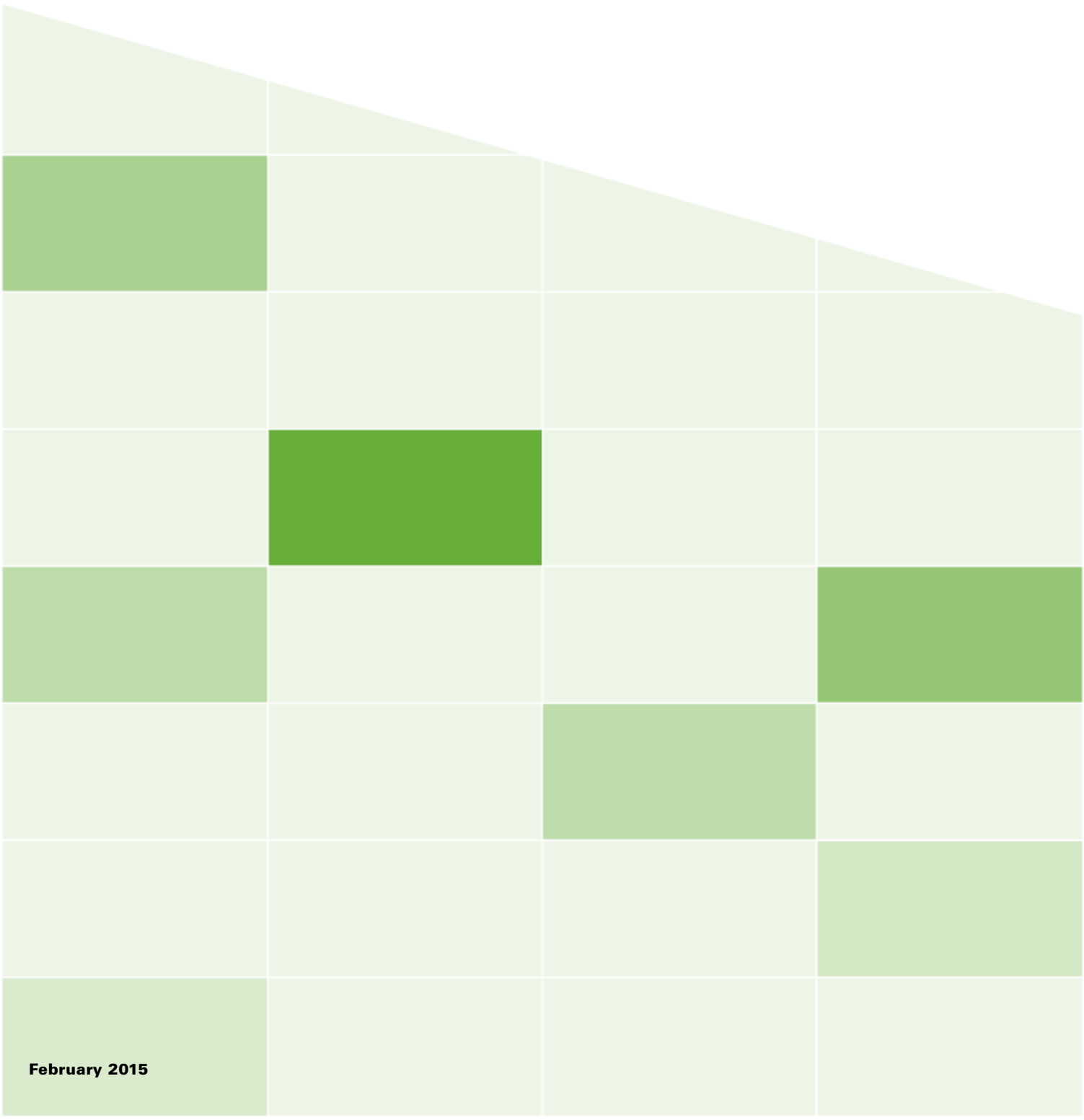
VBrick Digital Signage

VBrick Digital Signage v4.5

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.

Table of Contents

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

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 system.

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

- Never have a single message running alone. Always have multiple messages active.
- Use a variety of layouts, backgrounds and text colors.
- Avoid company logos or other images in the same position on every message or layout background.
- Use built-in orbiting tools if available on the display
- Occasionally use image inversion and or “white” tools if available on the display

Firewall Protection

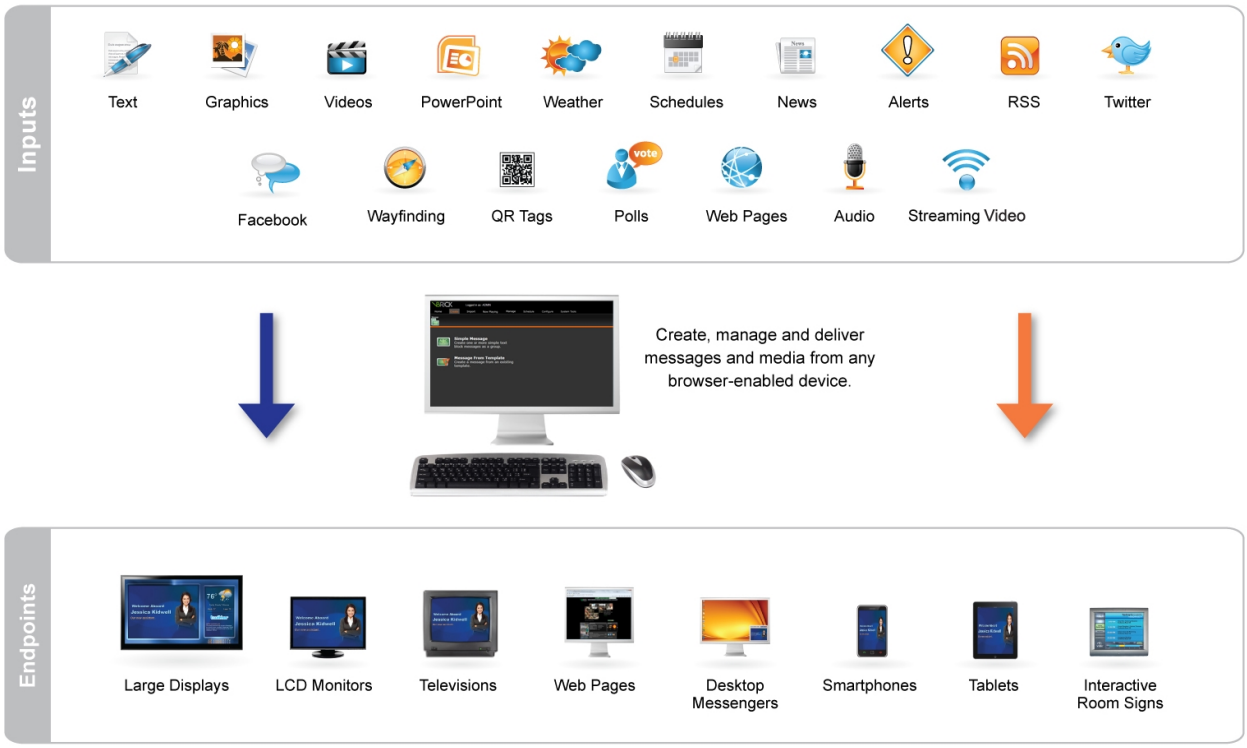
All computers need protection from intrusion and other malicious or mischievous activities. VBrick Digital Signage is built on Microsoft Windows and uses Microsoft’s Internet Information Services. Both of these are frequent targets for malicious or mischievous attacks. It is strongly recommended that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

Network Settings

Your digital signage system has very 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*.

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 wide variety of devices including flat panel displays, interactive room signs and web pages.



A Basic Digital Signage System

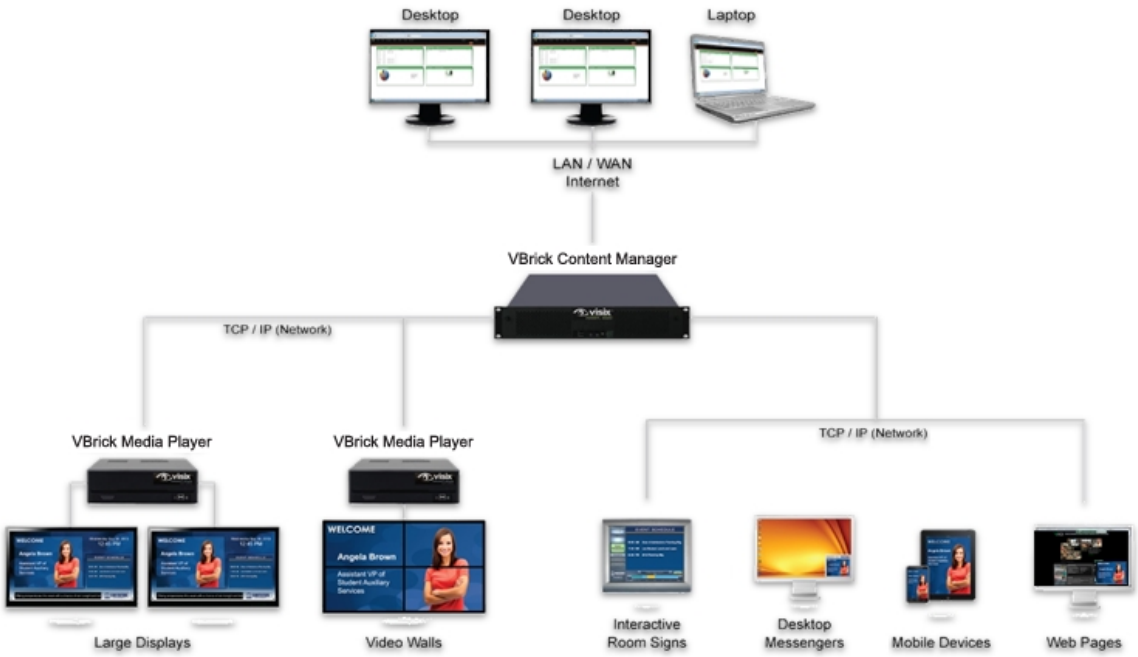
VBrick Digital Signage has specific hardware requirements and needs access to your organization's network for maximum functionality. The basic components of VBrick Digital Signage System include at least:

- One (1) Content Manager with VBrick Digital Signage Content Management Software installed
- One (1) or more Media 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. A detailed list of hardware requirements can be found in the System Administration portion of the VBrick Digital Signage Software Training Guide, in the VBrick Digital Signage Technical Manual that ships with the software, or on the VBrick web site.

How VBrick Digital Signage Works

The PC's represent you accessing the Content Manager using a web browser via the network (LAN/WAN) or the Internet. A Content Manager is a computer or server on your 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 messages.



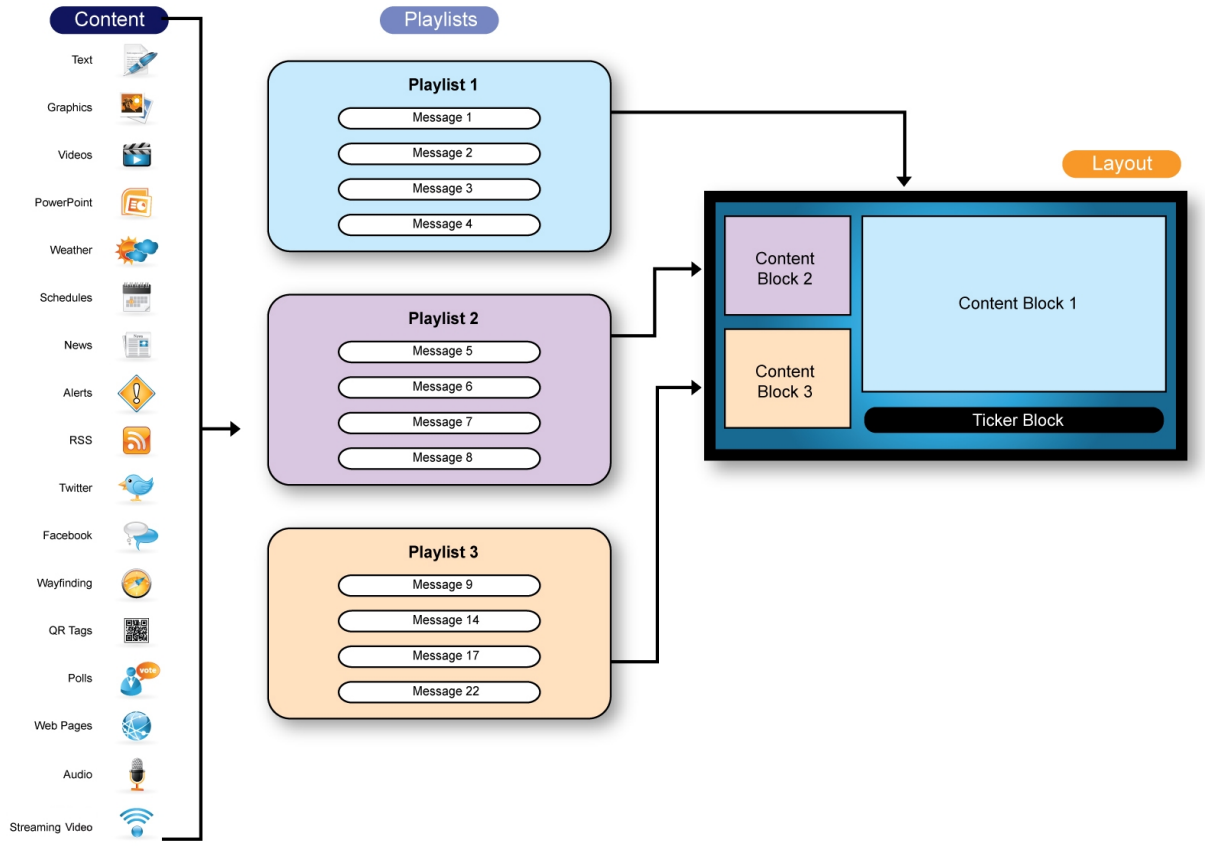
The Content Manager connects to the Signage Player(s) through the TCP/IP network. A Signage Player is another computer on your network that sends the content that you create to the display(s). Several displays can be served by a single Signage Player; therefore, if multiple displays are connected to a specific player, all of those displays will show the same content at the same time. Depending on additional hardware and software components that are installed and active in the system, VBrick Digital Signage also may display video from satellite, cable, and/or video streams.

Simple Content Management

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

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

Creating and Scheduling Content



Supported Browsers

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

Internet Explorer

Certain versions of Internet Explorer may require you to add your Content Manager's URL to the IE Compatibility View settings in order to view specific pages correctly.

To determine whether or not you need to add your Content Manager's URL to the IE Compatibility View settings:

1. Log into the web interface using Internet Explorer
2. Click the **Import** tab
3. If the screen looks like it is cut off, you will need to adjust the Compatibility View settings.

To add your Content Manager's URL to IE Compatibility View:

1. In Internet Explorer, select the **Tools** tab
2. Click *Compatibility View settings* on the menu
3. Your Content Manager's URL will appear in the *Add this website* field
4. Press the **Add** button
5. Press the **Close** button to close the window

You may need to close and re-open your browser to see the change. VBrick Digital Signage also is compatible with Chrome and Firefox web browsers.

