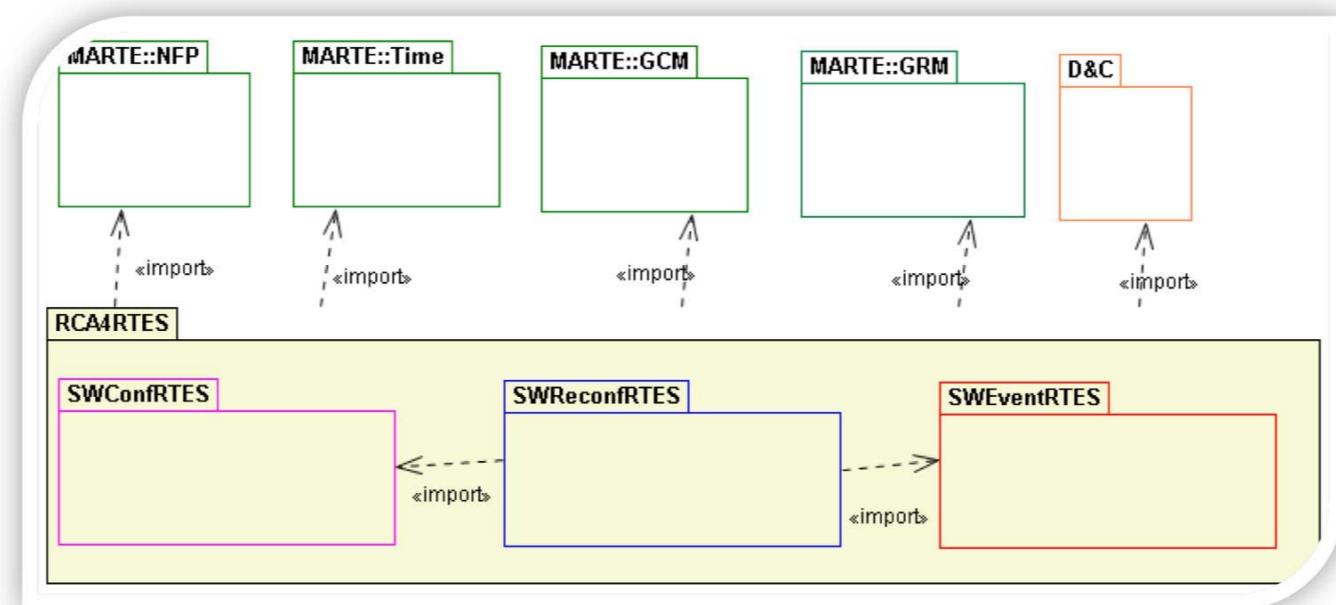


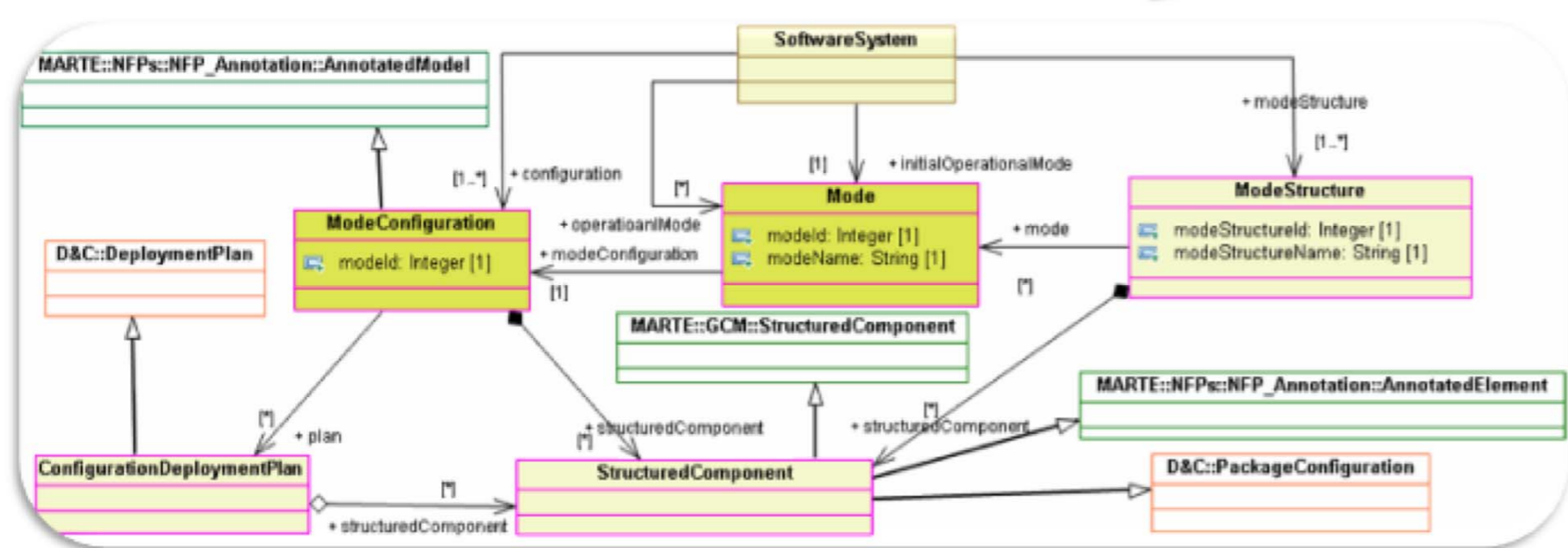
# Designing Dynamic Reconfiguration for Distributed Real Time Embedded Systems

