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INFORMATION TECHNOLOGY – UPNP DEVICE ARCHITECTURE –

Part 18-11: Remote Access Device Control Protocol – Remote Access Discovery Agent Service

FOREWORD

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International Standard ISO/IEC 29341-18-11 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”.

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1 Overview and Scope

This service definition is compliant with the UPnP Device Architecture version 1.0. It defines a service type referred to herein as *RADAConfig* service. This service type enables configuration of the in-band synchronization mechanism between Remote Access Clients and Remote Access Server.

1.1 Introduction

A Remote Access Discovery Agent aggregates information about UPnP devices and services from two primary sources, depending if the devices are located in the local network or they are located in a remote device. For aggregating the devices and services available in the local network, the Remote Access Discovery Agent is constantly monitoring the SSDP traffic, which enables the RADA to have an up-to-date image of the UPnP network. The RADA finds information about remote UPnP devices and services by synchronizing with remote RADAs.

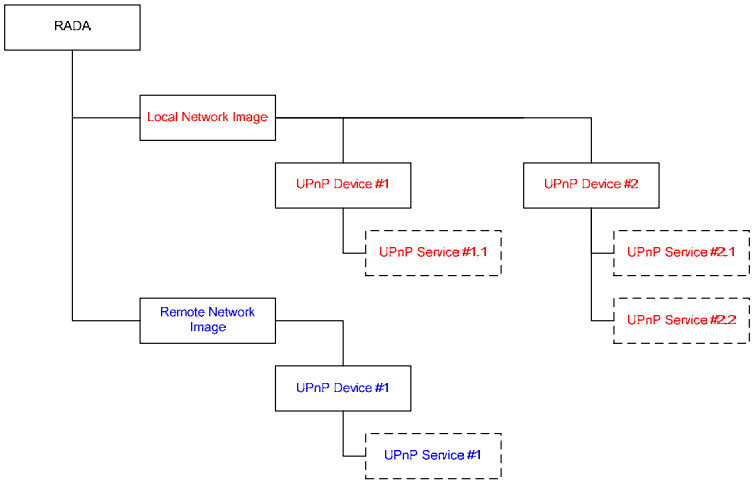

Figure 1-1 — SSDP Aggregation.

The main purpose in maintaining this aggregate view of available devices, is to alleviate the timing dependencies inherent in the UPnP Discovery mechanism. When a UPnP Control Point issues a search request, the request packet contains a parameter that specifies the maximum number of seconds a device can wait before sending the response. In remote scenarios, it is possible that this value will be exceeded with normal network traffic delay.

This aggregate view also serves to minimize the amount of SSDP traffic that needs to flow across the remote transport, as some remote scenarios may be cost-sensitive in regards to the amount of data that is transferred, since SSDP is often described as a “chatty” protocol.

The aggregate view could be used to restrict the visibility of local UPnP devices and services from remote devices and of UPnP devices and services hosted by remote devices to your local network.

This service does not address the actual transport protocol used to facilitate Remote Access.

The *RADAConfig* service is a UPnP service that provides control points with the following functionality:

- Customize which local devices are visible in remote networks
- Customize which remote devices are visible in the local network

This service does not address:

- Aggregation of the the local view of the UPnP network.
- Relaying discovery messages in the local network on behalf of remote devices
- Transport protocol used to facilitate Remote Access or its configurtion.

1.2 Vendor-defined Extensions

Whenever vendors create additional vendor-defined state variables, actions or properties, their assigned names and XML representation MUST follow the naming conventions and XML rules as specified in [DEVICE], Clause 2.5, “Description: Non-standard vendor extensions”.

1.3 References

1.3.1 Normative References

This clause lists the normative references used in this specification and includes the tag inside square brackets that is used for each such reference:

[DEVICE] – UPnP Device Architecture, version 1.0. Available at: http://www.upnp.org/specs/arch/UPnP-arch-DeviceArchitecture-v1.0-20080424.pdf. Latest version available at: http://www.upnp.org/specs/arch/UPnP-arch-DeviceArchitecture-v1.0.pdf.

[DADS-XSD] – XML Schema for UPnP RA Discovery Agent XML Data Structures Available at: http://www.upnp.org/schemas/ra/dads-v1-20090930.xsd. Latest version available at: http://www.upnp.org/schemas/ra/dads-v1.xsd.

[RAServer] – RAServer:1, UPnP Forum, Available at: http://www.upnp.org/specs/ra/UPnP-ra-RAServer-v1-Device-20090930.pdf. Latest version available at: http://www.upnp.org/specs/ra/UPnP-ra-RAServer-v1-Device.pdf.

[RADASync] – RADASync:1, UPnP Forum, Available at: http://www.upnp.org/specs/ra/UPnP-ra-RADASync-v1-Service-20090930.pdf. Latest version available at: http://www.upnp.org/specs/ra/UPnP-ra-RADASync-v1-Service.pdf.

[RFC 2119] – IETF RFC 2119, Key words for use in RFCs to Indicate Requirement Levels, S. Bradner, March 1997. Available at: http://www.ietf.org/rfcs/rfc2119.txt.

[XML] – “Extensible Markup Language (XML) 1.0 (Third Edition)”, François Yergeau, Tim Bray, Jean Paoli, C. M. Sperberg-McQueen, Eve Maler, eds., W3C Recommendation, February 4, 2004. Available at: http://www.w3.org/TR/2004/REC-xml-20040204/.

1.3.2 Informative References

This clause lists the informative references that are provided as information in helping understand this specification:

[RAARCH] – RAArchitecture:1, UPnP Forum, Available at: http://www.upnp.org/specs/ra/UPnP-ra-RAArchitecture-v1-20090930.pdf. Latest version available at: http://www.upnp.org/specs/ra/UPnP-ra-RAArchitecture-v1.pdf.