audio bit rate from the dropdown or choose **As Configured** to use the current VBrick setting.
E-Mail Template	This field, used with custom applications, adds the specified text to an auto-generated e-mail and ensures that the e-mail recipient can connect to the right VBrick encoder.

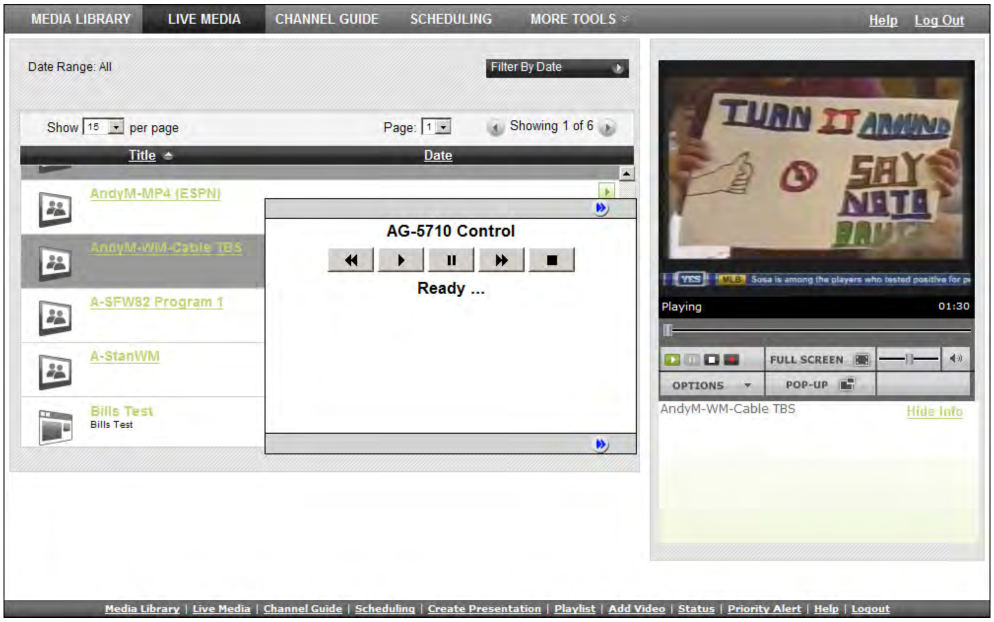
Add Viewing URL	To see this field, you must first "Add" the VBrick and then go back in and select "Modify". Enter a fully qualified path to the Windows Media Server and Publishing Point that will be hosting the video. For example: `http://www.WM_Server_IP_Address/Publishing_Point`
Add Publishing Point	Do not use. This field is reserved for future use.

Control Devices

Note **Control devices are not supported in VEMS v5.0.1.** Existing control devices are compatible with VEMS 5.0.1 but have not been fully tested and will not be initially supported by VBrick—use them at your own risk. VBrick will provide full support for control devices in VEMS v5.1.

Control devices let you configure a video source device so that it can be controlled by end users from the Portal Server user interface. (An example of a video source device is a DVD or VCR directly connected to a VBrick encoder.) Once configured, a special icon on the **Live Media** page indicates you can control the stream using a "virtual" remote control panel as shown in Figure 10 below. VBrick currently supports DVDs and VCRs from several different manufacturers as well as the VBrick VBIR remote controller that can be customized for use with a wide variety of source devices. See Add User-Defined VBIRs below for more about VBIRs.

Note In some cases you may be able to control a source device using the front panel or the handheld remote that came with the unit, but this is not always possible. For example, if the remote gets lost or the source DVD and/or VCRs are rack-mounted in an inaccessible metal enclosure, you *must* use the Portal Server interface or a VBIR.



AG-5710 Control

Ready ...

Figure 10. " Virtual" Remote Control Panel on Live Media Page

As shown in Figure 11 below, the remote control panel will have a different graphical user interface depending on whether the source device is directly attached (via a serial port connection) or uses a VBIR. The control panel interface for direct-connect devices varies according to the specific device you select; the control panel interface for VBIR-connected devices is the same for all VBIR devices (unless manually changed as in Figure 12).

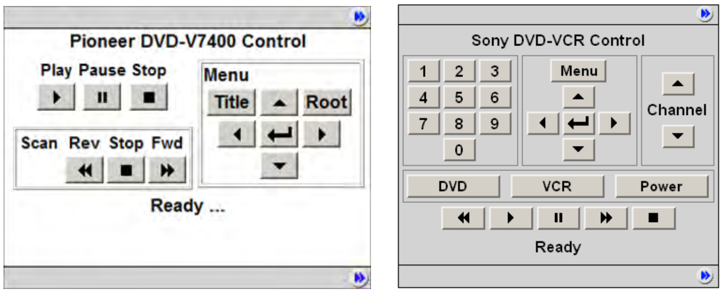


Figure 11. Control Panel for Direct-Connect Devices (left) and VBIR Devices (right)

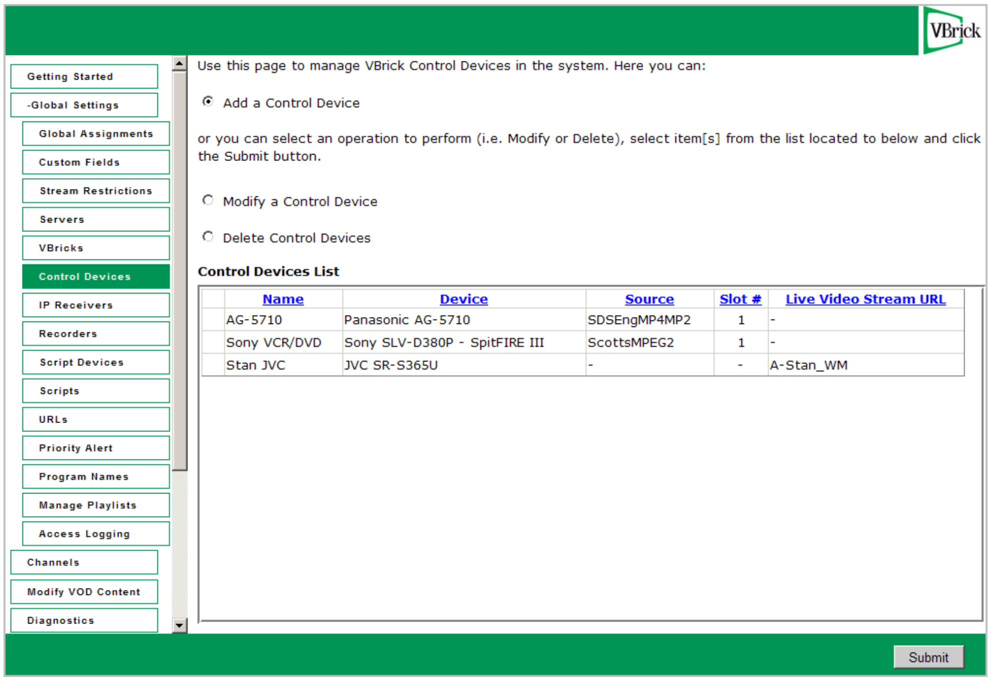
Note The Amino set top box does not recognize "control devices." Any video source devices configured as **Control Devices** in the Portal Server will not display a "virtual" remote control panel on the Amino set top box.

Add Control Devices

Use the following windows to define or modify control devices. As noted, these devices will be displayed on the **Live Media** page with a special icon for any users with access to that encoder. *If the device is used as a source encoder for a scheduled broadcast, however, only the user who actually created the schedule will have access during the scheduled period.* This prevents other users from potentially interrupting the broadcast. If the Portal Server does not have a Scheduling license, all control devices are available at any time to any user with VBrick access and other permissions. See "Using the Scheduler" in the *Portal Server User Guide* for an explanation of how to schedule events for control devices.

▼ To define a control device:

1. Go to **Global Settings > Control Devices** and select **Add Control Devices**.



Use this page to manage VBrick Control Devices in the system. Here you can:

● Add a Control Device

or you can select an operation to perform (i.e. Modify or Delete), select item[s] from the list located to below and click the Submit button.

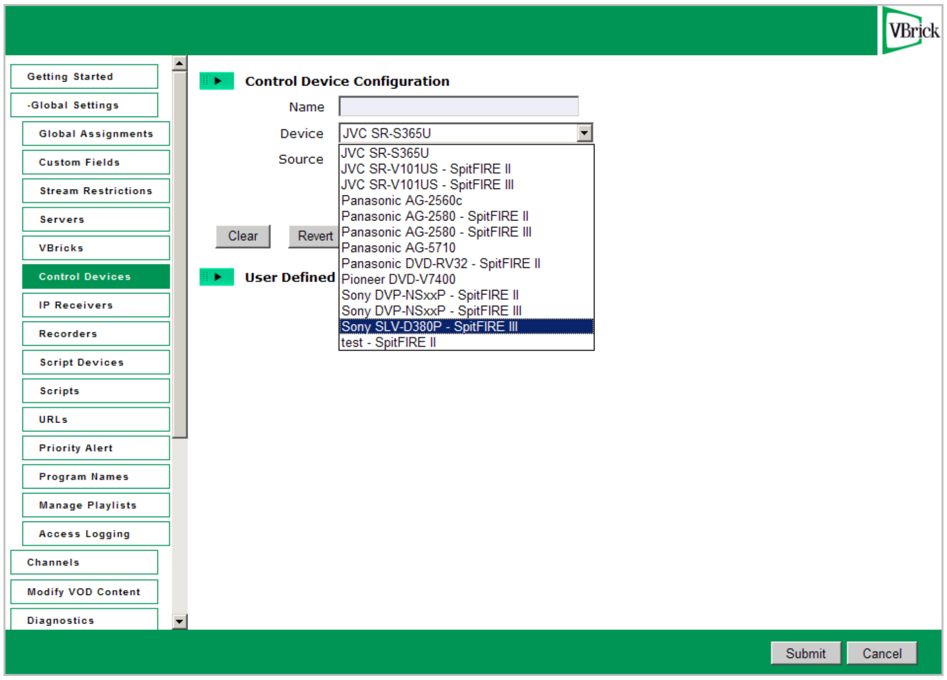
○ Modify a Control Device

○ Delete Control Devices

Control Devices List

Name	Device	Source	Slot #	Live Video Stream URL
AG-5710	Panasonic AG-5710	SDSEngMP4MP2	1	-
Sony VCR/DVD	Sony SLV-D380P - SpitFIRE III	ScottsMPEG2	1	-
Stan JVC	JVC SR-S365U	-	-	A-Stan_WM

2. Complete the fields on the next screen as explained below and click **Submit**.



Control Device Configuration

Name

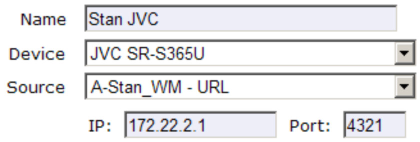
Device JVC SR-S365U

Source

JVC SR-S365U
JVC SR-V101US - SpitFIRE II
JVC SR-V101US - SpitFIRE III
Panasonic AG-2560c
Panasonic AG-2580 - SpitFIRE II
Panasonic AG-2580 - SpitFIRE III
Panasonic AG-5710
Panasonic DVD-RV32 - SpitFIRE II
Pioneer DVD-V7400
Sony DVP-NSxxP - SpitFIRE II
Sony DVP-NSxxP - SpitFIRE III
Sony SLV-D380P - SpitFIRE III
test - SpitFIRE II

User Defined

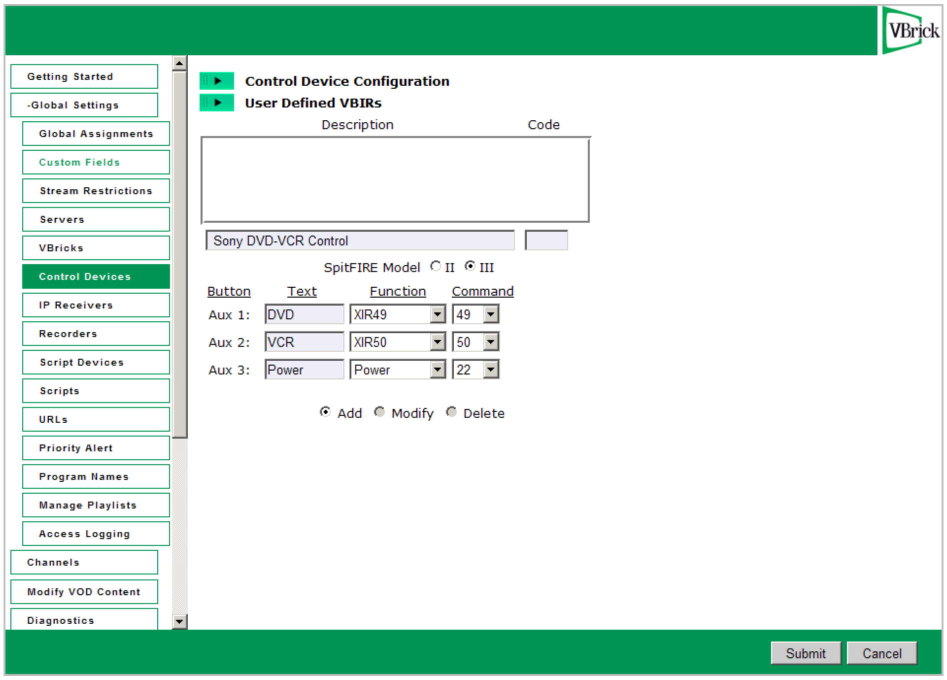
Name	Enter a unique, descriptive name that will be displayed on the virtual remote. For example in Figure 10, "Sony DVD" is the configured name shown on the controller. No embedded spaces or special characters are allowed.

Device	Select a device from the dropdown list. The list shows serial port direct-connect devices and VBIR (SpitFire) commanded devices that are tested and supported by VBrick. It also shows any custom VBIR devices you have added. Creating User Defined VBIR custom devices is explained below. **You cannot create custom serial port direct-connect devices.** If the source device you wish to control does not have a serial port, you must use a VBIR for remote control.
Source	Select as the source either a VBrick encoder or a Live Video Stream URL (identified by `URL`) from the dropdown list. The Device that was selected above will be associated with the specified Source. Selecting a Live Video Stream URL requires that you specify an IP address and port. Enter these in the IP and `Port` fields that are displayed when you select a Live Video Stream URL.  Name Stan JVC Device JVC SR-S365U Source A-Stan_WM - URL IP: 172.22.2.1 Port: 4321
User Defined VBIRs	Select the SpitFire version you have (SpitFire II or III) and enter a Description and a three-digit Code (see Add User-Defined VBIRs below).

Add User-Defined VBIRs

The VBrick VBIR is an external hardware device that uses the passthough port on a VBrick to send control commands *via an infrared link* to third-party devices like VCRs, DVDs, etc. (see Figure 13 for a visual schematic). You must use a VBIR if the target third-party device does not have a serial port that can directly connect to a VBrick encoder. The VBIR can be programmed with codes representing IR command sets that are compatible with devices from many manufacturers. Use the following window to create a custom **User Defined VBIR**. Enter a device description (20 characters or less), a three-digit code, and select the SpitFire model. When done, the new device is added to the **User Defined VBIRs** list as well as to the **Source Device** dropdown list. For a current list of VCR/ DVD device codes for SpitFire II models, go to http://innotech.com/spitfire-ii-device-codes.pdf For SpitFire III models, go to http://innotechsystems.com/Spitfire/SpitFire III.pdf Be aware that the device codes at this link are not tested or supported by VBrick. If you can't find the code you need, or have trouble controlling a non-supported device, check the product documentation or contact the manufacturer.

Note The VBIR Model SpitFire III can be programmed to use IR commands much like a universal remote controller. These "learned" commands are stored in VBIR memory. See Update the VBIR Command Set on page 56 for details.



Control Device Configuration

User Defined VBIRs

Description Code

Sony DVD-VCR Control

SpitFIRE Model ○ II ● III

Button	Text	Function	Command
Aux 1:	DVD	XIR49	49
Aux 2:	VCR	XIR50	50
Aux 3:	Power	Power	22

● Add ○ Modify ○ Delete

Adding a SpitFire Model III VBIR

The VBIR user interface on the Portal Server is designed for the Sony SLV-D380P DVD-VCR player (supported by VBrick). The default interface is shown on the left in Figure 12 but can be modified for use with other devices. You can add your own labels and functionality to the **Aux 1**, **Aux 2**, and **Aux 3** buttons as shown on the right in Figure 12.

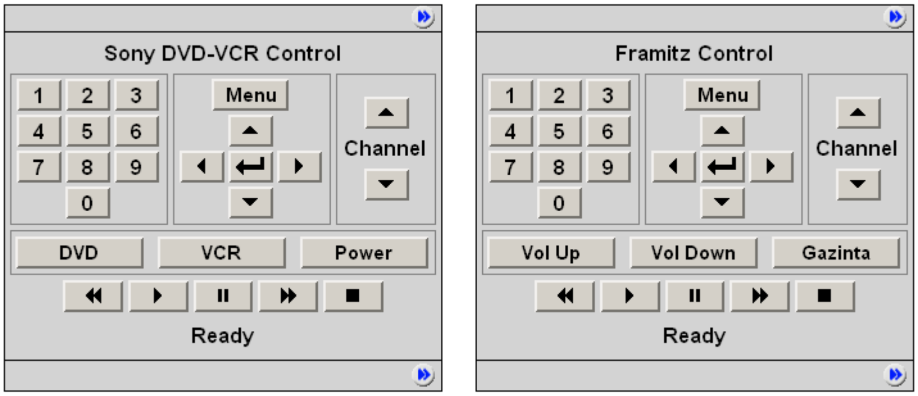


Figure 12. Modifying the SpitFire III Control Panel

In the default configuration there are three "auxiliary" buttons for toggling between **DVD** mode and **VCR** mode plus a **Power** button. The auxiliary buttons are configurable in that you can modify the button label and the associated instruction that will be sent to the VBIR. For example, suppose you want to support the Framitz device, and instead of buttons for DVD, VCR and Power, you want **Vol Up**, **Vol Down** and the special **Gazinta** function.

You can do this by selecting a SpitFire Model III. The auxiliary button definitions will initially display the default values (corresponding to the Sony SLV-D380P). You define the **Text**, **Function** and/or **Command** for each Aux button with an appropriate value—usually obtained in advance from the manufacturer. *It is the customer's responsibility to determine which functions and/or commands to specify for the buttons.* When done, The User Defined VBIR is saved and configured with a VBrick. The buttons will map properly and correctly perform the defined functions.

Connect Control Devices

To set up a device that can be remotely controlled from the Portal Server, you connect the serial interface on the source device (the DVD or VCR) to the passthrough port (COM1 or COM2 for Slots 1 and 2 respectively) on the VBrick encoder using an appropriate cable (see Table 11) from those shipped with the encoder. For more about Serial Port Passthrough, see the online help for the encoder. You can also control devices using VBrick's VBIR remote controller. To use the VBIR remote controller, you connect the VBIR SpitFire device to COM1 or COM2 on the VBrick encoder. The VBIR subsequently communicates with the DVD or VCR via infrared commands (see Figure 13) at the configured baud rate.

If necessary, connect one end of the XIR emitter cable to the SpitFire and the other to the DVD or VCR making sure the adhesive lead is securely attached to the device. The emitter is used when there is no direct line-of-sight to a control device (for example when the VCR is in a cabinet) and you can't use the remote control. On the back of the VBIR, be sure the SpitFire is in RS-232 mode.

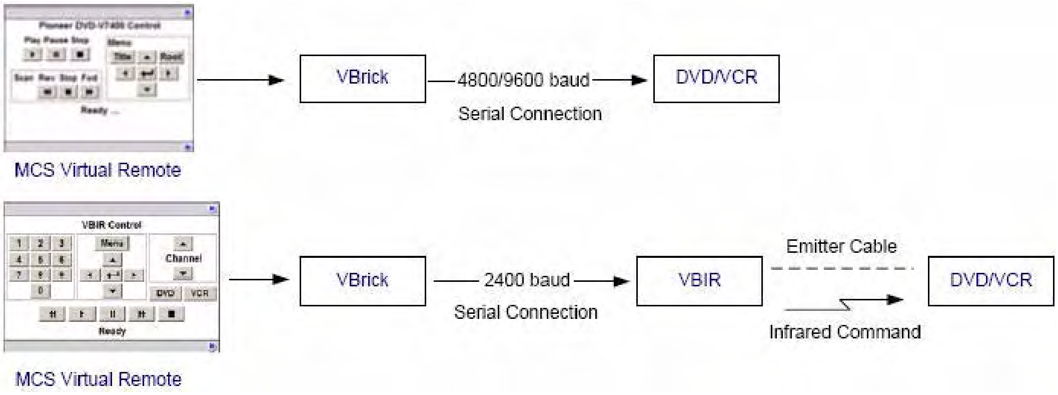


Figure 13. Connecting Control Devices

Table 11. Device Connectors

Device	Connector
VCR	DB-9 †
DVD	DB-15 †
MPEG-1 Encoder	DB-9
MPEG-2/4/WM Encoders	RJ-45

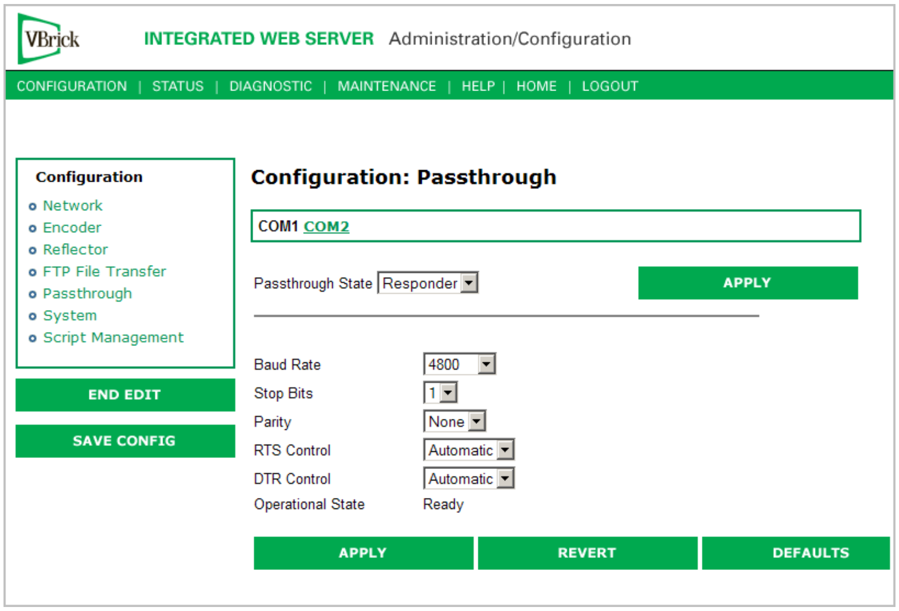
† Typical device connector.

Configure Control Devices

You also need to configure the baud rate and passthrough state of the VBrick associated with a control device. In VBAdmin, go to the **System Configuration > Advanced Configurations > Passthrough** page and set these values as follows:

Table 12. Baud Rate and Passthrough State

Device	Baud Rate	Passthrough State
DVD	4800	Responder
VCR	9600	Responder
VBIR	2400	Responder



Configuration: Passthrough

Passthrough State: Responder

Baud Rate: 4800
Stop Bits: 1
Parity: None
RTS Control: Automatic
DTR Control: Automatic
Operational State: Ready

Update the VBIR Command Set

VEMS Portal Server Control Devices use SpitFire model VBIRs to manipulate DVDs, VCRs or other devices controlled by IR commands. The VBIR contains an internal library of several hundred IR command sets stored in flash memory. The internal library is accessed by a three digit code. The VBIR internal library supports a wide range of devices from many, but not all, device manufacturers. If the IR command set for a particular device is not stored in the internal library there are two ways (as explained below) that the VBIR can be enhanced to control the device.

Learning IR Commands

The VBIR (Spitfire Model III only) can be set to learn and store IR commands like a universal remote controller. Learned commands are stored in VBIR memory areas called slots and are accessed by reserved three-digit codes. The six slots are available are: AUX (994), TV (995), VCR (996), DVD (997), AUD (998), and CBL/SAT (999). Once learned IR commands are stored on a VBIR they can be written as an external library file on a PC. The IR commands in an external library file can be learned by other VBIRs through the process of cloning. For more information, see the application note Learning IR Commands on the VBIR on the www.vbrick.com/documentation page.

Downloading External Libraries

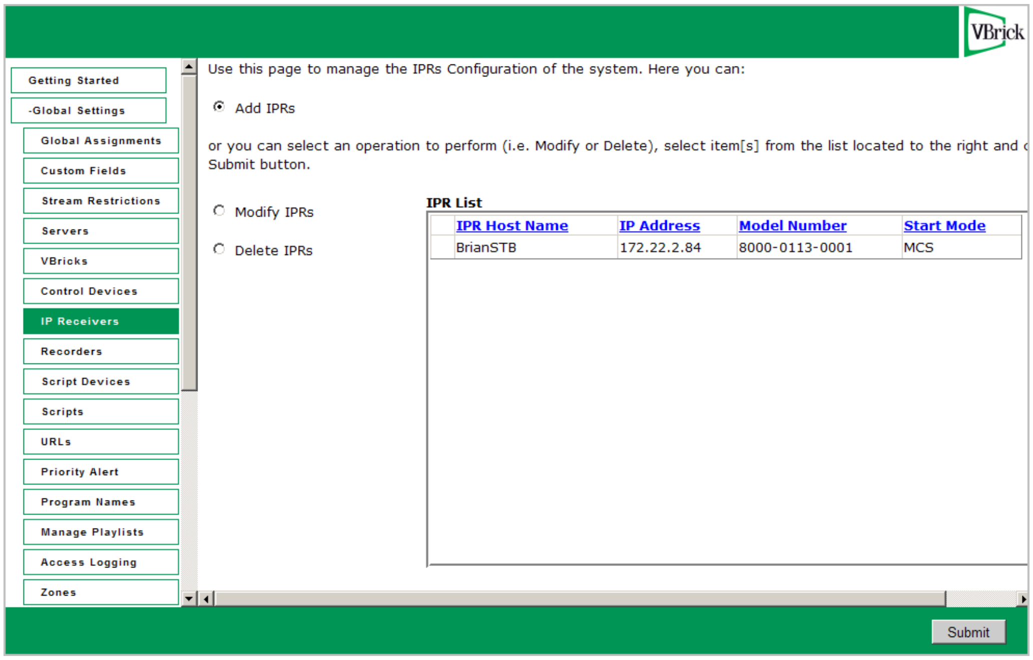
The VBIR can be upgraded by downloading an external library file. External library files contain IR command sets for a specific device or devices. External library files are supplied by a third party or created using the SpitFire VBIR learning mode. For more information, see the application note Downloading External Libraries to the VBIR on the www.vbrick.com/documentation page.

IP Receivers

Digital IP Receivers (formerly called STBs or Set Top Boxes) must be configured in VEMS Portal Server before they can be managed and used for scheduled events. (IP Receiver version must also be 3.7.1 or higher.) Once configured, all IP Receivers in the system are shown on the following window. The **Select IPR** panel in the next screen shows IPRs that have announced their presence on the network but have not been configured for use in the Portal Server.

▼ To add an IPR configuration:

1. Go to **Global Settings > IP Receivers**.



Use this page to manage the IPRs Configuration of the system. Here you can:

● Add IPRs

or you can select an operation to perform (i.e. Modify or Delete), select item[s] from the list located to the right and c
Submit button.

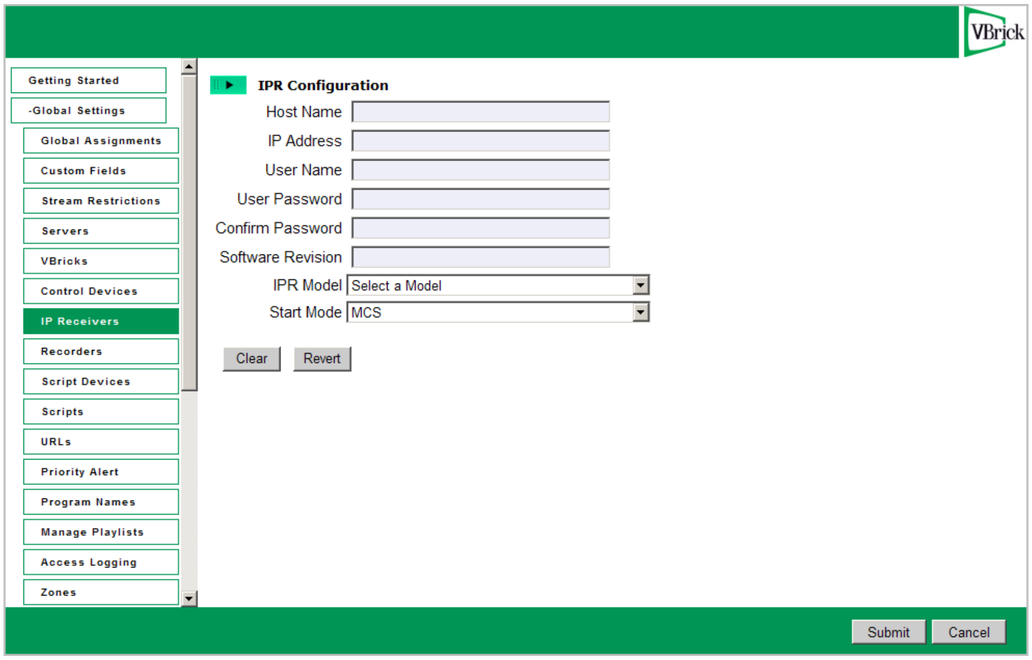
○ Modify IPRs

○ Delete IPRs

IPR List

IPR Host Name	IP Address	Model Number	Start Mode
BrianSTB	172.22.2.84	8000-0113-0001	MCS

2. Select **Add IPRs** and click **Submit**.



IPR Configuration

Host Name

IP Address

User Name

User Password

Confirm Password

Software Revision

IPR Model: Select a Model

Start Mode: MCS

3. In **Select IPR**, select one or more existing IPR for which a SAP has been received. This populates the **IPR Configuration** panel. (If you select multiple IPRs, it does not populate the panel; if you need to configure the IPRs, you must add them one at a time.)
4. Complete or modify the fields in **IPR Configuration** as necessary and click **Submit**. This adds the new configuration to the list of configured IPRs shown on the previous page.

Note The only time you will manually complete the IPR Configuration fields is when you are defining the configuration for an IPR that will be added to the network at a later time. In this case, you will need to know the configuration data in advance.

Host Name	Required. Host name of IPR.
IP Address	Required. IP address of IPR.
User Name	Defaults to system-defined value if blank.
User Password	Defaults to system-defined value if blank.
Confirm Password	Defaults to system-defined value if blank. Must match User Password if entered above.
Software Revision	Optional.
IPR Model	Select from the dropdown.
Start Mode	Select from the dropdown: VEMS Portal Server, Local, or Local-Fullscreen

Configuring IP Receiver Timeout

Digital IP Receivers time out by default every two hours and display a popup message. This means that if a video exceeding two hours is playing and you do not interact with the system, the video will stop, the STB will display a popup message, and you will be redirected to the login page. The configurable timeout option described here lets you set the timeout interval to a higher value so a video can play all day for example without timing out. The STB requires a periodic timeout for cleanup but you can set the timeout value to a high number to minimize the potential disruption caused by timeouts.

Note The only requirement in configuring a timeout value is that the SDK timeout (configured in `VBUServer.exe.config`) must be set to a greater value than `SessionIPRTimeOut` (configured in `web.config`).

As explained below, you can configure the timeout interval on Digital IP Receivers (STBs) by changing two configuration values in the Portal Server installation files. One value is in `web.config`; the other is in `VBUService.exe.config`.

▼ To modify the STB timeout value:

1. Navigate to `<InstallDir>\Vbrick\MCS\`**`web.config`**
2. Find the key called `SessionTimeOutIPR` and set this value to the desired timeout. This value is in minutes, so if you want the STB to timeout every 8 hours, you would set this value to 480.
3. Go to `<InstallDir>\Vbrick\MCS\Common\VBUService\`**`VBUService.exe.config`**
4. Find the key called `MCSSDKTimeout` that handles SDK timeouts and make this value greater than the value set for `SessionTimeOutIPR`. This value is in milliseconds, so if you have set the `SessionTimeOutIPR` to 480 (8 hours), you would set the `MCSSDKTimeout` to 30600000 milliseconds (8.5 hours).
5. After making these changes, reboot the Portal Server and you are done.

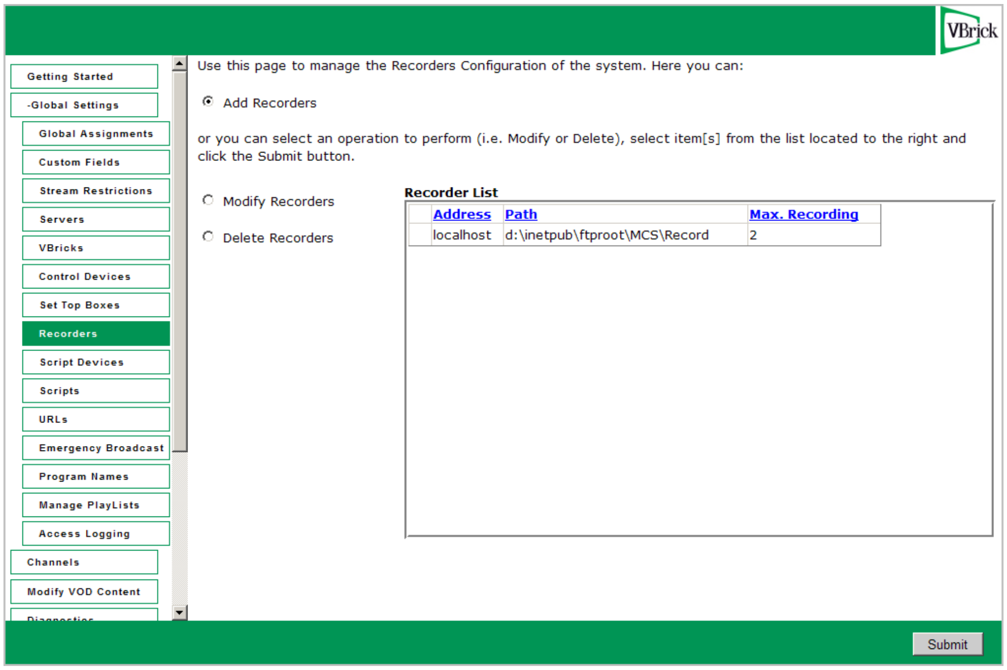
Recorders

A Recorder server enables recording by Portal Server users. If a recorder server is not created here, any attempt to record a live stream or a stored video will fail. Once enabled, users must also be assigned the appropriate permissions (see Allow Content Recording on page 118). (Note: Do not confuse a Recorder server with a Network Video Recorder which is a a separate product. See the *VEMS Network Video Recorder Release Notes* for more information.)

Note By installation default, all recordings are stored on the D: drive. If you install VEMS Portal Server on a system without a D: drive, you must subsequently go to **Global Settings > Recorders** and change the record path as necessary. Also, the **Max Recording** field shows the default number of concurrent recording sessions allowed. *If you need more than 2 concurrent recording sessions, you must purchase a Network Video Recorder.*

▼ To add a Recorder configuration:

1. Go to **Global Settings > Recorders**.



Use this page to manage the Recorders Configuration of the system. Here you can:

● Add Recorders

or you can select an operation to perform (i.e. Modify or Delete), select item[s] from the list located to the right and click the Submit button.

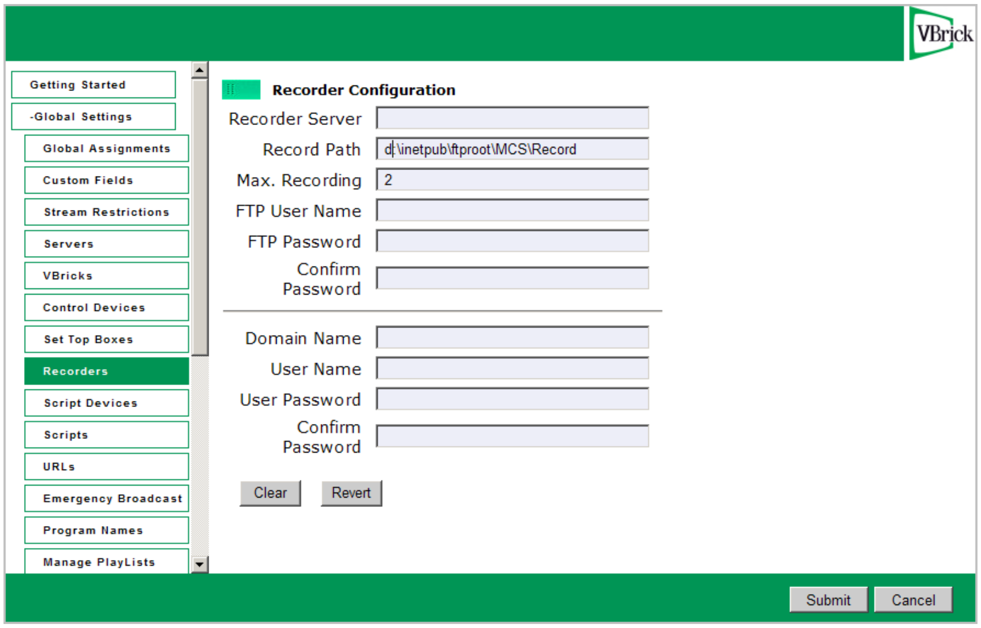
○ Modify Recorders

○ Delete Recorders

Recorder List

Address	Path	Max. Recording
localhost	d:\inetpub\ftproot\MCS\Record	2

2. Select **Add Recorders** and click **Submit**.



Recorder Configuration

Recorder Server	
Record Path	d:\inetpub\ftproot\MCS\Record
Max. Recording	2
FTP User Name	
FTP Password	
Confirm Password	
Domain Name	
User Name	
User Password	
Confirm Password	

3. Complete the fields in **Recorder Configuration** window and click **Submit**. This adds the newly configured recorder to the previous window. If necessary see Synchronizing the Portal Server and the NVR below.

Recorder Server	IP address or host name of recorder server. Defaults to localhost if recorder server is on the same machine as VEMS Portal Server.

Record Path	Path and folder where all recording are stored. By default, recordings are stored on the D: drive. If you install VEMS Portal Server on a system without a D: drive, you must change the path. Also, in order to record multiple streams, the Record Path must be under FTP root. For example, if root is `C:\Inetpub\ftproot` the Record Path must be `C:\Inetpub\ftproot\<your_folder>`
Max. Recording	The default number of concurrent recording sessions allowed is 2. If you exceed 2, you must purchase a Network Video Recorder. Without an NVR, any attempt to record more than 2 concurrent sessions will fail.
FTP User Name	FTP user name in operating system of Recorder server.
FTP Password	FTP password in operating system of Recorder server.
Confirm Password	FTP password in operating system of Recorder server.
Domain Name	*This field is required only if the Recorder server is not on the local network.* Enter the domain name if the Record Path above points to a server in a different domain,
User Name	The user name who has access to the specified path.
User Password	The corresponding password for this user name.

Synchronizing the Portal Server and the NVR

The internal clocks on the Portal Server and the NVR must be synchronized for recording functionality to work properly. You can use the `Net time` command as explained below or you can use an external time server. In order to run the `Net time` command on *either* server, the server must be on the domain, and the user logged onto the server must have admin privileges *and* be part of the domain. To synchronize the Portal Server and the NVR use the following command:

- Windows Web Server 2008 – Open a command prompt on the *Portal Server* and type:
  `Net time \\{NVR IP Address} /SET`

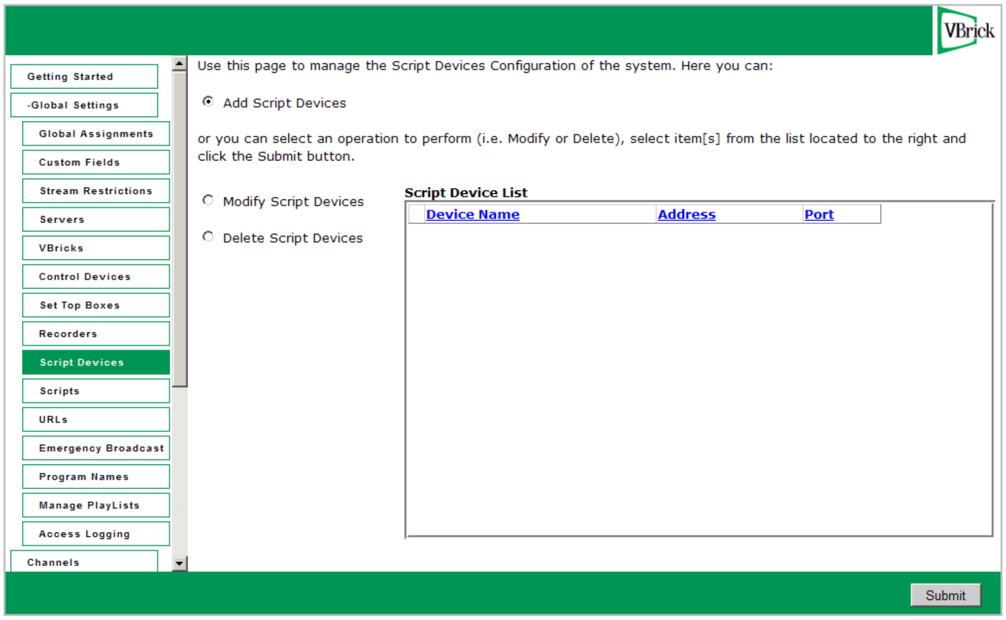
Script Devices

Script devices work with scripts and can be used to control VBricks, or other devices attached to a VBrick via the serial port. In order to use a script, the device (a VBrick, IP Receiver, camera, VCR, etc.) must be defined in the Portal Server database as a script device. Once defined, they can be subsequently controlled by a script (see Scripts on page 63) launched from the Portal Server Scheduler. A script device must be physically connected to the network and must be available at the runtime of a scheduled event. For example, PTZ cameras respond to pan, tilt, and zoom commands. Once defined as a script device, pan, zoom, and tilt commands can be scripted and executed from VEMS Portal Server to control the movement of the camera at a specific date, time, and recurrence.

Note You can also write a script (launched from the Portal Server) that uses TCP/IP to communicate with any compatible device on the network. Contact VBrick Support Services for more information.

▼ To add a Script Device configuration:

1. Go to **Global Settings > Script Devices**.



Use this page to manage the Script Devices Configuration of the system. Here you can:

● Add Script Devices

or you can select an operation to perform (i.e. Modify or Delete), select item[s] from the list located to the right and click the Submit button.

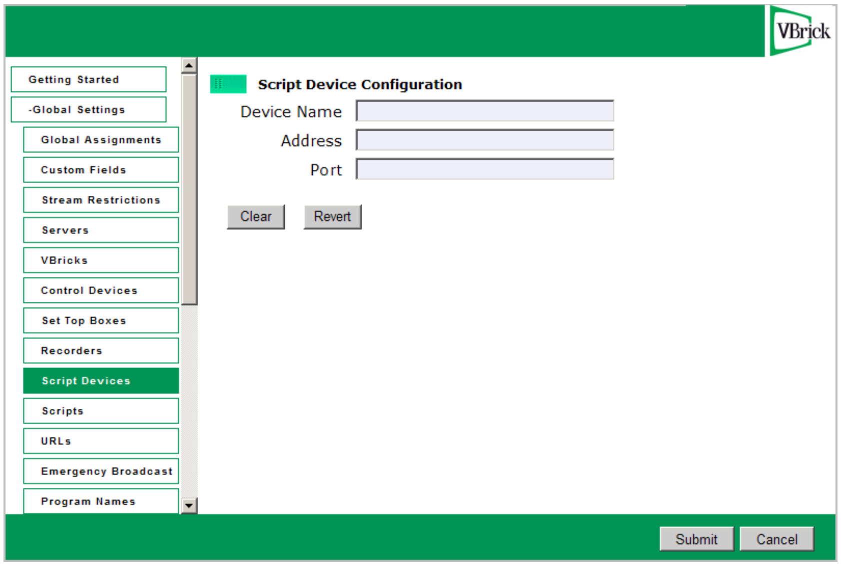
○ Modify Script Devices

○ Delete Script Devices

Script Device List

Device Name	Address	Port

2. Select **Add Script Devices** and click **Submit**.



Script Device Configuration

Device Name

Address

Port

3. In **Script Device Configuration**, complete the following fields and click **Submit**. This adds the newly configured script device to the list of devices shown in the previous window. To modify a Script Device, first delete the device and then repeat these steps.

Device Name	Any user-defined name.
Address	Hard-coded device IP address. This is usually the address of the VBrick or the address of the VBrick to which a device is connected but it can be the address of any device.

Port	TCP/IP port number range = 1040–65534. If using serial port passthrough, use the VBrick's passthrough port number: 4439 for COM1, 4414 for COM2

Scripts

Scripts work with previously defined script devices such as VBricks, IP Receivers, or other devices attached to a VBrick. Scripts can be used to control any type of VBrick or to control other devices like cameras and VCRs that are attached to a VBrick. To script VBrick commands, you select the VBrick and build a script by choosing parameters from a dropdown list—the parameters vary depending on the type of VBrick you select (MPEG1, MPEG2, etc.). You can script commands to change any of the parameters (in the MIB database) that are available through IWS (MPEG and WM) or VBAdmin (H.264).

For non-VBrick (**Other**) devices, you write a script from scratch using the native language for that device. This scripting functionality is designed for advanced users and you must know the instruction set for the device in order to script commands that will control that device. You can use a text-based script or a binary script to control devices connected to the serial passthrough port (COM1 or COM2) on a VBrick encoder.

