

International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

H.248.61

(03/2013)

SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS
Infrastructure of audiovisual services – Communication
procedures

Gateway control protocol: Packages for network level ITU-T H.248 statistics

Recommendation ITU-T H.248.61



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Gateway control protocol: Packages for network level ITU-T H.248 statistics

Summary

Recommendation ITU-T H.248.61 defines ITU-T H.248 packages for network level statistics for the Internet Protocol. The IP layer octets count statistics package is used to support explicit octet count statistics on the Internet Protocol layer. The IP layer packets count statistics package is used to support explicit packet count statistics on the Internet Protocol layer. The IP traffic flow of an IP-based ITU-T H.248 stream or termination may be either IPv4 or IPv6.

This revision incorporates a clarification that the flow identifier is not limited to TCP/UDP.

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T H.248.61	2009-03-16	16
2.0	ITU-T H.248.61	2013-03-16	16

FOREWORD

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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.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

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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, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at <http://www.itu.int/ITU-T/ipr/>.

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Recommendation ITU-T H.248.61

Gateway control protocol: Packages for network level ITU-T H.248 statistics

1 Scope

1.1 Introduction to areas with usage of ITU-T H.248 statistics

ITU-T H.248 statistics are defined and used for different purposes. There are four major categories identified, see clause 1.1 of [ITU-T H.248.58].

1.2 Scope of ITU-T H.248 statistics defined by this Recommendation

The scope of this Recommendation is related to ITU-T H.248 statistics defined, in particular, for measurements on the network protocol layer. A potential application is the validation of network capacity allocations.

Figure 1 illustrates the different scopes of several packages with octets count statistics on different protocol layers. The IP layer octets count statistics package provides statistics on Internet Protocol (IP) layer.

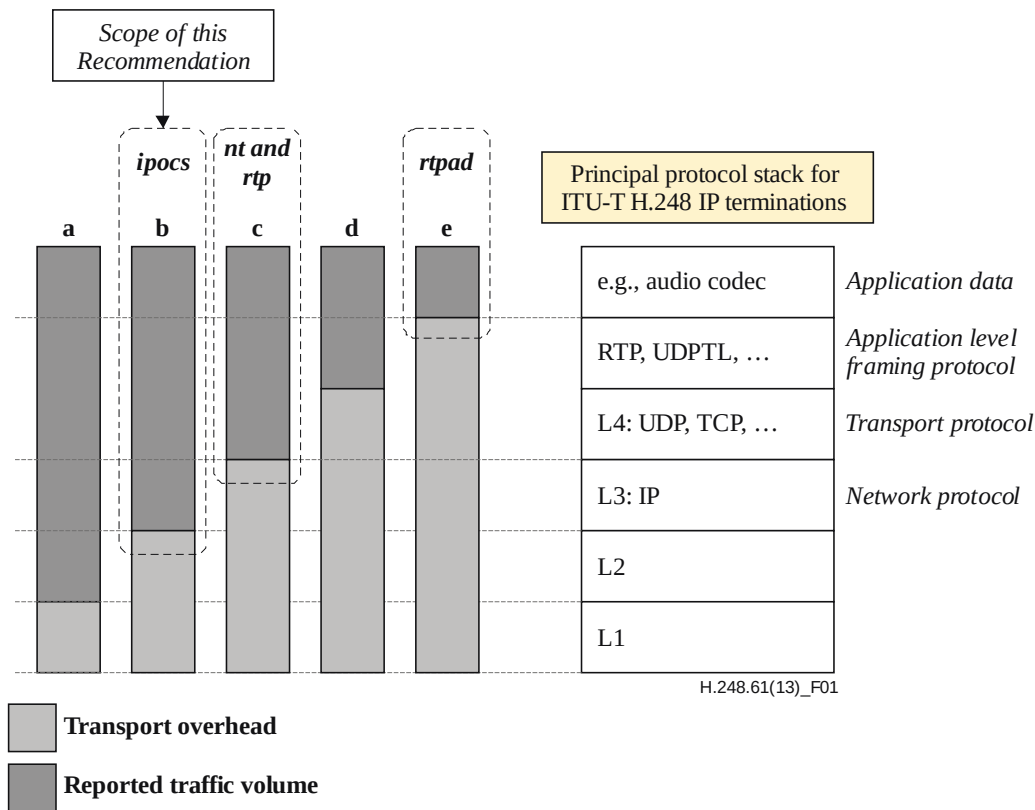


Figure 1 – Semantics of the ipocs package versus rtpad package and nt and rtp packages

