Topics

• Purpose of draft & Contents
• Logical Structure of an ASA
• Interaction with the Autonomic Infrastructure (ANI)
• Design of GRASP Objectives
• Security
• Discussion, next steps
Purpose

• This document is intended to guide ASA writers in the general design of their code.
  - We expect ASAs to be written by a wide variety of programmers, specialised in the autonomic function concerned.
  - They are not expected to be GRASP experts. An API description will not be enough.
Overview of contents

• Logical Structure of an ASA
• Interaction with the Autonomic Infrastructure (ANI)
• Design of GRASP Objectives
• Life Cycle [TBD]
• Coordination [TBD]
• Security Considerations
Logical Structure of an ASA

- Multi-threaded (preferred)
  - or Event Loop structure
- Initialization
  - Create data structures such as Objectives
  - Register ASA and its Objectives with GRASP
  - Acquire Intent or relevant parameters
  - Launch self-monitoring thread
  - Enter main loop
ASA Main Loop

- Main loop depends on the specific function, but may launch:
  - a background thread to flood an objective
  - thread(s) to handle incoming synchronization or negotiation requests
  - thread(s) to send synchronization or negotiation requests
  - thread to manage subsidiary non-autonomic devices
Interaction with the ANI

• Interaction with GRASP via its API
• Interaction with the ACP (should normally be hidden by GRASP)
  – or alternative security mechanisms (also normally via GRASP)
• Interaction with Intent mechanism (future work)
Design of GRASP Objectives

• General rules are in GRASP specification.
• Important: GRASP does not provide transactional integrity. Locks and atomicity are the job of the ASA.
• The ‘value’ of an Objective is only limited by CBOR; virtually any data structure is possible. Formats such as JSON or YANG over CBOR are fine if the ASA understands them.
Security Considerations

- GRASP messages are secured by the ACP (or an alternative such as TLS).
- Any non-GRASP communications SHOULD use the ACP if possible and MUST be secured.
- Authorization of ASAs is for future study
Discussion + next steps

- Comments? Questions?
- Additional authors needed for Life Cycle and Coordination
- Should the WG take up this topic?