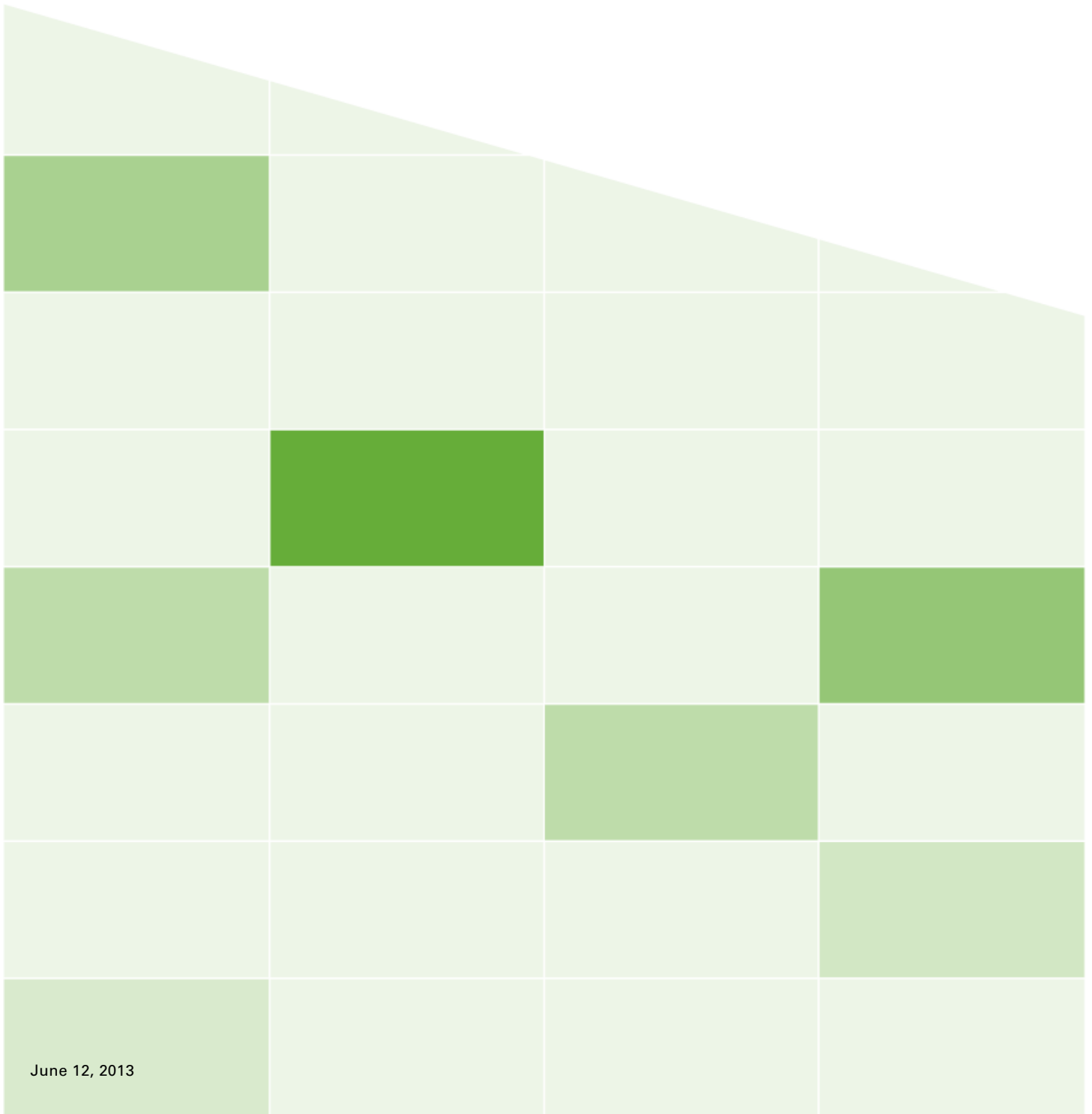




VBrick Digital Signage

VBrick Digital Signage v4.0

Technical Manual



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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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1.0 Important Notes

It is important to read this section since most deployment issues can be avoided if the following items are considered:

- Image Retention
- Firewall Protection
- Network Settings

1.1 Image Retention

Video displays, particularly plasma displays, are subject to image retention or burn-in. This occurs when the image on all or a part of the display stays constant for an extended period. Different displays are affected differently and technology is improving, so there are no absolute conditions that prevent burn-in. VBrick Digital Signage gives the user flexibility to create and display a variety of video images. Since VBrick does not control the content that is being displayed, VBrick is not responsible for image retention on devices connected to the VBrick Digital Signage System.

To minimize the possibility of image retention in an VBrick Digital Signage System, VBrick recommends the following:

- Never have a single message running alone. Always have multiple messages active.
- Use a variety of backgrounds and text colors.
- Avoid company logos or other images in the same position on every message.
- When using manual Show Time settings, keep the times as short as possible.
- Use text crawls sparingly
- Use built-in orbiting tools if available on the display
- Occasionally use image inversion and or “white” tools if available on the display

1.2 Firewall Protection

All computers need protection from intrusion and other malicious or mischievous activities. VBrick Digital Signage is built on Microsoft Windows and uses Microsoft's Internet Information Services. Both of these are frequent targets for malicious or mischievous attacks. It is strongly recommended that all VBrick Digital Signage devices, especially Content Managers, be protected from the Internet and, where applicable, from local traffic.

1.3 Network Settings

Your VBrick Digital Signage system has specific requirements regarding networking and security settings. Before making any changes to the factory configuration, be sure you have read and understand the sections of this document that refer to the changes you intend to perform. Pay particular attention to changing the name of any device and with making any Windows security settings changes. Be sure to read the *System Overview*.

2.0 System Overview

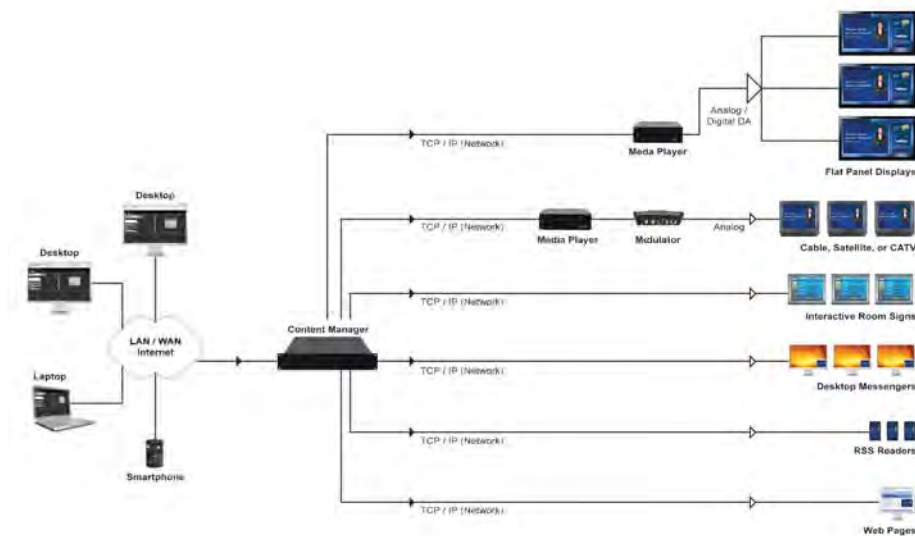
VBrick Digital Signage Software allows you to create dynamic content using different types of data inputs such as text, graphics, and event schedules for delivery on a variety of devices including flat panel displays, LCDs, interactive room signs, and web pages.

2.1 A Basic VBrick Digital Signage System

VBrick Digital Signage has specific hardware requirements and needs access to your organization's network for maximum functionality. The basic components of an VBrick Digital Signage System include at least:

- One (1) Content Manager with VBrick Digital Signage Content Services Software installed
- One (1) or more Signage Player(s) with the VBrick Digital Signage Channel Player Software installed
- One (1) or more Display(s)
- WAN/LAN and/or Internet access

A sample VBrick Digital Signage system diagram appears below.



Sample System Diagram

2.2 How VBrick Digital Signage Works

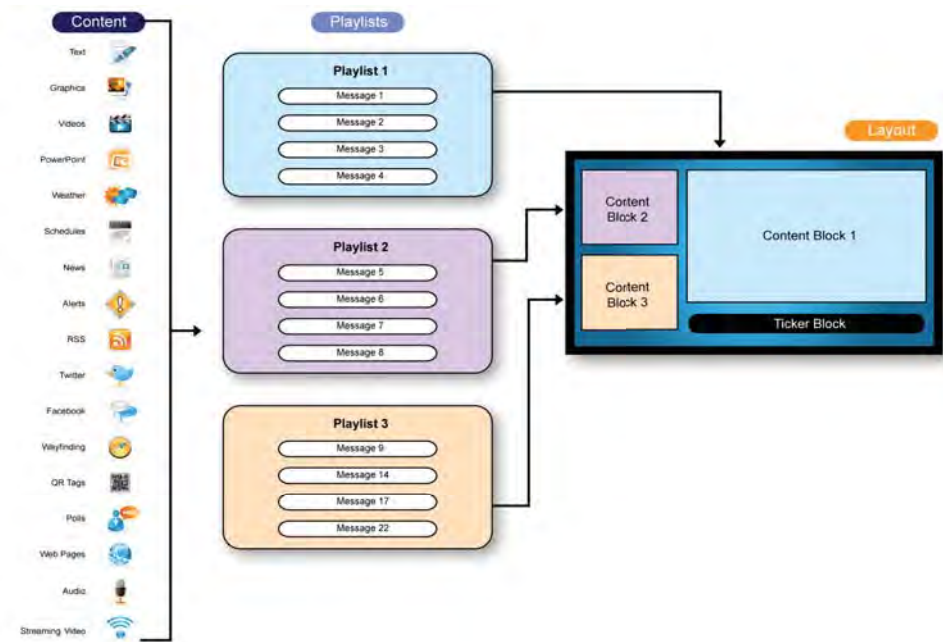
The PC's on the left side of the Sample System Diagram represent you accessing the VBrick Digital Signage Content Manager using a web browser via the network (LAN/WAN) or the Internet. A Content Manager is a computer or server on an organization's network with the VBrick Digital Signage Content Manager Software installed. It hosts the browser-based user interface that is used to create and manage message content.

The Content Manager connects to the Signage Player(s) through the TCP/IP network. A Signage Player is another computer on your network that sends the content that you create to the display(s). Several displays can be served by a single Signage Player; therefore, if there are multiple displays connected to a specific player, all of those displays will show the same content at the same time. VBrick Digital Signage also accommodates video streams.

2.3 Simple Content Management

VBrick Digital Signage uses a simple content management system. Various types of data are used to create messages and tickers. Messages are scheduled to playlists. Tickers are scheduled to crawllists. Playlists and crawllists are organized into layouts that appear on the display(s).

Layouts can be created and scheduled to accommodate a variety of playlists and crawllists. As messages and tickers are created, changed, and removed, the content that displays in the layouts updates accordingly.



Simple Content Management

2.4 Supported Browsers

Internet Explorer (IE) is the recommended browser for accessing the VBrick Digital Signage web interface. VBrick Digital Signage has been developed for and tested on current versions of Internet Explorer.

VBrick Digital Signage also is compatible with the Firefox web browser. There are three features in VBrick Digital Signage that require Firefox add-ons to function properly:

- previewing QuickTime files
- previewing Windows Media Player files
- the file download/run option

The QuickTime plug-in is required to preview QuickTime files in Firefox. QuickTime will automatically install the plug-in when it is downloaded. QuickTime version 7.7 or higher is required. The QuickTime installer is available and included with the VBrick Digital Signage software. Or you can visit <http://www.apple.com/quicktime/download/> to download QuickTime.

The Windows Media Player plug-in is required to preview Windows Media Player files in Firefox. This plug-in is not available through the Firefox add-ons manager but can be accessed at <http://www interoperabilitybridges.com/windows-media-player-firefox-plugin-download>.

By default, Firefox automatically saves downloads to the computer hard drive. An extension is available through Firefox add-ons that will add the **Run** option.

To access the add-on:

1. Launch Firefox
2. Navigate to *Tools / Add-ons*
3. Search for *OpenDownload*
4. Install the extension

NOTE: Firefox will need to be closed and re-opened for the extension to take effect.

Other browsers can be used but may not provide full functionality.

2.5 Microsoft Silverlight

Microsoft Silverlight must be installed on client computers in order to:

- view the Dashboard
- use the Import feature
- use the Web Page Message feature

If Silverlight is not installed, the Web Page Message and Import features will appear as blank windows and the Dashboard will be replaced with a Home Page consisting of a list of all playlists licensed in your VBrick Digital Signage system.

For more information about Microsoft Silverlight and to download Silverlight, visit <http://www.microsoft.com/getsilverlight/Get-Started/Install/Default.aspx>.

2.6 Hardware Requirements

2.6.1 Client-Provided Hardware

VBrick customers have the option to supply their own hardware for the Content Manager application. The following information details the recommended specifications for client-provided Content Manager hardware:

Content Manager

	Minimum	Recommended
Processor	Pentium Dual Core 2.0GHz, or equal	2.5 GHz Intel Core 2 Duo or better
Memory	1 GB	2 GB or more
Operating System	Windows Server 2008	Windows Server 2008 ¹
Network	10/100 Ethernet	10/100/1000 Ethernet
Usable Drive Space	80 GB	160 GB or more
Motherboard	Intel 965G, or equal	Intel Q45 or better

2.6.2 Virtual Machine

The VBrick Digital Signage Content Manager software can be installed on a virtual server. However, the above system requirements must be dedicated to the server instance where VBrick Digital Signage will be installed. Only VBrick Digital Signage version 4.0 or later supports an x64 operating system

¹ 32 bit (x86) or 64 bit (x64) Windows 7 Professional or Windows Server 2008

2.6.3 VBrick Provided Hardware

All hardware provided by VBrick will meet or exceed the requirements above. For details on current hardware specifications, visit our [Technical Support](#) page.

Content Manager hardware purchased from VBrick ships with Windows Server 2008 Web Edition operating systems. Signage Players ship with the Windows 7 Embedded (WS7P) operating system.

2.7 Network Requirements

The network must be capable of supporting the TCP/IP protocol. All VBrick Digital Signage devices will need a static identifier or support for dynamic identification (DNS, WINS, NetBIOS, static IP, DHCP, etc.).

The Content Manager will function as an independent server on the network and its network role is to act as a web server and to host the VBrick Digital Signage application.

2.7.1 Network Port Usage

The VBrick Digital Signage Content Manager will need to communicate over specific TCP and UDP ports, as follows:

- TCP port 21 (FTP) File Transfer Protocol: Outbound – retrieve weather data from the National Weather Service
- TCP port 25 (SMTP): Outbound - email notification and service communication
- TCP port 80 (HTTP): Inbound - user access via Web User Interface, Outbound – Data feed service
- TCP port 110 (POP3): Outbound – Retrieve email for email message creation feature
- UDP port 123 (NTP): Network Time Protocol: Outbound - Automatic time setting of Content Manager
- TCP port 6104 (VBrick Digital Signage Screen Saver Clients)
- TCP port 6500 (Multimedia Protocol Commands to VBrick Digital Signage Players)
- TCP port 6501 (Fast File transfer between Content Manager and Signage Player)
- TCP port 6502 (Fast File transfer between Content Manager and Signage Player)
- UPD port 28500 (publishers – desktop messenger, text messenger)
- TCP port 28501(Desktop Messenger – client and client listener)
- TCP port 28502 (RSS Publisher)

The customer must provide connectivity for the VBrick Digital Signage Content Manager, if certain components are installed, as follows:

- The VBrick Digital Signage Dean Evans EMS Adapter requires network access to the EMS database.
- The VBrick Digital Signage Microsoft Exchange Adapter requires network access to the designated Exchange Server
- The VBrick Digital Signage CEO Adapter requires network access to the CEO database.
- The VBrick Digital Signage Delphi Adapter requires network access to the Delphi EMS file.

2.7.2 Network Security Policies

Many organizations have policies defining acceptable configurations for computers connected to their internal network. The application of security policies to the VBrick Digital Signage devices without consideration of the effects of those changes could result in the failure of the VBrick Digital Signage system. Failure of the system due to such changes might require rebuilding the operating system and/or VBrick Digital Signage. Such repairs would not be covered by your warranty or software maintenance agreement and for hardware purchased from VBrick, might require the return of the hardware to the factory.

Your VBrick Digital Signage system can be designed to satisfy your organization's security requirements. VBrick can assist you when making decisions necessary to meet those requirements.

The following items are required to be present and in good working order for VBrick Digital Signage 4.x.x to function correctly:

- Windows OS. The Content Manager software runs on Windows Server 2008. The Signage Player software runs on Windows 7.
- Internet Information Services, including the anonymous "IUSR_[computername]" user account
- Microsoft .NET Framework version 4.0 for the Content Manager and for the Signage Players, including ASP.NET for Internet Information Services
- SQL Express 2008 running in MIXED MODE is required for the Content Manager. Clients upgrading from a previous version may continue to use SQL or SQL Express 2005.
- A Windows user account named "vbuser" with the password set to "vbrick" must be a member of the local Administrators group

Caution should be taken when applying security changes. The following areas are of particular concern:

- Internet Information Services must be able to run the ASP.NET worker processes
- Microsoft .NET Framework configuration settings (under the Windows installation directory) must be accessible by the framework components, including ASP.NET
- The Windows user account "vbuser" must not be denied access to the registry or the HDD
- The Windows user account for Internet Information Services "IUSR_[computer-name]" must have write access to the ...\\VBrick Digital Signage\\Web\\... subdirectories "Backgrounds", "Bin", "Previews", "Public\\Images", and "BinaryStorage"

It is possible that other changes that might be made could cause unexpected consequences. A thorough understanding of the Windows operating system, SQL Server 2008, Internet Information Services and the .NET Framework is required to properly and safely apply security changes to your VBrick Digital Signage system.

