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INFORMATION TECHNOLOGY – UPNP DEVICE ARCHITECTURE –

Part 18-4: Remote Access Device Control Protocol – Remote Access Discovery Agent Device

FOREWORD

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International Standard ISO/IEC 29341-18-4 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.

1 Overview and Scope

This device definition is compliant with the UPnP Device Architecture version 1.0. It defines a device type referred to herein as *RADiscoveryAgent* device.

1.1 Introduction

The *RADiscoveryAgent* device is a UPnP device that provides the functionality capability for synchronizing the UPnP discovery information between two remote networks.

The Remote Access Discovery Agent functionality is a combination of a RADASync service and a control point functionality that interacts with a remote RADASync service running on the remote network. Each control point is pushing discovery information about devices available in its local area network to its corresponding RADASync peer. This device provides control points with the following functionality:

- Ability to push discovery information from a remote network that will be used to recreate and propagate the original information into the local network.
- Ability to propagate multicast events from a remote network into the local network.

This device does not address:

- Control level and content level Access Control for local devices which are exposed to remote networks.

1.2 Notation

- In this document, features are described as Required, Recommended, or Optional as follows:

  The key words “MUST,” “MUST NOT,” “REQUIRED,” “SHALL,” “SHALL NOT,” “SHOULD,” “SHOULD NOT,” “RECOMMENDED,” “MAY,” and “OPTIONAL” in this specification are to be interpreted as described in [RFC 2119].

  In addition, the following keywords are used in this specification:

  PROHIBITED – The definition or behavior is an absolute prohibition of this specification. Opposite of REQUIRED.

  CONDITIONALLY REQUIRED – The definition or behavior depends on a condition. If the specified condition is met, then the definition or behavior is REQUIRED, otherwise it is PROHIBITED.

  CONDITIONALLY OPTIONAL – The definition or behavior depends on a condition. If the specified condition is met, then the definition or behavior is OPTIONAL, otherwise it is PROHIBITED.

  These keywords are thus capitalized when used to unambiguously specify requirements over protocol and application features and behavior that affect the interoperability and security of implementations. When these words are not capitalized, they are meant in their natural-language sense.
- Strings that are to be taken literally are enclosed in “double quotes”.
- Placeholder values that need to be replaced are enclosed in the curly brackets “{” and “}”.
- Words that are emphasized are printed in *italic*.
- Keywords that are defined by the UPnP Working Committee are printed using the *forum* character style.
- Keywords that are defined by the UPnP Device Architecture are printed using the **arch** character style.
- A double colon delimiter, “::”, signifies a hierarchical parent-child (parent::child) relationship between the two objects separated by the double colon. This delimiter is used

in multiple contexts, for example: Service::Action(), Action()::Argument, parentProperty::childProperty.

1.3 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”.

1.4 References

1.4.1 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.

[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/.

1.4.2 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.

[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.