
IP CORES

*The HICDS (Highly Integrated Control and Data System)
experience*



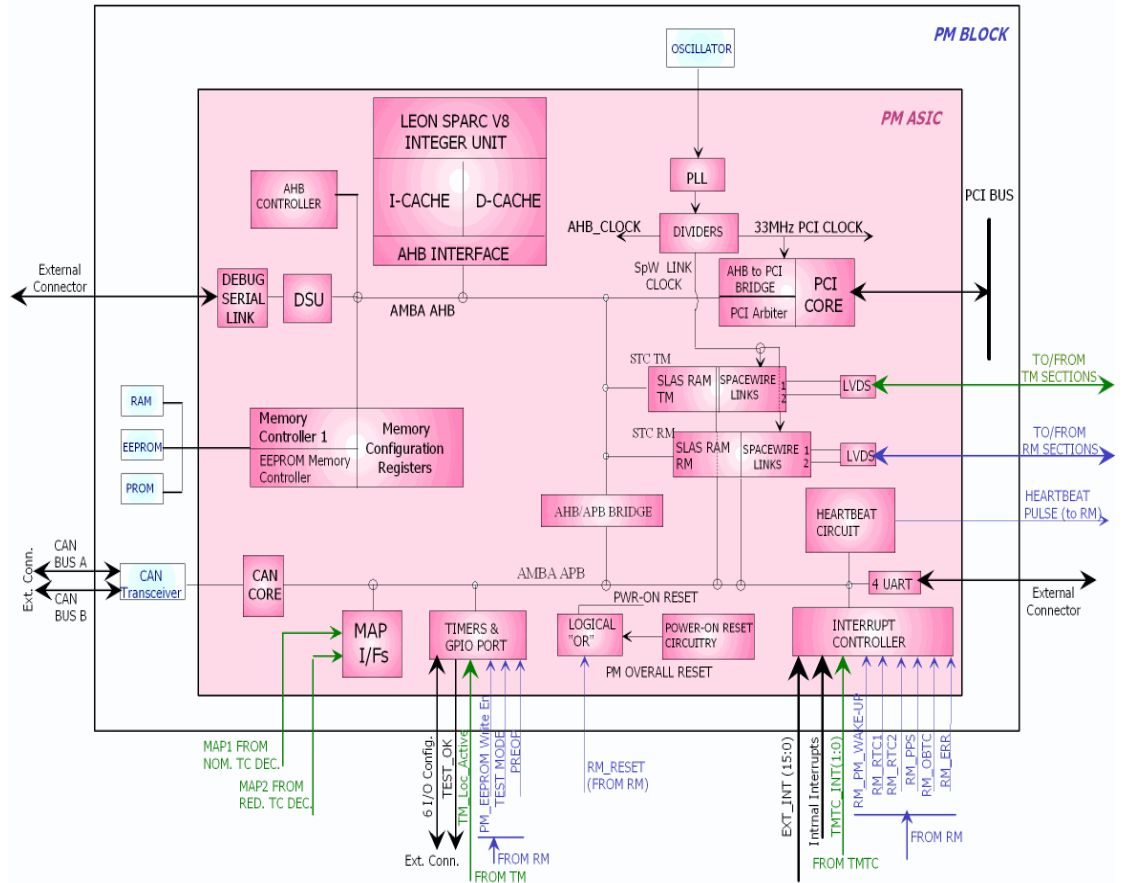
SPAZIO

A Finmeccanica Company

04/2000/1

HICDS Processor Module SoC

- LEON2-FT (ESA-Gaisler Research)
- HurryAMBA CAN 4.6 (ESA)
- AHB-PCI Bridge (commercial)
- 4 Spacewire (ALS-LABEN)
- AMBA AHB/APB local bus



