

ETSI GS MOI 002 V1.1.1 (2012-07)



Measurement Ontology for IP traffic (MOI); Requirements for IP traffic measurement ontologies development

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Reference

DGS/MOI-0002

Keywords

IP, ontology, requirements, traffic

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Foreword

This Group Specification (GS) has been produced by ETSI Industry Specification (ISG) Measurement Ontology for IP traffic (MOI).

Introduction

Defining a complete set of concepts and their relationship to support coherent developments of traffic measurement systems needs not only an extensive mapping of key performance indicators (KPI), key quality indicators (KQI) and currently used parameters to describe IP networks, but a serious pre-definition of the framework and extension of the ontology to be set up. If it is true that ontologies should be complete and internally coherent, one ought to be aware of the final purpose of establishing such an ontology, namely supporting information systems to achieve IP traffic monitoring and quality of service (QoS) applications that can exchange information and back service level agreements (SLA) up and fulfil the expectations of customers by assuring the quality of experience (QoE).

The present document starts setting up the limits to the ontology that needs to be defined for such purpose. Then, after reviewing the parameters that define IP networks, some use cases are used to analyse which internal specifications should be respected in order to give rise to a coherent ontology for IP traffic monitoring useful for practical purposes.

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1 Scope

The present document identifies the requirements that should characterise an ontology for the semantic conceptualisation of information related to IP traffic measurements. The requirements are obtained through the analysis of use cases spanning across a variety of related application categories and domains of interest, as well as the consideration of additional qualitative needs, such as the protection of personal data. Additional inputs arise from user experience, as well as the 'GS/MOI-010' Work Item study, entitled "Report on information models for IP traffic measurement" [1]. The general difficulty of setting limits to an ontology, taking concepts from outside is also dealt within the present document that states MOI focus on IP traffic measurement concepts and let's side ontologies dealing with other subjects, an easy way to link. Thus a rather practical approach to define MOI ontology will be laid so that further QoS, traffic monitoring and Internet governance issues can be built on top of it by means of semantic tools.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

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2.1 Normative references

The following referenced documents are necessary for the application of the present document.

- [1] ETSI GS MOI 010: "Measurement Ontology for IP Traffic (MOI); Report on Information Models for IP Traffic Measurement".

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] FP7 ICT project MOMENT (Monitoring and Measurement in the Next Generation Technologies).

NOTE: Available at <http://fp7-moment.eu/>

- [i.2] FP7 ICT project PRISM (PRIVacy-aware Secure Monitoring).

NOTE: Available at <http://fp7-prism.eu/>

- [i.3] FP7 ICT project DEMONS (DEcentralized, cooperative, and privacy-preserving MONitoring for trustworthiness).

NOTE: Available at <http://fp7-demons.eu/>

- [i.4] IETF RFC 2330: "Framework for IP Performance Metrics".

- [i.5] ITU-T Recommendation Y.1561: "Performance and Availability Parameters for MPLS Networks".

- [i.6] ITU-T Recommendation Y.1540: "Internet protocol data communication service - IP packet transfer and availability performance parameters".

- [i.7] IETF RFC 2679: "A One-way delay Metric for IPPM".

- [i.8] ITU-T Recommendation Y.1544: "Multicast IP performance parameters".