State Exchange Mechanism for OAM Discovery

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Contents

- List each capability that needs to be communicated
- Review each capability and determine whether it requires any negotiation
- Present the exchange mechanism

STATE Information

- LOCAL_STATE
- LOCAL_OAM_CONFIGURATION
  - Unidirectional Support
- LOCAL_OAMPDU_CONFIGURATION
  - OAM Mode (Active/Passive)
  - Min/Max Rate
  - Max PDU Size
- LOCAL_LOOPBACK_CONFIGURATION
  - Loopback Support
  - Loopback Timeout
- FAR_END_xxx (same as above)

LOCAL_STATE

- **Reflects the current state**

  STABLE

  Indicates that the LOCAL device has seen and is satisfied with FAR_END state information

  Only when both LOCAL and FAR_END devices are in this state can other OAM functions be used

  UNSTABLE

  Indicates that the LOCAL device either hasn't seen or is unsatisfied with FAR_END state

  When either device is in this state, no other OAM functions can be used

LOCAL_OAM_CONFIGURATION

- **Unidirectional Support**

  Interesting info but should not affect STABLE status

LOCAL_OAMPDU_CONFIGURATION

- **OAM Mode (Active/Passive)**
  - Do we only allow a limited subset of connections?
    - Active <-> Passive : STABLE
    - Active <-> Active : STABLE
    - Passive <-> Passive : UNSTABLE
- **Min/Max Rate**
  - Interesting info but should not affect STABLE status
- **Max PDU Size**
  - Default to smaller of local & far_end values

LOCAL_LOOPBACK_CONFIGURATION

- **Loopback Support**

  Interesting info but should not affect STABLE status

- **Loopback Timeout**

  Interesting info but should not affect STABLE status

FAR_END_xxx

- These fields reflect the most recently received FAR_END state information
- Regardless of STABLE or UNSTABLE status

Exchange Mechanism

- Power up sending Status PDUs with only LOCAL state information

  LOCAL_STATE = UNSTABLE

- After receiving a Status PDU, fill in FAR_END state information

  LOCAL_STATE = UNSTABLE

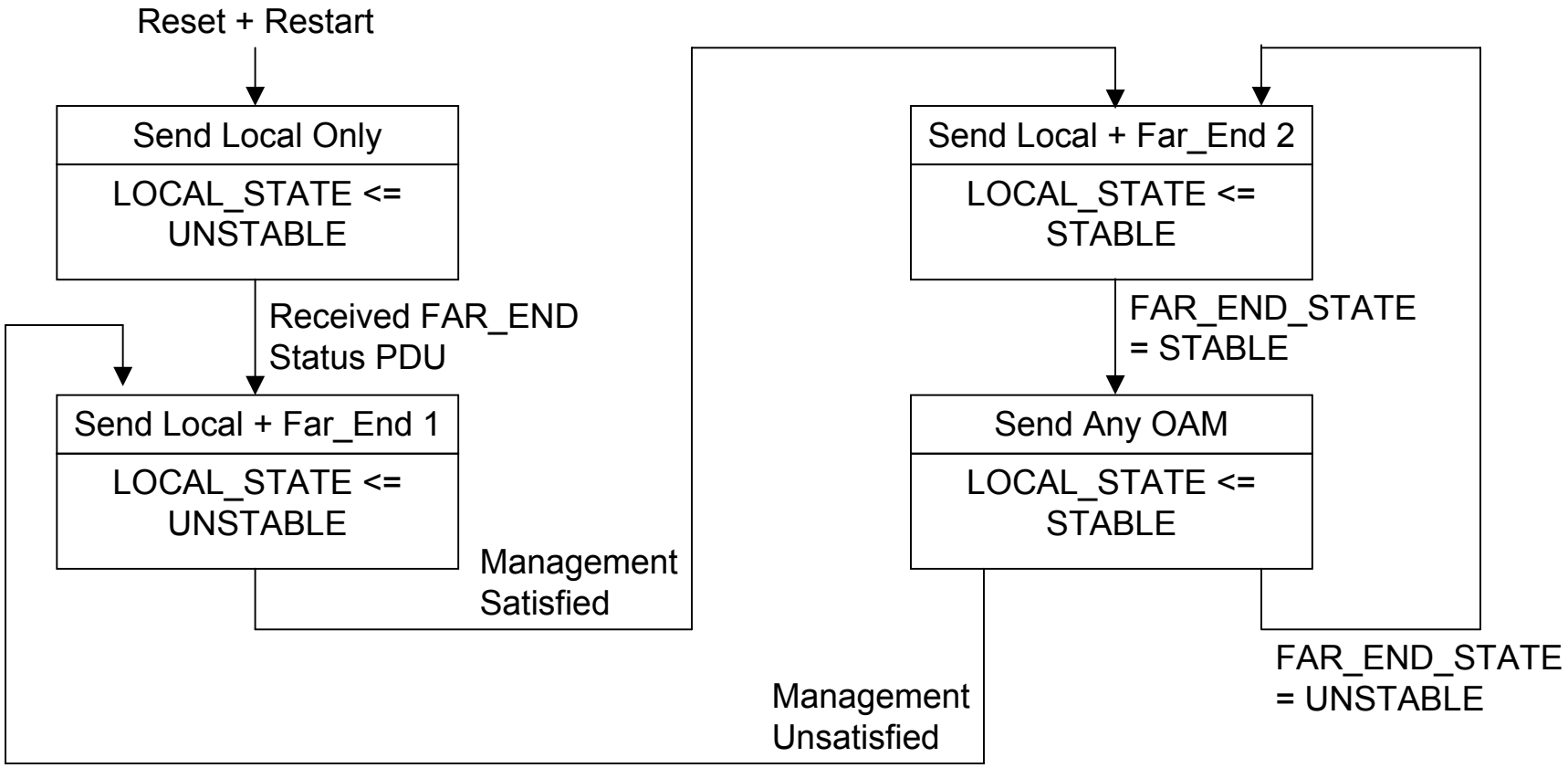
- When “management” becomes satisfied with combination of LOCAL and FAR_END state information

  LOCAL_STATE = STABLE

- When both LOCAL_STATE & FAR_END_STATE = STABLE

  OK to send all other OAM functions

Exchange State Machine



Comments

- Note that just because the FAR_END_STATE = UNSTABLE, the LOCAL device need not change from STABLE to UNSTABLE

  To avoid state oscillation

- It is okay for LOCAL_STATE = STABLE and FAR_END_STATE = UNSTABLE

  This simply inhibits other OAM functions