Chrome

For maximum compatibility, the IE Tab extension should be enabled in Chrome. This will enhance your view of the dashboard and import screens.

To download the IE Tab Extension:

1. Go to the **Tools** menu
2. Select *Extensions*
3. Download and install IE Tab
4. An IE Tab icon will appear in the upper right-hand corner of the window
5. Browse to the URL of the Content Manager
6. Click the **IE Tab** icon in the top right corner of the window

Firefox

There are three features in the web interface that require Firefox add-ons to function properly:

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

The QuickTime plugin is required to preview QuickTime files in Firefox. QuickTime will automatically install the plugin 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 plugin is required to preview Windows Media Player files in Firefox. This plugin 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.

Microsoft Silverlight

Starting with VBrick Digital Signage version 4.0, Microsoft Silverlight must be installed on client computers in order to:

- view the Dashboard
- use the Import feature[1]

[1] See **Content Creation** Content Creation for instructions on using Import.

- use the Web Page Message feature[1]

If Silverlight is not installed, the Import and Web Page Message options will appear as blank windows and the Dashboard will be replaced with a Welcome Screen with 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.

Hardware Requirements

Client Provided Hardware

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

Content Manager/Server

	Minimum	Recommended
Processor	Pentium Dual Core 2.0GHz, or equal	2.5 GHz Intel Core 2 Duo or better
Memory	4 GB	4 GB or more
Operating System	Windows Server 2008 R2	
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

NOTE: When the system has 5+ media players and/or 10+ users, a Microsoft Server operating system is strongly recommended.

[1]See **Content Creation**Content Creation for instructions on using Web Page Message.

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.

VBrick-Provided Hardware

All hardware provided by VBrick will meet or exceed the requirements above. For details on current hardware specifications, please go to www.vbrick.com.

Content Manager hardware purchased from VBrick ships with Windows Server 2008 Web Edition operating systems.

Channel Players purchased from VBrick ship with Windows 7 Embedded (WS7P) operating system.

Network Requirements

The network must be capable of supporting the TCP/IP protocol. All VBrick Digital Signage devices will need a static identification 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.

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 bulletin creation feature
- UDP port 123 (NTP): Network Time Protocol: Outbound - Automatic time setting of Content Manager
- TCP port 6500 (VBrick Multimedia Protocol Commands to VBrick Digital Signage 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 Content Manager if certain VBrick Digital Signage 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 Adapter requires network access to the CEO database.
- The VBrick Digital Signage Delphi Adapter requires network access to the Delphi EMS file.

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. Those 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 digital signage system can be made to satisfy your organization's security requirements. VBrick will 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 can run on Windows Server 2008 or Server 2012. The channel player software can run on Windows 7. If hardware is purchased from VBrick, Windows Embedded OS may be used.
- 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/Server. Clients upgrading from a previous version may continue to use SQL or SQL Express 2005.

- Windows user account named “vbuser” with the password set to “vbrick”, which 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_[computername]” 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 other unexpected consequences. A thorough understanding of the Windows operating system, SQL Server, Internet Information Services and the .NET Framework is required to properly and safely apply security changes to your digital signage system.

VBrick Digital Signage Windows Accounts

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

VBrick Digital Signage User Account Network Rights

In order for the digital signage software to read, import or otherwise reference files that are external to the VBrick Digital Signage content manager, 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/Server
- 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 Screen Saver Plug-in
- VBrick Digital Signage Screen Saver Server

- VBrick Digital Signage Stock Plug-in
- VBrick Digital Signage Stock Text 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 content managers.

You can test access to a file share from the VBrick Digital Signage manager by logging in as the named user and attempting to access the file share with Windows Explorer.

Windows login account and/or password change procedure

As mentioned above, several of the VBrick Digital Signage services use named accounts to operate. This means that if you desire to change the account name or the password for this account, it must be changed in several places. This only applies to Content Managers, not a Channel Player.

1. Create the new account or change the password of the vbuser account.
2. 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).
3. 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 Digital Signage. If you sort the services window by name (default) then all of the VBrick Digital Signage services will be grouped together.
4. 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.
5. For each service identified above, go to Properties for that service and select the **Log On** tab.
6. “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.
7. Reboot the server.

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 considered before application to VBrick Digital Signage.

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 VBrick will immediately work 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.

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 their password is checked against the existing password rules and forced to change their password if it no longer meets the valid 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.

Software Implementation – VBrick-Provided Hardware

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 Channel 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).

Content Manager

1. Unpack and check for all items
    a. Content Manager/Server Hardware
    b. VBrick Digital SignageContent Manager/Server bezel
    c. Rack Ears (attached)
    d. Power Cord
    e. DVI to VGA adapter
    f. VBrick Digital Signage Technical Manual on CD
    g. VBrick Digital Signage Installation CD
    h. Intel Drivers CD
2. Physical setup
    a. Connect a USB keyboard and a mouse (not included)
    b. Connect the monitor (not included) to the Content Manager
    c. Connect a network cable (not included) to the Content Manager and a network switch
    d. Connect the Content Manager and monitor to electrical outlets
3. VBrick Digital SignageContent 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 4

or

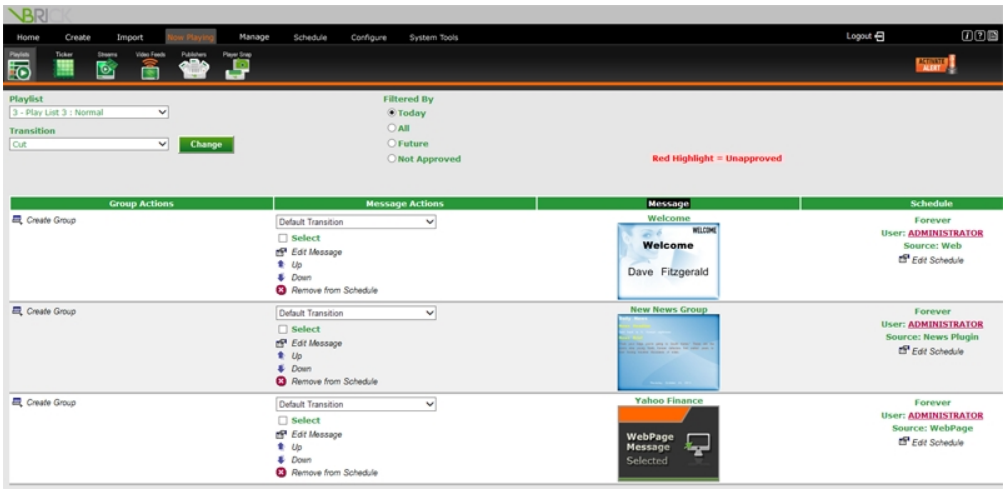
c. The wallpaper will change to indicate that your Content Manager/Server is Not Licensed.

Follow the steps starting with step d) below to license your Content Manager

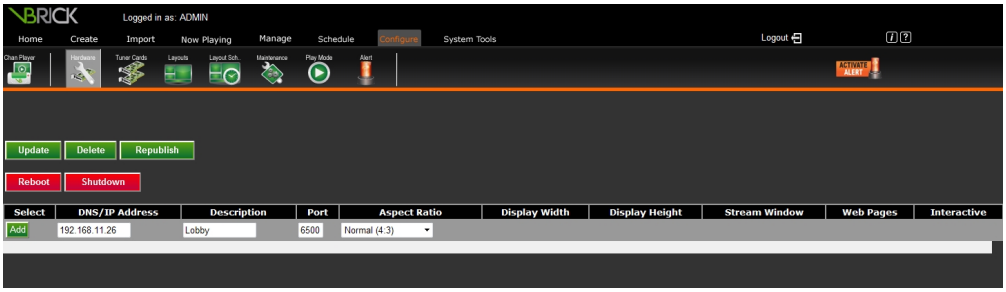
d. From the "Start/All Programs/VBrick" menu, Click "Initialize Device"
e. Initialize Device will begin. Your license key should automatically populate. If it does not, enter your license key in the spaces provided. The License Key can be obtained by looking in the VBrick Digital Signage Installation 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.

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

4. Once the license key has been entered click "Proceed".
   a. If any errors occur, email them to support@vbrick.com for assistance
   b. When "Initialize Device" completes, you will be prompted to reboot the server. Once rebooted, the wallpaper should change to indicate a licensed Content Manager as shown here. If it does not, please contact support@vbrick.com for assistance
5. Logging into the VBrick Digital Signage application for the first time
   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 "administrator" and password "vbrick"
   c. Click "Now Playing," then "Bulletins" and you will see the default playlist. (As shown below)



6. Adding Each Signage Player to the Content Manager
    a. Ensure the Signage Player is on the network and powered on
    b. Login to the Content Manager
    c. Select the “Configure” menu then “Channel Players” then “Hardware”
    d. Enter the DNS Name or IP Address of the Signage Player
    e. Enter the “Description.” This can be a friendly name such as “Break room”
    f. Enter the “Port” of 6500 (default)
    g. Click “Add”
    h. If you are returned to the “Hardware” screen, the addition was successful



7. If the Content Manager cannot reach the Signage Player you will be notified. If this happens, proceed to the SignagePlayer and verify the name or IP address entered is correct and that the network cable is connected.
8. Validation of Operation
    a. Operation and communications of the system should be validated using the following methods

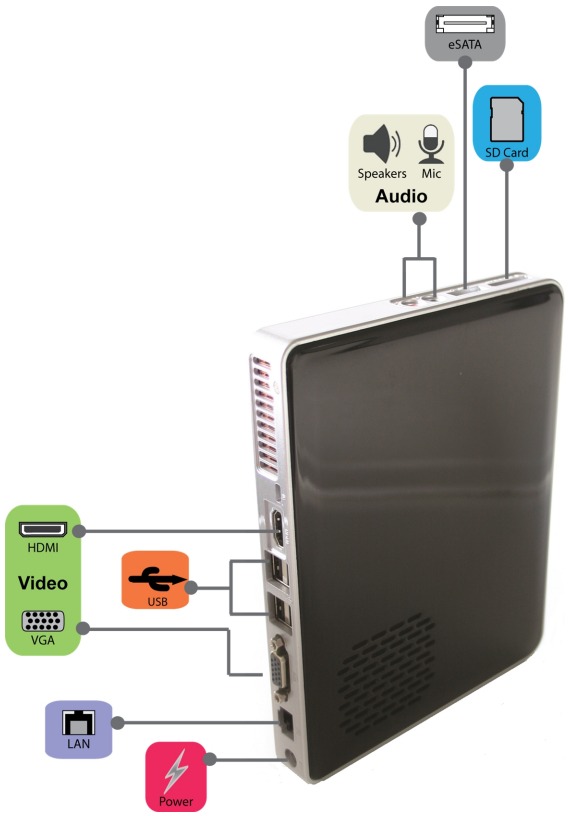
   b. A bulletin slide should be added to Playlist 1 and each Signage Player should be visually inspected to verify that the Content Manager delivered the new bulletin

9. Setup of Options
   a. Each one of the licensed options should be setup as outlined in Feature Configuration

Signage Player

The following steps should be performed on each Signage Player(s) being deployed.

1. Unpack and check for all items
   a. Mini Form Factor Signage Player
   b. DVI to VGA Adapter
   c. Intel Drivers CD
   d. (Rack mount and SFF)
   e. Power Brick with AC cord
2. Physical setup (See diagrams that follow)
   a. Connect a USB keyboard and a mouse (only for testing)
   b. Connect the monitor (not included) to the computer using the DVI connector and VGA adapter (included), if needed. (For extended graphics option, widescreen, use connector indicated on diagram)
   c. Connect a network cable (not included) to the player and network switch
   d. Connect the computer and monitor to electrical outlets
   e. Turn on the computer and monitor



3. 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 similar to the one at the right

NOTE: Some Signage Players have a default layout containing three windows and a crawl

4. Signage Player Default Settings
    a. 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
    b. The default Display Resolution is 1024x768
5. Advanced Signage Player Options
    a. 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.
        i. Display Resolution
        ii. Computer Name
        iii. IP Address
    b. See Signage Player Options section for instructions on changing these settings
6. Add Each Signage Player to the Content Manager if this step was not completed earlier
    a. Ensure the Signage Player is on the network and powered on
    b. Login to the Content Manager
    c. Select the "Configure" menu then "Channel Players" then "Hardware"
    d. Enter the DNS Name or IP Address of the Signage Player
    e. Enter the "Description." This can be a friendly name such as "Break room"
    f. Enter the "Port" of 6500 (default)

g. Click “Add”
h. If you are returned to the “Hardware” screen, the addition was successful

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.

Software Only Installation – Content Manager

VBrick has provided the following guidelines to help successfully implement your digital signage system. Please read and understand the following information before installing the Content Manager software.

Prerequisites

Hardware Environment

See the *System Overview* for hardware requirements.

Virtual Machine

VBrick Digital Signage Content Manager Software can be installed on a virtual machine (VM). The minimum hardware requirements need to be dedicated to the server instance where VBrick Digital Signage will be installed. In additon, the VM should not host any other web application or database.

See the *System Overview* for hardware requirements.

Hardware ID for Licensing

Email the Volume ID of the C: Drive of the Content Manager to support@vbrick.com and VBrick will send your licenses via email.

To find the Volume ID:

1. Open a Command Prompt on the Content Manager
2. Type “dir” at the command prompt and press **Enter** on your keyboard
3. Record the Volume Serial Number

Software Environment

Microsoft Windows Operating System

Windows Server 2008 (64-bit) or Windows Server 2012

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 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 any conflicts. The use of standard images for larger clients has proven to be problematic and should be avoided whenever possible.

Windows Updates

Apply all the latest important Windows Updates before installing the Content Manager software. Windows optional updates are not recommended.

Service Account

The following local Windows account is required on the Content Manager as a service account to allow VBrick Digital Signage services to run with privilege:

- Name: vbuser
- Password: VBrickVBrick1!
- Member of the local Administrators group only

Once the Content Manager software has been successfully initialized, a new service account may be created and applied to the services. The service account must be a member of the local Administrators group and must be granted the “Log on as a service” permission.

In Windows, navigate to the Users section under Local Users and Groups found in **Server Manager | Configuration** or **Computer Management**, depending on your OS. Perform the New User action and create the new user, as follows:

1. User name: vbuser
2. Full name (optional): VBrick User
3. Description (optional): Account for all VBrick Services requiring Privileges
4. Set “Password” and “Confirm password” to: VBrickVBrick1!
5. Deselect “User must change password at next logon”
6. Optionally (but best practice if this will be the permanent service account), select “Password never expires”

   NOTE: The end customer must administer this password.
7. After creating the new vbuser user, open the Properties dialog for it and select the “Member Of” tab
8. Add the newly created user to the local Administrators group and remove it from the (lower-privileged) local Users group
9. Save the changes and restart the Content Manager

Microsoft .NET Framework

Microsoft .NET Framework versions 3.5.1 and 4.0 are required. For convenience, the Microsoft .NET Framework 4.0 installer is bundled with the installer and will run if .NET 4 is not already present on the server.

Ensure all important Windows Updates related to .NET Framework are applied before attempting to install the Content Manager software.

