Information Distribution over GRASP

(draft-liu-anima-grasp-distribution-01)

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Reminder of 00 version

- Technical requirements - Node behavior
  - Flooding behavior
    - loop avoidance
  - Selective Flooding
  - Point to Point exchange
- Technical requirements - Protocol
  - Indicate the distributed information
    - The autonomic nodes need to know which messages are to be distributed
  - Indicate the selective flooding criteria
    - the node needs to be indicated which interfaces/addresses sho uld be sent the distributed information.

In 01 version

- Technical requirements - Node behavior
  - Flooding behavior
    - loop avoidance *relevant mechanism added in GRASP-04*
  - Selective Flooding *relevant mechanism added in 01 version*
  - Point to Point exchange
- Technical requirements - Protocol
  - Indicate the distributed information
    - The autonomic nodes need to know which messages are to be di stributed *New "Flood Sync" message in GRASP-02*
  - Indicate the selective flooding criteria
    - the node needs to be indicated which interfaces should be sent t he distributed information. *Added in 01 version*

Selective Flooding Mechnism

- Selective flooding criteria
  - Matching condition: which represents the criteria of the selection *(e.g. "Device role=IPRAN_RSG")*
  - Matching objective: the matching objective is either the node itself or the ne ighbors *(e.g. “Neighbors”)*
  - Action: the action is either continuing the distribution or terminating it *(e.g. "Distribute“)*
- Node behavior
  - 1) The distribution initial node Includes the Selecting Criteria in the distribute d information.
    - [Open Question] Include the criteria in the GRASP message or the distribution content ?
  - 2) The receiving node does the matching indicated by the Selecting Flooding Criteria
    - Matching Objective="Neighbors“: the node only distributes the information to the nei ghbors who match the Matching Condition.
    - Matching Objective="Self“: if matched, the node terminates the distribution (not flood ing it to any of the neighbor)

Open Issues (1/2)

- L3 flooding?
  - Is there need for replicate the message to all IP addresses th at recorded in one node?
- Do we need selective flooding?
  - Pros
    - Avoid some unnecessary message amplification
    - Better security considerations in some scenarios
  - Cons
    - Additional complexity
  - Consideration
    - Selective flooding could be an advanced feature supported by the GRASP-Distribution-Function
    - Basic GRASP module doesn’t need to support it

Open Issues (2/2)

- Autonomic domain boundary
  - Michael B.: ACP has the boundary implication
  - Non-ACP mode out of scope?
- Arbitrary Injecting Point
  - Should every node support initial distribution or only part of the m should?
- Confliction Handling
  - Handle it at the distribution content management level, out of sc ope of distribution behavior/protocol?
- Verification of Distributed Information
  - Information integrity verification
    - Digital signature of the content?
  - Source authorization verification
    - Out of scope?

Comments?

Thank you!

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