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INTERNATIONAL STANDARD



**Information technology – UPnP device architecture –
Part 16-1: Low Power Device Control Protocol – Low Power Architecture**

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INFORMATION TECHNOLOGY – UPnP DEVICE ARCHITECTURE –

Part 16-1: Low Power Device Control Protocol – Low Power Architecture

FOREWORD

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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.

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

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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.