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Part 18-3: Remote Access Device Control Protocol – Remote Access Server
Device**

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INFORMATION TECHNOLOGY – UPnP DEVICE ARCHITECTURE –

Part 18-3: Remote Access Device Control Protocol – Remote Access Server Device

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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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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 *RA Server* Device.

1.1 Introduction

The *RA Server* Device is a UPnP Device UPnP device that allows control points to configure Remote Access Servers. This Device provides control points with the following functionality:

- Determine if the Remote Access Server is reachable from the public Internet
- Enable a Remote Access Server to be reachable from the public Internet
- Enumerate the Remote Access Transport mechanisms supported by the Remote Access Server
- Enumerate the Credentials Delivery mechanisms supported by the Remote Access Server
- Configure active Remote Access Transport profiles
- Configure filters for allowing which local Devices are visible in remote networks
- Configure filters for allowing which remote Devices are visible in the local network
- Maintains list of registered remote users, and authenticates when they log in depending on their pre-configured info appropriately

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>.

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

[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>.

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

[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>.