

Empowering Connected Signage Solutions

Application-ready Turnkey Solutions for Digital Signage Networks



Interviewed with Weihsu Huang, Product Manager of Digital Signage Platform, Advantech

Digital out-of-Home (DOOH) applications are everywhere, from fast food restaurants, shopping malls, and subways, to convenience stores, the walls of tall buildings and even on many street corners. According to market surveys and predictions released by IHS Technology in October 2013, the global digital signage market will continue to reach \$17.1 billion by 2017.

Key to Success: Remote Management & Network Connectivity

Digital signage in its simplest stand-alone model, requires a display (screen), a nearby media player linked to the display (usually via Ethernet), and a management server at the back-end communicating with the media player over a wired or wireless network connection. However, in most applications—especially those found in chain stores, a large number of displays and media players are needed for deployment over many locations. Additionally, strong back-end support and management capability from a remote control center is particularly important to ensure normal operation and effective control of these signage networks.

With the prevalence of remote control, management technologies, and improved network bandwidth, real-time updates and synchronization of display content at different locations is important for effective communications with consumers. For example, ticker messages need to be frequently updated to be useful and attract an audience's attention. The ability to detect and maintain normal operation of remote devices also requires an excellent management platform where everything is connected to a central network control center.

Challenges for System Integrators: Meeting Budgets and Deadlines

When digital signage system integrators are developing a digital signage network solution, they have to pick the right installation components, and often deal with a wide-range of issues. They need to pick displays, media players and management software which support the goals of their customer's projects, while paying careful attention to network infrastructure at the installation site, as well as their customer's budget ceiling and project deadline.

When selecting a media player, the System Integrator has to choose a reliable and good quality industrial computer with adequate computing power, graphic performance and I/O capabilities; and one that is able to support the customer's applications. Once they've decided on the hardware and software components, they have to go through a series of compatibility tests. If any of the components fail interoperability tests, a new product has to be selected and the test process restarted.

From the standpoint of an end-retailer or service provider, the system integrators have to find suitable, easy-to-use signage software with user-friendly interfaces that they can use to create and manage content. Some system integrators develop software by themselves and some buy it from third party providers. Either way, they have to deal with compatibility issues, and keep the project on track.

After the system has been installed and begins operation, the integrator has to deal with repair and maintenance issues. Traditional on-site repair and maintenance is time-and-labor consuming. And many reported problems can actually be solved by simple resets or reboots. When the technology supports remote diagnosis, repair, and maintenance over a network, the necessity of on-site diagnosis and repair can be significantly reduced.

Advantech Ready-made Turnkey Signage Solutions

Up to now, most application-ready platforms provided by industrial computer manufacturers were limited to bundles of hardware, firmware, middleware and an operating system. Advantech has announced a new application-ready turnkey solution for the digital signage market which bundles Advantech industrial-grade computers with its SUSIAccess for Signage software package. SUSIAccess for Signage provides a well-rounded management platform for signage networks. It provides remote hardware monitoring and control functionalities, and it incorporates signage content creation and management software for the end-user.

At the hardware level, being the world's leading industrial computer supplier, Advantech has the most complete product lines available to provide solutions with varied computing power and cost structures to meet the differing needs and budgets of customers. Advantech signage packages range from entry-level, fanless, low power systems supporting HD quality displays, to middle-range systems delivering Full HD content and supporting dual displays, to high-end systems providing more advanced features and supporting independent multiple displays that can be used to develop large video walls.

All Advantech digital signage systems come pre-loaded with an embedded OS, SUSIAccess for Signage as a signage console, as well as Acronis-supported data protection, and McAfee security software. As a worldwide manufacturer, Advantech provides different language options for its Windows® Embedded systems. If customers ask for more advanced features such as touchscreen or gesture recognition in their applications, the OS can be pre-installed with Microsoft® multi-touch or Kinect sensing technologies to allow system integrators to tailor their systems.

