4 Advantages of IP-Based Video Walls

The days of connecting a video wall to an expensive video wall processor are falling by the wayside. These setups increasingly are being replaced by ones connected to a network.

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One of the most stunning uses of digital signage is the video wall. Linking a number of screens together and displaying full-motion video across that array is virtually guaranteed to stop consumers in their tracks and capture their attention.

Video walls are appearing in venues ranging from airports to retail stores and hotels to college campuses. Deployers are using multiple screens to create a single, unified display showing either one image or zoned content.

Elmhurst, Illinois-based research firm TechNavio projects that the global market for video walls will grow at an annual rate of nearly 20 percent through 2019. India-based JSB Market Research is even more enthusiastic, projecting an annual growth rate of 23.4 percent over the next five years, with the size of the video wall market reaching $18 billion by 2020.

But not every video wall is created equal, and the cost and complexity of setting up a video wall can be greatly reduced depending on the choices a deployer makes. An IP-based video wall, for example, can simplify the task of erecting a video wall and greatly enhance the flexibility of that deployment.

How it works

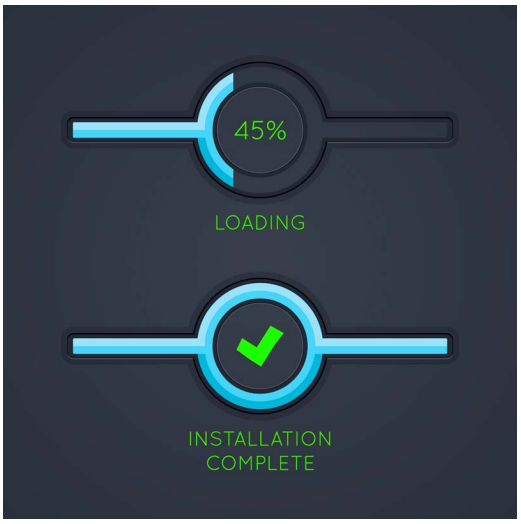
Video walls can range from an inexpensive display with just a few screens controlled by a single PC to dozens of screens controlled by multiple workstations. The solution a deployer chooses depends in large part on the application for which the video wall is being used.

For example, is the wall simply going to display a single image across multiple screens, or does the deployer want to retain the ability to direct content to individual screens? Will the content include text, requiring greater resolution? Will the setup involve just a few screens, or does the deployer want to be able to add displays down the road? In addition, to what degree is cost for hardware and installation a consideration?

Content can be driven to the screens in a number of ways. Connecting one screen to the next in a daisy-chain fashion can eliminate the need for complex AV equipment, lowering costs and making for easy installation. PC players with multi-head graphics cards allow for native resolution without having to "blow up" content, allowing for much greater resolution. In addition, screens can be controlled individually, with specific content directed at a certain screen or group of screens.

Other methods include the use of hardware- or software-based controllers.

With an IP video wall, a small receiver is connected to each display that attaches an IP address to that screen, making the screen accessible via the network. Instead of having to attach a PC or media player directly to a group of screens, those screens are connected to a network, allowing content to be delivered quickly and easily from anywhere on that network.



Breaking down the IP advantages

As deployers balance the effectiveness of video walls in grabbing consumers' attention with the cost of erecting those walls, IP-based setups are growing in popularity. In addition to the ability to keep content fresh, an IP-based video wall offers several often-overlooked advantages. Here are just a few:

1. Simple to install and configure.

One of the drawbacks of many video wall solutions is that they require a great deal of technical knowledge to set up. With an IP-based video wall, on the other hand, only basic knowledge of video and IP technology is required, it fits into the network architecture most if not all locations already have installed. And because the video wall uses that existing Ethernet network cabling, the deployer is able to save a significant amount on cabling costs.

2. No distance limitations.

With a hard-wired video wall setup, a key concern is that the deployer will need to be able to provide storage for the PC driving content relatively close to the screen. Longer distances may require the use of an extender, but even then there will be limits on the distance between the device driving the content and the display. With an IP-based system, on the other hand, the deployer can transmit video to the video wall from any source anywhere on the network.

3. Easy to scale for additional screen connectivity.

A single transmitter can deliver multimedia to hundreds of displays. According to digital signage consultant Alan Brawn, though, with an IP-based

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video wall content can be managed and delivered from a central location at the same site. There is no need to upgrade the transmitter as the company adds screens to expand the wall; all it needs to do is purchase additional receivers for additional connections. A video wall can be expanded from a small 2 x 2 deployment up to a larger wall just by adding more receivers to the network. Or, if the deployer chooses, a secondary wall can be added to the network driven by the same video sources.

"The sky is the limit based on the environment, location and budget," Brawn said.

4. Provide real-time video transmission.

Video walls aren't just an effective advertising tool, but signal delays with most systems can limit their usefulness for other application. Because IP-based video walls transmit high-quality video with virtually no signal delay, they are ideal for command and control applications such as security as well as live presentations where an instant response from the system is required.

Clearly, as the popularity of video walls and their potential applications increase, IP-based systems will be a key contender for deployer dollars. And experts agree that there is no indication that popularity will wane any time soon.

"I've seen a greater and greater acceleration of quotes on video walls," said Wayne Didas, owner of Rochester, New York-based Empire Digital Signs. "I've even recommended that someone go with an 84-inch screen instead, but people seem to prefer the look of video walls. There's something about that bezel between screens that creates a windowpane effect that people really like."