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UPnP Specifications Named International Standard for Device Interoperability for IP-based Network Devices

Innovation validated by record-breaking number of UPnP implementations in 2008

BEAVERTON, Ore. (USA) – February 05, 2009 – UPnP Forum, the industry initiative designed to provide simple and robust connectivity among consumer electronics, intelligent appliances, computers and mobile devices from different vendors, today announced that UPnPTM technology has attained worldwide recognition by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). In December 2008, ISO and IEC published an international standard version of the UPnP Device Architecture and Device Protocols. This achievement as the world's first international standard for device interoperability on IP networks solidifies UPnP architecture's position as the leading technology for discovery and control of networked devices.

"The IEC, as the major publisher of international standards for electrical, electronic and related products, is particularly satisfied with the publication of the ISO/IEC 29341 series," said Gabriel Barta, head of technical coordination for the IEC. "This series marks a significant step forward in the control of devices in the home and similar environments, many of which are standardized in the IEC."

"With ISO/IEC 29341 we have put a key stone in place that together with already-published standards, such as ISO/IEC 14543-3, allows international standards to fully support intelligent homes. International standards now provide seamless communication within the home for all kinds of entities that are used in applications ranging from building control via communications to entertainment, as well as specifications to control and service the home and its appliances from outside," said Dr Walter von Pattay, secretary of ISO/IEC JTC 1/SC 25.

The worldwide adoption of UPnP technology has served as the foundation for the unprecedented growth in certified UPnP implementations during the past year, and emphasized how the industry continues to react to current market demand for a common baseline of interoperability for all

networked devices. UPnP technology witnessed a record-breaking number of new UPnP implementations certified in 2008. This increase showcases the accelerated adoption of UPnP specifications as the standards for worldwide device interoperability in IP-based networks.

"UPnP Forum's specifications have become the international standard for device interoperability in IP-based home networks worldwide," said Dr. Alan Messer, president of UPnP Forum. "The adoption of UPnP specifications as ISO/IEC 29341 validates that position and enables the UPnP's specifications to be adopted more widely in the international community."

"This worldwide standardization encourages the broadest possible adoption of UPnP technology, not only for industry professionals, but also for consumers and end-users," said Toby Nixon, vice-president of UPnP Forum.

Building on this momentum, UPnP Forum also announced the release of UPnP Device Architecture Version 1.1 (<u>UDA 1.1</u>), a significant enhancement of the architectural elements used to define protocols for communication between controllers or control points, and devices. UDA 1.1, a fully backward-compatible update to UDA 1.0, adds a number of extensions, including:

- Support for the full range of XML Schema data types to provide more protocol design options
- Multicast event notifications to reduce network traffic
- Improved robustness of device discovery on wireless networks
- Improved performance and scalability on large networks
- Compliance with RFC 3927 (the IETF standard for automatic IP address assignment), SOAP 1.1 and the WS-I Basic Profile to increase alignment with Web services technologies
- IPv6 support directly into the UPnP Device Architecture and clarifies operation of devices that support multiple IP addresses including both IPv4 and IPv6
- Many clarifications and explanations to assist implementers

The resulting benefits of these new enhancements include easier reuse of standard Web services components to create UPnP stacks, more robust support on WiFi networks and easier integration of UPnP devices into IPv6 networks.

UPnP Forum has also completed several new specifications including updates to its Audio Video (AV) and Quality of Service (QoS) device control protocols and services. The latest QoS service descriptions (QoS:3) feature parameterized QoS for the first time. The QosDevice is responsible for providing the appropriate network resources to traffic streams and information about the state of the device as requested by the QosManager. This allows QoS:3 to facilitate bandwidth reservation, which will result in significantly smoother video quality via networks that support reservation including MoCA and HomePlug.

In 2009, UPnP Forum will continue to enhance and promote the adoption of its specifications. A key focus will be continued work on Device Management protocols that serve to bridge the gap between service provider and broadband network solutions to provide end-to-end device

management of user devices within the home. The group will also work on protocols for telephony devices that enable increased convergence between mobile phones and CE devices like TVs. Remote Access protocols that allow users to control devices remotely (such as mobile device programming or a home digital video recorder) are expected to be published in early 2009.

About UPnP Technology

UPnP technology makes home networking simple and affordable so that the connected home experience becomes a mainstream experience for users and a great opportunity for the industry. UPnP device and service standards have been defined and published for Internet gateways/routers, audio-video media devices, printers, scanners, climate control, lighting and wireless LAN access points, and digital security cameras, and advanced features such as security, remote user interface, and quality of service.

The UPnP architecture offers pervasive network connectivity between all types of devices including network-enabled consumer electronics equipment, intelligent appliances, portable wireless devices, PCs, etc. The UPnP architecture leverages TCP/IP and other Web technologies to enable seamless integration of these devices into existing network infrastructures. UPnP technology can be implemented on any operating system and works with any type of physical networking media that supports IP – wired or wireless – providing maximum user and developer choices, which result in higher economic benefits for everyone.

About UPnP Forum

UPnP Forum is a non-profit corporation of more than 870 consumer electronics, computing, home automation, home security, appliances, printing, photography, computer networking, mobile products and other leading companies working together to design schema and protocol standards for the UPnP initiative. For more information about UPnP Forum, visit: http://www.upnp.org.

About UPnP Certification and the UPnP Implementers Corporation

There are now more than 3,000 UPnP certified devices. UPnP certification creates the foundation for interoperability and provides an easy way for retailers and consumers to recognize products that have been developed and tested to comply with the UPnP device standards.

The UPnP Implementers Corporation (UIC) is the non-profit corporation that administers the UPnP Device Certification® process and UPnP logo. For more information about certifying your product with the UIC, visit: http://www.upnp-ic.org.

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