

ChaMeLeon (CML): Adaptive and hybrid MANET Routing

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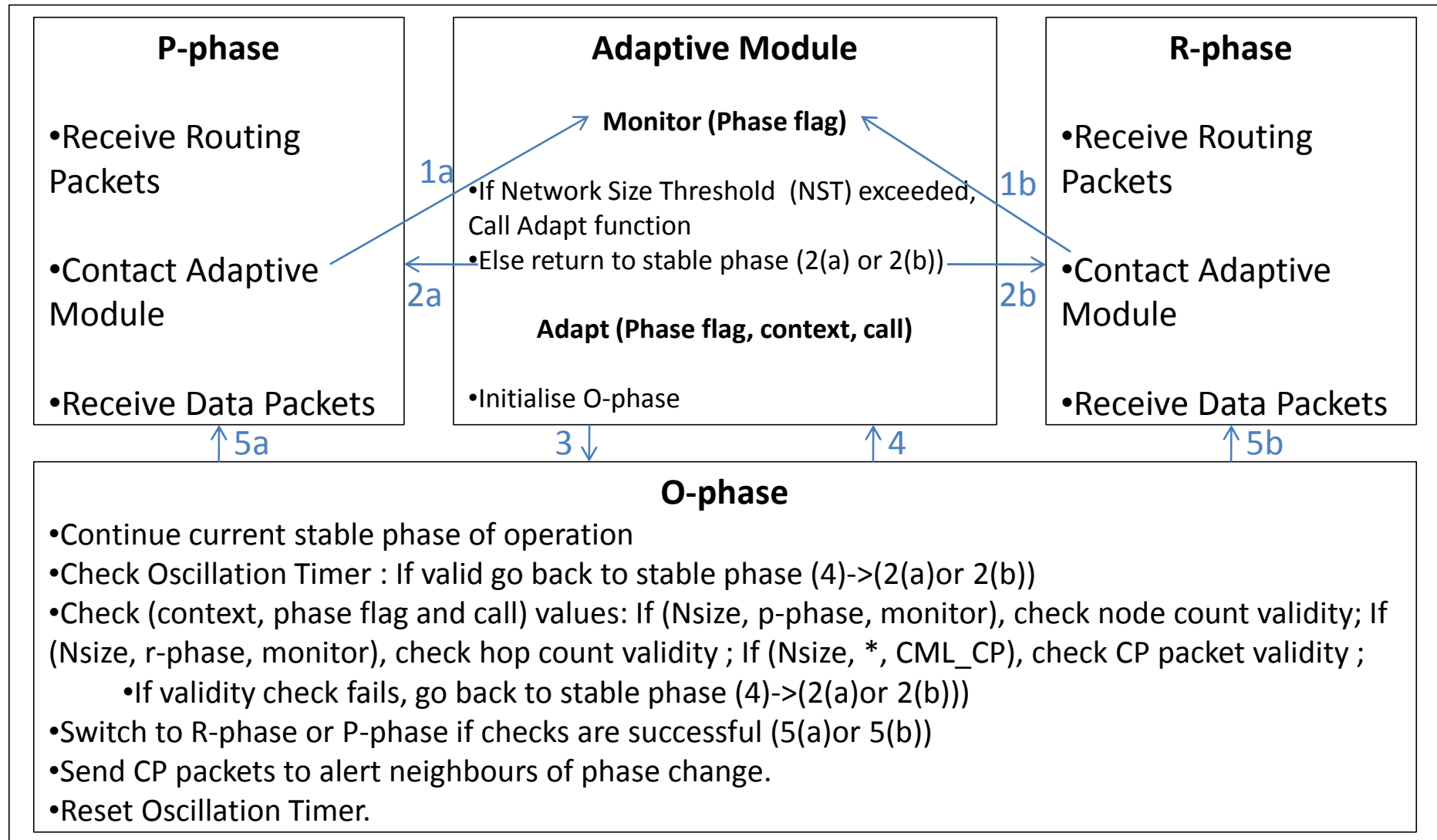
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CML

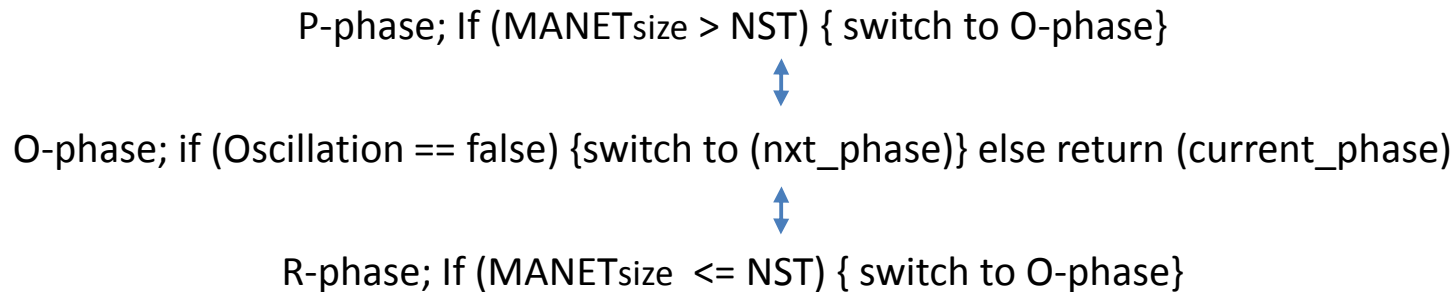
- **Aim:** Increase overall efficiency (delay and jitter) of pure approaches based on the network state.
- **Nature:** hybrid and adaptive.
- **Application:** Primarily designed for emergency MANETs COULD be used for general purpose MANETs.
- **Functionality:** 3 phases of operation (P-phase, R-phase and O-phase).
 - A phase is a routing state including the added interaction with the CML Adaptive Module.
- **CML messages:** Change Phase (CP), Hop Count Request (HCReq) and Hop Count Reply (HCRep) Message.

Algorithm



Features

- Balance point between p-phase and r-phase: Network Size Threshold (NST).



- Max. Hop count = Function (sqrt (Nt))
- Adaptive Module:
 - Monitor Function: Network Size Estimation
 - P-phase: Number of nodes in OLSR routing table
 - R-phase: Using maximum hop count
 - Adapt Function: call the O-phase with the necessary flags
- O-phase avoids group and periodic oscillations.

Mailing list Feedback

– Features:

- Improve efficiency for multimedia services (delay and jitter).
- Save battery power.
- Use of AODV or OLSR with some extensions to each protocol.

– Considerations:

- Defining thresholds (mathematical model).
- Techniques used to avoid network size oscillations.
- Need for network convergence using CML packets.
- Comparison between CML and other protocols.
- Relevance to work on OLSRv2 and DYMO.

Future Directions

- Merge components with OLSRv2.
- Merge components with DYMO.
- CMLv2: OLSRv2 \Leftrightarrow DYMO.
- Link Metric discussions and implementations.
- CML or CMLv2 implementations with new link metrics .
- Contribute more by aligning our future work more closely to MANET WG charter.
- Is there a need for a new charter for emergency MANETs (eMANETs)?