

FROM RESEARCH TO INDUSTRY

cea tech



Working group Optimizing Real-Time Systems (OVSTR)



Telecom ParisTech 15th October 2015

www.cea.fr

leti & list

■ WCET point of view

- Bounding the CRPD value and add it to the WCET: lots of optimizations proposed, but is the gain not too small by assuming that each preemption increases the CRPD?
- Integration into the response time analysis: not targeting commonly used caches
 - Should it be linked to the execution model?

■ Scheduling point of view

- CRPD-aware scheduling: off-line schedule using a single CPRD value per task
- Cache-aware scheduling: results not very encouraging

■ What about the OS or hardware point of view?

- Can the OS exploit information from the application and/or WCET layer? (e.g. following the control flow graph)
- Can the hardware exploit information related to the next task to execute?

■ Can we relax the separation of tasks (prefetching, I/O, ...)?

- NoC design for real-time systems and associated WCTT analysis techniques / mapping techniques
- Design of time-predictable hardware
- Issues of multicore platforms in Real-time Systems
- Code generation: from high-level models to (certified) machine code
- Other ?