

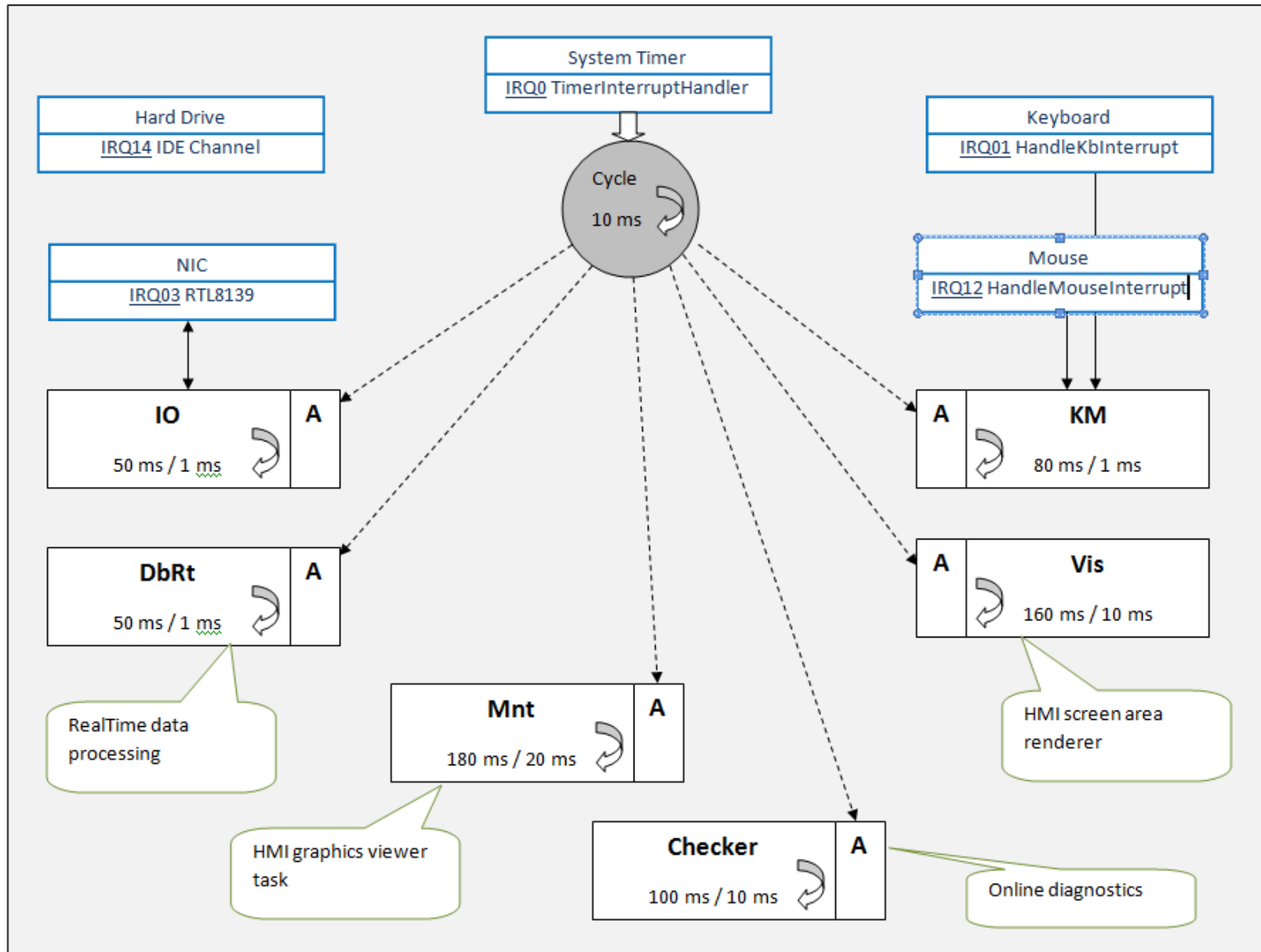
Active Oberon for mission-critical RT-systems.