2.7.3 VBrick Digital Signage Windows Accounts

VBrick Digital Signage requires local administrator accounts to operate correctly. Content Managers require a local administrator account for certain services to run correctly.

2.7.3.1 VBrick Digital Signage User Account Network Rights

In order for the VBrick Digital Signage software to read, import or otherwise reference files that are external to the VBrick Digital Signage servers, e.g., Dean Evans and Associates EMS Professional database, you must ensure that the user account assigned to all the VBrick Digital Signage Windows Services is granted access on all relevant networked servers and PCs.

The Windows Services that use a named account are:

- VBrick Digital Signage Content Manager
- VBrick Digital Signage Dean Evans EMS Adapter
- VBrick Digital Signage Delphi Adapter
- VBrick Digital Signage Email Plug-in
- VBrick Digital Signage Event Schedule Plug-in
- VBrick Digital Signage Event Schedule Text Adapter
- VBrick Digital Signage National Weather Service Adapter
- VBrick Digital Signage Weather Plug-in

All of these services require a named user account that is a member of the local Administrators group on the VBrick Digital Signage servers. The named account can be a local account or a Domain account.

In its simplest form creating an account on the network resource with a username of "vbuser" and a password of "vbrick" and granting that account access to the desired files can achieve these requirements. This account matches the default account on all VBrick Digital Signage servers.

You can test access to a file share from the Content Manager by logging in as the named user and attempting to access the file share with Windows Explorer.

2.7.3.1.1 Windows login account and/or password change procedure

Several of the VBrick Digital Signage services use named accounts. If you wish to change the account name or the password for this account, it must be changed in several places. This only applies to the Content Manager, not Signage Players.

To create the new account or change the password of the vbuser account:

1. For a new account go to **Start | Settings | Control Panel | Administrative Tools | Local Security Policy | Local Policies | User Rights Assignment**. Grant the new user account the "Log on as a service" policy in the Local Policy Settings (or the Domain Policy Settings).
2. Go to **Start | Settings | Control Panel | Administrative Tools | Services**. The left-hand column shows the names of the services. The VBrick Digital Signage service names all begin *VBrick*. If you sort the services window by name (default) then all of the VBrick Digital Signage services will be grouped together.
3. The right-hand column, *Log On As*, indicates the account that each service operates under. Locate all of the VBrick Digital Signage services that **do not** log on as Local System. These must be modified.
4. For each service identified above, go to Properties for that service and select the Log On tab.
5. "This account:" will be checked (If it is not then you selected an incorrect service). Enter the new account and/or password and confirm the new password.
6. Reboot the server.

2.7.4 Workgroup or Domain

You may choose to make the server a member of your network domain or workgroup. This is not required for operation of the system, but may be desirable from a network administration perspective. Contact your network administrator for instruction on adding the server to your local networking environment if this is desired.

It is important to note that group policies applied to domain computers may render VBrick Digital Signage inoperable or to have degraded behavior. VBrick Digital Signage machines must not be considered desktop machines for the purposes of security policies. Domain group policies must carefully be considered before application to VBrick Digital Signage.

2.7.5 Windows Updates

VBrick recommends applying all critical patches and service packs. Moreover we stand behind the operation of the system after an update. Should any Windows update adversely affect the operation of the VBrick Digital Signage system, we can work with you to resolve the problem.

Hardware purchased from VBrick ships with Automatic Windows Updates disabled. This is because the behavior of the Signage Players cannot be guaranteed during and after an update. For the same reason, your organization should use care in developing a plan to push updates down to these machines.

2.7.6 Security Policy

The Security Policy screen in the web user interface allows you to set the security parameters for the VBrick Digital Signage installation. The security policy covers password rules, intrusion rules, and new account rules. All changes on this screen take effect immediately. Changes to password rules may require you to adjust your password immediately to comply with the new rules. When a user logs in, the password is checked against the existing password rules. Users are forced to change their passwords if they no longer meet the password criteria.

- **Minimum Length** - The minimum length a password can be. This value must be large enough to accommodate rules such as upper/lower case and inclusion of numbers and special characters. The system will validate this number against the other rules before applying any changes.
- **Maximum Length** - The maximum length a password can be.
- **Automatically Expires In** - The number of days that a password is valid.
- **Enforce Password History** - The number of passwords to remember to enforce uniqueness. This feature prevents a user from reusing the same password when it expires.
- **Require Upper and Lower Case** - If checked, this will require that all passwords contain at least one lower case letter and one upper case letter. The implication of this rule is that Minimum Length cannot be below 2, if specified.
- **Numbers Count** - The number of numeric digits required. This number affects the Minimum Length, if specified.
- **Special Characters Count** - The number of non-alphanumeric characters required. This includes punctuation marks and all other symbols on the keyboard. This number affects the Minimum Length, if specified.
- **Lockout Threshold** - The number of bad login attempts required to lock a user out of the system.

- **Lock-Out Time Span** - The number of minutes to lock a user out of the system after the Lock-Out Threshold has been reached.
- **Default Password** - The password to assign to all new users.
- **Expires at First Login** - If checked, the system will force all new users to change their password upon first login. VBrick recommends this behavior as the Default Password, by nature, is not secure.

2.8 PowerPoint® Compatibility

2.8.1 Import PowerPoint (Native Playback)

Users can import a .ppt or .pptx file directly to the Signage Player for playback of PowerPoint in its native mode. This feature requires a full, licensed version of PowerPoint 2007 or 2010 to be installed on every Signage Player where PowerPoint presentations will be shown using Native Playback. If a Signage Player does not have PowerPoint installed, the presentation will be skipped in the playlist.

PowerPoint is being used to play natively on Signage Players and therefore exhibits the same functionality. Presentations must be configured for non-human interaction for correct performance of both PowerPoint and its use with VBrick Digital Signage.

The guidelines for using PowerPoint with your VBrick Digital Signage System are:

- PowerPoint must be installed by choosing Custom Installation and selecting 'Run all from My Computer' for Microsoft Office PowerPoint, Office Shared Features, and Office Tools. Please refer to the instructions *How to install PowerPoint on the Media Player (Signage Player)* below.
- PowerPoint is played as a presentation (slide show) on the Signage Player (provided that you have already installed PowerPoint on the machine). Therefore, the **Advance Slide** option found under the **Transitions** tab should be set with *On Mouse Click* checked and *After* (or *Automatically After*: depending on what version of PowerPoint you have) unchecked. This allows for automatic playback of the presentation.
- Time between slides is handled by VBrick Digital Signage on the Scheduling Page. If you do not wish for all slides to play at the same time interval, they must be imported separately.
- Custom Animations are supported. Under the **Timing** tab The *Start*: must be set to either *After Previous* or *With Previous*.
- You cannot schedule the same powerpoint file to play simultaneously on a single Signage Player.
- Error notification will need to be disabled on each Signage Player that will play PowerPoint in order for native playback of PowerPoint files to work properly. This prevents the notification window from popping up on the screen if a PowerPoint presentation ends abruptly. It does not prevent error logging.

To disable Error Reporting Notification for Windows 7:

1. Click Start then Run
2. Type "gpedit.msc" and click OK
3. Locate the Windows Error Reporting menu
4. Display Error Notification should be set to *Disabled*
5. Configure Error Reporting should be set to *Enabled*
6. Restart the computer

To Install PowerPoint on the Signage Player from a Microsoft Office installation disk²:

1. Select Custom Installation
2. Select the following programs by checking their respective boxes:
 - a. Microsoft PowerPoint
 - b. Office Shared Features
 - c. Office Tools
3. Select *Run all from my computer*
4. Deselect all other Microsoft Office products

To uninstall PowerPoint:

1. Go to **Add/Remove Programs** in the Control Panel
2. Find Microsoft Office in the applications list
3. Select the *Change* option
4. Use the custom installation instructions listed above.

² Selecting the complete installation option during install will require you to uninstall PowerPoint and reinstall the application using the custom installation option.

3.0 Software Implementation – VBrick-Provided Hardware

3.1 Assumptions

The following assumptions are made when deploying the quick setup. Any variation from these assumptions should be taken into consideration and incorporate the appropriate adjustments.

- A DHCP server is available
- A network switch is available with free connections for the Content Manager and Signage Player(s)
- Test display devices are available in case the production display devices are not available locally (i.e. Using signal distribution or staging the installation).

3.2 Content Manager

3.2.1 Unpack and check for all items

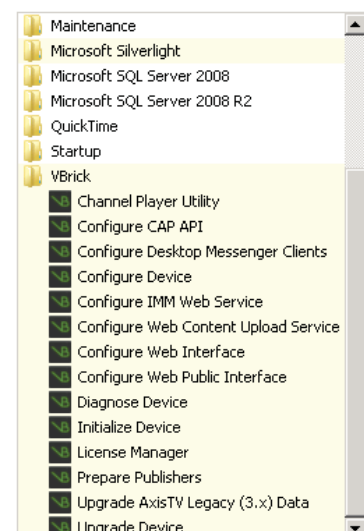
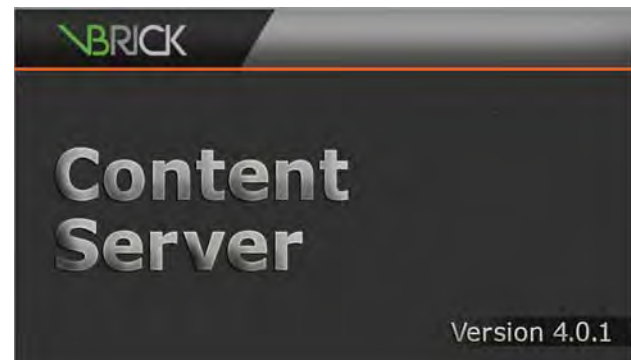
- Content Manager Hardware
- VBrick Digital Signage Content Manager bezel
- Power Cord
- DVI to VGA adapter
- VBrick Digital Signage Software Technical Manual
- VBrick Digital Signage Software Installation CD
- Intel Drivers CD

3.2.2 Physical setup

1. Connect a USB keyboard and a mouse (not included)
2. Connect a monitor (not included) to the Content Manager
3. Connect a network cable (not included) to the Content Manager and a network switch
4. Connect the Content Manager and monitor to electrical outlets
5. VBrick Digital Signage Content Manager initial setup (this step requires an Internet connection)
 - a. Power on the VBrick Digital Signage content manager using the power switch on the front of the unit (and the monitor)
 - b. Once the server boots up, the desktop wallpaper will change to a message indicating that you have a licensed Content Manager and the version.

If this wallpaper appears, proceed to Step 7

otherwise,

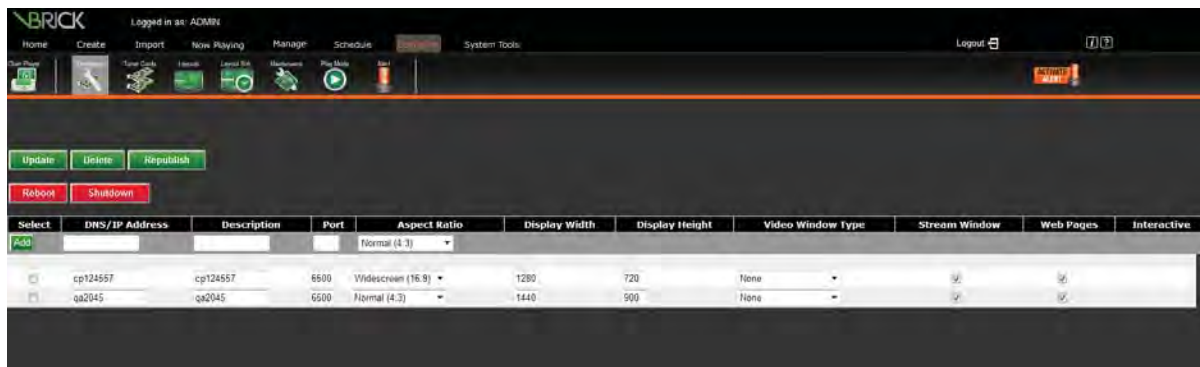


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- c. The wallpaper will change to indicate that your Content Manager is Not Licensed. Follow the steps starting with step d) below to license your Content Manager
- d. Click **Start | All Programs | VBrick**
- e. Select **Initialize Device**
- f. Your license key should automatically populate. If it does not, enter your license key in the spaces provided.¹

NOTE: The Installation Directory is typically C:\Program Files\VBrick\Digital Signage\Content Services\License

6. Once the license key has been entered click "Proceed".
 - a. If errors occur, copy the error message and send them to support@vbrick.com for assistance
 - b. When "Initialize Device" completes, you will be prompted to reboot the Content Manager. Once rebooted, the wallpaper should change to indicate a licensed Content Manager as shown here. If it does not, please contact [VBrick Support](#) for assistance
7. Log into the VBrick Digital Signage application
 - a. Double-Click on the "VBrick Digital Signage" icon on the desktop.
 - b. Login to the VBrick Digital Signage System using the default user id **admin** and password **admin**
8. Add a Signage Player to the Content Manager
 - a. Ensure the Signage Player is on the network and powered on
 - b. Login to the VBrick Digital Signage Content Manager/Server
 - c. On the "Configure" menu click the Channel Players icon
 - d. Click **Hardware**
 - e. Enter the DNS Name or IP Address of the Signage Player
 - f. Enter the "Description". This can be a friendly name such as "Break room"
 - g. Enter the "Port" of 6500 (default)
 - h. Click "Add"
 - i. If you are returned to the "Hardware" screen, the addition was successful



¹ The License Key can be obtained by looking in the VBrick Digital Signage Installation directory for the Key.txt file. If you do not find this file, click the "Register Me" icon on the desktop and request licensing. VBrick will then send you an email with all required license files. Copy and paste ALL files into the License directory.

If the Content Manager cannot reach the Signage Player you will be notified. If this happens, proceed to the Signage Player and verify the name or IP address entered is correct and that the network cable is connected.

10. Validation of Operation

- a. Add a message to Playlist 1
- b. Check each Signage Player to verify that the Content Manager delivered the new message to the players

11. Configure Options

- a. Setup optional features as outlined in the *Feature Configuration* section of this manual

3.3 Signage Player

The following steps should be performed on each Signage Player that is being deployed.

3.3.1 Unpack and check for all items

- Mini Form Factor Signage Player
- DVI to VGA Adapter
- Intel Drivers CD
- Power Brick with AC cord

3.3.2 Physical setup

1. Connect a USB keyboard and a mouse for testing (not included)
2. Connect the monitor (not included) to the computer using the DVI connector and VGA adapter (included), if needed.
3. Connect a network cable (not included) to the player and network switch
4. Connect the computer and monitor to electrical outlets
5. Turn on the computer and monitor



² Sample diagram to show the types of connectors that may be on your Signage Player. These may be different than those on your actual device.

6. VBrick Digital Signage Player Initial Setup
 - a. Power on the Signage Player and the monitor
 - b. Once the Signage Player boots up, you will see the default screen layout. Some Signage Players have a default layout containing three windows and a crawl
7. Signage Player Default Settings
 - a. Note the default Signage Player Name will be "VBrick Digital Signage followed by the Computer Serial Number which is printed on the white label on the top right, front corner the computer.
 - b. The default Communication Setting is to use DNS to automatically obtain an IP address. In this case, the Content Manager will connect to the Signage Player using the DNS name
 - c. The default Display Resolution is 1024x768
8. Advanced Signage Player Options

At this point, you can change the default options on the Signage Player. The options should be changed before adding the Signage Player to the Content Manager.

- Display Resolution
- Computer Name
- IP Address

See the Signage Player Options section of this guide for instructions on changing these settings.

9. If the Signage Player has not been added to the Content Manager, do so now using the instructions on the previous pages.



4.0 Software Only Installation – Content Manager

The VBrick Digital Signage Content Manager Software implementation is designed to be installed on a standalone server. VBrick provides the following guidelines to help you successfully implement your VBrick Digital Signage system. Please read the following information before beginning the VBrick Digital Signage Content Manager software installation.

4.1 InstallShield Notes

VBrick Digital Signage Software comes with the following InstallShield installers:

- VBrick Digital Signage Content Services
- VBrick Digital Signage Player
- VBrick Desktop Messenger
- VBrick Desktop

Two of the installers, VBrick Desktop Messenger and VBrick Desktop are bundled into the installer for VBrick Digital Signage Content Services and are available on the System Tools menu in the web-based interface.

4.2 Installer Prerequisites

The installer will automatically attempt to install SQL Server 2008 Express. Customers who prefer to use another SQL database should contact VBrick for assistance. Microsoft .NET 4 is required. It will be installed automatically by VBrick Digital Signage but may need to be manually selected in IIS.

To select Microsoft .NET 4.0 in IIS:

- Open the IIS manager
- Select Application Pools
- Double-click *DefaultAppPools*
- Choose *.NET Framework v.4.0*

On some installations, the Windows Installer service itself is automatically updated by the installer. If this happens the PC may require a reboot and will continue the installation after the reboot has been completed.

4.3 Hardware Recommendations

- Processor: 2.5 GHz Intel Core 2 Duo or better
- RAM: 2.0 GB or more
- Motherboard: Intel Q45 or better
- Graphics: OnBoard
- Network: 10/100/1000 Ethernet
- HDD: 160 GB or more

In the machine's BIOS settings, make sure the device will return to its previous state on a power fail, and will boot to the HDD each time it boots.

NOTE: Some hardware configurations that meet the minimum hardware requirements may have other factors that prevent the VBrick Digital Signage software from operating at its maximum performance.

