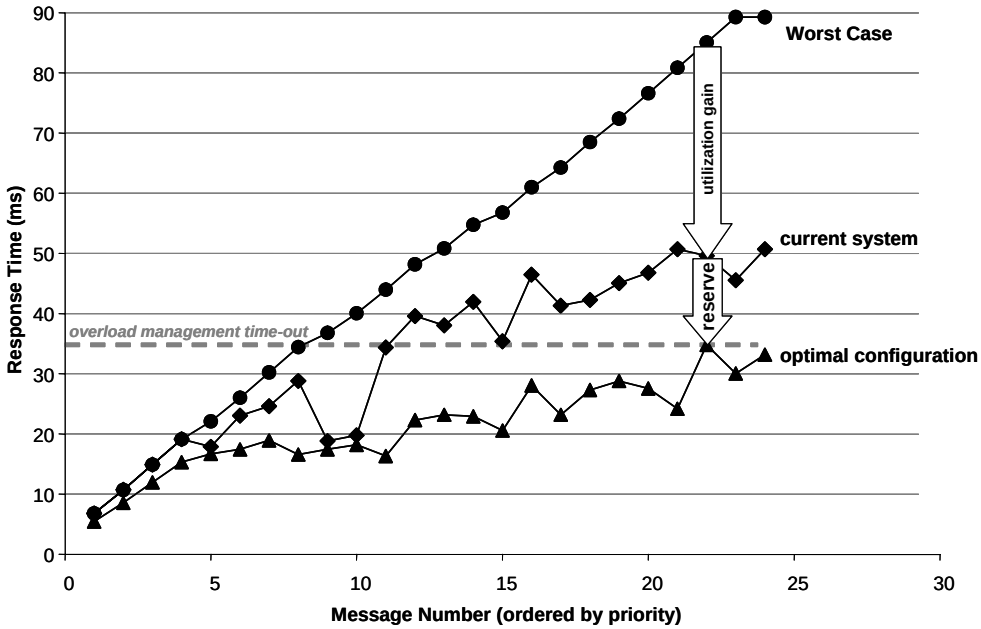
Automotive Use Case:
Extending CAN lifetime



Problem

An automotive manufacturer wants to extend the lifetime of its existing CAN-based design. However, a growing number of vehicle functions further increases traffic on an already loaded bus.

Performance and reliability start deteriorating at higher bus loads. The symptoms are poor responsiveness, unacceptable jitters or frame loss.

Transitioning to FlexRay is an option, but it is expensive and the technology is new. Therefore, a reliable solution is needed for loading a CAN bus closer to the theoretical limit.

Solution

SymTA/S can determine CAN bus performance in various situations. Sensitivity analysis identifies the messages that have the highest risk of getting lost. Exploration then identifies better configurations. The process is controlled by the user who selects which parameters can be changed.

In particular, SymTA/S considers message offsets to arrive at realistic worst-cases. SymTA/S can also suggest good priority and offset configurations. The processes is applicable both for incremental design and major redesign. OEMs can thus optimize for bandwidth utilization and responsiveness by exploiting previously unused bandwidth reserves.

This ensures maximum extensibility of an existing bus design, often enough for one more face lift. OEMs can safely rely on CAN longer, and bear the cost of introducing FlexRay later.

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