Configuring Roles & Features in Windows Server 2012

While configuring the roles and features, individually complete .NET 3.5.1 Framework before selecting the IIS Role. If they are installed together, "Application Development," a feature in IIS which is required for the VBrick Digital Signage Web Interface to properly work, won't be readily available until you revisit the roles and features window. It is best practice to only install .NET 3.5.1 Framework first, once installed, reopen the roles and features window and add the IIS role and configure IIS based on section 6.1.4.3.1 Configure IIS v7.

Microsoft Internet Information Services (IIS)

Microsoft Internet Information Services (IIS) is required to host the VBrick Digital Signage Web interface. It should be installed after .NET Framework 4.0, and must be installed with all updates applied prior to installing the Content Manager software. IIS is included with the Web Server role in Windows Server 2008, and is an optional Feature of Windows 7.

Configure IIS v7

1. On Windows Server 2008, launch Server Manager and make sure the Role of Web Server (IIS) is added, or
2. On Windows 7, go to 'Turn Windows features on or off' from the Control Panel and expand Internet Information Services, then
3. Verify that the following Role Services (Server 2008), or sub-features (Windows 7), are added:
    a. Common HTTP Features
        - Static Content
        - Default Content
        - Directory Browsing
        - HTTP Errors

b. Application Development
   - ASP.NET
   - .NET Extensibility
   - ASP
   - CGI
   - ISAPI Extensions
   - ISAPI Filters
   - Server Side Includes

c. Health and Diagnostics
   - HTTP Logging
   - Logging Tools
   - Request Monitor
   - Tracing
   - Custom Logging
   - ODBC Logging

d. Security
   - Windows Authentication
   - Request Filtering

e. Performance
   - Static Content Compression

f. Management Tools
   - IIS Management Console
   - IIS Management Scripts and Tools
   - Management Service
     - IIS 6 Metabase Compatibility
     - IIS 6 WMI Compatibility
     - IIS 6 Scripting Tools
     - IIS 6 Management Console

Application Pool

The Application Pool or Web site hosting the VBrick Digital Signage Web interface (typically Default Web Site) must be manually configured to run under .NET 4.

1. Navigate to **Roles | Web Server (IIS) | Internet Information Services (IIS) Manager | <server name> | Application Pools**

2. Select the Application Pool associated with the Default Web site (typically DefaultAppPool) and click Basic Settings
3. Configure the .NET Framework version to v4.0 and the Managed pipeline mode to Integrated
4. Select Set Application Pool Defaults
5. Locate Enable 32-Bit Applications and set to True (only for 64-Bit machines)

MIME Type

The MIME type "*, application/octet-stream" must be added to the Web site in IIS hosting the VBrick Digital Signage Web interface (typically Default Web Site).

1. Navigate to **Roles | Web Server (IIS) | Internet Information Services (IIS) Manager | <server name> | Sites | Default Web Site**
2. Select MIME types and click Open Feature
3. If the required MIME type is not configured, click **Add**
4. Configure the File name extension to ".*" and the MIME type to "application/octet-stream" (both without the quotes)

Microsoft SQL Server

Microsoft SQL Server 2008 (or optionally, 2005) Express or greater is required. SQL Server 2012 can be used if installing on Windows Server 2012. The following SQL Server configurations are required for VBrick Digital Signage:

- SQL Server must be installed with the default instance of "MSSQLSERVER".
- 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 in as this account.
- SQL Server Database Engine must be set to 'SQL Server and Windows Authentication mode' (Mixed Mode Authentication)

For convenience, the SQL Server 2008 Express installer is bundled with the VBrick Digital Signage Content Services installer. If the SQL Server default instance name "MSSQLSERVER" is not detected on the Content Manager when the VBrick Digital Signage Content Services installer runs, it will attempt to install SQL Server 2008 Express and properly configure it for VBrick Digital Signage.

Apply all important Windows Updates related to SQL Server prior to installing the VBrick Digital Signage software.

Network and Security Environment

Network Identification and Resolution

The VBrick Digital Signage Content Manager requires a static network identification (DNS, WINS, NetBIOS, static IP, etc.). It must be able to resolve the network identification of VBrick Digital Signage devices (Channel Players, Room Signs, etc.), machines running VBrick Digital Signage software (Desktop Messenger clients, Screen Saver clients, etc.) and network resources as configured in the product.

Firewalls

Network and PC firewalls must be configured to allow communication between the VBrick components, VBrick Digital Signage software and VBrick publishers (Desktop Messenger, Screen Saver, and RSS). Depending on which VBrick Digital Signage features are used, the Content Manager must communicate over specific TCP and UDP ports, as follows:

- TCP port 21 Outbound (FTP)
- TCP port 25 Outbound (SMTP)
- TCP port 80 Inbound (HTTP)
- TCP port 110 Outbound (POP3)
- UDP port 123 Outbound (NTP)
- TCP port 6102 Inbound (CAP listener)
- TCP port 6104 Inbound (Screensaver client listener)
- TCP port 6500 Outbound (VBrick Multimedia Protocol Commands to channel players)
- TCP port 6501 Outbound (File transfer to channel players)
- TCP port 6502 Inbound (File transfer from channel players)
- UPD port 28500 Outbound (Desktop Messenger publisher broadcast)
- TCP port 28501 Inbound (Desktop Messenger client listener)
- TCP port 28502 Inbound (RSS Publisher distributor listener)
- TCP port 28503 Inbound (Enterprise Publisher distributor listener)

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 to access the Internet.

Domain and Group Policies

VBrick Digital Signage devices are not required to be on a domain.

If considering joining VBrick Digital Signage devices to a domain, it is important to note how group policies can impact the operation of the VBrick Digital Signage software. Often, group policies will render VBrick Digital Signage inoperable or cause the system to have degraded performance. VBrick Digital Signage devices should not be considered desktop computers when applying security policies. It is the customer'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 strongly suggests joining VBrick Digital Signage devices to a domain and adding group policies after 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.

VBrick Digital Signage Content Services Software Installation Procedure

VBrick Digital Signage Installers

Release 4.x.x is primarily delivered to customers with the following Microsoft InstallShield installers:

- VBrick Digital Signage Content Services
- VBrick Digital Signage Channel Player

Installers for other VBrick Digital Signage software components, e.g., VBrick Desktop and VBrick Desktop Messenger, are bundled into the VBrick Digital Signage Content Services installer and most may be downloaded for convenience via the VBrick Digital Signage Web interface after the Content Services software has been successfully installed. Other installers may be obtained from VBrick as needed.

The installers are available for download from VBrick. Alternately, they may be delivered on DVD for an additional fee.

Best practices

To avoid problematic installations, VBrick strongly recommends the following operating system configurations:

1. Log into the Content Manager using the vbuser account to perform the installation.
2. Install VBrick Digital Signage Content Services 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 above.

3. Disable screensaver and power saving settings, since they can prevent the automatic VBrick Digital Signage weekly reboot from occurring.

Prerequisites

Ensure all prerequisites documented above are met before continuing.

Installation of VBrick Digital Signage Content Services Software

1. Save the installation files on the Content Manager to allow them to be run locally.
2. Run Setup.exe with elevation (As administrator).
3. The VBrick Digital Signage installer will check for certain required prerequisites and will not continue until the prerequisites have been satisfied. VBrick bundles required versions of Microsoft .NET Framework 4.0 and Microsoft SQL Server 2008 Express with the VBrick Digital Signage 4.x installer. If the required version of .NET Framework and/or the SQL Server 2005/2008 default instance name "MSSQLSERVER" are not found, the VBrick Digital Signage installer will prompt the user to install the missing components.
4. If missing perquisites were installed, stop the VBrick Digital Signage installation, verify that all important Windows Updates are installed, and then re-run Setup.exe with elevation.
5. 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.
6. Complete the Customer Information screen and click the **Next** button. On the Notice for Feature Selection screen select the **Net** button.
7. On the Setup Features screen, accept the default selection unless otherwise instructed by a VBrick support representative. If you wish to select an alternative installation location click the **Change** button and specify the location, otherwise select the **Next** button. On the Ready to Install the Program screen select the **Install** button.
8. The Installing VBrick Digital Signage Content Services screen will provide the status of the installation.
9. As components of the ASP.NET are registered, a series of DOS screens will appear.
10. Once the installation is complete the user will be returned to the VBrick Digital Signage Content Services – InstallShield Wizard; click the **Finish** button.
11. Verify that all important Windows Updates have been installed. If not, then proceed to run all important updates and restart the server

NOTE: you may have to check for updates again after reboot.

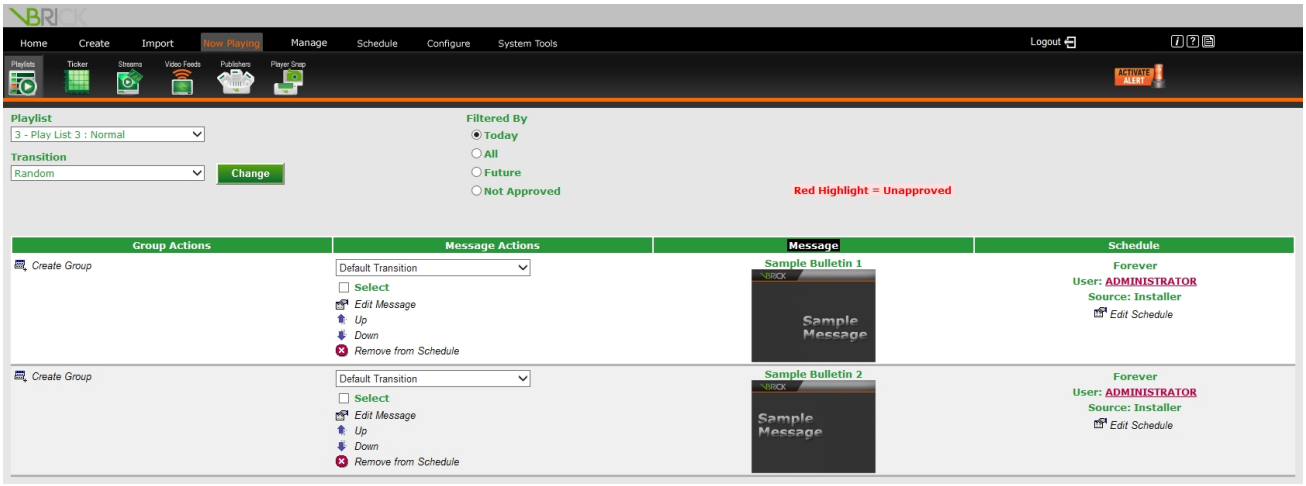
Licensing and Initializing the Content Manager

1. Log on to the Content Manager with the username vbuser and password VBrickVBrick1!
2. VBrick will supply the licensing keys to the customer prior to the implementation of the Content Manager.
3. The customer will be required to place the license key files in the License folder under the VBrick Digital Signage Content Services installation folder. For example: C:\Program Files\Vbrick\Digital Signage\Content Services\License
4. **Run Start Icon | Programs | VBrick | Initialize Device** with elevation (as administrator) 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.

If you encounter any problems during this process, e-mail support@vbrick.com.

Confirm VBrick Digital Signage Content Manager Operation

1. Open Internet Explorer and enter the address http://localhost
2. Enter the VBrick Digital Signage default username Administrator with the password vbrick
3. On the VBrick Digital Signage Dynamic Visual Communication screen navigate to **Now Playing | Play Lists** to verify the thumbnails are visible. If the thumbnails are not visible, recheck the MIME Types configuration in IIS as described earlier in this document



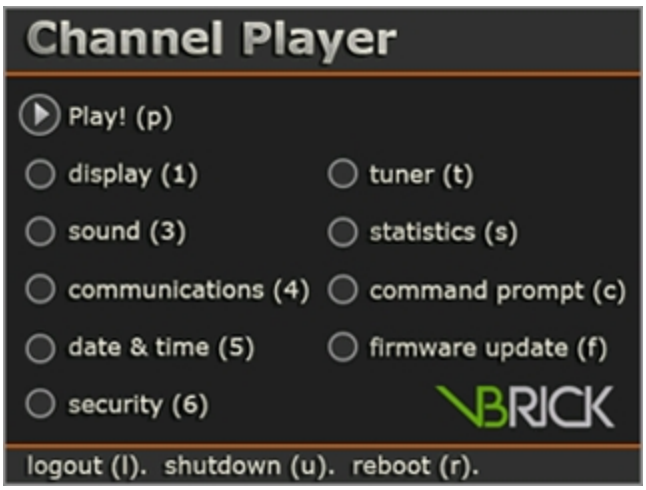
Signage Player Options

The following chapter contains information about how to operate the Signage Player and its associated options. In order to make any changes to the Signage Player, you must access the player console.

Accessing the Channel Player Console

1. With a keyboard and mouse connected to the Player, press the **ESC** key. 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**. The default credentials are: user name – admin; password – admin

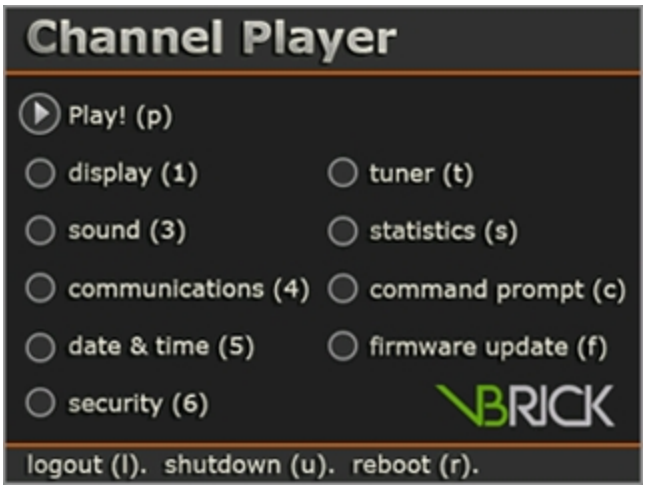
4. The Player Console will appear



5. If you do not interact with the Console for 30 seconds the Player will return to the bouncing image

Channel Player Console

The Signage Player Interface (Console) is designed to enable you to quickly access tools on the Channel Player. You can access each setting with a mouse or the shortcut key in parentheses next to each setting title.



See " Accessing the Windows Layer" on page 41

Channel Player Settings

- **play! (p)** – launches the media player delivering scheduled content to associated displays.
- **display (1)** – allows the user to view changes to the display settings. Should be configured in Windows.
- **sound (3)** – not used.
- **communications (4)** – not used. DHCP (automatic addressing) or static IP address should be configured in Windows.
- **date & time (5)** – not used. The date and time should be set in Windows.
- **security (6)** – change the user name and password to prevent unauthorized access.
- **statistics (7)** – provides Channel Player statistics regarding used disk space and historical file size data. This function is not active in versions 7.x and above.