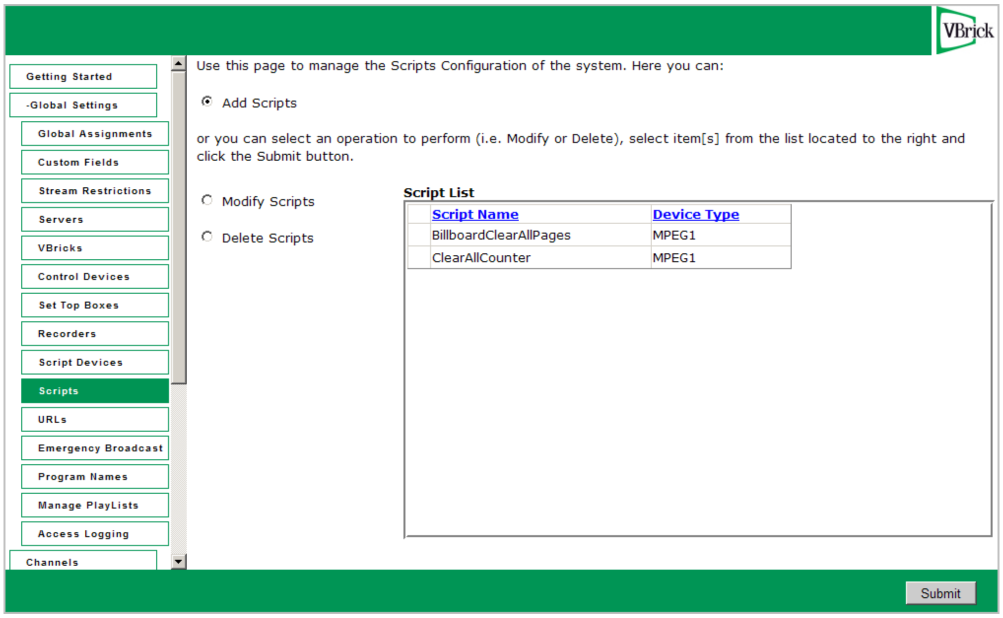
You can control devices that require binary input by pasting binary input into the **Script Content** text box. Binary scripts let you provide a sequence of commands for devices that require binary input. This type of script will pass binary input through the serial passthrough port on a VBrick to the specified device. You will typically connect your device to the serial passthrough port using the port number previously defined for the device (4439 for COM1, 4414 for COM2).

Note If you are scheduling an event, any device for which you write a script must be available to the network at runtime. If the device is not available the script will fail.

Creating a Script

▼ To create a script that can be executed from the Portal Server:

1. Go to **Global Settings > Scripts**.



Use this page to manage the Scripts Configuration of the system. Here you can:

● Add Scripts

or you can select an operation to perform (i.e. Modify or Delete), select item[s] from the list located to the right and click the Submit button.

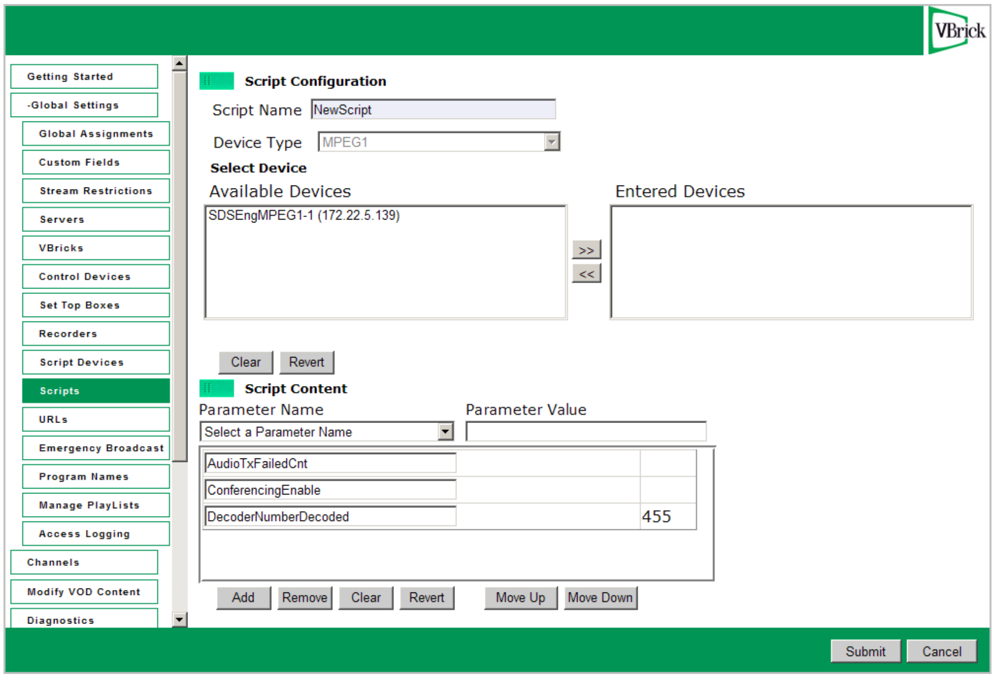
○ Modify Scripts

○ Delete Scripts

Script List

Script Name	Device Type
BillboardClearAllPages	MPEG1
ClearAllCounter	MPEG1

2. Select **Add Scripts** and click **Submit**.



Script Configuration

Script Name: NewScript

Device Type: MPEG1

Select Device

Available Devices: SDSEngMPEG1-1 (172.22.5.139)

Entered Devices:

Script Content

Parameter Name: Select a Parameter Name

Parameter Value:

AudioTxFailedCnt	
ConferencingEnable	
DecoderNumberDecoded	455

3. In **Script Configuration**, enter a **Script Name** and select a **Device Type** (MPEG1, MPEG2/MPEG4/WM, or Other) from the dropdown list—and wait a few seconds for VEMS Portal Server to populate the panel with a list of devices.
4. In **Select Device**, highlight one or more devices and use the arrow buttons to populate the right panel.
5. Create the **Script Content**.
   a. For VBrick devices, select a **Parameter Name** from the dropdown list, enter a **Parameter Value**, and click **Add**. Repeat as many times as necessary and click **Submit** when done. Note that the order in which you add parameters is critical. This is the

order in which the commands will be executed at runtime. (See Finding VBrick Parameters and Values for more information.

b. For non-VBrick (**Other**) devices, write the script in a native language compatible with the device (or copy and paste binary input) and click **Submit** when done.

To run a previously created script, login to VEMS Portal Server and click **Scheduled Programs**. Then create a schedule by selecting a date, time, and (optionally) a recurrence pattern. When done, click **Script** and select the script you want to run on the schedule you just defined.

Example

The following example shows binary input for a VBrick VBIR device. In a typical scenario you will need to set the **Passthrough State** and other parameters on the encoder before you can run the script. See "Serial Port Passthrough" in the *VB4000-5000-6000 Admin Guide* for more information. The following example programs a VBrick VBIR device to device code 351 and sends the Play command. This is just a brief example. If you need help or want more information about using binary scripts, please contact VBrick Support Services.

Begin instruction set, program for following device code. This set of instructions is used in all scripts.

```
<-script->
<-send binary 0xc1 0x0d->
<-receive 2->
<-send binary 0xc0 0x0d->
<-receive 2->
```

Program three-digit device code. Here code is 351.

```
<-send binary 0x83 0x0d->
<-receive 2->
<-send binary 0x85 0x0d->
<-receive 2->
<-send binary 0x81 0x0d->
<-receive 2->
```

End device code programming, set for command. This set of instructions is used in all scripts.

```
<-send binary 0xc0 0x0d->
<-receive 2->
<-send binary 0xd3 0x0d->
<-receive 2->
```

Command. Here Play.

```
<-send binary 0x91 0x0d->
<-receive 2->
```

Finding VBrick Parameters and Values

In order to create scripts, you need to determine the correct parameters and values to use. The following procedures explain how to locate parameters from the VBAdmin page and how to find the value associated with that parameter using a standard MIB browser or text editor. These brief procedures simply outline the basic steps which are typically performed by a programmer or a system administrator. Contact VBrick Customer Service or see the *VBrick SDK User Guide* for more information.

▼ To locate a parameter name by viewing the source code:

1. Find the **Parameter Name** in the VBAdmin page.
2. Then locate the parameter name by viewing the source code of the page.

▼ To find the parameter value:

1. Locate the parameter name as described above.
2. Find the **Parameter Value** by examining the MIB file with either a standard MIB browser or a text editor.

URLs

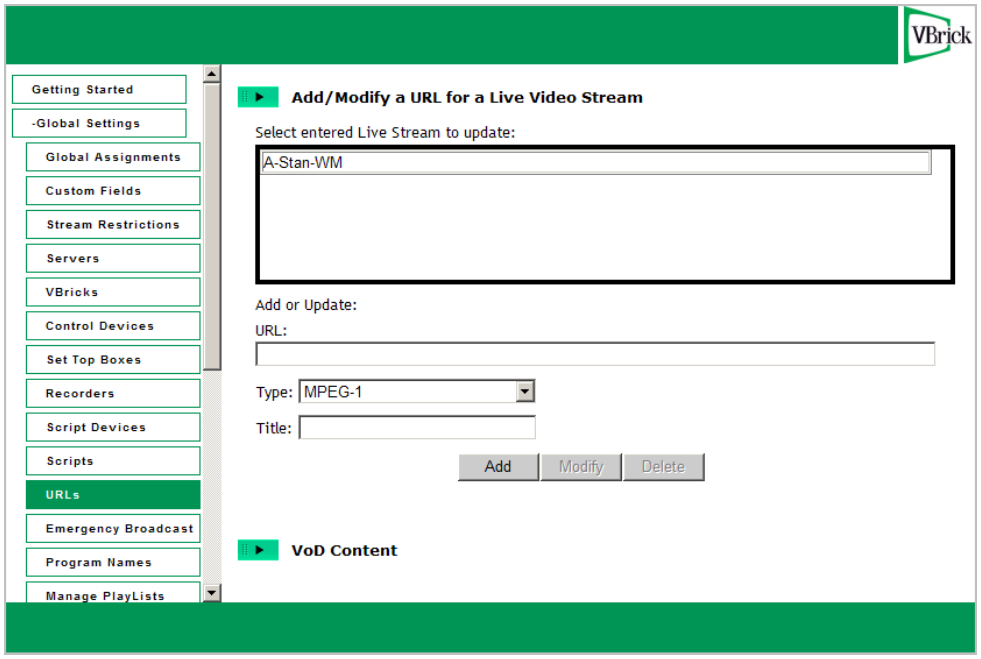
Add/Modify a URL for a Live Video Stream

Administrators can manually enter URLs to live video streams that will not automatically be displayed by the Portal Server. For example, the administrator may wish to have the Announcements (SAPs) disabled on the VBrick encoders for security purposes. Or the Administrator may want to enter the address of an off-network stream such as an MPEG-4 Stream from an Apple Darwin Server or a stream coming from a hosting provider. Additionally, this feature lets you enter the addresses of non-MPEG streams such as Windows Media and Real Networks. Note that the Access Control feature Allow Viewing by Content Type does not apply to manually added URLs. You can also filter and control which live streams are shown in the Portal Server by using a bit mask on the VBrick encoder. For more about this feature, refer to the Category parameter in the appropriate MPEG, WM, or H.264 encoder documentation.

Note For any non-MPEG video, the correct player (such as Windows Media Player or QuickTime) must be present on the desktop for the client to be able to receive the stream.

▼ To add a URL for a live video stream:

1. Enter the URL or IP address in the **URL** field.
2. Enter the **Type** and **Title** and click **Add** to add the URL to the list of streams shown.



Add/Modify a URL for a Live Video Stream

Select entered Live Stream to update:

A-Stan-WM

Add or Update:

URL:

Type: MPEG-1

Title:

URL	Enter a valid URL or IP address. See examples above.
Type	Choose MPEG, WM, H.264, or Other. Select Other for most non-MPEG streams; select WM for .swf Flash streams.
Title	Title is what will display to clients in the VEMS Portal Server viewing pages.

Valid URL Examples

The following examples show valid URL syntax for live video streams. All URLs are case sensitive and the syntax must be accurate because there is no internal validation of user input.

Stream Type	URL Syntax
MPEG-1/MPEG-2	`vbricksys://ip=239.1.1.1&port=4444` Where `239.1.1.1` is the multicast IP address and `4444` is the multicast port.

MPEG-4	`rtsp://172.1.1.1/vbrickvideo1`
	`vbrtsp://172.1.1.1/vbrickvideo1`
	Where `172.1.1.1` is the source IP address and `vbrickvideo1` is the program name.
	`vbhttp://172.1.1.1/vbs2d1.sdp`
	Where `172.1.1.1` is the source IP address and `vbs2d1.sdp` is the SDP file name.

Stream Type	URL Syntax

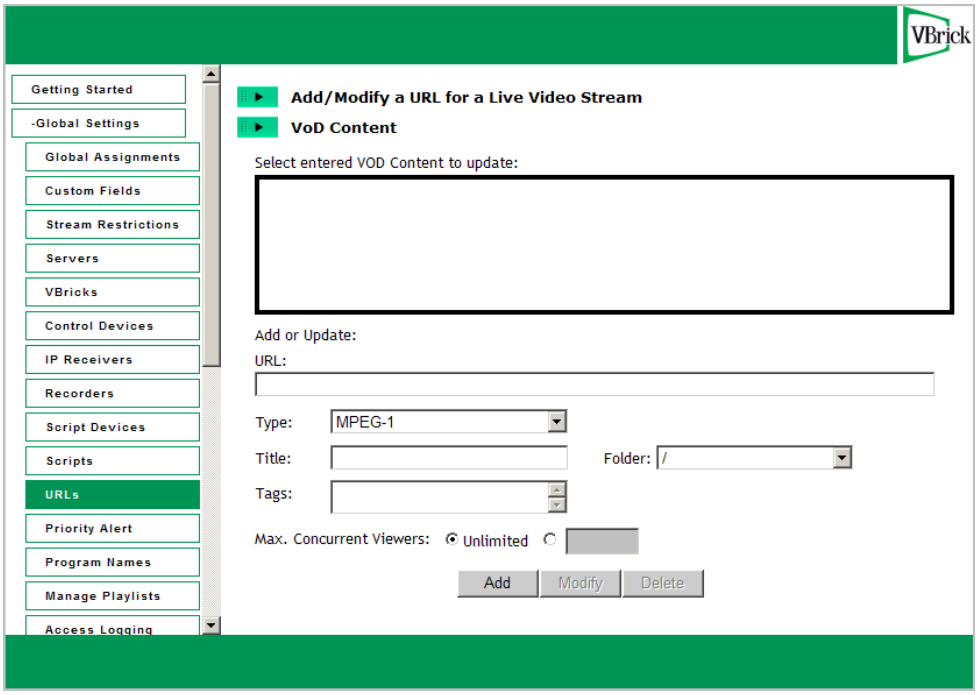
WM	`http://172.22.2.147/vbs1http.asx`
	`http://172.22.2.147/vbrickvideo1`
	Where `172.22.2.147` is the source IP address and `vbrickvideo1` is the program name. *Note that the WM IPR does not support RTSP streams.*

H.264	`rtsp://172.1.1.1/vbStream1S1`
	`vbrtsp://172.1.1.1/vbStream1S1`
	Where `172.1.1.1` is the source IP address and `vbStream1S1` is the resource name.
	`vbhttp://172.1.1.1/vbStream1T1.sdp`
	Where `172.1.1.1` is the source IP address and `vbStream1T1.sdp` is the SDP file name.

Other	ASX Files
	`http://172.1.1.1/file.asx`
	`http://myHost/file.asx`
	`http://www.myCompany.com/files/file.asx`
	MP3 and WMA Files
	`http://172.1.1.1/file.mp3`
	`http://myHost/file.mp3`
	`http://172.1.1.1/file.wma`
	`http://myHost/file.wma`
	WMV Files
	`http://www.myCompany.com/files/file.wmv`
	`mms://www.myCompany.com/files/file.wmv`

Add VOD Content

Administrators can manually enter URLs to VOD content that is not automatically displayed by the Portal Server. These URLs can be to content that is located on a non-NXG Video-on-Demand server, such as the QuickTime/Darwin server, a Windows Media server, or a Helix Real server. This is valuable feature if you want to enter an off-network stream such as an MPEG-4 Stream from an Apple Darwin Server or if there is Windows Media or Real Networks content that needs to be displayed through the Portal Server interface.



Add/Modify a URL for a Live Video Stream

VoD Content

Select entered VOD Content to update:

Add or Update:

URL:

Type: MPEG-1

Title:

Folder: /

Tags:

Max. Concurrent Viewers: ● Unlimited ○

URL	Enter a valid URL or IP address. For example:
	`rtsp://ipaddress/programname`
	`mms://ipaddress/videoname.wmv`

Type	Choose MPEG-1, MPEG-2, MPEG-4, MPEG-4 NXG, Document, WM, H.264, or Other. If you are creating a URL for stored video that points to `www.yahoo.com`, for example, select Document in this field—not Other. Select WM for .swf Flash streams.
Title	This is what will display to clients in the VEMS Portal Server viewing pages
Folder	This is the folder on the VOD server in which the video will be displayed.
Tags	Enter keyword tags that can be searched from the user interface.
Max. Concurrent Viewers	Set the maximum number of concurrent viewers for this stream to unlimited or any number greater than zero.

Press **Add** to add the VOD content to the list. VOD content also can be Modified or Deleted. Simply select the VOD content, make modifications (if required), and click **Modify** or **Delete**.

Add Non-VOD Content

PC Users Only. In the **VoD Content** section, administrators can also link to external documents such as PDF files, PowerPoint files, web pages, or anything that can be displayed in a browser or other external program. For content that needs to run with a specific application (for example, PowerPoint slides), the application must be present on the desktop for that file to be viewed. Use the content **Type** field to identify the content. Select a stream type (MPEG-1, MPEG-2, etc.) to add video content from an outside source. Select type

Document for PDFs or Word documents, or type **Other** for PowerPoint presentations, Flash demos, etc. Each content type has a different icon on the **Video Library** page.

The URL must point to a web server or a local drive. The Portal Server server can act as the web server for this content, if the content is placed in the `c:\program files\vbrick\mcs` directory on the VEMS Portal Server (or in any subdirectory you create, e.g. `... mcs\test_files\test.doc`). A local path or network shared path also can be entered. Content accessed from a local drive (or network shared path) needs to be entered in the format `c:/path/file` (it will fail if you use back slashes, for example `c:\path\file`). Also, this drive needs to be accessible by those that have access to the link.

Priority Alert

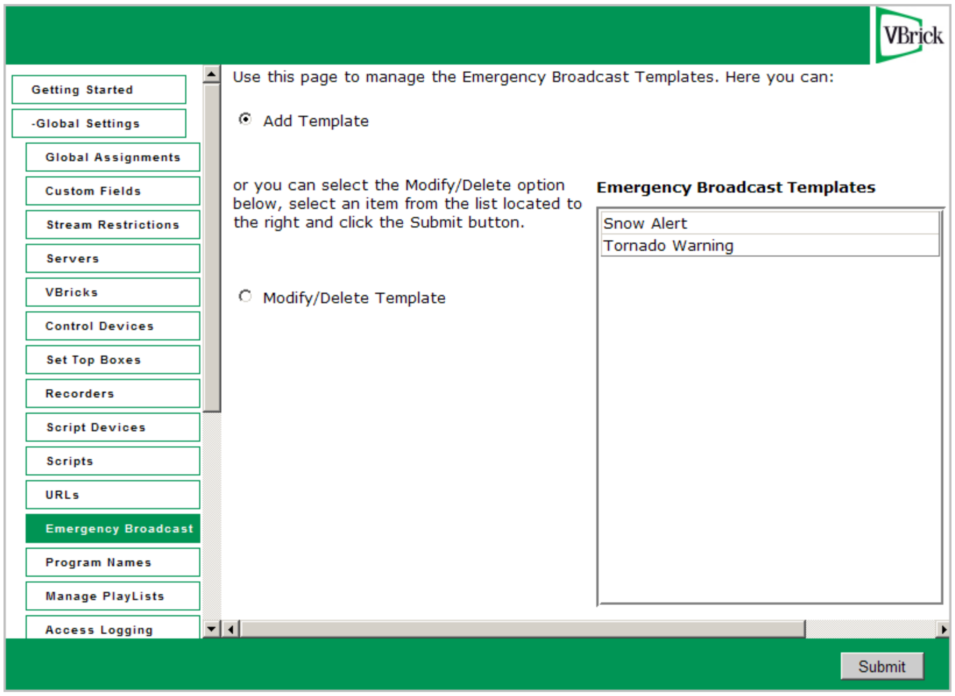
These pages are used to create priority alert templates that Portal Server users can subsequently use to launch a priority alert. *Priority alerts are launched from the Portal Server user interface—not from the Admin console.* A priority alert is a schedule that can be executed by Portal Server users with appropriate permissions. This schedule broadcasts a live or stored video to specified VBricks or IP Receivers in case of an emergency. The schedule is executed instantly, for a specified duration or indefinitely. When done (or manually stopped) all preempted schedules automatically resume.

A priority alert template pre-defines all parameters for the broadcast so that it can be launched immediately; it pre-empts all other broadcasts. Very simply, you define the source stream (live or stored) and the downstream targets (VBricks or IP Receivers) and then save the template for future use. It is important to note that priority alert streams are shown only on monitors or TVs attached to VBricks and IPRs respectively. *They are not shown on the Portal Server user interface.* If you are watching a stream in the embedded player on the user interface browser, you will not see a priority alert.

Note Live and stored broadcasts, in this context, refer to content that is being streamed over your IP multicast-enabled network. This does not mean there is IP broadcasting to your entire network.

▼ To create a Priority Alert Template:

1. Go to **Global Settings > Priority Alert**. This page shows a list of previously defined templates (if any).



Use this page to manage the Emergency Broadcast Templates. Here you can:

● Add Template

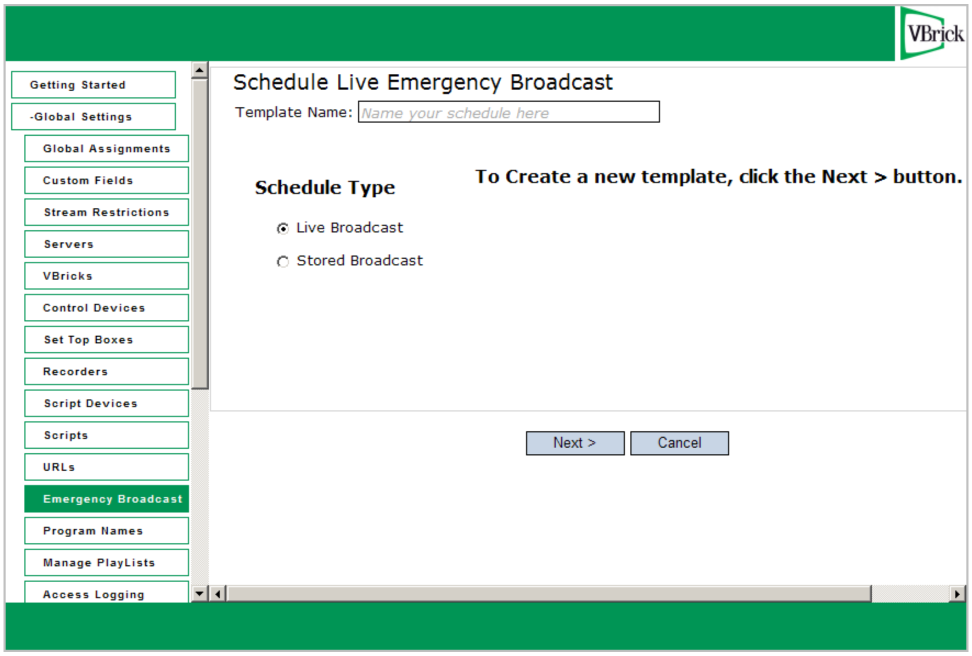
or you can select the Modify/Delete option below, select an item from the list located to the right and click the Submit button.

○ Modify/Delete Template

Emergency Broadcast Templates

Snow Alert
Tornado Warning

2. Select **Add Template** and click **Submit** to display the following window.



Schedule Live Emergency Broadcast

Template Name: Name your schedule here

Schedule Type

● Live Broadcast

○ Stored Broadcast

To Create a new template, click the Next > button.

3. Enter a **Template Name**, select a **Schedule Type**, and click **Next**. (Duplicate template names are allowed but not recommended.)

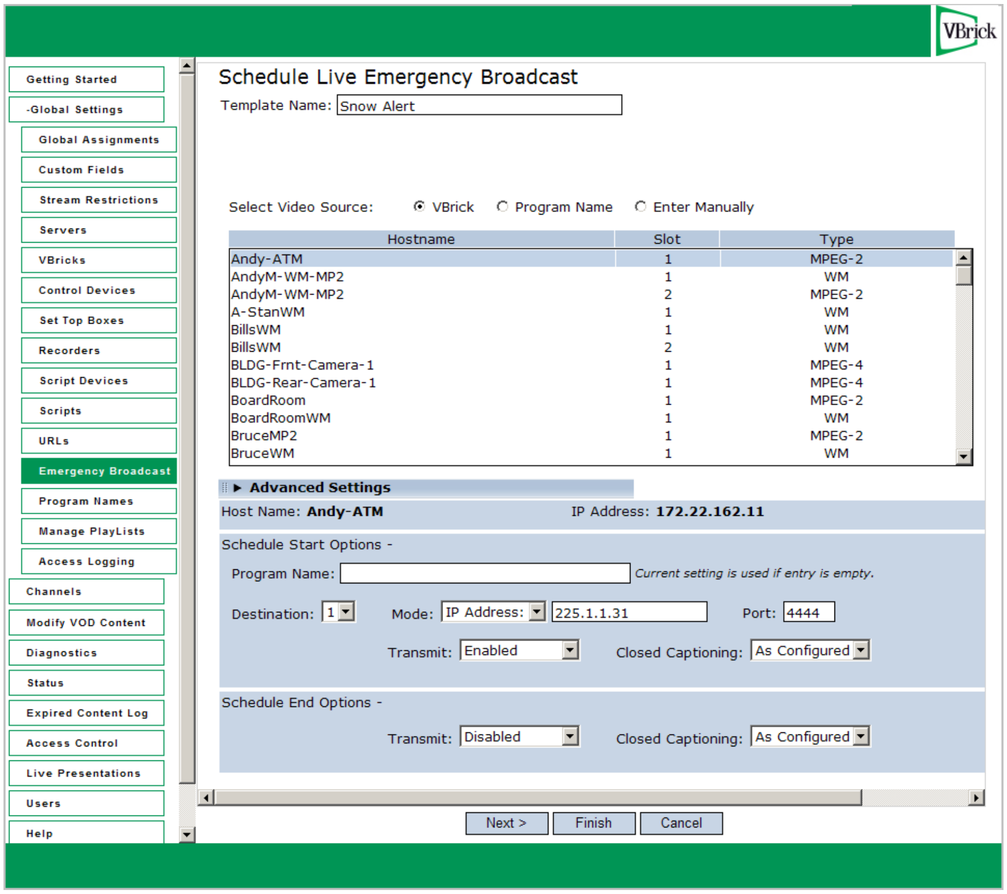
   Each **Schedule Type** subsequently has a different wizard depending on the selections you make but basically, you select the video source (which can be a live or stored broadcast), the downstream targets (VBricks or IP Receivers) to which it will be broadcast, and configure any **Advanced Settings** (see note below) for the VBricks or IPRs. When done the template you created is available to authorized Portal Server users as a Priority Alert template. See the *VEMS Portal Server User Guide* for more information.

Note **Advanced Settings** are available to configure VBricks and IPRs with exceptional configuration parameters. It is unlikely you will ever need to change these settings. In all cases you can safely ignore the **Advanced Settings** and use the defaults provided by VEMS Portal Server.

Template name	Alphanumeric characters or spaces. No special characters.
Schedule Type	<u>Live Broadcast</u> • VBrick – Select a live stream by VBrick Name. Then select the destination VBricks or IPRs. • Program Name – Select a live stream by Program Name from all available. Then select the destination IPRs. • Enter Manually – Select an MPEG or WM source residing at a specified IP address. Then select the destination IPRs.
	<u>Stored Broadcast</u> • VoD Name – Select a VOD server and a source video. Then select the destination VBricks or IPRs. • VBrick Name – Select a VBrick (or VBStar) and a source video. Then select the destination VBricks or IPRs.

4. Configure **Advanced Settings** for VBricks and IPRs as necessary. As noted, it is unlikely you will ever need to change these settings. In all cases you can safely ignore these settings and use the defaults provided by the Portal Server.

   These settings generally set configuration options for source devices and destination devices (VBricks and IPRs) so that they are configured properly (e.g. transmit/receive enabled/disabled) at the beginning and end of a priority alert. All required devices must be present and enabled for a successful priority alert. The settings differ depending on the device (e.g. MPEG, WM, or H.264) you select and may include some or all of the fields explained below.



Schedule Live Emergency Broadcast

Template Name: Snow Alert

Select Video Source: ● VBrick ○ Program Name ○ Enter Manually

Hostname	Slot	Type
Andy-ATM	1	MPEG-2
AndyM-WM-MP2	1	WM
AndyM-WM-MP2	2	MPEG-2
A-StanWM	1	WM
BillsWM	1	WM
BillsWM	2	WM
BLDG-Frnt-Camera-1	1	MPEG-4
BLDG-Rear-Camera-1	1	MPEG-4
BoardRoom	1	MPEG-2
BoardRoomWM	1	WM
BruceMP2	1	MPEG-2
BruceWM	1	WM

▶ Advanced Settings

Host Name: **Andy-ATM** IP Address: **172.22.162.11**

Schedule Start Options -

Program Name: *Current setting is used if entry is empty.*

Destination: 1 Mode: IP Address: 225.1.1.31 Port: 4444

Transmit: Enabled Closed Captioning: As Configured

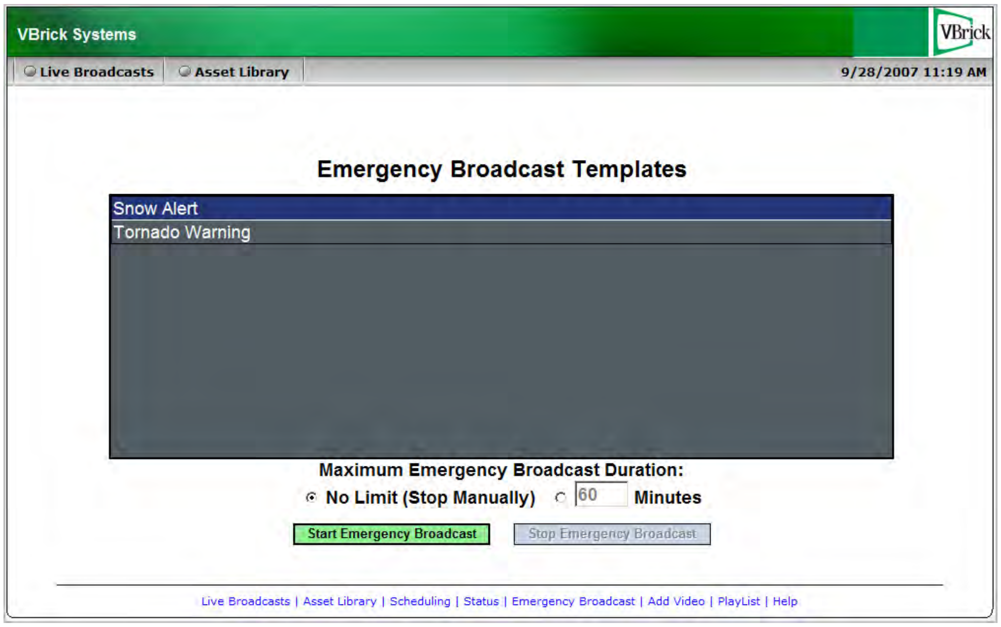
Schedule End Options -

Transmit: Disabled Closed Captioning: As Configured

Schedule Start Options	Enter values that describe the device state at schedule start. • Program Name – Program name selected above. • Template – MPEG only. Screen varies for MPEG-1, 2, or 4. • Destination – Destination 1, Destination 2, RTSP Server. • Destination Address – Enter value. • Video Port – Enter value. • Audio Port – Enter value. • Closed Captioning Port – Enter value. • Video – Enabled, Disabled, As Configured. • Audio – Enabled, Disabled, As Configured. • Closed Captioning – Enabled, Disabled, As Configured.
Schedule End Options	Enter values that describe the device state at schedule end. • Video – Enabled, Disabled, As Configured. • Audio – Enabled, Disabled, As Configured. • Closed Captioning – Enabled, Disabled, As Configured.

5. Click **Next** to page through each wizard.
6. Click **Finish** when done.
7. Verify the information and click **Create Schedule** when prompted (or use the **Back** button to make changes). When finished, the template is added to the list of Priority

Alert Templates available to VEMS Portal Server users from the Portal Server application. See the *VEMS Portal Server User Guide* for more information.


VBrick Systems
VBrick
Live Broadcasts
Asset Library
9/28/2007 11:19 AM

Emergency Broadcast Templates

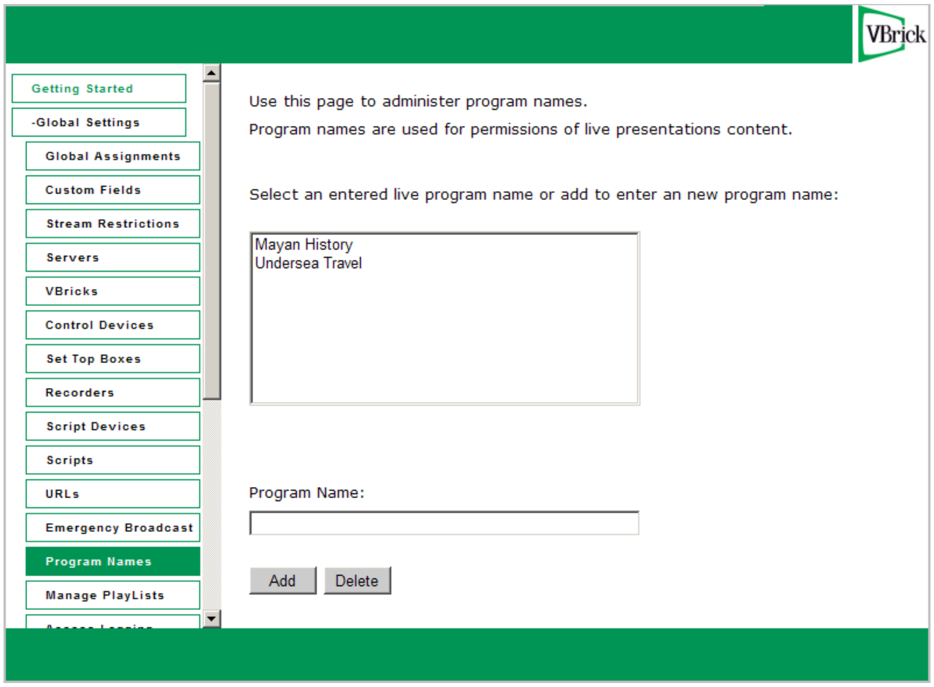
Snow Alert
Tornado Warning

Maximum Emergency Broadcast Duration:
● No Limit (Stop Manually) ○ 60 Minutes

Start Emergency Broadcast
Stop Emergency Broadcast
Live Broadcasts | Asset Library | Scheduling | Status | Emergency Broadcast | Add Video | PlayList | Help

Program Names

Program Names are used with live presentations. A **Program Name** is the title that will be displayed on the **Live Media** page during a live, rich media presentation—if users have Live Channel privileges. Program names are also used to set permissions for live presentations and all defined Program Names are displayed in the **Add/Modify Live Channel Privileges** window. You can allow or deny viewing of any presentation by adjusting privileges in this window. A **Program Name** (e.g. HR Presentation) can be pre-configured (with permissions) in advance for use with VBPresenter. When you use this same name in the **MCS Program Name** field in VBPresenter for example, HR Presentation will be displayed on the Portal Server's **Live Media** page.



Use this page to administer program names.

Program names are used for permissions of live presentations content.

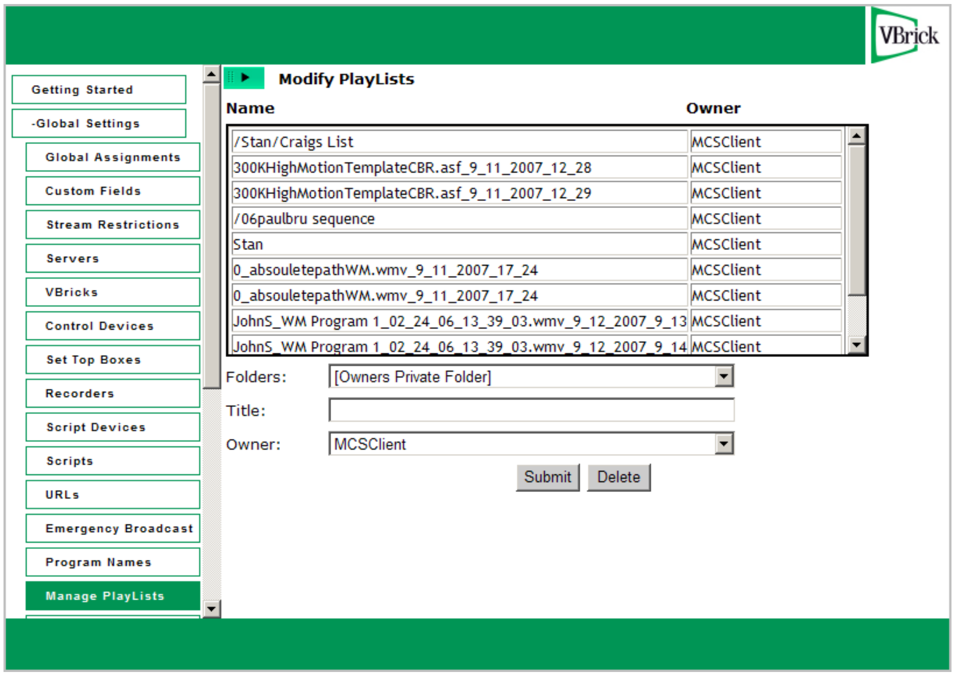
Select an entered live program name or add to enter an new program name:

Mayan History
Undersea Travel

Program Name:

Manage Playlists

Use this window to change playlist attributes including **Folder**, **Title**, and **Owner**. If Access Control is not enabled, the owner for all playlists defaults to MCSClient. Note that if Access Control is subsequently enabled, any previously created playlists will not be available unless they are re-assigned from MCSClient to other valid users.



Modify PlayLists

Name	Owner
/Stan/Craigs List	MCSClient
300KHighMotionTemplateCBR.asf_9_11_2007_12_28	MCSClient
300KHighMotionTemplateCBR.asf_9_11_2007_12_29	MCSClient
/06paulbru sequence	MCSClient
Stan	MCSClient
0_absouletepathWM.wmv_9_11_2007_17_24	MCSClient
0_absouletepathWM.wmv_9_11_2007_17_24	MCSClient
JohnS_WM Program 1_02_24_06_13_39_03.wmv_9_12_2007_9_13	MCSClient
JohnS_WM Program 1_02_24_06_13_39_03.wmv_9_12_2007_9_14	MCSClient

Folders: [Owners Private Folder]

Title:

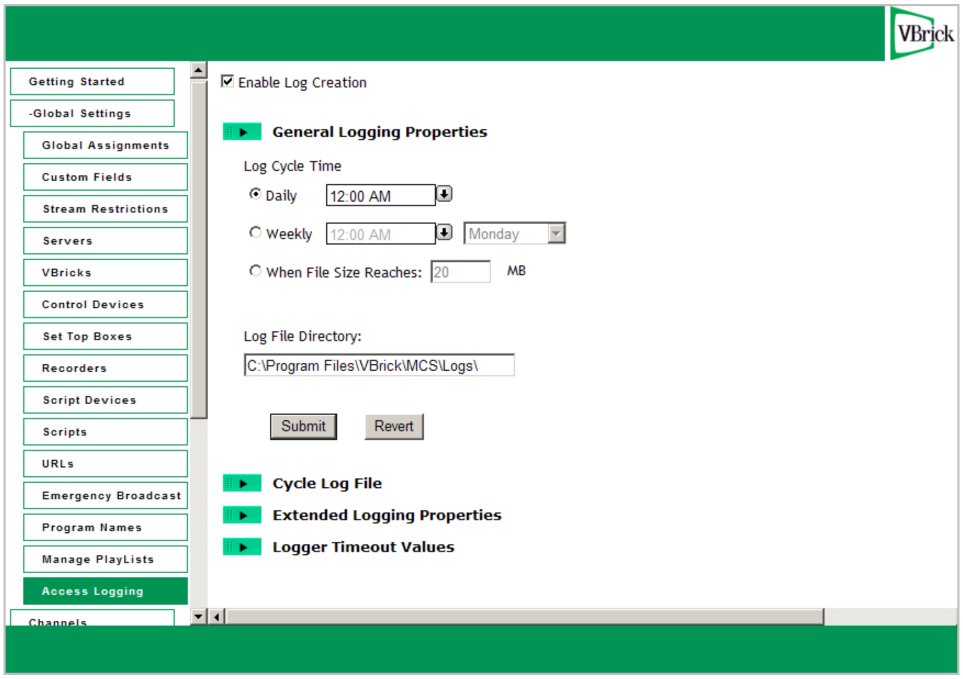
Owner: MCSClient

Folders	Select a folder location for the playlist. The default folder is the private MyMedia folder of the playlist owner.
Title	Use any alphanumeric characters *except* ' ^ : * ? | [ ] ( ) < > % #
Owner	The owner is the logged-in user who created the playlist.

Access Logging

Access logging tracks Portal Server usage. It creates logs that let you review who has watched what content, when, and for how long. Specifically, it logs access to live or VOD content, and to user-initiated recordings. **There are two output logs; one is used for live/VOD content and the other is for recordings.** The logs are created in a standard format and can be viewed with Enterprise Media System Reporter (VBrick's powerful log analysis tool or with a customized Excel spreadsheet. Use the various configuration options described below to save the logs to a different computer, set log time periods, etc. By default, access logging is set to off and the logs are saved in Program Files\VBrick\MCS\Logs. *Note that log entries are written to the log file only after viewing or recording is complete.* To see what is *currently* being viewed or recorded, open the Logged Programs table in VEMS using MySQL Query Browser or a similar tool. (MySQL Query Browser is available free of charge with the free software/open source GNU General Public License at http://www.mysql.com) Be aware that the access logger has certain constraints; for example, it:

- does not log web page access. This is an IIS function that can be set and controlled by system administrators.
- does not work with the Apple QuickTime player.
- does not have a built-in parser. The logs can be viewed as text files or can be managed and viewed using third-party reporting and analysis tools.



☑ Enable Log Creation

General Logging Properties

Log Cycle Time

● Daily 12:00 AM

○ Weekly 12:00 AM Monday

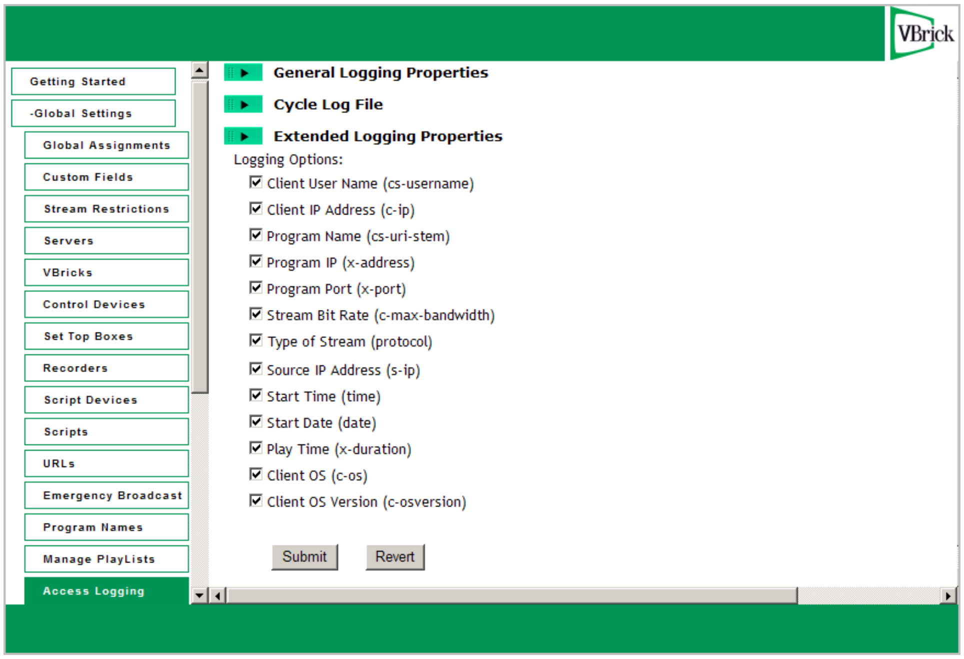
○ When File Size Reaches: 20 MB

Log File Directory: C:\Program Files\VBrick\MCS\Logs\

Enable Access Logging	Sets access logging on or off. Default = off. The log files are saved in `Program Files\VBrick\MCS\Logs`.
Log Cycle Time	New log files can be created daily, weekly, or when the file reaches a certain size. Old files are never deleted or written over.
Log File Directory	Specifies where the log files are saved. This can be on the same machine as the Portal Server or on a different machine in the same network.
Cycle Log File	Click **Cycle Now** to close the existing log files and create new files.
Extended Logging Properties	See Extended Logging Properties below. Determines what fields are logged.
Logger Timeout Values	The timeout values (default two hours for stored content, four hours for live content) are typically used when a client machine crashes or hangs.

Extended Logging Properties

Use the following window to specify which fields are logged. **If you are using Enterprise Media System Reporter, all fields must be selected.** The items in parentheses (e.g. `cs-username`) refer to the header field shown in the actual log file (see Figure 15 below). The fields are self-explanatory and most are standard W3C fields. (See http://www.w3.org/TR/WD-logfile.html for more about W3C log file formats.) Note that the fields used in each log will vary slightly and unused fields are marked with a hyphen "-". Note that the following non-standard fields may be incompatible with some reporting tools and can be de-selected: `x-address`, `x-port`, and `x-duration`. For best results with log analysis tools, do not de-select any other fields.