4.4 Virtual Machine

VBrick Digital Signage Content Manager software can be installed on a virtual machine. The minimum hardware requirements need to be dedicated to the server instance VBrick Digital Signage will be installed on.

4.5 Software Environment

4.5.1 Windows Operating System

Windows Server 2008 **32-bit or 64-bit**.

The VBrick Digital Signage Content Manager software is designed to be installed and operated on a dedicated server. Sharing system resources with other applications can cause system performance issues and is not supported. When installing the VBrick Digital Signage Content Manager software on a clean operating system, the installation should be run against a local administrator account to ensure the properties and services will be installed correctly. Once the installation of VBrick Digital Signage Content Manager software is completed, users can add the Content Manager to a domain. Security policies should be applied one at a time and tested for conflicts. The use of Standard images for larger clients has proven to be problematic and should be avoided whenever possible.

4.5.2 Microsoft .NET Framework

Microsoft .NET Framework versions 3.5.1 and 4.0 are required. .NET Framework version 3.5.1 is a Windows feature that can be activated on the **Control Panel | Programs and Features** screen. Microsoft .NET Framework version 4.0 is bundled into the Content Server installer.

4.5.3 Internet Information Services (IIS)

VBrick Digital Signage uses Microsoft Internet Information Services (IIS) to host the Web VBrick Digital Signage Content Manager software interface.

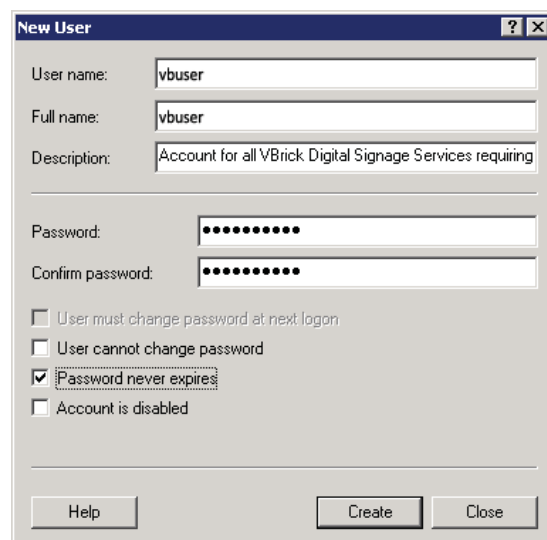
4.5.4 Service Account

When installing the VBrick Digital Signage Content Manager software on a clean operating system, the installation should be run against a local administrator account to ensure the properties and services will be installed correctly. A local Windows account is required as a service account to allow VBrick Digital Signage services to run with privilege. The VBrick Digital Signage Initialize Device Wizard needs this account in order to run correctly. This account must be a member of the local Administrators group and must be granted the "Log on as a service" permission.

The local Windows account must be created on the machine as follows:

- Name: vbuser
- Password: vbrick¹
- Make it a member of the Administrators group only
- Set the password to never expire

NOTE: Once the VBrick Digital Signage Content Manager software has been initialized, a new service account may be created and applied to the services.



¹ Some network environments require strong passwords. Choose a password that meets the security guidelines for your network environment.

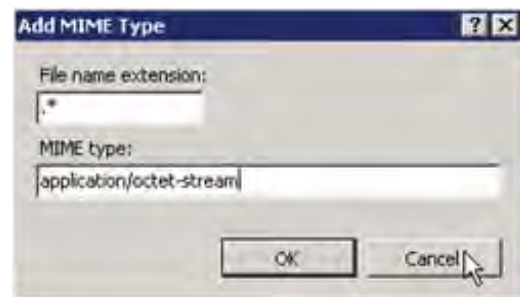
4.5.5 Windows Requirements

The following operating system configuration is REQUIRED by the VBrick Digital Signage installer, but can be changed after the VBrick Digital Signage software is installed and working:

- A local Windows account must be created on the machine, as follows:
 - o Name: vbuser
 - o Password: vbrick²
 - o Make it a member of the Administrators group only
 - o Set the password to never expire

The following configurations are REQUIRED on Windows Server:

- The *Application Server Role* which includes IIS and ASP.NET must be enabled prior to installing VBrick Digital Signage
- The ASP.NET runtime associated with the default Web Site must be version 2.
- Add the MIME type *, *application/octet-stream* to IIS:
 - o Open Internet Information Services on the Content Manager
 - o Display the Properties of the VBrick Digital Signage Web site
 - o Navigate to the HTTP tab and click on MIME Types
 - o Click New and enter the following:
 - Extension: .*
 - MIME Type: *, application\octet-stream
 - o Save the changes



To avoid problematic installations, VBrick STRONGLY RECOMMENDS the following operating system configurations:

- Install VBrick Digital Signage Content Manager software with the operating system on one NTFS partition that spans the entire physical disk.
- Install VBrick Digital Signage Content Manager software on a machine that is not part of a Network Domain or had Group Policies applied.

NOTE: See the section on Domain and Group Policies below. Disable screen saver and power saving settings, since they can prevent the automatic VBrick Digital Signage weekly reboot from occurring.
- Set all Windows event logs to *Overwrite as needed*.
- Apply the latest Windows High Priority Updates.

4.5.6 SQL Server

The default installation of the VBrick Digital Signage Content Manager Software will install an instance of SQL Server 2008 Express. Customers can install SQL Server 2005 or 2008 on the Content Manager prior to installing the VBrick Digital Signage Software, but the following must be observed:

- SQL Server must be installed with the default instance of *MSSQLSERVER*.

² Some network environments require strong passwords. Choose a password that meets the security guidelines for your network environment.

- The local Windows user account, *vbuser*, (member of the local Administrators group) must be able to authenticate and connect to SQL Server Database Engine via Windows Authentication.
 - Best practice is to install SQL Server while logged into the *vbuser* account.
 - In addition, for SQL Server 2008:
 - During installation, SQL Server Database Engine must be set to *SQL Server and Windows Authentication mode* (Mixed Mode Authentication)
- NOTE:** The VBrick Digital Signage Content Services installer will attempt to install SQL Server 2008 Express. Allow it to attempt the install and fail. Then, answer 'Yes' to allow the installer to complete the VBrick Digital Signage Content Services installation.

4.5.7 Proxy Servers

A proxy server can be used with the VBrick Digital Signage Content Manager Software; if authentication is required, the VBrick Digital Signage service account must be given permission so it can access the Internet to obtain the latest VBrick Digital Signage installation scripts and updates or changed to an account that has such permission.

4.5.8 Domain and Group Policies

Some customers require that all computers attached to the local network be a member of a network domain. The VBrick Digital Signage installation does not have that requirement – each installation is determined by the customer's network administrator. When VBrick Digital Signage is joining a local domain, it is important to note how group policies can impact the VBrick Digital Signage Installation. Often the group policies will render VBrick Digital Signage inoperable or cause the system to have degraded performance.

Systems running the VBrick Digital Signage software should not be considered desktop computers when applying security policies. It is the user's responsibility to understand this information and not to apply policies that will prevent the VBrick Digital Signage software from operating in the local environment.

VBrick suggests implementing domain or group policies once the VBrick Digital Signage system has been successfully deployed and is operating as expected. Then apply the policies one at a time, testing the impact of the applied policy on the VBrick Digital Signage functionality. Please consider creating an image of the machine as a backup before applying policies.

4.6 Installation of VBrick Digital Signage Content Manager on Windows Server 2008

4.6.1 Create Administrator account

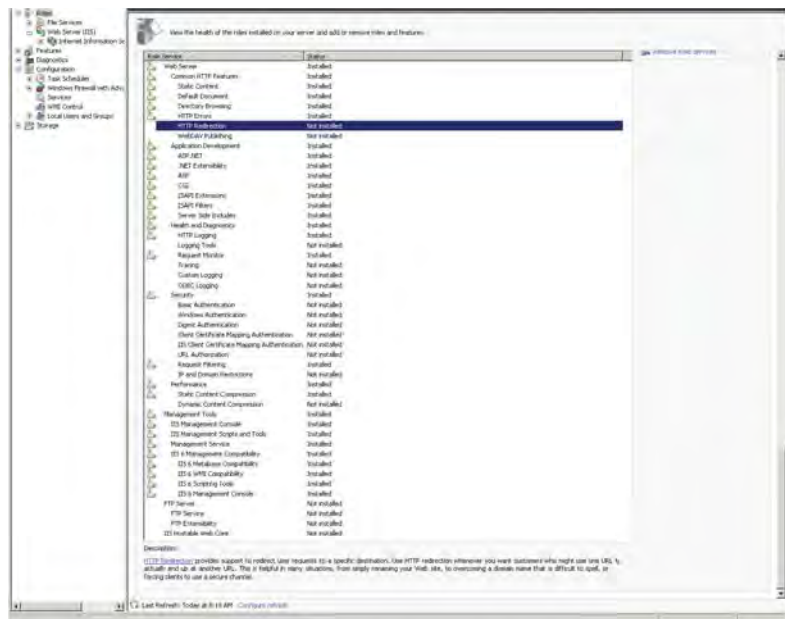
1. Right click on **Computer**, select **Manage** from the menu options. On the **Server Manager** screen expand the tree menu options **Configuration** and **Local Users and Groups** and select the menu option for **Users**.
2. In the **Users section** of the **Server Manager** screen right click and select the **New User option**.
3. Complete the **New User template**, select the **Create** button when finished
 - a. User name: vbuser
 - b. Full name: vbuser

- c. Description: Account for all VBrick Digital Signage Services requiring Privileges
 - d. Password and Confirm password: vbrick
 - e. Select the Check box for Password never expires
4. Restart the VBrick Digital Signage Content Manager and log on using the **vbuser** account.

4.6.2 Configure the OS

1. In the Control Panel select Security followed by Windows Firewall on the **Control Panel | Security** screen
2. On the Windows Firewall screen select the Change Settings link and either select the Off radio button to turn the firewall off or configure the firewall to allow the required VBrick Digital Signage Services. Refer to the *System Overview* section what services will need to be 'pinholed' thru the firewall.
3. Right click on Computer; select Manage from the menu options. On the Server Manager screen expand the Diagnostics, Event Viewers and Windows Logs menu options.
4. Verify the log settings for the Application, Security and System log files. Right click on each log file and select the Properties menu option. Confirm the Maximum log size is set to 2048 or greater and the radio button for Overwrite events as needed (oldest events first) is selected
5. On the Server Manager screen select the Roles menu option. VBrick Digital Signage requires that Web Server (IIS) has been turned on and configured. Select the Add Roles link if your Content Manager does not have Web Server (IIS) enabled.
6. On the Add Roles Wizard screen (Before You Begin) click the Next button to proceed. On the Select Server Roles screen select Web Server (IIS) and click the Next button.
7. On the Add Roles Wizard - Web Server (IIS) select the Next button.

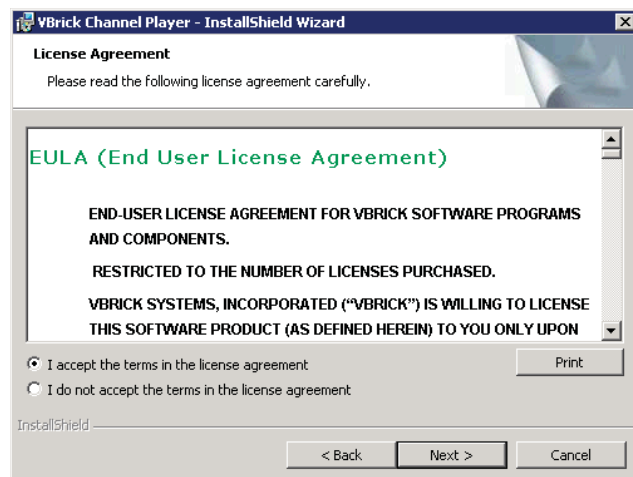
8. On the Add Roles Wizard – Select Role Services menu options. Use the screen shots below to select the known good settings for the VBrick Digital Signage IIS configuration. Once the menu items have been selected click on the Next button.
9. On the Add Roles Wizard – Confirm Installation Selections review the selections for the Web Server (IIS) configuration and click the Install button.



10. On the Add Roles Wizard – Installation Results click the Close button to complete the Web Server (IIS) configuration.
11. On the Server Manager screen, select the Internet Information Services (IIS) Manager by expand the tree menu for Roles – Web Server (IIS). Under the Connections section expand the tree menu of the Servername, Sites and Default Web Site. In the Default Web Site Home section right click on the Mime Types icon and select Open Feature from the menu.
12. On the Internet Information Services (IIS) Manager screen with the MIME Types selected find the **Actions** menu and select the **Add...** link. Complete the Add MIME Type form by adding the following information and clicking the OK button.
 - File name extension: .*
 - MIME type: application/octet-stream

4.6.3 Installation of the VBrick Digital Signage Software

1. Create the following folder “C:\Program Files\VBrick\Installers\VBrick Digital Signage” (the C: drive can be replaced with the drive letter of the clients choosing as long as there is sufficient memory space for VBrick Digital Signage Content Services Software. Copy the installation files into this folder.
2. Run the Setup.exe installation file. Be prepared for the Open File – Security Warning click the Run button to continue with the installation.
3. The VBrick Digital Signage installation requires Microsoft® .NET Framework and a specific instance of Microsoft SQL Server 2008 be installed. The installation program will evaluate the server and will request the user install the missing components.
 - a. If Microsoft SQL Server 2008 needs to be installed, click the Install button of the InstallShield Wizard screen.
 - b. If Microsoft .NET Framework needs to be installed, click the Yes button on the InstallShield screen.
 - c. Select the Next button on the Microsoft® .NET Framework 4.0 Setup screen. On the End-User License Agreement screen, check the check box acknowledging “I accept the terms of the License Agreement”. Then click the Install button. The installation package will install all .NET components once you have received the Setup Complete screen click the Finish button.
 - d. The Microsoft® SQL Server 2008 installation will require that the Microsoft .NET Framework 4.0 installation be complete prior to the installation program running. The Microsoft SQL Server 2008 installation will wait for the .NET installation is complete. No user interaction is required.
4. The VBrick Digital Signage Content Services – InstallShield Wizard will start automatically once the Microsoft SQL Server 2008 installation is complete.

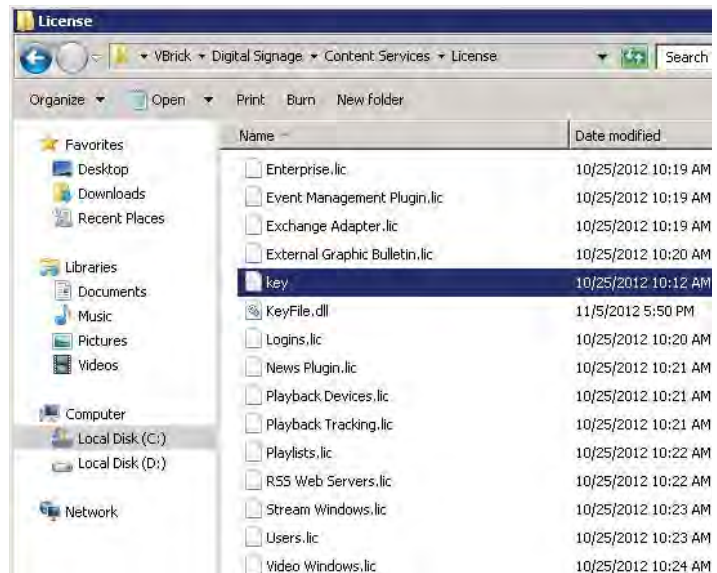


- a. Click the Next button to begin the VBrick Digital Signage installation. Select the radio button for "I accept the terms in the license agreement" and click the Next button.
- b. Complete the Customer Information screen and click the Next button. On the Notice for Feature Selection screen select the Next button.
- c. On the Setup Features screen accept the default selection unless otherwise instructed by a VBrick customer service representative. If you wish to select an alternative installation location click the Change button, otherwise select the Next button. On the Ready to Install the Program screen select the Install button.
- d. The Installing VBrick Digital Signage Content Services screen will provide the status of the installation.
- e. As components of the ASP.NET are registered a series of DOS screens will appear.
- f. Once the installation is complete the user will be returned to the VBrick Digital Signage Content Services – InstallShield Wizard click the Finish button.
5. If the server required the Windows .NET or SQL Server to be installed. Access and install all high priority Windows Updates and restart the server.

4.6.4 Licensing and Initializing the Content Manager

VBrick will supply the license keys to you prior to the implementation of the Content Manager.

1. Log on to the Content Manager with the user name *vbruser* and the password *vbrick*
2. Place the License keys in the proper installation folder. For example:
C:\Program Files\
VBrick\Digital
Signage\Content
Services\License



3. Click **Start | Programs | VBrick | Initialize Device** to begin the process building the local VBrick Digital Signage Content Manager. This process will create the database and license the VBrick Digital Signage system. There is no user interaction during this process. The system will require reboot when complete.

4.6.5 Post VBrick Digital Signage Installation Configurations

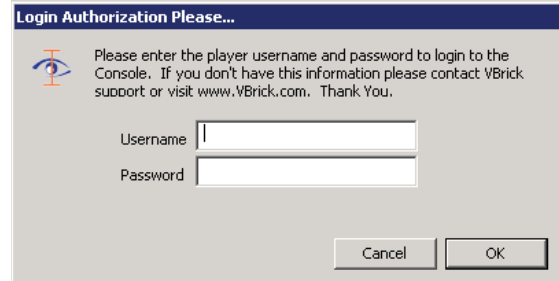
1. Open Internet Explorer and enter the address <http://localhost>
2. Enter the VBrick Digital Signage default username **admin** with the password **admin**

5.0 Signage Player Options

In order to make any changes to the Signage Player, you must access the signage player console.