HMI Client SW of Category A IEC-
60880

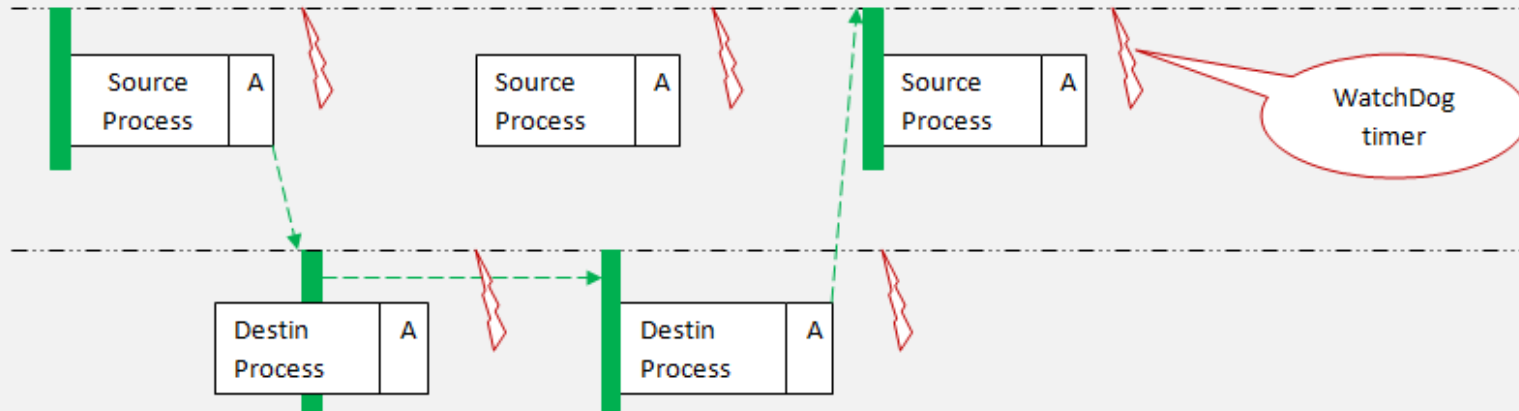
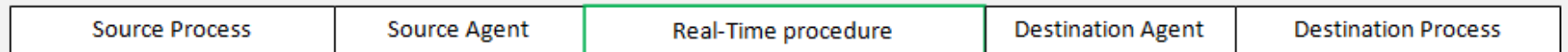
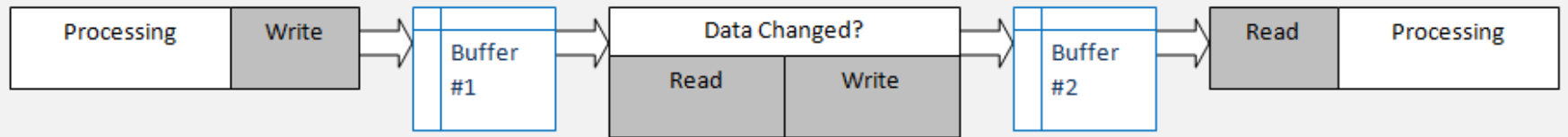
IEC 60880 are even tougher than avionics DO-178B level A

- OS software use shall be restricted, it should contain only the necessary functions;
- Fully verified OS;
- The program should be partitioned logically;
- Execution time of all function should be mostly constant;
- The use of interrupts should be restricted;
- If interrupts are used, maximum time of which interrupt is inhibited must be calculated.

A2-based Software control structure



Double Buffering inter-task communication



Objects Scheduler Simplification

- Main Timer TimeSlice critical algorithm is modified;
- Emulated interrupts are excluded;
- GC process is excluded;
- Preemptive Counter is excluded.

Heaps Management Simplification

- Setting `Heaps.disableNew` flag prohibits memory allocation after initialization stage completion;
- GC is excluded as unused;
- Memory diagnostics for all single shared virtual address space containing the heap and process stacks.

RealTime cycle module parameter	Value
RT cycle value	10 ms
Standard deviation	2 %
Watchdog setpoint	20 ms
Restart on interrupt	Yes

Application parameter	Value
Update Cycle	(10 ms, 1000 ms)
Task Priority	2 - Normal
Cycle Standard deviation	4 %
Watchdog setpoint	½ Update Cycle
Restart on interrupt	Yes

Technical Video ScreenShot