General Logging Properties

Cycle Log File

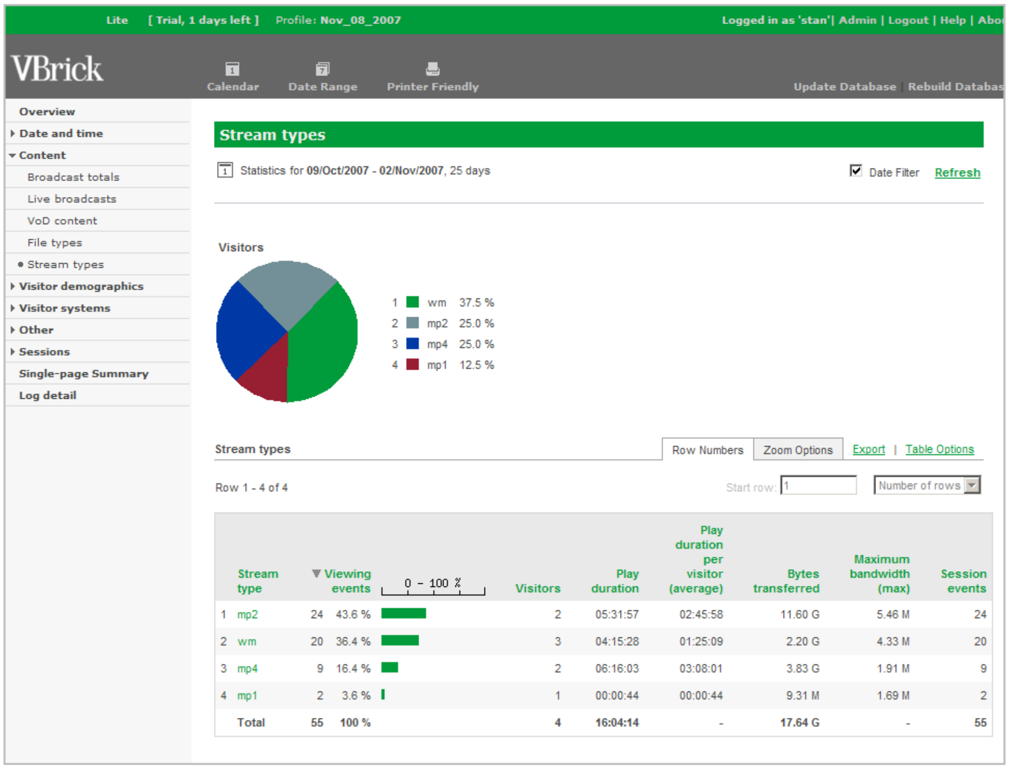
Extended Logging Properties

Logging Options:

☑ Client User Name (cs-username)
☑ Client IP Address (c-ip)
☑ Program Name (cs-uri-stem)
☑ Program IP (x-address)
☑ Program Port (x-port)
☑ Stream Bit Rate (c-max-bandwidth)
☑ Type of Stream (protocol)
☑ Source IP Address (s-ip)
☑ Start Time (time)
☑ Start Date (date)
☑ Play Time (x-duration)
☑ Client OS (c-os)
☑ Client OS Version (c-osversion)

Using EthernetTV Reporter

If you purchased a separate license, you can use VBrick's powerful "Enterprise Media System Reporter" log analysis tool to examine the access logs. VEMS Reporter is a dedicated log file analysis tool. It reads individual log files generated by the Portal Server and generates a graphical statistical report based on the contents of the log data. Each log entry contains multiple fields, and VEMS Reporter extracts those field values from the log data and populates the report. VEMS Reporter is closely integrated with the Portal Server and has its own documentation. See the VEMS Reporter User Guide in the online help for more information.



Statistics for 09/Oct/2007 - 02/Nov/2007, 25 days

Stream types

Row 1 - 4 of 4

	Stream type	▼ Viewing events		0 - 100 %	Visitors	Play duration	Play duration per visitor (average)	Bytes transferred	Maximum bandwidth (max)	Session events
1	mp2	24	43.6 %		2	05:31:57	02:45:58	11.60 G	5.46 M	24
2	wm	20	36.4 %		3	04:15:28	01:25:09	2.20 G	4.33 M	20
3	mp4	9	16.4 %		2	06:16:03	03:08:01	3.83 G	1.91 M	9
4	mp1	2	3.6 %		1	00:00:44	00:00:44	9.31 M	1.69 M	2
	Total	55	100 %		4	16:04:14	-	17.64 G	-	55

Figure 14. Sample Enterprise Media System Reporter Output

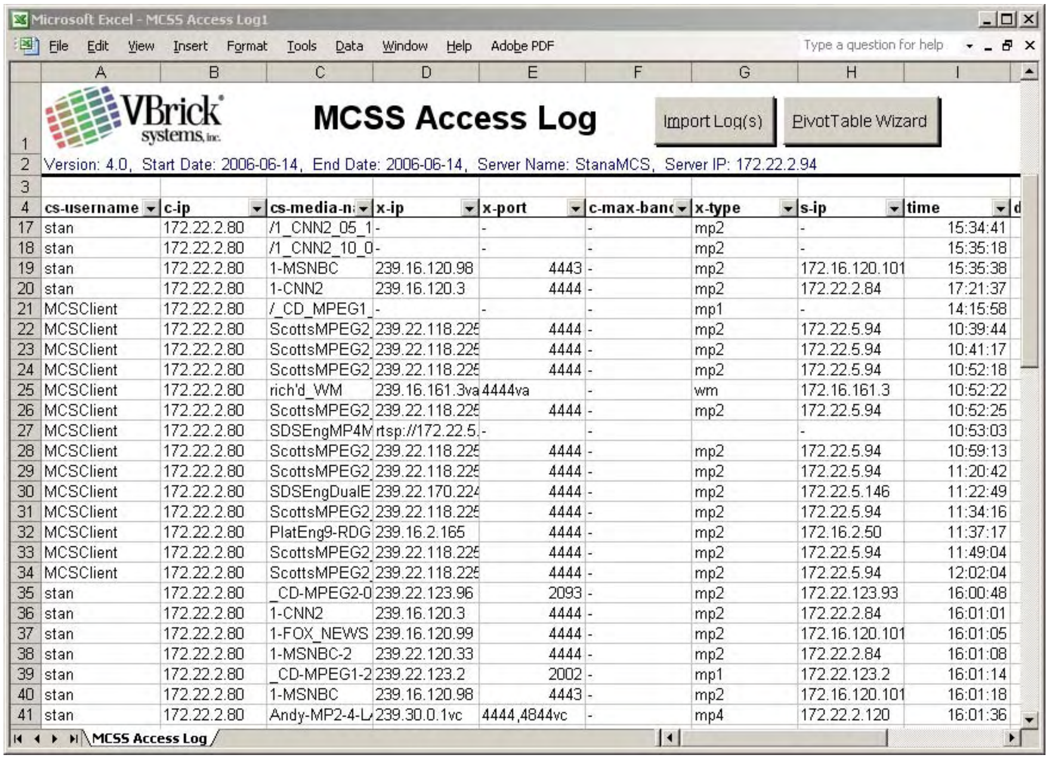
Using an Excel Spreadsheet

You can also use a standard editor like Notepad and the Excel spreadsheet template provided by VBrick to examine the logs. The MCSS Access Log.xlt template file makes to easy to view and sort log files. You can also use this template to build Pivot Tables to analyze the log data in greater detail. Pivot Tables are a powerful tool used to analyze multi-dimensional data. Pivot Tables are beyond the scope of this document and are not explained here. For an introduction to Pivot Tables, there are a variety of resources on the web including the Microsoft Office online demo at http://office.microsoft.com/en-us/assistance/HA011989031033.aspx

▼ To create a pivot table:

1. Navigate to C:\Program Files\VBrick\MCS\Utils and double-click MCSS Access Log.xlt
2. When prompted, select **Enable Macros**.
3. Click **Import Log(s)** and navigate to the log files in Program Files\VBrick\MCS\Logs
4. Select one or more log files by holding down the **Ctrl** or **Shift** keys while selecting files.

5. Once the window is populated with log data (Figure 15) you can view or sort any of the columns as necessary.
6. Click **Pivot Table Wizard** and follow the prompts to build a Pivot Table.



MCSS Access Log

Version: 4.0, Start Date: 2006-06-14, End Date: 2006-06-14, Server Name: StanaMCS, Server IP: 172.22.2.94

	cs-username	c-ip	cs-media-n	x-ip	x-port	c-max-banc	x-type	s-ip	time
17	stan	172.22.2.80	/1_CNN2_05_1	-	-	-	mp2	-	15:34:41
18	stan	172.22.2.80	/1_CNN2_10_0	-	-	-	mp2	-	15:35:18
19	stan	172.22.2.80	1-MSNBC	239.16.120.98	4443	-	mp2	172.16.120.101	15:35:38
20	stan	172.22.2.80	1-CNN2	239.16.120.3	4444	-	mp2	172.22.2.84	17:21:37
21	MCSClient	172.22.2.80	/_CD_MPEG1_	-	-	-	mp1	-	14:15:58
22	MCSClient	172.22.2.80	ScottsMPEG2	239.22.118.225	4444	-	mp2	172.22.5.94	10:39:44
23	MCSClient	172.22.2.80	ScottsMPEG2	239.22.118.225	4444	-	mp2	172.22.5.94	10:41:17
24	MCSClient	172.22.2.80	ScottsMPEG2	239.22.118.225	4444	-	mp2	172.22.5.94	10:52:18
25	MCSClient	172.22.2.80	rich'd_WM	239.16.161.3va	4444va	-	wm	172.16.161.3	10:52:22
26	MCSClient	172.22.2.80	ScottsMPEG2	239.22.118.225	4444	-	mp2	172.22.5.94	10:52:25
27	MCSClient	172.22.2.80	SDSEngMP4M	rtsp://172.22.5.	-	-		-	10:53:03
28	MCSClient	172.22.2.80	ScottsMPEG2	239.22.118.225	4444	-	mp2	172.22.5.94	10:59:13
29	MCSClient	172.22.2.80	ScottsMPEG2	239.22.118.225	4444	-	mp2	172.22.5.94	11:20:42
30	MCSClient	172.22.2.80	SDSEngDualE	239.22.170.224	4444	-	mp2	172.22.5.146	11:22:49
31	MCSClient	172.22.2.80	ScottsMPEG2	239.22.118.225	4444	-	mp2	172.22.5.94	11:34:16
32	MCSClient	172.22.2.80	PlatEng9-RDG	239.16.2.165	4444	-	mp2	172.16.2.50	11:37:17
33	MCSClient	172.22.2.80	ScottsMPEG2	239.22.118.225	4444	-	mp2	172.22.5.94	11:49:04
34	MCSClient	172.22.2.80	ScottsMPEG2	239.22.118.225	4444	-	mp2	172.22.5.94	12:02:04
35	stan	172.22.2.80	_CD-MPEG2-0	239.22.123.96	2093	-	mp2	172.22.123.93	16:00:48
36	stan	172.22.2.80	1-CNN2	239.16.120.3	4444	-	mp2	172.22.2.84	16:01:01
37	stan	172.22.2.80	1-FOX_NEWS	239.16.120.99	4444	-	mp2	172.16.120.101	16:01:05
38	stan	172.22.2.80	1-MSNBC-2	239.22.120.33	4444	-	mp2	172.22.2.84	16:01:08
39	stan	172.22.2.80	_CD-MPEG1-2	239.22.123.2	2002	-	mp1	172.22.123.2	16:01:14
40	stan	172.22.2.80	1-MSNBC	239.16.120.98	4443	-	mp2	172.16.120.101	16:01:18
41	stan	172.22.2.80	Andy-MP2-4-L	239.30.0.1vc	4444,4844vc	-	mp4	172.22.2.120	16:01:36

Figure 15. Imported Access Log

Zones

In a standard Portal Server configuration (with two zones), a client selecting a video is algorithmically directed to a load-balanced (Internet or LAN) server depending on the address ranges specified on the Global Assignments page (see "Assign LAN/Internet Address Range(s)." This is normal Portal Server behavior. The first two zones are configured in Global Assignments and the **Zones** page shown here is not used and is not even displayed. In a Professional or Enterprise configuration, the number of zones available for configuration depends on the licensing model (see Table 13) at your site. In a Professional or Enterprise model, the first two zones are also configured in Global Assignments and the next 10 or 100 zones (depending on what you purchased) are configured on the Zones page. You will only be able to configure the number of zones for which you are licensed.

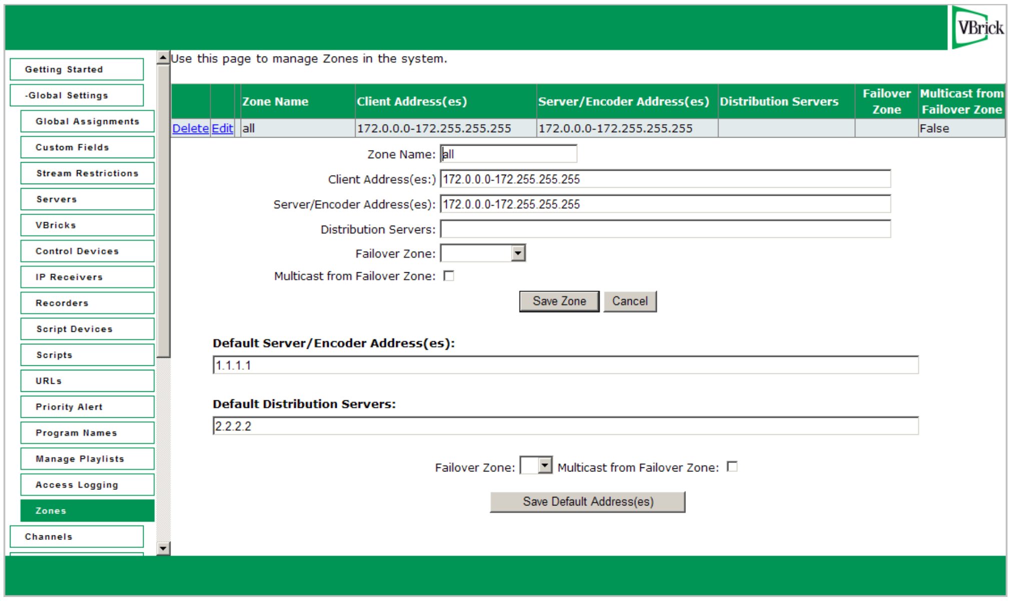
The Zones page, *if shown*, directs Portal Server clients (or a range of clients) to *specific* servers (or a range of servers) within the address range(s) specified in Global Assignments. It associates each incoming network address with one or more server addresses. If using this page, you will typically create different named zones with different sets of client and server IP addresses. Note that if a client IP address is not included in the **Client Address(es)** list, that client is directed to the **Default Server/Encoder Address(es)**.

Table 13. Zones Licensing Models

Licensing Model	Zones Available †
Standard	2
Professional	10
Enterprise	100

This page is also used to redirect clients when there is a server failure. The Portal Server polls all networked VOD servers at the polling interval specified in Global Settings. If the poll indicates a server failure, the specified Portal Server clients are automatically redirected to the failover server(s) only if the **Hide Content** option is checked on the **Assign VOD Polling Interval** page. *If unchecked, there will be no rollover to the specified default servers in the event of a server failure.*

Similarly, the Zones page is used to define Distribution Servers that are used to load-balance the distribution of .jpg images and HTML pages when delivering large-scale presentations (see the *Portal Server Release Notes* for more about installing and configuring Distribution Servers).



Use this page to manage Zones in the system.

		Zone Name	Client Address(es)	Server/Encoder Address(es)	Distribution Servers	Failover Zone	Multicast from Failover Zone
Delete	Edit	all	172.0.0.0-172.255.255.255	172.0.0.0-172.255.255.255			False

Zone Name: all
Client Address(es:) 172.0.0.0-172.255.255.255
Server/Encoder Address(es): 172.0.0.0-172.255.255.255
Distribution Servers:
Failover Zone:
Multicast from Failover Zone: □

Default Server/Encoder Address(es):
1.1.1.1

Default Distribution Servers:
2.2.2.2

Failover Zone: Multicast from Failover Zone: □

Zone Name	User-defined string that identifies the zone.
Client Address(es)	Enter individual, comma-separated client IP addresses and/or a range of client IP addresses. For example: 172.15.2.1, 172.16.2.1-172.22.2.255
Server/Encoder Address(es)	Enter individual, comma-separated server/encoder IP addresses and/or ranges of server/encoder IP addresses to which the specified client(s) will be directed.
Distribution Servers	Enter individual, comma-separated distribution server addresses to which a client will be directed for load-balanced presentations.

Failover Zone	If the requested content is not available locally or the local server is down, a content request will go to the defined Failover Zone (or to the Default Zone if selected).
Multicast from Failover Zone	Determines whether or not multicasting from the Failover Zone to clients is allowed if multicast content is available.
Save Zone	Saves zone information currently displayed in the upper panel.
Default Server/Encoder Address(es)	The server address(es) and/or range(s) to which a client is directed if the client IP address is not included in the **Client Address(es)** field. If the default address fails you can select a secondary Failover Zone (and a multicast setting) from the dropdown list of defined zones.
Default Distribution Servers	The distribution server address(es) to which a client will be directed for load-balanced presentations if the client IP address is not included in the **Client Address(es)** field.
Failover Zone	If the Default Address fails you can select a secondary Failover Zone (and multicast setting) from the dropdown list of zones.
Multicast from Failover Zone	Allow multicast from Failover Zone. Default = disabled.
Save Default Address(es)	Saves the default server information in the lower panel.

Configuring Zones

In a standard Portal Server configuration (with two zones), a client selecting a video is algorithmically directed to a load-balanced (Internet or LAN) server depending on the address ranges specified on the Global Assignments page. In a Professional or Enterprise model, the first two zones are also configured in Global Assignments and the remaining zones are configured here on the Zones page. When configuring zones, always take into account how the VEMS Server identifies a client. A client is identified to the Portal Server by its IP address. When WAN configurations are used, a network gateway can be entered as a Zone Client Address(es). This is because all clients in a network are viewed as this gateway address by an outside Host (for example the VEMS Portal Server).

Configuration Using Global Assignments

LAN and Internet Zones are defined on the Global Assignments page. Use these zones with a Standard VEMS Server.

LAN Zone Client	LAN Clients are allowed to view all content defined in the LAN address range and all Internet content which have addresses out of this range.
Internet Zone Client	Internet Clients are allowed to only view content not defined in the LAN address range.

Configuration Using Zones Page

Use the Zones page if you have a VEMS Professional or Enterprise Server. If you have a distributed environment with multiple independent LANs, you may not want to use the LAN/Internet Zones. Instead you can define the Internet Zone Address(es) using a separate Zone and enter all IP Addresses not defined in your other Zones. For example:

Zone 1 = Corporate Office Address Ranges
Zone 2 = Remote Office 1 Address Ranges
Zone 3 = Remote Office 2 Address Ranges
Zone 4 = Internet Zone (All IP's not in Zones 1–3)

If a Zone is defined and a default zone is not defined, clients inside the zone can only view content which is defined in the Zone range. Clients outside the zone can view all content available regardless of zone configuration. *If a Zone is defined and default zone is defined,* clients inside the zone can only view content which is defined in its Zone range. Clients outside the zone can only view content defined in Default Zone range.

Configuring Failover Zones

When a Zone is configured with a Failover Zone, the Zone's clients can view content from both its own zone <u>and</u> the failover zone. When the Zone's VOD server or encoder fails, clients will still have access to the failover zone's content. When configuring a Failover Zone that will reference NATed address(es), it is best practice to create a separate zone for the same client addresses which will be designated as another Zone's failover. In order for content to be available to a client the NATed address it must be entered in the client's Zone. But if a NATed failover VOD and primary VOD are both in the same zone the content will load balance to all clients in the zone. Therefore a separate zone should be created specifically for NATed failover addresses.

Configuring VOD Servers

When a VOD Server IP is defined in a Zone, all VOD Content from this server is available to the Zone's clients. All Scheduled Multicasts (via VEMS Scheduler page) from Zone's VOD will be available to Zone's clients.

Configuring Encoders, Viewing URLs, and Manual URLs

When an encoder IP is defined in a Zone, all enabled SAPs from this encoder are available to the Zone's clients with the exception of the encoder's External SAP. If the External SAP is configured, the URL IP entered in the External SAP will determine what Zone the SAP is directed to. The IP of the External SAP URL will have to be in the same IP Address Range of the Zone's assigned Server/Encoder Address(es) in order for the Zone's clients to view the video stream. When an encoder is used for Presentation feature (Multimedia VBrick), the encoder's Viewing URLs IP will determine what Zone the Viewing URL is directed to. The IP of the Viewing URL must be in the same IP Address Range of the Zone's assigned Server/Encoder Address(es) in order for the Zone's Clients to view the Presentations video stream. When a manual Live Video Stream URL is used (defined in VEMS Global Settings), the URL's IP address will determine what Zone the Viewing URL is directed to. The IP of the URL will have to be in the same IP Address Range of the Zone's assigned Server/Encoder Address(es) in order for the Zone's clients to view the video stream.

Configuring Distribution Servers

If you are defining a Distribution Server for a Zone, the clients inside zone are directed to Presentation content from the Distribution Server(s) defined in its Zone range. Note: This is only true when using Presentation e-mail link to view a Presentation. *If you are defining a Distribution Server for the Default Zone,* all Clients outside defined zones are directed to Presentation content from the Distribution Server(s) defined in the Default Distribution Server range. Note: This is only true when using Presentation e-mail link to view a Presentation.

Chapter 3

Server Administration

Topics in this section

Channels

Channel Guide

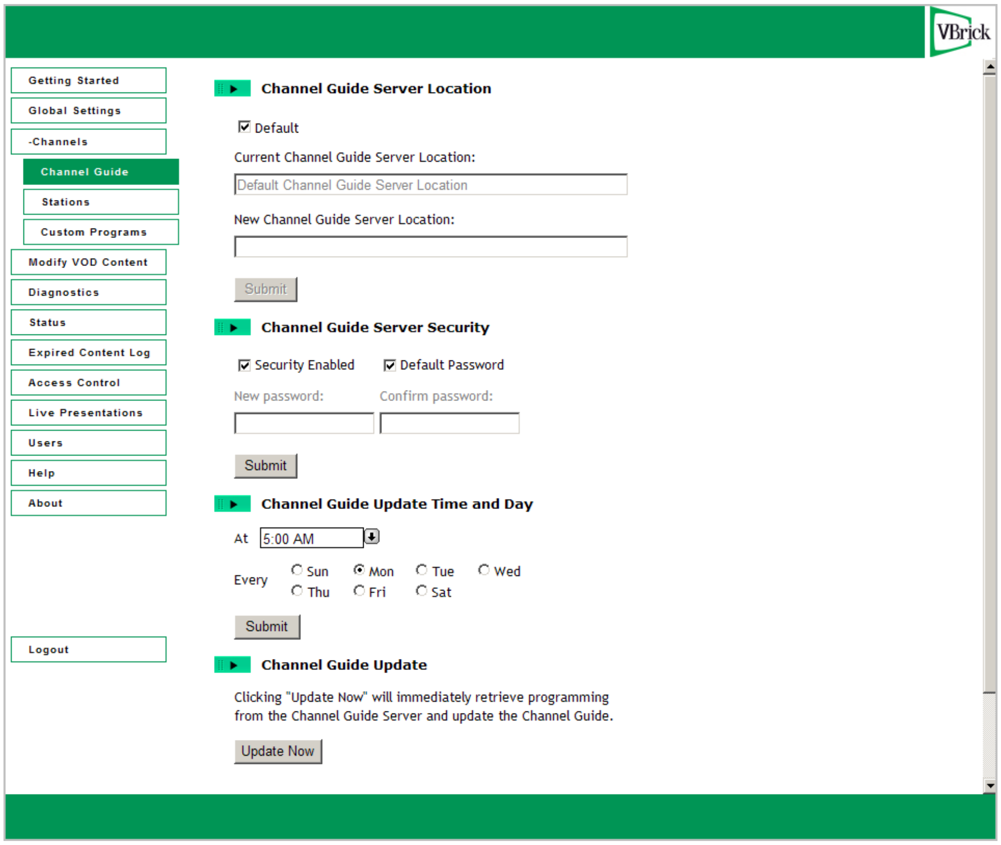
VBrick has partnered with a leading content provider, to provide news, information, and entertainment programming for the Portal Server. This is optional service that requires a license and may not be supported at your site. The program listing includes some 80+ television programs. These programs are generally all "network" listings, such as ABC, CBS, NBC, CNN, "National Geographic Channel, etc. The listing comes from a VBrick-maintained server. This page is used to define the location and update parameters for the Channel Guide Server. This server is typically a VBrick Apache machine that can be used to connect to a third-party content provider. In this type of scenario, the third-party provider provides *programming* data that is shown on the user interface in the Channel Guide. This functionality requires a Channel Server license. If this license is not installed, the options for server **Location** and **Security** (password) are not shown on the Channel Guide page.

Changing the Time Zone

The times for Channel Guide listings on the Portal Server are in UCT (Universal Coordinated Time). The program times are calculated by the Portal Server software using the time zone setting in Windows. For example, if a program is listed as beginning at 1800 hours UCT, and your time zone is U.S. Eastern, the "offset" from UCT is -5 and the program will be listed at 1300 hours. If your time zone is U.S. Pacific, the "offset" is -8 and the program will be listed at 1000 hours. To get accurate program listings, your local time zone must be properly configured in Windows. The Portal Server computer is shipped with U.S. Eastern time and should be reconfigured to match your own time zone. Use the following steps to set the time zone and verify that it was successfully changed.

▼ To change the time zone:

1. For reference purposes, note the currently scheduled time for any program in the Channel Guide.
2. Go to **Start > Control Panel > Date and Time** and select the Time Zone where the Portal Server is located.
3. When done reboot the Portal Server and open the Admin Console.
4. Go to **Channels > Channel Guide > Channel Guide Update** and click **Update Now**.
5. Wait approximately 20 minutes for the Channel Guide to update.
6. Verify that the time zone has been updated. Check the scheduled time for the program you noted in Step 1 and verify it has been updated to match your current time zone.



Channel Guide Server Location

☑ Default

Current Channel Guide Server Location: Default Channel Guide Server Location

New Channel Guide Server Location:

Channel Guide Server Security

☑ Security Enabled ☑ Default Password

New password: Confirm password:

Channel Guide Update Time and Day

At 5:00 AM

Every ○ Sun ● Mon ○ Tue ○ Wed ○ Thu ○ Fri ○ Sat

Channel Guide Update

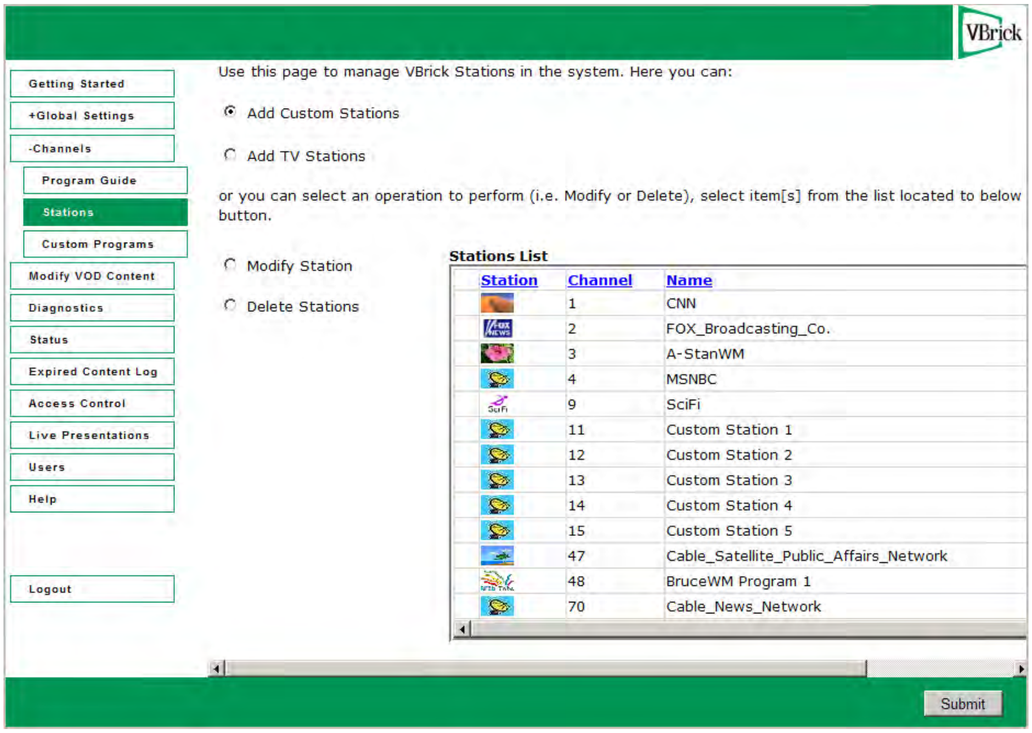
Clicking "Update Now" will immediately retrieve programming from the Channel Guide Server and update the Channel Guide.

Channel Guide Server Location	The location of the VBrick Channel Guide Server. To enter a different location, uncheck the **Default** box and enter a valid URL in the following format: `http://www.<server_ip_address>`.
Channel Guide Server Security	By default, password security is enabled. Uncheck to disable, and then enter and confirm a different password.

Channel Guide Update Time and Day	Select the time and day when the Portal Server will connect to the specified Channel Guide Server for program updates. This updates the Channel Guide on the user interface. When *TV Station* program data is updated, all expired *Custom Station* program data (more than 14 days old) is purged.
Channel Guide Update	Click **Update Now** to immediately retrieve programming from the Channel Guide Server and/or update the Channel Guide on the user interface. An update purges all outdated programming information from the database.

Stations

Use this page to add stations to the Channel Guide on the Portal Server "user" interface. There are two types of stations. **Custom Stations** are those for which *you* define program information and associate with a stream. **TV Stations** are those acquired through a third-party provider. **TV Stations** are also associated with a stream and already have program information provided by a Channel Guide Server. Note that the **Add TV Stations** option is not shown unless you have a Channel Guide Server license installed on the Portal Server (see Install/ Replace License Files on page 15 for more information). All currently defined stations are shown in the **Stations List**.



Use this page to manage VBrick Stations in the system. Here you can:

● Add Custom Stations

○ Add TV Stations

or you can select an operation to perform (i.e. Modify or Delete), select item[s] from the list located to below button.

○ Modify Station

○ Delete Stations

Stations List

Station	Channel	Name
	1	CNN
	2	FOX_Broadcasting_Co.
	3	A-StanWM
	4	MSNBC
	9	SciFi
	11	Custom Station 1
	12	Custom Station 2
	13	Custom Station 3
	14	Custom Station 4
	15	Custom Station 5
	47	Cable_Satellite_Public_Affairs_Network
	48	BruceWM Program 1
	70	Cable_News_Network

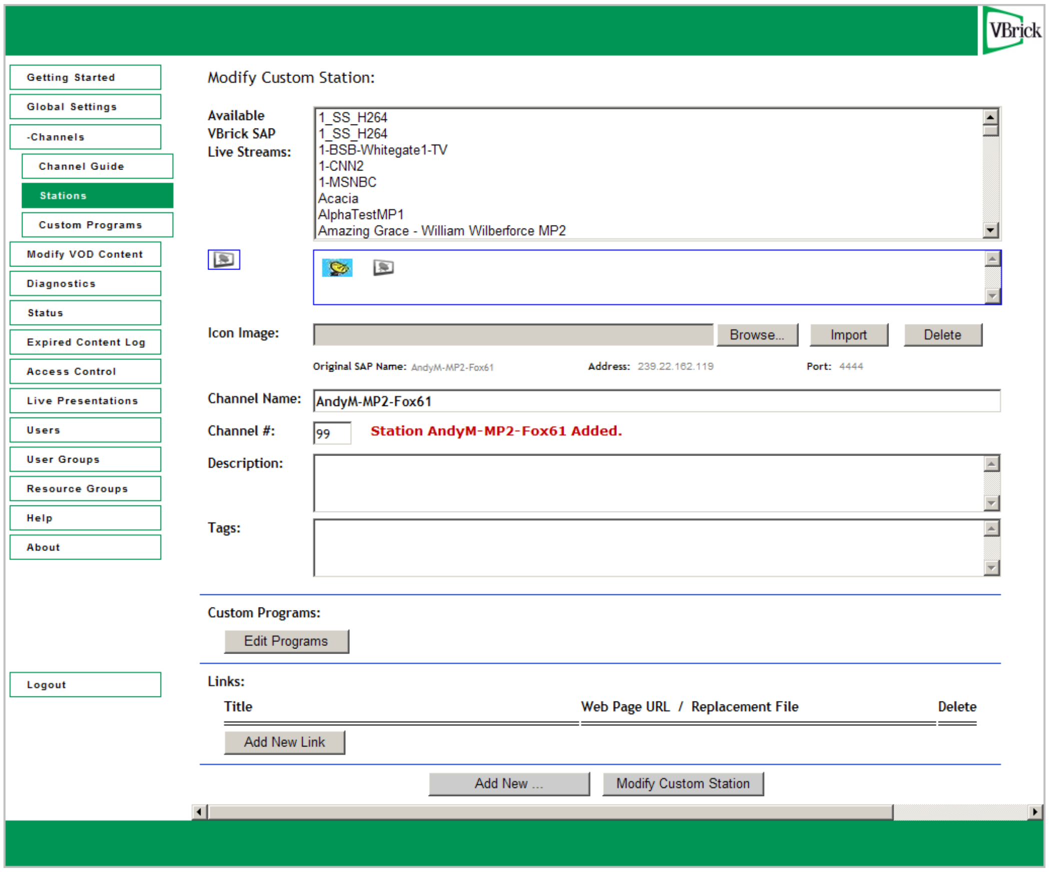
The Portal Server discovers all available live streams on the network. On a network with many live streams, the administrator can keep the stream list organized by assigning channel numbers. This also provides an environment for end users that is similar to television. When adding stations, you can assign or change the **Icon**, **Name**, **Channel** number etc. You can also enter a searchable **Description** that displays in the **Info** popup when you mouseover the channel number in the user interface. You can also enter **Tags** for searching, and values for any custom fields that have been defined (see Custom Fields on page 29).

Note For best viewing results after adding stations, click the **Live Media** button on the user interface to refresh the page and verify your changes. To avoid caching conflicts, do not use the browser refresh (F5) button.

Add Custom Stations

▼ To add a custom station:

1. Go to **Channels > Stations** and click **Add Custom Stations**.
2. Click on any *available* live stream to populate the window shown below. Note that only those streams not currently assigned to stations are displayed and available for use.



Modify Custom Station:

Available VBrick SAP Live Streams:
1_SS_H264
1_SS_H264
1-BSB-Whitegate1-TV
1-CNN2
1-MSNBC
Acacia
AlphaTestMP1
Amazing Grace - William Wilberforce MP2

Icon Image:

Original SAP Name: AndyM-MP2-Fox61 Address: 239.22.162.119 Port: 4444

Channel Name: AndyM-MP2-Fox61

Channel #: 99 **Station AndyM-MP2-Fox61 Added.**

Description:

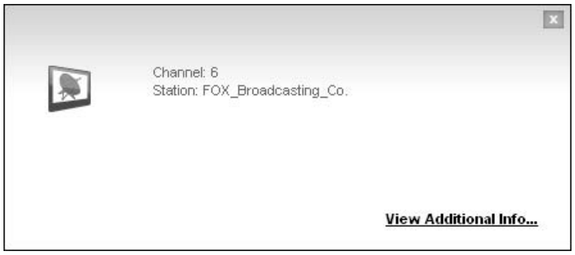
Tags:

Custom Programs:

Links:

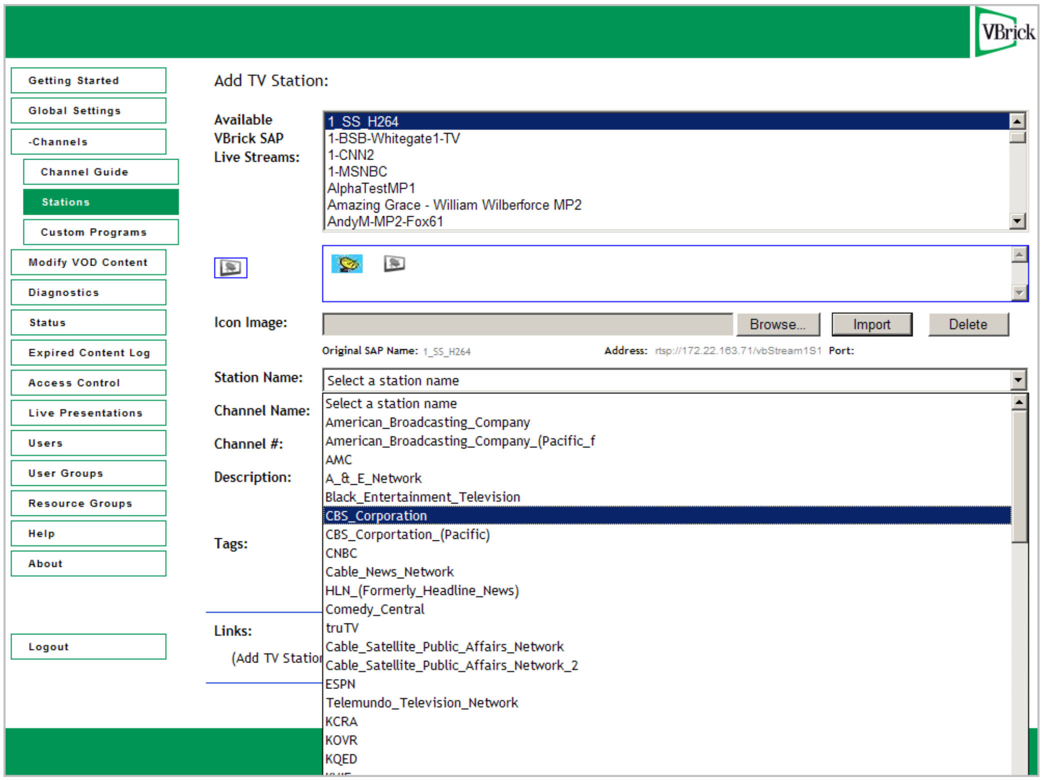
Title	Web Page URL / Replacement File	Delete

3. Select an existing icon or **Browse** to a file and select **Import** to make additional icons available.
4. Change the station **Name** (optional) and enter a **Channel** number (required).
5. Add a **Description** of the channel and **Tags**. These are displayed on the **Info** page shown when you mouseover the station icon. They are associated with the stream and make it easier to search for specific content.
6. When done click **Add Custom Station**. This creates the station, disables the **Add Custom Station** button, and enables the **Edit Programs** and **Add New Links** buttons.
7. Add custom programming information (see Custom Programs) and links (see Add New Links) as explained below.
8. Click **Modify Custom Station** when done to save your changes.

Available VBrick SAP Live Streams	Select an available live stream on your network. These were previously created and include VBrick SAPs (Session Announcements), multicasts from VOD servers, and URLs that were manually entered. See URLs on page 66 for more information about manually-entered URLs. *Note that only those streams not currently assigned to stations are displayed in this list.*
Icon Image	Navigate to any valid image file (.jpg, .gif, or .png, only). Use an image that will scale appropriately. All images are resized to 18x30 px.
Channel Name	Name assigned to the station that will display on the popup when you click an icon in the Channel Guide.  Channel: 6 Station: FOX_Broadcasting_Co.
Channel #	Required. Unique number that will display on the popup when you mouseover the icon on the Live Media page
Description	Optional. Description that will display on the View Info page.
Tags	Optional. Enter searchable keyword tags(s) separated by commas or spaces that will display on the View Info page.
Custom Programs	Lets you add custom programming data. Note that you must add a Custom Station before creating programs for it.
Custom Fields	Any Custom Fields created on the Global Settings > Custom Fields page are shown here.
Links	Optional. Add hyperlinks that will display on the View Info page. See Add New Links below. Note that you must add a Custom Station before creating links for it.

Add TV Stations

This option is not shown unless you have a license for a Channel Guide Server. If you do have a license, certain content is being made available from a third-party provider. Adding a **TV Station** is the same as adding a **Custom Station** (see above) with two important distinctions. First, you must select a **Station Name** from the pre-populated list, an example of which is shown below. Second, there is no button that will allow you to create custom programming. The programming for TV Stations is automatically provided by the specified Channel Guide Server and updated at regular specified intervals (see Channel Guide on page 83 for details).



Add TV Station:

Available VBrick SAP Live Streams:
1_SS_H264
1-BSB-Whitegate1-TV
1-CNN2
1-MSNBC
AlphaTestMP1
Amazing Grace - William Wilberforce MP2
AndyM-MP2-Fox61

Icon Image:

Original SAP Name: 1_SS_H264 Address: rtsp://172.22.163.71/vbStream1S1 Port:

Station Name: Select a station name

Select a station name
American_Broadcasting_Company
American_Broadcasting_Company_(Pacific_f
AMC
A_&_E_Network
Black_Entertainment_Television
CBS_Corporation
CBS_Corportation_(Pacific)
CNBC
Cable_News_Network
HLN_(Formerly_Headline_News)
Comedy_Central
truTV
Cable_Satellite_Public_Affairs_Network
Cable_Satellite_Public_Affairs_Network_2
ESPN
Telemundo_Television_Network
KCRA
KOVR
KQED

Channel Name:

Channel #:

Description:

Tags:

Links:

(Add TV Statio

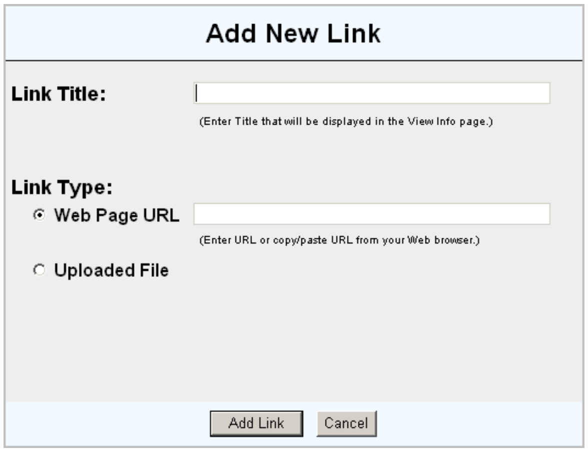
Station Name	Select a station from the pre-populated dropdown list.
Channel Name	Enter a searchable name (for example "CBS") so you can search **By Channel Name** in the Channel Guide.
Channel #	Enter a unique number that will identify the channel in the Channel Guide.

Add New Links

This feature lets you add a hyperlink to the page you get by clicking the **View Info** link that is associated with each live stream.

▼ To add a new link:

1. Click **Add New Link** and enter a **Link Title** and **Link Type**.
2. Enter a Web Page URL or navigate to an upload file (an image, a Microsoft Word document, etc.).
3. Click **Add Link** when done and repeat as many times as necessary.



Add New Link

Link Title:

(Enter Title that will be displayed in the View Info page.)

Link Type:

● Web Page URL

(Enter URL or copy/paste URL from your Web browser.)

○ Uploaded File

Link Title	The title actually displayed on the View Info page, for example "Additional Information."
Link Type	• Web page URL – Enter a valid URL or copy and paste one from your web browser. • Uploaded File – Browse to select an upload file. This can be a PowerPoint, an image, or any file you want to make available to end users. The file is automatically uploaded to the Portal Server and the Portal Server creates a URL for end users to access it.

Custom Programs

This page is used to add programming information to an existing station. You can only program custom stations; TV stations (if present) are auto-programmed by a Channel Guide Server. You use the **Custom Programs** page to manually create programming data and associate it with a Custom Station. For example, you may want to modify the Channel Guide so that "Monday Night Football" is shown in the 8–10 P.M. time slot on Monday nights from September through January.

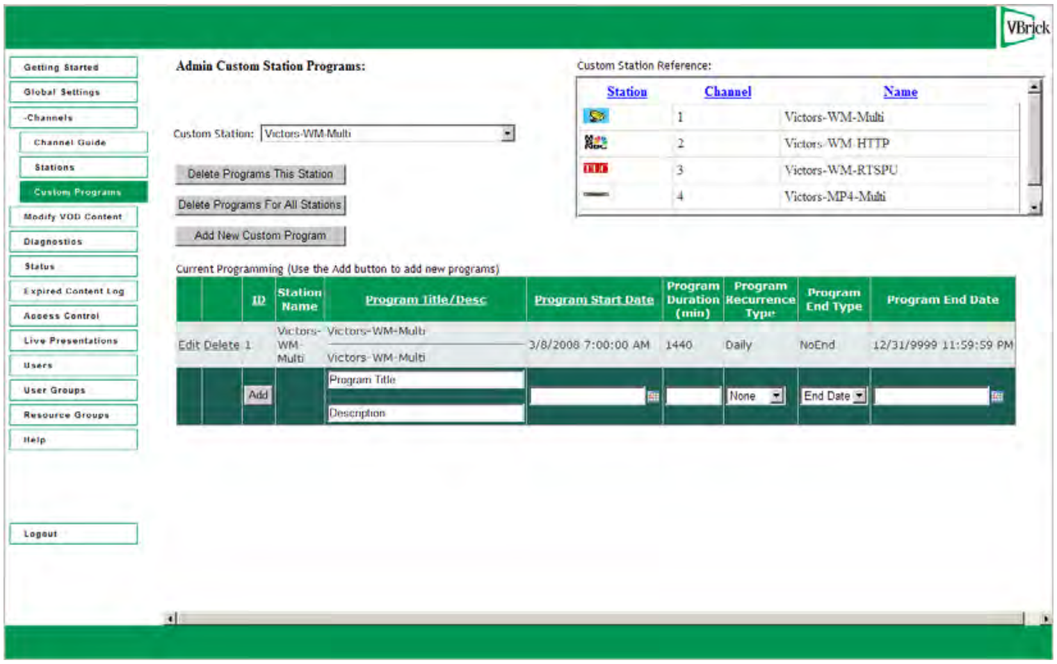
Note All times for custom programs are shown on this page in the currently selected time zone for the Admin Console—*not in local time*. When displayed in the Channel Guide however, the time is converted to viewer's local time zone. (The Admin Console time zone is displayed is configured in Global Assignments.)