5.1 Accessing the Signage Player Console

1. With a keyboard and mouse connected to the Player, press the **ESC** key on your keyboard. This action may need to be repeated to interrupt the media player.
2. A bouncing screen saver image will instruct to you to use the keyboard or mouse to login
3. When prompted by the login screen, enter your user name and password and select ENTER.
 - a. The default credentials are:
user name – **admin**; password – **admin**
4. The Player Console will appear



If you do not login to the Console within 30 seconds, the Player will return to the *Console Ready for Login* image.

5.2 The Signage Player Console

The Signage Player Interface (Console) is designed to give you quick access to a number of tools to manipulate Signage Player settings. You can access each setting with a mouse or the shortcut key in parentheses next to each setting title.

5.2.1 Signage Player Settings

- **play! (p)** – launches the media player delivering scheduled content to associated displays.
- **display (1)** – allows the user to manipulate the Players display settings.
- **video window (2)** – provides control over the video window option if available.
- **sound (3)** – allows users to manipulate the audio inputs and output of the Signage Player.
- **communications (4)** – designate the appropriate communications settings DHCP (automatic addressing) or static IP address.
- **date & time (5)** – allows the user to set the current local date, time and time zone for the Player.
- **security (6)** – change the user name and password to prevent unauthorized access.



- **statistics (7)** – provides Signage Player statistics regarding used disk space and historical file size data. This function is not active in versions 3.x and above.
- **command prompt (c)** – opens a VBrick Multimedia Player Command session to the Signage Player, type maintenance mode to access the Windows shell.
- **firmware update (f)** – allows users to update Signage Player firmware from the console. This function is not active in versions 3.x and above.
- **logout (l)** – saves current settings and exits the Console. Returns to the Screen Saver requesting the user to press any key to login. If you intended to launch to the media player, select play! (p) from the Console.
- **shutdown (u)** – shuts down the Player. This is not a reboot command. If you want to turn the Player on after it is shut down, you will be required to do so at the Player.
- **reboot (r)** – reboots the Signage Player.
- **tuner (t)** - launches the tuner card configuration program selector utility

5.2.1.1 Accessing the Windows Layer

In rare circumstances, you may find it necessary to access the Windows layer of the Signage Player. To exit the Signage Player shell and access Windows, you will need a keyboard and mouse connected to the Signage Player. If the display associated with the Signage Player is not readily viewable, a local monitor will be useful. If you prefer, you can use Remote Desktop Connection to access the players. The players come with RDP enabled by default.

To access Windows:

1. With the Signage Player playing, click the mouse and press ESC
2. Login to the player menu. Username is **admin** password is **admin**
3. Select the Command Prompt(c) option
4. At the C: Type in "maintenancemode"
5. Press the **Enter** key on the keyboard

NOTE: At this stage you are viewing the Windows desktop. However, icons and other visible items are hidden. Drag your mouse to the lower part of the screen to view the Windows task bar.

If the Signage Player application interferes with your work, you can stop the software using the Task Manager.

To stop the Signage Player using the Task Manager:

1. Press CTRL-ALT-DEL on your keyboard at the same time
2. In the Task Manager select VBrick Multimedia Player Console and click the End Task button in the lower left corner of the dialog box
3. If prompted, click End Now
4. If you receive a Player Host Process notice, click **Don't Send**

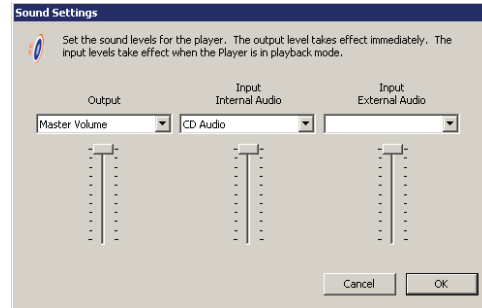
5.2.1.2 Audio Options

The audio properties of the Signage Player can be changed using this screen.

The properties include:

- Player Audio Output
- Internal Audio Input – background music, multimedia audio
- External Audio Input

Select and manipulate the internal audio input (wave, sw synth, CD volume, etc...) and select and manipulate the physical external audio input (rear blue in, rear pink in, etc...). The output device slider is included to show the current output level, but cannot be used to change the master output level. The Signage Player supports the onboard Intel HD audio and the accompanying Realtek mixer.



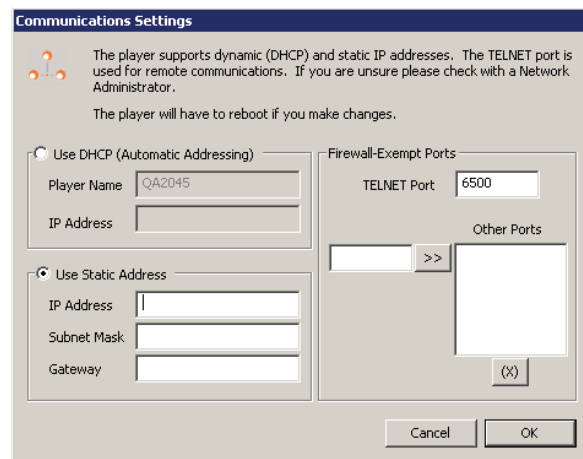
5.2.1.3 Signage Player Name & IP Address (Communications)

The Communications dialog is used to change the:

- Player Name
- Static IP Information
- Telnet Port

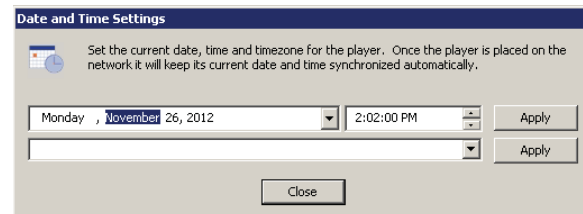
If assigning a static IP address, you should know the IP address, subnet mask and gateway address. The Signage Player uses TCP port 6500 for remote communications. Firewall-Exempt port functionality is not activated in version 4.x.x.

The Player will reboot after you make changes to these settings.



5.2.1.4 Time, Date and Time Zone

The Date and Time Setting screen can be used to update the date, time and time zone. Be sure to click apply after changing the date and time, then again after changing the time zone.



5.2.1.5 Display Resolution

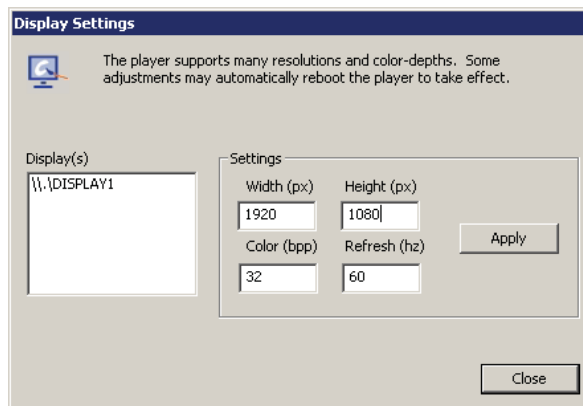
This screen is used to change the Channel Player display properties. Be sure to click on a Display before entering or changing settings. These settings include:

- Screen width in pixels
- Screen height in pixels
- Color Depth
- Refresh rate in Hz

If the Player will not accept your edits, it is because the onboard drivers or extended video card have not been configured to support your selection.

If this is the case, you will have to exit the Player shell and manipulate the settings at the Windows level.

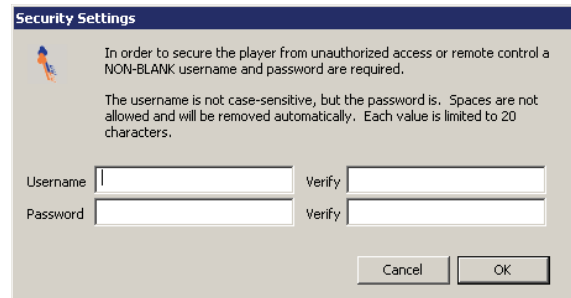
There are corresponding settings that should be edited on the Content Manager to ensure the content blocks scale correctly.



5.2.1.6 Security

A non-blank user name and password are required. The user name is NOT case-sensitive, but the password IS case-sensitive. Spaces are NOT allowed and will automatically be omitted. Each value is limited to 20 characters. Changes are permanent and should be documented accordingly.

- Default user name: **admin**
- Default password: **admin**

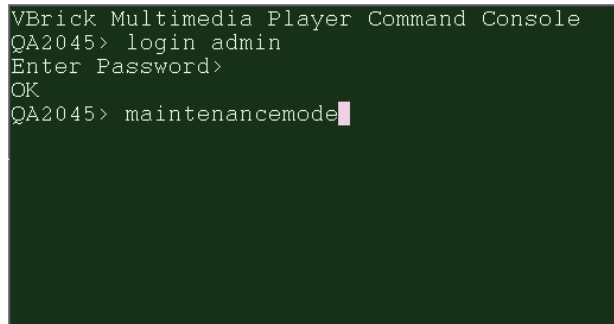


5.2.1.7 Statistics

This function is not active in versions v.3.x and above.

5.2.1.8 Command Prompt

The Command Prompt option is used to start a local VBrick Multimedia Player Command Console session.

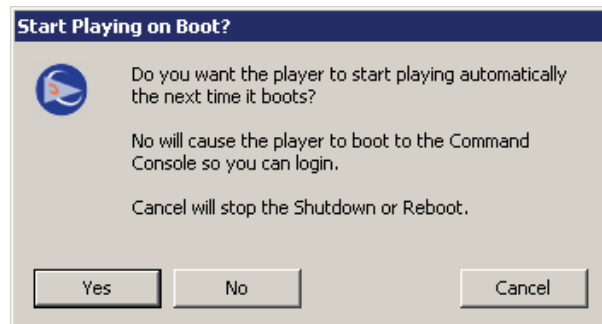


5.2.1.9 Firmware Update

This function is not active in versions v.3.x and above. Any required firmware updates are handled during the software update process.

5.2.1.10 Shutdown & Reboot

The shutdown and reboot options allow the user to shut down or reboot the player as well as select whether the player will start in "Console" mode or "Playback" mode.



NOTE: When you select this command, you will be prompted to select whether or not you want the Player to launch the media player once the machine reboots.

6.0 Feature Configuration Guide

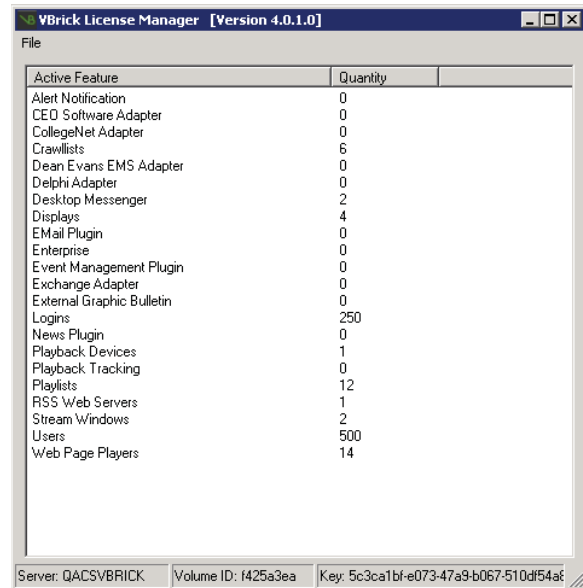
Most of the features are configured by following this general sequence

- Enable license, if applicable
- Set operating system and network parameters, if applicable
- Configure the application-level behavior using Web User Interface, if applicable

6.1 Licensing

Description

VBrick Digital Signage installs all features of the system. Licensing controls whether or not a particular feature is available. Each installation (Content Manager and all of its associated Signage Players) has an Installation Key or CD Key. Each feature and its quantity, where applicable, require a License Key. This key is created from the installation key, a code from the server itself and the definition of the feature. A License Manager tool is included with VBrick Digital Signage. It allows you to review the features activated on your server. If you later purchase new features, this tool allows you to request and activate a new License Key for that new feature.



Active Feature	Quantity
Alert Notification	0
CEO Software Adapter	0
CollegeNet Adapter	0
Crawllists	6
Dean Evans EMS Adapter	0
Delphi Adapter	0
Desktop Messenger	2
Displays	4
E-Mail Plugin	0
Enterprise	0
Event Management Plugin	0
Exchange Adapter	0
External Graphic Bulletin	0
Logins	250
News Plugin	0
Playback Devices	1
Playback Tracking	0
Playlists	12
RSS Web Servers	1
Stream Windows	2
Users	500
Web Page Players	14

License Manager

To request a License Key:

1. Run **Start | Programs | VBrick | License Manager**
2. The "Activate Server" dialog will appear if this is the first time the license manager is run
 - a. Enter the CD key and click "Activate"
3. Create a license request file for displays
 - a. Click **File | Activate Feature**
 - b. Click "Next" to request an activation key
 - c. Pick the "Feature", enter into "Quantity" the number desired and click "Create Request File"
 - d. The request file should be saved in C:\Program Files\VBrick\Digital Signage\License
4. Submit the request file to VBrick to have activation keys issued to support@vbrick.com
 - a. Email all of the .req files in C:\Program Files\VBrick\Digital Signage\License along with information to identify your installation. This includes your organization name, your reseller's name, the VBrick Sales Order number located on the packing list, etc. Your request file will be matched to your recorded system configuration to generate the correct license files for your system, which will then be returned to you.
5. Only features and quantities that can be verified will receive activation keys

To activate a new License Key:

1. Run **Start | Programs | VBrick | License Manager**
2. Click **File | Activate Feature** on the menu
3. Select "I already have an activation key" and click "Next"
4. Click "Import Activation Key" to import a key then click "Activate" to activate the key
5. Repeat previous step for all keys that require activation
6. Reboot the Content Manager for the changes to take effect

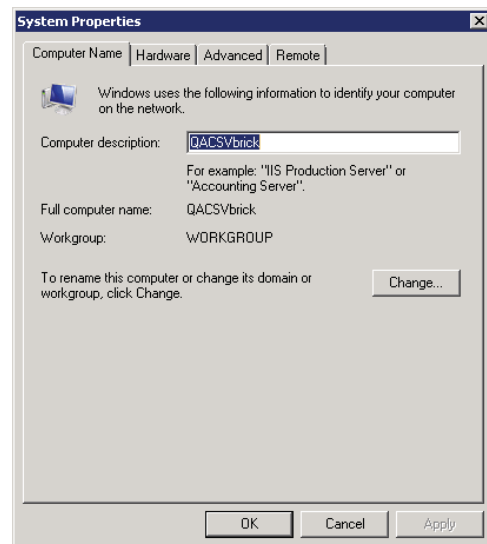
6.2 Content Manager Options

6.2.1 Changing the Name of the Content Manager

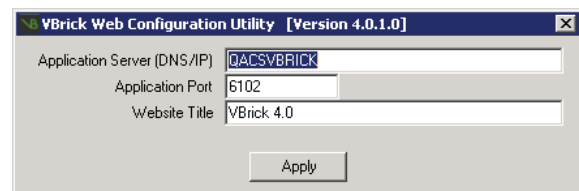
The VBrick Digital Signage database uses the computer name as the key to its structure. Therefore, a computer name change requires changes in VBrick Digital Signage as well.

To change the name of the Content Manager:

1. Change the Windows computer name
 - a. Right click My Computer and select properties
 - b. Select the "Computer Name" tab
 - c. Click the "Change" button
 - d. Enter the new computer name
 - e. Press "OK", the Press "OK" again
2. Reboot the server
3. Go to **Start | Programs | VBrick | Configure Device**
 - a. Go to the Connection tab
 - i. Enter the new computer name as Database Server (DNS/IP)
 - ii. Click "Apply" to save settings
 - b. Go to the Configure tab
 - i. From the Change section select Device Name
 - ii. Select the computer whose name you are changing
 - iii. Enter the new name
 - iv. Click Change
 - c. Exit the application
4. Go to **Start | All Programs | VBrick | Configure Web Interface**
 - a. Go to the Connection tab
 - i. Enter the new computer name as Application Server (DNS/IP)
 - ii. Click "Apply" to save settings



Rename Computer

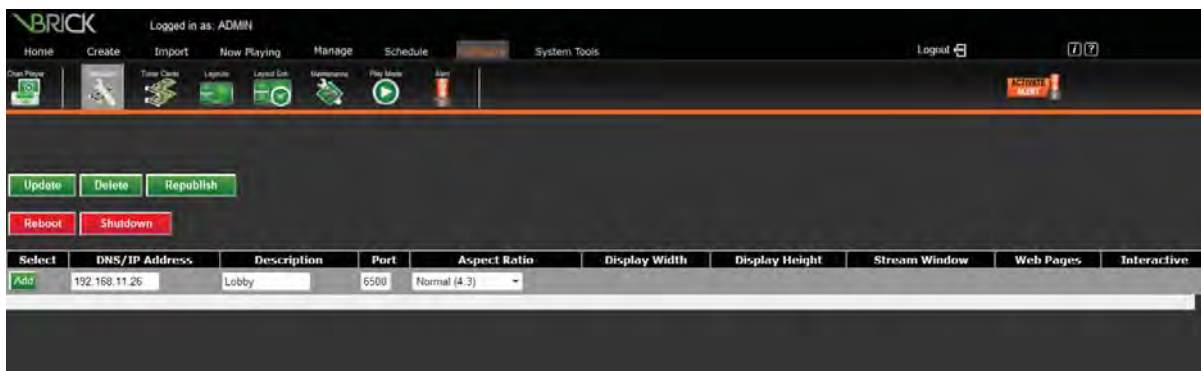


Rename Content Manager in VBrick Digital Signage

5. Exit the application
6. Go to **Start | Programs | VBrick | Configure Web Public Interface**
 - a. Go to the Connection tab
 - i. Enter the new computer name as Application Server (DNS/IP)
 - ii. Click “Apply” to save settings
 - b. Exit the application
7. Go to **Start | Programs | VBrick | Configure Web Content Upload Service**
 - a. Go to the Connection tab
 - i. Enter the new computer name as Application Server (DNS/IP)
 - ii. Click “Apply” to save settings
8. Exit the application
9. Reboot the server

