INTERNATIONAL TELECOMMUNICATION UNION

ITU-T V.150.0

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TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

SERIES V: DATA COMMUNICATION OVER THE TELEPHONE NETWORK

Interworking with other networks

Modem-over-IP networks: Foundation

ITU-T Recommendation V.150.0

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ITU-T Recommendation V.150.0

Modem-over-IP networks: Foundation

Summary

This Recommendation specifies the road map and high-level details for the V.150 family of modem-over-IP Recommendations.

Source

ITU-T Recommendation V.150.0 was prepared by ITU-T Study Group 16 (2001-2004) and approved under the WTSA Resolution 1 procedure on 13 January 2003.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

CONTENTS

ITU-T Recommendation V.150.0

Modem-over-IP networks: Foundation

1 Scope

This Recommendation specifies the basic and generic characteristics for devices designed to transport V-series modem signals across an IP network.

The Recommendation defines:

a) forward and backward version interoperability;

b) the use of Vendor-defined messages and information.

This Recommendation includes mandatory requirements, recommendations and options; these are designated by the words "shall," "should," and "may" respectively.

2 References

The following ITU-T Recommendation contains provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the edition indicated was valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendation and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

– ITU-T Recommendation T.35 (2000), *Procedure for the allocation of ITU-T defined codes for non-standard facilities*.

3 Definitions

This Recommendation defines the following terms:

3.1 gateway: A gateway converts media provided in one type of network to the format required in another type of network. For example, a gateway could terminate bearer channels from a switched circuit network (e.g. DS0s) and media streams from a packet network (e.g. RTP streams in an IP network).

3.2 MoIP gateway: A gateway that is compliant with ITU-T Rec. V.150.1.

3.3 modem relay: The transportation of modem data across a packet network using modem termination at the network access points.

3.4 voice band data: The transport of modem signals over a voice channel of a packet network with the encoding appropriate for modem signals.

4 Abbreviations

This Recommendation uses the following abbreviations:

FoIP Fax over Internet Protocol

MoIP Modem over Internet Protocol

PDU Protocol Data Unit

SDP Session Description Protocol

ToIP Text over Internet Protocol

VoIP Voice over Internet Protocol

5 Introduction

This Recommendation provides a foundation for common procedures that are used by the V.150 family of Recommendations. The V.150 Recommendations are part of the group that consider the inter-working of V-series modems with other networks. In this instance the other network of consideration are Internet Protocol Networks.

The Recommendation does not require behaviour that is inconsistent with other V-series Recommendations, or with national regulatory requirements, and shall be interpreted accordingly. Neither does it preclude the use of proprietary or non-standard equipment, however it does caution that if such devices are used then care should be taken as not to harm the functionality and procedures defined herein.

6 Family members

A list of the members of the V.150 family of Recommendations is provided in Appendix I.

7 Version management

The V.150 family of Recommendations is expected to contain several functional versions. To ensure both forward and backward compatibility, the version management for these Recommendations is defined here.

A functional member of the V.150 family of Recommendations is indicated by a trailing dot-number, e.g. V.150.1 or V.150.2. An integer number within the Recommendation indicates a version or revision of a functional member. Consequently, when used in a PDU or information element a complete version can be indicated for a V.150 member by using an 'x.y' representation. For example, 1.1 would be V.150.1 version 1, 2.3 would be V.150.2 version 3, etc.

8 Vendor-defined messages

Vendor-specific messages are supported within V.150 PDUs. In general, a V.150 member may support up to 255 vendor identifiers (vendor-ID) for a given call. Each vendor-ID may be unique or specific and tied to either a single or a multiple set of attributes. A unique vendor-Tag may also be assigned to each set of attributes associated with a vendor-ID to allow simpler use within the V.150 mechanisms.

Usually the vendor-ID is provided during the external signalling used during the call set-up (i.e. H.245, H.248 or SDP, etc.). The format used in signalling schemes may be compliant to either ITU-T Rec. T.35 or the IANA private enterprise number. The choice is up to the vendor.

When the vendor-ID format is ITU-T Rec. T.35, the vendor-ID consists of a country code followed by a vendor code. The country code consists of four octets and the vendor-ID consists of two octets. If the representation of the vendor-ID is hexadecimal, leading zeros in the country code may be omitted, while leading zeros in the vendor code may not be omitted.

When the vendor-ID is the vendor's IANA private enterprise number, leading zeros may be omitted.

The vendor-Tag is a decimal integer with a value between 0 and 255. If used, values in the range of 1 to 255 are uniquely mapped to the combination of vendor-ID and vendor-specific information. The choice of this integer made by a gateway is independent of the choice made by its peer gateway. Due to the compactness of this index, a gateway or endpoint may use it in a number of places to simplify the messaging. A value of zero for the vendor-Tag is a null value. When present, it is equivalent to omitting the vendor-Tag. A null value of the vendor-Tag is not associated with any vendor-ID. If non-null, the vendor-Tag may serve as a dynamically assigned vendor-specific identifier.

The vendor-specific information is an octet string consisting of one or more octets as defined by the vendor. Since it consists of an integer number of octets, it is represented by an even number of hex characters. No "0x" prefix is needed. Limitation on size is context specific. Details where size is limited will be indicated in the appropriate Recommendation.

Appendix I

List of Recommendations in the V.150 family

The following are members of the V.150 family of Recommendations:

V.150.0: Modem-over-IP networks: Foundation (2003)

V.150.1: Modem-over-IP networks: Procedures for the end-to-end connection of V-series DCEs (2003)

SERIES OF ITU-T RECOMMENDATIONS

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