Fairness state machines

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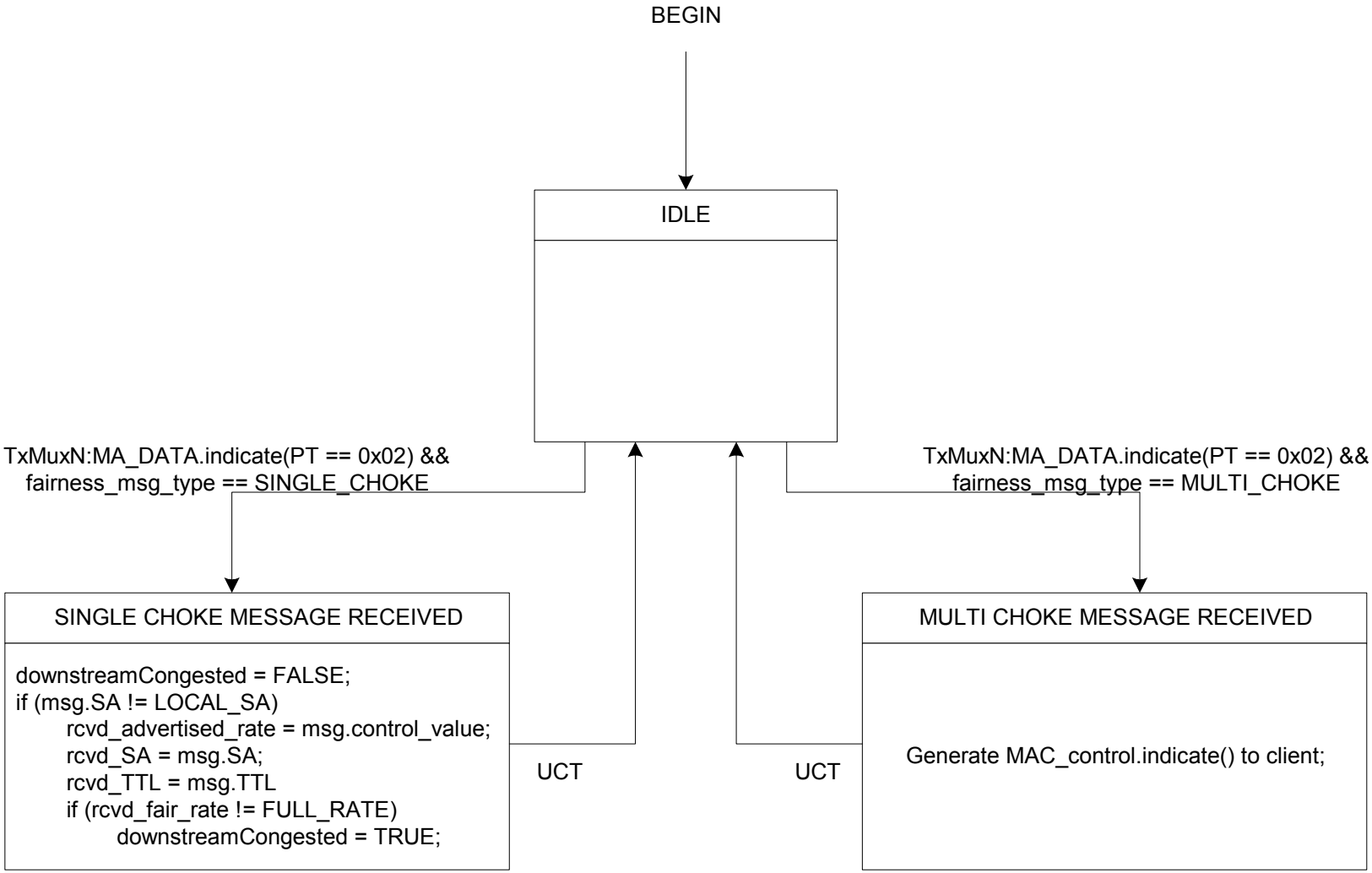
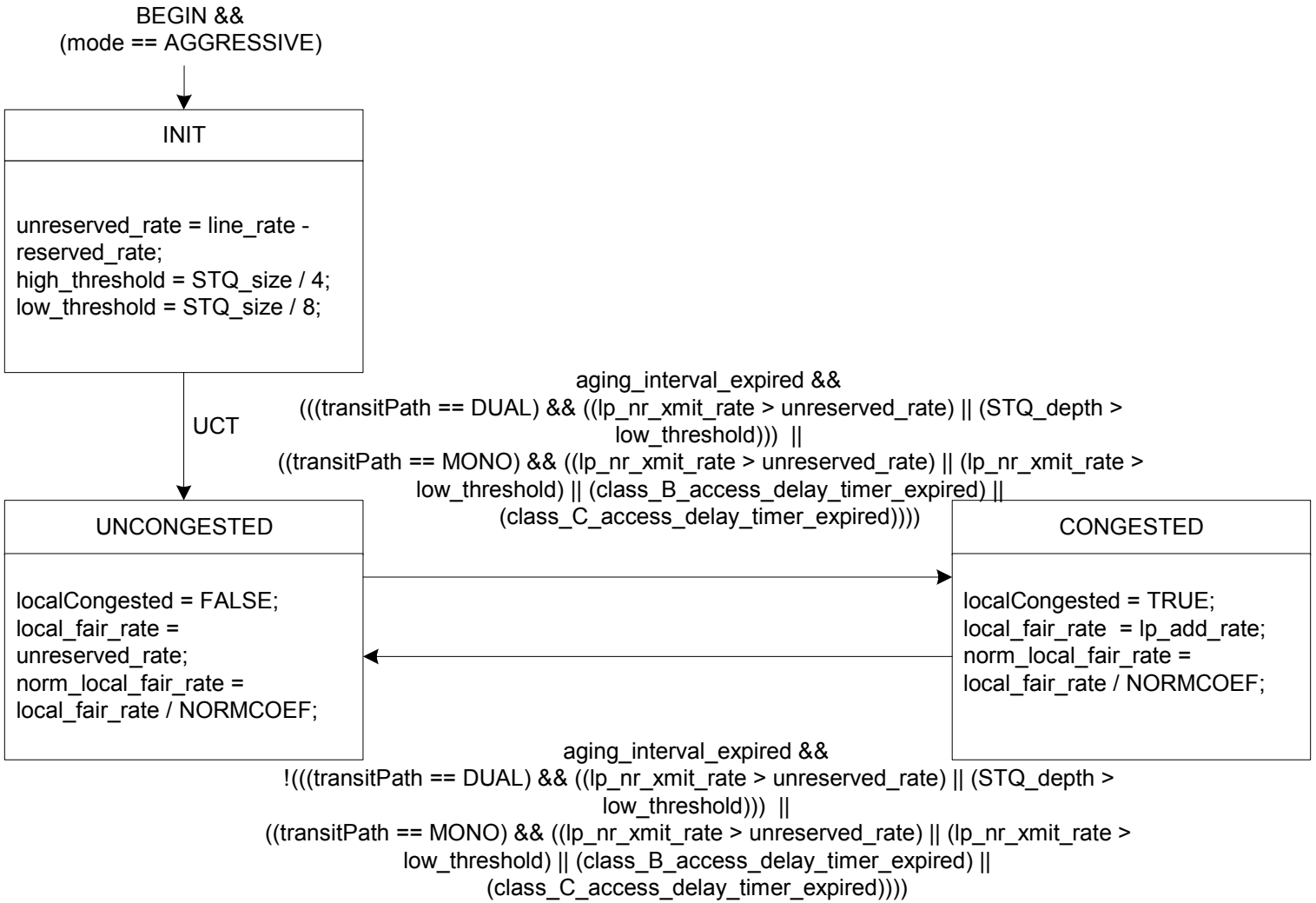
Motivation

