



Traceroute Metrics and Data Model

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Motivation & Scope

- There is no standard way for exchanging traceroute measurements
 - Local storage
 - Exchange measurement data
 - Accumulate in a measurement database
 - Compare measurements performed by different implementations
- What would be needed for doing so?
 - A metrics defining
 - How to measure traceroutes? (What is the procedure?)
 - What are parameters of a traceroute measurement?
 - Which are the resulting values?
 - An information model defining
 - traceroute parameters
 - traceroute measurement results
 - A data format allowing traceroute information to be stored and transmitted

Status of the draft (I)

- What is there
 - Definition of traceroute
 - description of configuration parameters for most common implementation
 - Known problems with traceroute and alternatives
 - Description of output common to all considered implementations
 - Information model
 - compatible with DISMAN-TRACEROUTE-MIB (RFC 2925)
 - Data types
 - Information elements
 - Measurement parameters
 - Measurement results
 - Security considerations (preliminary)

Glance at the Information Model

Configuration Information Elements

- traceRouteCtlTestName
- traceRouteCtlTargetAddressType
- traceRouteCtlTargetAddress
- traceRouteCtlByPassRouteTable
- traceRouteCtlProbeDataSize
- traceRouteCtlTimeOut
- traceRouteCtlProbesPerHop
- traceRouteCtlPort
- traceRouteCtlMaxTtl
- traceRouteCtlDSField
- traceRouteCtlSourceAddressType
- traceRouteCtlSourceAddress
- traceRouteCtlIfIndex
- traceRouteCtlMiscOptions
- traceRouteCtlMaxFailures
- traceRouteCtlDontFragment
- traceRouteCtlInitialTtl
- traceRouteCtlDescr
- traceRouteCtlType

Results Information Elements

- traceRouteResultsStartDateAndTime
- traceRouteResultsIpTgtAddrType
- traceRouteResultsIpTgtAddr
- traceRouteResultsProbeIndex
- traceRouteResultsProbeHopIndex
- traceRouteResultsProbeIndexPerHop
- traceRouteResultsProbeHopAddrType
- traceRouteResultsProbeHopAddr
- traceRouteResultsProbeHopASNumber
- traceRouteResultsProbeHopGeoLocation
- traceRouteResultsProbeRoundTripTime
- traceRouteResultsProbeResponseStatus
- traceRouteResultsProbeTime
- traceRouteResultsEndDateAndTime

For descriptions, please see the I-D and RFC 2925

Status of the draft (II)

- What is missing
 - Data model (need for rough consensus)
 - Relevant metrics and their definition
 - which metrics to reuse from IPPM one
 - which metrics to be newly defined
 - need to reason if IPPM metrics are robust enough in the traceroute case
 - need to take into account traceroute specific parameters like timeout that may introduce “fake losses”, etc.
 - need to built upon existing implementations
 - Security considerations to be improved
 - something else?

The Data Format Discussion

Formats:	Binary	Plain ASCII	XML
machine parsing	+	0	+
extensibility	0	0	+
consistency check	-	-	+
human readability	-	+	+
storage/link resources	+	0	-
processing resources	+	0	-

More than one data format ???

Shall this become
an IPPM work item?