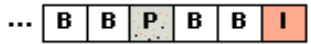


resource demand:
stream

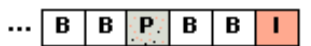
resource availability
NW bandw.

resource availability
CPU, cache, bus.

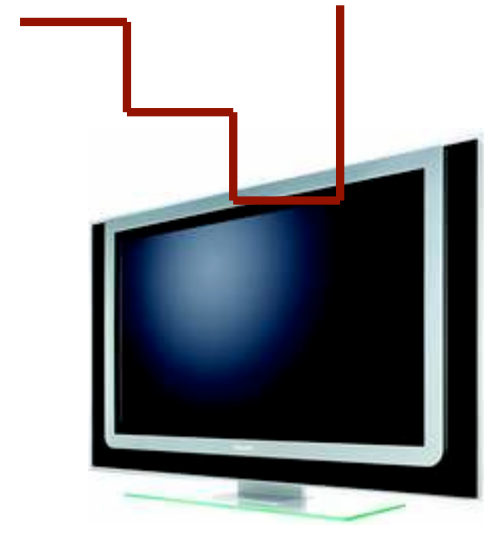
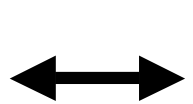
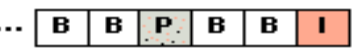
Video stream



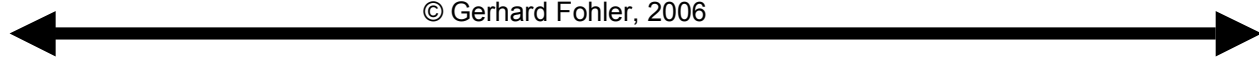
Video stream



Video stream

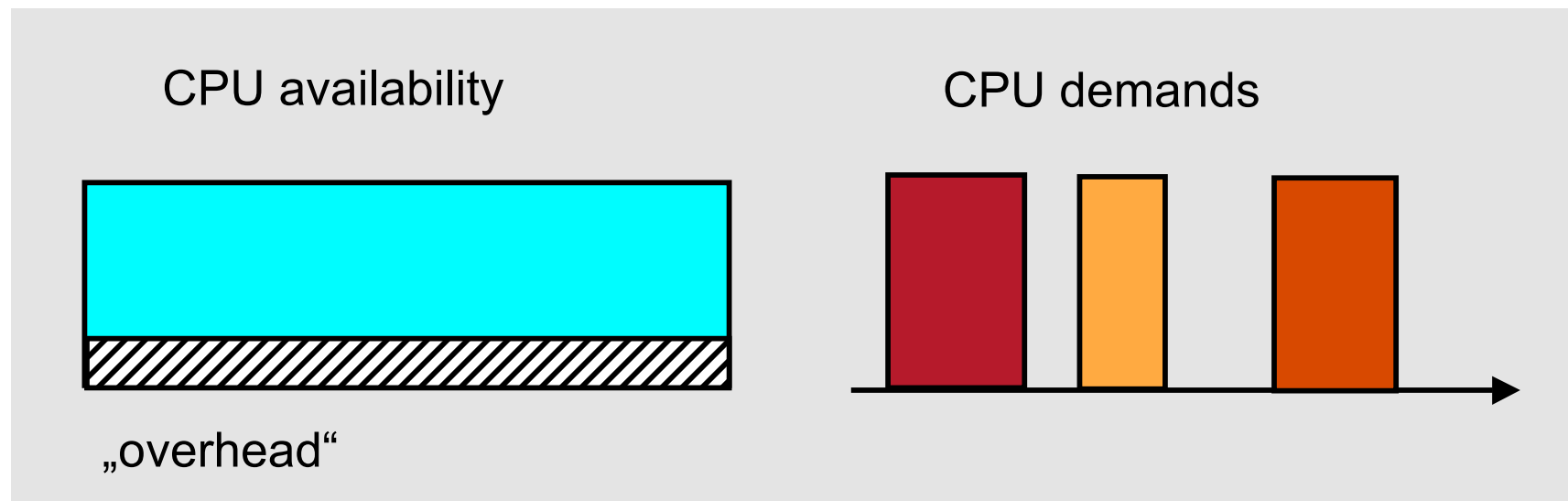


“end-to-end”



