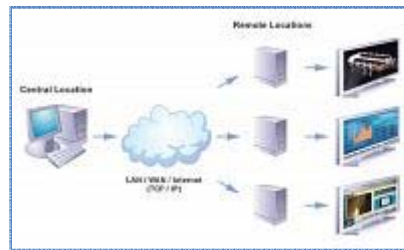


New technology in digital signs, popular for businesses and public venues, is now lighting up around houses of worship

by Andy McDonough

From the massive jumbotron in New York City's Times Square to the smallest LCD at the grocery store or gas pump, high-quality displays are delivering up-to-the-minute information, instructions, advertisements, and breaking news all around us. Rapidly replacing traditional billboards, point-of-sale displays, and other static signage, digital signs have emerged as a great new way to catch the attention of an audience constantly on the move.

Digital signs can attract far more attention than traditional signs since digital hardware can display all types of media and even integrate news feeds and live video. Combined with stunning new display technology and networkability for easy signal distribution, digital signage is looking more attractive than ever to houses of worship. If you are envisioning a more dynamic way to motivate and engage your congregation, eye-catching digital signage could be for you.



Today's technology helps churches to reach remote locations and gives the ability to instantly change content.

In its most basic setup, digital signage is simply distributing schedules or other content to strategically placed video screens. But with today's technology, you can also build a wide-reaching and fully integrated system for multi-screen, multimedia presentations that are both dazzling to the viewer and easy to manage.

Can your church benefit from communication techniques with digital signs that have been so successful in retail environments, hotels, sports stadiums, corporate lobbies, and school campuses? Let's take a look at the technology behind popular digital signage systems so you can see what it's all about. You'll want to understand the common architecture, software, and hardware components needed for an effective digital signage system.

Architecture

Most digital sign systems operate from a central location, which can be where the content is created and stored, and, most likely, where multimedia content and message updates are scheduled and sent out over a network to displays. These display endpoints can be hardwired at one location, connected via a local area network to the other side of a campus, or scattered at remote locations, connected by a wide area network or using the Internet.

Software

Signage is all about content, which can be as simple as a MS PowerPoint presentation, or as complex as a professionally produced commercial video "spot" combined with a live news feed. You can create content using one of the many popular media authoring tools, like PowerPoint,

Corel, FinalCut, Pinnacle, or Vegas Video, then several types of programs can help you manage that content for broadcast on your digital signage system.



Digital signs can provide graphical and dynamic messaging such as upcoming events, church, news and information, sermon topics and daily bible verses, all on a single screen.

Essentially, signage software breaks down into three basic types: Content Management Software, to do basic content creation, as well as import, assemble, schedule, deliver, and playback content across your network using standard file formats and protocols; Device Management Software to manage remote devices across your network with scheduled functions and real-time status monitoring; and Data Management Software used to acquire and redistribute real-time data from multiple sources including subscription-based news, weather, financial data, and instant messages. Some distribution software even keeps logs to provide “proof-of-play” where necessary and to help measure effectiveness.

Some signage applications, such as comprehensive software from Scala, include full-featured tools to produce or alter content. Others, such as Linux-based applications from Wirespring, focus on content distribution after it is created.

An enormous plus for digital signage software packages is their ability to easily integrate with other software that churches rely upon, such as Dean Evans & Associates Event Management Software (EMS). EMS software is a comprehensive facility scheduling and interactive calendar manager used to facilitate meetings and events, as well as do academic scheduling and shared workspace utilization. Master calendars, like EMS, keep organizations on top of event management logistics, and being able to quickly move that information out to dynamic displays gives churches a very powerful tool for organization.

AxisTV, from Visix, is a full-featured software that can integrate bulletins, audio, video, data feeds and can automatically extract event schedules directly from EMS or Microsoft Exchange to post on screens for the congregation and public to view. Harris Digital Signage covers many bases with their InfoCaster family. InfoCaster Creator is a content creation system and software.

Infocaster Player includes InfoCaster LE, SE, and InfoCaster playout systems, and InfoCaster Manager is systems and software for network management of InfoCaster Players.

Hardware

Displays come in many shapes and sizes, including plasma displays, LCD panels, video cubes, projectors, and full matrix LED boards. Specially designed displays can be used outdoors or built into kiosks, but the most popular choices for churches are basic flat panel designs ranging

from 27 inches to 42 inches, which are good for readability, and are attractive and easy to install in common areas, nurseries, and meeting rooms. In addition, displays designed specifically for signage may have asynchronous RS-232 ports that can be used to report a health status back to the distribution servers.