- **command prompt (c)** – opens the VBrick Multimedia Player Command Console. Type `maintenancemode` to access the Windows desktop. See " Command Prompt" on page 42
- **firmware update (f)** – allows users to update Signage Player firmware from the console. This function is not active in versions 7.x and above.
- **video window** - not used.
- **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. See " Shutdown & Reboot" on page 42
- **tuner (t)** – launches the tuner card configuration program selector utility

Accessing the Windows Layer

Some Signage Player settings, such as Network ID, date, time, and display resolution, should be changed in Windows. 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 the Windows shell:

1. With the Signage Player playing, click the mouse and press ESC
2. Login to the player menu.
3. Select the Command Prompt(c) option
4. At the C:\ Type `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 Channel Player application interferes with your work:

1. Press CTRL-ALT-DEL on the keyboard to bring up the task manager. In the Task Manager select VBrick Multimedia Player Console and click the **End Task** button in the lower left corner of the dialog box

2. If prompted, click **End Now**
3. If you receive a Player Host Process notice, click **Don't Send**

Video Window

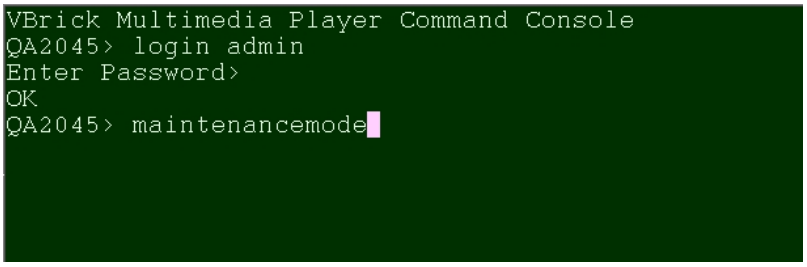
Users can select to test the video source (Composite or S-Video), select video format (NTSC or PAL), and manipulate brightness, contrast, hue and or saturation.

NOTE: There are corresponding settings that should be edited on the Content Manager to ensure that video window content and accompanying audio are delivered correctly.

Command Prompt

The Command Prompt option is used to start the VBrick Multimedia Player Command Console.

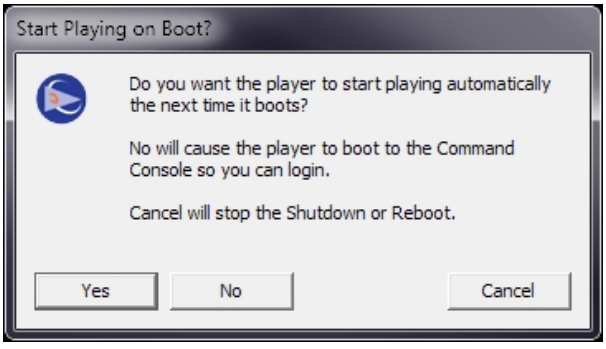
Type `maintenancemode` at the command prompt to go to the Windows desktop.



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.



Feature Configuration Guide

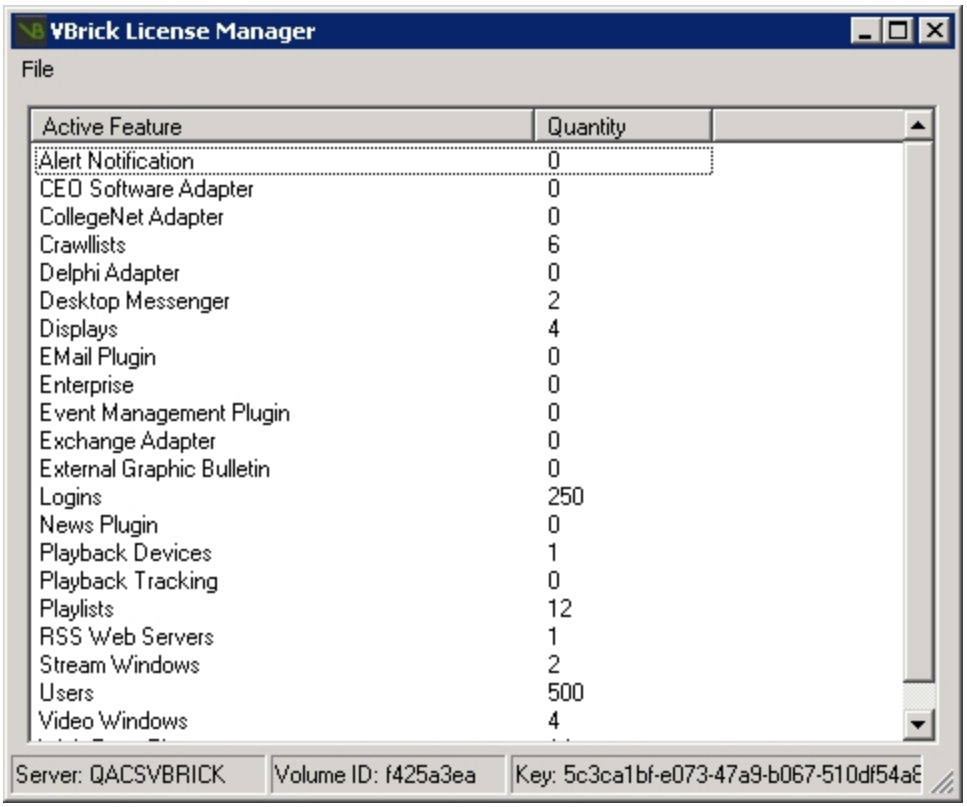
Most of the features are configured by following this general sequence:

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

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 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 you server. If you later purchase new features, this tool allows you to request and then activate a new License Key for that new feature.



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 the number desired, and click **Create Request File**
    d. The request file should be saved in C:\Program Files\VBrick\VBrick\Digital Signage\Content Services\License
4. Submit the request file to VBrick to have activation keys issued
    a. Email all of the .req files in C:\Program Files\VBrick\VBrick\Digital Signage\Content Services\License along with information to identify your installation. This would include 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. Send to support@vbrick.com

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 server for all changes to take effect

Desktop Messenger

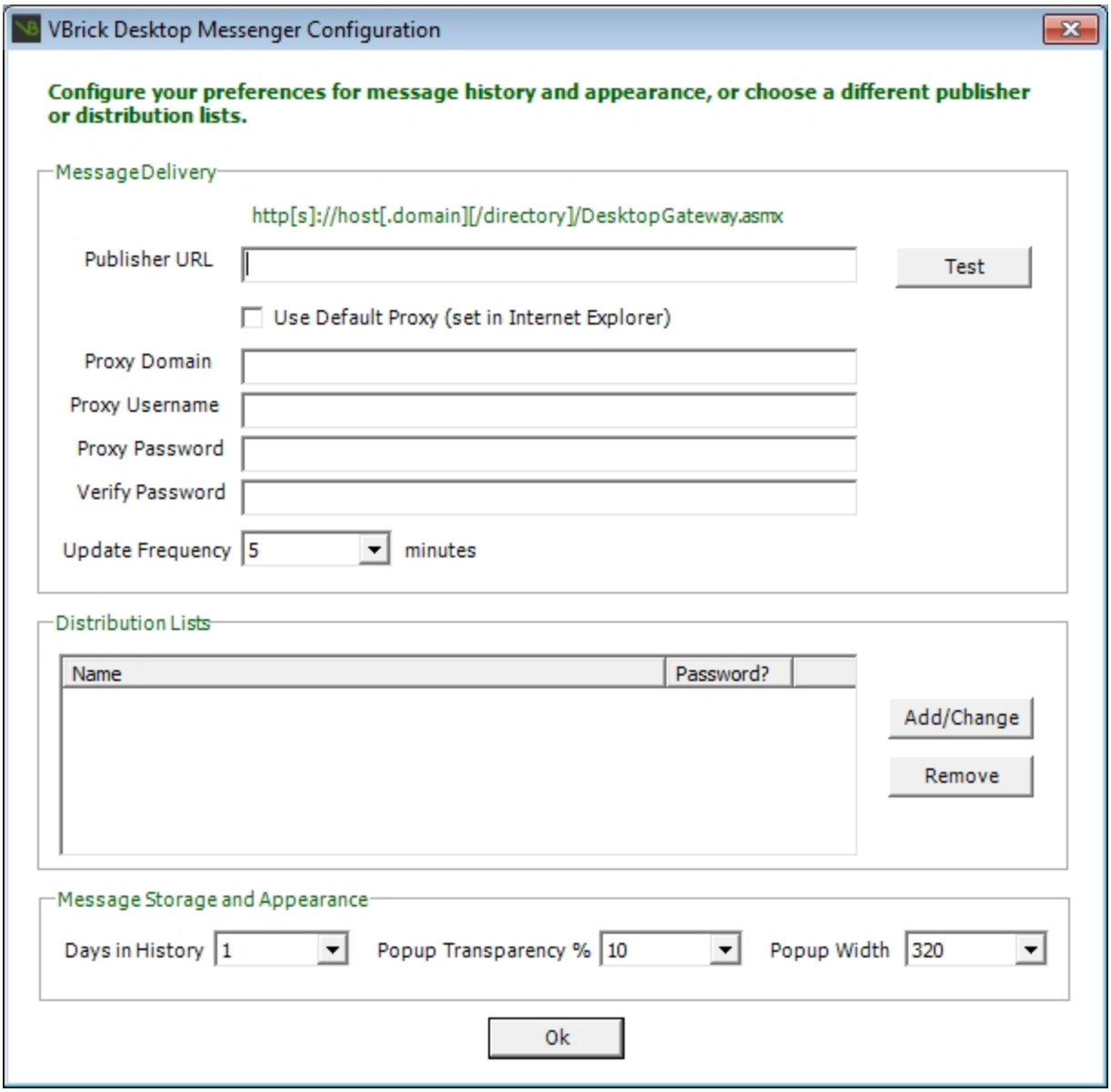
Send VBrick Digital Signage bulletins as instant messages to any and all licensed PCs.

To install and configure Desktop Messenger on each PC:

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 Desktop Messenger client program.
5. When the InstallShield Wizard is complete click on **Launch VBrick Digital Signage Desktop Messenger** then click on **Finish**
6. You will find the VBrick Digital Signage Desktop Messenger icon on your desktop toolbar.

To configure Desktop Messenger:

1. Right click on the icon and select **Configure**
2. Enter the URL of your publisher server followed by */DesktopPublisher/DesktopGateway.asmx*. Click **Test**. If using a proxy server, enter proxy information.
3. Click **Add/Change** to subscribe to a distribution list. Some distribution lists are password protected. If so, user must enter the password to subscribe



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.

Transparency

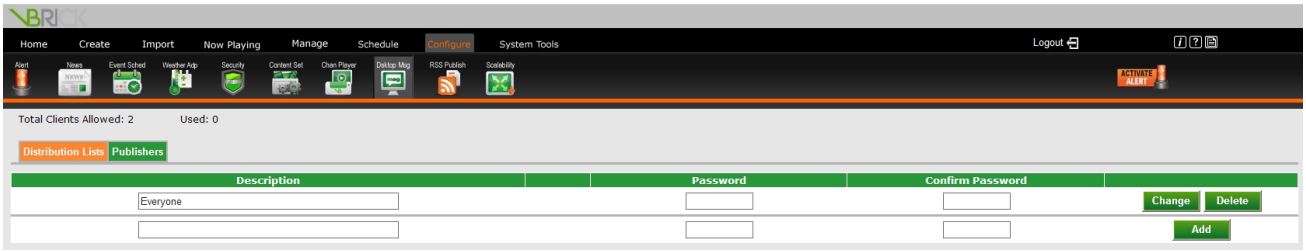
The Desktop Messenger supports transparency and several popup sizes. Preferences for these options can be set on the Configuration screen.

No Messages

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

Configure Publishers from the Content Manager

Desktop Messenger can support multiple distribution lists. Based on the needs of the client, 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.



Publish Messages

A Desktop Message is a bulletin that excludes video section. 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 bulletin to both Playlists and the Desktop Messenger, or 'Skip Playlists!' in order to schedule exclusively to the Desktop Messenger.

Once the bulletin 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 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.

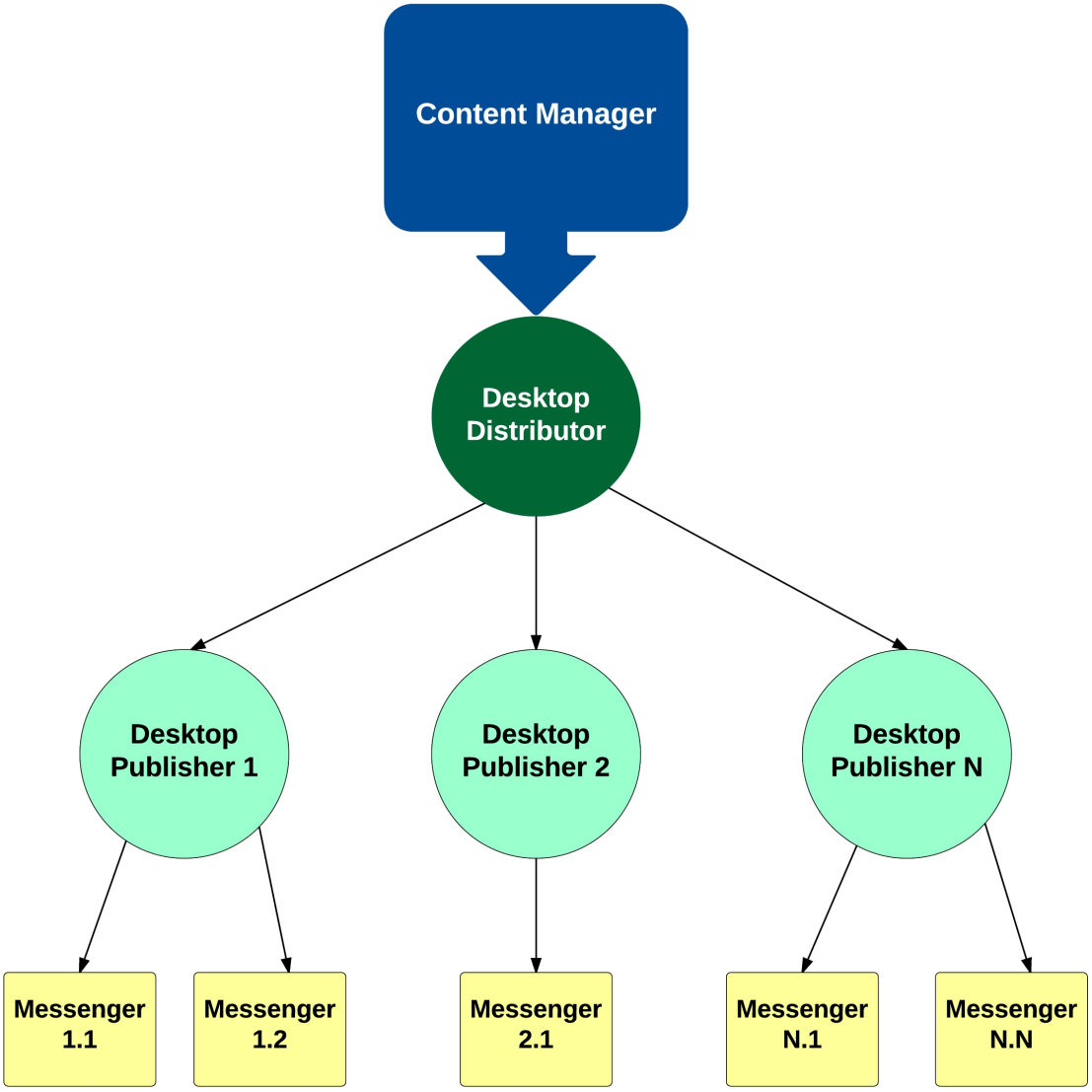
Now Playing

For users with the Create Desktop Message privilege, the 'Publishers' icon will automatically appear on the **Now Playing** screen. The screen is similar to **Now Playing | Playlists** screen, 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 | Playlists**).