Fatma Krichen, Brahim Hamid, Bechir Zalila, Bernard Coulette

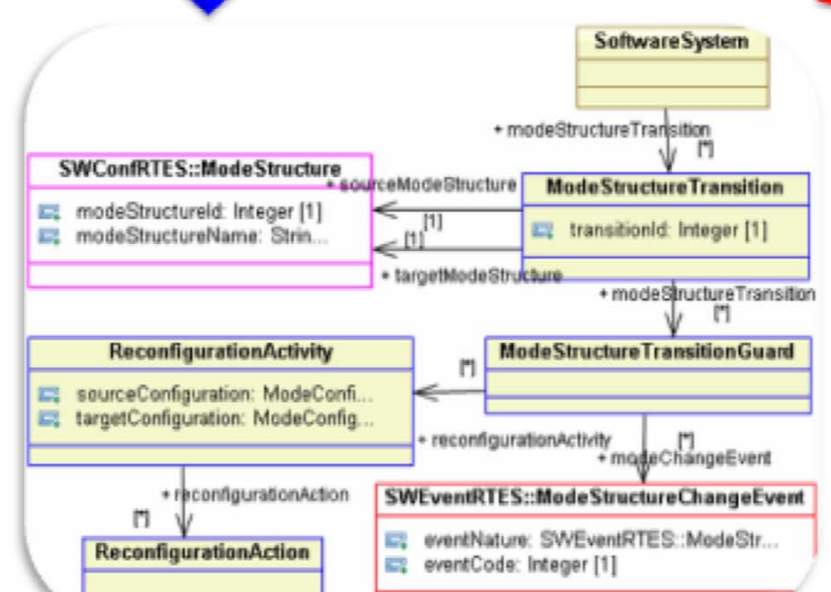
## RCA4RTES meta-model



A new formalism RCA4RTES (Reconfigurable Computing Architectures for Real Time Embedded Systems) meta-model is proposed yielding simple model to specify reconfigurable architectures for distributed real time embedded (DRE) systems based on AADL and MARTE standards



