Enterprise Profile for Precision Time Protocol

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Doug Arnold
Principal Technologist
doug.arnold@meinberg-usa.com

www.meinbergglobal.com
Working Group Last Call Comments

- Question on the logMessagePeriod in the enterprise profile delay response header
- Add unicast discovery and unicast negotiation to the section on "Forbidden PTP Options"
- Additions to security considerations:
  - General security considerations of time protocols are discussed in [RFC7384]. (and add to reference section)
  - Mention that PTP management is not secure and is not recommended
- Editorial nits
PTP Enterprise profile at the ISPCS Plugfest

Tested at the last three ISPCS Plugfest events

ISPCS 2015 Beijing
ISPCS 2016 Stockholm
ISPCS 2017 Monterey

- HW and SW implementations tested
- Commercially available solutions
- Up to nine participating organizations
- Multidomain
- IPv4 and IPv6
Thank you for your attention.

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Intended for enterprise networks, especially in financial companies

Main PTP features:
- Mixed multicast/unicast operation
- Multi domain operation for grandmaster redundancy
History

Proposed by Pedro Estrella of IMC Trading
Challenges Deploying PTPv2 in a Global Financial Company, Pedro V Estrela and Jan L Bonebakker, ISPCS San Francisco, 2012

Draft RFC in IETF
tictoc Working Group
Enterprise Profile for Precision Time Protocol with Mixed Multicast and Unicast

Tested at ISPCS IEEE 1588 Plugfest
2014-2017
Profile

Layer 3
IPv4
IPv6

Delay Request-Response propagation delay measurement
BCs, TCs allowed but not required

Mixed multicast and unicast operation
Pure multicast slaves allowed
Delay Responses sent in same communication mode as Delay Request
Native management allowed, but unicast when directed at one PTP instance
Profile

Message rates
- Default Sync rate (Follow Up): 1/sec
- Default Delay Request rate (Delay Response): 1/sec
- Default Announce rate: 1/sec
- Minimum message rate: 1/128 sec
- Maximum message rate: 128/sec

Multi-domain operation
- Network elements may include PTP instances in multiple domains for redundancy

No performance criteria defined