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.

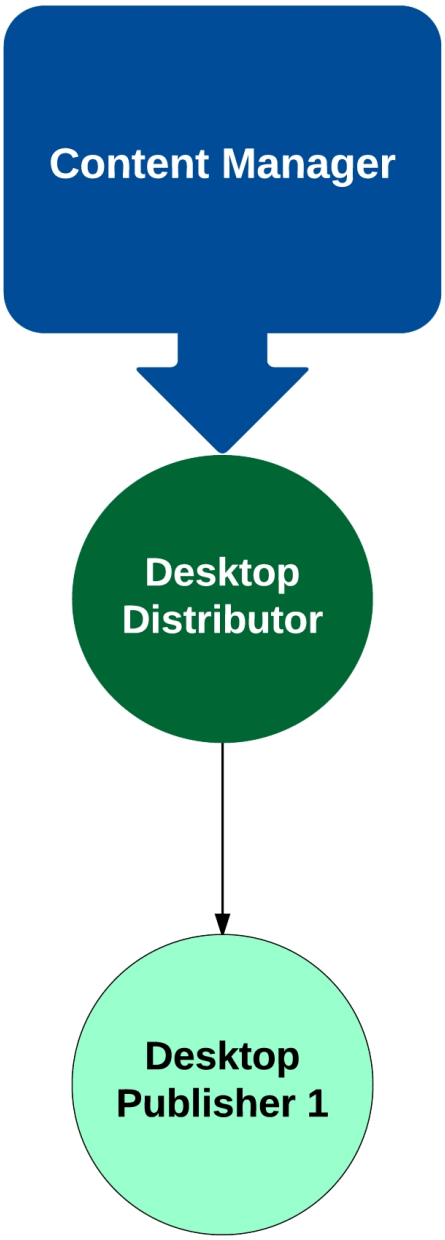
Message Distribution



Deployment Scenario 1

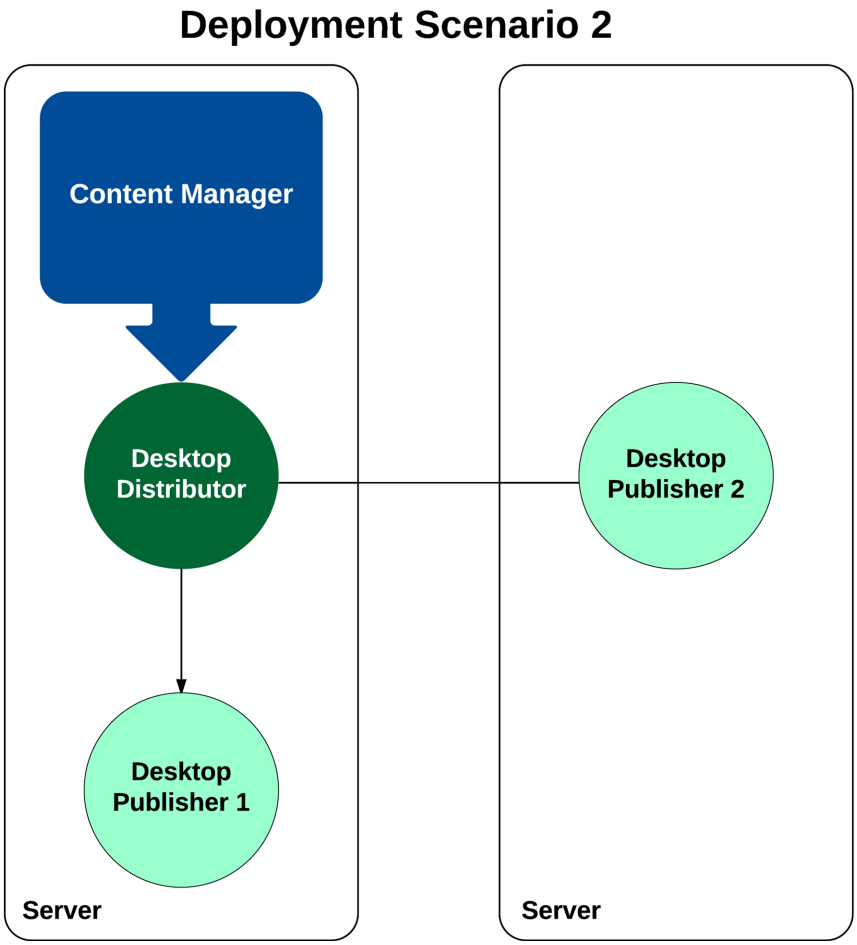
For many installations, such as small customers, both tiers can be deployed on a single server.

Deployment Scenario 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.



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).

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.
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.

<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.
networkChunkSizeInKb	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 networkChunkSizeInKb 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.
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.

MSI Installer for Desktop Messenger

An MSI Installer for Desktop Messenger is available. This provides the ability to perform mass installations of Desktop Messenger through Group Policy management. The MSI Installer does not run a requirements check. It is the responsibility the IT Administrator to ensure that required versions of .NET Framework are installed on PC prior to installation. You can request the MSI Installer by e-mailing Technical Support at support@vbrick.com.

RSS Publisher

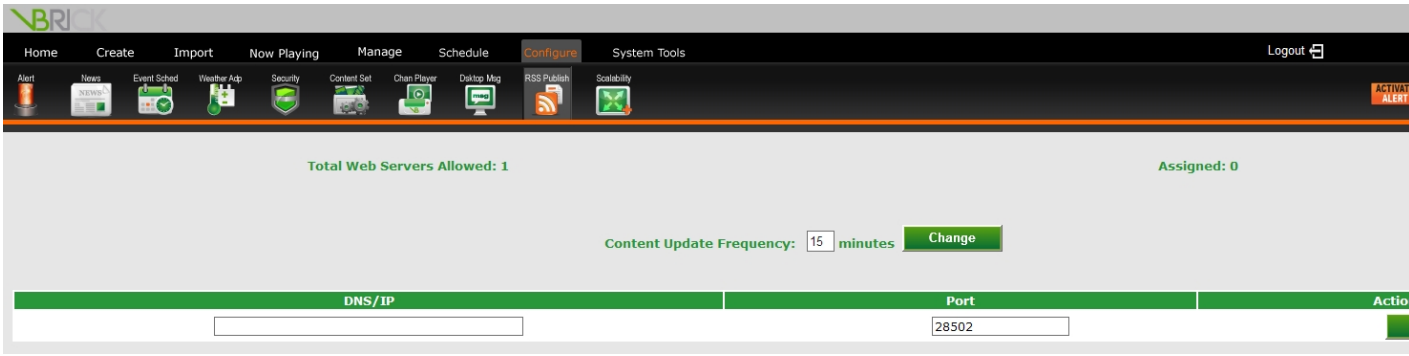
The RSS Publisher is a new feature that can provide RSS Readers with play lists and their images. All 'public view' play lists are eligible for RSS Publishing. The RSS Publisher is licensed by the number of RSS Web Servers. During installation, you can choose to create an 'RSS Web Site' as a sub-selection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

Configure Publishers

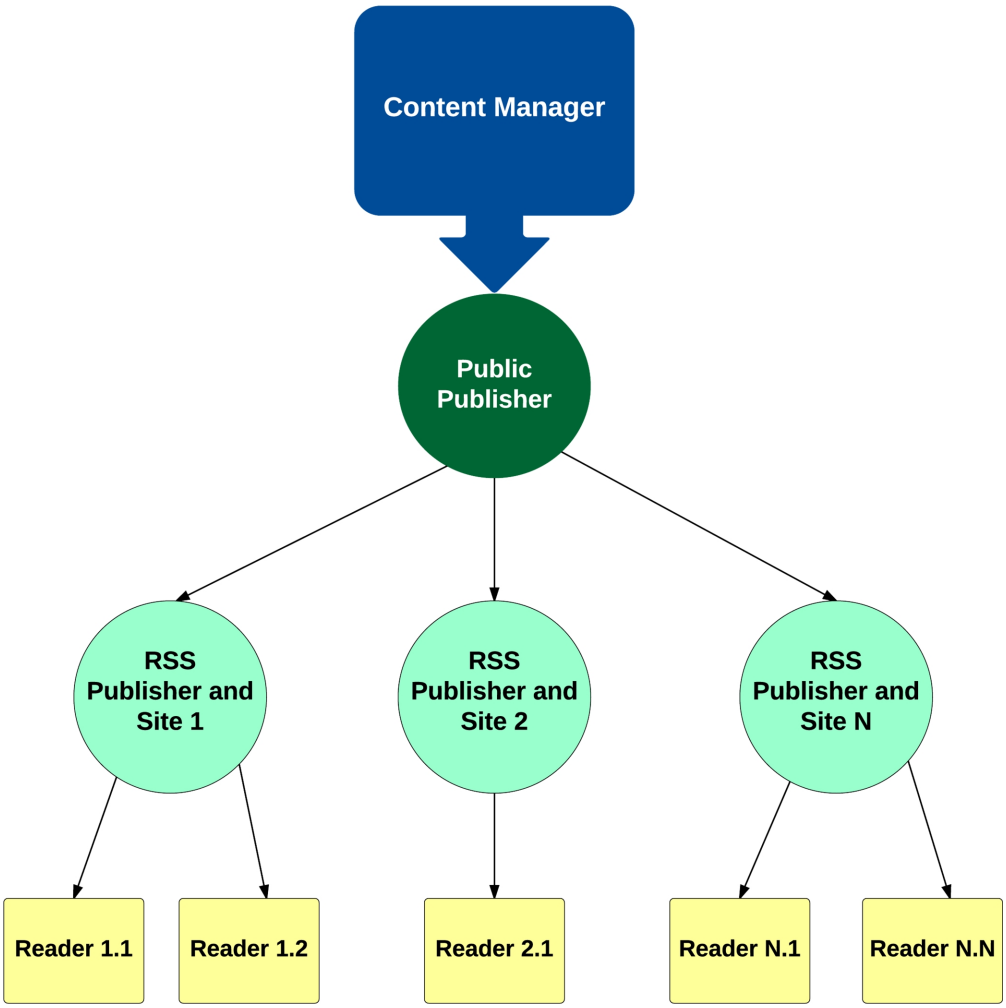
The Web configuration screen allows you to specify the RSS Web Sites. You can also specify how often content is refreshed to the RSS Web Sites. The RSS Readers will hit the sites and receive new content only after the sites themselves have been updated.

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.



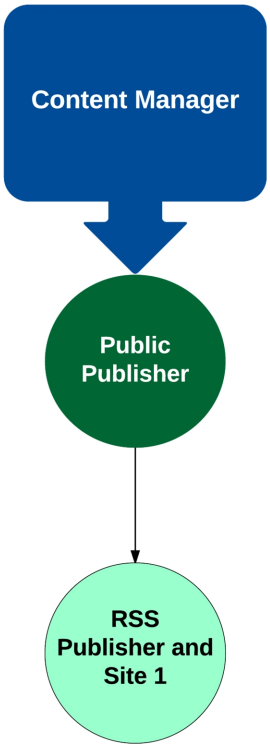
Message Distribution



Deployment Scenario 1

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

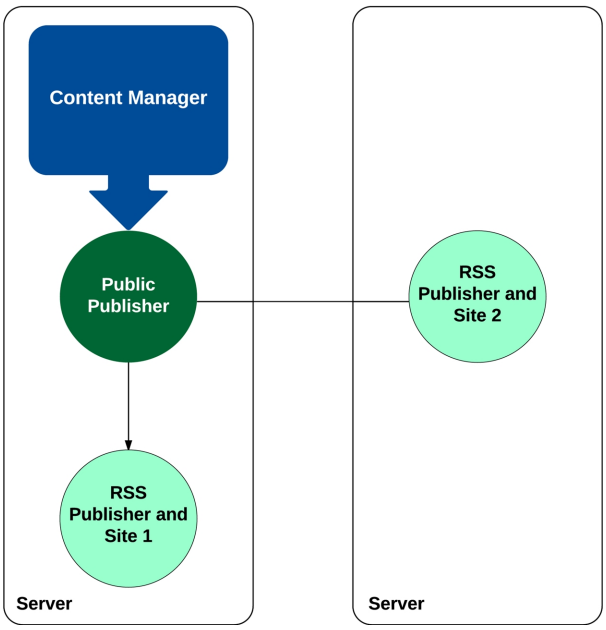
Deployment Scenario 1



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.

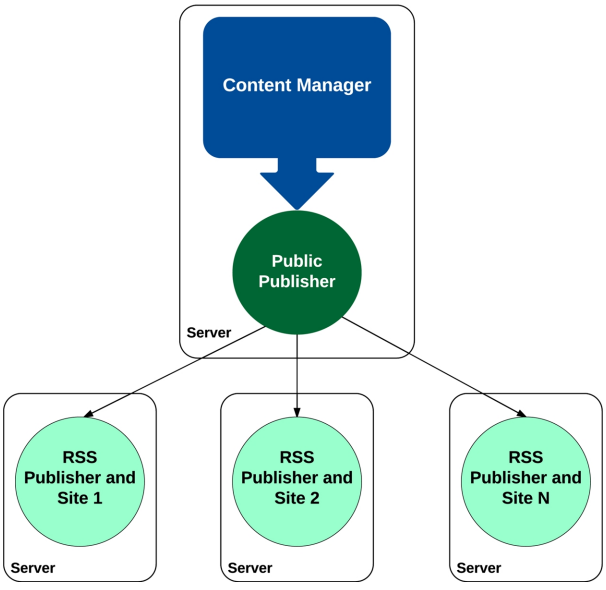
Deployment Scenario 2



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 3



Configuring Distribution

Each server that functions as a Public Publisher or a RSS Publisher can be configured via a straight-forward 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"

          networkChunkSizeInKn="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.

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.

Logo Configuration

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
3. Open the Web.config file with notepad or another text editor, which is located in the Web installation directory
4. Find the line that looks similar to: `<add key="CustomImageName" value="tei_color_128.gif"/>`
5. Edit the `value="tei_color_128.gif"` portion and replace `tei_color_128.gif` with the name of the new logo file
6. All logos are horizontally aligned to the middle of the logo section of the page, but their vertical alignment can be controlled
7. Open the Web.config file with notepad or another text editor, which is located in the Web installation directory
8. Find the line that looks similar to: `<add key="VAlignCustomImage" value="middle"/>`
9. Edit the `value="middle"` portion and insert one of the key words: top, middle or bottom

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.

Configuration (Basic)

Making Images Clickable (for navigation)

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

URL Format

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

Option	Required	Description
playlistNbr	Yes	This option is required and is numeric. It represents the play list number.
mode	Yes	This option is required and is alphanumeric. It represents the play mode of the play list.
height	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.
installationLabel	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: • xx-small • x-small • small • smaller • medium • large • larger • x-large • xx-large
Banner	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.
navigation	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://VBDSServer/public/playlistview.aspx?playlistNbr=1&mode=Normal&height=480&installationLabel=large&banner=100&navigation=100

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 bulletin displayed before the next bulletin 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 - bulletins 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 (bulletin) 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.”