6.2.2 Add a Signage Player to a Content Manager

1. Login to the Content Manager
2. Select the **“Configure”** menu then **“Signage Players”** then **“Hardware”**
3. Enter the **“Network (DNS) Name”** or IP Address of the Signage Player
4. Enter the **“Description”** or **“Friendly Name”** such as “Break room”
5. Enter the **“TCP Port”** of 6500
6. Click the **“Add”** button
7. If the Content Manager cannot reach the Signage Player you will be notified
8. If you are returned to the “Hardware” screen, the addition was successful



Add a Channel Player

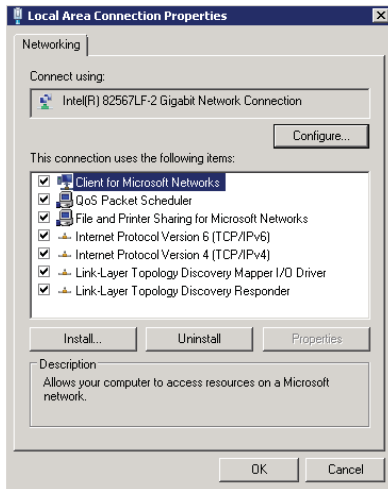
6.2.3 IP Address

VBrick Digital Signage servers come from the factory configured for DHCP operation. If this is not applicable to your network, your network administrator should provide you with the following information:

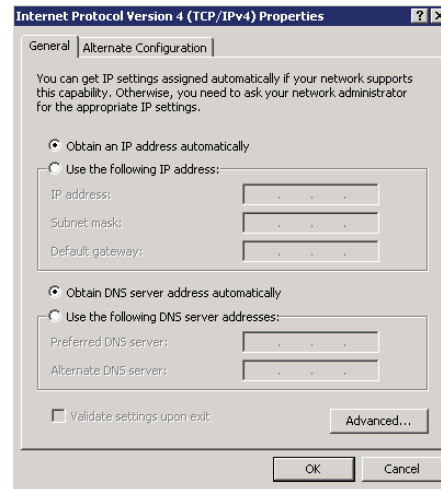
- IP address
- Subnet mask address
- Workgroup/domain name (optional)
- Gateway address
- DNS service addresses (optional)

Once you have obtained this information, right-click on the My Network Places icon on the desktop, and click on Properties. In the window that opens, right-click on the Local Area Connection icon and click on Properties. Choose Internet Protocol (TCP/IP) and click on the Properties button

Type in the IP address, Subnet Mask address, and Default Gateway address provided to you by your network administrator. Type in the DNS addresses, and then click OK. Close all associated open windows.



Network Connection Properties



Network Address

6.3 Desktop Messenger

This feature allows you to schedule VBrick Digital Signage messages as instant messages to any licensed PCs that have the VBrick Desktop Messenger application properly installed and configured.

To Install and Configure Desktop Messenger:

1. Go to System Tools and select Desktop Messenger
2. Right Click on *Install VBrick Desktop Messenger Client Installer*
3. Choose Save As/Download from your browser pop-up menu to save the installation program on your C: drive.
4. Once the installer has been downloaded, run it to install the VBrick Desktop Messenger client program.
5. When the InstallShield Wizard is complete click on the Launch VBrick Desktop Messenger then click on Finish.
6. You will find the VBrick Desktop Messenger icon on your desktop toolbar.
7. To configure the toolbar, right click on the icon and select Configure.
8. Enter the URL of your publisher server followed by */DesktopPublisher/Desktop-Gateway.aspx*. Click **Test**. If using a proxy server, enter proxy information.
9. Click Add/Change to subscribe to a distribution list. Some distribution lists are password protected. If so, user must enter the password to subscribe.

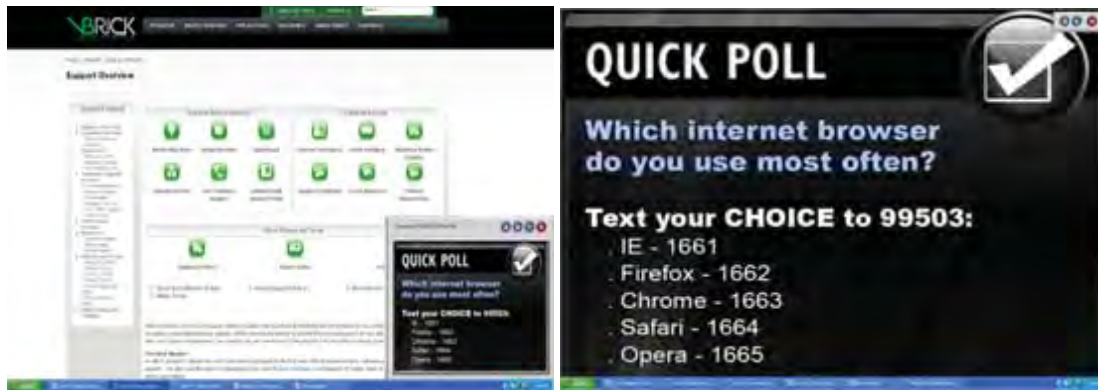
6.3.1 Message Storage and Appearance Options

Days in History, indicates the number of days the Desktop Messenger will store a message for viewing. You can click through past messages stored in history by clicking the

forward and back arrow buttons on the top right of the window. Click the magnifying glass to view full screen

6.3.1.1 Transparency

Desktop Messenger supports transparency and several popup sizes. Preferences for these options can be set on the Configuration screen.



Desktop Messenger Transparency

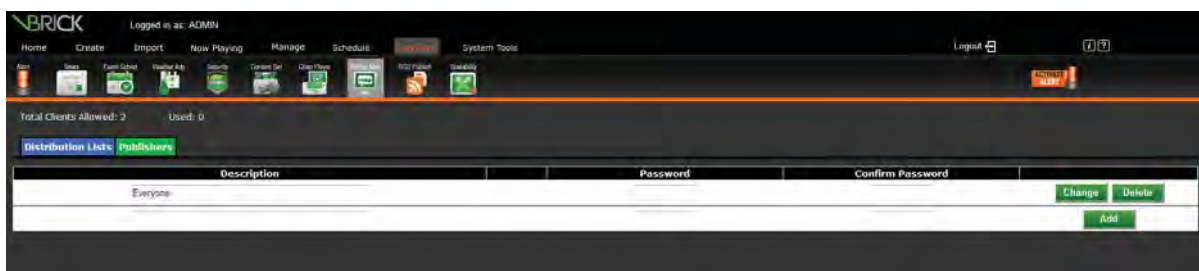
Desktop Messenger Full Screen

6.3.1.2 No Messages

When there are no messages in history, a stock message appears.

6.3.1.3 Configure Publishers from the Content Manager

Desktop Messenger can support multiple distribution lists. Multiple publishers can be setup on different servers to spread out the network load. Desktop Messenger is licensed by client count. All publishers reserve a portion of the client count. The total of all publishers reserved count cannot exceed the license count. Publishers should be installed onto PCs or servers to maximize throughput through the network.



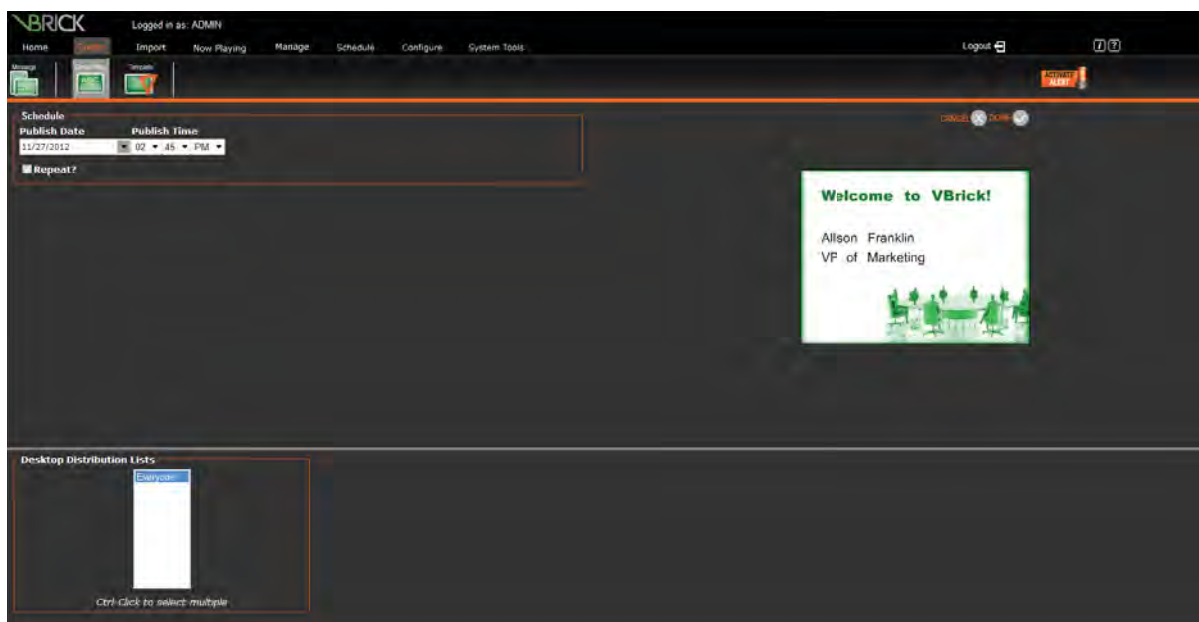
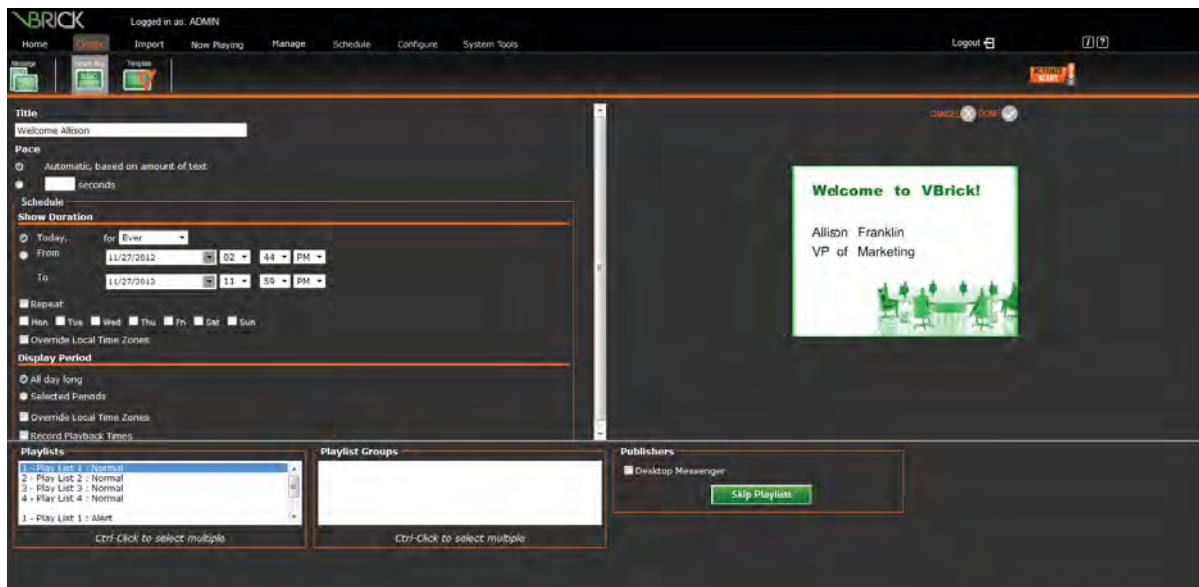
6.3.1.3.1 Publish Messages

A Desktop Message is a message that excludes videos and PowerPoint files. If an installation is licensed for Desktop Messenger and the user has the *Create Desktop Message* privilege, the schedule screen includes the Desktop Messenger. The user can schedule the message to both Playlists and the Desktop Messenger, or *Skip Playlists!* in order to schedule exclusively to the Desktop Messenger.

Once the message has been published to the Play List(s) or the play lists have been skipped the publish schedule screen appears. The schedule attributes are different than for Playlists. A message can be scheduled for one-time publishing or recurring

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publishing. There is no notion of a list of items that play over and over. Scheduling is not real-time. It can take several minutes from the time that a message becomes eligible for publishing to the Desktop Messenger until it is actually delivered. This is due to the multi-tier distribution model.



6.3.1.3.1 Now Playing

Now Playing has been enhanced for users with the *Create Desktop Message* privilege. The new screen 'Publishers' will automatically appear in the menu tree. The screen is intentionally similar to **Now Playing | Play Lists**, offering the user the opportunity to change or remove the message from the schedule or to edit the underlying message using the same rules as **Now Playing | Play Lists**.

6.3.1.3.1 Message Distribution

The Desktop Messenger distributes messages through two tiers. The Desktop Distributor must reside on the Content Manager and distributes messages to all of the configured

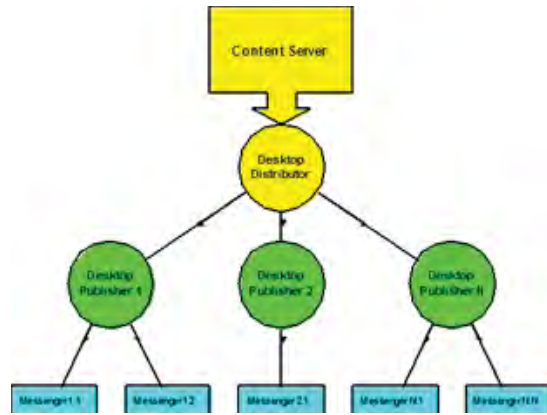
Desktop Publishers. Each Publisher, in turn, is responsible for distributing messages to all the subscribing Messengers.

6.3.1.3.1 Deployment Scenario 1

For many installations, such as small customers, both tiers can be deployed on a single server.

6.3.1.3.1 Deployment Scenario 2

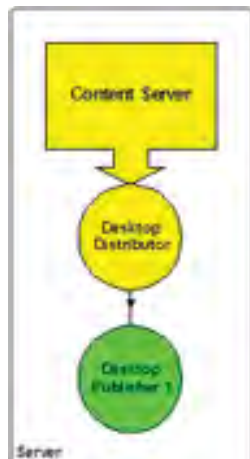
For larger customers or customers with network constraints, the Publishers can be spread out on separate servers in addition to the Content Manager.



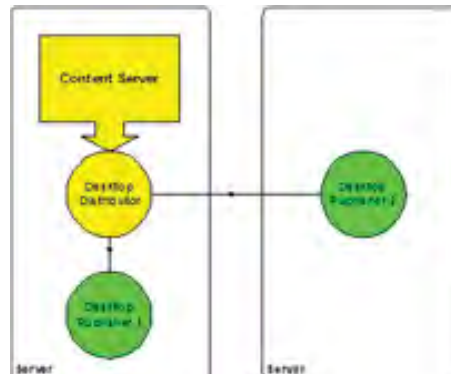
Message Distribution

6.3.1.3.1 Deployment Scenario 3

For Enterprise customers or customers with network or Content Manager constraints, all Publishers can be deployed on separate servers, excluding the Content Manager. A Content Manager constraint, in this scenario, means that the Content Manager is being fully utilized (many plug-ins and adapters are licensed and running).



Deployment Scenario 1



Deployment Scenario 2

6.3.1.3.1 Configuring Distribution

Each server that functions as a Desktop Distributor or a Desktop Publisher can be configured via a straightforward XML (text) file. This new XML file will become the standard for system-level configuration of future features and services within VBrick Digital Signage.

Tei.Settings.xml

This file is contained within the same directory as the server executable files. Below are the portions of the file that control Desktop Message distribution.

<DesktopMessageDistributor> Options

These options control the system-level behavior of the Desktop Distributor.

Option	Description
run	Controls whether this service executes. Any value but "true" means "false". Rather than running all services all the time, the new architecture supports selective execution. Run should be set to "false" unless the Desktop Messenger is licensed, otherwise the service will log an error and terminate.
runDelay	The number of seconds to wait after the server boots before starting this service. This gives the administrator control over the time lag for Network and Database services to start in Windows.
networkChunkSize-InKb	The maximum single blob to copy across the network. Normally 100Kb renders the fastest distribution.
idleBeginTime	The time each day that the distribution service should become dormant. This is useful for customers that don't want messages delivered during backups or other critical network usage. To disable the daily idle time simply make idleBeginTime and idleEndTime the same time.
idleEndTime	The time each day that the distribution service becomes active. See 'idleBeginTime' for more information.

<DesktopMessagePublisher> Options

These options control the system-level behavior of the Desktop Distributor.

Option	Description
run	Controls whether this service executes. Any value but "true" means "false". Rather than running all services all the time, the new architecture supports selective execution. Desktop Publishers do not evaluate licensing – that burden is placed on the Desktop Distributor.
runDelay	The number of seconds to wait after the server boots before starting this service. This gives the administrator control over the time lag for Network and Database services to start in Windows.
networkChunkSize-InKb	The maximum single blob to copy across the network. Normally, 100Kb renders the fastest distribution.
workerThreadCount	The number of threads of execution to spawn when a message must be pushed to Desktop Messengers. Network and System Administrators can control the speed of distribution and load on the server and network by manipulating the networkChunkSize-InKb and workerThreadCount values.
broadcastPort	The UDP port on which the publisher advertises for Desktop Messengers. (the Find feature of the Desktop Messenger)
listenerPort	The TCP port on which the publisher listens for content pushed down from the Desktop Distributor and for subscription requests from Desktop Messengers.