- State machines are needed to properly describe the behavior of the MAC
- They help identify “holes” or missing/inconsistent functionalities that may not be clear from a textual description
- State machines are now included in the proposed rewrite for clause 9
- This presentation covers those state machines and identifies problems with them that need to be addressed

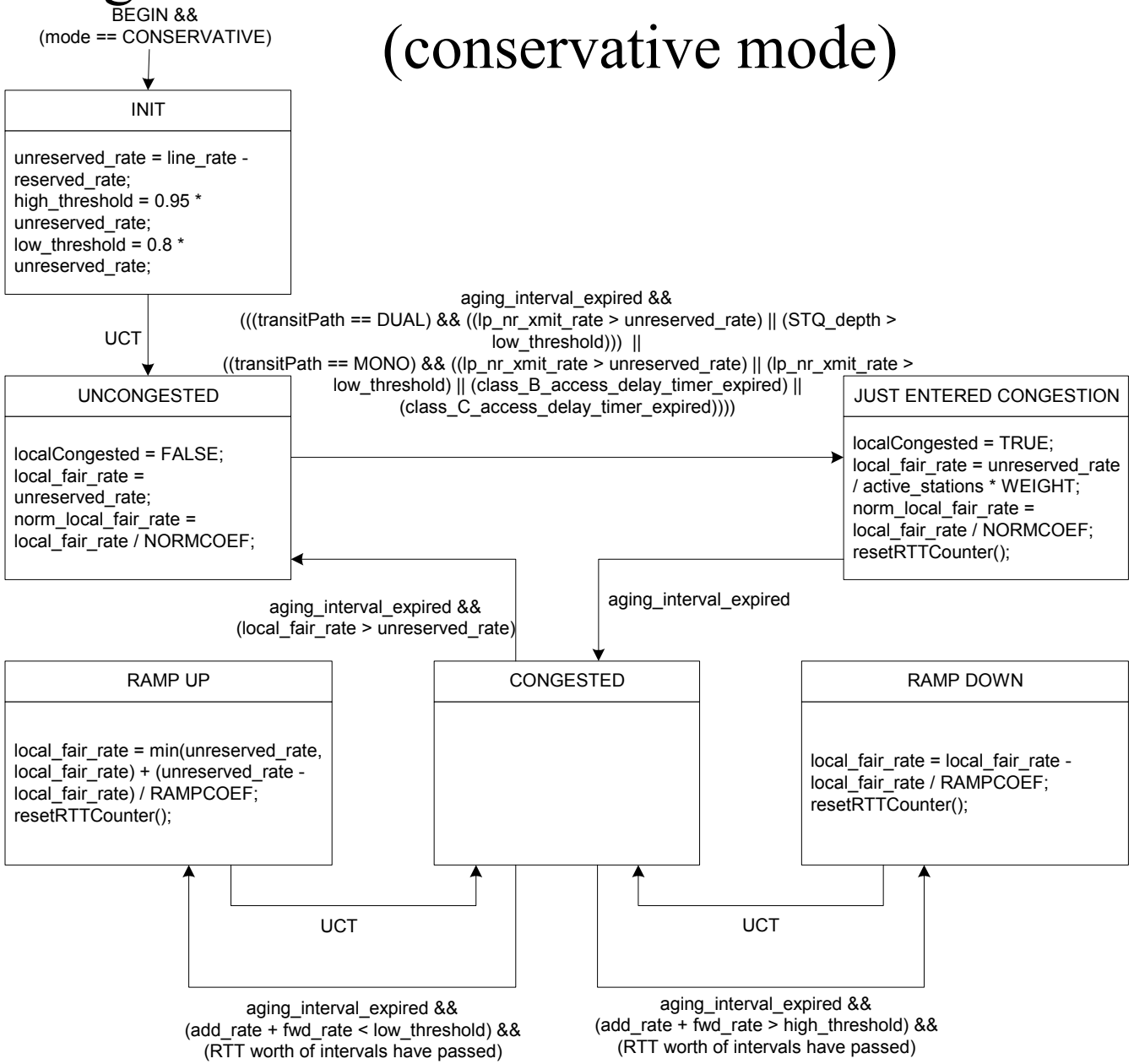
Receive fairness message



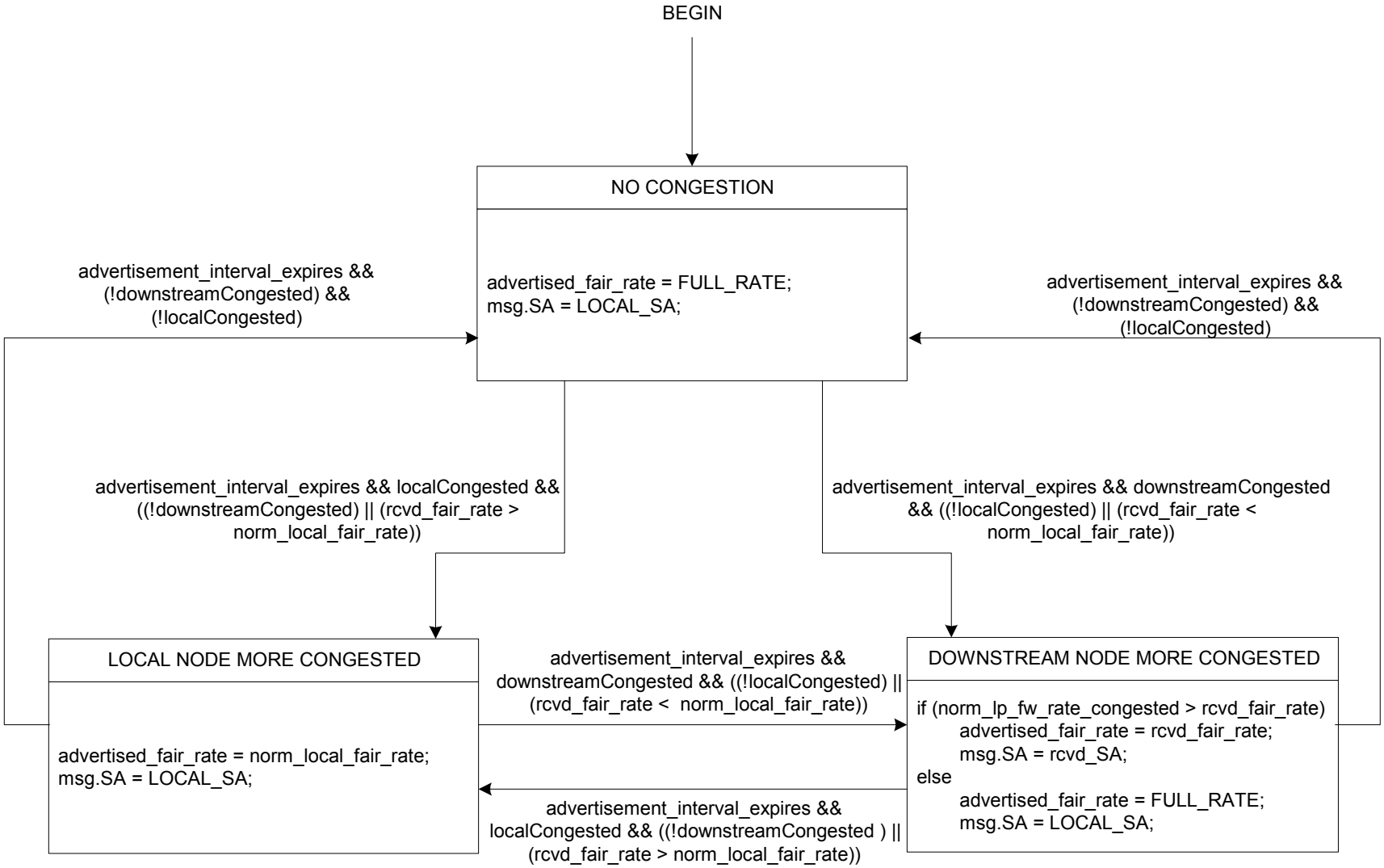
Congestion detection and local fair rate calculation (aggressive mode)