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 Digital Signage 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**

Unpurgable Messages (Limitations)

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

Never Scheduled

If a user creates a new message but doesn’t schedule it, it 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.

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 Content Purge Service's purge cycles. Messages like this look the same as "never scheduled" messages to the purge.

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 | Channel 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 | Channel 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.

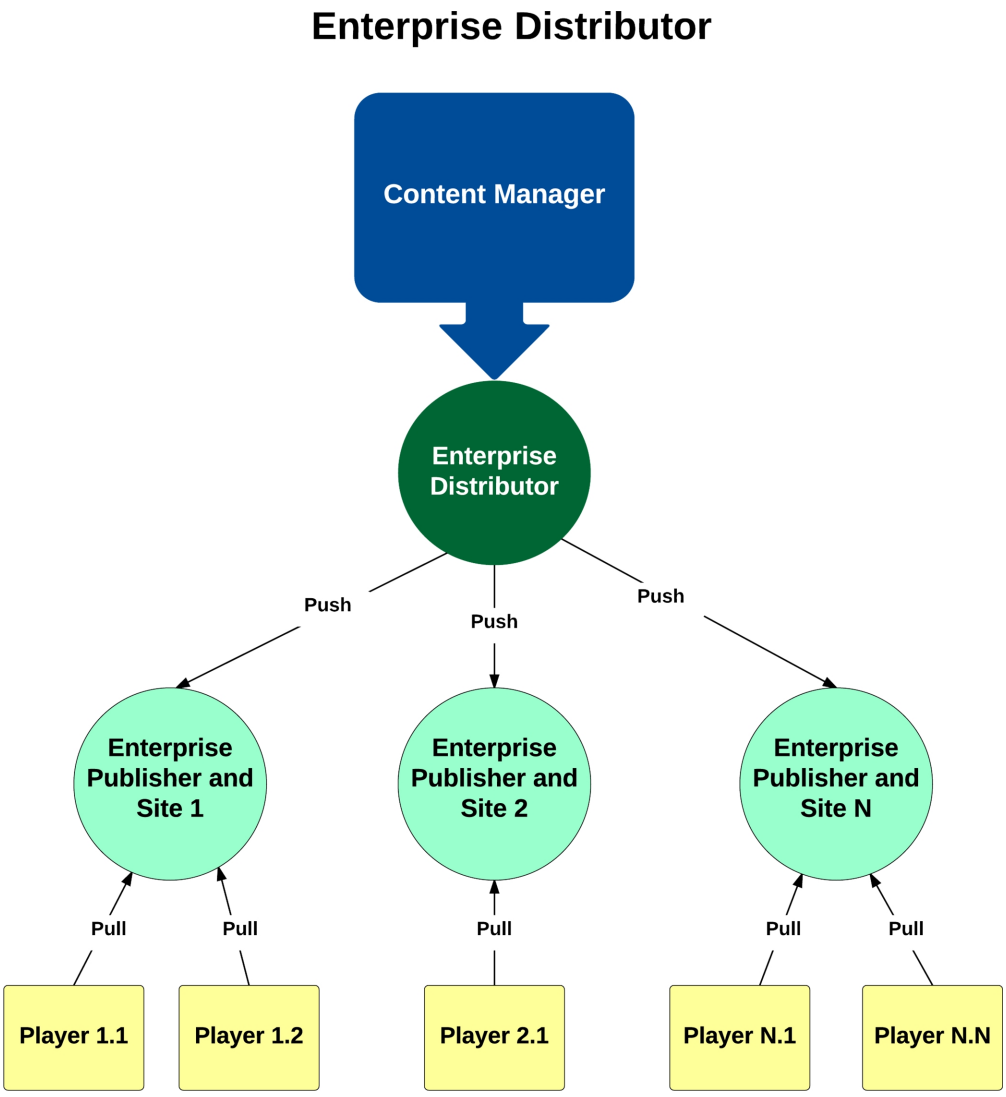
Unused Alert Modes can be removed in the web interface on the **Manage | Purge** screen. All of the default modes will be added back into the system after each software update. You will need to remove the unused alert modes again after a software update.

Player Vertical Scalability

Enterprise customers can 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.

Components

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



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.

Enterprise Publisher

The Enterprise Publisher can reside on the Content Manager, a separate server or PC or on a Channel 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.

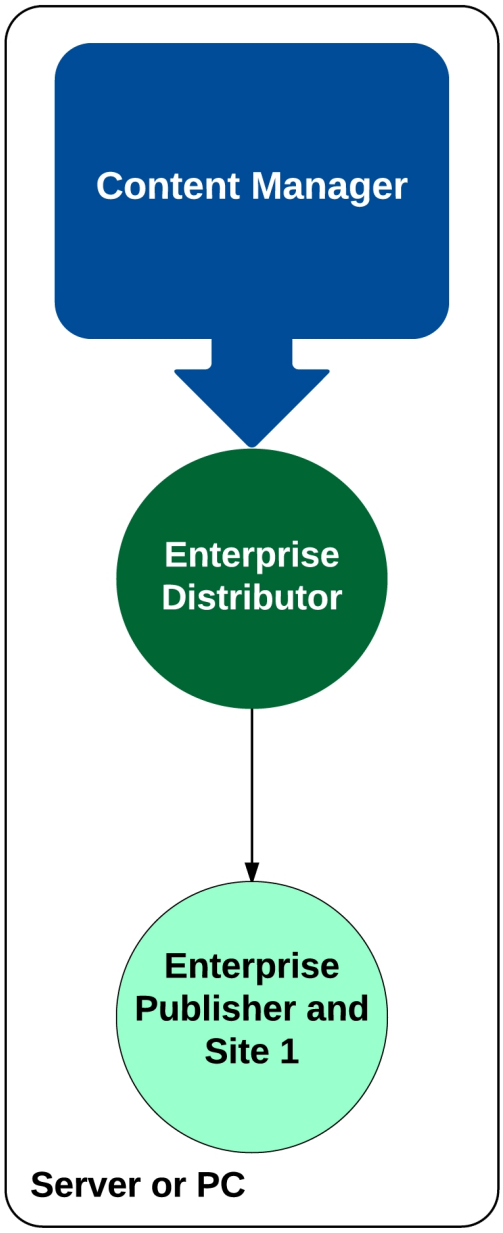
Consumer

The Consumer is a new process on the Channel 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 Channel Player for old content (unreferenced) and purges it automatically.

Deployment Options

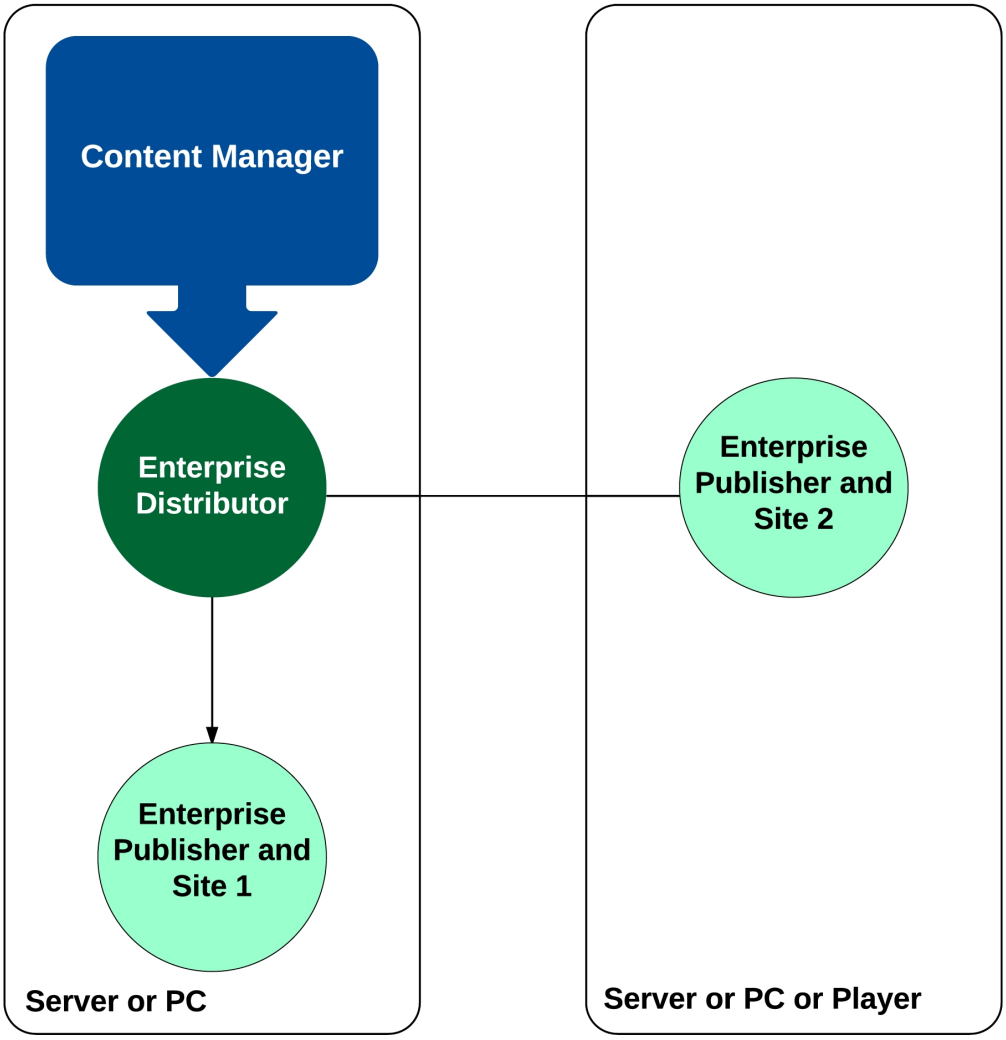
The Enterprise Publishers may be deployed in several ways. The distributor and publisher can be installed on the Content Manager. Since the goal is vertical scaling, though, this configuration won't make sense for most installations.

Deployment Scenario 1

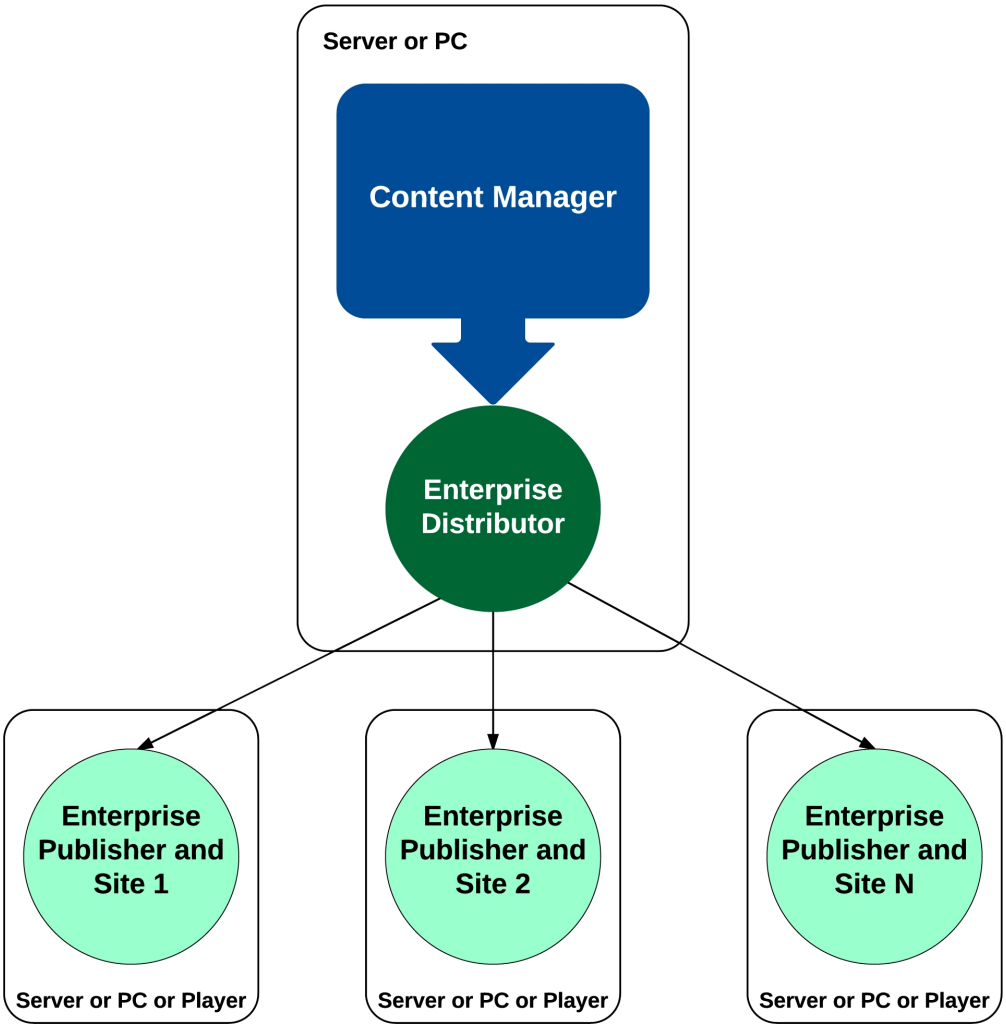


A variant of the first option adds Enterprise Publishers to external servers, PCs or players.

Deployment Scenario 2



Deployment Scenario 3



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.

Installing the Enterprise Publisher

The Enterprise Publisher is bundled into the 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.

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. This section controls 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
listenerPort	TCP port that the publisher uses to receive content from the Enterprise Distributor
networkChunkSizeInKb	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.

NOTE: When installing the Player Publisher on a 64-bit operating system, the following configuration should be applied:

Under PlayerEnterprisePublisher section in Tei.sSettings.xml

1. Set run option to "true"
2. Adjust publishRoot option to reflex the location of the PlayerPublisher to "Program Files (x86)" not "Program Files".

NOTE: "Program Files" is the location for 64bit applications while "Program Files (x86)" is the location for 32bit applications.

Under IIS Management

1. Add extensionless mime type to the IIS web site:
    a. .* application/octet-stream
2. Verify that the IIS default app pool is .NET 4.0 and has advanced settings “Enable 32-Bit Applications” set to “True”

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.

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 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.