VGA display endpoints can be combined using computer video distribution amplifiers that split a single input signal from a computer video card into two, four, or six devices, driving any VGA, Super VGA, XGA, or XGA-2 computer video signal up to 275 feet over high-resolution cable. In addition, local distribution can also be achieved with UTP (CAT5) LAN cable using VGA video extenders consisting of a transmitter and a receiver to drive CAT5 LAN cables to 500 feet with little to no degradation of video quality.

In addition to a computer to create or store content and the displays themselves, an additional hardware component, a channel player, can be used to cache data transmissions and to deliver signal to a number of displays.

Strategically placed channel players can put your signs anywhere there is a network. Where hardwiring presents problems, sign locations can also go wireless using channel players that support wireless-G PCI adapters, broadband routers, and access points. When configured in the 802.11g mode, the wireless components can deliver content at 54Mbps. The images appearing on the screens are not impacted by data transfer rates or brief interruptions, since the content is cached by the channel player and then replayed to the displays, instead of being streamed.

Today's popular digital signage solutions are designed to easily integrate with existing local or wide area networks. Data management and transfer between components are typically handled with standard 10/100 Ethernet. The output of channel players can be configured to include VGA, DVI, composite, or component S-Video and accompanying audio. These signals are typically distributed via traditional audiovisual signal distribution products, including VGA distribution amplifiers and typical CAT5 transmitters and receivers. Where the endpoints for visual messages are a network of televisions, the audio and video signals are typically distributed via an existing RF distribution system using modulators and dedicated channels. In this case, broadcast content would appear on a particular channel on the TVs. Some churches may already have parts of this video cable or network infrastructure in place.

For ministries with more complex needs, Triveni Digital, Princeton Junction, New Jersey, a subsidiary of LG Electronics, offers a turnkey, enterprise-level digital TV broadcasting platform with integrated hardware and scheduled data distribution services backed by comprehensive Service Level Agreements (SLAs).

Factors for Success

Having the hardware and software in place to do digital signage is only part of the game. As with businesses, for churches large or small, the factor most critical to the success of any digital signage campaign is the content—what will actually appear on the displays. To be effective, content must capture and hold the attention of the viewer. If viewers keep seeing last week's

schedule or constant replays of the Christmas pageant, they will soon tune out and lose interest, making your digital signs ineffective. Successful digital signage campaigns have at least two things in common: professional-looking content and a plan to keep it updated.

Consider these important human factors for success of your signage system:

The Right Tools – For churches, that means having a software for content creation, scheduling, and distribution that your staff can learn and use, as well as software that makes changes and updates easily, if not automatically. Buying software that both supports your team's level of expertise and integrates with the software you currently use can be critical.

Timely Information – Keeping on top of content means that, along with understanding the tools for content creation and scheduling, the team supporting your network of digital signs must have a clear understanding of what information is important to your congregation, along with a plan to deliver it on time. Using a production calendar for the year is one practical way to make sure presentations track with church objectives and don't get stale.

Fresh Content – Keeping content fresh means coming up with new and interesting ideas of what to include in your digital messaging. Most digital signage software allows for easy importing of video, PowerPoint, Flash animations, and other media-rich content to keep your signs interesting, but having (and encouraging) a creative staff to put it all together is the key.

Integrating Signs with Worship

At Richland Bible Church's 1,500-seat Celebration Center, located in a quiet suburb of Kalamazoo, Michigan, Technical Director Scott Jepkema found that using Aavelin Composer digital signage software from Magic Box and an Aavelin channel player, his team could integrate general announcements with worship. In addition to useful event information, room locations, and itineraries, on Sundays, the team seamlessly integrates live programming from their worship services.

Just prior to a service, Richland's Aavelin hardware is programmed to switch from general announcements to picture-in-picture mode with programming from a DVD that signals the gathering for worship. Then, when worship begins, three strategically located displays and two projectors receive a live image magnification (IMAG) feed from the video mixer along with audio for a full broadcast of the service. At the close of the service, normal informational programming resumes.

Jepkema reports that the new signage system has been well received and has had a subtle, but positive impact in communicating all the information that just won't fit into their normal worship service. He advises, "It's critical to involve audiovisual, information technology, and graphics design personnel at the beginning of the planning process, as all have to understand the objectives and operation of the system for it to work optimally."

To get a better overall understanding of digital signage hardware, business models, service providers, and deployment considerations, consider the book *Digital Signage: Software*,

<http://www.churchproduction.com/go.php/article/5699>

Networks, Advertising, and Displays: A Primer for Understanding the Business by Jimmy Schaeffler (ISBN# 0240810414).

In addition to basic descriptions of the industry and technology, the book covers industry trends, costs involved, stakeholders in the industry, and the future of digital signage.

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