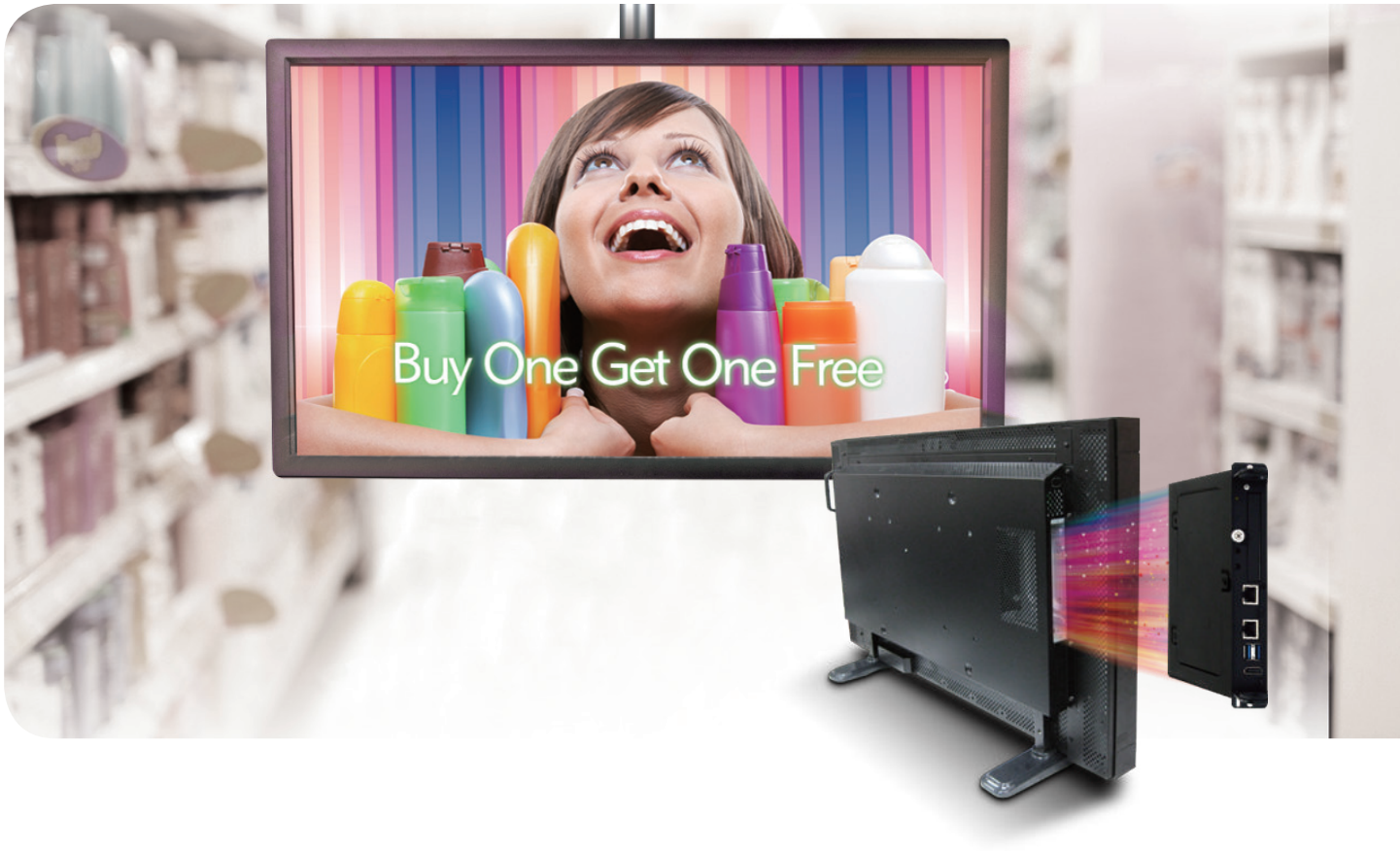

White Paper

NEXCOM Leads Digital Signage into Standardization, Seizing Opportunities in OPS Industry

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In the past, the digital signage industry lacked a standard, making integration of peripheral devices difficult. Fortunately, the industry finally saw the light with the debut of Intel® Open Pluggable Specification (OPS) in the fourth quarter of 2010, which defined a unified standard and opened up many new business opportunities.

Dating back to the financial crisis in 2009, the consumer electronic industry took a downturn and digital signage was the only market segment that showed growth. It quickly became a new building block for businesses; however, the implementation of digital signage requires the integration of seven major factors: the design, software, hardware, network connection, signage content, logistics and business model. With no common standard to follow, integration soon became an obstacle for vendors, which ultimately hindered the development potential of digital signage.

