Picture This: Digital Signage

By Jeff Sauer

Chances are you've heard something about digital signage. After all, it's become something of an industry buzzword, if not the next big thing, at least for display makers. And why not? Digital signage has cachet, a glamour that suggests that every retail store, cinema complex, or transportation terminal can be as bright and eye-catching as Times Square or Tokyo's Ginza District.

Adtec Digital Soloist 3 digital media server

However, unless you're one of the few on the front lines of technology and solving problems by assembling a variety of often unrelated products, there's also a good chance that installing a digital signage infrastructure might be as mysterious as setting up something like streaming video. Worse, after at least a couple of years of hype and not all that much progress, digital signage may seem like a technology still looking for a market that may never pan out.

Whatever digital signage may have been before, there are reasons to start taking it seriously now. Most notably, the decreasing cost and increasing availability of large flat-panel monitors make all of their hypothetical uses more practicable, including digital signage. If nothing else, digital signage represents a potential business opportunity for the systems integrator.

SOLVING THE PUZZLE

Admittedly, though the basic concept of digital signage is pretty straightforward — whether it's the huge LED-lit signs and electronic billboards that brighten Times Square or simply the arrival and departure flight information on an airport's plasma monitors — putting the pieces together may not be so clear. Like many other emerging technologies, there are still a lot of claims, and nobody really offers any off-the-shelf solutions, though a few value-add companies are trying.

The bottom line is that digital signage is about better communication and better marketing, replacing static information with updateable information such as timely news reports, retail offers, in-theater movie trailers, or just eye-catching motion video advertisements in a busy retail mall. From there the size and scope of an installation, as well as the pieces, can be diverse.

Depending on the needs of the client, digital signage configurations can range from the straightforward, such as standalone kiosks, to a complex system infrastructure controlled by dedicated software and running over a wide area network. However, just about any infrastructure — whether it's that single point kiosk, a cinema complex, a shopping mall, or a major sports arena — will involve a few basic components.

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Obviously, digital signage always ends with the display that the public sees. Indeed, most of the hype about digital signage has come from large-panel manufacturers looking to develop a broad business opportunity. Yet while plasma and LCD panels are often used almost synonymously with digital signage and are most logical in many ways, any display can be connected to a digital source to show controlled digital content, including front and rear projection and old CRT monitors.

The harder questions center around how the content is displayed, how the content gets to the monitor, and how it is controlled. The answers, though diverse, all tend to involve some kind of player machine or machines and some application that controls them and runs a playlist.

In the simplest configurations of digital signage, both of those functions can be performed by the same physical device. Adtec Digital's Edje or Soloist and Sony's NSP-100, for example, are video appliances with built-in operating systems capable of storing and running a playlist of MPEG video clips, as well as graphical elements. With built-in servers, the Adtec devices can even poll media servers over a network connection and upload new playlists and new content. They can also produce a helpful log file as backup for what has been played and when as proof of broadcast to a possible client.

CONTROL ISSUES

What if you need to drive a group of displays at a facility? If practical, you might use multiple video appliances or run a distribution amplifier, though that's not likely to be an option for a sports arena with hundreds of monitors showing exactly the same thing. Still, similar basic components apply, beginning with a server system and a playback control application. The scale is simply much larger and the tools more robust.

Clarity Visual Systems and Philips both support their large-screen displays with software applications. Clarity's SignSuite is a modular suite that includes Show Builder, Scheduler, ShowStation, and RemoteSwitcher utilities. Philips's Adtraxion combines content management, diagnostics, live programming, and players for display types from large displays to cell phones.

Mercury Online Solutions FRED software suite

On an even larger scale, Mercury Online Solution's FRED software suite is specifically built for digital signage to organize content and deliver it to one, one dozen, or several dozen displays according to a playlist schedule. Different versions of FRED can be used locally within a local area network or can control remote infrastructures around the globe, showing the same content at the same time or targeted local content according to a schedule.

Of course, the larger the signage configuration, the more complex and robust the server infrastructure needs to be. If media servers are playing directly to display devices (which might be the case for a sports arena with dozens of monitors showing the same content) rather than storing and forwarding, they'll need to be configured to move the larger data block sizes of enormous file sizes of digital media, as compared to conventional data types, to ensure smooth video playback.

Generally speaking, control of digital signage infrastructure, especially larger ones, is done over a network connection that allows remote access, updating, and monitoring of signage infrastructures. It's possible to use optical media, as might be the case with kiosks, but with network technology becoming quite robust, it usually offers the most flexibility.

In many ways, the easy part is laying out the basic building blocks. As with any emerging technology, however, the devil is in the details. For example, some video appliances are built around MPEG decoders, and that's great if your content is all MPEG video. But what happens when the client decides to add text elements, a ticket news feed, or Flash content? Indeed, the content itself often requires constant attention, and keeping signage content up to date and attractively designed typically requires a production budget. There are also questions of system reliability, backup, and redundancy, and as with any network system, there are major concerns with security. That's particularly true when you include billing-oriented log files on the server and are keeping track of thousands of dollars worth of time and content.

SIGNAGE UP AHEAD

This is by no means a comprehensive look at digital signage. This market segment is just beginning to emerge from the hype as a real business opportunity, and there are plenty of questions to be answered as contractors begin to explore the possibilities. During the next several months, *Sound & Video Contractor* will explore many of those questions in greater depth. For now it's time to start asking questions and building a repertoire that could expand your business opportunities.

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