SWConfRTES

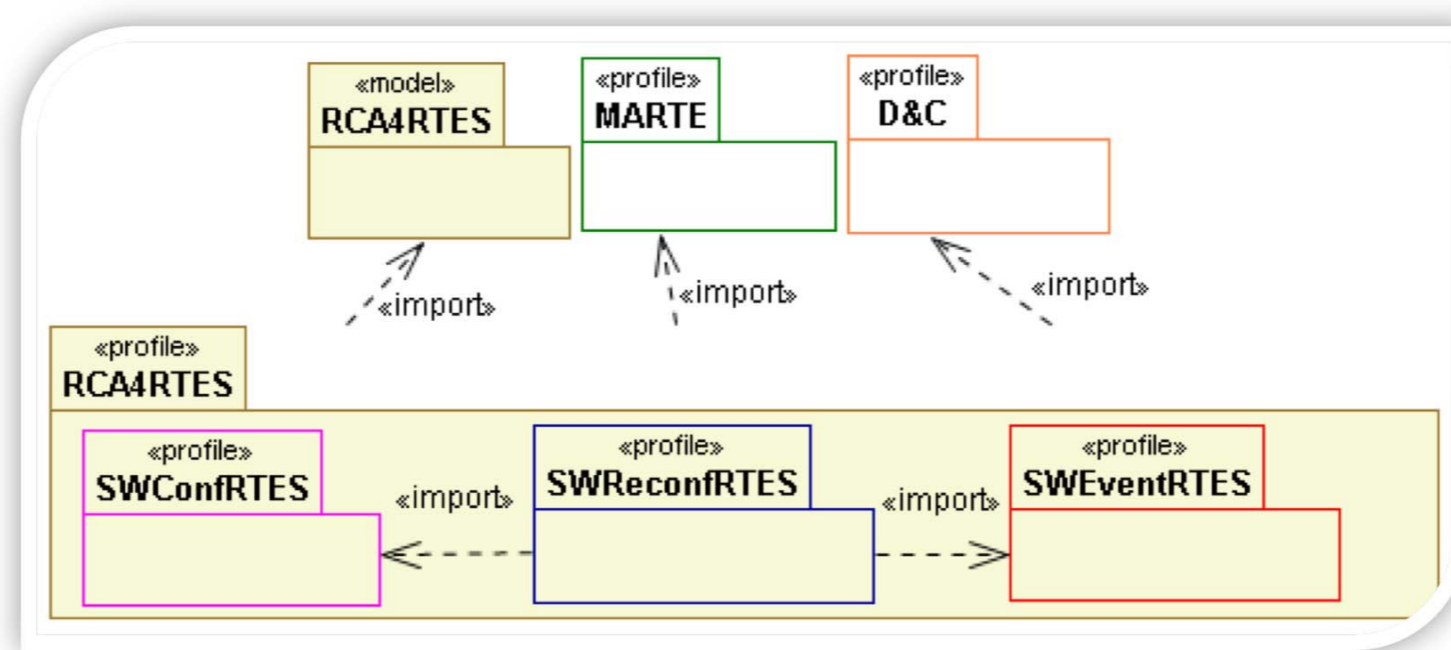


SWReconfRTES

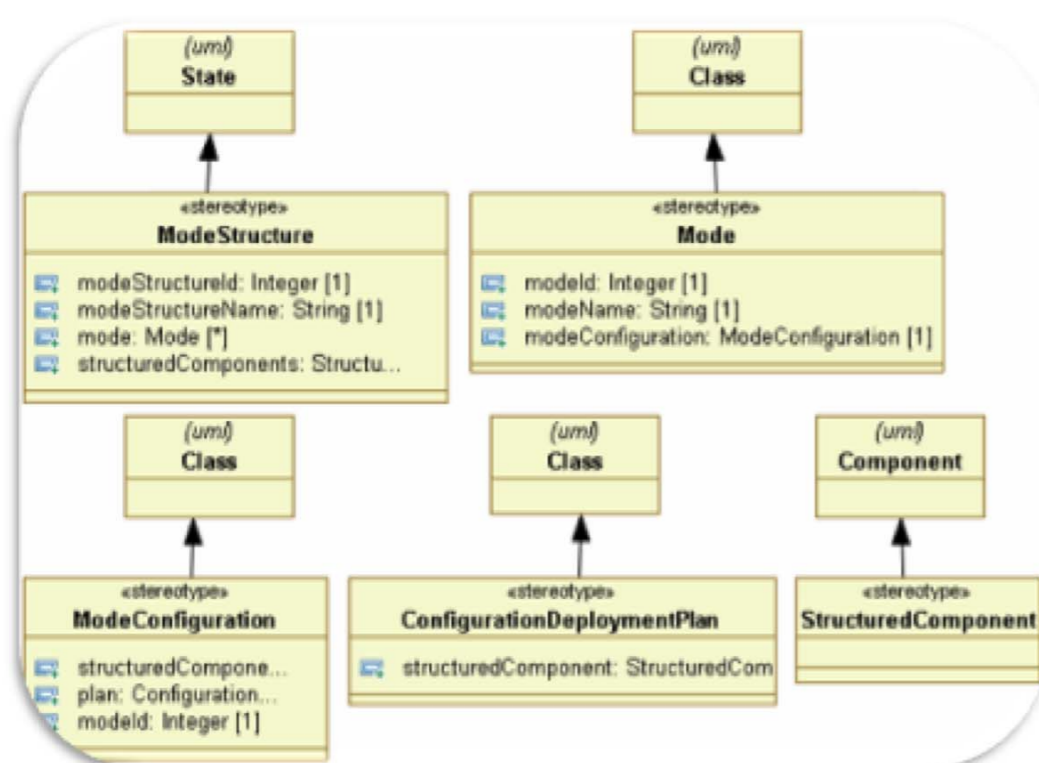


SWEventRTES

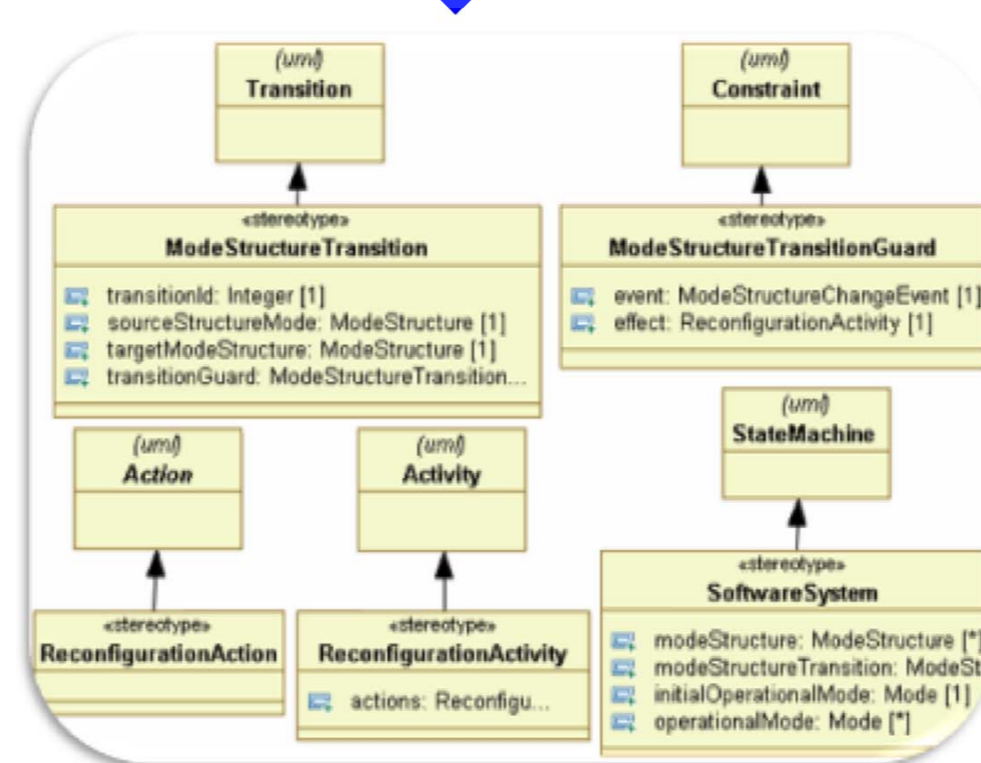
## RCA4RTES profile



