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**Information technology – UPnP device architecture –  
Part 18-13: Remote Access Device Control Protocol – Remote Access Transport  
Agent Configuration Service**

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## INFORMATION TECHNOLOGY – UPNP DEVICE ARCHITECTURE –

### Part 18-13: Remote Access Device Control – Remote Access Transport Agent Configuration Service

#### FOREWORD

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- 2) In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.
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International Standard ISO/IEC 29341-18-13 was prepared by UPnP Forum Steering committee<sup>1</sup>, 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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<sup>1</sup> UPnP Forum Steering committee, UPnP Forum, 3855 SW 153<sup>rd</sup> 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 *RATAConfig* service.

### 1.1 Introduction

The *RATAConfig* service is a UPnP service that allows control points to provision and configure the parameters that are required for enabling a Remote Access Server to accept and a Remote Access Client to initiate remote access connections. This service provides control points with the following functionality:

- Determine the Remote Access Transport Agents that can be configured by the service.
- Determine the delivery mechanisms for credentials supported by the service.
- Configure Remote Access Transport Agent profiles
- Management of Remote Access Transport Agent profiles

This service does not address:

- The trust model that will enable secure remote access connections.
- The delivery of credentials.

### 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>.

[DEVICE-IPv6] – UPnP Device Architecture, version 1.0., Annex A – IP Version 6 Support. Available at: [http://www.upnp.org/resources/documents/AnnexA-IPv6\\_000.pdf](http://www.upnp.org/resources/documents/AnnexA-IPv6_000.pdf)

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

[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/rfc/rfc2119.txt>.

[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>.

[TADS-XSD] – XML Schema for UPnP RA Transport Agent XML Data Structures Available at: <http://www.upnp.org/schemas/ra/tads-v1-20090930.xsd>. Latest version available at: <http://www.upnp.org/schemas/ra/tads-v1.xsd>.

[IPSEC-XSD] – XML Schema for IPsec Transport Agent Options and Configuration XML Data Structures Available at: <http://www.upnp.org/schemas/ra/tacfg-ipsec-v1-20090930.xsd>. Latest version available at: <http://www.upnp.org/schemas/ra/tacfg-ipsec-v1.xsd>.

[OPENVPN-XSD] – XML Schema for OpenVPN Transport Agent Options and Configuration XML Data Structures Available at: <http://www.upnp.org/schemas/ra/tacfg-openvpn-v1-20090930.xsd>. Latest version available at: <http://www.upnp.org/schemas/ra/tacfg-openvpn-v1.xsd>.

[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:

[IGD] – InternetGatewayDevice:1, UPnP Forum, November, 2001  
Available at: [http://www.upnp.org/standardizeddcps/documents/UPnP\\_IGD\\_1.0.zip](http://www.upnp.org/standardizeddcps/documents/UPnP_IGD_1.0.zip)

[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>.

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

[RFC 2406] – IETF RFC 2406, IP Encapsulating Security Payload (ESP), S. Kent, R. Atkinson,  
November 1998  
Available at: <http://www.ietf.org/rfc/rfc2406.txt>

[RFC 3706] – IETF RFC 3706, A Traffic-Based Method of Detecting Dead Internet Key  
Exchange (IKE) Peers, G. Huang, et. Al., February 2004  
Available at: <http://www.ietf.org/rfc/rfc3706.txt>

[RFC 3947] – IETF RFC 3947, Negotiation of NAT-Traversal in the IKE, T. Kivinen, B.  
Swander, A. Huttunen, V. Volpe, January 2005.  
Available at: <http://www.ietf.org/rfc/rfc3947.txt>.

[RFC 4306] – IETF RFC 4306, Internet Key Exchange (IKEv2) Protocol, C. Kaufman, Ed.,  
December 2005  
Available at: <http://www.ietf.org/rfc/rfc4306.txt>