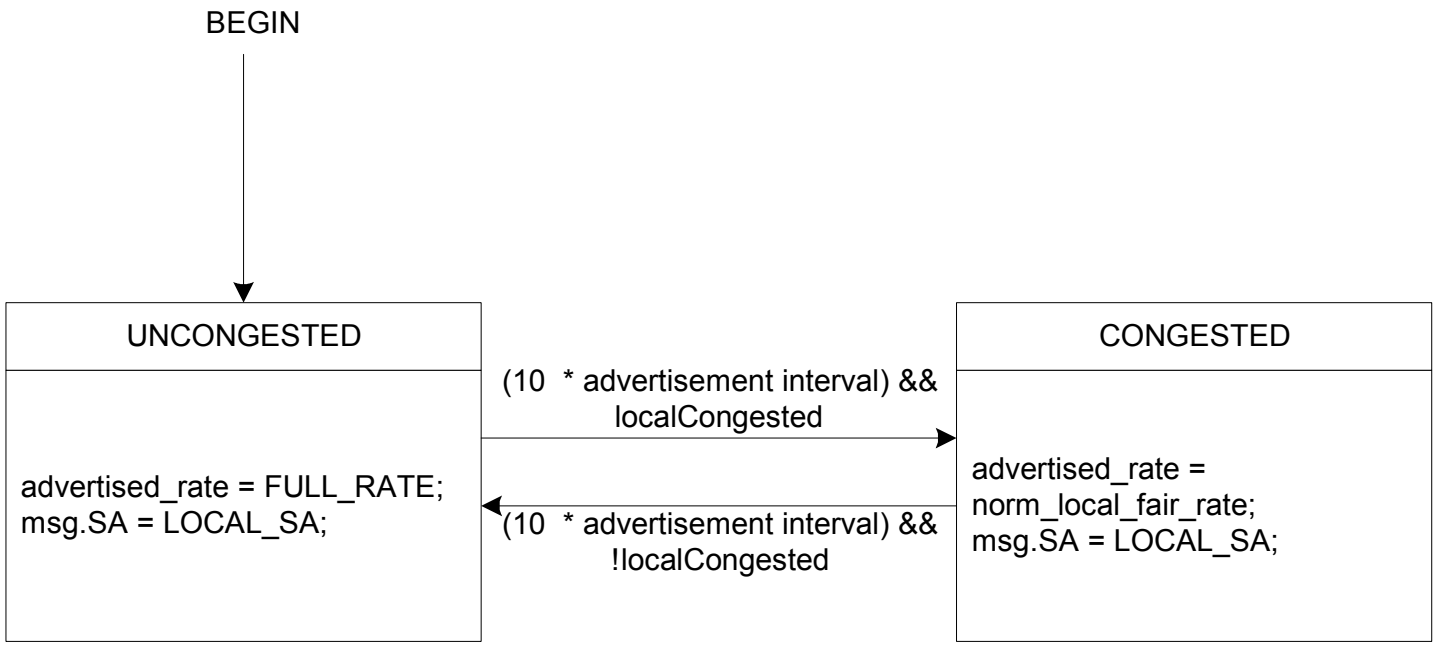
Congestion detection and local fair rate calculation (conservative mode)



