UPnP FORUM

UPnP: The Discovery & Service Layer For The Internet of Things

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In late 1999, the founding members of what would become the UPnP Forum started to put together their original framework and specification to connect the growing number of connected devices in the home. Since that time, UPnP technology helped fuel an explosion in home networking and connected entertainment as over a thousand companies would eventually become members and over 2 billion UPnP enabled products would make their way into consumer's homes.

In the last few years the arrival of large advances in mobile computing, cloud and big data, embedded computing and sensor networks have combined to create a foundation for the next wave in technology evolution in the Internet of Things.

The Internet of Things, which is expected by Cisco to be a $19 trillion opportunity, has created significant excitement across the technology, investor and media communities. This excitement has sparked conversation about the necessity for industry and technology interoperability, which is required for the Internet of Things to deliver on its promise. This is because the Internet of Things requires artificial barriers between markets and networks to dissolve, where every "thing" with an embedded sensor and computing intelligence connects and shares data with other things.

This is where an established technology like UPnP can help. By increasing its scope beyond the connected home, UPnP can provide the necessary discovery and service layer for the Internet of Things and enable device, network and service interoperability.

With the IoT in mind, UPnP Forum built the next generation of UPnP with UPnP+. UPnP+ is a modern standard built for the future that also leverages the core competencies of a standard with over a decade and a half of market acceptance. UPnP+'s future-proofed features extends UPnP, providing access to cloud

connectivity and services, Internet-grade scalability, robust security and a modern sensor management framework for the Internet of Things.

UPnP's mature and modern architecture is reflected in a robust set of development tools available across every major operating system including Windows, iOS, MacOS, Linux, and Android. UPnP is also available in a variety of open source projects, and runs in a variety of programming languages such as C, C++, Java, Javascript and Python

While there are other connectivity frameworks available, none have proven history and wide reach across network technologies, operating systems and developer toolsets as UPnP. Upon this solid foundation, UPnP+ has incorporated the modern capabilities necessary - such as access to cloud services, a robust data model and a modern bridge framework to account for low-power IP and non-IP devices - to create a future-proofed standard built to be the discovery and service layer for the Internet of Things,.

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UPnP: promoting interconnectivity

UPnP Forum, established in 1999, is an impartial global industry standards body, that has paved the way for seamless connectivity between more than a billion devices. Its 1000+ companies and organizations work together to enable device-to-device interoperability and facilitate easier, better home networking. UPnP promotes adoption of uniform technical device interconnectivity standards and certifies devices conforming to these, paving the way for seamless connectivity between more than a billion home devices running above the IP layer.

The Forum has widened its scope to encompass the Cloud, including integration for content and services, as well as bridging to non-UPnP networks (ZigBee, Z-Wave, Bluetooth, ANT+...). This enables a broad range of applications including health & fitness, energy management and home automation.

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