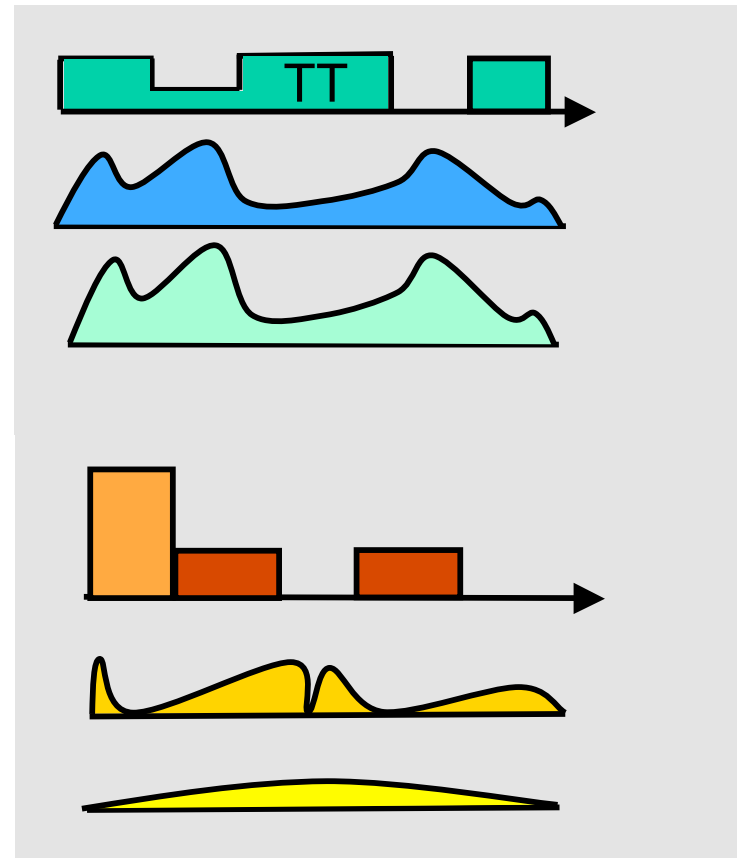
Classic realtime scheduling

- single type of resource, constant availability
- single type of activation demands
- regular task arrivals
- demands: meeting all deadline



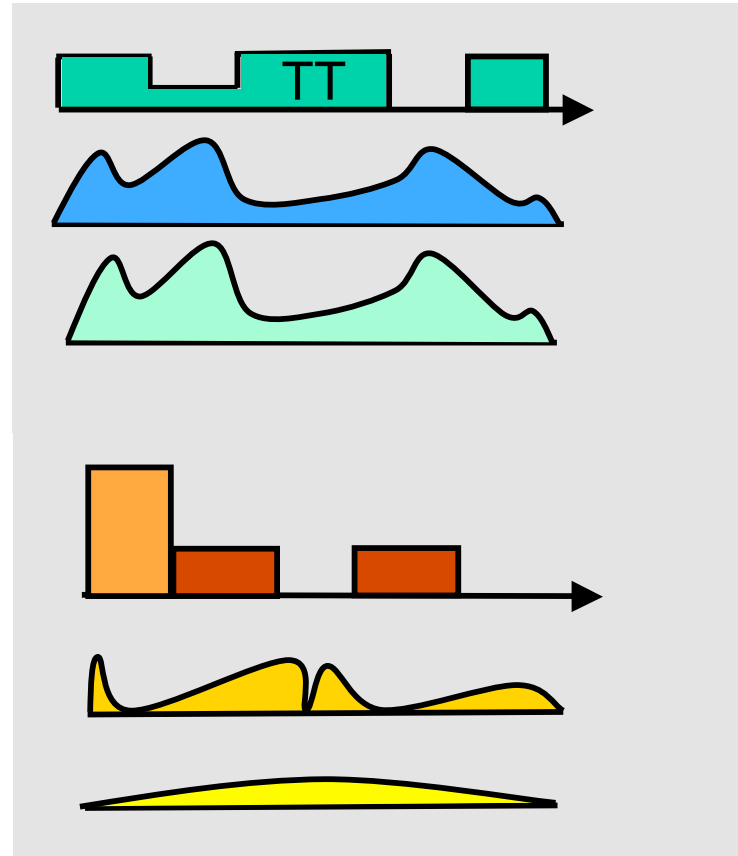
Resource management

- several resources, variable availability
 - network, CPU, incl hardware: memory, bus, energie, ...
 - combined
- highly diverse types of demands
- highly varying arrivals
 - only statistics
 - e.g., streams instead of periodic tasks



Resource management

- real-time methods
 - manage resources
 - guarantee minimum demands
 - smooth variations in streams
 - arbitrate resources
- End-to-end demands
 - within device
 - processing chain



Quality-of-Service

- “hard” real-time defined, safety critical application areas
- what is not “hard” – “soft”, “non rt”?
- notions
 - what exactly is “tolerating few deadline misses”
 - “soft” – “I tried hard but failed”
 - how about history (control?)
 - define border “non/soft”
- Quality-of-Service