Add Custom Programs

▼ To add custom programming to a custom station:

1. Click on **Custom Programs** to display the Custom Stations page.
2. The "Custom Station" dropdown list shows all currently defined *custom* stations. Select a Custom Station from this list and then click **Add New Custom Program**.
3. Use the fields explained below to create custom programming for the selected station. Click on the header titles as appropriate to sort the entries in the list.
4. Use the horizontal slider bar to display all fields. When done, click **Add**. The program will be added to the specified time slot and you will see a view similar to Figure 16 when you mouseover the item in the Channel Guide on the user interface.

Note When *TV Station* program data is updated from the Channel Guide Server, all expired *Custom Station* program data (more than 14 days old) is purged.



Admin Custom Station Programs:

Custom Station: Victors-WM-Multi

Custom Station Reference:

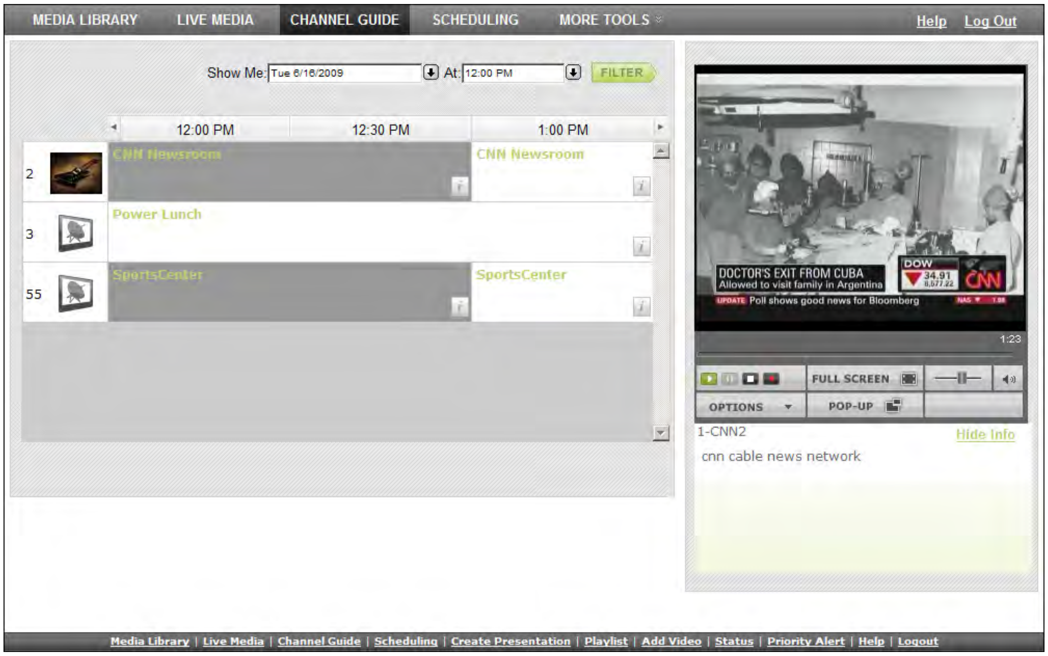
Station	Channel	Name
	1	Victors-WM-Multi
	2	Victors-WM-HTTP
	3	Victors-WM-RTSPU
	4	Victors-MP4-Multi

Current Programming (Use the Add button to add new programs)

		ID	Station Name	Program Title/Desc	Program Start Date	Program Duration (min)	Program Recurrence Type	Program End Type	Program End Date
Edit	Delete	1	Victors-WM-Multi	Victors-WM-Multi Victors-WM-Multi	3/8/2008 7:00:00 AM	1440	Daily	NoEnd	12/31/9999 11:59:59 PM
		Add		Program Title Description			None	End Date	

Custom Station	From the dropdown list, select a defined Custom Station for which you want to define a program.
Delete Programs This Station	Delete all programming data for the *selected* station.
Delete Programs For All Stations	Delete all programing data for *all* stations.
Add New Custom Program	Add a new line at the bottom of the "Current Programming" list for a new custom programming item.
ID	Program ID. Read only.
Station Name	Station Name. Read only.
Program Title/ Desc	Program Title – is shown in the Channel Guide, for example "Monday Night Football."
	Description – is shown on the popup (see Figure 16) when you mouseover the item in the Channel Guide and click Info.
Program Start Date	Use the calendar to select the start date and start time. Alternately, you can manually enter the values in the proper format: for example: `3/10/2009 5:30:00 PM`
Program Duration	Required. Program length in minutes. Maximum = 1440 (24 hr.). To add a custom program that never ends, set **Program Duration** to "1440," with a "Daily" **Program Recurrence Type**, and a "NoEnd" **Program End Type**.
Program Recurrence Type	None | Daily | Weekly. If weekly, occurs on the same *day* as specified in Start Date.

Program End Type	Select NoEnd or EndDate and use calendar.
Program End Date	Use the calendar to select recurrence end date.



Show Me: Tue 6/16/2009 At: 12:00 PM

1-CNN2

cnn cable news network

Figure 16. Custom Program Data

Note The message "Program Unavailable" in the Channel Guide means there is no programming data associated with the stream. *It does not mean the stream itself is unavailable*. You can still click on the stream to launch it in the preview window.

Edit Custom Programs

▼ To edit a Custom Program:

1. Navigate to the program you want to change and click **Edit**.
2. Manually edit any of the fields as necessary and click **Update** when done.

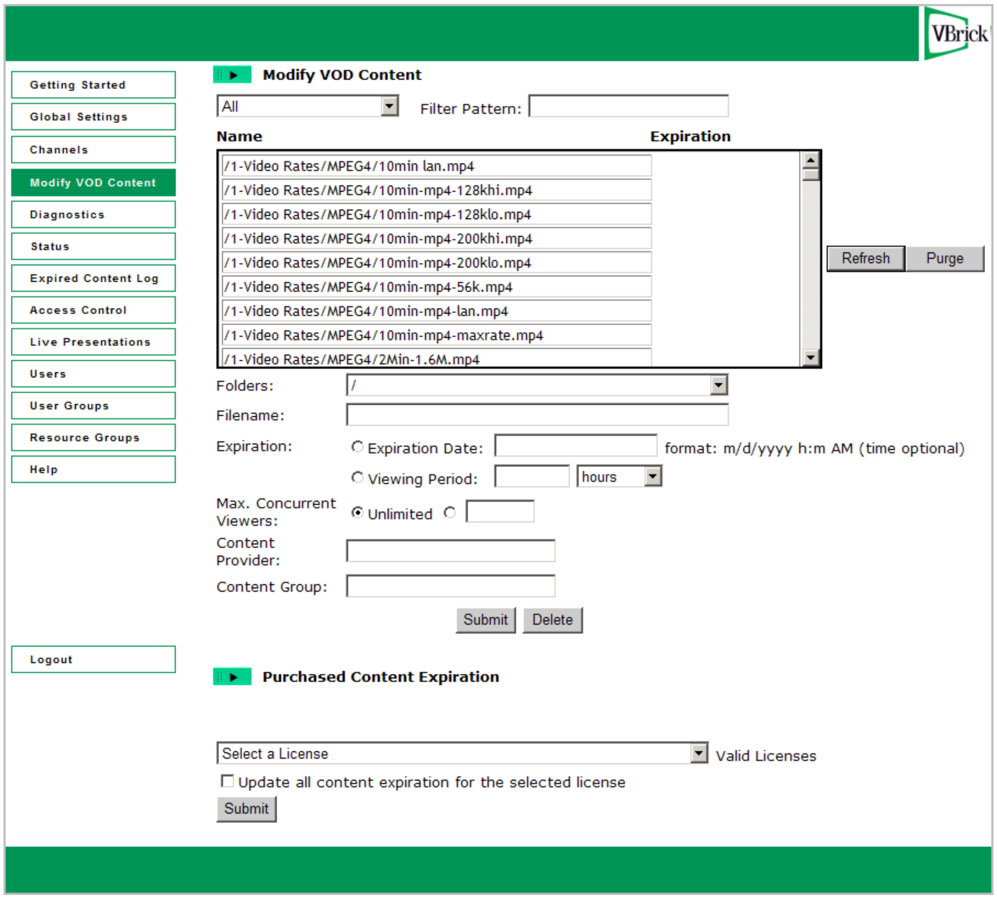
Modify VOD Content

Video on Demand Servers only. Administrators and authorized users can modify and delete content located on their video on-demand servers. (Note that you cannot delete or modify any content files that are currently in use.) Administrators can find or filter the displayed assets by clicking on **All**, **Tags**, **Title**, or **Expiration Date**. You can also use this window to set **Expiration**, define the maximum number of concurrent viewers, and update expiration dates for purchased content. Also, be aware that a user with publishing permissions can delete content by clicking the **Info** hyperlink and then **Delete Video**. To disable this user option, disable the user's content publishing permissions (see Allow Content Publishing on page 118).

Purchased Content Expiration

Purchased content is protected against theft, piracy, or copyright violation by means of an expiration date or viewing period. Each piece of content has an optional expiration date in the database. If the current date is later than this expiration date, the content cannot be viewed by a Portal Server user. When new content is added (for example using Add Video or autoingest), administrators can optionally enter an **Expiration Date** or **Viewing Period** and can limit the number of concurrent viewers. This data can be modified at anytime. The Expired Content Log shows all expired content on your system in chronological order with the oldest expiration date first. See Copyright Protection on page 2 for more information.

If third-party content is purchased from VBrick, however, the **Expiration Date** or **Viewing Period** are automatically populated with read-only data that cannot be changed without updating the license. (**Content Provider** and **Content Group** are only populated when you select purchased content.) If you purchased third-party content from VBrick, this content was installed on your VOD server(s) prior to shipment.



Modify VOD Content

All   Filter Pattern:

Name	Expiration
/1-Video Rates/MPEG4/10min lan.mp4	
/1-Video Rates/MPEG4/10min-mp4-128khi.mp4	
/1-Video Rates/MPEG4/10min-mp4-128klo.mp4	
/1-Video Rates/MPEG4/10min-mp4-200khi.mp4	
/1-Video Rates/MPEG4/10min-mp4-200klo.mp4	
/1-Video Rates/MPEG4/10min-mp4-56k.mp4	
/1-Video Rates/MPEG4/10min-mp4-lan.mp4	
/1-Video Rates/MPEG4/10min-mp4-maxrate.mp4	
/1-Video Rates/MPEG4/2Min-1.6M.mp4	

Folders: /

Filename:

Expiration: ○ Expiration Date: format: m/d/yyyy h:m AM (time optional)

○ Viewing Period: hours

Max. Concurrent Viewers: ● Unlimited ○

Content Provider:

Content Group:

Purchased Content Expiration

Select a License   Valid Licenses

□ Update all content expiration for the selected license

Search box (All)	Search for specific assets by selecting All, Tags, Title, or Expiration Date. Then click Refresh.
Filter Pattern	Search for specific assets using a filter pattern. Type any text string and click Refresh. For example, type `mp4` to search for assets with `mp4` in the title. The filter does not recognize "wildcards" and is not case-sensitive.

Name	Video content name. Click on **Refresh** to re-paint the screen or **Purge** button to remove the artifacts of failed Delete operations.
Expiration	Expiration date if any.
Folders	Use to navigate to a specific folder.
Filename	Click once on any named content in the list to populate this field.
Expiration	• Expiration Date – set date in `mm/dd/yyyy 12:00 AM` format. • Viewing Period – set a value for viewing period in hours, days, weeks, months, or years.
Max. Concurrent Users	Defines the maximum number of users who can view this stream at the same time. Select Unlimited or enter a value greater than zero.
Content Provider	This read-only field is populated with information when you select a video that was included in content purchased from VBrick.
Content Group	This read-only field is populated with information when you select a video that was included in content purchased from VBrick.
Valid Licenses	This dropdown displays a list of all currently valid licenses for content purchased from VBrick. Select the license you wish to update.
Update all content expiration for the selected license	Use this field to update the expiration dates of purchased content. First install the license you receive from VBrick (see Install/Replace License Files on page 15). Then check this box and click Submit to update the content expiration data for the select license.

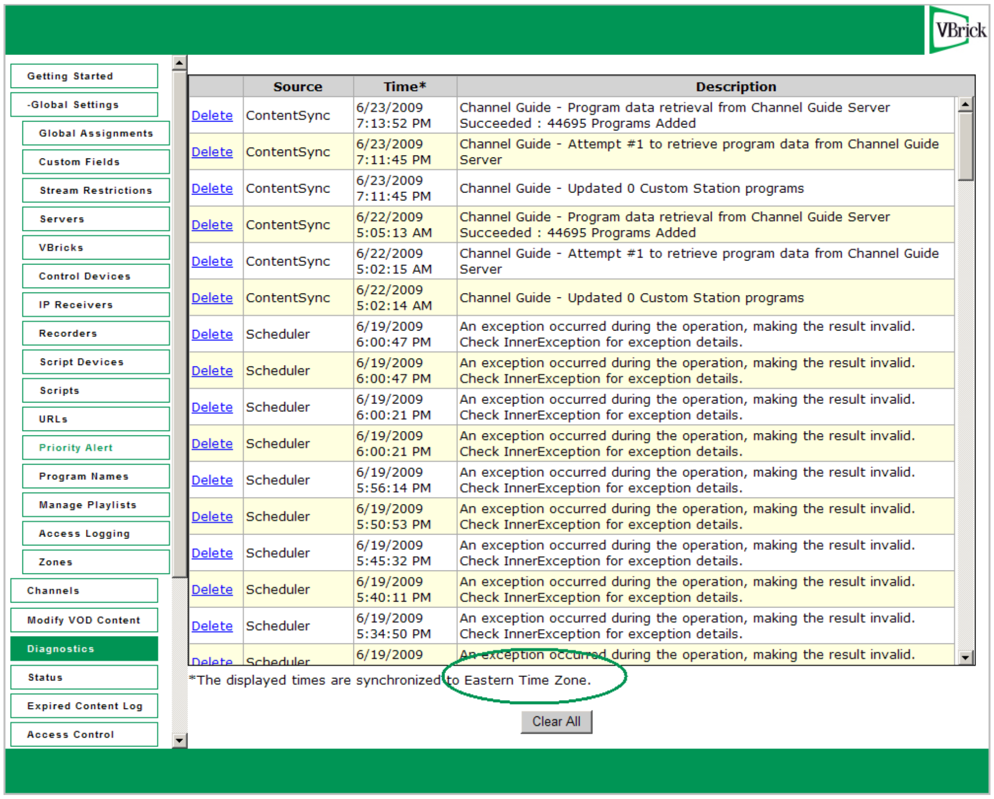
▼ To modify VOD Content:

1. Click on the content to be changed.
2. Enter a new filename and/or path for that file. Note that the file must be alphanumeric characters and cannot contain embedded spaces.
3. Set the **Expiration Date** or **Viewing Period** as necessary.
4. To delete a file, select the file and click **Delete**.

Note NXG1 only. You cannot rename or otherwise manage VOD files stored on some legacy NXG1 servers. This feature is supported on all NXG2 servers and on all other servers currently available with VEMS Portal Server.

Diagnostics

This window displays information about Scheduler events only. It displays system log messages by source and time and (generally) IP address. Use **Clear All** to empty the log. *Note that all times are shown in the currently selected time zone for the Admin Console—not in local time.* The Admin Console time zone is displayed near the bottom of the page and is configured in Global Assignments (see "Assign Time Zone of Admin Console.")

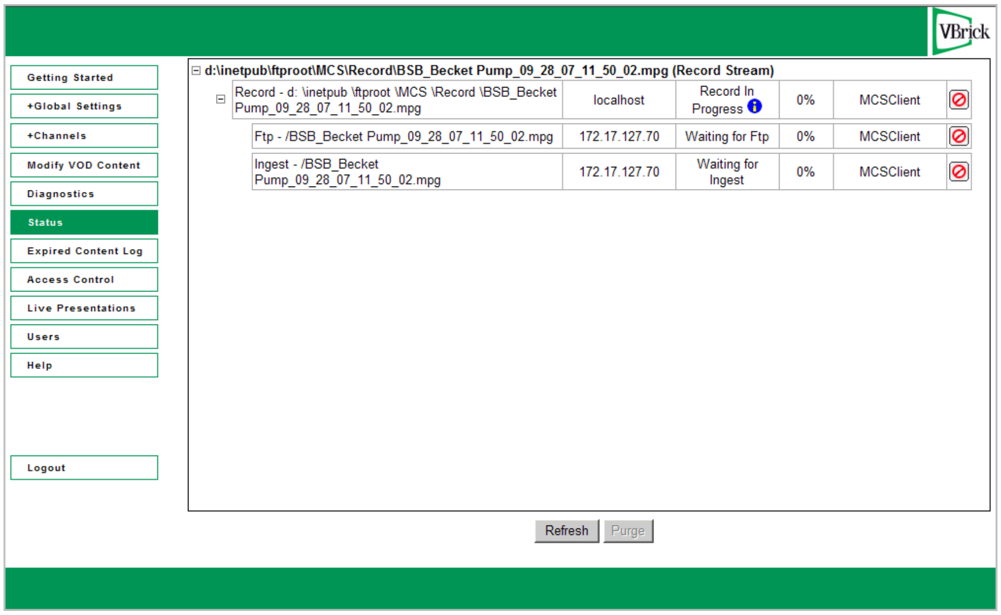


	Source	Time*	Description
Delete	ContentSync	6/23/2009 7:13:52 PM	Channel Guide - Program data retrieval from Channel Guide Server Succeeded : 44695 Programs Added
Delete	ContentSync	6/23/2009 7:11:45 PM	Channel Guide - Attempt #1 to retrieve program data from Channel Guide Server
Delete	ContentSync	6/23/2009 7:11:45 PM	Channel Guide - Updated 0 Custom Station programs
Delete	ContentSync	6/22/2009 5:05:13 AM	Channel Guide - Program data retrieval from Channel Guide Server Succeeded : 44695 Programs Added
Delete	ContentSync	6/22/2009 5:02:15 AM	Channel Guide - Attempt #1 to retrieve program data from Channel Guide Server
Delete	ContentSync	6/22/2009 5:02:14 AM	Channel Guide - Updated 0 Custom Station programs
Delete	Scheduler	6/19/2009 6:00:47 PM	An exception occurred during the operation, making the result invalid. Check InnerException for exception details.
Delete	Scheduler	6/19/2009 6:00:47 PM	An exception occurred during the operation, making the result invalid. Check InnerException for exception details.
Delete	Scheduler	6/19/2009 6:00:21 PM	An exception occurred during the operation, making the result invalid. Check InnerException for exception details.
Delete	Scheduler	6/19/2009 6:00:21 PM	An exception occurred during the operation, making the result invalid. Check InnerException for exception details.
Delete	Scheduler	6/19/2009 5:56:14 PM	An exception occurred during the operation, making the result invalid. Check InnerException for exception details.
Delete	Scheduler	6/19/2009 5:50:53 PM	An exception occurred during the operation, making the result invalid. Check InnerException for exception details.
Delete	Scheduler	6/19/2009 5:45:32 PM	An exception occurred during the operation, making the result invalid. Check InnerException for exception details.
Delete	Scheduler	6/19/2009 5:40:11 PM	An exception occurred during the operation, making the result invalid. Check InnerException for exception details.
Delete	Scheduler	6/19/2009 5:34:50 PM	An exception occurred during the operation, making the result invalid. Check InnerException for exception details.
Delete	Scheduler	6/19/2009	An exception occurred during the operation, making the result invalid.

*The displayed times are synchronized to Eastern Time Zone.

Status

This window shows the status of videos being added or recorded. Use **Refresh** and **Purge** as necessary. Use the tree controls on the left to expand (or contract) individual entries. Click the Cancel icon ☒ to the left of each to cancel a recording or ingestion in progress. This also cancels the recording on the **Live Media** page.

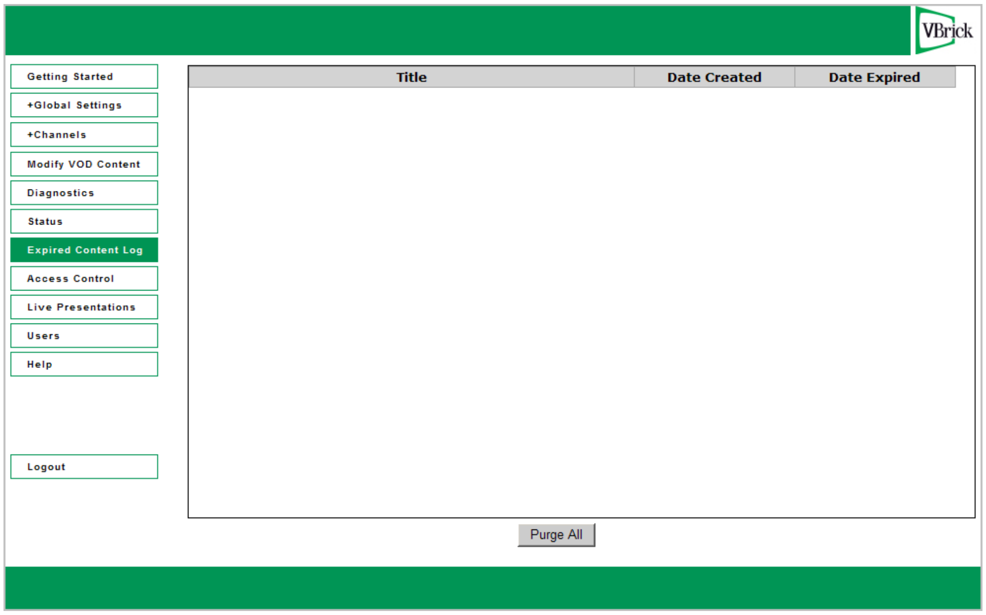


⊟ d:\inetpub\ftproot\MCS\Record\BSB_Becket Pump_09_28_07_11_50_02.mpg (Record Stream)

⊟ Record - d: \inetpub \ftproot \MCS \Record \BSB_Becket Pump_09_28_07_11_50_02.mpg	localhost	Record In Progress ℹ	0%	MCSClient	⊘
Ftp - /BSB_Becket Pump_09_28_07_11_50_02.mpg	172.17.127.70	Waiting for Ftp	0%	MCSClient	⊘
Ingest - /BSB_Becket Pump_09_28_07_11_50_02.mpg	172.17.127.70	Waiting for Ingest	0%	MCSClient	⊘

Expired Content Log

This window shows all expired content in chronological order with the oldest expiration date first. Click **Purge All** to delete all records in the log. See Modify VOD Content on page 91 and Stream Restrictions on page 30 for more information.



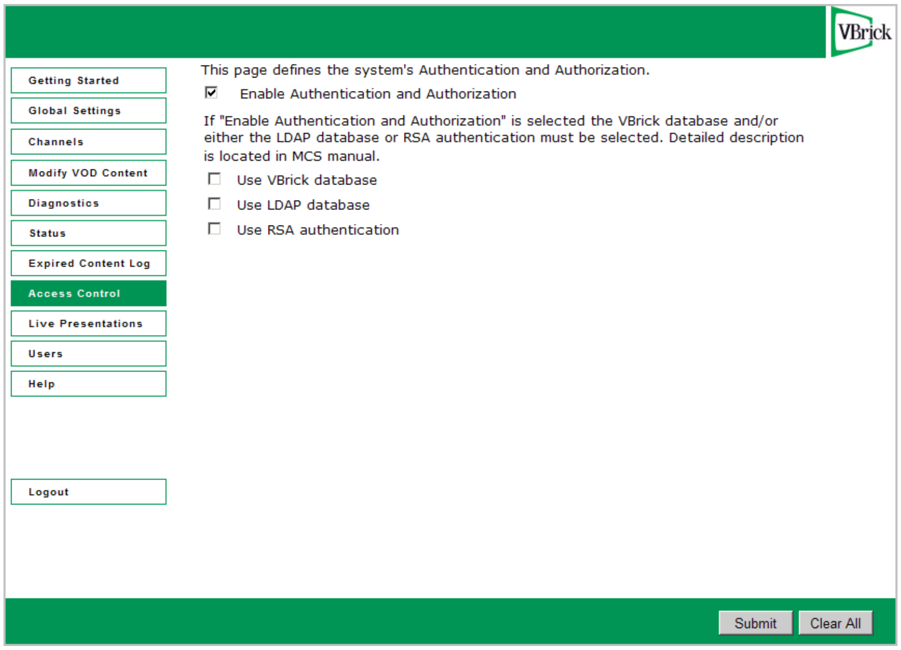
Title	Date Created	Date Expired

Access Control

Under the Access Control section, administrators have the ability to enable Authentication and Authorization which requires users to login and be authenticated. By default **Enable Authentication and Authorization** is unchecked which allows everyone to access all content and all functions (recording, publishing, etc.). When Access Control is enabled, **User Groups**, and **Resource Groups** are shown on the navigation bar. Access control determines what functionality is available to each user. For example some users may have unlimited access, while others can only view certain live channels and may not have permission to record live channels or add videos to the VOD server. Users and User Groups on page 109 explains in detail how configure users and groups.

Access control also lets you specify which folders are used when individual users record live media, add videos, or autoingest content. If you do not enable **Authentication and Authorization**, all of these actions default to the root folder (which can quickly get cluttered).

Note As soon as you check **Enable Authentication and Authorization**, users will be prompted for User Names and Passwords. VBrick recommends configuring the system prior to user access or during off hours when the network is idle.



This page defines the system's Authentication and Authorization.

☑ Enable Authentication and Authorization

If "Enable Authentication and Authorization" is selected the VBrick database and/or either the LDAP database or RSA authentication must be selected. Detailed description is located in MCS manual.

☐ Use VBrick database

☐ Use LDAP database

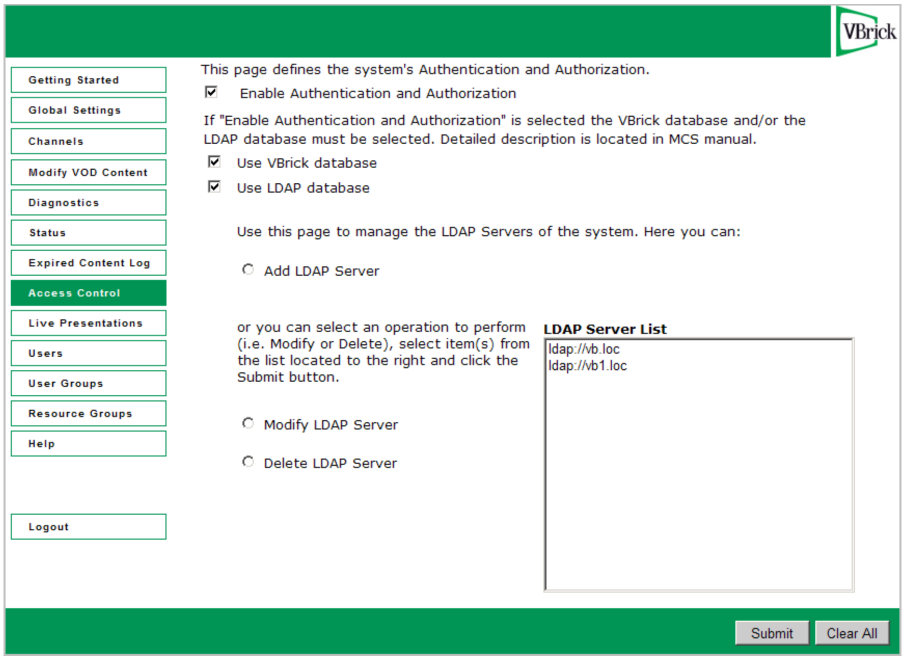
☐ Use RSA authentication

Enable Authentication and Authorization	Enable authentication and authorization which requires users to login and be authenticated. If not checked, all users have access to all functionality and content.
Use VBrick database	Use the VBrick (non LDAP) database provided with VEMS Portal Server.
Use LDAP database	Use an LDAP database. VBrick supports major LDAP vendors but only Microsoft Active Directory and Novell eDirectory are fully tested and supported.
Use RSA authentication	Use RSA authentication provided by RSA, the Security Division of EMC.

Use LDAP Database

Administrators have the option of using the onboard **VBrick database** for authentication, using an **LDAP database**, or using both. *VBrick supports major LDAP vendors such as Microsoft Active Directory, Novell eDirectory, and OpenLDAP (Sun LDAP)*. These directory services have been tested in some configurations but may not work with all structures and schemas.

Contact Support Services for more information). Use the options on the following page to add or manage LDAP servers.



This page defines the system's Authentication and Authorization.

☑ Enable Authentication and Authorization

If "Enable Authentication and Authorization" is selected the VBrick database and/or the LDAP database must be selected. Detailed description is located in MCS manual.

☑ Use VBrick database

☑ Use LDAP database

Use this page to manage the LDAP Servers of the system. Here you can:

○ Add LDAP Server

or you can select an operation to perform (i.e. Modify or Delete), select item(s) from the list located to the right and click the Submit button.

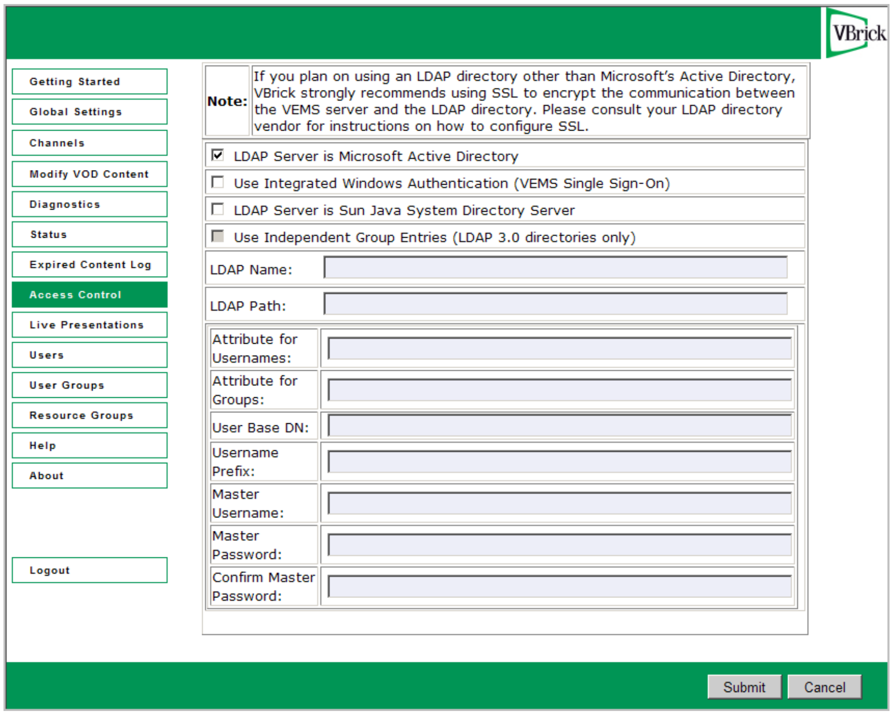
○ Modify LDAP Server

○ Delete LDAP Server

LDAP Server List

ldap://vb.loc
ldap://vb1.loc

If authenticating against Microsoft's Active Directory, check the **LDAP Server is Microsoft Active Directory** check box and enter the path to the LDAP server in the **LDAP Path** box. If authenticating against a directory other than Microsoft Active Directory, do not check **LDAP Server is Microsoft Active Directory**. LDAP (Lightweight Directory Access Protocol) is a standardized method to access directories from multiple vendors. A complete discussion of LDAP is beyond the scope of this document.



Note: If you plan on using an LDAP directory other than Microsoft's Active Directory, VBrick strongly recommends using SSL to encrypt the communication between the VEMS server and the LDAP directory. Please consult your LDAP directory vendor for instructions on how to configure SSL.

☑ LDAP Server is Microsoft Active Directory

☐ Use Integrated Windows Authentication (VEMS Single Sign-On)

☐ LDAP Server is Sun Java System Directory Server

☐ Use Independent Group Entries (LDAP 3.0 directories only)

LDAP Name:	
LDAP Path:	
Attribute for Usernames:	
Attribute for Groups:	
User Base DN:	
Username Prefix:	
Master Username:	
Master Password:	
Confirm Master Password:	

LDAP Server is Microsoft Active Directory	Check only if using Microsoft Active Directory.
Use Integrated Windows Authentication	Use "single sign-on." This means that once you login to your local network, you can open VEMS Portal Server without re-entering your login credentials. See below Use LDAP with Single Sign-On.
Use Independent Group Entries	If unchecked (the default), the user's group memberships are stored as attributes of the user's directory entry identified by the **Attribute for Groups** field. If checked, VEMS will support LDAP models where group entries are independent of user entries. If checked, the Independent Group ObjectClass and Independent Group Identifier fields are required.
LDAP Path †	*Required by VEMS Portal Server.* Case sensitive. Must begin with `LDAP://` Points to a specific position in the LDAP tree and also includes the machine IP address (or Domain name) on which the server is running. For example use `LDAP://myLDAPServer` with Microsoft Active Directory; use `LDAP://myLDAPServer:636` with Novell eDirectory. For more information, see Installing the Root Certificate on page 100.
Attribute for Usernames †	*Required by VEMS Portal Server.* Attribute to identify a user. The following sample username attributes are widely used but refer to a specific LDAP schema: • Microsoft Active Directory: `sAMAccountName` • Novell eDirectory: `uid`
Attribute for Groups †	*Required by VEMS Portal Server.* Attribute to identify the group to which a user belongs. The following sample group attributes are widely used but refer to a particular LDAP schema: • Microsoft Active Directory: `memberOf` • Novell eDirectory: `groupMembership`
User Base DN	Base distinguishing name (DN) of user node and/or the Base DN for the Master Username.
Username Prefix	Used in non-Active Directory environments where the user name is prefixed with a specific string such as `uid=` or `cn=`. The following sample prefixes are widely used but refer to a specific LDAP schema: • `uid=` • `cn=`
Master Username	Required for single-sign-on. User name that has admin permission to browse the LDAP tree. Used to browse the LDAP tree to get user groups.
Master Password	Required for single-sign-on. Password for Master Username.
Ind. GroupObjectClass	A group attribute in the LDAP database. Identifies which entries will be searched for user memberships.

Ind. Group Identifier	The group attribute that uniquely identifies a group. VEMS will match the values returned for this attribute with group names entered on the **User Groups** page.
Group Base DN	Base distinguishing name (DN) of user node.

† VEMS Portal Server required field. All others are optional.

Note The Softerra LDAP Browser 2.6 provides an Explorer-like LDAP client you can use to browse the LDAP tree. It is available for Windows only and can be downloaded free of charge from Softerra at http://www.ldapbrowser.com

Use LDAP with Single Sign-On

To use single sign-on, go to **Access Control** and then check **Enable Authentication and Authorization** and **Use LDAP Database**. If the LDAP server is Microsoft Active Directory, you can select **Use Integrated Windows Authentication** to enable "VEMS Single Sign-on." This means that once you login to your local network with your assigned credentials, you can open VEMS Portal Server without re-entering your login credentials. VEMS Portal Server uses your assigned credentials to authenticate and authorize your defined permissions within the application. (If using an LDAP directory other than Microsoft's Active Directory, VBrick strongly recommends using SSL to encrypt the communication between the Portal Server server and the LDAP directory. Please consult your LDAP vendor documentation for instructions on how to configure SSL.) When configuring for Integrated Windows Authentication, keep the following points in mind:

- Integrated Windows Authentication is only valid when using LDAP Authentication with Microsoft Active Directory.
- You must perform an additional configuration step in IIS as explained below in Configuring IIS for Single Sign-On.
- Integrated Windows Authentication only works seamlessly with Microsoft Internet Explorer browsers (Windows and Macintosh). When accessing VEMS Portal Server, you will get a popup login window *only* if you have not previously logged in to the network.
- When using Integrated Windows Authentication, all single-sign-on users must have an Active Directory account and the Portal Server must be part of the Windows domain.
- When using Integrated Windows Authentication, Microsoft Internet Explorer's default behavior is that it will *not* prompt for an ID/password when the server is in the **Local Intranet Zone**. (By default, Internet Explorer assumes a URL without a period (.). This means `http://yourserver/` is in the **Local Intranet Zone** while `http://yourserver.yourcompany.com` (or `http://199.88.7.11`)) is in the **Internet Zone**.

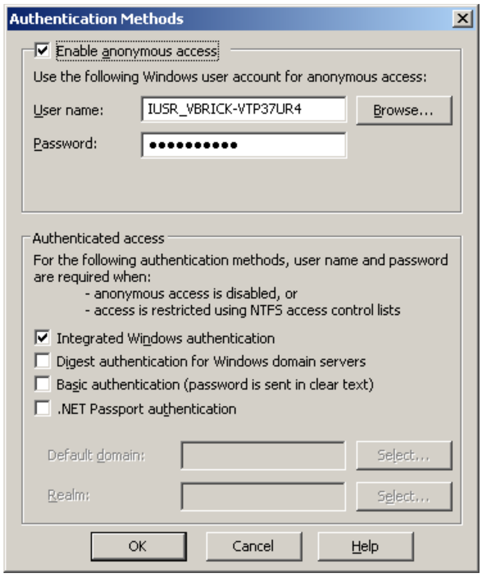
Note If single sign-on is enabled on multiple LDAP servers, when a user signs on for the first time, the system validates the login credentials against all servers configured for single sign-on. If you are validated by at least one server, you are automatically logged in. In most cases when single sign-on is enabled, the user will *not* be prompted for a **Domain** name at login.

Configuring IIS for Single Sign-On

Use the following steps to configure IIS for single sign-on. *If you do not perform these steps, the login page will likely be blank when you launch the Portal Server.*

▼ To configure IIS for single sign-on:

1. Go to **Start > Administrative Tools > Computer Management**.
2. Expand **Services and Applications** and expand **Internet Information Services (IIS) Manager**.
3. Expand **Web Sites** and then right-click on **Default Web Site** and select **Properties**.
4. Go to **Directory Security > Authentication and access control** and make sure that **Integrated Windows authentication** is checked on the following window.



Authentication Methods

☑ Enable anonymous access

Use the following Windows user account for anonymous access:

User name: IUSR_VBRICK-VTP37UR4

Password: ●●●●●●●●●●

Authenticated access

For the following authentication methods, user name and password are required when:
- anonymous access is disabled, or
- access is restricted using NTFS access control lists

☑ Integrated Windows authentication
☐ Digest authentication for Windows domain servers
☐ Basic authentication (password is sent in clear text)
☐ .NET Passport authentication

Default domain:

Realm:

Use Single Sign-On

▼ To use single-sign-on (and avoid username/password prompts), you must do **one** of the following:

- Access the Portal Server by the *alphabetical name* (for example `http://yourserver`).
- Access the Portal Server by the *IP address* in which case you must also add the Portal Server to the **Local Intranet Zone** (**Internet Options > Security > Sites**). This setting can be pushed company-wide by an administrator using security policies.
- Change Internet Explorer's default settings to allow **Automatic logon with current username and password** (Go to **Internet Options > Security > Custom Level > User Authentication**).

Use LDAP with SSL

Installing the Root Certificate

If the LDAP server requires SSL (Secure Sockets Layer) for encryption and authentication, you will need to install the certificate locally on the VEMS Portal Server as a **Trusted Root Certificate Authority**.

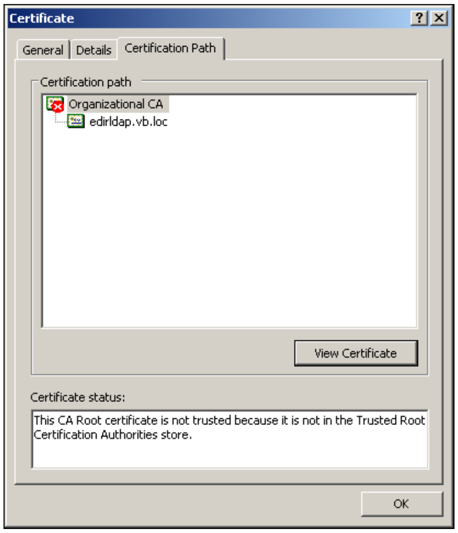
▼ To install the root certificate locally on the VEMS Portal Server as Trusted Root Certificate Authority:

1. Open Internet Explorer.

2. In the address bar type `https://LDAPSERVER:636` where `LDAPSERVER` is the address of the LDAP Server associated with Certificate Authority (See Resolving Other Security Alerts on page 102) and `636` is the SSL port used to authenticate with the LDAP Server.
3. When Internet Explorer displays a Security Alert dialog (Internet Explorer 6) or certificate error screens (Internet Explorer 7), click **View Certificate**.

Note Internet Explorer 6 only. All three items in the Security Alert window below must be in compliance. The first item can easily be installed using these instructions; for the middle item, the local CA will need to create a new certificate if it is out of date; for the last item, the name of the certificate will need to match the address entered in the address bar of your browser.

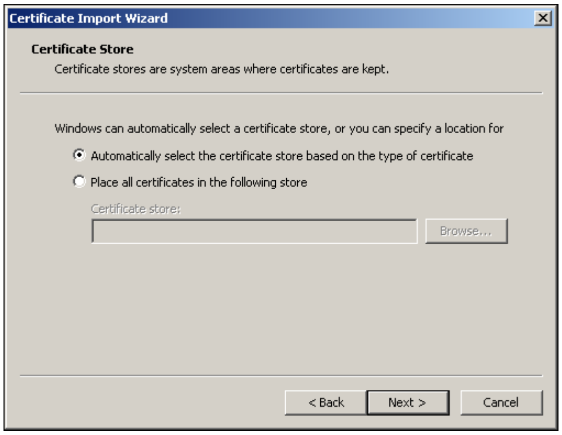
4. A Certificate window will open, click on the **Certificate Path** tab.
5. If there is more than on certificate listed in the **Certificate Path** tab, choose the root certificate by selecting the top-most certificate and then clicking **View Certificate**.



Certificate status:

This CA Root certificate is not trusted because it is not in the Trusted Root Certification Authorities store.

6. Choose the **General** tab. and click **Install Certificate**.
7. Click **Next**.



Certificate Store

Certificate stores are system areas where certificates are kept.

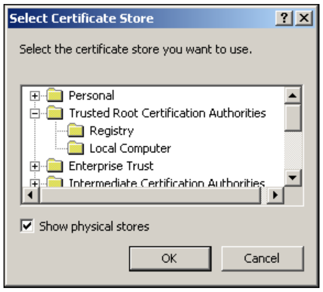
Windows can automatically select a certificate store, or you can specify a location for

● Automatically select the certificate store based on the type of certificate

○ Place all certificates in the following store

Certificate store:

8. Click **Place all certificates in the following store**.
9. Click **Browse**.

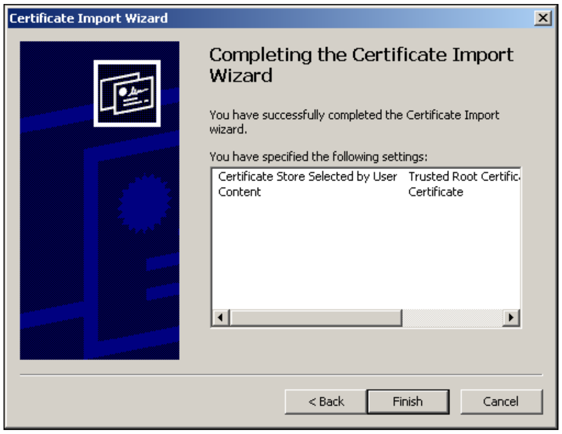


Select the certificate store you want to use.

- Personal
- Trusted Root Certification Authorities
  - Registry
  - Local Computer
- Enterprise Trust
- Intermediate Certification Authorities

☑ Show physical stores

10. Check **Show physical stores** check box.
11. Click the plus sign (+) next to **Trusted Root Certificate Authorities**.
12. Select **Local Computer** and click **OK**.
13. Click **Next** and **Finish** when done.



Completing the Certificate Import Wizard

You have successfully completed the Certificate Import wizard.

You have specified the following settings:

Certificate Store Selected by User	Trusted Root Certific
Content	Certificate

Resolving Other Security Alerts

If you are receiving any other Security Alerts you will need to identify the problem as either "out of date" or **The name on the security certificate is invalid.** If the certificate has an invalid name, follow the steps below to determine the valid name. If the certificate has an "out of date" error, a new certificate must be created.

▼ To determine the valid certificate name:

1. Click **View Certificate**.
2. The **General** tab shows who the Certificate is issued to; the address shown is the address that will need to be used in the browser address bar, as well as in the configuration of the LDAP Server.

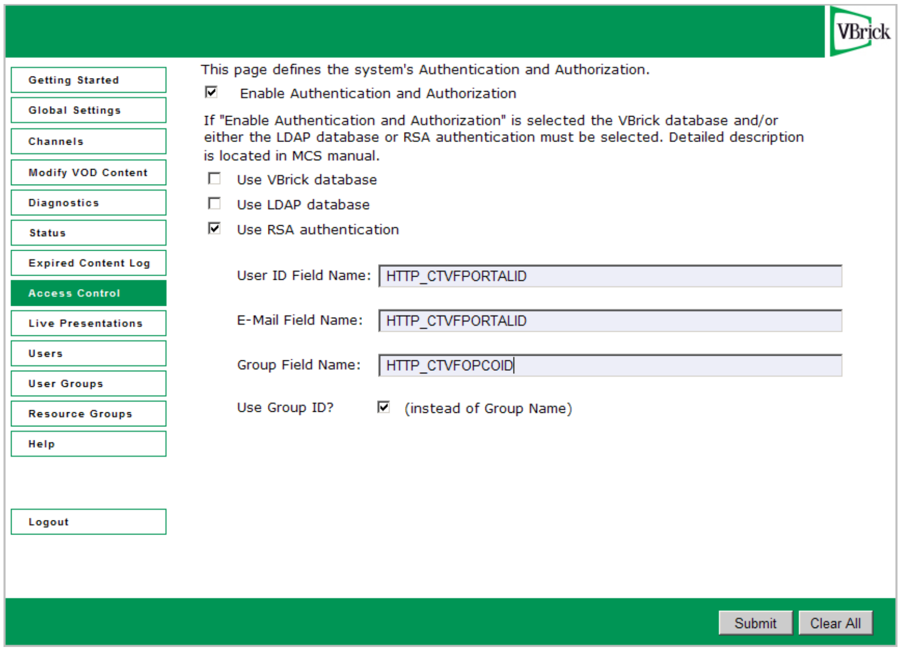
For example: if the information is `edirldap.vb.loc` then the address bar should read `https://edirldap.vb.loc:636` and the LDAP Path should read `LDAP://edirldap.vb.loc:636` To find out if the address is accessible, ping the address given in a command prompt. If the address is not accessible you must create or add a DNS entry to the Host file on the local server or generate a new certificate with the correct information.

