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Supporting the Internet of Things

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By Richard Slawsky | Contributing writer, Digital Signage Today

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The buzziest of buzzwords in the digital signage industry these days is probably the Internet of Things, or IoT. The Internet of Things is poised to dominate not only the digital signage industry, but society as a whole.

From digital signage that displays content depending on factors such as changes in the weather or increases in traffic to home automation systems accessible via a smartphone, watch or other personal appliance, it's only a matter of time before IoT becomes as ubiquitous as the Internet itself.

Getting those various devices to communicate effectively, enabling scalability and the "future-proofing" of an IoT investment, though, will require either a unified set of standards or a support layer between content management systems and the hardware.

Defining IoT

Although definitions vary, according to the International Telecommunications Union the "Internet of Things" refers to physical devices incorporating software, sensors and network

connectivity that enables those devices to collect data. Those devices can then be accessed and controlled remotely via the Internet.

Examples of IoT devices in the digital signage arena include temperature sensors that can trigger a digital menu board to display an advertisement for ice cream when the weather gets warm, or connections to emergency notification services that can turn a digital signage network into a messaging system to convey critical information. In a sales office, digital signage can display up-to-the-minute sales information that can foster some friendly competition among the staff.

Stamford, Connecticut based research firm Gartner Inc. forecasts that 6.4 billion connected devices will be in use worldwide in 2016, up 30 percent from 2015, with 5.5 million new things connected every day. The number of those devices is expected to reach 20.8 billion by 2020.

Gartner estimates that IoT will support total services spending of $235 billion in 2016, up 22 percent from 2015. Those services will be dominated by the professional category, in which businesses contract with external providers in order to design, install and operate IoT systems. Connectivity services through communications service providers and consumer services will grow at a faster pace.

“Devices such as digital signs, tablets and kiosks that are driven by a powerful visual communications software platform have the ability to leverage data coming from multiple sources to drive the content that is being shown,” Bannister wrote. “The explosion of devices fueled by the Internet of Things is leading to an even bigger explosion of data from these devices that successful organizations will need to find a way to use to impact positive change. Digital signage that can leverage data from a variety of sources to personalize visual experiences gives organizations a powerful tool to differentiate themselves from their competition.”

In addition, Gartner projects that two-thirds of the devices that will be a part of IoT by 2020 will be consumer products, such as smartphones, tables and wearable devices such as smart watches. Those devices will open the door for digital signage deployers to interact with consumers in new and innovative ways, including displaying information specific to the consumer’s preset preferences.

“Digital signage and the Internet of Things are a perfect match in many ways and have helped fuel each other’s adoption and growth.”

— Omnivex Corp. CEO Doug Bannister wrote in his blog on Digital Signage Today.

Learning to talk

As with the human population, though, the more the population of devices in IoT grow, the more difficult it becomes for those devices to communicate with each other. With literally thousands of companies manufacturing IoT devices, chances are those devices won't always communicate well with the systems that control them.

Clearly, some sort of method to standardize communication is needed.

"If we standardize on both hardware and coding, it's of benefit to the consumer because I then don't need to buy product A to go with application A, and I don't need to buy product B that will only work with application B - I could buy any product and it should just work with all these applications," Andrew Tang, director of security at managed data services company MTI, told ComputerWeekly.com.

And with the concept of the IoT still in its relative infancy, the issue is likely to get even more complicated. Companies deploying IoT devices will soon be faced with a critical choice: Either operate with standards controlled by large technology companies, and be limited to devices provided by those companies, or take the chance that a particular device won't be able to communicate with other devices on the network.

In addition, a host of disparate systems can create a security nightmare, with hackers exploiting weaknesses to gain access to a device in use by a bank, retail store or other operation. They can then use that pathway to leapfrog into the broader network. Once a device is compromised, companies will likely find it both difficult and costly to update or replace the other devices on their network.

With so many companies around the world manufacturing IoT devices, though, it seems unlikely that a unified set of standards will emerge. To help address the issue, some companies are developing cloud-based software solutions that function as sort of a universal translator, serving as middleware between the devices and content management systems.

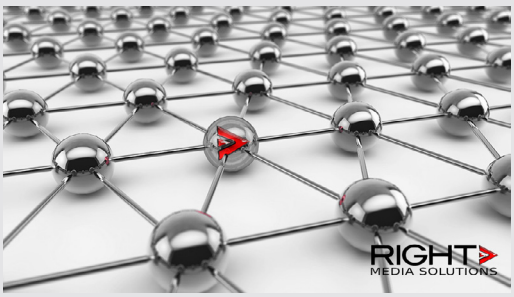
While there's no clear leader in the support layer space, the development of such platforms are enabling deployers to extract additional value from their networks, adding features such as remote control and monitoring, content triggering and centralized data collection.

"Consumers have an insatiable appetite for the newest products that will simultaneously entertain, inform and improve their quality of life," said Kevin Moriarty, creative director for

Salem, Massachusetts based Right Media Solutions, a provider of digital signage hardware and content solutions.

“This, coupled with the development of cloud based storage and the integration of the Internet of Things, has driven innovation,” Moriarty said. “The signage industry is inextricably linked to this digital expansion, evolving in step with these innovations.”

About the sponsor:



Right Media Solutions offers turn-key digital signage solutions creating system design, procuring and testing equipment, implementing the roll-out and providing on-going support services. The company’s headquarters near Boston provides a unique layout that allows it to offer warehouse and logistic solutions while simultaneously providing testing and development centers. Additionally, RMS provides data analytic services to ensure your signage is effective and optimized.

Through the development of interactive content and dynamic digital signage media, RMS is driven to enhance brand awareness and create deeper consumer experiences that translate directly into increased revenue and customer satisfaction. Our creative team can develop messages that drive your brand. We develop content for video walls, menu boards, wayfinders, video displays, interactive kiosks and mobile platforms.