Option	Description
idleBeginTime	The time each day that the distribution service should become dormant. This is useful for customers that don't want messages delivered during backups or other critical network usage. To disable the daily idle time simply make idleBeginTime and idleEndTime the same time.
idleEndTime	The time each day that the distribution service becomes active. See 'idleBeginTime' for more information.
contentKey	The VBrick Digital Signage Content Installation key that the publisher will accept. This installation key must match the installation key originating the Desktop Messages, or they are rejected.

6.4 RSS Publisher

The RSS Publisher can provide RSS Readers with play lists and their images. All public play lists are eligible for RSS Publishing. The RSS Publisher is licensed by the number of RSS Web Servers. During installation, you can choose to create an *RSS Web Site* as a sub-selection of *Content Publishers*.

6.4.1 Configure Publishers

The Web configuration screen allows you to specify the RSS Web Sites. You can also specify how often content is refreshed to the RSS Web Sites. The RSS Readers will hit the sites and receive new content only after the sites themselves have been updated.

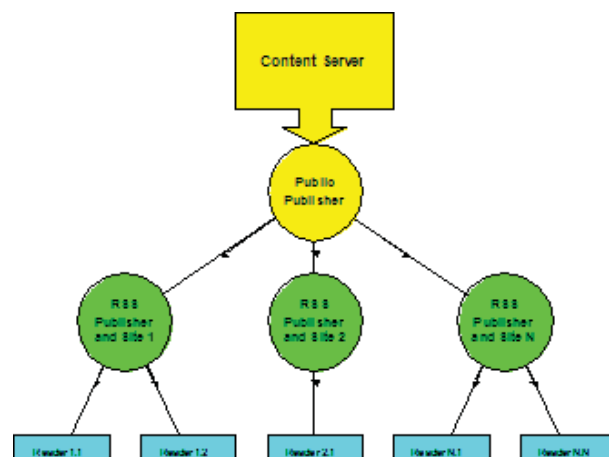


6.4.1.1 Content Distribution

The RSS Publisher distributes content through two tiers. Since all 'public view' content is eligible, the Public Publisher constitutes the first tier and is located on the Content Manager. It distributes content to all RSS Publishers, which must reside on the same servers as their corresponding RSS Web Sites. RSS Readers simply poll the RSS Web Sites at their configured or on-demand interval.

6.4.1.2 Deployment Scenario 1

For many installations, such as small customers, both tiers can be deployed on a single server.



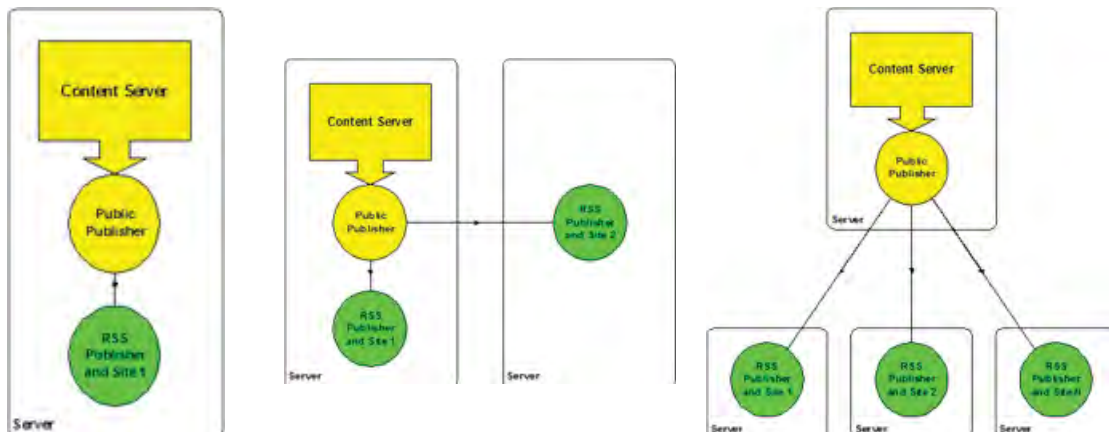
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6.4.1.3 Deployment Scenario 2

For larger customers or customers with network constraints, the Publishers can be spread out on separate servers in addition to the Content Manager.

6.4.1.4 Deployment Scenario 3

For Enterprise customers or customers with network or Content Manager constraints, all Publishers can be deployed on separate servers, excluding the Content Manager. A Content Manager constraint, in this scenario, means that the Content Manager is being fully utilized (many plug-ins and adapters are licensed and running).



Deployment Scenario 1

Deployment Scenario 2

Deployment Scenario 3

6.4.1.5 Configuring Distribution

Each server that functions as a Public Publisher or a RSS Publisher can be configured via a straightforward XML (text) file. This new XML file will become the standard for system-level configuration of future features and services within VBrick Digital Signage.

Tei.Settings.xml

This file is contained within the same directory as the server executable files. Below are the portions of the file that control RSS Publisher distribution.

```
<Publishers>

  <PublicPublisher
    run="false"
    runDelay="60"
    networkChunkSizeInKb="100"
    idleBeginTime="09:00:00 PM"
    idleEndTime="05:00:00 AM" />
```

<PublicPublisher> Options

These options control the system-level behavior of the Public Publisher.

Option	Description
Run	Controls whether this service executes. Any value but "true" means "false". Rather than running all services all the time, the new architecture supports selective execution. run should be set to "false" unless the RSS Publisher is licensed, otherwise the service will log an error and terminate.
runDelay	The number of seconds to wait after the server boots before starting this service. This gives the administrator control over the time lag for Network and Database services to start in Windows.
networkChunkSizeInKb	The maximum single blob to copy across the network. Normally 100Kb renders the fastest distribution.
idleBeginTime	The time each day that the distribution service should become dormant. This is useful for customers that don't want messages delivered during backups or other critical network usage. To disable the daily idle time simply make idleBeginTime and idleEndTime the same time.
idleEndTime	The time each day that the distribution service becomes active. See 'idleBeginTime' for more information.

<RssPublisher> Options

These options control the system-level behavior of the RSS Publisher.

Option	Description
Run	Controls whether this service executes. Any value but "true" means "false". Rather than running all services all the time, the new architecture supports selective execution. RSS Publishers do not evaluate licensing – that burden is placed on the Public Publisher.
runDelay	The number of seconds to wait after the server boots before starting this service. This gives the administrator control over the time lag for Network and Database services to start in Windows.
listenerPort	The TCP port on which the publisher listens for content pushed down from the Public Publisher.
publishRoot	The root physical directory of the RSS Web Site. All content that the publisher receives will be placed in this directory.
siteURL	The client-accessible URL to the RSS Web Site. The publisher creates the reader files with internal references to this URL so that readers can pull down individual images.

6.5 Login Page Logo Customization

The maximum logo size supported by the login page is 450 pixels wide by 240 pixels high. The logo block is located along the left edge of the page, 335 pixels down from the top of the page.

6.5.1 Logo Configuration

To use a custom logo:

1. Copy the desired logo file into the Logos directory
 - a. The Logos directory is located in the Web installation directory, which is typically C:\Program Files\VBrick\Digital Signage\Content Services\Web *
 - b. The type of graphics files are limited to those supported by browsers (JPG, GIF, etc.)
2. Register the new logo file name with the VBrick Digital Signage Web application
 - a. Open the Web.config file with notepad or another text editor, which is located in the Web installation directory
 - b. Find the line that looks similar to: `<add key="CustomImageName" value="tei_color_128.gif"/>`
 - c. Edit the `value=""` portion and insert the name of the new logo file
3. All logos are horizontally aligned to the middle of the logo section of the page, but their vertical alignment can be controlled
 - a. Open the Web.config file with notepad or another text editor, which is located in the Web installation directory
 - b. Find the line that looks similar to: `<add key="VAlignCustomImage" value="middle"/>`
 - c. Edit the `value=""` portion and insert one of the key words: top, middle or bottom

6.6 Configuring Web Viewer (Public Pages)

The Public (Slide Show) screen provides a way to view content generated by the VBrick Digital Signage software for selected play lists by people who do not have VBrick Digital Signage user accounts. It can also be used to embed the slide show in organizational Web sites and portals. The play lists must be marked as 'public' in their setup. The screen comes with standard navigation controls for Play, Stop, Next, Back, First and Last. The following table explains how to make a public image clickable (for navigation to another Web resource), the format of the URL and options in the Web.config file that can be configured to control the behavior of the slide show.



6.6.1 Configuration (Basic)

In order to provide navigation from a public image to another Web resource, the title of the message must be formatted as a valid URL. This title can be in the form `http://rest-of-url` or `https://rest-of-url`.

The URL Format is:

- `http://host/public/playlistview.aspx?option=value&option=value...`

Option	Required	Description
<i>playlistNbr</i>	Yes	This option is required and is numeric. It represents the play list number.
<i>mode</i>	Yes	This option is required and is alphanumeric. It represents the play mode of the play list.
<i>height</i>	Yes	This option is required and is numeric. It represents the height in pixels of the slide show image (this doesn't include the title banner or navigation buttons). The aspect ratio of the image is preserved in all cases.
<i>installation-Label</i>	No	This option is not required and if specified, must be a discreet value. It represents the relative font size of the title in the banner. The choices are: <ul style="list-style-type: none"> • xx-small • x-small • small • smaller • medium • large • larger • x-large • xx-large
<i>Banner</i>	No	This option is not required and if specified, must be numeric and between 0 and 100 inclusively. It represents the percent of the banner's configured height to use. 0 hides the banner and 100 shows the banner at full height. When not specified, the default value of 100 is assumed.
<i>navigation</i>	No	This option is not required and if specified, must be numeric and between 0 and 100 inclusively. It represents the percent of the navigation button's configured height to use. 0 hides the navigation buttons and 100 shows them at full height (and width). When not specified, the default value of 100 is assumed.

Sample HTML Address with all options ON

`http://qacsvbrick/public/playlistview.aspx?playlistNbr=1&mode=Normal&height=480&installationLabel=large&banner=100&navigation=100`

6.6.1.1 Web.config file (Advanced)

The Web.config file in the Public directory offers configuration values that control basic behavior. The options specified on the URL further specializes the look and behavior.

Web.config *BannerHeight* value

- This is a numeric value in pixels and controls what 100 percent means with the URL banner option.

Web.config *NavigationHeight* value

- This is a numeric value in pixels and controls what 100 percent means with the URL navigation option.

Web.config *PollInterval* value

- This is a numeric value in milliseconds (1/1000 of a second) and determines how long each message displayed before the next message when the slide-show is in auto-play mode

Web.config *TimeoutInterval* value

- This is a numeric value in milliseconds (1/1000 of a second) and determines how long the user's browser will wait for an image to be fetched from the server - messages that take longer than this interval are skipped

Web.config *VerticalSpacing* value

- This is a numeric value in pixels and controls the amount of vertical white space between the bottom of the slide image (message) and the top of the navigation buttons (this value has meaning only if the navigation buttons are shown)

Web.config *ErrorMessage* value

- This is a text value that controls the error text displayed if an error occurs trying to retrieve an image. The default value is "Public play list is not available at this moment. Please try again shortly."

6.7 Old Message Purge

Large implementations have to support hundreds of users manipulating messages across hundreds of playlists to hundreds of players. "Old" messages are very frequently created by changing content.

The VBrick Digital Signage Content Purge Service that runs on the Content Manager has been enhanced to automatically purge old messages, based on settings established in the Tei.Settings.xml file. Only Enterprise licensed systems support this automatic "old" message purge.

A new section has been added to Tei.Settings.xml for controlling the behavior of the purge. This new section is a direct subordinate of the <Services> section.

Name	Meaning
run	Controls whether the Enterprise "Old" Message purge executes when the VBrick Content Purge Service starts
maximumMessageAgeInDays	The maximum number of days a message can stay in My Content AFTER it is removed from the playlists in Now Playing Bulletins

```
<Services>
<EnterprisePurge
  run="false"
  maximumMessageAgeInDays="60" />
</Services>
```


6.7.1.1 Unpurgable Messages (Limitations)

Some messages cannot be detected by the automatic “old” message purge.

6.7.1.1.1 Never Scheduled

If a user creates a new message but doesn't schedule it, the message remains in My Content forever. The “old” message purge is based on the premise that the message has dropped off the schedule – and this is detected by finding out the last time it was known to be on the schedule.

6.7.1.1.1 Very Short Schedule

If a message is scheduled to play for a very short duration, it is possible that it will be added to the system, scheduled, played, then removed from the schedule between the VBrick Digital Signage Content Purge Service' purge cycles. Messages like this look the same as “never scheduled” messages to the purge.

6.8 Mode Management

Mode Management is the ability to activate a specific mode on a set of players at once, rather than one player at a time.

It is accessed from the **Configure | Signage Players | Group Mode** menu. This menu option is visible only when the installation is licensed as an Enterprise installation.

Every installation has a built-in group called “All Players” that can be used to activate a play mode on all players at once. In order to activate only some players, the customer must form groups by using the **Configure | Signage Players | Groups** screen.

The Group Mode screen does not show the currently activated mode on every group since the players within the group can have different active modes at the same time.

When you activate a new mode on a player group, the players within the group are all updated on the Content Manager. The new mode will become effective on all the players when the updated ATD files are published to the players (within the next publishing cycle). The visual feedback upon successful activation is text in the Activated Mode column.

6.9 Player Vertical Scalability

Enterprise customers can now choose to deploy multiple Signage Player Publishers to support a very large number of Signage Players. This new approach is called *Multi-Tier Publishing* where more than one tier of distribution is used to spread the load across network segments as efficiently and quickly as possible.

6.9.1 Player Enterprise Publishers

A new publisher, the Player Enterprise Publisher, has been added to VBrick Digital Signage and is accessible and configurable for Enterprise customers.

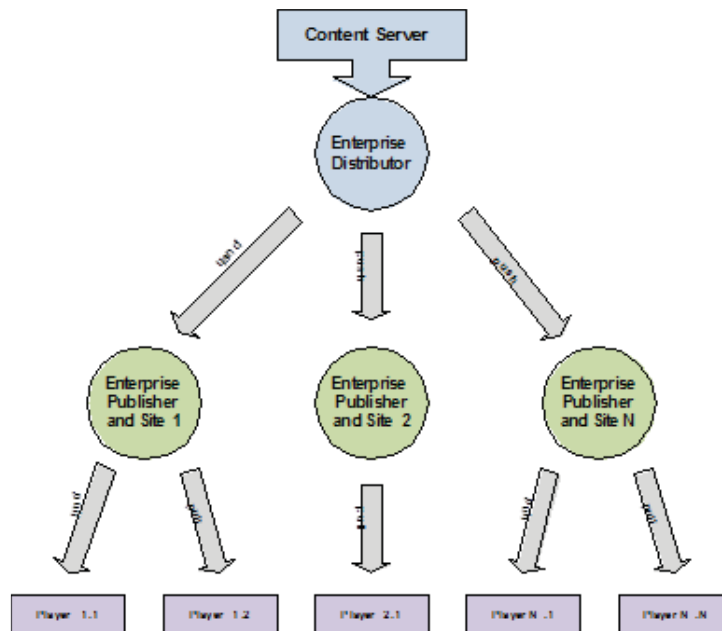
6.9.2 Components

Three new components have been added to enable multi-tier publication: Enterprise Distributor, Enterprise Publisher and the Consumer.

6.9.3 Enterprise Distributor

The Enterprise Distributor must sit on the Content Manager, and executes inside the VBrick Digital Signage Content Publishing Service, in place of the old content publisher.

It pushes content to the Enterprise Publishers, based on the configuration established in the Web UX.



6.9.4 Enterprise Publisher

The Enterprise Publisher can reside on the Content Manager, a separate server or PC or on a Signage Player. It accepts content from the Enterprise Distributor and makes that content available to players via an IIS virtual directory. The bulk of the transfer load, including simultaneously downloading, is handled by IIS and web download protocols. The Enterprise Publisher keeps itself clean of all old content.

6.9.5 Consumer

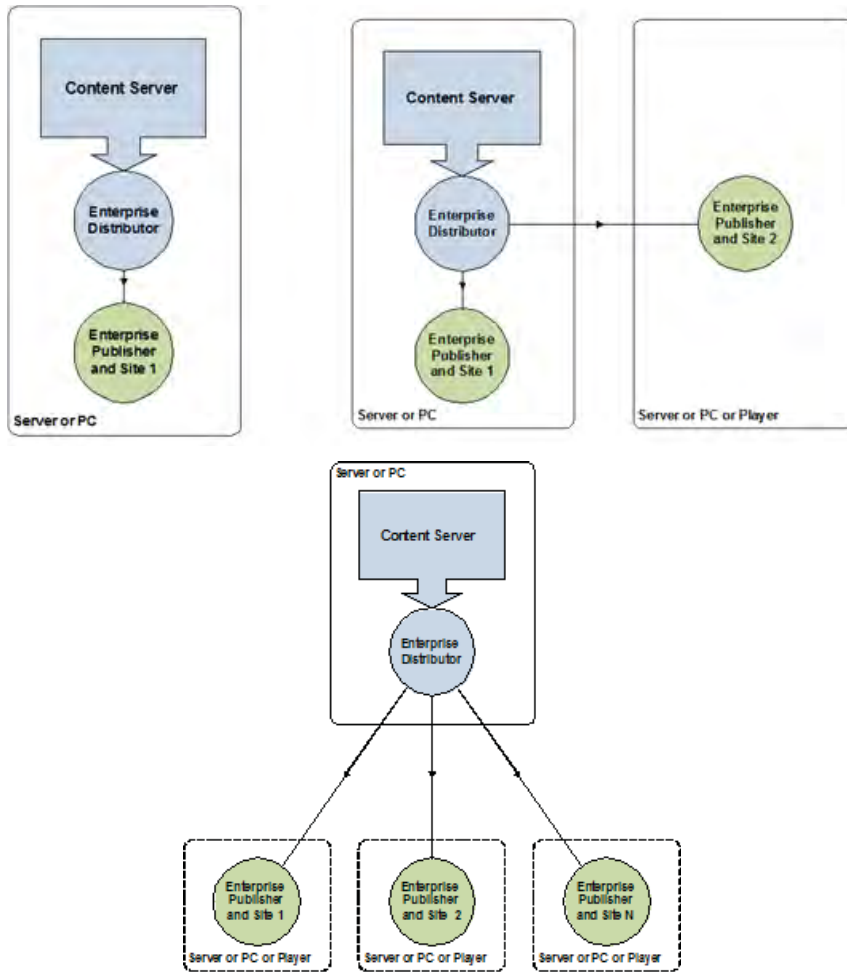
The Consumer is a new process on the Signage Player that can be configured to point to an Enterprise Publisher and download content automatically on a periodic basis. Whenever content has been changed it notifies the player that a content update has occurred. It periodically scans the Signage Player for old content (unreferenced) and purges it automatically.