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="ChannelPlayer DNS"
            threshold="30" />
            <ChannelPlayer2 name="ChannelPlayer DNS"
            threshold="30" />
        </ChannelPlayers>
    </DelayThreshold>
</DistributionRules>
```

<DelayThreshold><ChannelPlayers> Options

Option	Description
count	The number of Channel 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 Channel Player DNS, which must match the value known by the Content Manager.

Installing the Consumer

The consumer is a process that the channel player runs to pull content from a designated publisher. It is included in the Signage Player software installation.

Configuring the Consumer

The consumer uses a configuration file, consumer.exe.config, to control its behavior. An example of the default configuration file is shown below:

```
<?xml version="1.0" encoding="utf-8" ?>

     <configuration>

          <appSettings>

               <add key="enabled" value="false" />

               <add key="publisherUrl" value-
               e="http://publisherDns:80/PlayerPublisher"
               />

               <add key="playerId" value="" />

               <add key="refreshInterval" value="1" />

               <add key="playerTelnetPort" value="6500" />

          </appSettings>


          <system.diagnostics>

               <switches>

                    <!-- A value of 0 = off and 1 =
                    on

                         The trace file will be
                         placed in the .\log sub-
                         directory and named Con-
                         tentConsumerYYYYMMDD.log

                    -->


                    <add name="TraceFlag" value="0"/>
```

```
                </switches>
        </system.diagnostics>
</configuration>
```

Name meanings:

- enabled - Controls whether the consumer runs
    - Note that if the consumer is set to run but the installation doesn't support Enter-prise Player Publishing it has no effect – the old single tier publication still maintains control
- publisherUrl - The root URL to the publisher
- playerId - The identity known to the Content Manager. This may be one of: computer name, DNS name or IP address. This ID cannot be detected automatically.

  NOTE: Periods are not supported as a playerId on the Content Manager. There-fore, if players are known to the Content Manager via IP Address, the playerId will be the IP Address WITHOUT periods. E.g., the playerId for a player with IP Address 192.168.1.100 will be 1921681100.

- refreshInterval - The interval, in minutes, between polling the publisher for updated content
    - In most installations, this value should not be configured for less than five minutes
- playerTelnetPort - The port on the Channel Player where it listens for commands from the Content Manager
- TraceFlag - Controls whether logging is turned on
    - Logging should be used only temporarily for diagnostics. A running window of 14 days' worth of logs are maintained if tracing is left on perpetually.

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 ActiveDirectory integration, then the classic VBrick Digital Signage login page appears.

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.

Configuration

Once IIS has been properly configured and verified (users can still login manually), then Active Directory 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.

Configuring the Remote Control API and SDK

Remote Control API

The VBrick Remote Control Application Programming Interface (API) is a licensed feature that can be purchased for the Content Manager. An associated software development kit (SDK) is available for programmers who wish to utilize the Remote Control API. Note that programming by the client or a third party is required to use the Remote Control API to remotely trigger Mass Alert Notification.

The first component of the SDK is an VBrick Digital Signage-controllable API that allows an organization to create a program that will manipulate or trigger the VBrick Digital Signage Mass Alert Notification from an external interface, and interrupt playback of regularly scheduled content and replace it with Mass Alert communications.

You can install the Remote Control API onto the same computer as the Content Manager or on a different computer. If you need to invoke the Remote Control API from an Internet client, VBrick strongly recommends installing the Remote Control API onto a separate computer from the Content Manager and isolating the internet-exposed computer with firewalls on either side.

You can install the Remote Control API and SDK from two installers:

- VBrick Digital Signage Content Services
- VBrick Digital SignageRemote Control API and SDK

The VBrick Digital Signage Remote Control API and SDK installer is much smaller than the VBrick Digital Signage Content Services installer and may be more convenient to use when installing the API alone. Regardless of which installer you use, the API and SDK are located in the feature named “Remote Control.”

In the VBrick Digital Signage Content Services installer the Remote Control feature is deselected by default. There are two sub-features, the API and SDK. Customers that wish to develop client software to interact with the API should install the SDK onto a developer workstation. The VBrick Digital Signage Content Manager must have the “Remote Control API” license key activated in order for API requests to be honored. Once the license is applied and the API is installed onto the same or a different computer, the API must be configured to point to the correct VBrick Digital Signage Content Manager computer.

On the VBrick Digital Signage Content Manager, go to **Start | Programs | VBrick | Configure Remote Control API**

This shortcut executes the VBrick Digital Signage Web Configuration Utility. You can enter the Application Server (Content Manager) DNS or IP Address, and TCP port.

If you install the API onto the same PC as the Content Manager, then the Initialize or Upgrade Device wizards will assume the API should point to the locally installed Content Manager. If you install the API onto another computer you must manually configure the identity of the Content Manager.

SDK Developer Kit

The Remote Control SDK available from the installers is intended for use by developers that wish to write applications that can invoke VBrick Digital Signage programmatically to perform bulletin, scheduling and channel player tasks, including Mass Alert override. The SDK comes with two files, both installed in the RemoteControlSdk subdirectory under VBrick Digital Signage Content Services (unless the installer chooses a different location):

- rcapi.pdf documents how to install, configure, test and develop clients for the Remote Control API.
- SamplesProject.zip contains a Visual Studio 2008 .NET Forms client that invokes all major services within the API.

An VBrick Digital Signage Administrator must also configure the Remote Control API in the VBrick Digital Signage web interface. This may be configured from the **Configure | Remote Control API** menu.

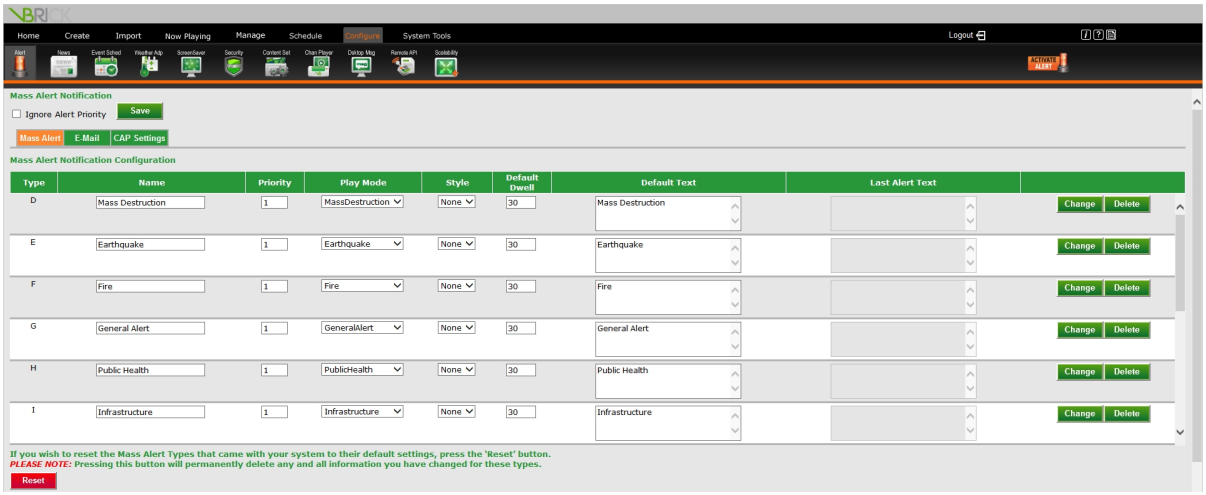
Configuring Mass Alert

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 contact support@vbrick.com.

Contact VBrick Technical Support to configure Mass Alert Notification.



Alert Auditing

VBrick Digital Signage versions 4.3 and higher support auditing for tracking and monitoring the progress of an alert. Audit trails allow users to track the various processes of alerts which benefits accountability and troubleshooting. Two forms of alert audit are available: a web report and a log file. The alert audit web report is a user friendly screen available from within the user interface. The alert audit log file is stored on

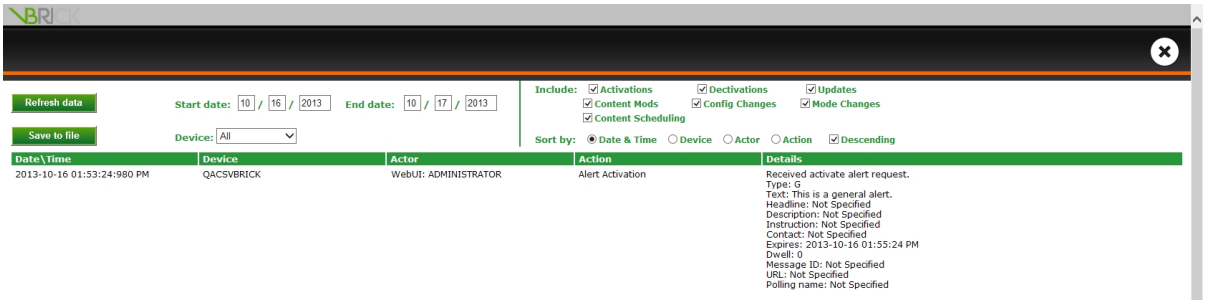
the Content Manager and is used primarily for support purposes. No configuration is required. The Content Manager will generate alert audit logs and will keep the last six months of audit detail, purging older detail automatically.

Alert Audit Web Report

The alert auditing in the UI can be viewed by clicking the icon in the VBrick Digital Signage menu bar.

The alert audit web report is broken down into 5 columns: date/time, device, actor, action, and details. The report is automatically sorted by descending date/time so that newer entries appear at the top. The report can be sorted by another column with the selection of that column's radio button. Other options on the alert audit web report include:

- A refresh data button to fetch up-to-date alert data
- A save to file button to save the report in text file format
- Date filters to specify what date range the report displays
- A device selection menu to specify what device data the report displays
- Include check boxes to specify what alert actions the report displays
- Clicking the icon will close the web report screen



Alert Audit Log Files

All of the log files are stored in the logical directory path:

[CommonApplicationData]\\VBrick\Digital Signage\AuditLogs\AlertNotification

which, on Windows Server 2008 and later is normally:

C:\ProgramData\VBrick\Digital Signage\AuditLogs\AlertNotification

The audit log directory will contain one file per calendar date, named following this pattern:

- AlertNotificationAuditLog-yyyyMMdd.txt

Each row in the file indicates an Alert action and is divided into the following columns:

- Time - in the format yyyyMMdd-HH:mm:ss:ffff, as in 20130610-10:07:08.3575
- Device- the DNS name of the device
- Actor- source of the action
- Action- in plain text (Alert Activation, Alert Deactivation, etc)
- Details- in plain text (Gives more detail about the action)

VBrick Digital Signage Compatibility with Exchange Server

Overview

The VBrick Digital Signage Exchange Server Adapter is designed to connect to an Exchange Server 2007, 2010, or 2013 (On Premise or Office 365) via the Exchange Web Service URL for the purpose of importing events into VBrick Digital Signage.

When the VBrick Digital Signage Exchange Server Adapter imports calendar appointments from a calendar:

The Event Subject will be used as the Event Description in VBrick Digital Signage

The User's Name will be used as the Building in VBrick Digital Signage

The Event Location will be used as the Room in VBrick Digital Signage

The Event Type in VBrick Digital Signage will always be set to 'Exchange'

The Event Status in VBrick Digital Signage will always be set to 'Scheduled'

Important Note about Rooms in Exchange

The Room field in VBrick Digital Signage cannot exceed 100 characters. Therefore, ensure the Location names used for the rooms in Exchange that will be used with VBrick Digital Signage do not exceed this value.

Care must be taken to ensure events to be displayed in VBrick Digital Signage are not scheduled to multiple Locations. Doing so causes the Location field in Exchange to show all Locations (i.e., rooms) and VBrick Digital Signage to interpret the event as being scheduled to a unique room name that is not defined in the system. It could also cause the room name length to exceed the 100 character limit.

Microsoft Exchange Server Configuration

Exchange Server Web Service URL's can only be accessed by the room/user's login credentials. Creation of a Room Mailbox is preferred, but creating a User Mailbox (with the room's name) can be used as well.

The following information is required:

Exchange Web Service URL (e.g., https://[exchange server name]/ews/exchange.asmx)

Domain (A domain is required)

Room Calendar username and password (a separate username is required for each calendar)

Scheme (Basic is used in most installations)

Exchange accounts may need to be validated before they will work with the VBrick Digital Signage Exchange Server Adapter. The validation must be made by configuring an Outlook client to the Room/User Exchange mailbox. When using Outlook that is already configured for another user's mailbox, you can create a new profile and connect using it.

In Outlook, this is done as follows:

1. Close the Outlook client
2. Open the Mail Setup for Outlook from the Windows Control Panel
3. Click ""Show Profiles""
4. Click Add, enter a profile name, and save your changes
5. Add a new E-mail account
6. Choose Exchange Mailbox
7. Enter the Exchange Server name and User name
8. Click 'Check Name' to verify
9. Save your changes
10. Configure to "Prompt for a profile to be used"
11. Launch Outlook and select the new profile

Once Outlook is configured, you must send and receive an e-mail message with the account before the VBrick Digital Signage Exchange Adapter will work with it.

Important Note about Exchange Server 2013 Outlook Web App (OWA)

VBrick has observed that when creating new calendar events in Exchange Server 2013 via Outlook Web App (OWA), the event organizer is added to the event subject by default. Since VBrick Digital Signage uses the subject as the event description, this behavior would be undesirable when using VBrick Digital Signage to display events imported from Exchange.

Exchange Server can be configured so that the event organizer is not added to the event subject. Open the Exchange Management Shell on the Exchange Server and execute the following command for each room that will be used with VBrick Digital Signage:

