How a Smart Signage Platform built on system-on-chip technology is reducing the cost and complexity of digital signage
INTRODUCTION: THE POWER OF A NEW PLATFORM

No one questions the power of digital signage. Installing a digital sign at a service counter in a car dealership or dentist’s office can raise inquiries about a service by 5 to 15 percent. Sales of certain grocery products increased by up to 33 percent when they were promoted on digital signage.¹ Digital signage also makes customers feel they aren’t waiting as long—in fact, they perceive wait times as being up to 40 percent less.²

Despite dramatic numbers such as those above, many companies, particularly smaller ones, have been reticent to embrace digital signage. The reason is simple: it often seemed beyond their pocketbooks and capabilities. Deploying the technology required the daunting task of integrating displays, media players, software and mounts. In addition, the content must be continually updated and refreshed.

The answer? Samsung has introduced the Smart Signage Platform, built around a system-on-chip embedded within its large-format displays. This integrated display solution promises to significantly reduce the cost and complexity of digital signage for use in simple networks—like menu boards, retail advertising, promotions, brand messaging, event messaging, and campus information.

With the Samsung Smart Signage Platform, companies can deploy digital signage for such purposes faster than ever—while reducing the total cost of ownership. The solution also leverages the power of web-based programming languages—HTML 5, CSS3, and JavaScript—so even companies without extensive IT departments can build custom applications for their digital signage networks.

This informational white paper will examine this new, smart display technology and its implications for the industry, as organizations as diverse as big-box retailers, quick-serve restaurants, banks, hospitals, universities and amusement parks are now able to transition more easily and affordably from static signs to dynamic digital signage to deliver their message and drive sales.
Before we can fully appreciate the new opportunities presented by Samsung’s Smart Signage Platform, we need first to understand the traditional challenges of deploying digital signage technology.

In the past, the procurement, installation, and operation of digital signage has been beyond the talents and means of many companies or organizations. First, they had to buy wall mounts or kiosks that met building codes, have wiring installed, and mount the displays. Then comes the media player or a set-top box that runs the content and outputs it to the display, which has typically been a pricey Internet-connected, custom-made personal computer. In cases of multiple screens or locations, a media server also was usually required to send content to the PCs that drive each screen. The content or programming on digital signage must be managed and updated, often using a proprietary content management system that requires a high level of expertise. Then, year after year, someone has to manage the digital signage network, create and deliver content, and handle any equipment problems.

The price tag of this traditional approach isn’t inconsequential. Digital signage expert Bill Gerba estimated in his 2011 Digital Signage Pricing Study that installing 100 40-inch displays in 100 different locations costs $3,511 per screen (see table below).

Given these costs, the growth in businesses deploying digital signage is testament to its value. However, it also goes to highlight the opportunity for a platform that can simplify and streamline digital signage deployment.

### Cost of a Traditional Digital Sign for 3 Years

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-inch LCD screen</td>
<td>$958</td>
</tr>
<tr>
<td>Player hardware</td>
<td>$734</td>
</tr>
<tr>
<td>Display mount</td>
<td>$136</td>
</tr>
<tr>
<td>Player software</td>
<td>$471</td>
</tr>
<tr>
<td>Management software &amp; tech support</td>
<td>$720</td>
</tr>
<tr>
<td>Installation</td>
<td>$317</td>
</tr>
<tr>
<td>Initial project management</td>
<td>$175</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$3,511</td>
</tr>
</tbody>
</table>

Source: [www.wirespring.com](http://www.wirespring.com)
The Samsung Smart Signage Platform, introduced in early 2013, seeks to streamline the traditional hardware and software requirements, making it easier and less costly to install and operate digital signage.

In essence, Samsung embedded a media player within a system-on-chip semiconductor into select models within its line of commercial-grade LED backlit-LCD displays. This configuration provides a robust all-in-one signage platform without the complexity and expense of an external video player. Eliminating the need for a separate digital media player can lower hardware costs alone by $600 to $800 per screen, according to industry estimates, but it is the cumulative effect of this integration that makes the platform so compelling.