Application programs in ASSEMBLER



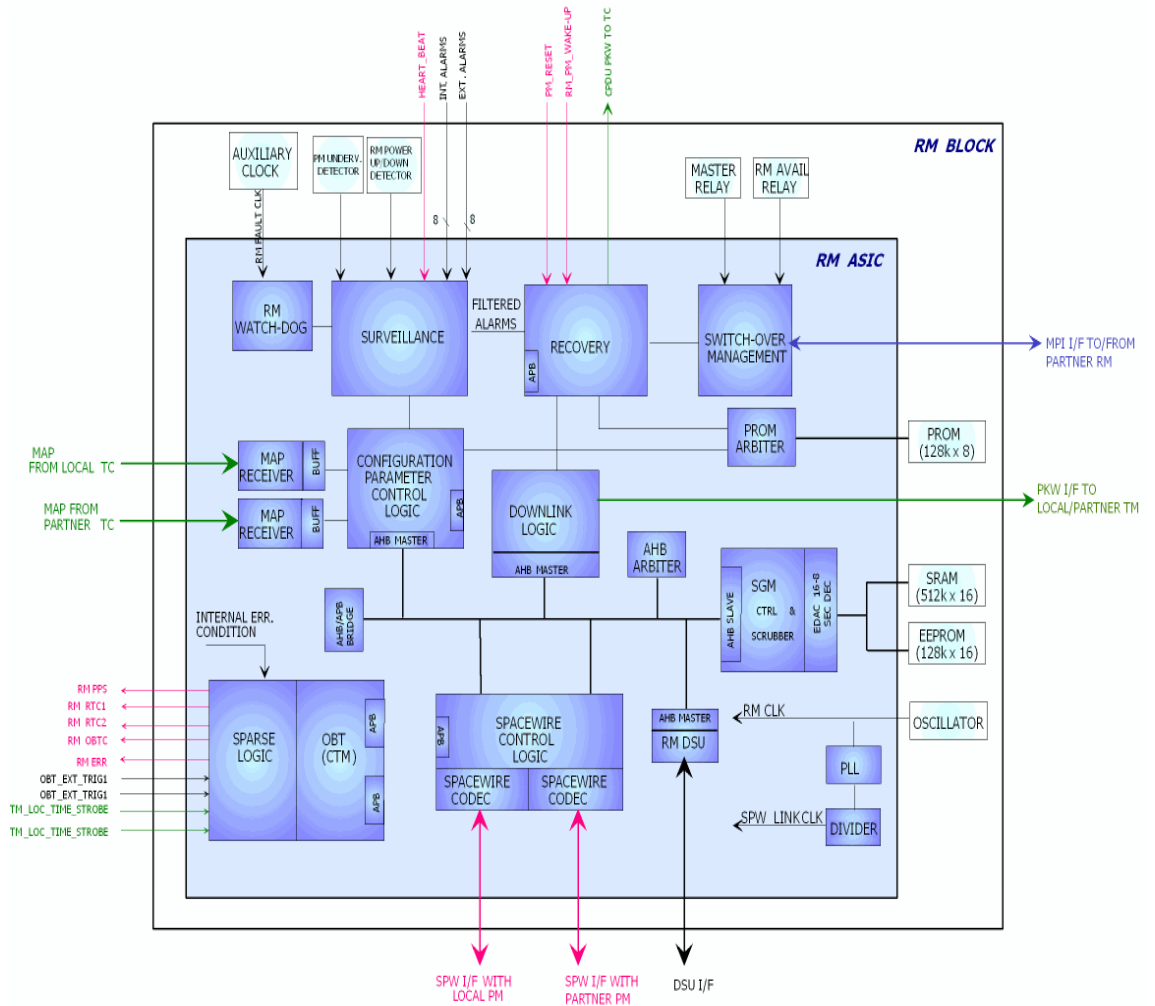
HW/SW cosimulation



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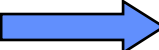

HICDS Reconfiguration Module

- CUC-CTM (ESA)
- EDAC (ESA)
- Matched Pair Management (ALS)
- 2 Spacewire (ALS-LABEN)
- AMBA AHB/APB local bus

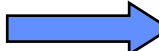


Comments on IP Cores and Suggestions

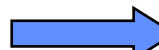
LEON2-FT (ESA-Gaisler Research)

- highly configurable
- well supported
- *leon_sparc* newgroup helps users solving specific problems:
 ***sharing users experiences improves IP knowledge and quality***
- Package includes testbenches and application programs examples that can be quickly adapted to user needs:
 ***easy path to a verification environment***

AHB-PCI-Bridge (commercial)

- Package includes a PCI Master/Target Emulator and a PCI Monitor:
 ***monitors of bus protocols interprets anomalies (ex., Master Abort) and helps debug of verification environment***

HurryAMBA CAN 4.6 (ESA)

- Documentation to be improved
- Synchronization problem observed when two communicating HurryAMBA cores are fed by uncorrelated clocks (e.g. 16,22 MHz)
- Testbench does not cover CAN Specification 2.0 Part B
 ***what about creating a CAN Bus Monitor and achieving BOSCH CAN compliance (like HurriCANe 5.0)?***

