



Solution Brief
Intel® vPro™ Technology
 AOpen MP67-D/DU*
 Digital Signage Industry

Lowering TCO for Digital Signage with Intel® vPro™ Technology

Increasing Reliability and Uptime Improves the Bottom-line

“Lowering total cost of ownership is why we chose Intel® vPro™ technology, available with the 2nd generation Intel® Core™ i7 processor.”

– Dale Tsai, President,
 AOpen America

Digital signage systems that are designed to be reliable, secure and easy to manage, will have a lower total cost of ownership (TCO). Simply avoiding as few as one onsite repair visit can significantly increase a system’s return on investment. Intel® vPro™ technology provides such capabilities in advanced management, proactive security and enhanced virtualization.¹ Recognizing the substantial value in reducing support costs, AOpen, a leading manufacturer of ultra-small form-factor computer systems, now offers a variety of systems supporting Intel vPro technology.

AOpen designed Intel vPro technology into the MP67-D/DU,* enabling the platform to support remote power control, scheduled power control, remote access, hardware asset tracking, system alerts and events through identifying OS/hardware issues and remote BIOS updates.

A digital signage system with Intel vPro technology delivers three key technology features (see also the table below): Intel® Active Management Technology² (Intel® AMT), Intel® Trusted Execution Technology³ (Intel® TXT), and Intel® Virtualization Technology⁴ (Intel® VT). Intel has validation labs where OEM/ODMs can have their systems validated for Intel vPro technology compliancy. AOpen leveraged this lab to successfully verify Intel vPro technology compliance for its MP67-D/DU, which is used in several industries including healthcare, banking, education, transportation and retail.

Advanced Manageability

Digital signage provides hoteliers new and engaging ways to interact with guests, and delivers information such as an overview of the property or floor plan. Digital signage can also provide the hotelier additional paths to revenue such as promoting onsite restaurants and local entertainment. There is an endless number of locations that signage systems can be installed, including lobbies, elevators, conference areas, spas, bars, restaurants and health clubs.

Intel® vPro™ Technology Ingredients

Intel® Active Management Technology²

Intel® Trusted Execution Technology³

Intel® Virtualization Technology⁴

Capability

Offers breakthrough remote management and energy-saving capabilities

Provides additional protections over software security solutions

Improves the efficiency and security of virtualized environments

Many hotel chains prefer to centrally manage signage systems to ensure uniformity as well as reduce technical personnel on-site. This lowers maintenance costs, creating uniformity across systems. AOpen's MP67-D/DU with Intel vPro technology provides such capabilities. Using a third-party vendor's central management console, the AOpen solution using Intel AMT is capable of remotely discovering computing assets, healing systems regardless of system state, and protecting them against malicious software attacks. The advanced management capabilities of an Intel vPro technology-enabled AOpen system can help lower power consumption, reduce the number of expensive on-site repairs and track inventory without physical interaction.



Figure 1. Digital Signage in Hospitality

Proactive Security

Although not typically the target of cyber attacks, digital signage systems can be vulnerable to the same cyber threats as a typical PC system. A signage system can become "collateral damage" in a malware outbreak or even be the weak link that opens the door to a cyber attack. This is especially true for signage systems that are outside the corporate firewall and least protected. Businesses need to recognize the possibility that cybercriminals may penetrate devices with the goal of accessing corporate databases or wreaking havoc with displays, like unlawful copying or unauthorized content playing.

To help prevent these attacks, third-party software enabling Intel TXT provides boot-time capabilities which can help prevent a signage system from launching unintended system components. Further, Intel TXT leverages protections of Intel VT, which, when

About AOpen

AOpen, a pioneer in the ultra-small form-factor (uSFF) industry, has cultivated a sophisticated ecosystem of premium solution providers along with distribution channels. The company has built a strong reputation as a digital signage specialist and works closely with its alliance vendor partners, who are available to consult and assist on a per-project basis. Manufacturing partners in the alliance can simplify the process of bringing digital signage to market.

"We are enabling digital signage software vendors to offer the most secure systems in the industry by integrating Intel® Trusted Execution Technology."

– Dale Tsai, President, AOpen America

implemented in third-party software, can create isolated areas of execution in system memory. The protections that Intel vPro technology provides work in concert with other security products such as anti-virus, encryption, firewall and other security products to create a robust security solution. Intel vPro technology capabilities are hardware-based features unalterable by rogue software and, when implemented in Intel vPro technology-capable third-party software, provide a robust security foundation.

For more information about AOpen, visit <http://www.aopen.com>.

For more information about Intel vPro technology, visit www.intel.com/embedded/technology/vPro.htm.

¹ Intel® vPro™ Technology is sophisticated and requires setup and activation. Availability of features and results will depend upon the setup and configuration of your hardware, software and IT environment. To learn more visit: <http://www.intel.com/technology/vpro>.

² 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>.

³ No computer system can provide absolute security under all conditions. Intel® Trusted Execution Technology (Intel® TXT) requires a computer system with Intel® Virtualization Technology, an Intel TXT-enabled processor, chipset, BIOS, Authenticated Code Modules and an Intel TXT-compatible measured launched environment (MLE). The MLE could consist of a virtual machine monitor, an OS or an application. In addition, Intel TXT requires the system to contain a TPM v1.2, as defined by the Trusted Computing Group and specific software for some uses. For more information, see <http://www.intel.com/technology/security>.

⁴ Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, virtual machine monitor (VMM). Functionality, performance or other benefits will vary depending on hardware and software configurations. Software applications may not be compatible with all operating systems. Consult your PC manufacturer. For more information, visit <http://www.intel.com/go/virtualization>.

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