Use RSA Authentication

VEMS Portal Server supports RSA authentication.

▼ To configure the Portal Server for RSA Authentication:

1. Launch the Portal Server Admin Console and click on **Access Control** in the left navigation panel. (Note that the following screen shows sample data.)



This page defines the system's Authentication and Authorization.

☑ Enable Authentication and Authorization

If "Enable Authentication and Authorization" is selected the VBrick database and/or either the LDAP database or RSA authentication must be selected. Detailed description is located in MCS manual.

□ Use VBrick database

□ Use LDAP database

☑ Use RSA authentication

User ID Field Name: HTTP_CTVFPORTALID

E-Mail Field Name: HTTP_CTVFPORTALID

Group Field Name: HTTP_CTVFOPCOID

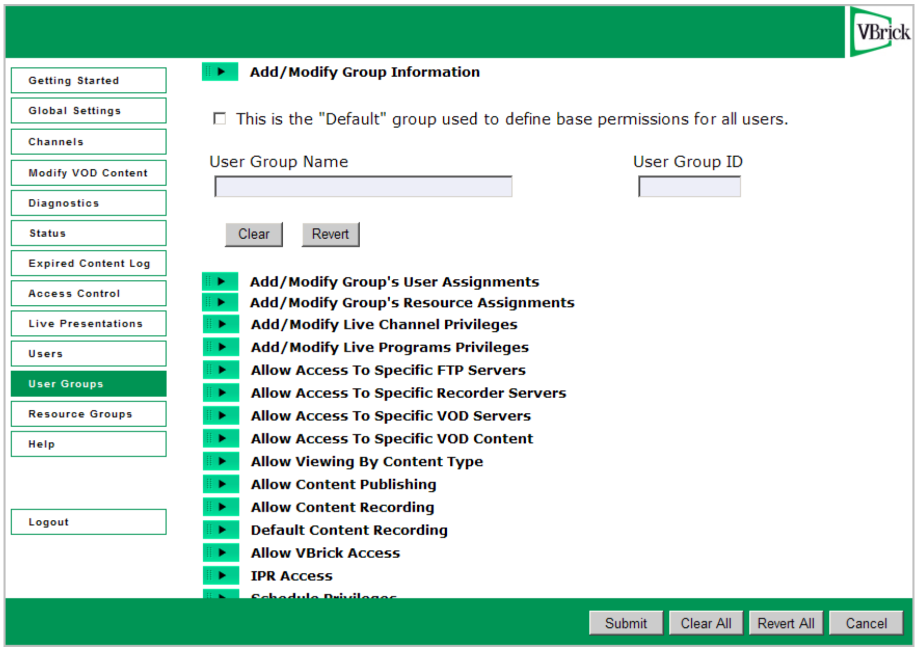
Use Group ID? ☑ (instead of Group Name)

2. Check the **Use RSA authentication** option to enable RSA authentication.
3. Populate the User ID, E-Mail, and Group fields as explained below:.

User ID Field Name	Name of the HTTP header field that will store the unique User ID. For Vodafone, this may be the VDUID or the E-Mail address.
E-Mail Field Name	Name of the HTTP header field that will store the user's e-mail address.
Group Field Name	Name of the HTTP header field that will store the user's group/ organization membership. For Vodafone, this will be the VfOpCoID.
Use Group ID	Check this box if the Group Field Name (above) returns a group ID rather than a group name. For Vodafone, this should be checked.

Configuring the Group ID

The **User Group ID** field (see below) will display only if the **Use Group ID** box is checked on the Access Control page. The **User Group ID** is a unique identifier for the group. To set the Group ID, go to **User Groups > Add User Groups > Add/Modify Group Information**.


VBrick
Getting Started
Global Settings
Channels
Modify VOD Content
Diagnostics
Status
Expired Content Log
Access Control
Live Presentations
Users
User Groups
Resource Groups
Help
Logout
Add/Modify Group Information

□ This is the "Default" group used to define base permissions for all users.

User Group Name

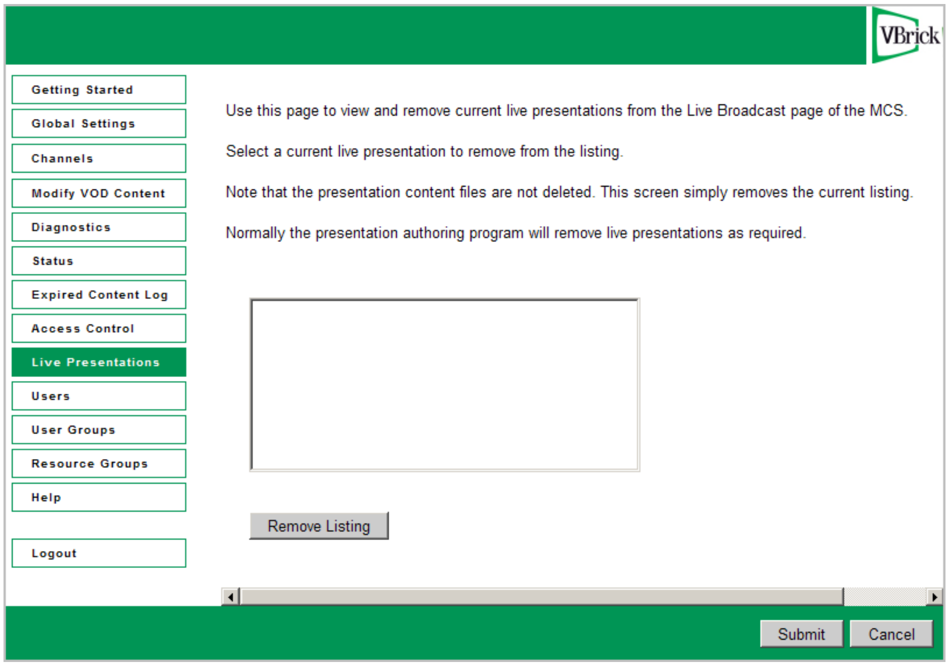
User Group ID

Clear
Revert
Add/Modify Group's User Assignments
Add/Modify Group's Resource Assignments
Add/Modify Live Channel Privileges
Add/Modify Live Programs Privileges
Allow Access To Specific FTP Servers
Allow Access To Specific Recorder Servers
Allow Access To Specific VOD Servers
Allow Access To Specific VOD Content
Allow Viewing By Content Type
Allow Content Publishing
Allow Content Recording
Default Content Recording
Allow VBrick Access
IPR Access
Schedule Privileges
Submit
Clear All
Revert All
Cancel

"Default" Group	This is the default group used to define base permissions for all users.
User Group Name	A unique name for the group.
User Group ID	The User Group ID is a unique identifier for the group.

Live Presentations

Use this window to manually remove a live presentation listing from the **Live Media** page. If the presentation is terminated abnormally for any reason (for example if the presenter exits PowerPoint without going **OFFLINE**), you may need to manually remove the presentation links.



Use this page to view and remove current live presentations from the Live Broadcast page of the MCS.

Select a current live presentation to remove from the listing.

Note that the presentation content files are not deleted. This screen simply removes the current listing.

Normally the presentation authoring program will remove live presentations as required.

Users

See Configuring Users on page 113.

User Groups

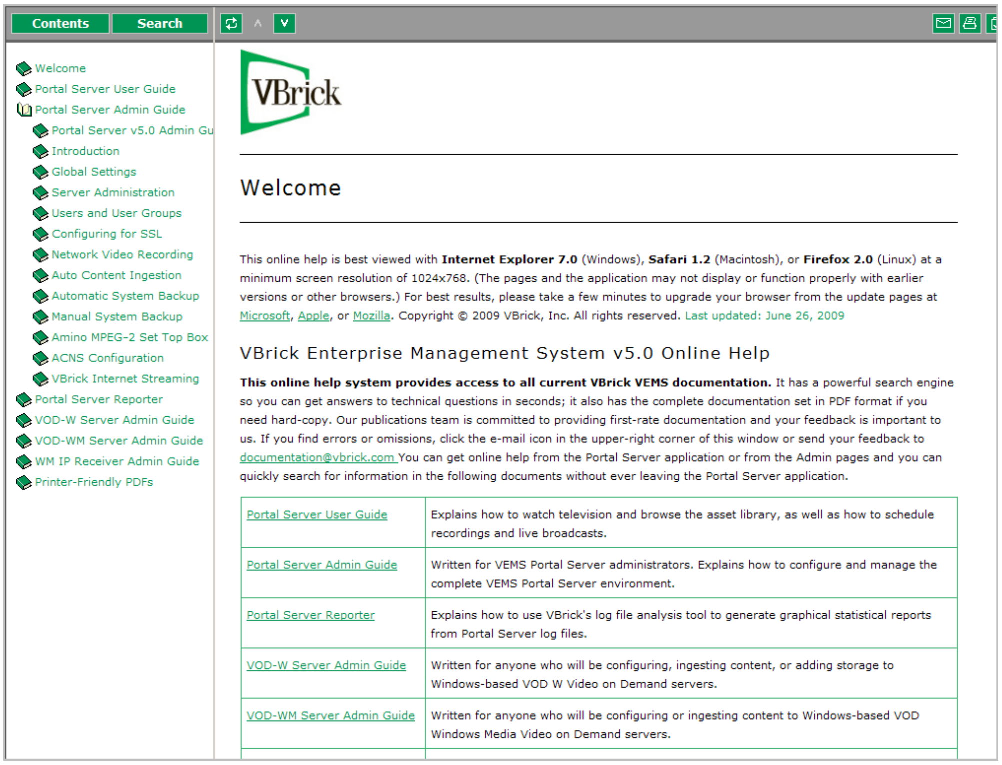
See Configuring User Groups on page 119.

Resource Groups

See Resource Groups on page 121.

Help

This command launches the VEMS Portal Server online help system in a new window. This online help system provide fast full-text search and makes it easy to find the information you need. To navigate in the help window, use the tree controls on the left to expand a topic and the navigation buttons at the top to move to a different page. Go to **About this Help > Using this Help** for information about how to Print pages and use the full text Search feature.



Welcome

This online help is best viewed with **Internet Explorer 7.0** (Windows), **Safari 1.2** (Macintosh), or **Firefox 2.0** (Linux) at a minimum screen resolution of 1024x768. (The pages and the application may not display or function properly with earlier versions or other browsers.) For best results, please take a few minutes to upgrade your browser from the update pages at Microsoft, Apple, or Mozilla. Copyright © 2009 VBrick, Inc. All rights reserved. Last updated: June 26, 2009

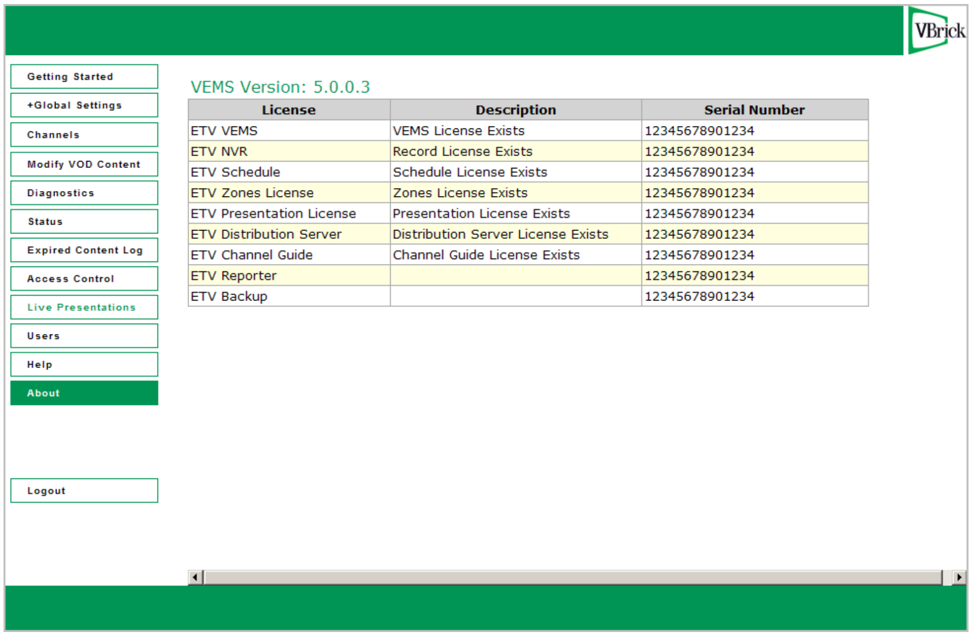
VBrick Enterprise Management System v5.0 Online Help

This online help system provides access to all current VBrick VEMS documentation. It has a powerful search engine so you can get answers to technical questions in seconds; it also has the complete documentation set in PDF format if you need hard-copy. Our publications team is committed to providing first-rate documentation and your feedback is important to us. If you find errors or omissions, click the e-mail icon in the upper-right corner of this window or send your feedback to documentation@vbrick.com You can get online help from the Portal Server application or from the Admin pages and you can quickly search for information in the following documents without ever leaving the Portal Server application.

Portal Server User Guide	Explains how to watch television and browse the asset library, as well as how to schedule recordings and live broadcasts.
Portal Server Admin Guide	Written for VEMS Portal Server administrators. Explains how to configure and manage the complete VEMS Portal Server environment.
Portal Server Reporter	Explains how to use VBrick's log file analysis tool to generate graphical statistical reports from Portal Server log files.
VOD-W Server Admin Guide	Written for anyone who will be configuring, ingesting content, or adding storage to Windows-based VOD W Video on Demand servers.
VOD-WM Server Admin Guide	Written for anyone who will be configuring or ingesting content to Windows-based VOD Windows Media Video on Demand servers.

About

This page displays the Portal Server (VEMS) version number (for example 5.0.1) as well as license and serial number data for each installed module. The serial numbers provide warranty and tracking information. You may be asked for the module serial number when requesting help from VBrick Support Services.



VEMS Version: 5.0.0.3

License	Description	Serial Number
ETV VEMS	VEMS License Exists	12345678901234
ETV NVR	Record License Exists	12345678901234
ETV Schedule	Schedule License Exists	12345678901234
ETV Zones License	Zones License Exists	12345678901234
ETV Presentation License	Presentation License Exists	12345678901234
ETV Distribution Server	Distribution Server License Exists	12345678901234
ETV Channel Guide	Channel Guide License Exists	12345678901234
ETV Reporter		12345678901234
ETV Backup		12345678901234

Logout

This command logs you out of the application and lets you log back in as a different user. This may be necessary to gain access to certain functionality. For example, some users may not be allowed to create thumbnails and you may want to login as a user who has the permissions to do this.

Chapter 4

Users and User Groups

Topics in this section

Overview

Adding the Enterprise Media System to a network provides many benefits in the form of increasing access to rich media. However, because of the sensitive nature of some video assets, many customers want to limit access to different users or groups of users. VBrick's VEMS Portal Server allows Administrators to setup the system in just this manner. The VEMS Portal Server makes it easy to provide different Users or User Groups access to different resources. The VEMS Portal Server Access Control system allows administrators to allow/deny access to the Portal Server for Windows-based PCs, Macintoshes, and IP Receiver:

- Viewing of certain Live Channels
- Viewing of stored content from specific VOD folders
- Publishing content to specific VOD folders
- Recording content to a specific VOD folder
- Allow the viewing of content from only specific VOD servers on the network
- The ability to place bandwidth restrictions for viewing content
- The ability to limit certain users to only access Multicast or RTSP (unicast) content
- The ability to group content resources (Live Channels and/or VOD content) into Resource Groups, which allows the setup and modification of the Access Control functionality to take place much more easily.

The VEMS Portal Server is permissive by default, meaning, authentication is not enabled and access to the entire functionality of the server is allowed. However, to follow good security practices, once the Access Control functionality is enabled on the Portal Server, all resources are by default *not* available to any users. Administrators need to provide access to resources to different users or user groups.

User-Related Definitions

The ability to provide different users different access to resources on a network is typically referred to as access control, authentication and authorization, and/or access management. VBrick refers to this functionality as Access Control. In order to fully understand the range of functionality of the VEMS Portal Server Access Control system, it is beneficial to define some of terms that are used in this section.

Authentication – Authentication is the process of identifying an individual, usually based on a username and password. In security systems, authentication is distinct from authorization (see below), which is the process of providing individuals access to resources based on their identity. Authentication merely ensures that the individual is who he or she claims to be, but says nothing about the access rights of the individual.

The VEMS Portal Server Access Control system allows administrators to authenticate users against the VEMS Portal Server database or authenticate users against an LDAP directory. More details on the different authentication databases are given below.

Authorization – Authorization is the process of granting or denying access to a network resource. Most computer security systems are based on a two-step process. The first stage is authentication, which ensures that a user is who he or she claims to be. The second stage is authorization, which allows the user access to various resources based on the user's identity. In the VEMS Portal Server, all authorization is done directly on the VEMS Portal Server, through the VEMS Portal Server database.

LDAP – LDAP (Lightweight Directory Access Protocol) is a set of protocols for accessing information directories. The LDAP standard defines both a network protocol for accessing information from the directory and an extensible structure for defining how the information is organized in the directory. The advantage of using an LDAP directory is centralized management of users. For example, a new user needs only to be entered once into the LDAP directory and all future modifications to that user can be done in the same central location. Different applications can authenticate and/or authorize users against the LDAP directory.

There are numerous LDAP directory products on the market today, but the most popular are Microsoft Active Directory, Novell eDirectory, Sun iPlanet, and OpenLDAP. *VBrick supports major LDAP vendors but only Microsoft Active Directory and Novell eDirectory are fully tested and supported.*

VBrick Database – The VEMS Portal Server server ships by default with the MySQL database, which is a fully ODBC-compliant database. (Open Database Connectivity is a standard database access method.) For those environments that have not migrated to an LDAP directory-based user management system, all of the authentication functionality can be done directly in the VEMS Portal Server database itself. Also, for those environments that are using LDAP directories for Authentication, all of the Authorization functionality also takes place in the VEMS Portal Server database. Additionally, to reduce the chance of system lockout, all Administrative Users are located in the VEMS Portal Server database.

Resources and Resource Groups – In the VEMS Portal Server, providing a user with Resources refers to providing them access to a particular functionality of the Enterprise Media System. These include the ability to view Live Channels, to view VOD content, to publish content to the VOD, and to record content or schedule a recording. A unique feature of the VEMS Portal Server software is the ability to group Resources into Resource Groups. This allows the administrator to quickly and easily assign several resources at once to specific Users or User Groups.

Configuring Users and User Groups

1. Setup and Configure VEMS Components

The following products need to be setup and properly configured prior to configuring Access Control.

VEMS Portal Server – The VEMS Portal Server needs to be properly setup and configured on the network. The following items should be configured in the Portal Server interface:

- If there is a VOD server(s) in the system, the proper addresses for these servers need to be entered into the Portal Server Administrative pages and connectivity to those servers should be ensured.
- The folder structure on the VOD server should be defined (even if there is no content in these folders) as folders are how the Access Control functionality provides access to end users to view VOD content, publish content, and record content. When setting up the folder structure, the Administrator should be thinking about how they plan to provide access to different groups of users. For example, if a corporation wanted to provide certain content to the Engineering group and certain content to the Marketing group, then they would want to set up an Engineering folder and a Marketing folder on their VOD server.
- If there are live streams on the network, then those streams should be provided a channel number if the Administrator wants to provide access to live streams via channel number.
- If security is a concern, SSL should be turned on between clients and the VEMS Portal Server server. This allows User Names and Passwords to be encrypted between the client and the server. See the section Configuring for SSL on page 125 for instructions on how to configure this.

VBrick – If there are VBricks in the network, they are auto-discovered but still need to be added to the Portal Server database.

VOD Server – If there are VOD servers in the network, again they need to have connectivity to the Portal Server and the folder structure needs to be configured.

IP Receivers – If there are IPRs to be deployed in the system, they should be configured with a Host Name, and should be configured to point to the VEMS Portal Server.

Additionally, if an LDAP server is going to be used to authenticate users, then the administrator should know the address of the server, the group structures on the LDAP server, and the Context (if the server is not Microsoft's Active Directory).

Note In order to scan the Groups available in Microsoft's Active Directory, in Windows Explorer, go to **Tools > Folder Options**. On the **General** tab, make sure that the **Show common tasks in folders** is selected. Then go to **Start > My Network Places** and select **Network Tasks > Search Active Directory.**

2. Choose an Authentication Method

Select one of the following methods:

VBrick Database	The native VEMS Portal Server user database provides local authentication for users and administrators.

LDAP Database	Enables the VEMS Portal Server to authenticate against, and retrieve user and group data from, an existing LDAP server.

Both methods can be used simultaneously. If LDAP authentication is enabled, the VEMS Portal Server will attempt to authenticate against the LDAP server first, and if this is unsuccessful, will attempt to authenticate against the local VEMS Portal Server User Database.

VBrick Database

If authentication is enabled, you must select a database (either VBrick or LDAP). The VBrick (VEMS Portal Server) user database contains user, group, and resource information that provides the Portal Server with information to allow it to provide the appropriate privileges to users and IP Receivers that are accessing the system. Administrators should authenticate users with the native Portal Server user database if:

- User authentication is required, but the organization does not have an LDAP server.
- For IPRs, the organization wishes to use User PINs. Since User PINs are not available in the LDAP directory, the users need to be created in the VEMS Portal Server database (Note: only those users that need PINs to access IPRs need to be created in the VEMS Portal Server database. PC or Mac users can still be authenticated against LDAP).

LDAP Directory Server

An LDAP directory server contains User and Group information which the VEMS Portal Server can authenticate against to verify User's identities. The Portal Server then uses this information to authorize users to access the system. Administrators should authenticate users with an LDAP Directory server if:

- The organization has an LDAP server that they actively manage to allow products to authenticate.
- The VEMS Portal Server administrator can obtain the necessary configuration information from the LDAP administrator to allow the authentication to occur.

Using LDAP reduces the amount of administrative time necessary to add and modify users from the VEMS Portal Server system. VBrick Systems encourages customers who have LDAP directories implemented to use them for authentication with the VEMS Portal Server.

3. Create User Groups on the Portal Server

Grouping users is common practice and makes administering access to the VEMS Portal Server less complicated than administering access by individual user. The VEMS Portal Server allows the administrator to create groups, specify group memberships for users, and set access privileges for the group. A user can be a member of one group or multiple groups. Group access privileges also can be set and modified on a per group basis. If an LDAP directory is being used for Authentication, the same group information that is available in the directory can be used to Authorize end users to access the VEMS Portal Server. For example, if the organization has three User Groups in its LDAP directory—Marketing, Engineering, and Sales—they can simply create these groups in the VEMS Portal Server system, and assign privileges to the groups.

4. Create Resource Groups on the Portal Server

In the Portal Server software, providing a user with Resources refers to providing them access to a particular functionality of the Enterprise Media System. These include the ability to:

- View Live Channels.
- View VOD content.
- Publish content to the VOD.
- Record content or schedule a recording.
- Launch a priority alert.

A unique feature of the Portal Server software is the ability to group Resources into Resource Groups. This allows the administrator to quickly and easily assign several resources at once to more than one User or User Groups. This also makes the ongoing management of this content for these Users or User Groups much easier. For example, if the organization has three User Groups—Marketing, Engineering, and Sales—they might create four resource groups. These Resource Groups would be Full Access, which are resources that everyone can see, and one Resource Group for each of the user groups. Full Access would be assigned to all user groups, and the Marketing Resource Group would be assigned to the Marketing User Group, the Engineering Resource Group to the Engineering User Group, and the Sales Resource Group to the Sales User Group.

Resource Groups provide the added bonus that they allow the Administrator to quickly provide access to new content to Users and User Groups. For example, if the organization originally had ten Live Channels on the network, and another Live Channel was added, the Administrator would simply need to add that Channel to the appropriate Resource Groups and the channel would be available.

5. Create Users on the VEMS Portal Server

Creating users is an optional step that can be completed for the following reasons.

- The organization needs to provide a single user with additional privileges above and beyond what is available to his or her User Group or Resource Group.
- The organization wants to authenticate IPR users using a PIN.
- Users can be assigned to multiple User Groups.

6. Assign Resources to Users or User Groups

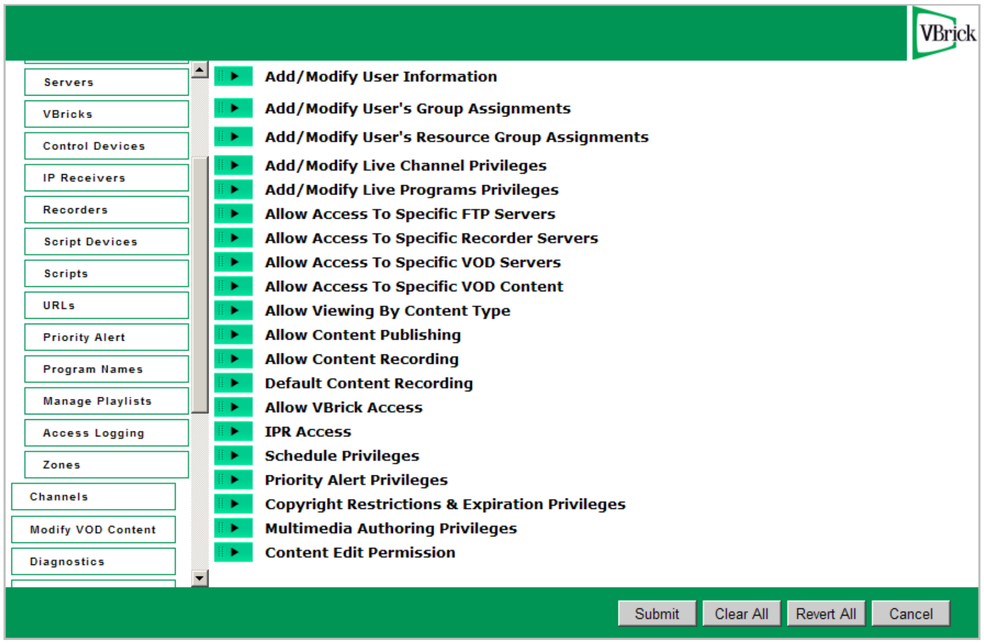
The final step is to provide access to Resources to Users and/or User Groups. The administrator can assign individual resources to Users or User Groups, or can assign Resource Groups (if created) to Users or User Groups. Detailed information on the steps to configure access control and provide access to resources to Users and/or User Groups is provided in the following sections.

Configuring Users

There are several different ways to provide privileges to different User and User Groups with the VEMS Portal Server. The easiest way is to use the group structure of an existing LDAP database. LDAP User Groups can be added to the VEMS Portal Server system and assigned permissions (see User Groups below). All of the users in this group will have the same permissions. For ease of implementation, VBrick recommends configuring User Groups and Resource Groups (see these sections below), prior to configuring users.

However, if further individual permissions need to be assigned, administrators can add them as a user. Under the users section, administrators have the ability to add, modify and delete users. Submit may be pressed at anytime during the process or can be done when everything has been added/modified. Users will have the permissions of the group as well as the additional permission that are assigned to them. The VEMS Portal Server is additive in its permissions, meaning that it takes all of the permissions that are provided to a particular user and provides all of these to the user.

Users can be added by using the VBrick Database if LDAP authentication is not available or desired. Finally, in order to assign user PINs to access IP Receivers, a user assignment is needed (see IPR Authentication section below). Note that IPR PIN access is dependent on the VBrick Database being enabled. See Access Control on page 95 for details.


VBrick
Servers
VBricks
Control Devices
IP Receivers
Recorders
Script Devices
Scripts
URLs
Priority Alert
Program Names
Manage Playlists
Access Logging
Zones
Channels
Modify VOD Content
Diagnostics
Add/Modify User Information
Add/Modify User's Group Assignments
Add/Modify User's Resource Group Assignments
Add/Modify Live Channel Privileges
Add/Modify Live Programs Privileges
Allow Access To Specific FTP Servers
Allow Access To Specific Recorder Servers
Allow Access To Specific VOD Servers
Allow Access To Specific VOD Content
Allow Viewing By Content Type
Allow Content Publishing
Allow Content Recording
Default Content Recording
Allow VBrick Access
IPR Access
Schedule Privileges
Priority Alert Privileges
Copyright Restrictions & Expiration Privileges
Multimedia Authoring Privileges
Content Edit Permission
Submit
Clear All
Revert All
Cancel

Submit	Save changes and/or navigate to the next window.
Add New	Takes the administrator to the Add New User, User Group, or Resource Group screen (depending on which section you are in)
Clear All	Clears any entries that have been entered in the individual sections.
Revert All	Returns all entries to the last state entered in the database. This selection is important if a mistake is made during entry.
Cancel	Cancels out of the page. Changes are not saved.
Clear	Clear eliminates or de-selects any entries in the particular section.
Revert	Returns the selection to the last state entered in the database. This selection is important if a mistake is made during entry.

Once all selections have been made, you can press **Submit** in the bottom right hand corner of the screen (or any of the other buttons shown above) to submit the information to the database. User privileges include the following options:

Add/Modify User Information

To add or modify users, select **Users** from the navigation bar on the left.

User	• User – Use this option if the Enterprise Media System will be accessed by a PC or Mac user, or if Users will be authenticated to IPRs via PIN numbers. This access is not limited to a specific PC or IPR. • IP Receiver – Use this option if the Enterprise Media System will be accessed via a IPR attached to a television or other video display. If IP Receiver is selected, then the privilege to the system will be on a per IPR basis. The authentication will take place automatically, so no end user interaction is required. When choosing IPR, the IPR's host name or IP address must be entered, as well as an optional location/description of the IPR.
Username	To authenticate using an LDAP database, the user name must match exactly what is in the LDAP database (the Portal Server is case sensitive). A new user can also be assigned (if using the VBrick database option) that does not exist in the LDAP database.
Password	For LDAP authentication a password is not needed (the user will use their normal network login password). If using the VBrick database a password must be entered (passwords are case sensitive). Passwords cannot exceed 31 characters.

IPR Pin	Optional. A PIN number can be assigned to a user that allows them to access their content from any IPR, regardless of the IPR's privilege level. This works well when an IPR is going to be a shared resource. Note: IPR PIN access is dependent on VBrick Database being enabled.
First Name	Optional. User first name.
Last Name	Optional. User last name.
E-mail address	Optional. User e-mail address.
Location	Optional. User location.

Assigning Privileges to Users

There are three ways to assign privileges to users:

- Assign the User to a User Group that has privileges assigned to it.
- Assign the User to a Resource Group that has privileges assigned to it.
- Individually assign resources to the User.

These methods all can be combined. For example, to provide a User with access to the resources provided to a User Group but also provide them access to additional resources, the administrator can a) Assign the User to that Resource Group and b) Individually assign the additional resources to that user. Each of these methods is discussed below.

Add/Modify User's Group Assignments

Users can be assigned to specific User Groups, and they will inherit the privileges of that group. If no User Groups appear, then none have been defined. Click User Groups in the main navigation to the left to create User Groups.

Add/Modify User's Resource Group Assignments

Users can be assigned to specific Resource Groups, and they will inherit the privileges of that Resource Group. If no Resource Groups appear, then none of been defined. Click Resource Groups in the main navigation to the left to create Resource Groups.

Add/Modify Live Channel Privileges

A "live channel" is a live stream that has been modified into a Custom station or a TV station and assigned a channel number. A list of available live channels will be displayed. A user can be provided access to all live channels or to individual live channels.

For live channels, both the Channel Number and the Station Name will appear in the Channel Guide. If the Channel number is selected, the VEMS Portal Server will always provide access to the particular channel (for example, Channel 1) even if the Program Name of that channel changes. If the Station Name is selected, the VEMS Portal Server will always provide access to the station (for example, CNN), even if the channel that it is associated with changes (for example, from Channel 2 to Channel 4).

Note The live streams shown in the Portal Server may also be restricted by a bit mask on a VBrick encoder. The Portal Server will parse the bitmask and send the live stream only to VEMS clients with a IP address that matches the masked IP of the source VBrick. You can use this feature in addition to the Portal Server authorization features. See the Category parameter in the MPEG, WM. or H.264 documentation for more information.

Add/Modify Live Program Privileges

"Live programs" are all live streams that are available. These are unmodified, unassociated streams. Use this option to restrict access to specific live streams.

Allow Access to Specific FTP Servers

Allow or deny access to defined FTP servers.

Allow Access to Specific Recorder Servers

Allow or deny access to defined recorder servers.

Allow Access to Specific VOD Servers

Choose from a list of available VOD server(s) to which a user has access. A user can have access to multiple servers. This feature is particularly useful when VOD servers are located in different physical locations that are separated by low bandwidth links. For example, if a company has offices and VOD servers in both New York and Chicago, and these offices are separated by a T-1 link, then they would want to limit the users in the Chicago office to the Chicago VOD server and those in New York to the New York VOD server.

Note When a user is provided access to particular VOD server(s), and they are given the privilege to Publish or Record to a particular folder, when they Publish or Record, the video will be Published or Recorded to each server that they have access to. This is important for clustering purposes.

Allow Access to Specific VOD Content

Choose from a list of folders to which a user can have access. A user can have access to multiple folders on multiple servers. If the user has access to multiple VOD servers, and the folder names are the same on both servers, only one folder name will show up in the list.

Allow Viewing by Content Type

The Administrator can limit the types of content that a user can view and/or limit the bandwidth that specific users can view. Note that this setting does not apply to URLs that were manually added by an administrator (see URLs on page 66).

Do Not Allow Multicast viewing	This will limit users that are on a non-multicast capable part of the network from trying to view multicast video.
Restrict Multicast to Kbps	This will limit users to only viewing multicast streams that are a certain size or smaller. This works well to maintain bandwidth utilization over a particular WAN port.

Do Not Allow RTSP viewing	This will limit users from viewing RTSP Unicast Streams from MPEG-4 Encoders and from accessing RTSP unicast streams from a Video-on-Demand server (MPEG-1, MPEG-2, or MPEG-4). This works well to maintain bandwidth utilization over a particular LAN or WAN port.
Restrict RSTP viewing to Kbps	This will limit users to only viewing RTSP streams that are a certain size or smaller. This works well to maintain bandwidth utilization over a particular LAN or WAN port.

Allow Content Publishing

Administrators can allow a user the ability to publish content to folder(s) on an VOD Video-On-Demand Server. This function allows the user access to the **Add Video** page, where users can add pre-recorded video content to a VOD. It also allows users to (1) create (and upload) **Thumbnails** for video files in the folders to which they can publish, to (2) delete video content from the VOD server, and (3) to add keyword tags and description data using the **Modify Info** button. To prevent users from deleting content, be sure this option is disabled.

Note If users are provided access to more than one VOD server, when they publish content, it will be published to each of the servers to which they have access. This is important for clustering purposes.

Allow Content Recording

Used for scheduled recording. Administrators can allow a user the ability to schedule the recording of live content to a specific folder(s) on a VOD Video-On-Demand Server. They cannot record content to any other folder(s). You must select a folder here to enable **Default Content Recording** below. If there is no schedule license, **Allow Content Recording** is not shown as an option and **Default Content Recording** lets you select any folder. If you add a schedule license later (using **Start > Control Panel > Add or Remove Programs)**, **Allow Content Recording** will be shown as an option with all folders selected. You may want to deselect specific folders in order to restrict recording privileges.

Default Content Recording

Used for on-demand recording. You must select a folder above for **Allow Content Recording** before you can make a folder selection here. Administrators can allow a user the ability to record live content to a specific default folder on an VOD Server by pressing the **Record** push button below the Preview Window. For ease of use, the Administrator can only assign one default folder where a particular user can record content. This allows one button recording on the VEMS Portal Server and is particularly important for IP Receiver users, who may not be able to enter a recording path with their IR remote control.

Allow VBrick Access

Administrators can allow a user the ability to access all VBricks or only specific VBricks when scheduling events. When scheduling an event, users will see only those VBricks for which they have been granted access.

IPR Access

Administrators can allow a user the ability to access all IPR or only specific IPR when scheduling events. When scheduling an event, users will see only those IPR for which they have been granted access.

Schedule Privileges

Users may have full, partial, or no permission to schedule VBrick event. Users with full privileges can modify all configuration parameters in a schedule. Users with partial privileges *cannot* modify **Advanced Settings**.

- Super – user can change all schedules.
- Full – user an change only "owned" schedules.
- Partial – user can change only "owned" schedules; no **Advanced** features.
- None – user annot create schedules; no **Add** button shown on Scheduling page.

Priority Alert Privileges

Administrators can specify whether or not a user can launch Priority Alerts.

Copyright Restrictions & Expiration Privileges

Administrators can allow users to set Copyright Restrictions and Expiration Privileges when adding stored content or scheduling a recording. Note that copyright restrictions apply only to Portal Server-initiated playback sessions (and not, for example to direct RTSP requests to a VOD server).

Multimedia Authoring Privileges

Presenetations is an optional module that requires a separate license and may not be available on your system. Even if you have this module, individual users may be restricted in the functions they can perform. For example some users may not be authorized to create presentations in which case this feature will not be displayed. Other users may only be authorized to edit or delete their own presentations.

- MultimediaAuthorSuper – user can create presentations and modify all presentations.
- MultimediaAuthorOn – user can create presentations and modify their own presentations.
- MultimediaAuthorOff – user cannot create or modify presentations.

Content Edit Permissions

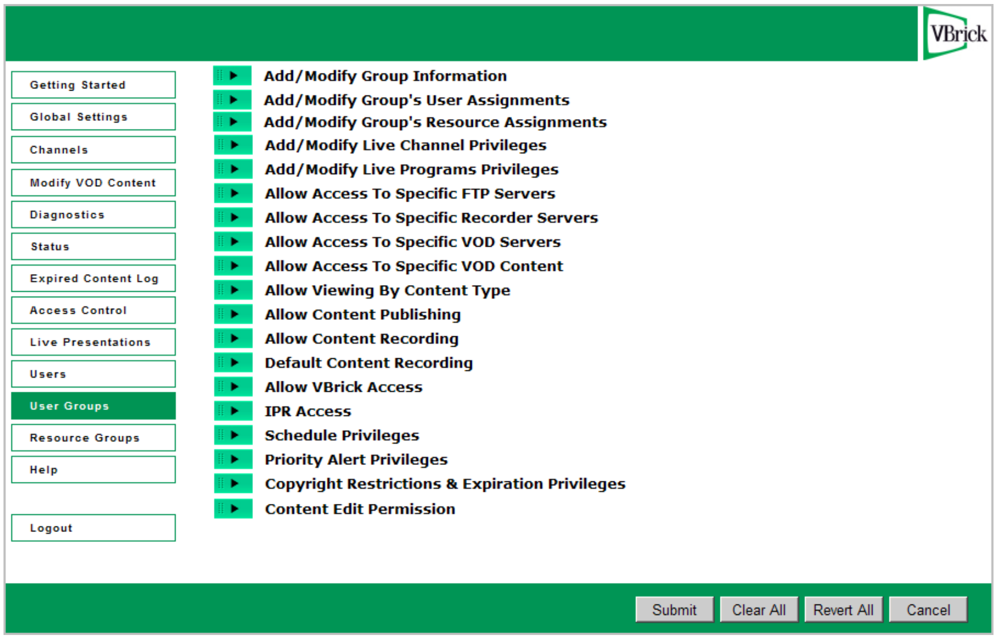
In some specialized end-user environments, this option can be used to allow or deny access to certain administrative and content management features.

Configuring User Groups

Grouping users is common practice and makes administering access to the VEMS Portal Server less complicated than administering access by individual user. The VEMS Portal Server server allows the administrator to create User Groups, specify group memberships for users, and set access privileges for the group. A user can be a member of one group or multiple groups. Group access privileges also can be set and modified on a per group basis.

If an LDAP directory is being used for Authentication, the same group information that is available in the directory can be used to Authorize end users to access the VEMS Portal Server. For example, if the organization has three User Groups in its LDAP directory—Marketing, Engineering, and Sales—they can simply create these groups in the VEMS Portal Server system, and assign privileges to the groups.

Note Microsoft Active Directory. VEMS does not currently support "Primary Group" memberships (such as "Domain Users"). You must use a custom-defined Active Directory group.


VBrick
Getting Started
Global Settings
Channels
Modify VOD Content
Diagnostics
Status
Expired Content Log
Access Control
Live Presentations
Users
User Groups
Resource Groups
Help
Logout
Add/Modify Group Information
Add/Modify Group's User Assignments
Add/Modify Group's Resource Assignments
Add/Modify Live Channel Privileges
Add/Modify Live Programs Privileges
Allow Access To Specific FTP Servers
Allow Access To Specific Recorder Servers
Allow Access To Specific VOD Servers
Allow Access To Specific VOD Content
Allow Viewing By Content Type
Allow Content Publishing
Allow Content Recording
Default Content Recording
Allow VBrick Access
IPR Access
Schedule Privileges
Priority Alert Privileges
Copyright Restrictions & Expiration Privileges
Content Edit Permission
Submit
Clear All
Revert All
Cancel

Add/Modify Group Information

Use the "Default" group parameter to define base permissions for *all* Portal Server users. If checked, all defined Portal Server users will have the permissions defined by the remaining parameters on this page. If not checked, you can enter a specific group name, and all members of the specified group will have the permissions defined on this page.

If LDAP is being used for authentication, then the group name has to exactly match the group name in the LDAP directory. If LDAP is not being used, Group Names can be entered directly into the VEMS Portal Server database. If Microsoft's Active Directory is used, to find the available list of active groups in **Windows XP**, browse to **My Network Places** and click on the left-hand menu **Search Active Directory**. A new window will open. Click **Find now** to see all available groups. In **Windows 2000**, go to **My Network Places > Entire Network > Directory**, the domain, and **Users**.

Note Windows XP needs to be configured to **Show Common Tasks in Folders**. To configure this, in **My Network Places**, go to **Tools > Folder Options**. In the **General > Tasks** section, select the radio button called **Show common tasks in folders**.

Add/Modify Group's User Assignments

Users can be assigned to specific User Groups, and they will inherit the privileges of that group. If no Users appear, then none have been defined. However, if LDAP is being used for Authentication, no users need to be defined. When a user Authenticates to the system, the Authentication process will return the User's group information. The user will receive the privileges that are provided to that group.

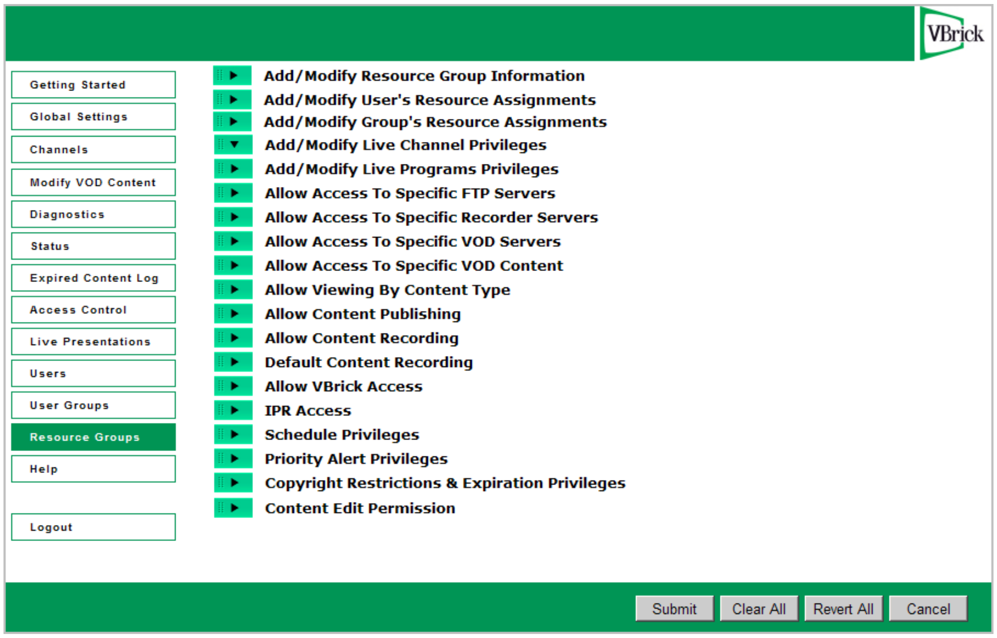
Add/Modify Group's Resource Assignments

Resource groups can be assigned to User Groups, and the User Group will inherit the privileges of that Resource Group. If no Resource Groups appear, then none of been defined. Click **Resource Groups** in the main navigation to the left to create Resource Groups.

Note The remaining options for **User Groups** (beginning with **Add/Modify Live Channel Privileges**) are the same as those described earlier for individual Configuring Users on page 113. The only difference is that the descriptions will apply to groups of users rather than to individual users.

Resource Groups

In the VEMS Portal Server software, providing a user with Resources refers to providing them access to a particular functionality of the Enterprise Media System. These include the ability to view Live Channels, to view VOD content, to publish content to the VOD, and to record content. A unique feature of the VEMS Portal Server software is the ability to group Resources into Resource Groups. This allows the administrator to quickly and easily assign several resources at once to more than one User or User Groups. This also makes the ongoing management of this content for these Users or User Groups much easier.