```
Set-CalendarProcessing -identity [meetingroom] -deletesubject $false -addorganizertosubject $false
```

where `[meetingroom]` is the actual name of the room without the brackets.

VBrick Digital Signage Exchange Server Adapter Configuration

Go to the **Configure | Event Schedule | Exchange Server Adapter** screen.

Adapter Settings

- **Refresh Interval (minutes):** You can specify any value greater than 0. Recommended values include 15, 30 and 60. This controls how frequently the Exchange Adapter copies appointments from the Exchange Servers to the VBrick Digital Signage database. The more frequently you update your Exchange Calendars the smaller this number should be.
- **Calendar URL:** You can add multiple calendars. For each calendar, enter the Exchange Web Service URL. (This will be the same for all calendars.)
- **Domain and User Name:** Enter the unique Exchange Server Web Service URL credentials for each calendar.
- **Scheme:** You must specify an appropriate security scheme, based on the type of authority you are using. Options are Basic, Digest, NTLM, or Kerberos.
- **Password: When specifying the password you must re-enter it for validation.**
    - Click **Add** when you have specified all the information required to add a new calendar. All columns are required when adding, including a password.
    - You can change the calendar URL and credentials using the 'Change' button. You can change passwords and delete calendars.

Test Import

To test the connection, you can import events immediately by clicking **Import Now**. If the import works, you will be shown all the events that were imported. If any errors occur, communicating with the Exchange Servers they will be displayed so you can give them to your network or Exchange administrator.

VBrick Conference

About VBrick Conference

VBrick Conference is a new application and service that was made available with VBrick v.4.5.1. It brings more powerful Event Schedule data mapping features to VBrick.

VBrick Conference includes two new windows applications, one configuration user interface and one service, that serve to pull together event schedules from many different event management systems, like:

- Microsoft Exchange, Dean Evans EMS and Master Calendar, CollegeNet R25, Google Calendar, Delphi, and flat text files;
- Support for multiple event management systems in the same installation, including multiple systems of the same type; and,
- Export formats for the Event Schedule Text Adapter and the Electronic Paper Sign Server

Contact VBrick Technical Support for help configuring VBrick Conference.

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.

Options

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

VBrick Digital Signage Internal Security

Factory Default Accounts

VBrick Digital Signage systems come from the factory with two default user accounts. They are:

Account Name	Password	Role
administrator	vbrick	System Administrator
default	vbrick	Content Approver

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.

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.

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. It cannot be modified.

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

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

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

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

Template User - This role is for the use of creating bulletins from existing templates only. It has been assigned the 'Use Templates to Create Bulletin' privilege. No other privileges, other than to Login Interactively, have been assigned to it by default.

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 | Channel 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.
Administer Crawllist Groups	Grants the user ability to administer crawllist groups.
Administer Display Groups	Grants the user ability to administer display groups
Administer Playlist	Grants the user ability to administer playlist groups

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.
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.
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.
Create Crawllist 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 appoves 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.
Manage Alerts	Grants the user ability to manage alert playlists and alert crawl-lists. 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 Sched-ule 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 Pub-lisher 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.

ActiveDirectory for Authentication

VBrick Digital Signage Active Directory authentication enables users to access the VBrick Digital Signage Web User Interface without need for a manual login (pass-through login). If a user is not authorized or is unknown by the Active Directory integration, then the classic VBrick Digital Signage login page appears. It is available only with the Enterprise license.

See the Feature Configuration Guide for instructions on configuration.

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:
    - Groups (AD), or
    - Name (Domain\User)

  NOTE: VBrick Digital Signage usernames are limited to a maximum of 20 characters
- Unique VBrick Digital Signage user accounts must be created to map to each AD Group or User

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.

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.

Aliases Options

The 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 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 user-name.

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”/>

VBrick Desktop and Active Directory Integration

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

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

Data Backups

To avoid loss of data in the event that a problem occurs, it is imperative that you perform data backups. The frequency with which the database should be backed up depends on the organization's usage habits.

Contact VBrick Technical Support to obtain the appropriate backup file for your operating system.

To avoid loss of data, it is imperative that you perform system backups. The frequency with which the VBrick Digital Signage database should be backed up depends on your organization's usage habits. The frequency of the changes to the settings and messages coupled with the tolerance for data loss will indicate the proper frequency.

To back up the database:

1. Go to **Start | Programs | VBrick | Channel Player Utility**
    a. Use the Services tab to stop all VBrick Digital Signage Services
2. Select **Start | Programs | VBrick | Configure Device**
    a. On the Services tab
        i. Highlight MSSQLSERVER and click Stop
        ii. Click Refresh until MSSQLSERVER is labeled as Stopped
        iii. Highlight MSSQLSERVER and click Start
        iv. Click Refresh until MSSQLSERVER is labeled Running
3. On the SQL Server Tab
    a. Highlight VBrick database and click Backup
        i. Name the backup file
        ii. Click Save
        iii. Exit the Configuration Device
        iv. Copy C:\Program Files\VBrick\Digital Signage\Content Services\BinaryStorage to a zip file and save it
4. Reboot the server

Frequency

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

CAUTION: 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.

Automation

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

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.)

CAUTION: 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.

To restore a backup:

1. Go to **Start | Programs | VBrick** and launch the Channel Player Utility; use the Services tab to stop all VBrick Digital Signage Services
2. Use the IIS Manager to stop the Default Web Site
3. Rename the existing Binary Storage usually located at **C:/Program Files/VBrick/Digital Signage/Content Services** For example: BinaryStorage.Old

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

4. Copy the Binary Storage from the Backup into the installation directory usually located at **C:/Program Files/VBrick/Digital Signage/Content Services**
5. Open the SQL Server Management Studio and connect to the SQL Server
6. Expand the Databases folder and right-click on the VBrick Digital Signage database and select **Tasks | Restore | Database**.
7. Point to the .bak file and restore it to the current database
8. Run the 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 Content Services folder.

9. Use the IIS Manager to start the Default Web Site

10. Reboot the Content Manager
11. Login to the WebUI

Migration Instructions

Prerequisites

You must have access to a VBrick Digital Signage Content Manager that you would like to migrate and have a new Content Manager that meets the same VBrick Digital Signage Licensing requirements as previous VBrick Digital Signage configuration with an older version of VBrick Digital Signage installed on it. Migrations can only be completed through the “Upgrade” process.

Preparing for VBrick Digital Signage Migration

In preparation for the VBrick Digital Signage Migration you must:

- Verify new Content Manager meets all Licensing requirements of previous VBrick Digital Signage configuration.
- Collect all of the files needed to complete the migration without interruption.
- Transfer a copy of the latest version of VBrick Digital Signage onto new Content Manager (not installed).

Verify New Content Manager Meets Licensing Requirements

To ensure a smooth migration, the new Content Manager must have the same Licensing Requirements as the previous VBrick Digital Signage configuration.

1. Log into existing VBrick Digital Signage UI as an administrator
2. Go to **System Tools | Status**
3. Select the*System Configuration Report* link
4. Verify that your new Content Manager has then same quantity of feature keys as previous the previous Content Manager

Transferring Files from Existing Content Manager

To perform a migration you must acquire the following information from the existing Content Manager configuration and place them in an easily accessible location on the new Content Manager.

1. Create a new folder called “Migration” on the new Content Manager’s desktop
2. Stop all VBrick Digital Signage Services on the previous Content Manager
    a. Select **Start | All Programs | VBrick | Signage Player Utility**
    b. Click **VBrick Services** tab
    c. Click the **List Services** button
    d. Select all of the Services
    e. Click **Stop Selected VBrick Digital Signage Services**
3. Copy the entire “BinaryStorage” folder from previous Content Manager to the new Content Manager’s “Migration” folder
4. Copy “VBrick_Data.mdf” file from previous Content Manager to the new Content Manager’s “Migration” folder
5. Copy “VBrick_Log.ldf” file from previous to new the Content Manager’s “Migration” folder
6. Start all VBrick Digital Signage Services on previous VBrick Digital Signage Content Manager

Getting Latest Version of VBrick Digital Signage

Transfer a copy of the latest VBrick Digital Signage software to new Content Manager.

Performing the Migration

At this point, you should have everything you need to begin and complete the migration process on the new Content Manager.

Uninstall VBrick Digital Signage

To uninstall the current version of VBrick Digital Signage:

1. Stop all VBrick Digital Signage Services on the Content Manager
2. Go to **Start | Control Panel | Programs** to uninstall VBrick Digital Signagefrom the Content Manager
3. Restart the Content Manager

Install Latest Version

To install the latest version of VBrick Digital Signage:

1. Launch the VBrick Digital Signage Content Services “setup.exe” file
2. Follow the steps to perform a standard installation

Configuring Content

With the latest version of VBrick Digital Signage installed, you can update the transferred content into VBrick Digital Signage.

1. Verify that all VBrick Digital Signage Services are stopped by going to **Start | All Programs |** VBrick **| Channel Player Utility |** VBrick **Services | List Services**
2. Stop the default website in IIS. There are 2 ways of performing this:
    a. Using Command Prompt
        i. Open Command Prompt
        ii. “iisreset /stop”
    b. Using IIS Manager
        i. **Start | Administrative Tools | Internet Information Services (IIS) Manager**
        ii. Open left navigation tree to Default Web Site level
        iii. Select “Default Web Site”
        iv. Click **Stop** under “Manage Web Site” on right panel
3. Delete “BinaryStorage” folder from C:\Program Files (x86)\VBrick\Content Services
4. Copy and paste “BinaryStorage” folder from “Migration” folder to C:\Program Files (x86)\VBrick\Digital Signage\Content Services
5. Modify Permission on new “BinaryStorage” folder to allow the “Users” group to have Full Control

    NOTE: If the “vbuser” profile on Content Manager only has “Administrators” group then skip this step.

    a. Right-click on “BinaryStorage” folder
    b. Select “Properties”
    c. Select “Security” tab
    d. Click the “Edit” permissions button
    e. Select “Users” group from “Groups or user names” list
    f. Click the “Allow” checkbox for “Full Control”
6. Click the **Apply** buttonand then click the **OK** button
7. Open **Start | All Programs | VBrick | Configure Device**
8. Select “SQL Server” tab
9. Select “VBrick” database and click “Detach” button

    NOTE: A dialog will appear for confirmation on detaching the database. Select “Yes”.

10. Click the **Refresh** button and verify that the database has been removed from list

11. While keeping the Configuration Utility open, delete VBrick_data.mdf and VBrick_Log.ldf from C:\Program Files (x86)\VBrick\Digital Signage\Content Services\Database
12. Copy and paste “VBrick_Data.mdf” and “VBrick_Log.ldf” files from “Migration” folder to C:\Program Files (x86)\VBrick\Content Services\Database
13. In the Configuration Utility, under the “Attach Local VBrick Digital Signage Database” section, select the **Find** button for the Primary Data File.This should pull up the newly replaced “VBrick_ Data.mdf”. Select the file and click **Open** button
14. Click the **Attach** button
15. Close the Configuration Utility

Upgrading Device

Now that the previous VBrick Digital Signage Content has been migrated to the new Content Manager, you can begin Upgrading the device.

1. Go to Start | All Programs | VBrick | Upgrade Device
2. Click the *Proceed!* link
3. The Upgrade wizard will fail on “Step 7: Updating Configuration Files”. When this happens, open “Configure Device” to change the names of existing devices

   NOTE: The reason this fails is because the database still has all of the previous Content Manager and Signage Players configuration.

   a. **Start | All Programs | VBrick | Configure Device**
   b. Select “Configure” tab
   c. Click “Device Name” link under the “Change” heading
   d. Change the device name for the “Content” role to the new Content Manager’s Computer Name
   e. Change the device name for the “Display” role to the Signage Players Computer Name

      NOTE: Only change the Signage Player’s Name if you plan on keeping the currently Lay-outs. Otherwise you can skip this step and just delete any Signage Player after the Upgrade process has completed.

      i. Repeat Step if multiple Display Devices exist
4. Go back to the Upgrade Device Wizard and click the *Resume!* link
5. Upgrade Device process should complete without errors

NOTE: If you are still receiving errors during the Upgrade process you must troubleshoot the issue. If the failure occurred on “Step 30” then there may be an issue with the new Content Manager’s Licensing.

6. Reboot the Content Manager

Checking VBrick Digital Signage

Now that the migration has been completed there are some things you need to check and/or adjust in VBrick Digital Signage.

1. Login into VBrick Digital Signage
2. Go to **Configure | Hardware**
3. Make Signage Player changes:
4. If changes were made to the Display device names, then verify that your Signage Players’ DNS/IP Address and Description have been changed correctly.

   NOTE: You will probably have to change the Description of the Player, depending on its original value.
5. If no changes were made to Display devices, then you can manage your Signage Players here.
6. Verify that you can create or manage content in VBrick Digital Signage (i.e. Create a Simple Message).

   NOTE: If you receive an error when creating or modifying content, then the “BinaryStorage” folder does not have the correct Permissions.

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 new Content Manager/Server and Channel Player installers before proceeding. Contact support@vbrick.comfor 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.

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

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 VBrick Digital Signage Channel Player 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, you can email the VBrick Digital Signage Channel Player and Content Manager serial numbers if hardware was purchased from VBrick (serial numbers are located on a label on the top of the computer) so Technical Support can help you determine the impact on your performance if you apply the update.

Back up VBrick Digital Signage Data

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.

Follow the instructions in Backup and Restore before proceeding.

Software Update Process

Release Notes and Software Update Requests

Information on current VBrick Digital Signage releases is available online at http://vbrick.com/support where you can review release notes and request software updates. Downloadable software updates are available at no charge to customers with a current Software Maintenance Agreement (SMA). VBrick can perform the update remotely for an hourly fee.

General instructions for applying software updates follow; however, you should check the latest version of the Technical Manual and the email letter that comes with the download links for any special steps required for that release. VBrick Digital Signage will typically have 2-3 software releases per year.

Applying Software Updates to the Content Manager

To apply software updates to the Content Manager:

1. Back up VBrick Digital Signage Data
    a. 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 "Data Backups")(See " Data Backups" on page 93)
2. Stop all VBrick Digital Signage Services
    a. Go to **Start | Programs | VBrick | Channel Player Utility**
    b. Select the **VBrick Digital Signage Services** Tab at the top of the screen.
    c. Click the **List Services** button then select all services by holding the shift key and selecting the first and last service with the mouse.
    d. Click on **Stop Selected VBrick Digital Signage Services**
    e. Close the application
3. Remove VBrick Digital Signage Content Services application
    a. Go to **Start | Settings | Control Panel | Programs and Features**
4. Reboot
5. Install the new version of VBrick Digital Signage
    a. Create a folder for the new installer in the current VBrick Digital Signage directory. For example C:\Program Files\VBrick\Digital Signage\Content Services\Release x.x.x (where x.x.x is the version number)

i. Copy the Content Services executable into the folder
ii. Run the Content Services installer executable (setup.exe)
iii. Install shield wizard will run and install the Content Services.
iv. Accept the EULA then click **Next**

NOTE: VBrick Content Services must be installed to the same directory which the previous version was installed. Normally VBrick Digital Signage is located in C:\Program Files\\Digital Signage\Content Services. If this is the case, do not change anything.

If the VBrick Digital Signage installation is located in a different directory, press **Change** and browse to the correct location. Click **Next**, then Install, then click **Finish** when complete.

6. Reboot
7. Delete previous upgrade data file
    a. Using windows explorer, navigate to C:\Program Files\\Digital Signage\Content Services and delete the file named *tei.common.upgradedevice.dat* if it exists
8. Run Upgrade Device
    a. Go to **Start | Programs | VBrick | Upgrade Device**
    b. Click the **Proceed** button The Upgrade Device wizard will go through several steps of upgrading and will notify the user when the upgrade is complete.

    If any of these steps fail, the Upgrade Device Wizard will show an error message. In the event of an error, please contact support at support@vbrick.com.
9. If the upgrade is successful, reboot.

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

For Windows 7/Server 2008:

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

Applying Software Updates to the Signage Player

The **Channel Player Utility** can be used to update Signage Player from the Content Manager without the need to physically visit each Signage Player.

The Channel Player Utility will not install new drivers or supporting applications such as Adobe Flash, QuickTime.

To apply a software update to a Signage Player:

1. Go to **Start | Programs |** VBrick Digital Signage **| Channel Player Utility**
2. Select the *VBrick 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 the **Stop Selected** VBrick Digital Signage **Services** button

5. Select the **Update Players** tab at the top of the screen.
6. Click the **List Players** button
7. Select each Media Player that needs to be updated and press the **Update Selected Players** button

   NOTE: For large systems with many Signage Player, it is usually best to select only four or five at a time for update. The Update window below will display the progress of each Signage Player as it is updated
8. When complete, go back to the **VBrick Digital Signage Services** tab, select all services again and click on the **Start Selected VBrick Digital Signage Services** button

If all Signage Player update successfully, the software update is complete. If there are any problems after applying the update, please e-mail support at support@vbrick.com.

Update Client Applications

To update your VBrick Digital Signage client applications:

1. Uninstall each application from the Windows Control Panel
2. Download the new version from the Content Manager and run the installation files

Changing the Computer Name

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. First, change the computer name in the Windows OS, then reboot. Next, take the appropriate steps in VBrick Digital Signage.

Changing the Content Manager Name

1. 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
2. Go to Start | 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
    b. Exit the application
3. 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
4. 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
    b. Exit the application
5. Either Stop and Start all VBrick Digital Signage Services or Reboot the Content Manager

Changing the Signage Player Name

1. Go to Start | Programs | VBrick | Configure Device
    a. Go to the Configure tab
        i. From the Change section select Device Name
        ii. Select the computer name you are changing
        iii. Enter the new name
        iv. Click **Change**
    b. Exit the application
2. Either Stop and Start all VBrick Digital Signage Services or Reboot the Content Manager

Contact Support

For help with your VBrick Digital Signage software, please visit http://vbrick.com/support.

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