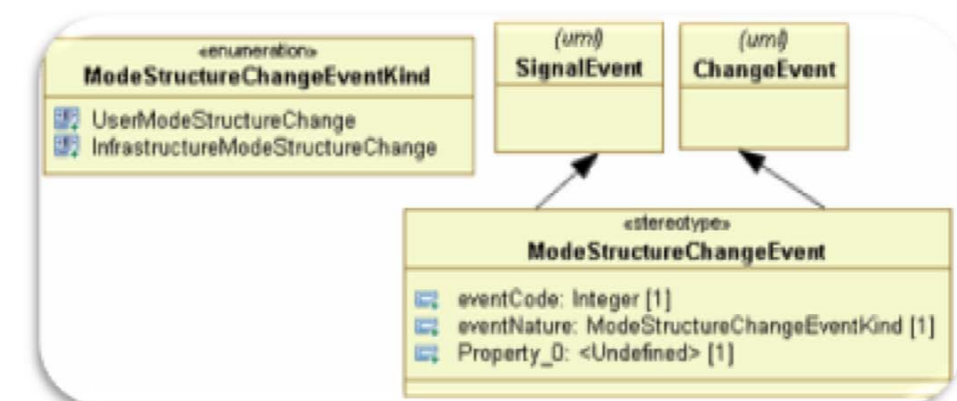
A profile is derived from the RCA4RTES meta-model to handle reconfiguration requirements. This profile is compatible by construction with the MARTE and D&C standards



