Performance Metrics Registry

IETF-87 July 31st, 2013

<draft-claise-ippm-perf-metric-registry-00.txt>

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Background

- IETF performance metrics?
  - Some in PMOL (Performance Metric on Other Layers concluded WG)
  - Some in IPPM
  - Some in XRBLOCK (RTP Control Protocol Extended Reports)
  - Some will be coming in IPFIX
  - Must know the IETF structure in order to know where to look
- Performance metrics in the industry?
  - Some in the ITU, some in the IETF, but many proprietary ones

Background

- **This leads to an explosion of performance metrics (esp. duplicates and near duplicates)**

  Sure, there are multiple dimensions. For example: the layer, the reporting protocol

- **However, the industry needs a consolidation of the performance metrics**

The Solution: a Common Template

- RFC 6390, "Guidelines for Considering New Performance Metric Development"
- Performance Metric Definition Template

  Normative

  - o Metric Name
  - o Metric Description
  - o Method of Measurement or Calculation
  - o Units of Measurement
  - o Measurement Point(s) with Potential Measurement Domain
  - o Measurement Timing

The Solution: a Common Template (part 2)

- **Performance Metric Definition Template**

  Informative

  - **Implementation**
  - **Verification**
  - **Use and Applications**
  - **Reporting Model**

RFC 6390 Template for Perf. Metric Definition

- **Template required for semantic comparison**
  - **Example of interarrival jitter (RFC 3550)**
- **Metrics produced in the IETF to follow this template:**
  - **XRBLOCK**
  - **IPPM charter: "Metric definitions will follow the template given in RFC 6390"**
  - **BMWG**
  - **IPFIX?**
- **Performance Metric Directorate**
  - **performance-metrics-directorate**

This Draft Version 00

- **Set up an IANA registry for IETF performance metrics**
- **List the 26 existing RFC 6390-compliant performance metrics**
  - **True, these are not IPPM performance metrics (all are XRBLOCK)**

A Registry: comparison to the IPFIX Registry

Metric Name

Metric Description

Method of measurement or calculation

…

ElementID	Name	Data Type	Data Type Semantics	Status	Description
0	Reserved				
1	octetDeltaCount	unsigned64	deltaCounter	current	The number of octets since the previous report (if any) in incoming packets for this Flow at the Observation Point. The number of octets includes IP header(s) and IP payload.
2	packetDeltaCount	unsigned64	deltaCounter	current	The number of incoming packets since the previous report (if any) for this Flow at the Observation Point.
3	deltaFlowCount	unsigned64	deltaCounter	current	The conservative count of Original Flows contributing to this Aggregated Flow; may be distributed via any of the methods expressed by the valueDistributionMethod Information Element.
4	protocolIdentifier	unsigned8	identifier	current	The value of the protocol number in the IP packet header. The protocol number identifies the IP packet payload type. Protocol numbers are defined in the IANA Protocol Numbers registry. In Internet Protocol version 4 (IPv4), this is carried in the Protocol field. In Internet Protocol version 6 (IPv6), this is carried in the Next Header field in the last extension header of the packet.

Possible Registry Entry

Name	Description	Method of Calculation	Units of measurement	Measurement Points
Type-P-One-Way-Loss	This metric provides a one - way loss measurement covering a single observation of packet transmission (or loss)	RFC2680 Section 2.6	Binary: The value of a Type-P-One-way-Packet-Loss is either a zero (signifying successful transmission of the packet) or a one (signifying loss).	Source and Destination of packets

What's Next? (part 1)

- **We must map the existing IPPM metrics to the RFC 6390 template**

  All the information should be available in the draft

  Example: Type-P-One-way-Packet-Loss-Average (RFC2680)

- **Have to select a subset of all the IPPM metrics**

  RFC 6248 (obsoleting the RFC 4148 registry):

  "It is not believed to be feasible or even useful to register every possible combination of Type P, metric parameters, and Stream parameters using the current structure of the IPPM Metrics Registry."

What's Next? (part 2)

- All information is available in the existing RFCs to fill in the RFC 6390 template?

  Yes, then we can register the IPPM metrics in the IETF performance registry

  No, we must update the metric definitions first

  Maybe part of draft-ietf-ippm-testplan-rfc2680?

draft-bagnulo-ippm-new-registry-independent-01.txt

« method of measurement or calculation »

« method of measurement or calculation » + « units of measurement »

Does not relate performance metric semantic?

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