VBrick
Getting Started
Global Settings
Channels
Modify VOD Content
Diagnostics
Status
Expired Content Log
Access Control
Live Presentations
Users
User Groups
Resource Groups
Help
Logout
Add/Modify Resource Group Information
Add/Modify User's Resource Assignments
Add/Modify Group's Resource Assignments
Add/Modify Live Channel Privileges
Add/Modify Live Programs Privileges
Allow Access To Specific FTP Servers
Allow Access To Specific Recorder Servers
Allow Access To Specific VOD Servers
Allow Access To Specific VOD Content
Allow Viewing By Content Type
Allow Content Publishing
Allow Content Recording
Default Content Recording
Allow VBrick Access
IPR Access
Schedule Privileges
Priority Alert Privileges
Copyright Restrictions & Expiration Privileges
Content Edit Permission
Submit
Clear All
Revert All
Cancel

For example, if the organization has three User Groups—Marketing, Engineering, and Sales—they might create four resource groups. These Resource Groups would be Full Access, which are resources that everyone can see, and one Resource Group for each of the user groups. Full Access would be assigned to each user group, and the Marketing Resource Group would be assigned to the Marketing User Group, the Engineering Resource Group to the Engineering User Group, and the Sales Resource Group to the Sales User Group. Resource Groups provide the added bonus that they allow the Administrator to quickly provide access to new content to Users and User Groups. For example, if the organization originally had ten Live Channels on the network, and another Live Channel was added, the Administrator would simply need to add that Channel to the appropriate Resource Groups and the channel would be available.

Add/Modify Resource Group Information

Add the Resource Group Name that is relevant for the Resource Group being created.

Add/Modify User's Resource Assignments

Users can be assigned to specific Resource Groups, and they will inherit the privileges of that Resource Group. If no Users appear, then none have been defined. Click on the Users section to add Users.

Add/Modify Group's Resource Assignments

User Groups can be assigned to Resource Groups, and the User Group will inherit the privileges of that Resource Group. If no User Groups appear, then none have been defined. Click User Groups in the main navigation to the left to create User Groups.

Note The remaining options for **Resource Groups** (beginning with **Add/Modify Live Channel Privileges**) are the same as those described earlier for individual Configuring Users on page 113. The only difference is that the descriptions will apply to resource groups rather than to individual users.

IPR Authentication

There are two ways (IPR IP address or user PIN) to authenticate and authorize IP Receivers in the VEMS Portal Server. IPR access control is slightly different from PC and Macintosh-based authentication (which uses the commonly employed User Name and Password mechanism). The two methods are outlined in the table below.

Table 14. Authentication Methods

Method	Description	User Interaction	Comment
User PIN	If Access Control is enabled, but the IPR is not defined in the system, then Access Control works based on a user PIN. This PIN is defined on a *per user* (not per IPR) basis, so that users need to be defined for this to work.	When the user logs into the system, they will be prompted for their PIN. The user simply enters the PIN with the remote control or the wireless keyboard, and can then access the video.	This implementation is appropriate for environments where multiple users with different privileges will be accessing the same IPR. An example of this would be a shared classroom where multiple teachers are accessing the IPR at different times.

Method	Description	User Interaction	Comment
IPR IP Address or Host Name	The VEMS Portal Server system determines the content that the IPR can view based on its IP Address or Host Name.	No user interaction is required. The user simply turns on the IPR and only the content that the IPR user can view id displayed.	This implementation is similar to a cable TV setup, e.g. if the cable plan does not include CNN, that channel cannot be viewed. This implementation is easiest for end users because you do not have to remember user names or PINs. It is appropriate for environments where one or a few people with the same privileges access the same IPR.

Authentication by PIN

When an end user accesses the VEMS Portal Server via a IPR, the Portal Server takes the following steps to authorize users.

1. It determines if there is Authentication/Authorization information associated with the Host Name of the IPR. If so, based on the IPR Host Name, the VEMS Portal Server will present the IPR with the information appropriate to its privileges. Note that the VEMS Portal Server uses the least restrictive settings when providing access to the system.
2. If there is no Authentication/Authorization information associated with the Host Name of the IPR, the user will be prompted for a PIN. A PIN is a user-based mechanism to log onto the IPR. When the user enters his or her PIN, the VEMS Portal Server authenticates the user against the Portal Server database.
3. Once the user is authenticated, the VEMS Portal Server will check the User Groups and/or Resource Groups that the User is associated with and the privileges associated with those groups.
4. After checking the Groups privileges, the VEMS Portal Server will check for any individual user privileges above the group privileges.
5. The user will be presented with the information appropriate to their privileges. Note that the VEMS Portal Server uses the least restrictive settings when providing access to the system.

If Authentication and Authorization is enabled, but the IPR is not defined in the system, then Access Management works based on a User PIN. This PIN is defined on a **per user** (not per IPR) basis, so Users need to be setup in the system for this to work. When the user accesses the VEMS Portal Server through the IPR, they will be prompted for their PIN. The user simply enters the PIN with the remote control or the wireless keyboard, and can then access the video for which they have privilege. This implementation is appropriate for environments where multiple users with different privileges will be accessing the same IPR. An example of this would be a shared classroom, where multiple teachers are accessing the IPR at different times.

Authentication by Host Name or IP Address

The VEMS Portal Server determines the content that the IPR can view based on its IP Address or Host Name. No user interaction is required. The user simply turns on the IPR, and only the content that the IPR user can view displays. This implementation is similar to a Cable Television setup—for example, if the plan does not include HBO, then that channel cannot be viewed. This implementation is easiest from the end user perspective because end users do not have to remember user names or PINs. This implementation is appropriate for environments where multiple people can access the same IPR.

Chapter 5

Configuring for SSL

Topics in this section

Overview

Secure Sockets Layer (SSL) provides endpoint authentication and communications privacy over the Internet using cryptography. Whenever there is a concern regarding confidentially and integrity of *management* data being sent between VEMS Portal Server and external clients, the VEMS Portal Server should be configured with a digital X.509 certificate to enable SSL encryption. When SSL encryption is enabled, the Portal Server encrypts either all pages in the Portal Server Admin and client applications (see Configure Hardened SSL) or all of the Portal Server Admin pages but only the Portal Server client *login page* (see Configure Non-Hardened SSL).

Note It is important to note that only the management data (for example user requests or configuration data) is encrypted. *The actual video streams are never encrypted.* When SSL is enabled, the following elements can be encrypted.

- VEMS Admin Console – All VEMS Admin Console pages can be encrypted to protect management information and other sensitive data.
- VEMS User Portal – All Portal Server client pages can be encrypted (hardened SSL) or only the login page can be encrypted (non-hardened SSL).
- LDAP Server – If using LDAP authentication, communications between the Portal Server and the LDAP Server can be encrypted by enabling encryption on the LDAP server.
- VOD-W Server – Communication between the Portal Server and a VOD-W server can be encrypted by enabling SSL on the VOD-W server. See "Secure Communication" in the *VOD-W Server Release Notes.*

By convention, URLs that require an SSL connection start with `https` instead of `http`. The steps briefly listed here, and explained in detail on the following pages, explain how to set up and use SSL on the Portal Server.

▼ To set up SSL for client access to the VEMS Portal Server:

1. Generate a Certificate Request.
2. Submit a Certificate Request.
3. Install the Certificate on the VEMS Portal Server.
4. Configure VEMS Resources for SSL.

SSL Prerequisites

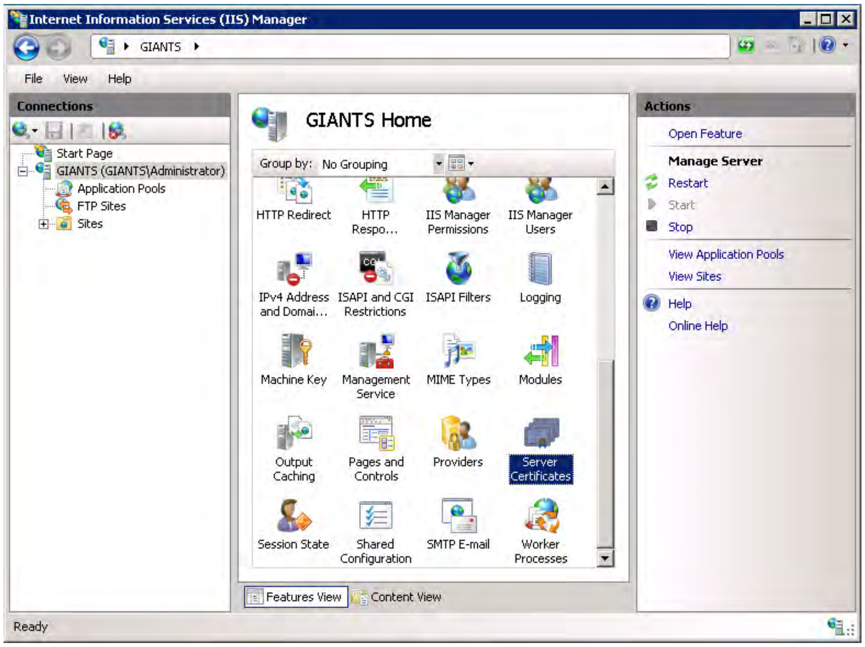
- In order to use the Portal Server in secure (HTTPS) mode, you must have a signed and valid SSL certificate purchased from Verisign or another vendor. If the certificate is not signed, or if it is expired or otherwise invalid, video playback issues will occur.
- In an environment where the Portal Server is using SSL and a Network Video Recorder (NVR) is running on a separate server, the NVR server must also have an SSL Certificate installed in its IIS configuration or all NVR recording will fail.
- Be aware that hardened SSL encryption requires significant resources and can substantially impact performance. Use hardened SSL only when absolutely necessary in environments that require all pages to be encrypted.
- To use SSL, Amino set top box users must purchase a digital X.509 certificate from Verisign. Other certificates may work but Verisign is the only certificate currently tested and supported by VBrick.

1. Generate a Certificate Request

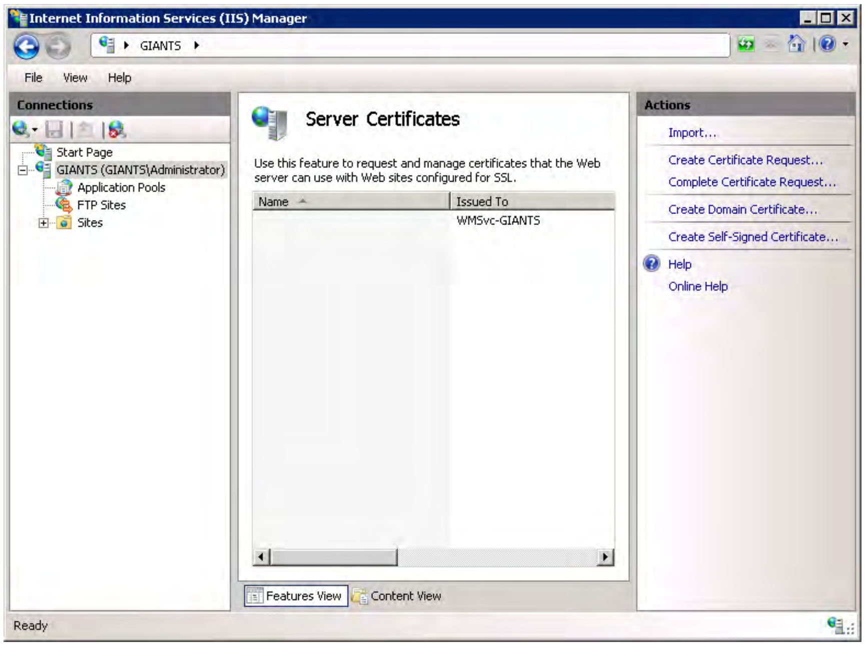
If your company does not have a X.509 certificate, or does not have one for the VEMS Portal Server, a new certificate request must first be created.

▼ To generate a certificate request:

1. From the VEMS Portal Server, start the Microsoft Internet Information Services (IIS) Manager.
2. Click the server name and double click **Server Certificates** in the pane on the right side.

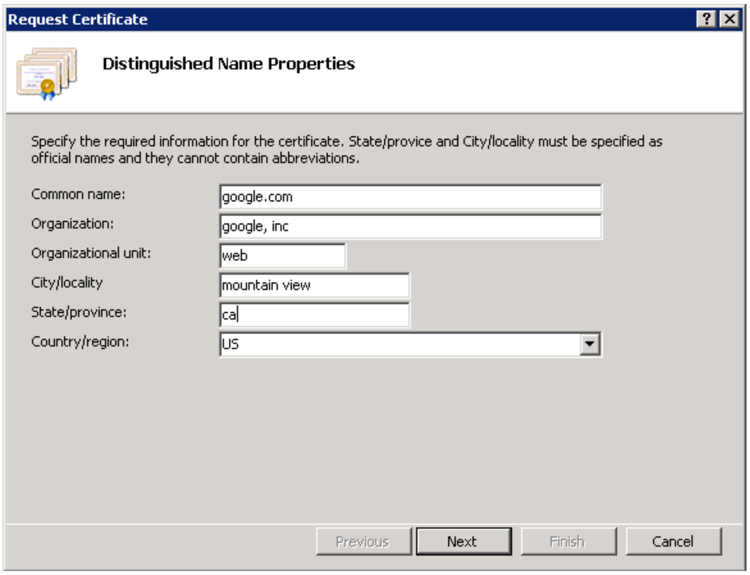


3. In the Actions column on the right, click **Create Certificate Request**.


Internet Information Services (IIS) Manager
GIANTS
File View Help
Connections
Start Page
GIANTS (GIANTS\Administrator)
Application Pools
FTP Sites
Sites
Server Certificates
Name
Issued To
WMSvc-GIANTS
Features View
Content View
Actions
Import...
Create Certificate Request...
Complete Certificate Request...
Create Domain Certificate...
Create Self-Signed Certificate...
Help
Online Help
Ready

Use this feature to request and manage certificates that the Web server can use with Web sites configured for SSL.

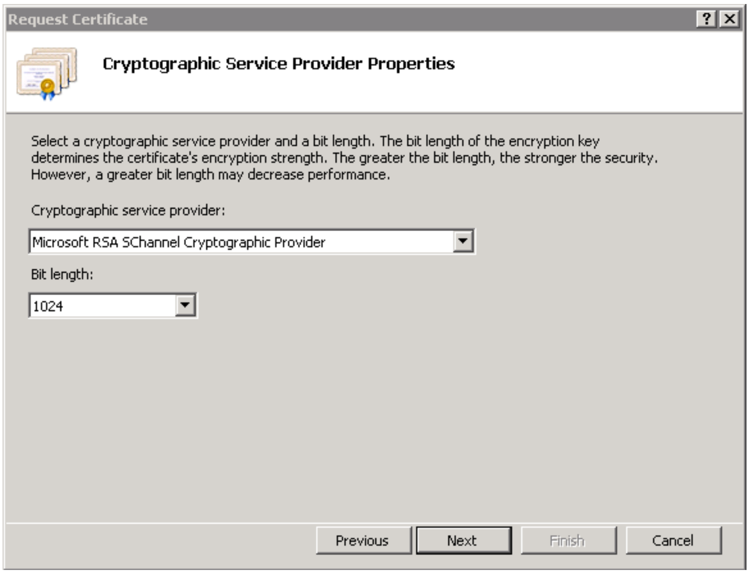
4. Type an organization name (e.g. VBrick) in the **Organization** field and type an organizational unit (such as Sales Department) in the **Organizational unit** field. (This information will be placed in the certificate request, so make sure it is accurate. The Certificate Authority will verify this information and will place it in the certificate. A user browsing the VEMS Portal Server will want to see this information in order to decide if they should accept the certificate.)
5. In the **Common name** field, type a common name, and then select **Next**. (**Important:** The common name is one of the most significant pieces of information that ends up in the certificate.)
6. Enter the appropriate information in the **Country/Region**, **State/Province**, and **City/locality** fields, and then select **Next**.



Specify the required information for the certificate. State/provice and City/locality must be specified as official names and they cannot contain abbreviations.

Common name: google.com
Organization: google, inc
Organizational unit: web
City/locality mountain view
State/province: ca
Country/region: US

7. Select a **Cryptographic Service Provider** and **Bit Length** and click **Next**.



Request Certificate

Cryptographic Service Provider Properties

Select a cryptographic service provider and a bit length. The bit length of the encryption key determines the certificate's encryption strength. The greater the bit length, the stronger the security. However, a greater bit length may decrease performance.

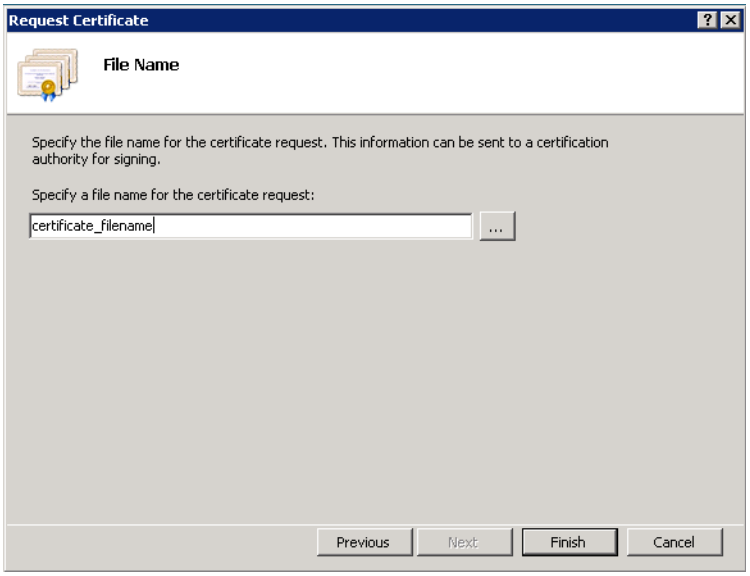
Cryptographic service provider: Microsoft RSA SChannel Cryptographic Provider

Bit length: 1024

8. Enter a file name for the certificate request. The file contains information similar to the following:

```
------BEGIN NEW CERTIFICATE REQUEST ------
MIIDZjCCAs………
------END NEW CERTIFICATE REQUEST ---------
```

This is a Base 64 encoded representation of the certificate request. The request contains the information entered into the wizard and also your public key and information signed with your private key.



Request Certificate

File Name

Specify the file name for the certificate request. This information can be sent to a certification authority for signing.

Specify a file name for the certificate request: certificate_filename

9. Select **Next**. The wizard displays a summary of the information contained in the certificate request.
10. Select **Next** and select **Finish** to complete the request process.

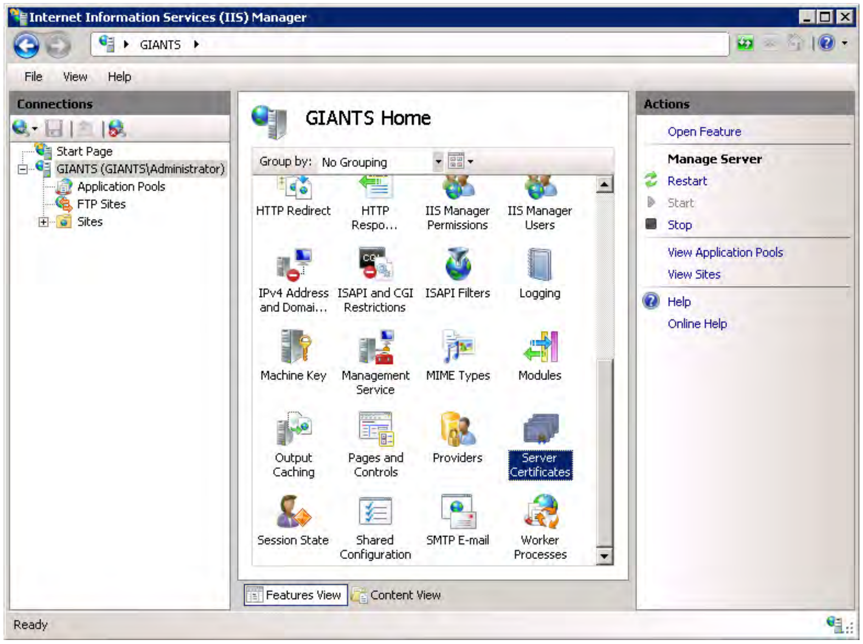
2. Submit a Certificate Request

If a CA-signed Certificate from a trusted Certificate Authority (such as VeriSign or Thawte) is going to be purchased, the certificate can now be sent to a CA for verification and processing. After the certificate response is received from the CA, the installation process can continue on the VEMS Portal Server. Purchasing a CA-signed certificate will cause a security alert in the browser upon access to the server.

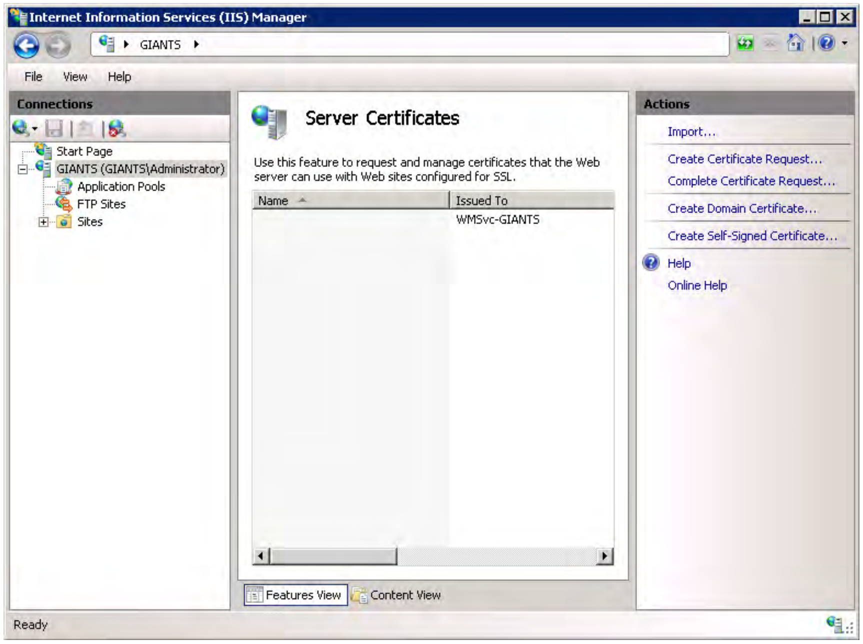
3. Install the Certificate

▼ To install the certificate on the VEMS Portal Server:

1. Click on Start > Administrative Tools > Internet Information Services (IIS) Manager.
2. Click on the server name in the **Connections** column on the left. Double-click on **Server Certificates**.



3. In the Actions column on the right, click on **Complete Certificate Request ...**



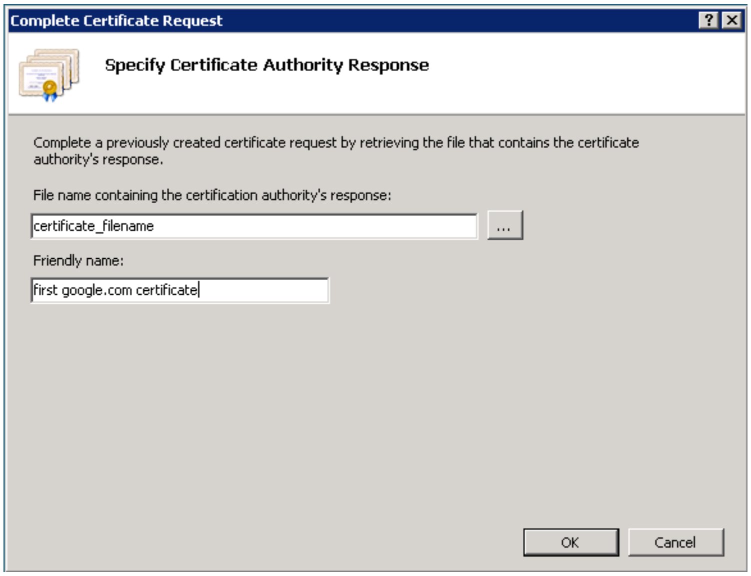
Internet Information Services (IIS) Manager
GIANTS
File
View
Help
Connections
Start Page
GIANTS (GIANTS\Administrator)
Application Pools
FTP Sites
Sites
Server Certificates

Use this feature to request and manage certificates that the Web server can use with Web sites configured for SSL.

Name	Issued To
	WMSvc-GIANTS

Features View
Content View
Actions
Import...
Create Certificate Request...
Complete Certificate Request...
Create Domain Certificate...
Create Self-Signed Certificate...
Help
Online Help
Ready

4. Click the button with the three dots and select the server certificate you received from the certificate authority. If the certificate does not have a .cer file extension, select to view all types. Enter a user-friendly name in order to track the certificate on this server. Click **OK** when done.



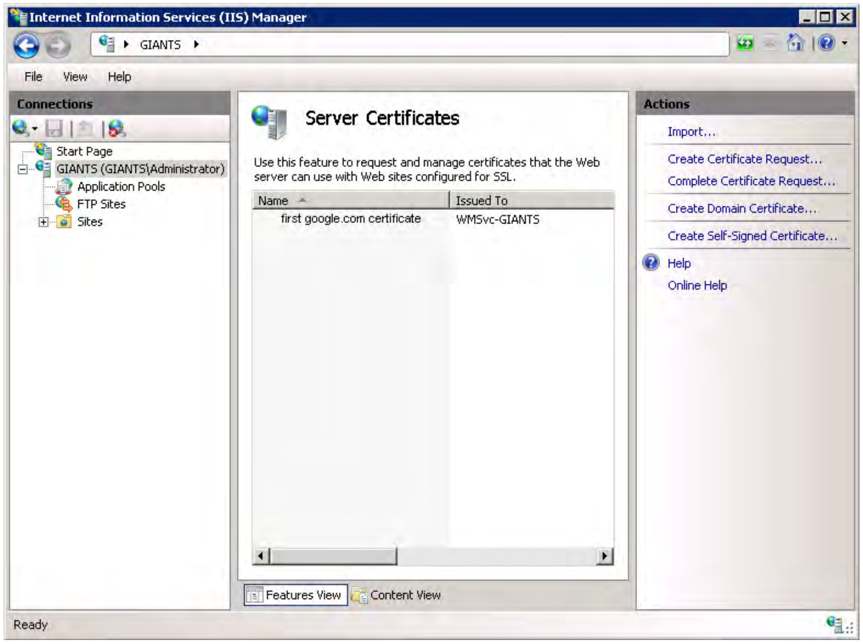
Complete Certificate Request
Specify Certificate Authority Response

Complete a previously created certificate request by retrieving the file that contains the certificate authority's response.

File name containing the certification authority's response: certificate_filename

Friendly name: first google.com certificate

5. If successful, you will see your newly installed certificate in the list. If you receive an error stating that the request or private key cannot be found, make sure you are using the correct certificate and that you are installing it to the same server that you generated the CSR on. If you are sure of those two things, you may just need to create a new Certificate Request and reissue/replace the certificate. Contact your certificate authority if you have problems.


Internet Information Services (IIS) Manager
GIANTS
File
View
Help
Connections
Start Page
GIANTS (GIANTS\Administrator)
Application Pools
FTP Sites
Sites
Actions
Import...
Create Certificate Request...
Complete Certificate Request...
Create Domain Certificate...
Create Self-Signed Certificate...
Help
Online Help
Features View
Content View
Ready

Server Certificates

Use this feature to request and manage certificates that the Web server can use with Web sites configured for SSL.

Name	Issued To
first google.com certificate	WMSvc-GIANTS

6. Examine the certificate overview, click **Next**, and the click **Finish**. A certificate is now installed on the VEMS Portal Server.

4. Configure VEMS Resources for SSL

After installing the certificate on the VEMS Portal Server, the VEMS Portal Server can now be configured for SSL. As explained below, the Portal Server supports two different modes for SSL security:

- **Hardened SSL** – All pages in the Portal Server Admin and Portal Server client applications are secured with SSL. Users will see the padlock icon at the bottom of the screen on all pages.
- **Non-Hardened SSL** – All pages in the Portal Server Admin application; only the Portal Server client login page is secured.

Note **You must select one and only one of these modes for configuring the Portal Server.** The application cannot run with both modes enabled and attempting to do so will result in an application error.

Configure Hardened SSL

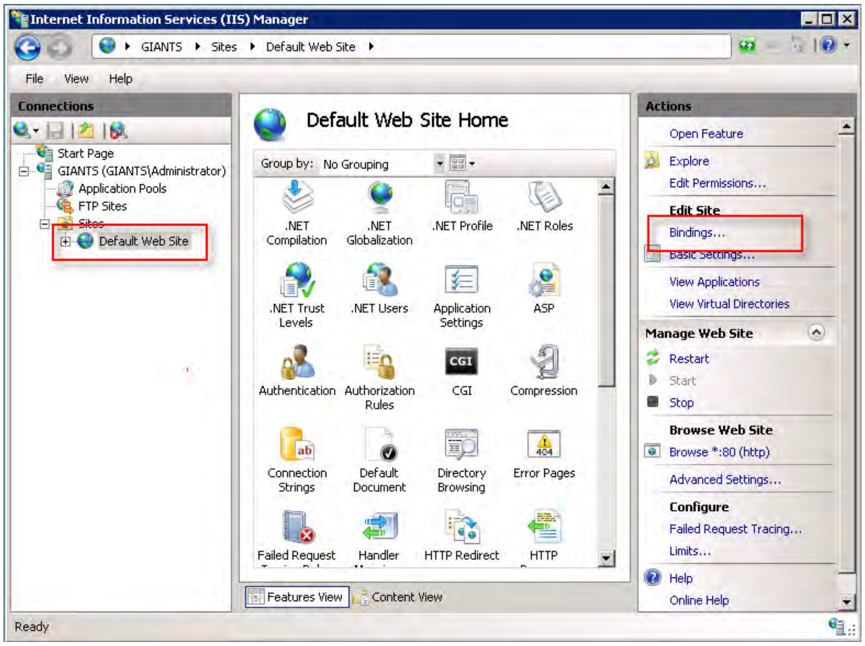
In hardened SSL mode, the Portal Server encrypts all pages in the Portal Server Admin application and all pages in the Portal Server client application. **Be aware that hardened SSL encryption requires significant resources and can substantially impact performance.** Use hardened SSL only when absolutely necessary in environments that require all pages to be encrypted.

▼ To configure the Portal Server in Hardened SSL Mode:

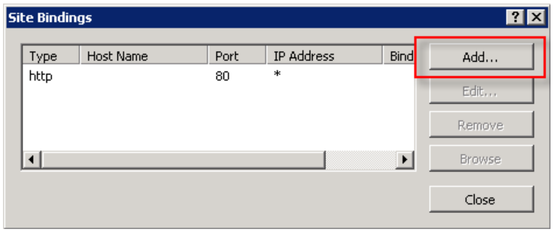
1. Login to the Windows Server that is hosting the VEMS Portal Server application with a valid local Windows administrator account or domain account with local administrative permissions.

Note If you are using the Portal Server in hardened SSL mode, your (Digital) Set Top Box(es) will not function unless you upgrade to STB v3.74b or greater. A popup window will alert you that an upgrade is available when first logging in. If you have Gold or Platinum warranty support, the upgrade is free: use the Online Customer Service page to contact Support Services. If you do not have warranty support, use the Products page to contact Sales representative. **If you are not using hardened SSL, there is no need to upgrade your Set Top Boxes.**

2. Launch the Internet Information Services Manager. Go to Start > Control Panel > Administrative Tools > Internet Information Services (IIS) Manager.
3. Locate your server name in the tree control on the left and click the plus sign (+) to expand the node.
4. Locate the node titled **Sites** and click the plus sign (+) to expand the node.
5. Select the **Default Web Site** node. Your screen should look similar to this:

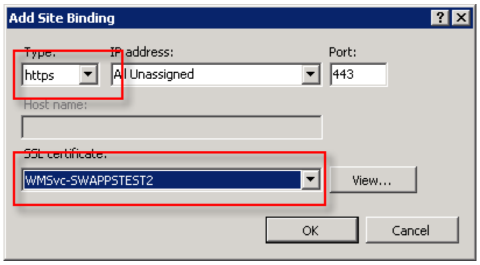


6. Click on **Bindings** in the right column and then click the **Add** button.



Type	Host Name	Port	IP Address	Bind
http		80	*	

7. Change the **Type** to `https`. Then select the SSL certificate you just installed and click **OK**.



Type: https

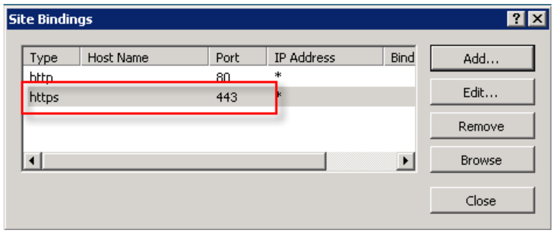
IP address: All Unassigned

Port: 443

Host name:

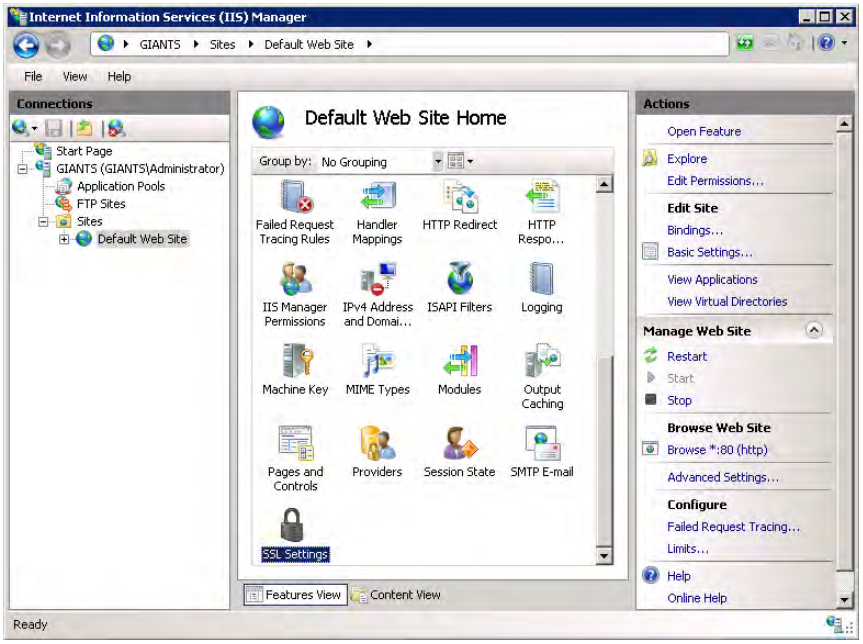
SSL certificate: WMSvc-SWAPPSTEST2

8. You will now see the binding for Port 443 listed. Click **Close**.

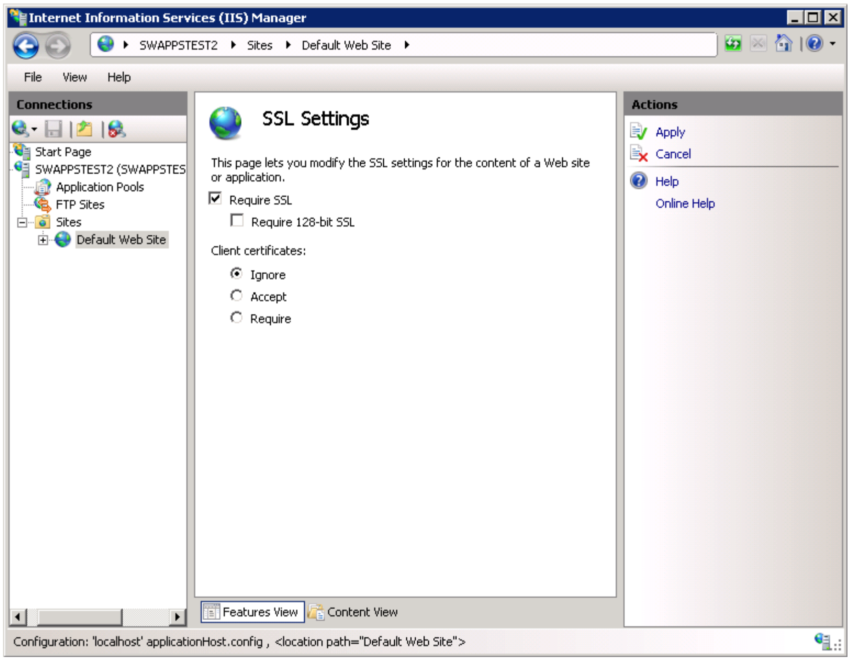


Type	Host Name	Port	IP Address	Bind
http		80	*	
https		443	*	

9. Double-click the **SSL Settings** button.



10. Select **Require SSL** and click **Apply**.



SSL Settings

This page lets you modify the SSL settings for the content of a Web site or application.

☑ Require SSL

□ Require 128-bit SSL

Client certificates:

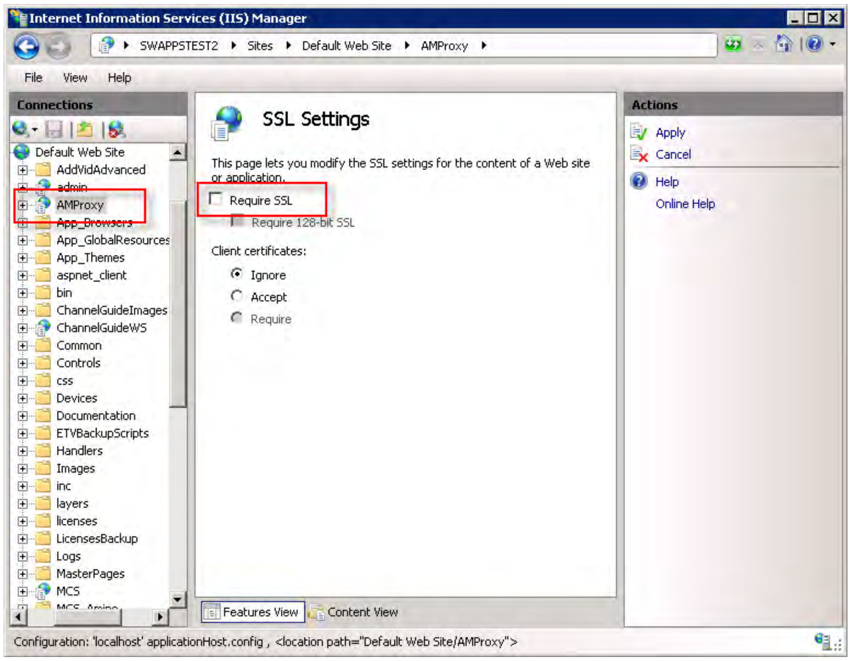
● Ignore

○ Accept

○ Require

Configuration: 'localhost' applicationHost.config , <location path="Default Web Site">

11. Click on **AMProxy** in the tree control on the left, and then double-click on **SSL Settings**.
12. Uncheck the box marked **Require SSL** and click **Apply**.



SSL Settings

This page lets you modify the SSL settings for the content of a Web site or application.

□ Require SSL

□ Require 128-bit SSL

Client certificates:

● Ignore

○ Accept

○ Require

Configuration: 'localhost' applicationHost.config , <location path="Default Web Site/AMProxy">

13. Restart the Windows Server.

After restarting the server, your users will be able to access the VEMS Portal Server application. From this point forward, users must use an **HTTPS** URL to access the application, for example: `https://<server_ip_address>`. Be sure to update all bookmarks and stored links to reflect this address change.

Configure Non-Hardened SSL

In non-hardened SSL mode, the Portal Server encrypts all of the Portal Server Admin pages but only the Portal Server client *login page*. Configuring non-hardened SSL is a two-step process: (1) first you configure the Portal Server user login page for SSL access, and (2) configure the Portal Server Admin pages for secure SSL access. This means that when a user attempts to access the Portal Server user pages it will automatically bring them to `https://<ipaddressofserver>` for the user pages. Users will notice a padlock icon at the bottom of their screen while logging into the Portal Server, however the padlock will disappear once they login. When an administrator attempts to access the Administration pages it will also force them to use `https://<ipaddressofserver>/admin`. The padlock icon will be visible at the throughout the entire Admin site.

Securing the Portal Server User Pages

▼ To configure the VEMS Portal Server User Pages for SSL access:

1. Go to the Portal Server install location, typically `C:\Program Files\VBrick\MCS` and open `web.config` in a text editor.
2. Uncomment the sections labeled Web Page Security 1, 2, and 3 **by deleting only the <!-- and --> characters shown below in red.**

Web Page Security 1

```
<!-- Web Page Security 1: Remove comments around the following section to enable
SSL on the login page. -->
<!--
<section name="secureWebPages"
type="Hyper.Web.Security.SecureWebPageSectionHandler, WebPageSecurity"
allowLocation="false" />
-->
```

Web Page Security 2

```
<!-- Web Page Security 2: Remove comments around the following section to enable
SSL on the login page. -->
<!--
<secureWebPages mode="On" maintainPath="False" warningBypassMode="AlwaysBypass"
bypassQueryParamName="BypassSecurityWarning">
<file path="login.aspx" /> <file path="login4.aspx" /> </secureWebPages>
-->
```

Web Page Security 3

```
<!-- Web Page Security 3: Remove comments around the following section to enable
SSL on the login page. -->
<!--
<add name="SecureWebPage" type="Hyper.Web.Security.SecureWebPageModule,
WebPageSecurity" />
-->
```

Securing the Portal Server Admin Pages

▼ To configure the VEMS Portal Server Admin pages for SSL access:

1. Go the Admin Console location, typically `C:\Program Files\VBrick\MCS\Common\MCS Admin Console` and open `web.config` in a text editor.
2. Uncomment the sections labeled `Web Page Security 1` and `Web Page Security 2` **by deleting only the <!-- and --> characters shown below in red.**

Web Security 1

```
<!-- Web Page Security 1: Remove comments around the following section to enable
SSL on all Admin Console pages. -->
<!--
<section name="secureWebPages"
type="Hyper.Web.Security.SecureWebPageSectionHandler, WebPageSecurity"
allowLocation="false" />
-->
```

Web Security 2

```
<!-- Web Page Security 2: Remove comments around the following section to enable
SSL on all Admin Console pages. -->
<!--
<secureWebPages mode="On" maintainPath="False" warningBypassMode="AlwaysBypass"
bypassQueryParamName="BypassSecurityWarning">
<directory path="/" recurse="True" />
</secureWebPages>
-->
```

Chapter 6

Network Video Recording

Topics in this section

NVR Overview

The Network Video Recorder (NVR) provides a dedicated platform to perform multiple simultaneous recordings of live streams coming from VBrick encoders. The NVR lets you off-load all recording tasks from the VEMS Portal Server machine to one or more separate "recorder server" machines. The NVR provides the ability to record live streams from the network, store these recorded video files on a specified location (a record server or other network location), and optionally automatically transfer the contents to selected locations, and/or ingest them to VOD servers.

The NVR is available in two versions—one that supports 10 simultaneous records and one that supports 40—and is ideal for environments that require large scale recording on a robust and reliable platform. The NVR is tightly integrated with the Portal Server, the Scheduler, and VBrick's Video-on-Demand servers. The NVR provides these standard features.

- Dedicated platform – NVR servers are available on a dedicated hardware platform which eliminates resource contention and guarantees successful recording.
- Software only – NVR servers are available as a software-only option which you can install on your own server hardware. See the *NVR Release Notes* for server hardware recommendations.
- Redundant storage – both NVR servers offer RAID 5 for storage redundancy as well as dual power supplies.
- Large storage capacity – the NVR 10 provides 720 GB of storage; the NVR 40 provides 1492 GB.
- Load Balancing – Load balancing is used when multiple NVR servers are installed. Rather than recording to a specified server, the system records to a dynamically selected server based on a load balancing algorithm.
- Software Development Kit – VBrick provides an SDK to interface with the Portal Server or the NVR. In a typical security, surveillance, and monitoring applications application (without a complete Portal Server), you can write a custom application that will record streams directly to a standalone NVR.

In a basic Portal Server installation (without an NVR), the standard recording functionality allows a maximum of two concurrent recordings. In order to expand this recording capability, you can purchase a Network Video Recorder to offload recording tasks and improve overall performance. The Portal Server and/or the NVRs are delivered with all software installed or as a software-only option. The NVR comes in standard and standalone versions as explained below. The only difference is in functionality. *Both record either 10 or 40 concurrent streams depending on the license you purchase.* Both versions can be expanded to include multiple, additional NVRs so that your recording capacity is virtually unlimited.

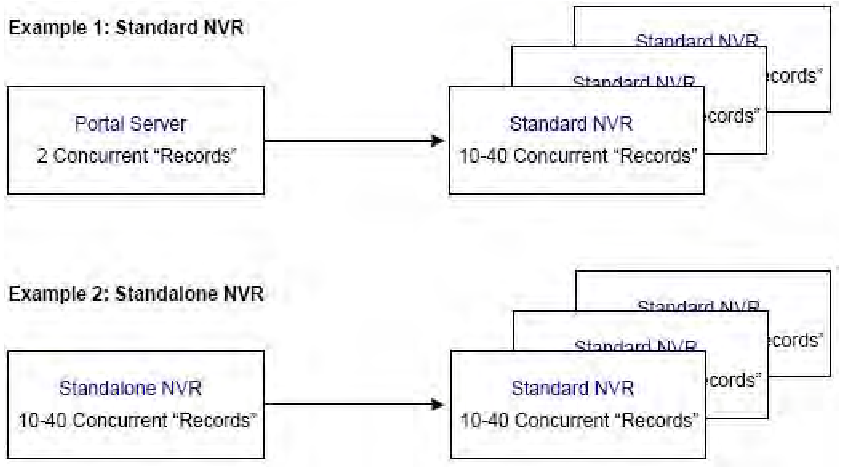


Figure 17. Standard and Standalone NVR Examples

NVR Hardware

The NVR is comprised of both hardware and software. If you purchased the hardware/ software combination from VBrick, each platform (standard or standalone) comes fully loaded with NVR software. The following table shows the hardware configuration relative to the number of purchased licenses. The license file determines the total maximum concurrent recordings allowed. *In a standard NVR installation the NVR license file is stored on the Portal Server; in a standalone NVR installation the NVR license file is stored on the Standalone NVR.*

Table 15. NVR Hardware Specifications

Server	Item	Description
NVR 10	Base Unit	PowerEdge R610 with Chassis for Up to Six 2.5-Inch Hard Drives
	Processor	PowerEdge R610
	Memory	2GB Memory (2x1GB), 1066MHz Single Ranked UDIMMs for 1 Processor, Adv ECC
	Hard Drive	73GB 10K RPM Serial-Attach SCSI 2.5" Hot Plug Hard Drive
	Hard Drive Controller	PERC 6/i SAS RAID Controller 2x4 Connectors, Internal, PCIe256MB Cache
	Operating System	Windows Server 2008, Web or Enterprise Edition
	CD/DVD Drive	DVD ROM, SATA, Internal
	RAID	RAID 1/RAID 5 for PERC 6/i Controller

Server	Item	Description
NVR 40	Base Unit	PowerEdge R710 with Chassis for Up to Eight 2.5-Inch Hard Drives
	Processor	PowerEdge R710
	Memory	4GB Memory (4x1GB), 1066MHz Single Ranked UDIMMs for 2 Processors, Adv ECC
	Hard Drive	73GB 10K RPM Serial-Attach SCSI 2.5" Hot Plug Hard Drive
	Hard Drive Controller	PERC 6/i SAS RAID Controller 2x4 Connectors, Internal, PCIe256MB Cache, x8 Chassis
	Operating System	Windows Server 2008, Web or Enterprise Edition
	CD/DVD Drive	DVD ROM, SATA, Internal
	Raid	RAID 1/RAID 5 for PERC 6/i Controller

NVR Performance Considerations

The NVR 40 lets you record any combination of up to 40 MPEG, WM, and H.264 streams at a time. There are however performance considerations when recording multiple, simultaneous, high-rate MPEG-2, WM, or H.264 streams. At MPEG-2 rates up to 5.5Mbps or WM rates up to 1.2Mbps 40 simultaneous recordings are supported. At higher rates however the full licensing capacity cannot be used. For example, when using the **Best Quality** WM template at 4.5Mbps, 10 simultaneous records are supported; when using MPEG-2 at 15Mbps, 15 simultaneous recordings are supported.

