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INFORMATION TECHNOLOGY – UPNP DEVICE ARCHITECTURE –

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FOREWORD

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International Standard ISO/IEC 29341-16-1 was prepared by UPnP Forum Steering committee[1], was adopted, under the fast track procedure, by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

The list of all currently available parts of the ISO/IEC 29341 series, under the general title *Information technology – UPnP device architecture*, can be found on the IEC web site.

This International Standard has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the second title page.

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1 UPnP Forum Steering committee, UPnP Forum, 3855 SW 153rd Drive, Beaverton, Oregon 97006 USA. See also “Introduction”.

IMPORTANT – The "colour inside" logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this publication using a colour printer.

Glossary

ACPI
Advanced Configuration and Power Interface

AP
Access Point: Any entity that has station functionality and provides access to the distribution services (Ethernet network), via the wireless medium for associated stations

AV
Audio / Video

BOOTID
BOOTID is a part of the SSDP:Alive header defined in UPnP Device Architecture 1.1 and is defined as a number that is increased each time device sends an initial announcement

BPMPX
Basic Power Management Proxy

BTH
Bluetooth

CP
Control Point

DHCP
Dynamic Host Configuration Protocol

DMA
Digital Media Adapter

DMP
Digital Media Player

IP
Internet Protocol

LPACP
Low Power Aware Control Point

NIC
Network Interface Card

OSPM
Operating System-directed Power Management

PAN
Personal Area Network

PC
Personal Computer

PM
Power Management

PM Service
UPnP Based Power Management Service

SSDP
Simple Service Discovery Protocol

Standby period
Time interval SoftAP monitors traffic for no activity before going to standby mode.

UDN
Unique Device Number

UI
User Interface

UUID
Universally Unique Identifier

UPnP
Universal Plug and Play

WoLAN
Wake On LAN

WoWLAN
Wake on Wireless LAN

1 Introduction

The UPnP Low Power architecture allows devices implementing power saving modes to conserve energy. The purpose of this document is to define an architecture that will address the issue of reporting and tracking power states of nodes in a network. The UPnP Low Power solution is designed to enable nodes in the network to report and track the Low Power states of other nodes in the network. Additionally, for nodes that support wake up capabilities, this architecture addresses methods to wake up those nodes when required. The objective of the UPnP Low Power solution is to allow UPnP devices to conserve energy and still be discoverable by UPnP Control Points. The UPnP Control Point will be aware of the UPnP devices and services implemented on a Low Power device even when the Low Power device is in a power savings mode.

This architecture document defines two UPnP services that comprise the UPnP Low Power framework:

- Low Power device service
- Basic Power Management Proxy service

The Low Power device service allows UPnP devices to transition to low power states and still be part of the UPnP network. The Basic Power Management Proxy service can optionally represent the sleeping UPnP devices in the network and is capable of certain limited functions to support the discovery of Low Power devices that are in a power saving mode. The introduction of Low Power into the UPnP architecture will help align UPnP with emerging energy regulation requirements.