Simplify Digital Signage Network Management

Advantech SUSIAccess for Signage software provides a graphic-driven user-friendly interface for system operators to remotely control, configure and manage multiple terminal devices and display content. With remote KVM and remote on/off functions, hardware status including fan rotation speed and power voltage is closely monitored, and if any figures reach a warning level, alerts are automatically issued to system operators or maintainers to prompt them to take preventive measures. The remote KVM functionality allows system operators or maintainers to access, shutdown or restart a remote computer to provide basic troubleshooting. This significantly minimizes the need for on-site repair and maintenance, shortens system Meantime-to-Repair (MTTR), and helps to reduce required maintenance cost and manpower.

Encapsulated in the package is signage management software developed by Advantech to meet needs at an application level. The software provides an intuitive user interface allowing the real-time broadcast of multimedia content. Users can use calendar-and-timeline-based scheduling tools to determine playback content and order; they can decide on layout by clicking and dragging a mouse, and fill in the layout with video clips, still images, web pages or tickers via simple drag-and-drop operations. A preview mode is also available. When users complete the content editing and playback list, they can send the files to target PCs (media players) and monitor the displays remotely. SUSIAccess for Signage also allows users to manage screens in groups with different playback lists. The remote management tools also allow users to remotely control the broadcast volume, update and synchronize content, and provide real-time information such as earthquake news that can be set to override the scheduled content at specific moments.

SUSIAccess for Signage also incorporates Acronis-supported Data Protection software which provides full/hot/scheduled backup and one-click recovery, along with McAfee system security software which uses a white list (as opposed to a black list) to screen out unauthorized files from accessing the system so as to provide a higher degree of security.

New Possibilities: Four Displays, Ultra-slim, 4K/2K and, Interactivity

In large scale signage networks, a single media player that can support multiple displays helps to reduce field-deployment costs. In the past, a media player could only support only one or two displays, but with an enhanced graphic core, today's new generation media players are able to support four independent displays, which significantly reduces the number of IPCs needed to be deployed in the field and enlarges the possibility and availability for video wall applications.

On the other hand, as most displays and media players are installed in commercial spaces, with customer-facing displays at the front and media players hidden backstage, making the media player as slim as possible is better for saving space and pleasing aesthetics. Advantech provides a series of ultra-slim media players so that they can easily be hidden behind display with guide rails or installed in other hidden corners shielded from customer view.

Meanwhile, the market is pursuing higher video definition to impress consumers with a more spectacular visual experience. 4K/2K standards also known as ultra-HD are pushing the notch up to a level that leaves current mainstream Full HD far behind, and will possibly become more economically viable in the near future. Advantech, of course, is preparing for this by developing products that will support 4K/2K video streaming.

To sum up, the trends in digital signage are multiple displays, ultra-slim form factors, and higher definition quality. Systems are becoming more interactive and able to select target audiences to make communications more effective. Some of the newest technologies are not currently economically viable, but there is every indication that they will become more affordable and prevalent in the near future. In addition to off-the-shelf application-ready packages, Advantech also provides custom-tailored systems that include more advanced features. Whatever customers need, Advantech is focusing its resources to meet those demands and keep thinking a step ahead.

Advantech Always Thinks One Step Ahead!

Advantech's application-ready, turnkey signage solution incorporates all the components needed in a signage network. Deployment, from hardware, middleware, to end-user application software, is done in a very down-to-earth manner, taking into consideration all aspects of a customer's needs.

Well-rounded solutions reveal Advantech's increasing expertise in "soft power" which complements its traditional expertise in hardware manufacturing. Combined, they create an advantage, making installation, operation and use of digital signage easier and more convenient. They also give a competitive edge to system integrators as well as retailers and service providers.

As the entire hardware/software package is fully-tested and validated before delivery, Advantech signage turnkey solutions effectively help system integrators shorten product time-to-market. The time bonus is especially valuable in a fast growing vertical market where the potential installation base is huge and competition is keen.