NVR Types

Standard NVR

A Standard NVR's record capability is managed by a Portal Server or Standalone NVR. In a standard NVR installation, the full Portal Server or Standalone NVR application is installed on one machine and the NVR application is installed on a separate machine. If you need to add recording capacity, you can add multiple NVRs as necessary. You use the Portal Server or a Standalone NVR application to configure the Standard NVR (see Configure a Standard NVR). A *standard* NVR has these characteristics:

- supports record only.
- records 10 or 40 concurrent streams depending on license.
- is configured with the standard Portal Server Admin Console *or* the Standalone NVR Console.
- records from the **Record** button *or* the **Scheduler** module.
- Supports "batch" recording where one large file is recorded into multiple smaller files.

Note When purchasing additional NVRs, VBrick provides a single combined license that includes recording capacity for all NVRs onsite.

Standalone NVR

A Standalone NVR manages the record capability of itself and any attached Standard NVRs. *A standalone NVR is typically used in security, surveillance, and monitoring applications or anywhere where full Portal Server functionality is not required.* In a standalone NVR installation, a subset of the Portal Server application is installed on one machine and the NVR application is installed on the same machine *or on a different machine*. If you need to add recording capacity, you can add multiple Standard NVRs necessary. You use the subset of the Portal Server application to configure the NVR (see Configure a Standalone NVR). A *standalone* NVR has these characteristics:

- supports record only.
- records 10 or 40 concurrent streams depending on license.
- is configured with a subset of the Portal Server Admin Console that has limited features—no VBricks, IPRs, etc.
- records from the **Scheduler** module only.
- has limited end user features. End users can see only the **Scheduler**, the **Status** page, and the **Help** system.
- supports "batch" recording where one large file is recorded into multiple smaller files.
- has an API interface that lets you write custom applications to control the NVR.

Note When purchasing additional NVRs, VBrick provides a single combined license that includes recording capacity for all NVRs onsite (Standard and/or Standalone).

NVR Installation

See the NVR Release Notes for complete installation instructions.

Synchronize the Portal Server and the NVR

The internal clocks on the Portal Server and the NVR must be synchronized for recording functionality to work properly. You can use the `Net time` command as explained below or you can use an external time server. In order to run the `Net time` command on *either* server, the server must be on the domain, and the user logged onto the server must have admin privileges *and* be part of the domain.

▼ To synchronize the Portal Server and the NVR:

1. Open a command prompt window on the Windows Web Server 2008 *Portal Server* machine.
2. Type: **`Net time \\{NVR IP Address} /SET`**

NVR Configuration

Configure a Standard NVR

A standard NVR is installed on a dedicated machine that comes fully loaded with all NVR software. However, you must still configure the NVR as explained below. NVR configuration is performed using the Recorders pages on the Portal Server's or Standalone NVR's Admin Console. See Recorders on page 43 for more information.

▼ To configure a standard NVR in a *Portal Server Installation*:

1. Login to the Portal Server Admin Console using *the host name or IP address of the Portal Server machine*. For example: `http://myserveraddress/admin`
2. Define a Record server.
   a. Set record **Path** if necessary. Set to local hard drive on NVR or to a network drive.

    b. Set **Max. Recording**.

3. Define VOD and FTP Servers (go to **Global Settings > Servers**).
    a. Record only – VOD server not required.
    b. Record and ingest – must define a VOD server.
    c. Record, ingest, and FTP – must define VOD and FTP servers.
    d. Record and FTP – must define an FTP server.
4. If Access Control is enabled, you must create a user and grant the following permissions on the **Users** page in the Admin Console. See Configuring Users on page 113 for more information.
    a. **Add/Modify Live Channel Privileges**
    b. **Allow Access To Specific FTP Servers**
    c. **Allow Access To Specific Recorder Servers**
    d. **Allow Access To Specific VOD Servers**
    e. **Allow Content Recording**
    f. **Schedule Privileges**

Configure a Standalone NVR

▼ To configure a standard NVR in a *Standalone NVR Installation*:

1. Login to the Standalone NVR Admin Console *using the host name or IP address of the Standalone NVR machine*. For example: `http://myserveraddress/admin`
2. Define a Record server.
    a. Set record **Path** if necessary. Set to local hard drive on NVR or to a network drive.
    b. Set **Max. Recording**.
3. Define VOD and FTP Servers (go to **Global Settings > Servers**).
    a. Record only – VOD server not required.
    b. Record and ingest – must define a VOD server.
    c. Record, ingest, and FTP – must define VOD and FTP servers.
    d. Record and FTP – must define an FTP server.
4. If Access Control is enabled, you must create a user and grant the following permissions on the **Users** page in the Admin Console. See Users on page 81 for more information.
    a. **Allow Access To Specific FTP Servers**
    b. **Allow Access To Specific Recorder Servers**
    c. **Allow Access To Specific VOD Servers**
    d. **Allow Content Recording**
    e. **Schedule Privileges**

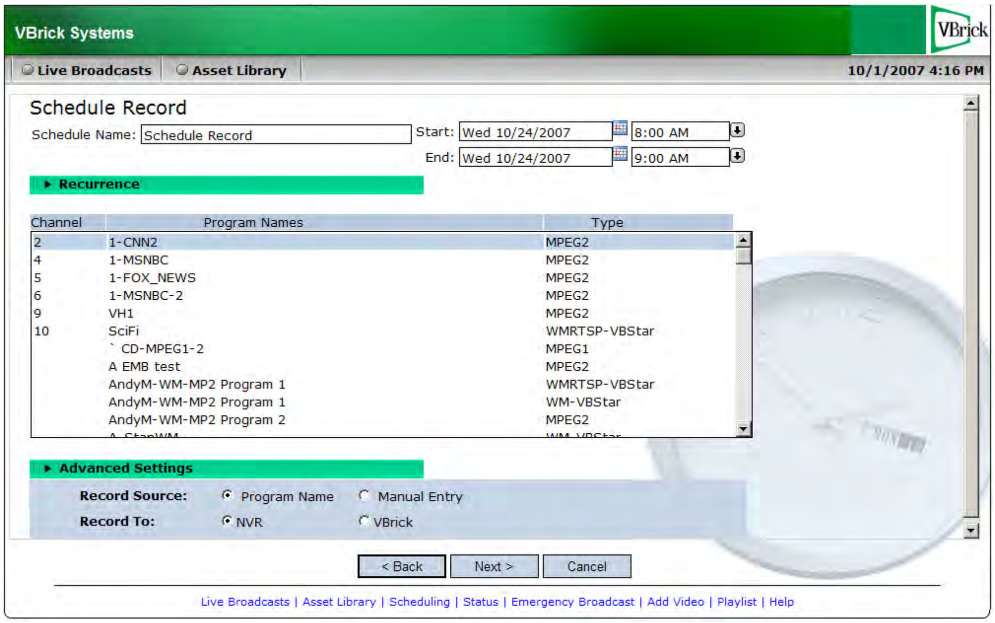
Using an NVR

As noted, the Portal Server and the Network Video Recorder are installed on separate machines. Using the Admin Console, you configure the NVR by indicating where record files will be stored, and defining the maximum number of simultaneous recording the NVR will support (which is less than or equal to the licensed number of recordings). The record **Path** can be set to local hard drive on the NVR machine or to a network drive. In a Portal Server installation, from PCs or IPRs, end users can access NVR record features (record start/ record stop) through using the Portal Server. When a recording is initiated using the **Record** button on the **Live Media** page of the Portal Server, the record file is be automatically ingested to available VOD servers, based on the stream type (e.g. MPEG2, MPEG4, etc.) and user's permissions. After ingestion, the record file can be automatically deleted from record server based on the Global Settings configuration.

When a record is initiated through Scheduler interface of Portal Server, end users can specify whether they want to FTP the recorded file to available FTP servers or to ingest the recorded file to available VOD servers. They can also specify whether or not to automatically delete the file after a successful FTP or ingestion. (These options are not available in "batch" mode. If you select **Enable Batch**, the files are not FTPed and ingested; they are saved to `D:\Inetpub\ftproot\MCS\Record` and all other options are disabled.)

In a *standard* NVR configuration, live streams can be recorded (1) by using the **Record** button on the embedded player or (2) by using the **Scheduler** module. In a *standalone* NVR installation, recording can *only* be initiated from the **Scheduler** module using the interface as shown below in Figure 18. For a complete description of the Scheduler, see "Using the Scheduler" in the *Portal Server User Guide.*

Note To use a standard NVR, the Portal Server and the NVR must be installed and running. To use a standalone NVR, only the NVR application must be running.



Schedule Record

Schedule Name: Schedule Record

Start: Wed 10/24/2007 8:00 AM

End: Wed 10/24/2007 9:00 AM

Channel	Program Names	Type
2	1-CNN2	MPEG2
4	1-MSNBC	MPEG2
5	1-FOX_NEWS	MPEG2
6	1-MSNBC-2	MPEG2
9	VH1	MPEG2
10	SciFi	WMRTSP-VBStar
	` CD-MPEG1-2	MPEG1
	A EMB test	MPEG2
	AndyM-WM-MP2 Program 1	WMRTSP-VBStar
	AndyM-WM-MP2 Program 1	WM-VBStar
	AndyM-WM-MP2 Program 2	MPEG2

Record Source: ● Program Name ○ Manual Entry

Record To: ● NVR ○ VBrick

Figure 18. Portal Server "Schedule Record" Page

Chapter 7

Auto Content Ingestion

Topics in this section

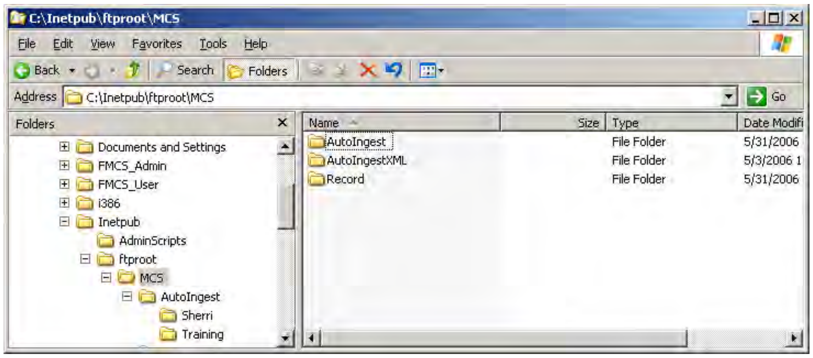
As explained in this chapter, there are two ways to autoingest content depending on your requirements. One method is to FTP or copy your video content to predefined folders on the Portal Server. The folders are monitored and the content is automatically ingested (autoingested) at periodic intervals. The second method is to use .xml files for content stored at remote locations or on mass storage devices. This method also supports metadata for search, copyright protection, maximum viewers, etc. In either case this document assumes you are an experienced user who is familiar with IIS, FTP and similar technologies.

AutoIngest Content

You can FTP or copy prerecorded content to the VEMS Portal Server for easy ingestion to the VOD server(s). The VEMS Portal Server periodically (every 5 minutes) polls certain folders for presence of content and if found ingests the content onto multiple VOD servers. This process is called *Automatic Content Ingestion* or *Autoingestion*. The content can come from a pushbutton recording on the Portal Server, a VBrick VBStar, or a file recorded with StreamPlayer Plus.

Note You cannot autoingest VBPresenter or other third-party presentations into the Portal Server. You must use the native FTP facilities in each application.

The content should be placed in a pre-defined sub-folder (`mcs\autoingest`) under the FTP root folder. This pre-defined folder is called the *autoingest root folder*. For example, if the FTP root is at `c:\inetpub\ftproot`, the content could be placed anywhere under `c:\inetpub\ftproot\MCS\AutoIngest`. In this example the `autoingest` root is `c:\inetpub\ftproot\MCS\AutoIngest`.



Name	Size	Type	Date Modifi
AutoIngest		File Folder	5/31/2006
AutoIngestXML		File Folder	5/3/2006 1
Record		File Folder	5/31/2006

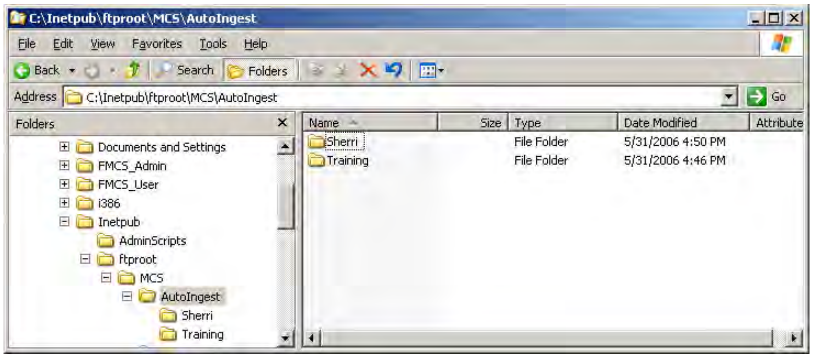
Note The default FTP path may be on a different drive, refer to the IIS default FTP configuration to confirm.

Content that is placed under the autoingest root folder on the VEMS Portal Server will be ingested into the root video folder on the VOD server provided that it is configured using the VEMS Portal Server Administrator interface. If you want to place content on a subfolder in the VOD server, that same folder would have to be created and configured using the VEMS Portal Server Admin interface as described below.

Go to **Global Settings > Servers > Add/Modify Video On-Demand Content Folders**. Here an existing or new folder can be associated with selected VOD servers for autoingestion. The folders are listed on the left with the path relative to autoingest root. The VOD servers are listed on the right inside the **Add/Modify Folders on Selected Servers** box. Select the desired folder and then select the target VOD servers to ingest content. Press **Submit**. The folder is now created under the autoingest root folder and configured. See Add/Modify Video On Demand Content Folders on page 44 for details.

Example

If under the root video folder on the VOD Server you had a folder (or want to create a folder) called `Training` and you wanted `trainingvideo.mpg` to be placed there,

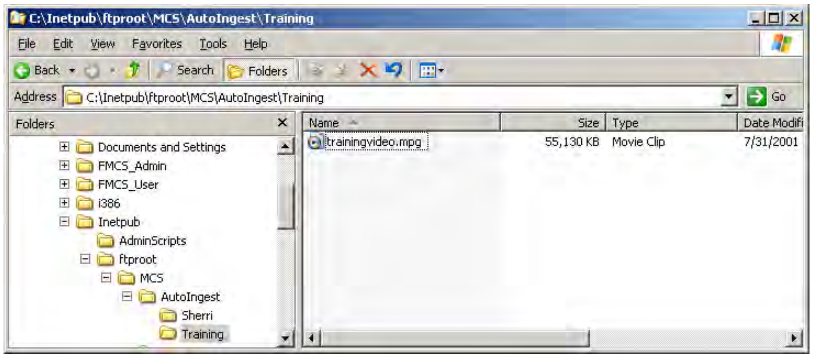


C:\Inetpub\ftproot\MCS\AutoIngest

Address C:\Inetpub\ftproot\MCS\AutoIngest

Name	Size	Type	Date Modified	Attribute
Sherri		File Folder	5/31/2006 4:50 PM	
Training		File Folder	5/31/2006 4:46 PM	

FTP the file to the Portal Server into `<drive:>\inetpub\ftproot\mcs\autoingest\training\`

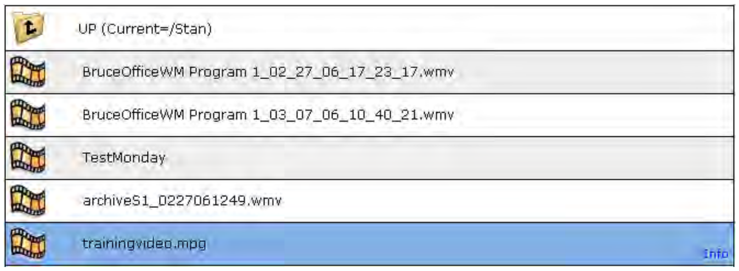


C:\Inetpub\ftproot\MCS\AutoIngest\Training

Address C:\Inetpub\ftproot\MCS\AutoIngest\Training

Name	Size	Type	Date Modifi
trainingvideo.mpg	55,130 KB	Movie Clip	7/31/2001

The VEMS Portal Server will then ingest the file automatically into the folder on the VOD server(s) that this folder is associated with. The file `trainingvideo.mpg` would be displayed on the VEMS Portal Server user interface in the Training folder.



UP (Current=/Stan)

BruceOfficeWM Program 1_02_27_06_17_23_17.wmv

BruceOfficeWM Program 1_03_07_06_10_40_21.wmv

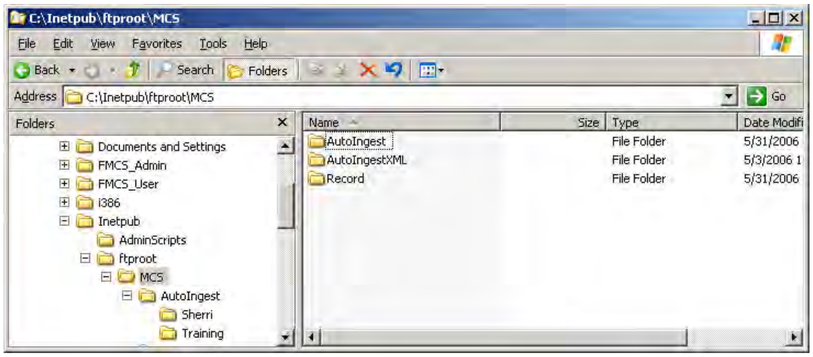
TestMonday

archiveS1_0227061249.wmv

trainingvideo.mpg

AutoIngest Content via XML

This feature lets you autoingest video files by placing an .xml file in the AutoIngestXML folder on the Portal Server. It also lets you associate metadata with the video such as maximum number of viewers for copyright protection, keyword tags for searching, etc. As explained below there are three ways (see Table 16) to use this feature depending on where the source files are located. The Portal Server monitors this folder for .xml command files and autoingests any files at five-minute intervals. The ingest command, target video file name, target VOD folder, and metadata to associate with the video are contained in the .xml file. Autoingest permissions are associated with an autoingest user that is defined using the Admin Console.



Name	Size	Type	Date Modifi
AutoIngest		File Folder	5/31/2006
AutoIngestXML		File Folder	5/3/2006 1
Record		File Folder	5/31/2006

The Portal Server autoingest folder is under FTP root on the Portal Server at /MCS/AutoIngestXML The video file and the .xml file must be FTPed (or copied) to this directory and the target video title must contain the fully qualified path to the destination. The autoingest user name as configured in the Portal Server Admin Console will be used to access available VOD servers. If the autoingest user does not have publishing rights for the VOD directory specified in the MCSTitle, the ingestion will fail.

Autoingest users must have VOD server access to at least one server capable of storing the video type (MPEG, WM, H.264). Only existing custom fields will be recognized and associated with the video (see Custom Fields on page 29 for more information). The Windows **Event Viewer** will log the ingest command, noting the full path and the .xml data contained in the command, and will also log the successful ingestion of the video.

▼ To create an autoingest user with publishing rights:

1. Open the Admin Console, go to **Users > Add User**, and create an autoingest user, e.g. AutoIngestUser.
2. On the same page, go to **Allow Access to Specific VOD Servers** and select the servers this user can access.

3. On the same page, go to **Allow Content Publishing** and select the folders this user can publish to.
4. Then go to **Global Settings > Global Assignments > Assign AutoIngest** and set the user you just defined as the **Current AutoIngest User**.

AutoIngestXML Modes

There are three modes of operation as shown in Table 16. The mode you use depends on *where* the source files are located.

Table 16. AutoIngest Modes

Mode	Description
Direct	The target source video file is FTPed to the AutoIngestXML folder. The video file and the .xml file must both be FTPed to this folder. In Direct mode, you must FTP the video file first or the ingestion will fail.
Absolute	WM files only. The target source video file resides in a folder on the Portal Server. Only the .xml file is FTPed to the AutoIngestXML folder. This is useful for mass storage devices because you do not have to copy the files to the AutoIngestXML folder on the Portal Server.
Remote FTP †	MPEG Files only. The target source video file resides on a remote FTP server. Only the .xml file is FTPed to the AutoIngestXML folder.

† Not available for VOD-D (Darwin) servers. Use Direct mode only to AutoIngest to VOD-D servers.

Using the XML Template

There are three named templates in the VBrick\MCS\utils folder for Direct, Absolute, and Remote FTP files. Use the appropriate template to manually create an .xml file for *each* video file. Use Notepad, TextPad, or a similar tool and then FTP this file (and the video in Direct mode) to the AutoIngestXML folder on the Portal Server. (In Direct mode, you must FTP the video file first or the ingestion will fail.) The filename can be any alphanumeric string with an .xml extension. The following code shows a sample .xml file that uses the Direct mode template. **The template for each mode is the same except for the SourceFileName and SourceFileType tags**. Table 17 explains the required format for these tags.

```
<?xml version="1.0" encoding="utf-8"?>
<AutoIngestCmd version="1.0">
  <Command>ingest</Command>
  <Ingest>
    <MCSTitle>/VODFolder/Spiderman Returns</MCSTitle>
    <Keywords>Ingest001</Keywords>
    <Description>My ingested Video</Description>
    <Expiration>20060430-1130</Expiration>
    <SourceFileName>Ingest002.wmv</SourceFileName>
    <SourceFileType>WM</SourceFileType>
    <MaxViewers>-1</MaxViewers>
    <FileLink filename="myfile.ppt" url="http://www.google.com/" />
    <FileLink filename="myother.ppt" url="http://www.google.com/" />
    <CustomFields>
        <Field name="CustomTextField1" value="Value1" />
        <Field name="CustomTextField2" value="Value2" />
        <Field name="CustomDropField1" value="one" />
        <Field name="CustomDropField2" value="two" />
    </CustomFields>
  </Ingest>
</AutoIngestCmd>
```

Table 17. AutoIngestXML Tags

Tag	Description
Command	Required. Must be set to `ingest`.
MCSTitle	Required. Cannot be blank. Must begin with "/" and contains fully qualified path to destination VOD folder/title on the Portal Server. The autoingest user name must have publishing rights for VOD target folder.
Keywords	Optional. Keywords associated with this video. Used for search.
Description	Optional. Description of the video. Used for search.
Expiration	Optional. Content expiration specifier, e.g. `20060430-1130`. Format: `yyyymmdd-hhmm` Used for copyright protection.
SourceFileName	Required. Contains the source video file name to be ingested. The format of this data determines the mode of operation. • Direct – All files. This file must reside in the `AutoIngestXML` directory (*it must be FTPed first*) on the Portal Server. This file will ultimately be copied to one or more VOD servers. The format is simply the filename for example: `ingest001.wmv` • Absolute – WM files only. This file must reside in a folder on the Portal Server. The format for this data is: `[absolutepath]<FullLocPath>` for example `[absolutepath]c:/Temp/ingest002.wmv` • Remote FTP – MPEG Files only. This file resides on a remote FTP server. The format for this data is: `ftp://username:password@FTPServerURL/subdirectory/Filename` For example: `ftp://videos:videos@172.22.2.1/videos/ingest0003.mpg` where the FTP protocol string, username, password, FTP URL, subdirectory, and file name are specified in the string in a fixed format.
SourceFileType	Format type of the video files: WM, H.264, MPEG-1, MPEG-2, MPEG-4. Required for Absolute and FTP Remote modes; not used with Direct.
MaxViewers	Optional. Maximum number of concurrent viewers allowed. -1 = unlimited. If unspecified, -1 (unlimited) is assumed.
FileLink	Optional. 0–n file reference links to associate with this video. Each file link requires a filename (e.g. `"myfile.ppt"`) and a URL.

Tag	Description
CustomFields	Optional. 0–n custom fields to associate with this video. See Custom Fields on page 29 for more information. Each custom field must contain: • name – must be already defined in Portal Server or field will be ignored. • value – dropdown list boxes only; must be already defined in Portal Server or field will be ignored.

Removing MPEG-4 Closed Captions

MPEG-4 files with closed captions cannot be added to NXG servers until the closed caption track is removed. The VEMS Portal Server will display an error message if you try to add such files. VBrick provides a utility to remove the closed captions track from an MPEG-4 file if necessary. It is installed with VEMS Portal Server in `c:\program files\vbrick\utils`

▼ To remove the closed captions track from MPEG-4 files:

1. Go to `c:\program files\vbrick\MCS\utils` and double-click `CCTrackRemover.exe`
2. Enter an **MPEG-4 File Name** and click **Remove CC Track**. Depending on the size of the file it may take a few moments to complete.
3. When done, you can add or autoingest the video file as necessary.

Chapter 8

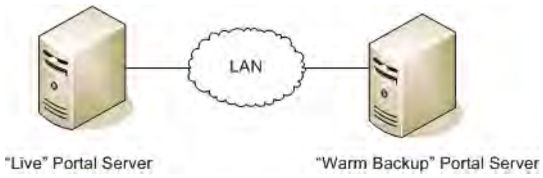
Automatic System Backup

This chapter explains how to use VEMS Backup to create a warm backup Portal Server. VEMS Backup is an optional software application. If you did not purchase VEMS Backup, you can backup key Portal Servers files and directories manually. See Manual System Backup on page 161 **for details.**

Topics in this section

Overview

Enterprise Media System Backup is a highly-automated standalone application that backs up key directories on the Portal Server at periodic intervals. VEMS Backup requires two separate Portal Server machines: a "warm backup" Portal Server and a "live" Portal Server. *They must both have the same version of the Portal Server software installed.* During a scheduled backup, VEMS Backup copies new or changed files and ensures that the data on the warm backup always matches the data on the live Portal Server.



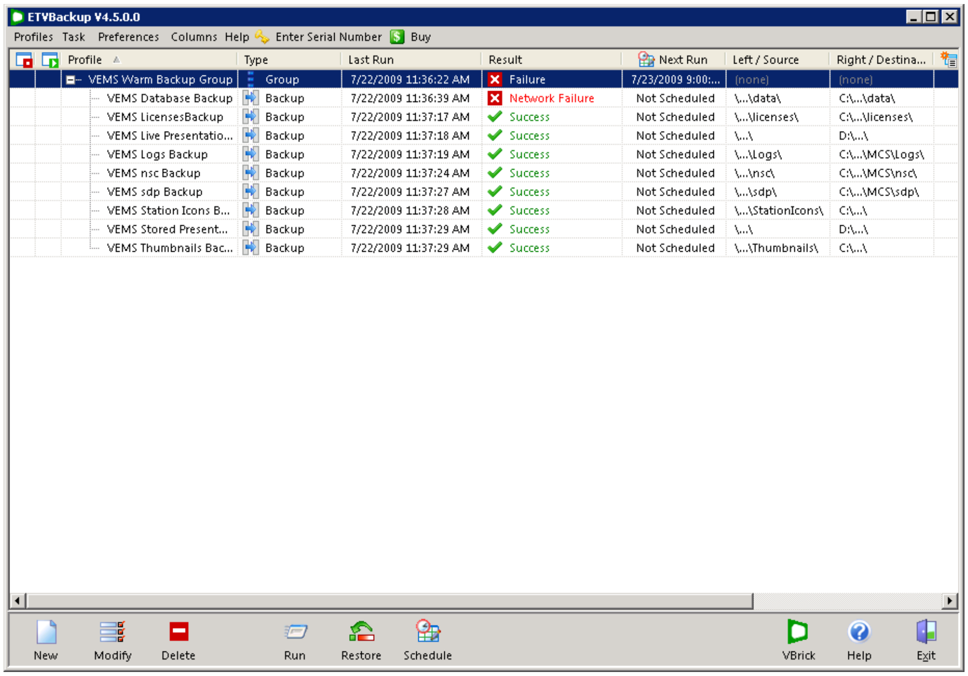
Warm backup is the process of copying key directories and files from a "live" (primary) Portal Server to a "warm backup" (secondary) server. These directories and files are backed up on a scheduled periodic basis (every 10 minutes) and a configurable number of archive versions are kept on the backup server. The warm backup will not function as a Portal Server while it is in warm backup mode. If the live Portal Server fails for any reason, you can quickly convert the backup server into the live server by performing a few simple steps. The warm backup then becomes the "live" primary server.

VEMS Backup is an optional Enterprise Media System component with its own license. *VEMS Backup does not provide a redundant "hot" standby server, nor does it backup video content.* VEMS Backup is designed to provide a "warm" backup server for key Portal Server data files and for the metadata describing your content. There is no installation procedure. VEMS Backup is automatically installed and requires only a license key. This document describes how to configure a warm backup and how to turn a warm backup server into a live server. Once it is properly configured, VEMS Backup will automatically run every ten minutes and no additional configuration or user action is required.

Note VEMS Backup is tightly integrated with the Portal Server and backs up key directories and files. VBrick does not support any user customization of this product or any non-VEMS Portal Server uses of the software.

VEMS Backup Profiles

The folders shown below are automatically backed up from the live server to the warm server. As shown in the window, each key Portal Server directory is preconfigured with a corresponding "profile." Note that Portal Server license files are specific to the server hardware on which they are installed. For this reason they are backed up on the warm server in an alternate location under the VEMS application directory so that they do not overwrite the warm backup server's own license files.



Profile	Type	Last Run	Result	Next Run	Left / Source	Right / Destina...
VEMS Warm Backup Group	Group	7/22/2009 11:36:22 AM	☒ Failure	7/23/2009 9:00:...	(none)	(none)
VEMS Database Backup	Backup	7/22/2009 11:36:39 AM	☒ Network Failure	Not Scheduled	\...\data\	C:\...\data\
VEMS LicensesBackup	Backup	7/22/2009 11:37:17 AM	✓ Success	Not Scheduled	\...\licenses\	C:\...\licenses\
VEMS Live Presentatio...	Backup	7/22/2009 11:37:18 AM	✓ Success	Not Scheduled	\...\	D:\...\
VEMS Logs Backup	Backup	7/22/2009 11:37:19 AM	✓ Success	Not Scheduled	\...\Logs\	C:\...\MCS\Logs\
VEMS nsc Backup	Backup	7/22/2009 11:37:24 AM	✓ Success	Not Scheduled	\...\nsc\	C:\...\MCS\nsc\
VEMS sdp Backup	Backup	7/22/2009 11:37:27 AM	✓ Success	Not Scheduled	\...\sdp\	C:\...\MCS\sdp\
VEMS Station Icons B...	Backup	7/22/2009 11:37:28 AM	✓ Success	Not Scheduled	\...\StationIcons\	C:\...\
VEMS Stored Present...	Backup	7/22/2009 11:37:29 AM	✓ Success	Not Scheduled	\...\	D:\...\
VEMS Thumbnails Bac...	Backup	7/22/2009 11:37:29 AM	✓ Success	Not Scheduled	\...\Thumbnails\	C:\...\

Table 18. Enterprise Media System Reporter Backup Profiles

Profile Name	VEMS **Folder Location**
VEMS Database Backup	`C:\Program Files\MySQL\MySQL Server 5.0`
VEMS LicensesBackup	`C:\Program Files\VBrick\MCS\licenses`
VEMS Live Presentations Backup	`MCSPresentations` (virtual directory)
VEMS Logs Backup	`C:\Program Files\VBrick\MCS\Logs\`
VEMS nsc Backup	`C:\Program Files\VBrick\MCS\nsc`
VEMS sdp Backup	`C:\Program Files\VBrick\MCS\sdp`
VEMS Station Icons Backup	`StationIcons` (virtual directory under MCS application)
VEMS Stored Presentations Backup	`Presentations` (virtual directory)
VEMS Thumbnails Backup	`C:\Program Files\VBrick\MCS\Images\Thumbnails`

Configuring VEMS Backup

▼ To configure Enterprise Media System Backup, you must perform all of the following steps in the exact sequence shown:

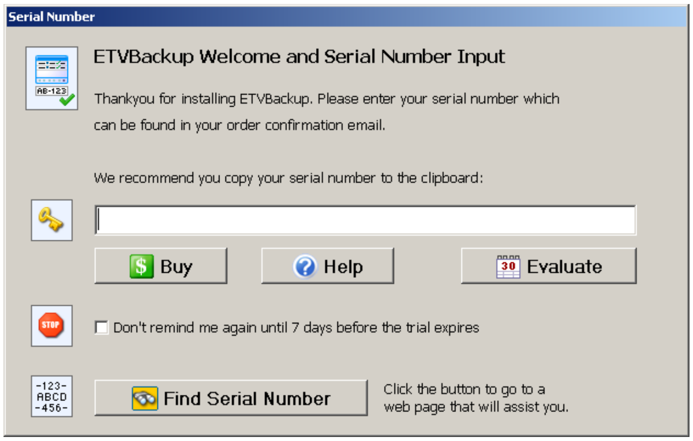
1. Enter License Key.
2. Set Profile IP Addresses.
3. Configure the Scheduler.
4. Reset Database Backup Versioning.
5. Enable the Warm Backup Server.
6. Test the Configuration.

1. Enter License Key

The first time you launch VEMS Backup, you will be prompted for a license key. This key is attached to the "Software Activation Keys" card shipped with the VEMS server.

▼ To enter the license key:

1. Find your license key on the "Software Activation Keys" card, type it into Notepad, and copy it to the clipboard (Ctrl-C).
2. Launch VEMS Backup: go to **Start > Programs > VBrick > ETV Backup**.
3. When the Serial Number window is displayed, paste the license key into the window (Ctrl-V) and the VEMS Backup application will automatically be launched.



Serial Number

ETVBackup Welcome and Serial Number Input

Thankyou for installing ETVBackup. Please enter your serial number which can be found in your order confirmation email.

We recommend you copy your serial number to the clipboard:

□ Don't remind me again until 7 days before the trial expires

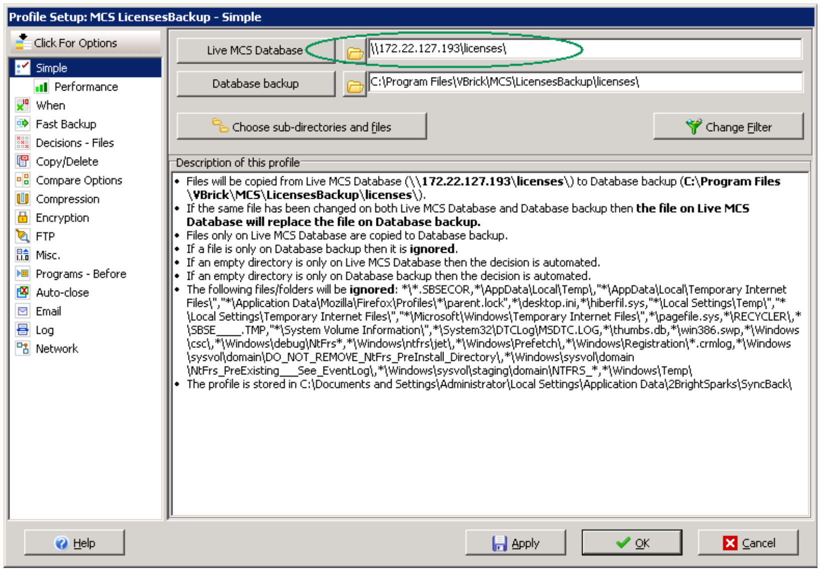
Click the button to go to a web page that will assist you.

2. Set Profile IP Addresses

VEMS Backup is shipped with a preconfigured profile "group" called MCS Warm Backup Group. This group has individual profiles corresponding to all of the key Portal Server directories that need to be backed up. All VEMS Backup functions use this preconfigured group. Before you can run VEMS Backup you need to set the IP addresses for *each* of the individual profiles in MCS Warm Backup Group. These addresses must correspond to the actual IP address of your live Portal Server.

▼ To set the profile IP addresses:

1. Double-click on the first profile (or right-click and select **Modify**) in the group which is MCS Database Backup. (This should open the following window. If not check that **Preferences > Double-click Action** is set to **Modify the profile**.)



Live MCS Database \\172.22.127.193\licenses\

Database backup C:\Program Files\VBrick\MCS\LicensesBackup\licenses\

Description of this profile

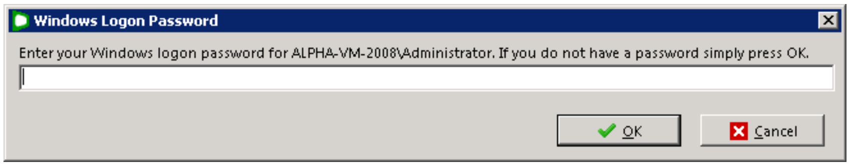
- Files will be copied from Live MCS Database (**172.22.127.193****licenses**\) to Database backup (**C:****Program Files****VBrick****MCS****LicensesBackup****licenses**\).
- If the same file has been changed on both Live MCS Database and Database backup then **the file on Live MCS Database will replace the file on Database backup.**
- Files only on Live MCS Database are copied to Database backup.
- If a file is only on Database backup then it is **ignored**.
- If an empty directory is only on Live MCS Database then the decision is automated.
- If an empty directory is only on Database backup then the decision is automated.
- The following files/folders will be **ignored**: **.SBSECOR,*\AppData\Local\Temp\,"*\AppData\Local\Temporary Internet Files\","*\Application Data\Mozilla\Firefox\Profiles\*\parent.lock",*\desktop.ini,*\hiberfil.sys,"*\Local Settings\Temp\","*\Local Settings\Temporary Internet Files\","*\Microsoft\Windows\Temporary Internet Files\",*\pagefile.sys,*\RECYCLER\,*\SBSE____.TMP,"*\System Volume Information\",*\System32\DTCLog\MSDTC.LOG,*\thumbs.db,*\win386.swp,*\Windows\csc\,*\Windows\debug\NtFrs*,*\Windows\ntfrs\jet\,*\Windows\Prefetch\,*\Windows\Registration\*.crmlog,*\Windows\sysvol\domain\DO_NOT_REMOVE_NtFrs_PreInstall_Directory\,*\Windows\sysvol\domain\NtFrs_PreExisting___See_EventLog\,*\Windows\sysvol\staging\domain\NTFRS_*,*\Windows\Temp\
- The profile is stored in C:\Documents and Settings\Administrator\Local Settings\Application Data\2BrightSparks\SyncBack\

2. In the **Live MCS Database** field, replace the IP address shown with the IP address (or server machine name) of your live Portal Server. Do not change anything else in the path.
3. The **Database backup** field is populated automatically. Do not change anything in this field.
4. Click **OK** when done and repeat these steps for each of the other profiles.

3. Configure the Scheduler

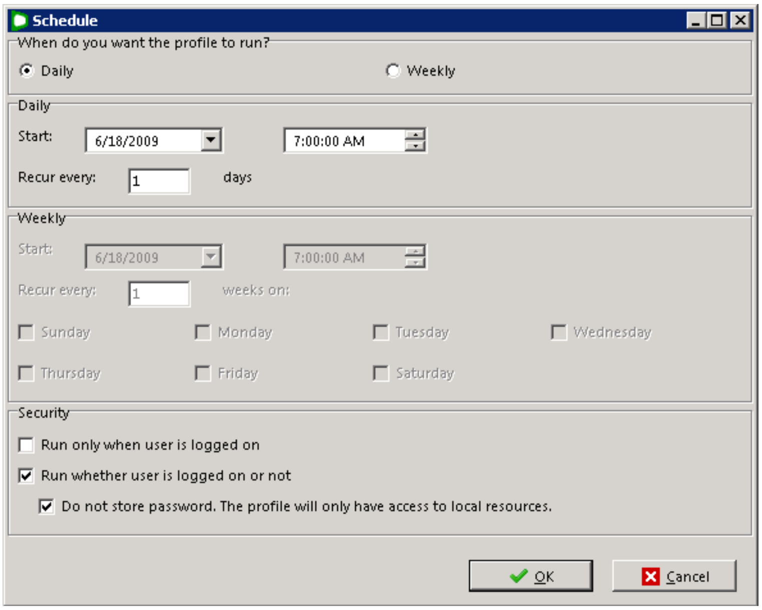
▼ To configure the Scheduler:

1. Right-click on MCS Warm Backup Group and select **Schedule**.
2. When the popup window is displayed, click **Yes** to create a schedule.



Enter your Windows logon password for ALPHA-VM-2008\Administrator. If you do not have a password simply press OK.

3. Be sure a user with administrative privileges on the server machine is shown in the **Run as** box. Then enter the password associated with that user and click **OK**.



When do you want the profile to run?

● Daily ○ Weekly

Daily

Start: 6/18/2009 7:00:00 AM

Recur every: 1 days

Weekly

Start: 6/18/2009 7:00:00 AM

Recur every: 1 weeks on:

□ Sunday □ Monday □ Tuesday □ Wednesday

□ Thursday □ Friday □ Saturday

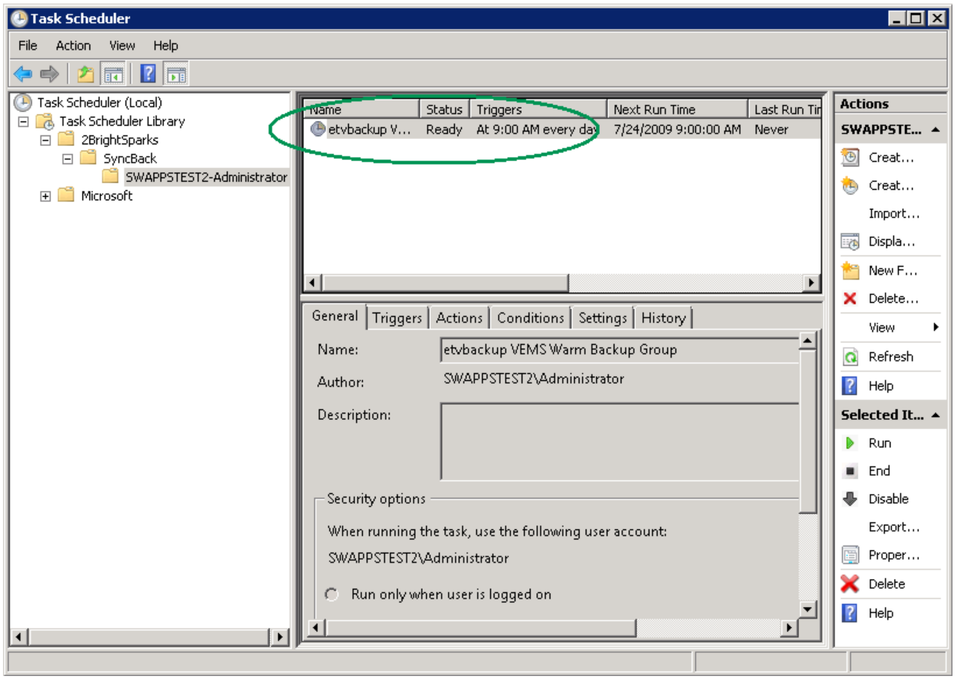
Security

□ Run only when user is logged on

☑ Run whether user is logged on or not

☑ Do not store password. The profile will only have access to local resources.

4. On the "Schedule" window, click **OK** and **OK** to exit.
5. On the Windows Web Server 2008 desktop, go to **Start > Administrative Tools > Task Scheduler**.
6. Expand **Task Scheduler Library > 2BrightSparks > SyncBack** and double-click on **SWAPPS-Administrator**.



