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 should 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 distributed *New “Flood Sync” message in GRASP-02*
  – Indicate the selective flooding criteria
    • the node needs to be indicated which interfaces should be sent the distributed information. *Added in 01 version*
Selective Flooding Mechanism

• 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 neighbors (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 distributed 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 neighbors who match the Matching Condition.
     • Matching Objective="Self": if matched, the node terminates the distribution (not flooding it to any of the neighbor)
Open Issues (1/2)

• L3 flooding?
  – Is there need for replicate the message to all IP addresses that 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?

• Conflicting 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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