

PPSP Extended Tracker Protocol (PPSP-TP/1.1)

draft-huang-ppsp-extended-tracker-
protocol-04

PPSP WG

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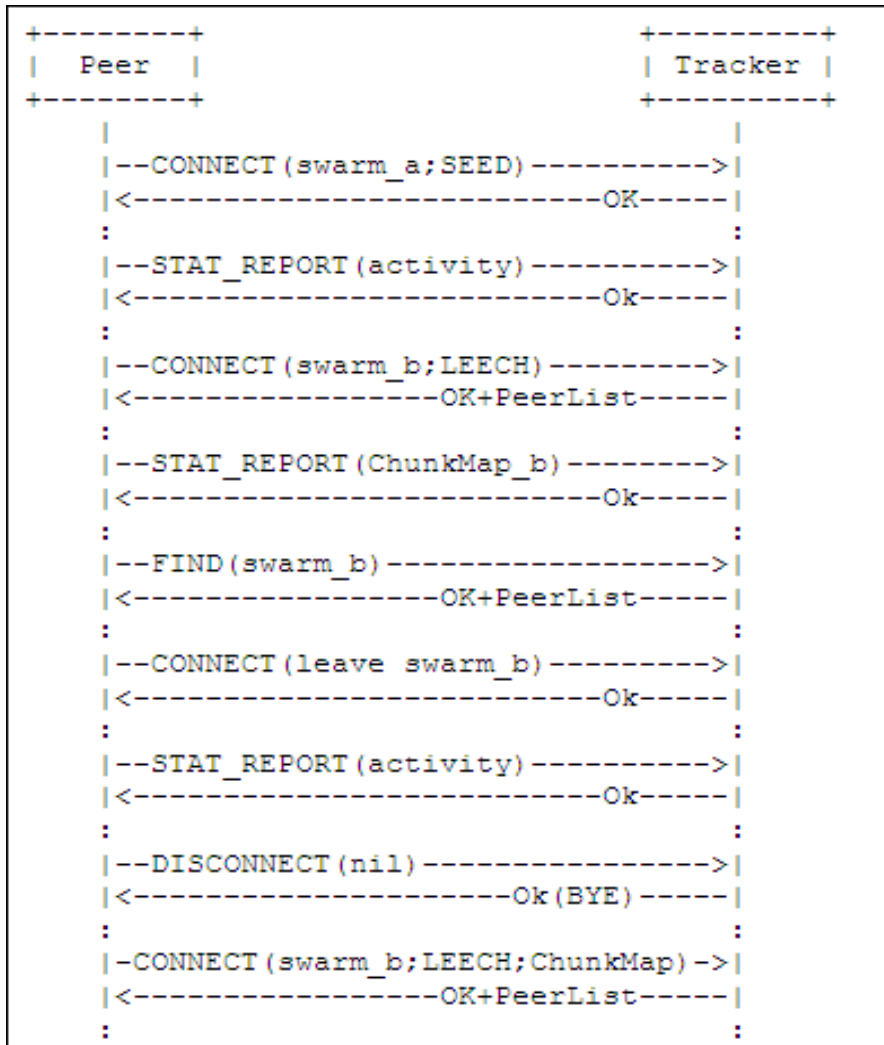
Motivation

- Issues which base tracker protocol may not be able to deal with.
 - Issue 1: Peer list obtained before has been out of date.
 - Issue 2: The network address of the peer may be changed during the session.
 - Issue 3: Lacking the ability to disconnect from the tracker using one message when the peer is participating in multiple swarms.
 - Issue 4: Lacking the ability to stream the content from certain specific point.
- Base tracker protocol needs to be extended.

Protocol Design

- Base tracker protocol is simple while extended tracker protocol deals with more complex scenarios.
- Including 2 new optional messages and enhancing the old messages.
- Consistent with the architecture of the base tracker protocol (PPSP-TP/1.0).
- Retro-compatible with base tracker protocol (PPSP-TP/1.0).
- As a complement for base tracker protocol (PPSP-TP/1.0).

Extended Tracker Protocol Overview



- 2 Enhanced Messages derived from PPSP-TP/1.0
 - CONNECT : specific chunks of a content information.
 - STAT_REPORT : content information
- 2 optional messages
 - DISCONNECT: leave the system
 - FIND: obtain the peer list for the swarm or for specific chunks of a content for swarms already joined
- Compatible with base tracker protocol

Enhanced Request Messages

- **CONNECT**

- Extended to allow including the information of specific content scopes.
 - Media content representations or specific chunks of a media representation in a swarm.
- Solve issue 3.

- **STAT_REPORT**

- Extended to allow exchanges of content data information between peer and tracker, e.g. chunkmaps.
- Solve issue 3

New Request Messages

- **DISCONNECT**

- To inform a tracker that the peer intends to leave the system.
- When receiving this message, tracker deletes the corresponding activity records related to the Peer-ID and de-registers the Peer-ID from the tracker.
- Solve issue 2.

- **FIND**

- Used by a registered peer which would like to receive an updated peer list for the swarm it participates in or for the specific chunks of a swarm it participates in.
- The peer **MUST** be LEECH
- The peer may specify the Chunks of interest in a content and restrict the number of candidate peers to receive from the Tracker
- Solve issue 1&3.

Comparing from Last Version

- We re-designed the extended tracker protocol to make it more simple and reasonable.
 - Delete the REGISTRATION request, since we don't have a scenario where registration is mandated.
 - Delete the JOIN request, since CONNECT message already have the ability of JOIN
 - Revise the DISCONNECT request to avoid overlapping with the functionality of CONNECT (leave x) message.
- Other editorial changes.

Next Step

- Any comments?