



Overview

Digital Signage

The New Era of Intelligent, Digital Signage

Opportunities in the delivery of smart, measurable and manageable digital signage solutions.

- At the restaurant, you can watch the big game, check the daily special and enter your order.
- In a grocery store, you can see a famous chef handle a tricky recipe and download the ingredients to your smartphone.
- In a cab from the airport, you can catch up on the news and reserve a table at a hot new restaurant.
- In a clothing store, you can compare styles, get a “virtual fit” and let your friends see your selections on Facebook.

The common denominator in all of these examples? Digital signage—the now-ubiquitous installations of flat-panel displays and media players delivering targeted advertising and other messages to shoppers, restaurant patrons, passengers and more. Initially conceived of as an electronic replacement to old-fashioned posters and billboards, digital signage is rapidly evolving thanks to touch screens, compelling graphics, sophisticated media players as well as tools that make it easy to manage networks, measure audiences and increase interaction with mobile devices and social media.

A rapidly expanding market

In just a few years, digital signage has gone from a being a novelty to a must-have. It's now so pervasive that more people watch video on digital signs than on Internet sites or Facebook, and these numbers will only grow.¹

The growing sophistication of digital signage is creating a wide range of opportunities for resellers who can leverage their existing IT skills to put together their own solutions, taking advantage of powerful digital signage options from OEMs. Depending on the company, you will find buyers for digital signage in the IT department, marketing, corporate communications, channel operations and elsewhere.

The approximately two million digital signage media players now installed worldwide are expected to increase fourfold to about eight million by 2015, supporting some 14 million screens in a wide range of locations, from big-box stores with a global footprint to specialty retailers with just a handful of outlets. Convenience stores, shopping malls, schools, medical practices and theaters are investing in digital signage and a slew of niche markets are following in their wake.²

Management and processing power of Intel® architecture

An active ecosystem of manufacturers, software developers, systems integrators and resellers has emerged with solutions designed for small installations with just one or two signs showing simple graphics to networks that encompass hundreds of locations and mix HD video, ads, Web feeds and more. Intel® processors power many of these solutions, from cost-effective implementations based on Intel® Atom™ processors to more sophisticated installations utilizing Intel® Core™ processors:

- AirMedia, China's top provider of advertising in airports and on planes, recently rolled out digital signs at 20 airports including Beijing International Airport. To get the processing power to divide the screens into eight separate areas, each playing different, high-definition content, AirMedia based the solution on Intel® Core™2 Duo Mobile processors and Mobile Intel® GM45 Express chipsets.

- To manage a sprawling digital signage network encompassing 1,600 stores, some with as many as 18 screens, each with the ability to dynamically display content based on customer content—and all of them managed from a central location—telecommunications giant Vodafone chose a solution using Intel® Core™2 Duo processors and Intel® Active Management Technology (Intel® AMT).³

Information, ambience and advertising

Depending on where and how it is used, digital signage can play a wide range of roles. Many signs are used strictly for information purposes, such as displaying menu specials in a restaurant or informing parents, students and staff at a school of upcoming events. In retail environments, digital signs can be used to create a contemporary ambience as well as promote brands carried in the store.

But unquestionably, a major role of digital signage is as a medium for advertising. Ad revenues on digital signs have passed the billion-dollar mark and—more significantly—ad buys on digital signs grew even during the worst of the recent economic downturn. Just as TV advertisers can seek out specific shows and timeslots, Web-based solutions are now emerging (examples include NEC's VUKUNET* and rVue) that enable any advertiser, large or small, to make a media buy on specific networks of signs and, in some cases, individual signs in specific locations:

- A financial services company marketing to investors between the ages of 25 and 55 can choose signs in broad-reach locations such as transit hubs and coffee shops, knowing that a potential customer could stop in at a local branch on the way to work.
- A manufacturer of a new line of organic baby food can quickly reach its target audience of new parents by advertising on signs in pediatrician offices; a mom or dad might pick some up on the way home.

The growth of an active digital signage advertising market creates opportunities for resellers both in the development of media and in the management of third-party advertising on a network.

Intel concepts for retail stores

A major role for digital signs in the retail sector is to function as fully integrated, interactive stations where customers can use touch screens to gather information, compare products and make transactions. This helps retailers set their stores apart by delivering unique customer experiences, and also provides the reseller with an opportunity to implement a sophisticated solution taking advantage of the latest components.

Intel has developed a number of prototypes—including the Intel® Intelligent Digital Signage Concept and the Intel® Digital Signage Endcap Concept—to showcase the potential of digital signage technology.

- In the Intel Intelligent Digital Signage Concept, customers can use a multi-touch holographic screen to explore merchandise, find out about promotions, submit feedback on products, read customer reviews, view purchasing histories and share what they have discovered with their friends via social media and mobile phone integration.
- The Intel Digital Signage Endcap Concept transforms the high-profile, end-of-aisle location with a solution that uses Anonymous Video Analytics (AVA) to sense when a customer is approaching, determine the gender and approximate age and provide an appropriate and targeted product tour to help guide a product selection. As products are selected, the Intel® Endcap solution magnifies the product on-screen and shows additional product information. Users have the option of saving information and videos to their mobile phones, or using the product's barcode to add it to their shopping cart.

Remote management and audience measurement

Over the long term, two critical capabilities for the success of digital signage networks are remote management and audience measurement:

Remote Management: Management and maintenance are major ongoing expenses for operators of digital signage networks. With widely dispersed displays and media players, they need an easy

way to address operational issues, update software, turn the systems on and off, etc. Intel® AMT, built into chips such as the Intel® Core™ i5 and i7 processors, makes it possible to remotely discover and repair many network problems without costly onsite service visits. Operators of digital signage networks can set up new installations, download software updates, perform asset inventories and turn the signs on and off for energy efficiency—all remotely.

Audience Measurement: To become fully accepted as a medium for advertising, digital signs need to be able to measure who is watching. That's why the Intel® AIM Suite, built specifically for the purposes of anonymous audience measurement, has been added to the Intel portfolio of solutions. In addition to making it possible to tailor experiences to specific audiences (as in the Intel Digital Signage Endcap Concept), equipping digital signs with AVA (which typically requires a higher-end processor) makes it possible to provide breakdowns of viewership by gender and time-of-day. Data advertisers can use this information to evaluate their purchases in digital signage against other mediums, while also providing digital signage operators with information they can use to optimize the design and management of their networks.

***NOTE:** AVA is completely anonymous—no images or video are recorded, and no personally identifiable information is ever collected—only statistical audience data is logged.*

Stable, secure platforms for digital

Creating digital signage solutions that can handle rich media, content management, audience metrics, mobile interaction, etc., requires extensible, scalable processing platforms. Resellers can count on Intel for processors that are ready for where digital signage is going, delivering the power, performance, security and energy efficiency needed to support innovative, interactive and measureable digital signage solutions.

Learn more

Get the latest on what Intel is doing in digital signage at edc.intel.com/Applications/Digital-Signage-Solutions

¹ 2010 Arbitron Digital Place-Based Video Study.

² NSR Analysis 5/09 and 2012-2015 Intel estimates.

³ Requires activation and a system with a corporate network connection, an Intel® AMT-enabled chipset, network hardware and software. For notebooks, Intel AMT may be unavailable or limited over a host OS-based VPN, when connecting wirelessly, on battery power, sleeping, hibernating or powered off. Results dependent upon hardware, setup & configuration. For more information, visit <http://www.intel.com/technology/platform-technology/intel-amt>.

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