The ipocs package provides complementary statistics with regard to other packages for octets count measurement of different protocol layers.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were 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 Recommendations 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 H.248.1] Recommendation ITU-T H.248.1 (2013), *Gateway control protocol: Version 3*.
- [ITU-T H.248.43] Recommendation ITU-T H.248.43 (2008), *Gateway control protocol: Packages for gate management and gate control*.
- [ITU-T H.248.53] Recommendation ITU-T H.248.53 (2009), *Gateway control protocol: Traffic management packages*.
- [ITU-T H.248.58] Recommendation ITU-T H.248.58 (2008), *Gateway control protocol: Packages for application level H.248 statistics*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 flow (see clause 3.3 of [b-ITU-T Y.2121]): A unidirectional sequence of packets with the property that, along any given network link, a flow identifier has the same value for every packet.

3.1.2 flow identifier (see clause 3.6 of [b-ITU-T Y.2121]): A vector (or n-tuple) comprising the values of a number of elements taken from the IP, TCP/UDP header fields, encapsulation header, and label fields attached to a packet. The flow identifier for a flow within a single IP network is unique.

NOTE – The header fields values are not limited to TCP/UDP other layer 4 protocols may also be used.

3.1.3 measurement point (see clause 3.9 of [b-ITU-T M.2301]): The physical or logical point at which measurements can be made and to which the data obtained is related.

3.1.4 IP bearer (see clause 3.1 of [b-ITU-T Q.1970]): A bidirectional user plane association between two BIWFs for carrying media stream information across IP networks. An IP bearer is an instance of a backbone network connection (BNC) type defined in clause 3 of [b-ITU-T Q.1902.1].

3.2 Terms defined in this Recommendation

This Recommendation defines the following term:

3.2.1 lookup-key: Flow identifier element that can be used for packet classification with regard to ITU-T H.248 Context delivery.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

'QoS'	Codepoint for QoS
B2BIH	Back-to-Back IP Host (mode)
BIWF	Bearer Interworking Function
BNC	Backbone Network Connection

CDIB	Context Delivery Information Base
DA	(L2 or L3) Destination Address
DP	(L2 or L3) Destination Port
FlowID	Flow Identifier (in general) or IPv6 Flow Label (in case of L3-FlowID)
GRE	Generic Routing Encapsulation
ICMP	Internet Control Message Protocol
IGMP	Internet Group Management Protocol
IP	Internet Protocol
IPR	IP Router (mode)
L2VPN	Layer 2 Virtual Private Network
LCD	(ITU-T H.248) LocalControl Descriptor
LD	(ITU-T H.248) Local Descriptor
LSP	(MPLS) Label Switched Path
Lx	Protocol Layer x
MD	(ITU-T H.248) Media Descriptor
MG	Media Gateway
MGC	Media Gateway Controller
MP	Measurement Point
MPLS	MultiProtocol Label Switching
NAT	Network Address Translation
nt	Network Package ID
OSPF	Open Shortest Path First (routing protocol)
PDU	Protocol Data Unit
PROT	(Upper Layer) Protocol
PT	(RTP) Payload Type; (RTCP) Packet Type
RD	(ITU-T H.248) Remote Descriptor; Remote Destination (IP connection endpoint)
RS	Remote Source (IP connection endpoint)
RTCP	RTP Control Protocol
RTP	Real-time Transport Protocol
rtp	RTP Package ID
rtpad	RTP Application Data Package
SA	(L2 or L3) Source Address
SD	(ITU-T H.248) Stream Descriptor
SDP	Session Description Protocol
SP	(L2 or L3) Source Port
SSRC	(RTP) Synchronization Source
TCP	Transmission Control Protocol