Steven Wu, General Manager of NEXCOM's Vertical Industry Platform (VIP) division points out that because of the unique business model of digital signage and previous lack of standards, the amount of investment put into it was restricted; therefore, users can only choose incomplete solutions from very limited number of suppliers. "The excessive amount of incompetent devices has greatly sabotaged the profit benefits and goals that digital signage bring," Wu explains.

With the introduction of OPS standard, a common design guideline finally surfaced for the industry. The OPS standard defined a universal mechanical dimension and a standardized electrical interface for the player and digital signage display, allowing interoperability between different brands. Users were no longer restricted to specific brands, while system integrators can establish connections between the player and display using signals such as HDMI, DisplayPort, UART and USB. Besides overcoming the integration problem, this flexibility allowed system integrators to develop rich embedded features with components such as camera lens, thermal printers, RFID or fingerprint sensors to create a distinct product.

OPS Ignites Extensive Business Opportunities

Steven Wu noted, apart from overcoming the interoperability issue between different brands, there are two main forces driving the "OPS effect" into the industry. Firstly, OPS is based on modular design, any OPS compliant display can easily upgrade to newer technology and keep pace with semiconductor technology, increasing graphic and processing capability continuously to meet more advanced applications requirements.

Secondly, Intel® AMT can be implemented within OPS modules to perform multiple remote management functions such as switching on or off the display, firmware or software updates, repair corrupted operating systems, or troubleshoot hard drive failures. More importantly, Intel® AMT can keep track of detailed information on hardware and software inventory, help users to monitor and manage a large number of deployments and ensure error-free operation.

Interestingly, the cable-free design of OPS

allows seamless connection between the display and player, while the modular design provides a quick method to separate them both; this unique plug-and-play trait gives users a friendly way to perform upgrades or maintenance quickly without the need to dismantle the display, which is a costly process.

There is a recent rise of RISC platforms due to mobile devices becoming more widespread, the low-power characteristic they hold was another attractive feature to make the switch to x86 platforms. Steven Wu envisions that the computing and graphic performance of multi-core RISC platform will increase continually as technology advances, when combined with Android's user-friendly interface, there is a huge future growth potential.

Integrating Interactive Technology, OPS Expands Its Application

Wu expresses, by using the built-in signals of the connector, vendors are able to design the OPS displays as interactive digital signage with infrared motion detect cameras, as well as advanced technology such as video analytics and facial recognition, taking the application to a next level.

OPS is also making its way to interactive whiteboard, video conferencing, high-end projectors and digital cinema applications. With this in mind, NEXCOM introduced NDiS OPS-M50 (2nd generation Intel® Core™ processor family) and NDiS OPS-M51 (Intel® Celeron® Processor B810E) in late 2011 to test the water. Later in November 2012, NDiS M532, based on 3rd generation Intel® Core™ processor family was released. In the upcoming 2013 year NEXCOM plans to release more OPS modules based on next-generation technology and will be available in low and high-end configurations to address different market needs.

Wu believes that technical expertise, experience, value-added features and services are the key to unlock the doorway to the OPS industry successfully. The following are NEXCOM's advantages within the industry. Firstly, NEXCOM has been in the industrial computing industry for 20 years and specializes in developing reliable solutions for daily operation. Secondly, NEXCOM offers a full range of interface cards, modules and functional systems as well as low and high-end x86 and RISC platforms to meet different project needs. Finally, features such as Bluetooth, Wi-Fi and 3G connections are supported via a mini-PCIe expansion slot.

In addition, NEXCOM has a professional team of digital signage software experts that can offer plug-and-play solutions with value-added functions such as gesture control, GPS connectivity and multi-touch screen to meet a broad range of applications. Moreover, NEXCOM provides fast and expert sales consulting services in 14 locations worldwide, with assembly line and repair center distributed globally in Europe, United States, China and Taiwan to provide localized services and promote economic growth.

About NEXCOM

Founded in 1992, NEXCOM has five business units which focus on vertical markets across industrial computer, in-vehicle computer, multimedia, network and communication, and intelligent digital security industries. NEXCOM serves its customers worldwide through its subsidiaries in seven major industrial countries. NEXCOM gains stronghold in vertical markets with its industry-leading products including the rugged fanless computer NISE series, the in-vehicle computer VTC series, the network and security appliance NSA series and the digital signage player NDiS series. www.nexcom.com