6.9.6 Deployment Options

The Enterprise Publishers may be deployed in several ways. The distributor and publisher can be installed on the Content Manager. Since the goal is vertical scaling, though, this configuration won't make sense for most installations.

A variant of the first option adds Enterprise Publishers to external servers, PCs or players. This option will be appropriate for some installations.

For most large installations, though, the best deployment option is to install the Enterprise Publishers on servers, PCs or players other than the server or PC running the Content Manager. This distributes the I/O load away from the Content Manager, which may have to handle large numbers of simultaneous user transactions.



6.9.7 Installing the Enterprise Publisher

The Enterprise Publisher is bundled into the VBrick Digital Signage Content Services installer. It is part of the Content Publishers feature. The Enterprise Player Publisher sub-feature controls whether IIS is prepared with a new virtual directory.

This installer must be run on all devices that will serve as Enterprise Publishers.

6.9.8 Configuring the Enterprise Publisher

Once the publisher is installed and IIS is configured by the installer, the publisher must be configured. For machines other than the Content Manager, run Prepare Publishers. For Content Managers, run Initialize Device or Upgrade Device. Once the appropriate wizard has completed, edit the Tei.Settings.xml file. A new section has been added for controlling the behavior of the publisher.

Name	Meaning
run	Controls whether the publisher executes when the service starts
runDelay	Delay used by the service to wait for dependencies on Windows to become available

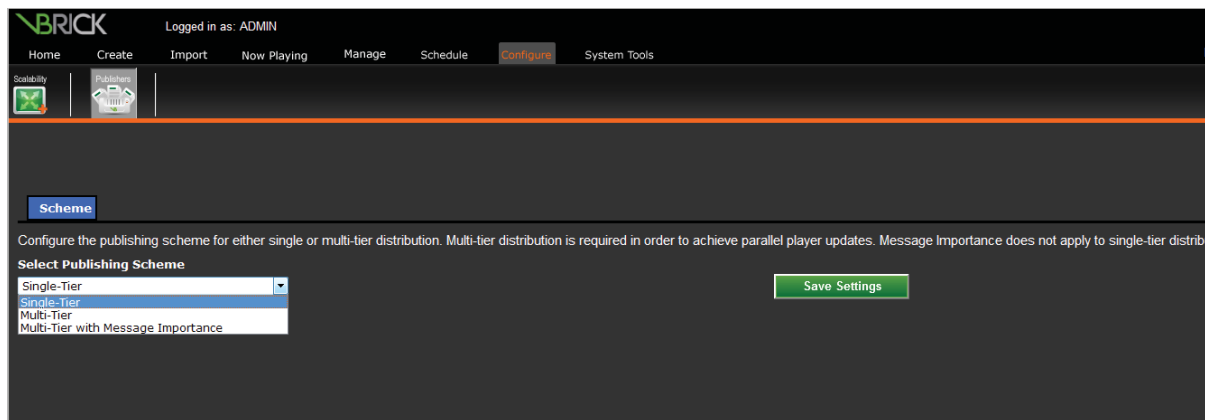
Name	Meaning
listenerPort	TCP port that the publisher uses to receive content from the Enterprise Distributor
networkChunkSize-InKb	Throttles the size of blobs sent from the Distributor to the Publisher
purgeTimeout	Count in minutes between purge cycles
publishRoot	The file system location of the virtual directory.

As with other publishers, the Player Enterprise Publisher executes under the “VBrick Digital Signage Publishing Services” service.

6.9.9 Configuring the Enterprise Distributor

The Enterprise Distributor is configured using the Web UX. The **Configure | Scalability Options | Player Publishers** screen allows definition of all publishers as well as the players each publisher owns.

If the Publishing Scheme is one of the Multi-Tier choices, then the Player Publishers screen will include a publishers section that allows for definition of publishers and the associated players. The help for this screen details the purpose of each section.



6.9.10 Publication Delay

If Multi-Tier with Message Importance is chosen you can specify publication delays associated with presumably lower-importance messages and playlists. The Enterprise Distributor sorts all messages from the most importance to the least, using the numeric values shown in the Message Importance section of this document. By adding delays, you can insure that extremely important messages don't have to wait on an unimportant

```
<PlayerEnterprisePublisher
  run="false"
  runDelay="60"
  listenerPort="28503"
  networkChunkSizeInKb="100"
```

message. The Enterprise Distributor will actually skip messages based on the delay. So, if an unimportant message has an associated delay of 15 minutes, then the distributor will skip it up to 15 times, giving higher importance message a chance to be distributed first. When the delay has expired the unimportant message is sent, but behind more important message in the same push cycle.

Most installations should use either Playlist Importance only or Message Importance only, but not both. Using both will require care on the part of the administrator to ensure the desired results.

To enable hundreds of players, there must be more than one publishing point. Each publishing point must enable simultaneous distribution to multiple players, based on network segmentation.

6.9.11 Configuration

Tei.Settings.xml

This file is contained within the same directory as the server executable files. Below are the portions of the file that control Delayed Distribution

```
<DistributionRules>

  <DelayThreshold>

    <ChannelPlayers count="0" threshold="0">
      <ChannelPlayer1 name="Channel Player DNS" threshold="30" />
      <ChannelPlayer2 name="Channel Player DNS" threshold="30" />
    </ChannelPlayers>

  </DelayThreshold>

</DistributionRules>
```

<DelayThreshold> <ChannelPlayers> Options

Option	Description
count	The number of Signage Player entries in the list.
threshold	Playback start time minus threshold = the earliest time that the media can be sent to the player. This value is in minutes. The ChannelPlayers value represents the default for all players. A value <= 0 indicates no delay at all. The ChannelPlayerN value represents the value for a specific player, which overrides the default. It is valid to enter a count of "0" and specify a default for all players.
ChannelPlayer1...N	Each entry must be numbered from 1 to count.
name	The Signage Player DNS which must match the value known by the Content Manager.

6.10 Active Directory

ActiveDirectory integration is a new feature that is available only with the Enterprise license. It enables users to use the VBrick Digital Signage Web User Interface without need for a manual login. If a user is not authorized or is unknown by the Active Directory integration, then the classic VBrick Digital Signage login page appears.

6.10.1 Internet Information Services (IIS)

Before ActiveDirectory integration can be configured in VBrick Digital Signage, IIS must first be configured to support integrated authentication. If IIS isn't configured properly then the user may receive resource not found errors.

6.10.2 Configuration

Once IIS has been properly configured and verified (users can still login manually), then ActiveDirectory integration can be configured within VBrick Digital Signage.

Tei.Settings.xml

This file is contained within the same directory as the server executable files. Below are the portions of the file that control ActiveDirectory integration.

<Security><Integration> Options

These options control the ActiveDirectory integration.

Option	Description
on	"true" turns integration on, while "false" turns it off.
type	"Windows" indicates ActiveDirectory. No other option is currently supported.
principalId	"UserId" indicates to use the user's account name (domain\userid) for login, while "GroupId" indicates to use one of the user's group account names (domain\groupid) for login. If GroupId is chosen, you can control the order of precedence for the groups.
dropAuthority	"true" causes the domain\ portion of the user and group names to be removed before login is attempted. This is helpful if all users and groups are within the same domain. Aliases are more powerful, though.

<GroupPrecedences> Options

These options control the order in which group membership is evaluated.

Option	Description
count	The number of GroupPrecedence entries in the list.
usingAliases	"true" indicates the list is comprised of aliases rather than actual domain\groupid names. "false" indicates the list is comprised of domain\groupid names.
GroupPrecedence1...N	Each entry must be numbered from 1 to count. The order you define here controls the evaluation order for membership. This is to give grant/deny capability similar to Windows ACL editor.
name	The domain\groupid or alias name of the group. You cannot intermix aliases and domain\groupid full names.

<Aliases> Options

These options define user and group aliases that are substituted before login is attempted. This is very useful for long names; VBrick Digital Signage imposes a 20-character limit on login credentials.

Option	Description
count	The number of Alias entries in the list.
Alias1...N	Each entry must be numbered from 1 to count.
name	The name the alias substitutes.
value	The value that is substituted for the name.

6.11 Configuring Mass Alert

The Mass Alert Notification feature allows users who have been given responsibility for activating mass alert messages to override all scheduled content and send out an alert message to all media players in the VBrick Digital Signage deployment using just a few mouse clicks. Customers with an Enterprise License may choose to specify groups of players to receive Alert Messages.

Mass Alert Notification is a licensed feature. If the system is licensed for Mass Alerts, system administrators will see the Activate Mass Alert Notification button at the bottom of the Navigation Menu. The system can be activated manually by selecting this link, or through a trigger from an external source via an email, a SOAP Web Service, a post to the CAP (Common Alerting Protocol) listener, or through CAP Polling. CAP Listener and CAP Polling are mutually exclusive of one another.

To add Mass Alert to your VBrick Digital Signage system or to get help configuring Mass Alert contact [VBrick Technical Support](#).

7.0 VBrick Digital Signage Security

VBrick Digital Signage security is implemented by means of individual user accounts with varying levels of role-based security. The user is only presented data and controls for which they have rights to manage.

7.1 Security Options

VBrick Digital Signage has an internal security system or Enterprise users can choose to use ActiveDirectory for Authentication.

7.2 Internal Security

Factory Default Accounts

VBrick Digital Signage systems come from the factory with a default user account:

Account Name	Password	Role
admin	admin	System Administrator

7.2.1 Passwords

Passwords are managed from **System Tools | Change Password**. The minimum length is one character. There are no complexity requirements in VBrick Digital Signage. If your network policies require strong passwords you will have to manage that manually. Go to the **Configure | Security** menu to define password rules.

7.2.2 Role-based security explanation

Role-based security is a security model where users are granted access to features of the system based on the role with which they have been assigned. A role is essentially a definition of the tasks for which a user assigned that role is responsible.

A user of VBrick Digital Signage performs actions upon VBrick Digital Signage. Each action that a user might perform requires that user to have been granted the privilege to perform that specific action. To grant each user each individual privilege to which they are entitled would be impractical. Instead, privileges are combined into groups, or roles, and these roles are assigned to users. The roles are defined once (but may be modified at any time) and used for as many users as desired.

7.2.2.1 Predefined Roles

These are the roles that come predefined in VBrick Digital Signage.

System Administrator Administers all aspects of the VBrick Digital Signage installation. Includes all privileges and cannot be modified.

Content Approver Approves content (messages and crawls) on behalf of other VBrick Digital Signage users. Includes the following privileges:

- Approve Crawl Item
- Approve Playlist Item
- Approve Spot
- Approve Video Program¹
- Create Any Bulletin
- Create Crawl Text
- Create Crawl Item

¹ This feature is not licensed.

- Create Custom Templates
- Create Playlist Item
- Create Shared Folder
- Create Spot
- Create Stream Program
- Create Video Program²
- Global Dictionary
- Import Resource
- Login Interactively
- Manage Alerts
- Manage Backgrounds
- Manage Events
- Manage Stock²
- Manage Weather
- Schedule Crawl Item Forever
- Schedule Playlist Item Forever
- Set Message Importance
- Use Templates to Create Bulletin

Content Creator

Creates content (messages and crawls) to be displayed on VBrick Digital Signage devices. Includes the following privileges:

- Create Any Bulletin
- Create Crawl Text
- Create Crawl Item
- Create Playlist Item
- Create Spot
- Create Stream Program
- Create Video Program²
- Login Interactively
- Schedule Crawl Item Forever
- Schedule Playlist Item Forever
- Use Templates to Create Bulletin

Template User

This role is for the use of creating messages from existing templates only. It has been assigned the 'Use Templates to Create Message' privilege. By default, no other privileges other than to Login Interactively have been assigned to it.

7.2.3 Privilege List

Privilege	Description
Activate Mass Alert Notification	Grants the user permission to activate mass alert notifications. The following screens are available with this privilege: Configure Mass Alert Notification, Configure Signage Players Hardware Groups Alert Notification, and Activate Mass Alert.
Administer Content Settings	Grants the user ability to change the settings that govern content creation and rendition. These settings are maintained in System Content Settings and System Manage Displays. This is a powerful privilege that should be reserved to administrators.

² These features are not licensed.

Privilege	Description
Administer Crawllist Groups	Grants the user ability to administer crawllist groups
Administer Display Groups	Grants the user ability to administer display groups
Administer Playlist Groups	Grants the user ability to administer playlist groups
Administer Roles	Grants the user ability to add, change and remove roles from the system.
Administer Screensaver	Grants the user ability to administer the Screensaver Plug-in. This feature is not licensed.
Administer Users	Grants the user ability to add, change and remove users from the system.
Approve Crawllist Item	Grants the user the ability to approve their own or other users' crawls submitted to a crawllist. A user with this privilege can only approve crawls on crawllists they can access. When a user with this privilege schedules a crawl it is automatically approved and starts playing.
Approve Playlist Item	Grants the user the ability to approve their own or other users' messages submitted to a playlist. A user with this privilege can only approve messages on playlists they can access. When a user with this privilege schedules a message it is automatically approved and starts playing.
Approve Spot	Grants the user ability to approve MPEG Player Spots.
Approve Stream Program	Grants the user ability to approve Streaming Video Programs.
Approve Video Program	Grants the user ability to approve External Video Programs. This feature is not licensed.
Create and Schedule Layouts	Grants the user to privilege to create and schedule layouts. The following screens are available with this privilege: Configure Signage Players Layouts and Configure Signage Players Layout Schedule. The display layout editor is also available in VBrick Desktop.
Create Any Bulletin	Grants the user ability to create a new message. Users can create messages from any valid message creation source, based on the licensing of the system. This privilege does not give a user the ability to schedule or approve messages.
Create Crawl Text	Grants the user ability to create a new crawl. Users can create crawls from any valid crawl creation source, based on the licensing of the system. This privilege does not give a user the ability to schedule or approve crawls.

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Privilege	Description
Create Crawl Item	Grants the user ability to schedule a crawl on one or more crawllists. A user can only schedule crawls on crawllists they can access. This privilege does not give a user the ability to approve a crawl, therefore it will not start playing just because it is scheduled.
Create Custom Templates	The 'Create Custom Templates' privilege gives permission to users to create and edit Templates in VBrick Desktop and the ability to delete Templates in Manage My Templates inside the User Interface. Both the System Administrator and Content Approver have this privilege by default.
Create Desktop Message	Grants the user ability to create new desktop messages
Create Playlist Item	Grants the user ability to schedule a message on one or more playlists. A user can only schedule messages on playlists they can access. This privilege does not give a user the ability to approve a message, therefore messages will not start to play until someone with approval privileges approves them.
Create Shared Folder	Grants the user ability to create shared folders that everyone can view. Shared folders can group messages and/or crawls. Most users do not need this privilege as every user can create personal folders for this purpose.
Create Spot	Grants the user ability to schedule MPEG Player Spots.
Create Stream Program	Grants the user ability to schedule Streaming Video Programs.
Create Text Message	Grants the user ability to create text messages. This feature is not licensed.
Create Video Program	Grants the user ability to schedule External Video Programs. This feature is not licensed.
Global Dictionary	Grants the user ability to update the global dictionary the spell check uses.
Import Resource	Grants the user ability to upload and import external files into the clipart library. This privilege does not have anything to do with uploading images during message creation. This privilege should be granted sparingly because large video files can take up valuable disk space.
Login Interactively	Grants the user ability to login to the web interface.

Privilege	Description
Manage Alerts	Grants the user ability to manage alert playlists and alert crawllists. This privilege is not very useful by itself. It must normally accompany Create Playlist Item and/or Create Crawllist Item. It is ever more useful when you add Approve Crawllist Item and/or Approve Playlist Item.
Manage Backgrounds	Grants the user ability to add, change and delete background images available within VBrick Digital Signage.
Manage Events	Grants the user ability to add, change and remove Event Schedule events, rooms, event types and event statuses
Manage Stock	Grants the user ability to add, change and remove Stock values. This feature is not licensed.
Manage Weather	Grants the user ability to add, change and remove weather icons, locations, current conditions and forecasts
Schedule Crawllist Item Forever	Grants the user ability to schedule a crawllist item forever. Without this privilege the option "Forever" does not appear in the schedule crawl screens.
Schedule Playlist Item Forever	Grants the user ability to schedule a playlist item forever. Without this privilege the option "Forever" does not appear in the schedule message screens.
Set Message Importance	Grants the user the ability to set message priority when the Publisher Distribution Scheme is set to Multi-Tier Distribution with Message Importance.
Use Crawllist Groups	Grants the user ability to use crawllist groups
Use Display Groups	Grants the user ability to use display groups
Use Playlist Groups	Grants the user ability to use playlist groups
Use Templates to Create Bulletin	Grants users the ability to create a new message from existing templates inside the User Interface.
View Player Snapshots	Allows users to see the Signage Player Snapshots screen under Now Playing Player Snapshots. By default, this privilege is given only to the Administrator Role.

