

Precision Time Protocol Enterprise Profile

draft-ietf-tictoc-ntp-enterprise-profile-02.txt
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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 negotiation

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.

General Comments (cont)

Q: Where does $\pm 1 \mu\text{s}$ requirement come from?

A: Commonly cited 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