SWConfRTES profile

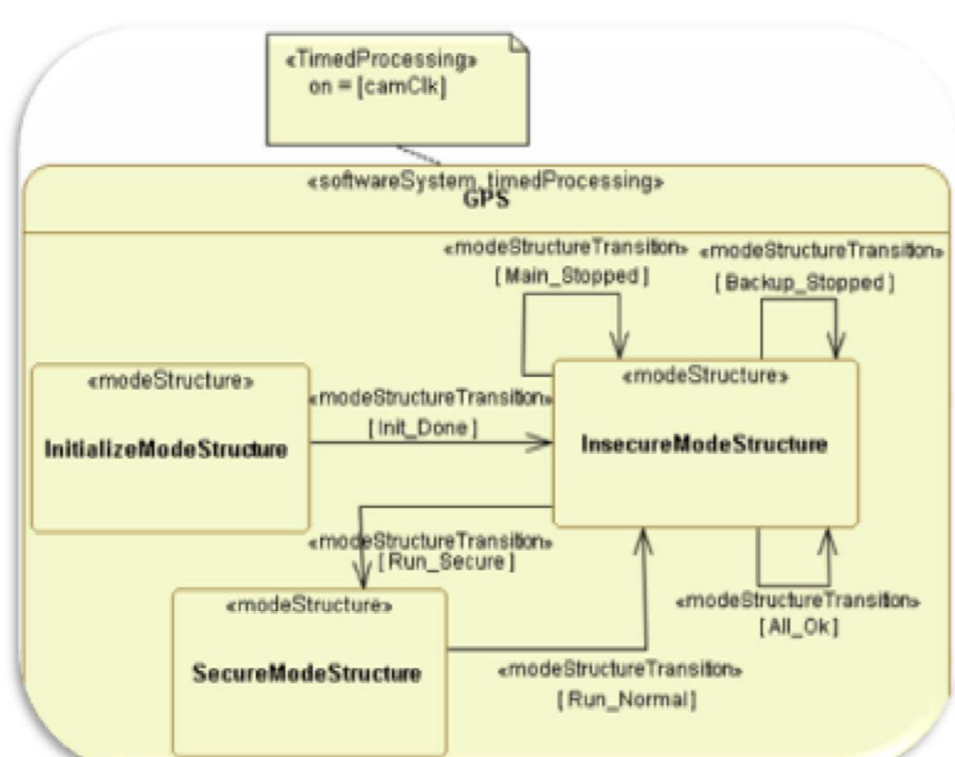


SWReconfRTES profile



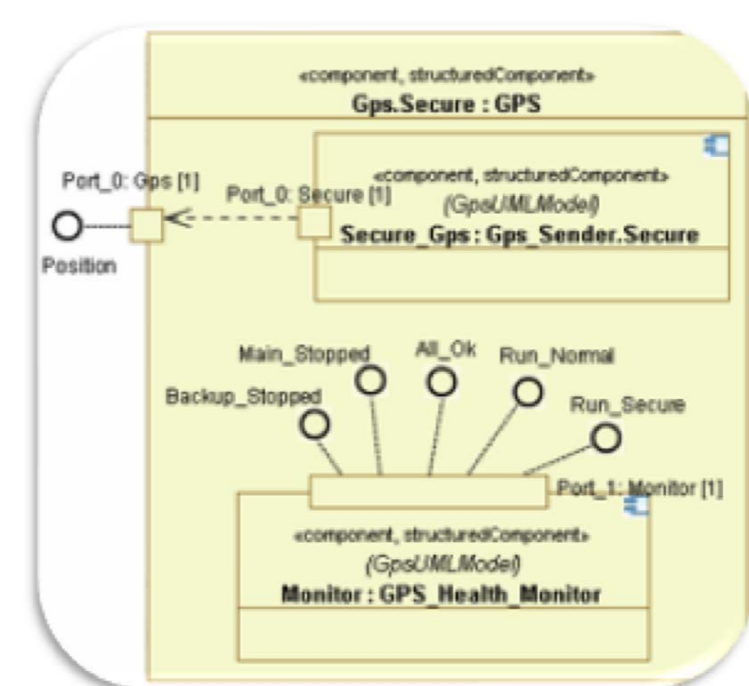
SWEventRTES profile

## Use Case GPS



The state machine of GPS case study

GPS (Global Positioning System) is a radio navigation system which provides accurate navigation signals to any place on Earth. It helps the monitor of vehicle to determine the road to be followed from his current place to some specified destination using information provided by a satellite



A configuration of the secure mode structure