Single choke message generation

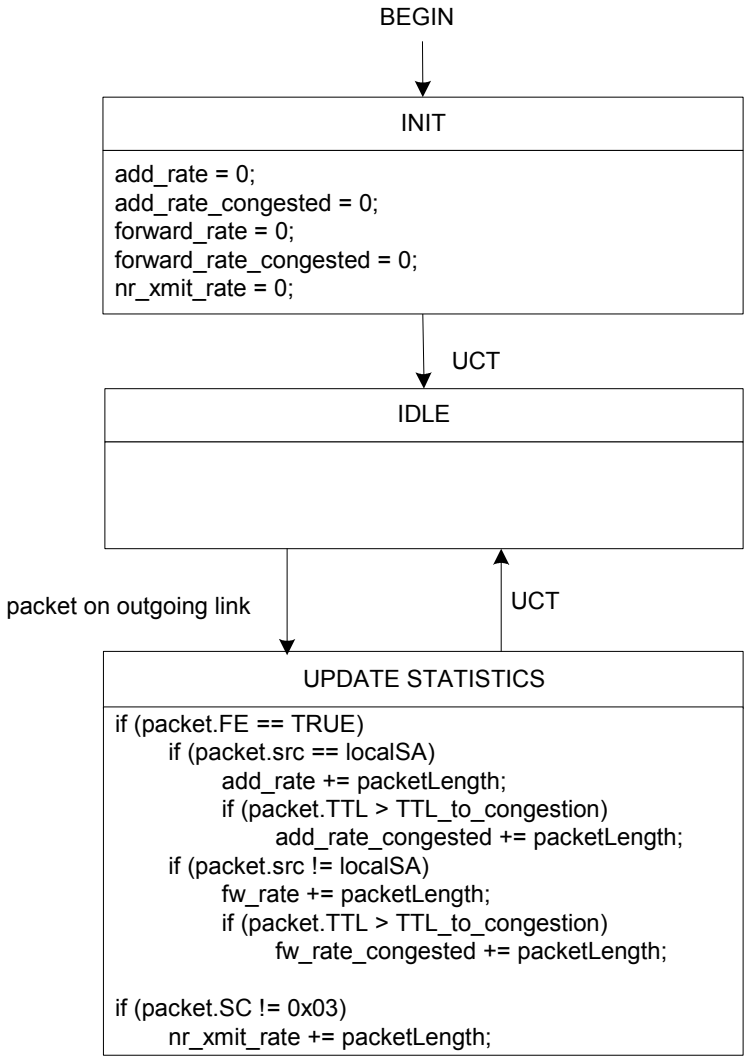


Multi choke message generation

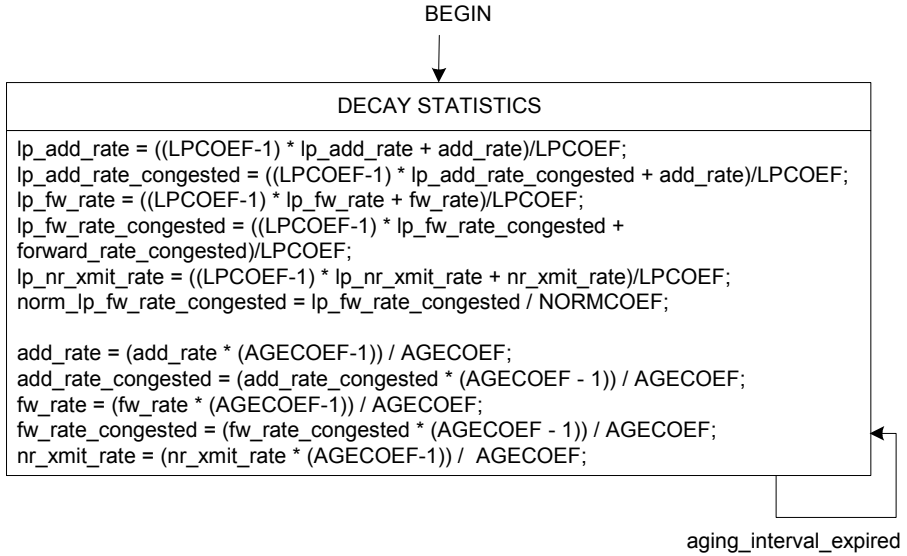


Statistics

Statistics collection



Statistics decay



Some questions

- What are the specifics of MAC_control.indicate()?
- What is the reasoning behind the threshold values? How do these values ensure that the STQ does not overflow?
- What is the reasoning behind Class B and Class C access delay timer values?
- How does the FCU interact with the MAC data path? How are the statistics obtained from the data path? How do the shapers get the needed information from the FCU? How is the TTL_to_congestion value passed to the rate monitors in the data path?