The Samsung Smart Signage Platform creates an all-in-one device requiring minimal technical set up. As a result, businesses have a true plug-and-play solution, from content creation and installation, to software upgrades and network monitoring.

Installing a Smart Signage display takes just a few minutes and is as simple as connecting power and ethernet LAN, and pointing the display to a URL. By saving the time required to install each display, brands can further reduce the cost of deployment.

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### WHAT’S IN A SMART SIGNAGE PLATFORM DISPLAY?

- **CPU**
  - Dual Core Processor (1GHz)

- **Memory**
  - 1GB DDR3 Dual 32 bit

- **Video Processor**
  - Full Codec, High Performance
  - WMV, MP4, H.264

- **Storage**
  - 4GB or 8GB Depending on Model

- **Signage Software**
  - MagicInfo-S Premium and SDK for 3rd Party Software Developers
Of course, digital signage is only as valuable as the content being displayed on it. The Smart Signage Platform provides the ability to display content directly from cloud-based servers, which generates the kind of cost-savings and ease of use that are driving businesses to use the cloud for all manner of applications.

“It makes it very easy from a platform perspective to manage the software in the cloud and then from the cloud to address each display,” says Kevin Schroll, senior product manager for digital signage at Samsung’s Enterprise Business Division.

The software is always up to date because it’s housed in a central location in the cloud—where it can be instantly and easily updated. Through the cloud, users can distribute content changes directly to displays that are connected to their networks, keeping content fresh and on point.

The Smart Signage Platform supports JavaScript, HTML5, CSS3, and Adobe Flash. Developers, agencies and consultants are familiar with creating rich, engaging experiences in HTML5, so there’s a very large community of people experienced in this realm. And because this is a common language used on the Internet, it’s likely to cost less than content developed for proprietary content systems.

In addition, Samsung is publishing a Software Developer Kit (SDK) that opens up the platform for developers and end-users to create their own applications and content.

“With the tools and support provided, we were able to develop the connections to enable a fully-functional digital signage application 100% driven from our cloud,” says Raffi Vartian, chief operating officer for Signagelive, a digital signage software provider that uses the Smart Signage Platform. “It creates a seamless, ‘out-of-the-box’ experience for end-users that is easy to use and incredibly cost-effective.”

An example of an early application for the solution: a store manager can change menu items and prices in real time from a smartphone or tablet.

Benefits of Web-Based Digital Signage

- Experienced worldwide developer base
- Use advanced graphics and animations
- Integrate with mobile and desktop applications
- Leverage development and media assets across platforms
- Create custom widgets and apps
- Create real-time dynamic content
- Plug-and-play installation
- Push content to multiple channels and devices
Because the Samsung Smart Signage Platform supports popular web technologies like HTML5, application developers with mobile and Internet experience can apply their talents to creating content for digital signage. The same resources could potentially develop content for mobile phones, PCs and digital signage, further reducing costs and ensuring a consistent brand image.

“That’s where digital signage evolves to be the constant presence in the consumer’s life,” says Keith Kelsen, CEO of 5th Screen Digital Services, Inc., a digital engagement consultant. “It’s going to be a seamless blend between the phone and the screen on the wall, and it’s going to happen sooner than you realize.”

Digital natives consume content across TV sets, computer screens and mobile phones. They expect to have a consistent, engaging experience across all the platforms. “What they see is one screen, and they want all those screens to act the same way even though they might use them for different purposes,” Kelsen says. “The challenge is to create the connected experience in the marketplace and deliver that to a pocket screen.”

That said, the experience of digital signage is unique because it typically occurs in a public setting rather than in private. People are usually in a hurry and focused on something else when they engage with a digital sign. “I like the fact we can develop some really cool stuff on bigger screens that’s very similar to a tablet experience,” Kelsen says. “But we have to be cautious about taking apps for the phone and putting them on a big screen in a commercial market area, because it’s not the same experience.”

