GRASP Application Programming Interface

draft-ietf-anima-grasp-api-01

Brian Carpenter (editor)
Bing Liu (editor)
Wendong Wang
Xiangyang Gong

IETF 101
March 2018
Topics

- Reminder
- Changes
- Open issues
- Request for help
- Discussion, next steps
Reminder: model

ASA 1

ASA 2

ASA 3

ASA 4

API

Function library

Unicast sockets

GRASP core

Internal Functions

Discovery logic

Discovery multicast handler

Caches: (Discovery, Objectives, Flooded objectives, Sessions)

Flood multicast handler

Multicast sockets

IPC
Brief summary of calls

- register (asa or objective)
- discover(objective)
- 5 negotiation calls
- 2 synchronization calls
- 2 flood calls
Changes since IETF 101

- Expanded and improved description of event-loop model (next slide)
  - Review needed!
- Minor technical corrections
- Editorial improvements
Event loop model

- In an event loop, blocking calls are not OK, so all API calls must be non-blocking.
- The main loop supports multiple GRASP sessions in parallel by repeatedly checking each one for a change of state.
- The API will provide non-blocking versions of all functions that involve waiting. A 'noReply' code is returned instead of blocking, until the awaited event (or a failure) occurs.
Open issues

• A few GRASP features lack API support in the current spec:
  – explicit locators for an objective
  – rapid mode synchronization
  – rapid mode negotiation

• Do we need an IANA registry for the error codes?
Need help

- Mapping to Python threading was easy
- **Still** need help on developing a robust mapping to C event-loop
  - Early draft of header file at
    - https://github.com/becarpenter/graspy/blob/master/graspi.h
Discussion + next steps

• Comments? Questions?