

# Diameter Group Signaling

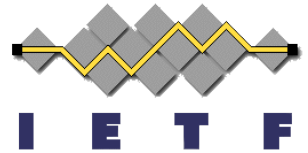
Thursday, March 28, 2012

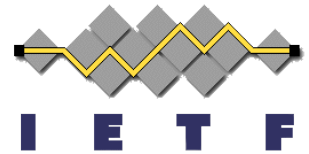
draft-jones-diameter-group-signaling-01

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# Motivations

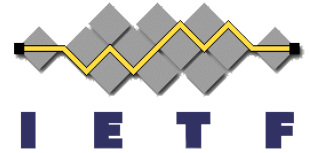
- Reduce signaling in those use cases that require many Diameter sessions to be modified or terminated at the same time.
- Add group signaling to existing Diameter applications with minimal impact and ambiguity.
- Describe the problem space in an application neutral fashion (best practices?) to aid other SDOs in tackling this problem.



# Two Problem Aspects

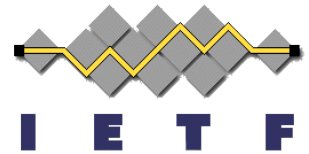
1. Managing group assignments.
  - How to add or remove sessions from groups.
  - Guidelines for modifying group assignments.
  - Permission model (or not)
2. Manipulating groups of sessions
  - Defines new group command equivalents for RAR/RAA, ASR/ASA and STR/STA.
  - Defines the session state machine for these new commands.

# Managing Group Assignments

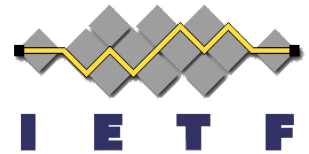


- In the current version of the draft:
  - Either Diameter peer may assign a session to a group.
  - Mid-session modification of group assignments are allowed.
  - A Diameter peer may remove the group(s) assigned to the active session by its peer.
  - However, Diameter applications may impose a stricter model or forbid some functions.

# Manipulating Groups of Sessions



- Current version of the draft proposes defining new group command equivalents for the group actions.
- Only RFC3588 equivalents defined so far.
  - No intent to define NASREQ/DCCA equivs.
- Alternative approaches have been proposed:
  1. Use existing commands
  2. Bulk command container
  3. New group command flag



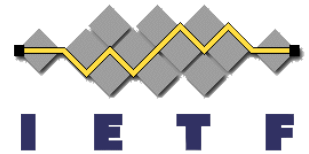
# New Group Commands

- New Diameter application is mandatory.
- New group commands do not have the same ABNF as non-group commands.
  - Session-Id is not present.
  - Other AVPs may be absent/present depending on application-specific restrictions.
- CER/CEA takes care of backwards compatibility.
  - Peers can negotiate down to non-group mode.



# Existing Commands

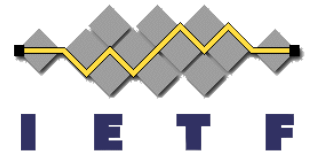
- New Diameter application is mandatory.
- Group commands have same ABNF as non-group commands but a different Diameter application id.
- Session-Id is a required AVP so it is either:
  - re-purposed to contain a group identifier, OR
  - ignored, new 'optional' AVP contains group identifier.



# Bulk Command Container

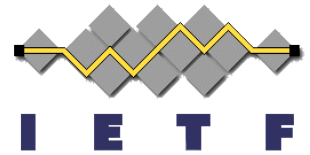
- New Diameter application is mandatory.
- Single new command is defined, serving as container for all group commands.
- Actual group command code added as AVP
- Bulk command container contains a group identifier and \* [ AVP ].
- Presence of further AVPs depends on which group action is being performed.





# New Group Command Flag

- New Diameter application is mandatory.
- New Group flag is introduced in the command flags field.
- Group commands have same ABNF as non-group commands but a different Diameter application id.
- (Ed: It is unclear to me what the advantages are over simply reusing existing commands ABNF.)



# Next Steps

- Complete guidelines for managing group assignments.
- Pick ONE method for Manipulating Groups for Sessions.
  - All methods could work.
  - Don't want a long drawn out beauty contest.
- Question for DIME WG:
  - Adopt this draft as a basis for addressing the new group signaling charter item?