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INFORMATION TECHNOLOGY – UPNP DEVICE ARCHITECTURE –

Part 18-1: Remote Access Device Control Protocol – Remote Access Architecture

FOREWORD

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International Standard ISO/IEC 29341-18-1 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 document describes an architecture that provides the infrastructure that allows generic UPnP devices, services and control points deployed in remote physical devices to interact with the corresponding UPnP devices, services and control points physically attached to the home network. The mechanisms defined in this architecture will allow to extend the home network so that it will logically include the remote devices so that all devices will be able to communicate among themselves using the UPnP Forum defined mechanisms, e.g. UDA. The desired behavior of the interactions between the remote device and home devices is envisioned to be similar with the one expected as if all devices are located in the same local area network.

In order to accommodate the above mentioned goals, the Remote Access Architecture will provide means to connect the two segments of the extended home network using established mechanisms. The architecture recognizes that there might be several possible alternative models to “bridge” the two segments and will provide an interface that will allow them to be plugged, while enforcing the same overall behavior of the whole system regardless of the model used.

The architecture does not describes any interfaces to “service” gateways that will enable non-UPnP entities to interact with the UPnP devices, services and control points physically attached to the home network.

1.1 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”.
- 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.

1.2 References

1.2.1 Informative References

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

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