IP CORES

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