Name	Status	Triggers	Next Run Time	Last Run Ti
etvbackup V...	Ready	At 9:00 AM every day	7/24/2009 9:00:00 AM	Never

Name: etvbackup VEMS Warm Backup Group

Author: SWAPPSTEST2\Administrator

Description:

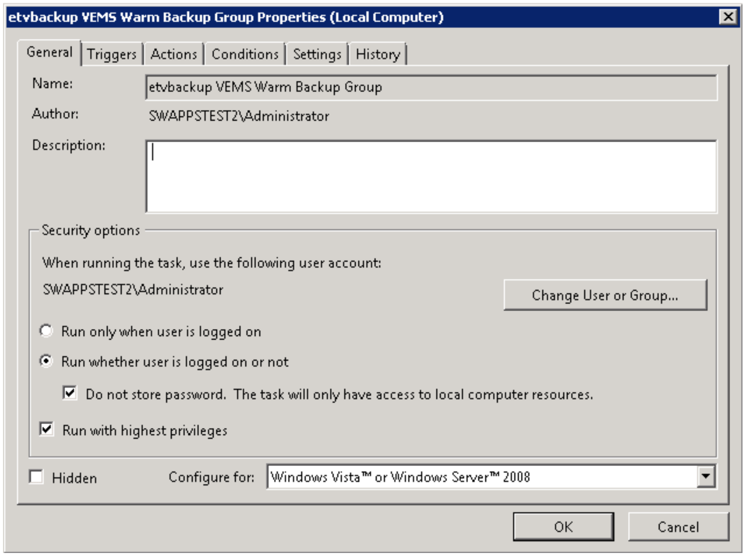
Security options

When running the task, use the following user account:

SWAPPSTEST2\Administrator

○ Run only when user is logged on

7. In the upper pane, double-click on **etvbackup VEMS Warm Backup Group** to display the properties page.



Name: etvbackup VEMS Warm Backup Group

Author: SWAPPSTEST2\Administrator

Description:

Security options

When running the task, use the following user account:

SWAPPSTEST2\Administrator

○ Run only when user is logged on

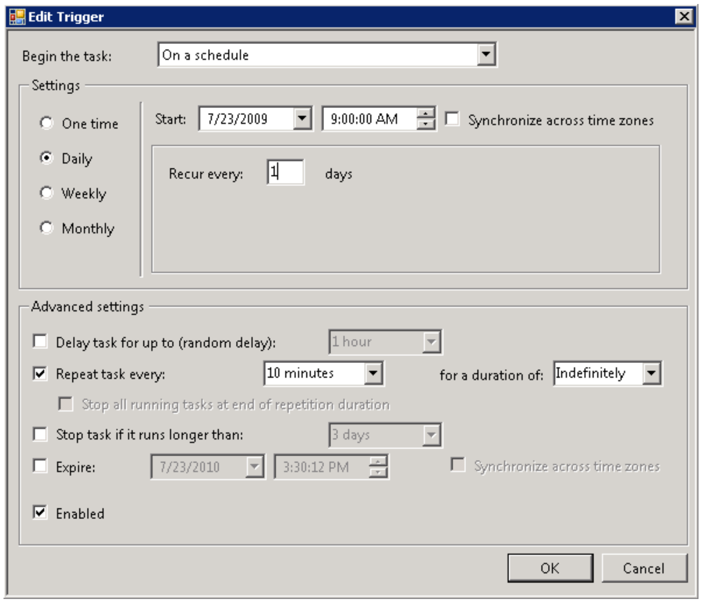
● Run whether user is logged on or not

☑ Do not store password. The task will only have access to local computer resources.

☑ Run with highest privileges

□ Hidden Configure for: Windows Vista™ or Windows Server™ 2008

8. Click on the **Triggers** tab and click **Edit**.



Begin the task: On a schedule

Settings

○ One time

● Daily

○ Weekly

○ Monthly

Start: 7/23/2009 9:00:00 AM □ Synchronize across time zones

Recur every: 1 days

Advanced settings

□ Delay task for up to (random delay): 1 hour

☑ Repeat task every: 10 minutes for a duration of: Indefinitely

□ Stop all running tasks at end of repetition duration

□ Stop task if it runs longer than: 3 days

□ Expire: 7/23/2010 3:30:12 PM □ Synchronize across time zones

☑ Enabled

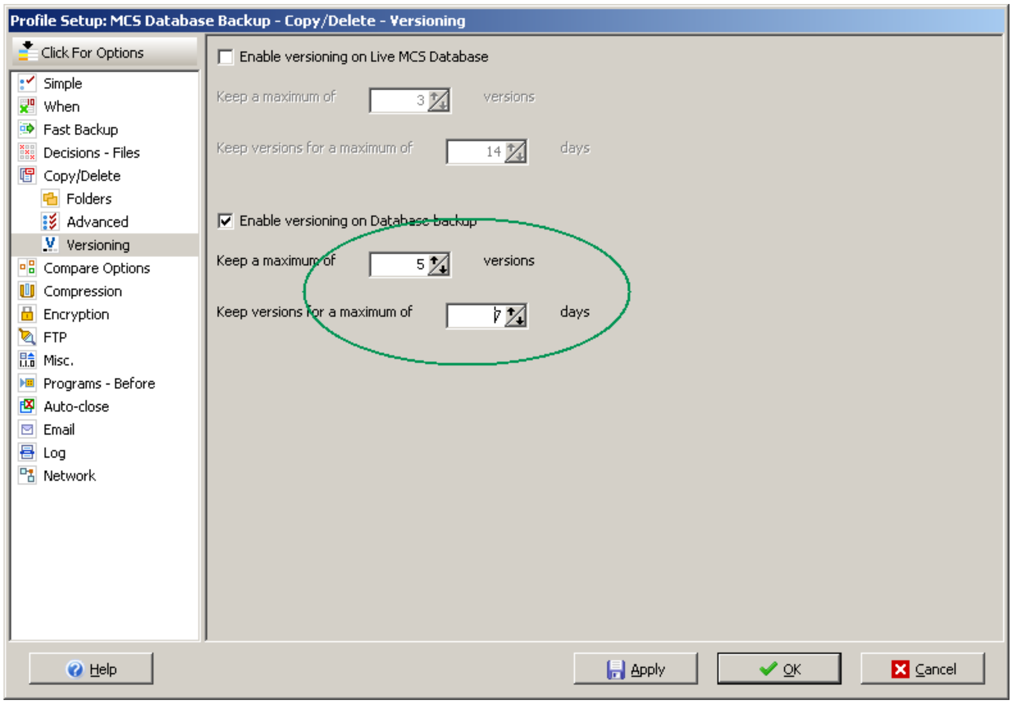
9. Select **Repeat task every** 10 minutes, set **for a duration of** Indefinitely, and click **OK**.

4. Reset Database Backup Versioning

This step is important. Do not omit this step.

▼ To reset database backup versioning:

1. Right-click on VEMS Database Backup and select **Modify**.
2. Then go to **Copy/Delete > Versioning** in the left navigation pane and set maximum versions to **5** and maximum days to **7**.


Profile Setup: MCS Database Backup - Copy/Delete - Versioning

☐ Enable versioning on Live MCS Database

Keep a maximum of 3 versions

Keep versions for a maximum of 14 days

☑ Enable versioning on Database backup

Keep a maximum of 5 versions

Keep versions for a maximum of 7 days

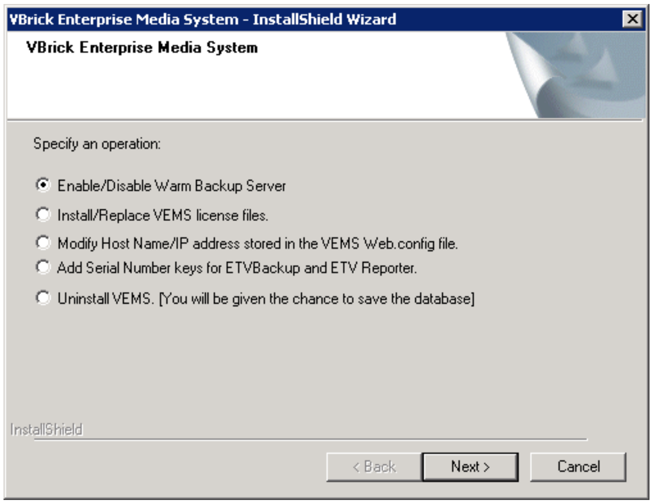
3. Click **OK** and minimize the application—do not exit.

5. Enable the Warm Backup Server

If you purchased VEMS Backup, two Portal Servers will be present at your site—one of which must be configured as a warm backup. *By default, the warm backup option is disabled on both servers.*

▼ To enable a warm backup server:

1. On the server machine that will be used as the warm backup, go to **Start > Control Panel > Programs and Features**.
2. Select **VBrick Enterprise Media System** and click **Uninstall/Change**. Then select **Enable/ Disable Warm Backup Server** and click **Next**.


VBrick Enterprise Media System - InstallShield Wizard

VBrick Enterprise Media System

Specify an operation:

● Enable/Disable Warm Backup Server

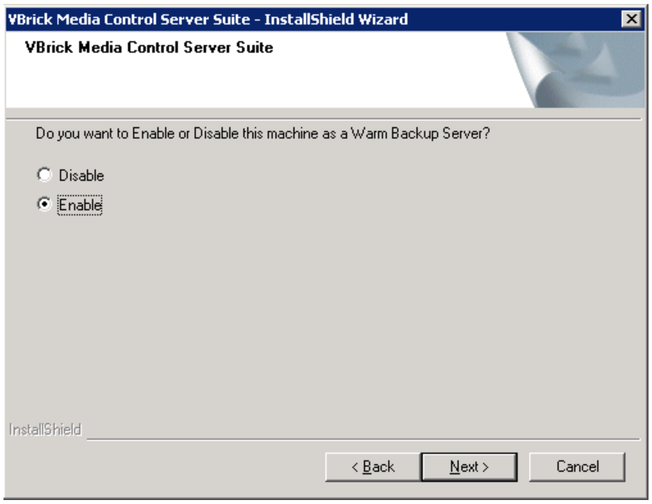
○ Install/Replace VEMS license files.

○ Modify Host Name/IP address stored in the VEMS Web.config file.

○ Add Serial Number keys for ETVBackup and ETV Reporter.

○ Uninstall VEMS. [You will be given the chance to save the database]

3. Then select **Enable** and click **Next**, then **OK** to exit. This will enable the machine as a warm backup. This will complete the configuration and there is no need to reboot the server.



VBrick Media Control Server Suite - InstallShield Wizard

VBrick Media Control Server Suite

Do you want to Enable or Disable this machine as a Warm Backup Server?

○ Disable
● Enable

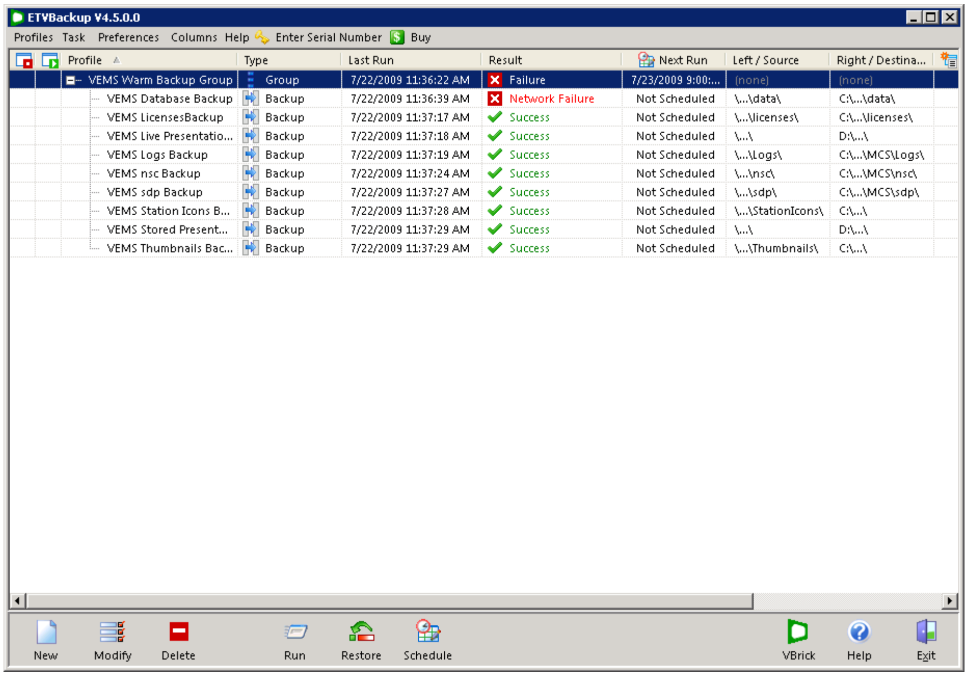
4. When finished, launch VEMS Backup using the desktop icon.

6. Test the Configuration

When you are finished configuring the IP addresses, click the **Run** icon in the navigation footer. All backup profiles should run without errors and a window similar to the one shown below will report a successful backup for each profile. If problems occur, for example if you entered an invalid IP address, the window will report any failures. Correct the problems using the information provided in the log window and try again.

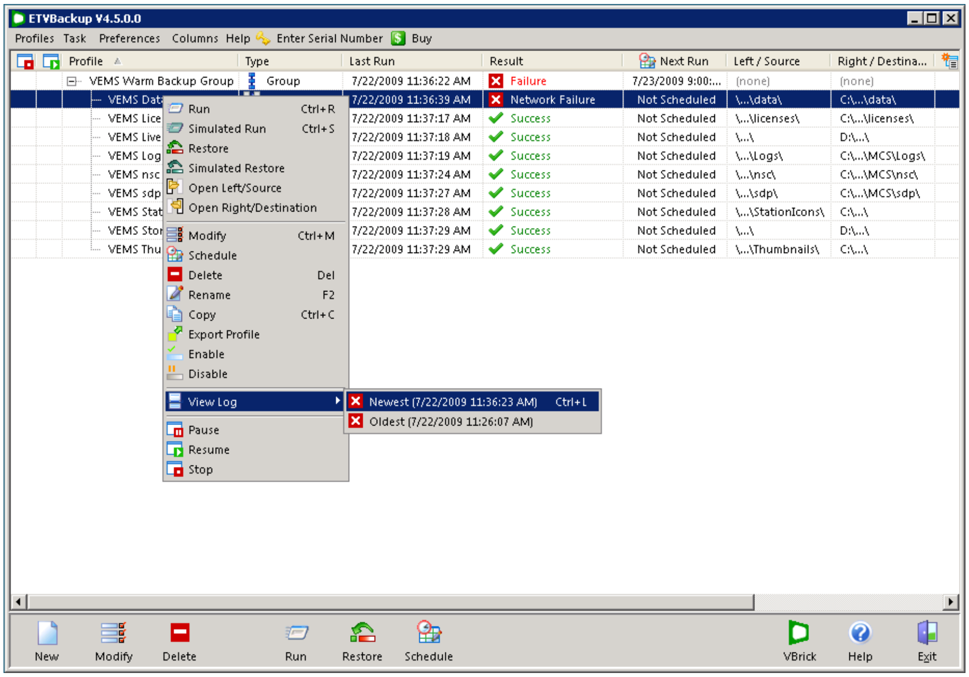
▼ To test the configuration:

1. Highlight the MCS Warm Backup Group and click **Run**.
2. Click **Continue Run** for each Differences for profile: xxxxx window and then **OK**.
3. If no errors occur, a window similar to the one shown below will be displayed.



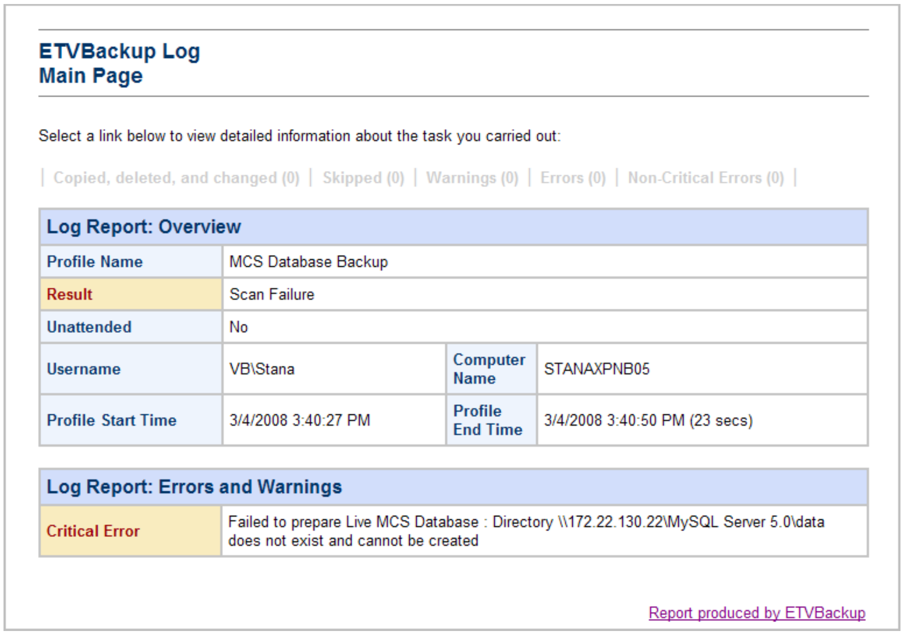
Profile	Type	Last Run	Result	Next Run	Left / Source	Right / Destina...
VEMS Warm Backup Group	Group	7/22/2009 11:36:22 AM	☒ Failure	7/23/2009 9:00:...	(none)	(none)
VEMS Database Backup	Backup	7/22/2009 11:36:39 AM	☒ Network Failure	Not Scheduled	\...\data\	C:\...\data\
VEMS LicensesBackup	Backup	7/22/2009 11:37:17 AM	✓ Success	Not Scheduled	\...\licenses\	C:\...\licenses\
VEMS Live Presentatio...	Backup	7/22/2009 11:37:18 AM	✓ Success	Not Scheduled	\...\	D:\...\
VEMS Logs Backup	Backup	7/22/2009 11:37:19 AM	✓ Success	Not Scheduled	\...\Logs\	C:\...\MCS\Logs\
VEMS nsc Backup	Backup	7/22/2009 11:37:24 AM	✓ Success	Not Scheduled	\...\nsc\	C:\...\MCS\nsc\
VEMS sdp Backup	Backup	7/22/2009 11:37:27 AM	✓ Success	Not Scheduled	\...\sdp\	C:\...\MCS\sdp\
VEMS Station Icons B...	Backup	7/22/2009 11:37:28 AM	✓ Success	Not Scheduled	\...\StationIcons\	C:\...\
VEMS Stored Present...	Backup	7/22/2009 11:37:29 AM	✓ Success	Not Scheduled	\...\	D:\...\
VEMS Thumbnails Bac...	Backup	7/22/2009 11:37:29 AM	✓ Success	Not Scheduled	\...\Thumbnails\	C:\...\

4. If errors occur, right-click on the failed profile and select **View Log > Newest**.



Profile	Type	Last Run	Result	Next Run	Left / Source	Right / Destina...
VEMS Warm Backup Group	Group	7/22/2009 11:36:22 AM	☒ Failure	7/23/2009 9:00:...	(none)	(none)
VEMS Dat		7/22/2009 11:36:39 AM	☒ Network Failure	Not Scheduled	\...\data\	C:\...\data\
VEMS Lice		7/22/2009 11:37:17 AM	✓ Success	Not Scheduled	\...\licenses\	C:\...\licenses\
VEMS Live		7/22/2009 11:37:18 AM	✓ Success	Not Scheduled	\...\	D:\...\
VEMS Log		7/22/2009 11:37:19 AM	✓ Success	Not Scheduled	\...\Logs\	C:\...\MCS\Logs\
VEMS nsc		7/22/2009 11:37:24 AM	✓ Success	Not Scheduled	\...\nsc\	C:\...\MCS\nsc\
VEMS sdp		7/22/2009 11:37:27 AM	✓ Success	Not Scheduled	\...\sdp\	C:\...\MCS\sdp\
VEMS Stat		7/22/2009 11:37:28 AM	✓ Success	Not Scheduled	\...\StationIcons\	C:\...\
VEMS Stor		7/22/2009 11:37:29 AM	✓ Success	Not Scheduled	\...\	D:\...\
VEMS Thu		7/22/2009 11:37:29 AM	✓ Success	Not Scheduled	\...\Thumbnails\	C:\...\

5. This will displayed detailed information (see below) that you can use to correct the error.
6. When done, highlight the failed profile and run again until successful.



ETVBackup Log
Main Page

Select a link below to view detailed information about the task you carried out:

| Copied, deleted, and changed (0) | Skipped (0) | Warnings (0) | Errors (0) | Non-Critical Errors (0) |

Log Report: Overview			
Profile Name	MCS Database Backup		
Result	Scan Failure		
Unattended	No		
Username	VB\Stana	Computer Name	STANAXPNB05
Profile Start Time	3/4/2008 3:40:27 PM	Profile End Time	3/4/2008 3:40:50 PM (23 secs)

Log Report: Errors and Warnings	
Critical Error	Failed to prepare Live MCS Database : Directory \\172.22.130.22\MySQL Server 5.0\data does not exist and cannot be created

Report produced by ETVBackup

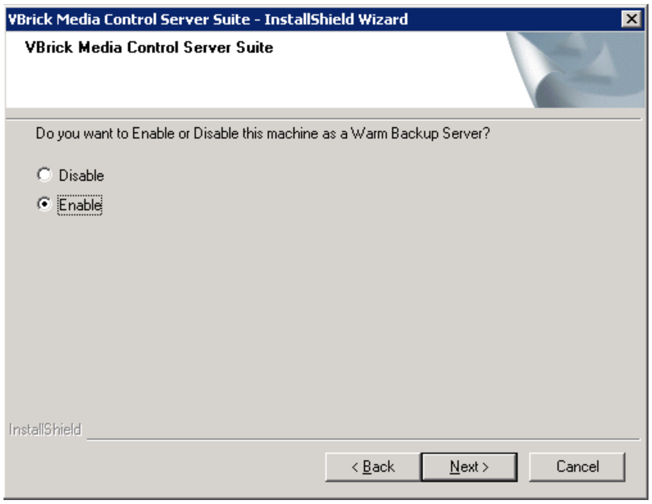
Turning a Warm Backup Server into a Live Server

A Portal Server can experience a hardware failure for a variety of reasons. If the hardware fails, you may be unable to communicate with the server via a web browser, the Remote Desktop utility, or any other means. Since there will be no web access, end users may get a "404 page not found," server timeout, or similar message. If this happens, remove the server from service and turn the warm backup into the primary server as explained here. This procedure only takes a minute or two. *After fixing or replacing the failed primary server, you can then re-configure it as a warm backup or as the primary server.*

Note In most cases, the changeover to a warm backup server will be totally transparent to end user (client) viewers. If they are watching a live or a stored VOD video when the changeover occurs, there will be no disruption to the video viewing.

▼ To turn a warm backup server into a live server:

1. On the warm backup machine, open the **Add or Remove Programs** window on the **Control Panel** and click **Change/Remove** on the **VBrick Media Control Server Suite**.
2. Then click **Disable** to disable the warm backup and make this machine your live server. *You will no longer have a warm backup server.*



VBrick Media Control Server Suite - InstallShield Wizard

VBrick Media Control Server Suite

Do you want to Enable or Disable this machine as a Warm Backup Server?

○ Disable

● Enable

3. If you want viewers to use the same host name for the Portal Server after turning a warm backup into a live server, a network administrator will have to change the IP address or DNS entry to match the new address.

Bringing a Failed Machine Back Online

Bring a Failed Machine Back Online as a Warm Backup

▼ To bring a failed machine back online as a *warm backup* server:

1. Configure the fixed machine as a warm backup. Repeat *all* of the configuration steps described earlier (see Configuring VEMS Backup on page 151). Be sure to replace the profile IP addresses with the IP address (or server machine name) of the *new* live Portal Server. Make sure you don't put both the live server and the warm backup server online at the same time with the same IP address.
2. After fixing or replacing the failed server, go to **Add or Remove Programs** and **Enable** this machine as a warm backup—not as a live Portal Server. You can only have one Live Portal server configured at a time.

   (If you want viewers to use the same host name for the Portal Server after turning a fixed machine into a warm backup, a network administrator will have to change the IP address or DNS entry to match the new address.)
3. After performing these steps, the new primary server will acquire the backed up directories and files from the old primary server as soon as you test the configuration.

Bring a Failed Machine Back Online as a Primary Server

▼ To bring a failed machine back online as a *primary* server:

1. **Follow Steps 1–3 above to first bring a failed machine back online as a warm backup.** You must perform these steps first. *If you do not, you risk losing all existing backup data.*
2. Go to **Add or Remove Programs** and **Disable** this machine as a warm backup.
3. Go to **Add or Remove Programs** on the other server and **Enable** that machine as a warm back.

Software Installation

Enterprise Media System Backup requires a license key. If your VEMS purchase included VEMS Backup, the license key will be installed by VBrick prior to shipment. If you ever need to re-install the software, the license key is attached to the "Software Activation Keys" card that is included with the server. If you purchase VEMS Backup separately, VBrick will send a "Software Activation Keys" card with the new license key attached. Launch VEMS Backup and enter this license key, when prompted, to activate the software.

Chapter 9

Manual System Backup

This chapter explains how to manually backup key system files and directories on the Portal Server. If you purchased Enterprise Media System Backup, this process is automatic. See Automatic System Backup on page 149 **for details.**

The Enterprise Media System Portal Server uses MySQL to manage the database of users and groups, and also the video *information* related to content on the VOD Servers. Note that this procedure backs up information in the MySQL database and key directories only. *It does not back up any video content you may have stored on attached VOD servers.* (To back up video content, you will likely need a backup strategy and a robust storage capability.) Use this procedure when removing the VOD server for troubleshooting purposes, or when upgrading the software, in order to avoid the loss of this content information. This procedure can also be helpful for load balancing and failover. It can simplify the task of maintaining multiple servers with the same information.Note that *In order to backup database files, you will need administrative access to the VEMS Portal Server and a safe location to store the backup database and files.*

Topics in this section

System Backup

To ensure a successful system backup, you must follow the exact sequence of steps shown below. Also, since this process will interrupt any streaming video, you may want to schedule this procedure at night or during non-business hours.

▼ To back up the system:

1. Log into the Portal Server as the Administrator.
2. The MySQL Service will need to be stopped in order to have a clean copy of the database. Go to **Start > Control Panel > Administrative Tools > Services**.
3. Right-click on **MySQL** in the right pane and select **Stop**. There will be a list of other services that will stop. Take note of these other services and select **Yes**.
4. The Service Control window will show the progress of the Services being stopped. After the services have stopped minimize the Services window.
5. Open **My Computer** and save copies of the following directories in a safe backup location.

   C:\Program Files\MySQL\MySQL Server x.x\data
   C:\Program Files\VBrick\MCS\licenses
   C: \Program Files\VBrick\MCS\MCSPresentations
     or D:\VBrick\MCSPresentations
   C: \Program Files\VBrick\MCS\Presentations
     or D:\VBrick\Presentations
   C:\Program Files\VBrick\MCS\Logs\

C:\Program Files\VBrick\MCS\nsc
C:\Program Files\VBrick\MCS\sdp
C:\Program Files\VBrick\MCS\StationIcons
C:\Program Files\VBrick\MCS\Images\Thumbnails

6. To restart the **Services**, maximize the **Services** window.
7. Right-click on the **VBrick Object Starter** and select **Start**. This will start the **MySQL** services. If the VEMS Scheduler Module or other services were stopped in Step 3 above they will need to be started as well.

System Restore

To ensure a successful system restore, it is critical that you follow the exact sequence of steps shown below. Also, since this process will interrupt any streaming video, you may want to schedule this procedure at night or during non-business hours.

Note The database cannot be restored from a different version number of VEMS Portal Server or from the same version number after additional features (for example VEMS Scheduler) have been installed. To ensure a successful restore, always perform a backup after an upgrade or after installing new features. Restore the database only to an VEMS Portal Server instance with the same version number and with the same features installed.

▼ To restore the system:

1. Log into the Portal Server as the Administrator.
2. The MySQL Service will need to be stopped in order to have a clean recovery of the database. Go to **Start > Control Panel > Administrative Tools > Services**.
3. Right-click on **MySQL** in the right pane and select **Stop**. There will be a list of other services that will stop. Take note of these other services and select **Yes**.
4. A Service Control window will show the progress of the Services that will be stopped. After the services have stopped, minimize the **Services** window.
5. Open **My Computer** and restore the following directories from the backup location.

C:\Program Files\MySQL\MySQL Server x.x\data
C:\Program Files\VBrick\MCS\licenses
C: \Program Files\VBrick\MCS\MCSPresentations
or D:\VBrick\MCSPresentations
C: \Program Files\VBrick\MCS\Presentations
or D:\VBrick\Presentations
C:\Program Files\VBrick\MCS\Logs\
C:\Program Files\VBrick\MCS\nsc
C:\Program Files\VBrick\MCS\sdp
C:\Program Files\VBrick\MCS\StationIcons
C:\Program Files\VBrick\MCS\Images\Thumbnails

6. To start the Services, maximize the **Services** window.
7. Right-click on the **VBrick Object Starter** and select **Start**. This will start the **MySQL** services. If the VEMS Scheduler module or other services were stopped in Step 3 above they will need to be started as well.

Chapter 10

ACNS Configuration

Topics in this section

Overview

The Cisco Application and Content Networking System (ACNS) is a digital media delivery solution that reduces redundant digital media streaming traffic traversing a WAN from the data center to branch offices over satellite and terrestrial networks. Cisco ACNS offers a comprehensive set of streaming-media features that let you stream high-quality and long-playing digital videos live and simultaneously to thousands of users and media players and provide access on demand at a later time. By caching on-demand content, or prepositioning frequently accessed content, ACNS minimizes the need for the same digital media content to traverse WAN links from the data center to branch offices.

VBrick has partnered with Cisco to integrate VBrick's product line with Cisco's ACNS content distribution system. Integrated VBrick products include encoders, Video on Demand (VOD) servers, IP Receiver, PC and Mac clients, and the Enterprise Media System. The integration of these two industry-leading products means that customers with legacy networks can retain their existing network infrastructure and still deploy the latest in video delivery systems. The benefits of this product integration include unlimited geographic reach for video, reduced network circuit costs, higher quality video, and improved system performance. Cisco ACNS also provides a flexible management system for efficient operation, automation, and central management of the digital media delivery network.

Note The integrated Portal Server and ACNS Server solution handles MPEG-4 and Windows Media video files residing on Darwin, Windows Media, and VOD-W servers only. MPEG-1, MPEG-2, and H.264 files are not supported; VBrick's NXG (Linux) servers are not supported.

ACNS Configuration

To configure the Portal Server to work with ACNS you need to perform certain steps on the Portal Server and on the ACNS server. **If you have a VBrick VOD-W server, you will need to create a virtual directory in IIS before you configure the Portal Server or the ACNS server.** If you have a Darwin server or a Windows Media server, no additional configuration is required.

VOD-W Server Configuration

ACNS copies all MPEG-4 and WM video files from all (Windows Media, Darwin, and VOD-W) servers in your Enterprise Media System. (ACNS does not support NXG servers;

the Windows Media and Darwin servers require no additional configuration.) Use the following steps to configure a VOD-W server to work with ACNS.

▼ To configure a VOD-W server to work with ACNS:

1. Login the VOD-W server.
2. Go to **Start > Windows Explorer**.
3. Expand the tree in the left pane under the drive labeled (C:).
4. Expand Program Files under C: and then expand InfoValue under that.
5. Click on **QuickVideo OnDemand Server**.
6. Double-click on the file QvcsConfig.ini. The system should use Notepad to open the file.
7. Locate the line that reads "[Ingest]".
8. Locate the lines beginning with StoragePathN= shortly after the "[Ingest]" line where N is a number. Leave the Notepad window open.
9. Go to **Start > Administrative Tools > Internet Information Services (IIS) Manager.**
10. Expand the tree in the left pane and expand **FTP Sites**.
11. For each StoragePath line found in step 8, configure a virtual directory for it as follows:
    a. Right-click on the **Default FTP Site** and then select **New > Virtual Directory**.
    b. Click **Next** in the Welcome to the Wizard window.
    c. For **Virtual Directory Alias**, enter the text after the first backslash (\) from the StoragePath line whose data is being setup. For example, if the line reads StoragePath1=D:\Content, enter **Content** for the Alias. Click **Next**.
    d. For **FTP Site Content Directory**, click **Browse** and navigate to the directory specified in the StoragePath line whose data is being setup. Click **OK** then **Next**.
    e. In the **Access Permissions** window, click **Next** to select the default permission of Read.
    f. Click **Finish** to complete creation of the new Virtual Directory.
12. You will also need to configure the VOD-W Server to allow anonymous connections.

▼ To allow anonymous connections:

1. Go to **Start > Administrative Tools > Internet Information Services (IIS) Manager.**
2. Expand the tree in the left pane and expand **FTP Sites**.
3. Right-click on the **Default FTP Site** and select **Properties**.
4. Go to the **Security Accounts** tab, check **Allow Anonymous Connections**, and click **OK**.

Portal Server Configuration

Portal Server integration with Cisco's ACNS Server is available with Portal Server v4.0.1 or later software. The following procedures explain (1) how to configure a manifest file on the Portal Server that will be used by the ACNS server to ensure that the content on the ACNS Server matches the content on the Portal Server; and (2) how to verify that forced use of TCP for MPEG-4 content is disabled.

▼ To create a manifest file on the Portal Server:

1. Install VEMS v4.0.1 or later from the VEMS Product CD See the *VEMS Portal Server Release Notes* for detailed instructions.
2. After installing the Portal Server, open the Portal Server Admin Console and go to **Global Settings > Global Assignments > Set Cisco ACNS Manifest Options**.

3. Check **Enable manifest generation**, select the files (MPEG-4 and/or WM) to include, and specify an interval (default = 10 minutes) that defines how often the file will be regenerated.
4. Click **Submit** when done.
5. Click **Generate Now** to create an "on demand" manifest file. The Portal Server will create (and periodically overwrite) a manifest file called ACNSManifest.xml in the Program Files\VBrick\MCS\Cisco folder. The Cisco subdirectory is automatically created.

When a Portal Server is configured to integrate with an ACNS network, content playback is redirected to stream from ACNS nodes only if RTSP is used for video transmission. To use RTSP, verify that the Portal Server option to "Always use TCP" is unchecked (this is the default).

▼ To verify that TCP is off:

1. Go to **Global Settings > Global Assignments > Assign LAN/Internet Address Range(s)**.
2. Verify that **Always use TCP protocol (HTTP Tunneling/RTSP Interleaving) for MPEG-4 and Windows Media content?** is unchecked.

ACNS Server Configuration

Note that installation, configuration, and support for ACNS must be provided by Cisco and/or their representatives. Use the following steps to point to the Portal Server manifest file and set other configuration options.

▼ To set configuration options and identify the manifest file:

1. Be sure the ACNS Server is running and launch an Internet Explorer browser.
2. Go to the ACNS Management URL, for example https://<ipaddress>:8443.
3. Log into the ACNS Management Tool.

   Username: admin

   Password: default
4. Click on the **Services** tab at top of page.
5. Create a **Content Channel** for the VOD server.
6. Click on **Channel Content** on the left.
7. Near the top of the screen, set the **content acquisition method** to **specify external manifest file**.
8. In the **Manifest URL** field enter the Portal Server URL in the following format:

   http://<MCSipaddress>/Cisco/ACNSManifest.xml
9. Set the **Check manifest every** field to desired interval (60 minutes is recommended).
10. To check the manifest file, click **Validate** to open a pop-up that will show the manifest. The last message should indicate the manifest is correct.
11. Click **Fetch manifest now** to start content replication.
12. To check the status of the content replication click on **Replication Status** on the left side of page. The system is ready when the following is true:

    Acquisition status is Completed.

    Device states at the screen bottom are Completed, and the In Process counts are zero.

Verify Installation

▼ To verify the VEMS/ACNS integration is successful:

1. Be sure that the VEMS Portal Server and ACNS are configured as explained above.
2. Go into the ACNS management system and verify that the video content added via the VEMS Portal Server has been pushed to the ACNS remote content engine's disk storage.
3. Open a browser and launch a Portal Server client.
4. Launch a stored MPEG-4 or WM video from the Portal Server user interface. The MPEG-4 or WM content should run and play successfully to conclusion.
5. If you run a packet sniffer on the VEMS client, a trace will show that the client was redirected to play the content from a Cisco node and not from a VBrick VOD server.

Chapter 11

VBrick Internet Streaming

Topics in this section

Overview

The VBrick Internet Streaming is available for those users who wish to extend the ability to view live events to Internet clients. This document concentrates on users who intend to use the Internet Streaming service to provide additional services in Portal Server installations. In all cases, the basic scenario is that a user wants to schedule an event via the Portal Server, and wants the event to be made available to Internet users via a hosted service. VBrick Internet Streaming capabilities allow customers to extend the reach of their video to the Internet. In order to do this, the customer needs to do the following:

1. Choose whether they want end users to view the video through the Portal Server or via a different external web page (for example their external web site or VBrick's VBOSS site).
2. Purchase streaming bandwidth from a Content Distribution Network (CDN). VBrick offers this through our VBOSS service or the customer can purchase their own.
3. Configure the VBrick to send the stream to the CDN

Potential viewers fall into two categories as follows:

- Authenticated Internet-based Portal Server clients – In this option, streams are viewed via the Portal Server interface (multicast or unicast) and all viewers can be authenticated. In this mode, the Portal Server must be in the DMZ to allow access to the Portal Server web pages from the Internet.
- Non-Portal Server Internet web page viewers – These viewers are notified via e-mail that a stream is available. VBrick's Internet Streaming solution includes a bandwidth allowance and a hosted URL for live viewing. The service is available with a Windows Media (WM) VBrick appliance included or may be utilized by Portal Server customers who have purchased WM VBrick appliances. The viewing screen is configured as part of the VBOSS (VBrick Online Streaming Server) interface. Access to this interface may be limited via a password. For more information about customizing and using VBOSS, see the *VBOSS Broadcast Publisher Guide*.

Streaming Service Workflow

The following information is required in order to properly configure the VBrick WM appliance. For customers who purchase the VBOSS service, this information will be provided to you when you order the service. Other customers need to obtain this information from their CDN. When you purchase the VBrick Online Streaming Service, the VBrick administrator will provide the following host configuration information:

a. Server Name/IP and Port

b. Publishing Point Name
c. Publishing Point User Name
d. Publishing Point Password
e. Publishing Point Viewing URL
f. Hosted Page Viewing URL

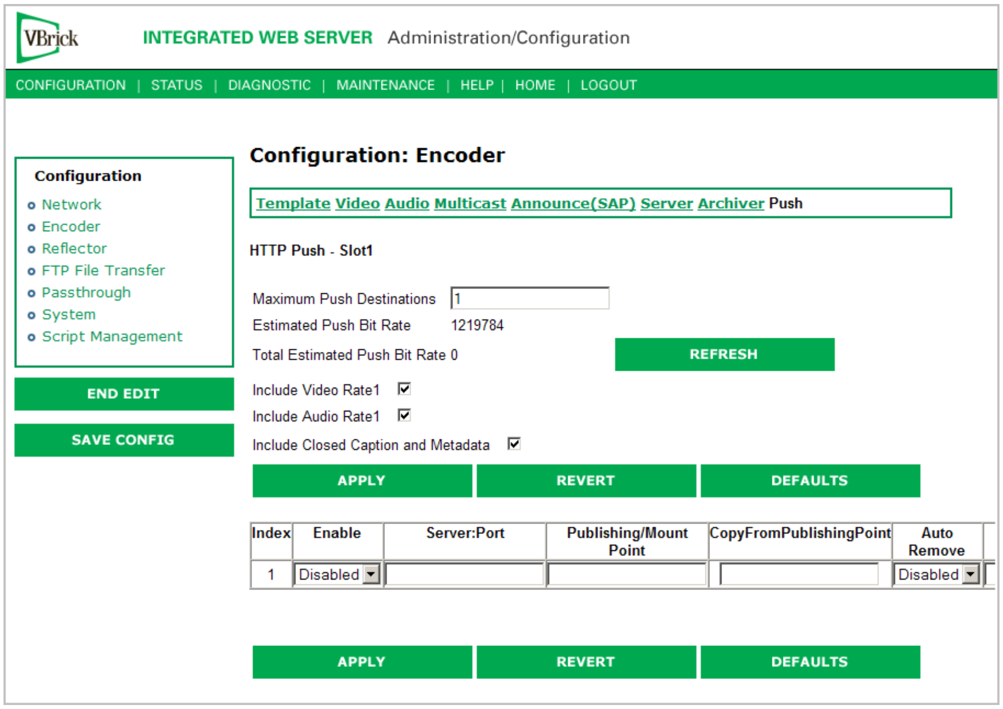
The information labelled a–c above is entered on the VBrick appliance Push configuration page. When the event is initiated (via the Scheduler), the Portal Server turns on the Push transmit and streams to the remote publishing point. Internal authenticated users are directed to view the multicast/unicast directly from the VBrick encoder appliance. **You can only initiate the push via a Portal Server "schedule" that turns on a local multicast or unicast server.** External viewers are directed to the publishing point of the service provider. If the event presenter wishes to provide event access to non-authenticated viewers via an e-mail, he would e-mail the interested viewers the hosted page viewing URL (f). This mode does not require access to the Portal Server and the video will be launched using a Windows Media Player.

Portal Server Hosting

VBrick Configuration

VBrick Push Configuration

Regardless of whether you are serving remote Portal Server clients or non-Portal Server Internet web page viewers, the VBrick must be configured to push the stream to the provided destination hosting URL. The information in a–c should be entered in the appropriate fields as shown below. See the *WM Appliance Admin Guide* for more information.


VBrick
INTEGRATED WEB SERVER Administration/Configuration
CONFIGURATION | STATUS | DIAGNOSTIC | MAINTENANCE | HELP | HOME | LOGOUT
Configuration
Network
Encoder
Reflector
FTP File Transfer
Passthrough
System
Script Management
END EDIT
SAVE CONFIG
Template Video Audio Multicast Announce(SAP) Server Archiver Push
REFRESH
APPLY
REVERT
DEFAULTS
APPLY
REVERT
DEFAULTS

Configuration: Encoder

HTTP Push - Slot1

Maximum Push Destinations 1
Estimated Push Bit Rate 1219784
Total Estimated Push Bit Rate 0

Include Video Rate1 ☑
Include Audio Rate1 ☑
Include Closed Caption and Metadata ☑

Index	Enable	Server:Port	Publishing/Mount Point	CopyFromPublishingPoint	Auto Remove
1	Disabled				Disabled

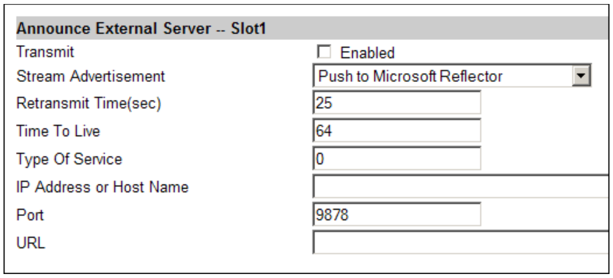
Figure 19. VBrick Push Configuration Page

Maximum Push Destinations	One push destination is required for this application.
Enable	Use to enable HTTP Push. Normally this is left as Disabled for this application. The Scheduler will set this field to enabled when the schedule starts.
Server:Port	Enter the information from (a) Server Name/IP and Port from above.
Publishing/Mount Point	Enter the information from (b) Publishing Point Name
Copy From Publishing Point	Leave blank.
Auto Remove	Leave blank.
User Name	Enter the information from (c) Publishing Point User Name
Password	Enter the information from (d) Publishing Point Password
Domain Name	Leave blank.

VBrick Announce Configuration

▼ To configure the VBrick announce:

1. Launch IWS, then go to Configuration: Encoder > Server and scroll to bottom of page.
2. Set the **Stream Advertisement** to **Push to Microsoft Reflector** as shown below.
3. Enter the Portal Server IP Address in the **IP Address or Host Name** field.
4. If you wish to provide viewing to remote Portal Server clients, enter (e) in **URL** field.



Announce External Server -- Slot1

Transmit	□ Enabled
Stream Advertisement	Push to Microsoft Reflector
Retransmit Time(sec)	25
Time To Live	64
Type Of Service	0
IP Address or Host Name	
Port	9878
URL	

Figure 20. Configuration: Encoder > Server > Announce(SAP)

IP Address or Host Name	The Portal Server IP address or broadcast IP.
URL	Enter (e) the Publishing Point URL.

Portal Server Configuration

Portal Server Admin Configuration

▼ To configure the Portal Server:

1. Go to Global Settings > Global Assignments > Assign LAN/Internet Address Range(s).

2. Click on **Specify LAN Address Range(s)** and enter the address range of your local LAN. Internal users are identified by this range. Note: the VBrick encoder IP Address must be in this range.

Portal Server User Configuration

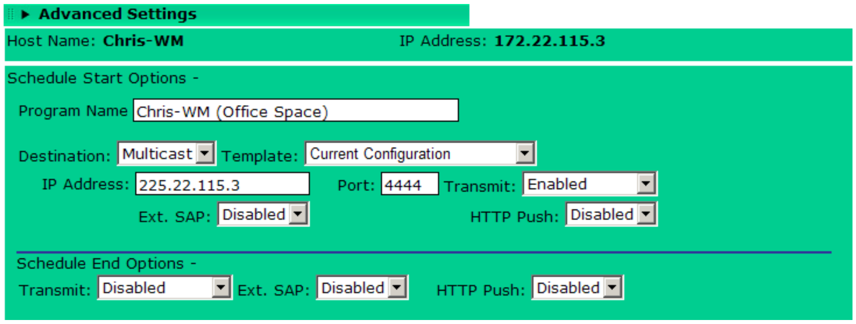
If authentication is enabled on the Portal Server, users must be authenticated and given Live Channel Privileges. See the *Portal Server Admin Guide* for more information.

Portal Server Scheduler Configuration

A live broadcast can only be initiated using the Portal Server Scheduler component. A stream will be pushed to the configured destination, from your VBrick appliance, at the configured date and time. You will also need to enable **Ext. SAP** and **HTTP Push** as explained below.

▼ To push the stream via the scheduler:

1. Launch the Scheduler and go to Schedule: **Live Broadcast**
2. For **Video Source** select **VBrick**.
3. Highlight your WM VBrick network appliance in the list of VBrick Host Names.
4. If the local LAN is multicast-enabled select a multicast destination, otherwise select unicast destination.
5. Go to **Advanced Settings** and enable **HTTP Push**.
6. If you wish to allow access to remote Portal Server clients, Enable the **EXT SAP**, otherwise leave this disabled.
7. Schedule End options should be left as **Disabled**.



▸ Advanced Settings

Host Name: Chris-WM   IP Address: 172.22.115.3

Schedule Start Options -

Program Name: Chris-WM (Office Space)

Destination: Multicast   Template: Current Configuration

IP Address: 225.22.115.3   Port: 4444   Transmit: Enabled

Ext. SAP: Disabled   HTTP Push: Disabled

Schedule End Options -

Transmit: Disabled   Ext. SAP: Disabled   HTTP Push: Disabled

Figure 21. Portal Server Scheduler Page – Advanced Options

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