7.2.4 ActiveDirectory for Authentication

VBrick Digital Signage Active Directory authentication enables users to access the Web User Interface without need for a manual login.

If a user is not authorized or is unknown by the Active Directory integration, then the classic VBrick Digital Signage login page appears. Active Directory is available only with the Enterprise license.

See the *Feature Configuration* section in this book for configuration instructions.

7.2.4.1 Considerations

The following should be considered when planning Active Directory integration with VBrick Digital Signage:

- The customer's IT department should be involved in the decision as to whether this feature will be used
- AD integration provides only authentication to the system
- Which user credentials will be used:
 - o Groups (AD), or
 - o Name (Domain\User)

Note: Usernames are limited to a maximum of 20 characters

- Unique VBrick Digital Signage user accounts must be created to map to each Active Directory Group or User

7.2.5 Integration Options

These options control the Active Directory integration.

- **on** - "true" turns integration on, while "false" turns it off.
- **type** - "Windows" indicates Windows authentication. No other option is currently supported.
- **principalId** - "UserId" indicates to use the user's account name (domain\userid) for login, while "GroupId" indicates to use one of the user's group account names (domain\groupid) for login. If GroupId is chosen, you can control the order of precedence for the groups.
- **dropAuthority** - "true" causes the 'domain\' portion of the user and group names to be removed before login is attempted ('domain\id' would be transformed into 'id' before performing login). This is helpful if all users and groups are **within the same domain**. Aliases are more powerful, though, and are typically safer than dropAuthority. "false" uses the fully qualified principalId.

7.2.6 GroupPrecedences Options

As principals can be members of multiple groups, you can specify the precedence of each group. Principal groups will be searched based on this precedence.

Group Precedence is applicable only when Integration principalId = "GroupId". These options control the order in which group membership is evaluated.

- **count** - The number (integer) of GroupPrecedence entries in the list.
- **usingAliases** - "true" indicates the list is comprised of aliases (VBrick Digital Signage usernames) as defined in the Aliases section, rather than actual domain\groupid names. "false" indicates the list is comprised of domain\groupid names.
- **GroupPrecedence1...N** - Each entry must be numbered from 1 to count. The order you define here controls the evaluation order for membership. This is to give grant/deny capability similar to Windows ACL editor.
- **name** - The domain\groupid, or alias name (VBrick Digital Signage username) as defined in the Aliases section, of the group. You cannot intermix aliases and domain\groupid full names.

NOTE: If you set dropAuthority = "true" in the <Integration> section, then do not enter the authority ('domain\') portion here. Enter only the UserID or GroupID.

7.2.7 Aliases Options

The VBrick Content Manager enforces a limit of 20 characters for the principal's ID. In order to accommodate longer ID's you can alias the network user or group ID. If aliases are configured, the user's credentials are modified with them before any login logic is executed. If used, aliases must be used as principal IDs on the VBrick Content Manager. These options define user and group aliases that are substituted before login is attempted.

- **count** - The number (integer) of Alias entries in the list.
- **Alias1...N** - Each entry must be numbered from 1 to count.
- **name** - The actual network ID (domain UserID or GroupID) the alias substitutes.
NOTE: If you set dropAuthority = "true" in the <Integration> section, then do not enter the authority ('domain\') portion here. Enter only the UserID or GroupID.
- **value** - The alias (value that is substituted) for the network ID, i.e., the VBrick Digital Signage username.

7.2.8 Logout Options for Active Directory Integration

A redirect page has been created to avoid issues of Active Directory disconnection and User Interface freezing. To enable this page, type "timeout.aspx" as the value for "AlternateLogoutUrl". With this page enabled VBrick Digital Signage will automatically refresh the Active Directory login if it times out or if the logout button is clicked.

```
<!-- Specify AlternateLogoutUrl to specify an alternate
URL to REDIRECT to after logout has completed. -->
<add key="AlternateLogoutUrl" value="timeout.aspx"/>
```

7.2.9 VBrick Desktop and Active Directory Integration

VBrick Desktop which can be installed onto a client computer is configured for Active Directory integration.

7.2.10 Active Directory Support for Firefox

To use Active Directory with the Firefox browser, a Firefox add-on is required. The add-on may be found at <https://addons.mozilla.org/en-US/firefox/addon/integrated-auth-for-firefox/>.

Once installed, the site configuration can be accessed from the Application menu or from the Tools menu:

- From Main menu: **Tools | Integrated Authentication Sites**
- From App menu: **Firefox | Options | Integrated Authentication Sites**

In the NTLM/Integrated Authentication screen add the VBrick Digital Signage web site address

8.0 Backup and Restore Procedures

VBrick Digital Signage includes a facility to backup and restore the VBrick Digital Signage database.

8.1 Back Up

8.1.1 Backup using VBrickBackup.bat

Download the most recent version of the VBrickBackup.bat file using the Support Download Utility on the Content Server, e.g., **Start | Programs | VBrick | Support Download Utility**. The file will download to the **C:\Program Files\VBrick\Digital Signage\Content Services\Support** folder.

To perform a data backup:

- Execute the batch file from the Support folder.

This process will stop all the VBrick Digital Signage services and make a backup of the VBrick Digital Signage database, the Binary Storage folder, the License folder, the web.config file and the tei.settings.xml file.

Once the backup is complete, it will create: *C:\VBrickBackup\VBrickBinaryStorage_*.

Inside that folder, you will find the Binary Storage folder, the License folder, the web.config file, the tei.settings.xml file and a file named VBrickBackup__.bak.

These are the five items you must have in the event of a Content Manager hard drive failure or an OS failure. We recommend that you copy these files to an external drive and store them in a safe environment.

8.1.2 Frequency

The frequency of which your VBrick Digital Signage database should be backed up is dependent on your organization's usage habits. The frequency of the changes to your settings and messages coupled with your tolerance for data loss will indicate the proper back up frequency.

NOTE: YOU WILL NOT BE ABLE TO RECOVER VBrick Digital Signage data if you fail to both backup the database and copy the file structure, or if you allow the database and file structure to get out of sync.

8.1.3 Automation

Currently VBrick Digital Signage does not facilitate automation of the backup procedure.

8.2 Restore

This procedure assumes the data will be restored onto the same Content Manager from which it was originally taken. If this is not the case, please see the following section for Migration Instructions.

Be sure to restore both the database and Binary Storage folder at the same time while no processes are acting on either, to avoid the possibility of them becoming misaligned and ruining the data restore.

1. Go to **Start | Programs | VBrick**
2. Launch the Channel Player Utility
3. Use the Services tab to stop all VBrick Digital Signage Services
4. Use the IIS Manager to stop the Default Web Site

5. Rename the existing Binary Storage usually located at *C:\Program Files\VBrick\Digital Signage\Content Services*

Example: Binary Storage Old

NOTE: You can delete the old Binary Storage folder once the restore has completed successfully.

6. Copy the Binary Storage from the Backup into the installation directory usually located at: *C:\Program Files\VBrick\Digital Signage\Content Services*
7. Open the SQL Server Management Studio and connect to the SQL Server; expand the Databases folder and right-click on the VBrick Digital Signage database; select the option **Tasks | Restore | Database**
8. Point to the .bak file that was created by the VBrickBackup.bat and restore it to the current database
9. Run the VBrick Digital Signage Upgrade Device wizard at **Start | Programs | VBrick**
NOTE: If you get a message that Upgrade Device cannot run because it has already been successfully executed, delete the *Tei.Common.UpgradeDevice.dat* file from the VBrick Digital Signage Content Services folder.
10. Use the IIS Manager to start the Default Web Site
11. Reboot the Content Manager
12. Login to the web interface

8.3 Migration Instructions

1. Back up the existing VBrick Digital Signage system using the *Back Up* instructions on the previous page
2. Obtain new license keys for the new Content Manager.
3. Send the Volume ID of the new device to [VBrick Technical Support](#) then we will send the licenses via email
 - a. To find the volume ID, from the new Content Manager:
 - i. Hit **Start | Run | Type in "Cmd" | "dir" |** and the Volume Serial Number is what I need. It's an eight digit number including both letters and numbers. XXXX-XXXX. If you are using a Virtual Machine (VM), then we will need the volume ID of the "C: Drive" of that virtual machine.
4. Install the VBrick Digital Signage software on the new Content Manager (See the *Software Only Installation Instructions-Content Manager* section).
5. Restore the database (see *Restore* instructions above)
6. Contact [VBrick Technical Support](#) to schedule a support session for necessary configuration changes
7. Run **Upgrade Device**.
8. If upgrade is successful, reboot. If you encounter an error, contact [VBrick Technical Support](#)
NOTE: Step 6 is only required if you are installing a newer version of software on your new server. If the version is the same as the one on your current system, skip this step.

9.0 Applying Software Updates

Important Information - Read and understand before proceeding!

Updating your VBrick Digital Signage requires updating the Content Manager and all Signage Players. All VBrick Digital Signage devices within a single system must be running the same version of VBrick Digital Signage software.

Make sure you have obtained the latest Content Manager and Signage Player installers before proceeding. Contact [VBrick Technical Support](#) for the software.

To avoid loss of data in the event that a problem occurs during the update, it is imperative that you perform a backup prior to proceeding. See instructions in the *Back Up and Restore* section of this book.

The Channel Player Utility can be used to update Signage Players from the Content Manager without the need to physically visit each player. The Channel Player Utility will not, however, install new drivers or supporting applications such as Adobe Flash or QuickTime.

NOTE: If updating from a version prior 6.0 or if you are using MSDE instead of SQL Server, contact VBrick for more information before proceeding.

9.1 Hardware Evaluation

When updating your VBrick Digital Signage system, ensure that your hardware meets the minimum specifications as outlined in the System Overview section of this manual. If your hardware does not meet the minimum specifications, you will see performance degradation in the software. The areas that will be affected are:

- Smoothness of text ticker
- Speed and smoothness of transitions
- Video Playback

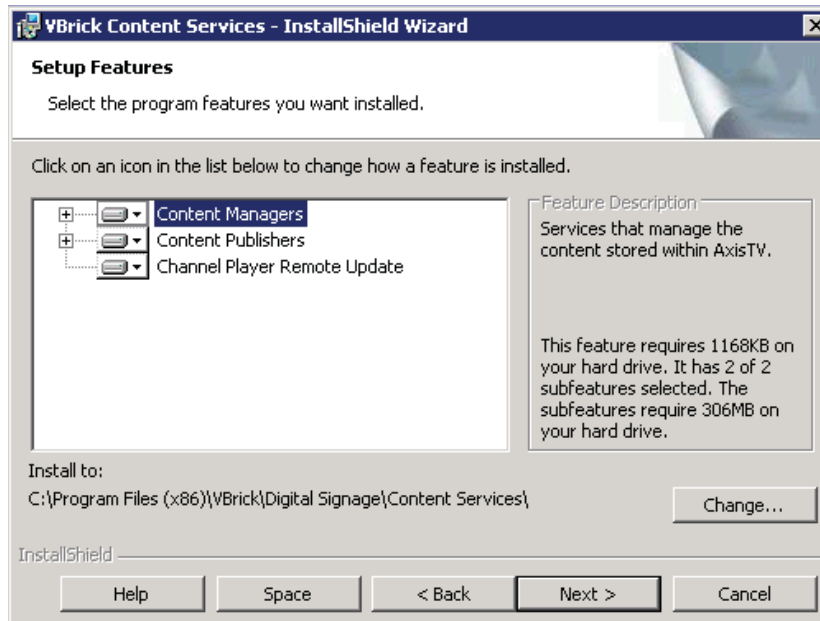
If you are unsure how to proceed, VBrick can help you determine the impact on your performance if you apply the update.

9.2 Update the Content Manager

1. Stop all VBrick Digital Signage Services
 - a. Go to **Start | Programs | VBrick | Channel Player Utility**
 - b. Select the VBrick Services tab at the top of the screen.
 - c. Click the "List Services" button then select all services by holding the **SHIFT** key on your keyboard and selecting the first and last service with the mouse.
 - d. Click on "Stop Selected VBrick Services"
2. Uninstall the VBrick Digital Signage Content Services application using the Windows Control Panel
3. Reboot the Content Manager
4. Install the new version of VBrick Digital Signage
 - a. Create a folder for the new version of the VBrick Digital Signage installer in the current VBrick Digital Signage directory. For example *C:\Program Files\VBrick Installers\VBrick Digital Signage \Content Services\ Release x.x.x*
 - b. Copy the new Content Services executable into the folder
 - i. From the new folder run the Content Services executable file named *setup.exe*

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- ii. Install shield wizard will run and install VBrick Digital Signage Content Services
- iii. Accept the EULA, then click Next



NOTE: VBrick Digital Signage Content Services must be installed into the same directory which the previous version was installed.

Normally VBrick Digital Signage is located in *C:\Program Files\VBrick\Digital Signage\Content Services*. If this is the case, you do not need to change anything.

If your VBrick Digital Signage installation is located in a different directory, select "Change" and browse to the correct location.

- c. Click Next, then Install, then click Finish when complete
5. Reboot
6. Delete previous upgrade file
 - a. Using windows explorer, navigate to *C:\Program Files\VBrick\Digital Signage\Content Services* and delete the file *tei.common.upgradedevice.dat* if it exists
7. Run Upgrade Device
 - a. Go to **Start | Programs | VBrick Digital Signage | Upgrade Device**
 - b. Click *proceed*

The Upgrade device will go through several steps of upgrading and will prompt you that the upgrade is complete.

If any of these steps fail, you will receive an error message. If this occurs, please contact VBrick Support

8. If the upgrade is successful, reboot the Content Manager

NOTE: Microsoft .NET 4 is required with version 4.x. It will be installed automatically by VBrick Digital Signage but may need to be manually selected in IIS.

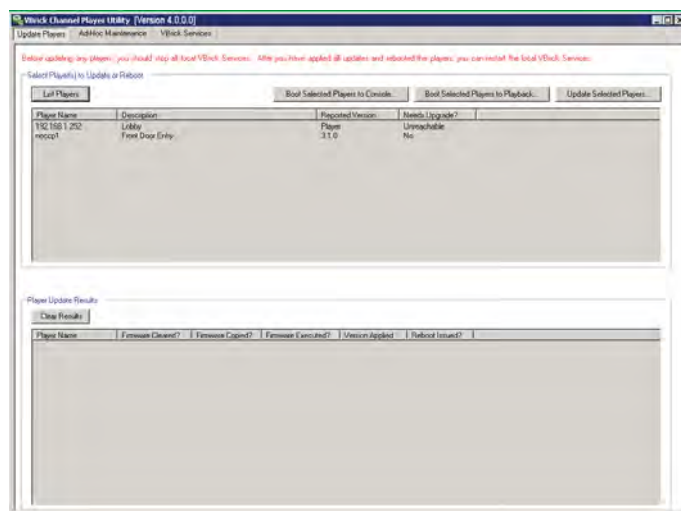
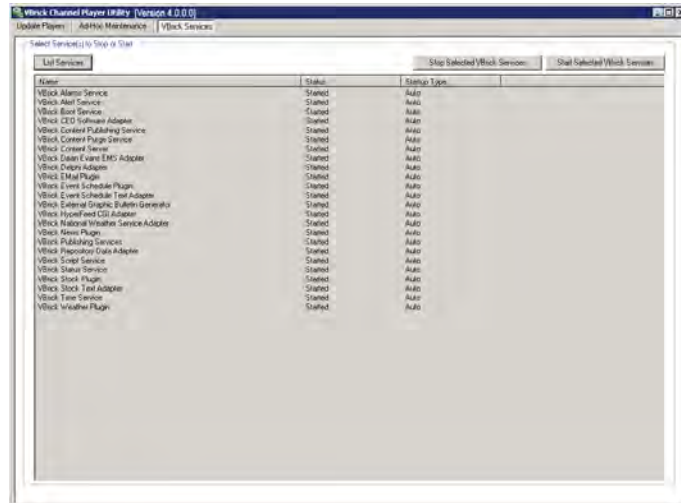
To select Microsoft .NET v.4 in Server 2008:

1. Open the IIS manager
2. Select *Application Pools*
3. Double-click *DefaultAppPools*
4. Choose .NET Framework v.4.0

9.3 Update Signage Players

The Channel Player Utility can be used to update Signage Players from the Content Manager without the need to physically visit each Signage Player. The Channel Player Utility will not, however, install new drivers or supporting applications such as Adobe Flash and QuickTime.

1. Go to **Start | Programs | VBrick | Channel Player Utility**
2. Select the VBrick Digital Signage Services Tab at the top of the screen.
3. Click the "List Services" button then select all services by holding the shift key and selecting the first and last service with the mouse.
4. Click on "Stop Selected VBrick Services"
5. Select the "Update Players" Tab at the top of the screen.
6. Click "List Players"
7. Select each Signage Player that needs to be updated and press the "Update Selected Players" button¹
8. The update window below will display the progress of each Signage Player as it is updated
9. When complete, go back to the VBrick Digital Signage Services Tab
10. Select all services again and click the *Start Selected VBrick Services* button



¹ Clients with large systems with many Signage Players should select 4 or 5 players at a time to reduce the chance of errors

If all Signage Players update successfully, the VBrick Digital Signage software update is complete. If you experience any problems after applying the update, please contact [VBrick Technical Support](#).

9.4 Update Desktop Clients

Once your VBrick Digital Signage Content Manager and Signage Players have been updated, users should to uninstall previous versions of the following clients from their PC if they are being used:

- VBrick Desktop
- VBrick Desktop Messenger

Once the old version has been removed, users should go to **System Tools** menu in the VBrick Digital Signage web interface to download and install the new version.

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