Precision Time Protocol
Enterprise Profile

draft-ietf-tictoc-tpo-enterprise-profile-02.txt
IETF 86, Orlando, March 2013

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Overview of Draft

- Designed for Enterprise IT networks
  - Early adopters of PTP in enterprise are High Frequency Trading Firms
  - At least two PTP equipment vendors currently support most of proposed profile as proprietary solutions
  - Originally proposed by Network Architect from IMF

- Major PTP properties
  - Layer 3
    - IPv4 or IPv6
  - End to end delay request mechanism
  - Multicast sync and announce messages
  - Delay requests/responses can be multicast or unicast
    - Unicast recommended
  - No unicast negociaHon
Current Status

• First draft submitted to IETF TICTOC for comments
• 74 comments posted (though some are repeats)
  – Thanks to Laurent Montini, Tal Mizrahi, John Fletcher, John Eidson, Silvana Rodrigues, Stefano Ruffini, Samer Darras for reviewing draft
• Expect to submit updated draft before next IETF meeting, addressing all comments
General Comments

Q: What is specific to enterprise networks to require a profile?

A: PTP has a large number of options
   – not all compatible
   – does not work well without making choices
   – Many enterprise system designers requesting a similar configuration

Q: Does the proposed profile contain too many options and modes?

A: We want to cover as many use cases as possible, as long as Enterprise profile compliant clocks will interoperate.
Q: Where does ±1 μs requirement come from?
A: Commonly sited as a desirable and achievable goal for PTP systems.
   – For example ISPCS 2011 Keynote Address: “Time Synchronization and Financial Trading,” Peter Lankford, Securities Technologies Analysis Center

Q: Without unicast negotiation, how will message rates be determined?
A: Message rates will be determined by configuring each ports. Master ports will answer delay requests to the best of their ability.
   – Less robust than telecom profile
   – Less configuration required than telecom profile