Enabling the Static-to-Digital Transition

In a sign of the broader adoption of digital signage to come, FASTSIGNS’ network of franchise locations nationwide has begun offering Samsung’s LED-lit commercial displays as a dynamic signage alternative to traditional printed signs. Upcoming models available at FASTSIGNS will support Samsung’s Smart Signage Platform.

“We’re seeing an increase in the demand for dynamic digital signage solutions from our customer base,” says Gary Feltham, senior vice president, Business Development for FASTSIGNS.

Feltham says many of FASTSIGNS’ customers are in need of a solution that is simple to deploy, can deliver their message in a compelling way and provides real return on investment.

“Samsung’s digital signage products and the new Smart Signage Platform are the perfect complement to our current offerings, as they align with our vision of providing simple, yet dynamic solutions that fit every business need,” Feltham says.

EXTENDING CONTENT USES

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Loop Neighborhood, an upscale convenience store chain in the San Jose area, is one of the first brands piloting a digital signage program using the streamlined Smart Signage Platform displays. The innovative project features animated product promotions with QR code coupons that customers can scan with their smartphones to receive on-the-spot discounts.

Ingage Solutions, a unit of Federal Heath Sign Company, partnered with software developer Insteo to produce, install and deploy the digital signage utilizing Samsung’s 32” ME-C Series displays in portrait format.

According to Steve Resnick, executive vice president of Ingage Solutions, Loop had been looking for a simple, dynamic and cost-effective way to deliver product promotions and increase customer engagement and loyalty. By utilizing the Smart Signage Platform, Ingage was able to provide Loop a streamlined and affordable entrée into digital signage, without having to worry about media players or complicated content delivery. The screens are used in a commercial environment so dependability is key.

“We stepped out of the box and took a leap of faith that the Smart Signage Platform worked as advertised. It did – installation was as simple as plugging in power and LAN, and pointing the display to the Insteo URL,” said Resnick. “Digital signage has to be strategy based, and the Samsung Smart Signage Platform supports that ultimate goal and enables brands to enjoy the benefits of digital signage at a much more affordable price-per-screen than has been typical in the past.”

“We’re excited to partner with Ingage Solutions to be one of the first to launch a customer application with this exciting new platform,” said Jim Nista, Insteo CEO and Creative Director. “Samsung’s Smart Signage Platform allows us to write native HTML5 web apps with dynamic animations combined with client managed content.”
Samsung is not only a leader in semiconductor technology and commercial displays, but also the largest TV manufacturer globally and pioneered the introduction of Smart TVs in the consumer market. Just as many consumer technologies have been adopted in the commercial environment in recent years, Samsung introduced a commercially hardened “Smart Signage” solution for digital signage.

The Samsung Smart Signage Platform is powered by a system-on-chip semiconductor and features a dual-core CPU, a feature-rich video processor, and either 4GB or 8GB of storage depending on the model. The system-on-chip solution is built into many of the latest Samsung digital signage product lines (see sidebar for compatible models).

The Software Developer Kit (SDK) for developers is available for download on samsungdforum.com/b2b. Samsung has a support team to help developers who are building on the platform.

With the Smart Signage Platform, Samsung wants to help more brands unlock the benefits of digital signage and simplify the transition from static signs to dynamic digital messaging. “We believe this is a natural evolution for the digital signage industry, following a similar path to the emergence of Smart TVs in the consumer space,” Schroll says. “There are numerous benefits in the integrated platform for both end-users and the integration community, as it streamlines the deployment process, saving time and money.”

Learn more about the Samsung Smart Signage Platform. samsung.com/smartsignage

1 http://ovab.eu/2010/01/the-nielsen-study-confirms-it-in-store-tv-works
3 http://www.wirespring.com/dynamic_digital_signage_and_interactive_kiosks_journal/articles/The_2011_Digital_Signage_Pricing_Study__Costs_Fall_Another_5_6_-821.html