

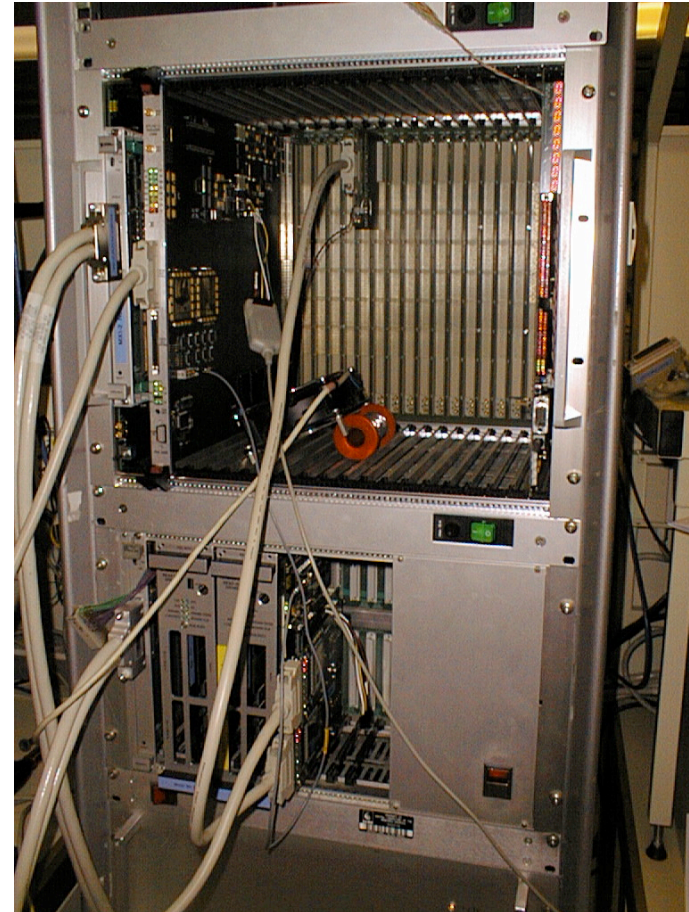
Common Merger Module, Status Report

- Overview of test equipment.
- Progress so far.
- The next few steps.



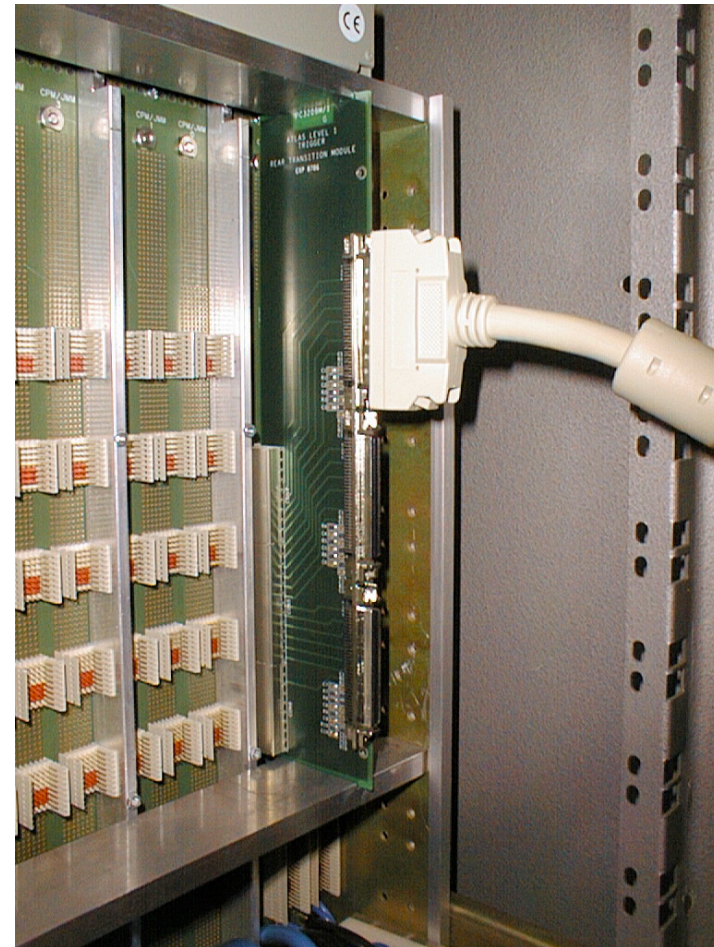
Test Equipment

- Equipment:
 - CMM
 - RTM
 - DSS + GIOs to provide LVDS I/O
 - CPM emulator
- Apart from DSS, none of this has been tested before.
- CMM and DSS driven by crystal oscillator on CMM.
- CMM firmware:
 - CP crate-level
 - CP system-level
 - Various diagnostic configurations for checking connectivity, etc.



Rear Transition Module (RTM)

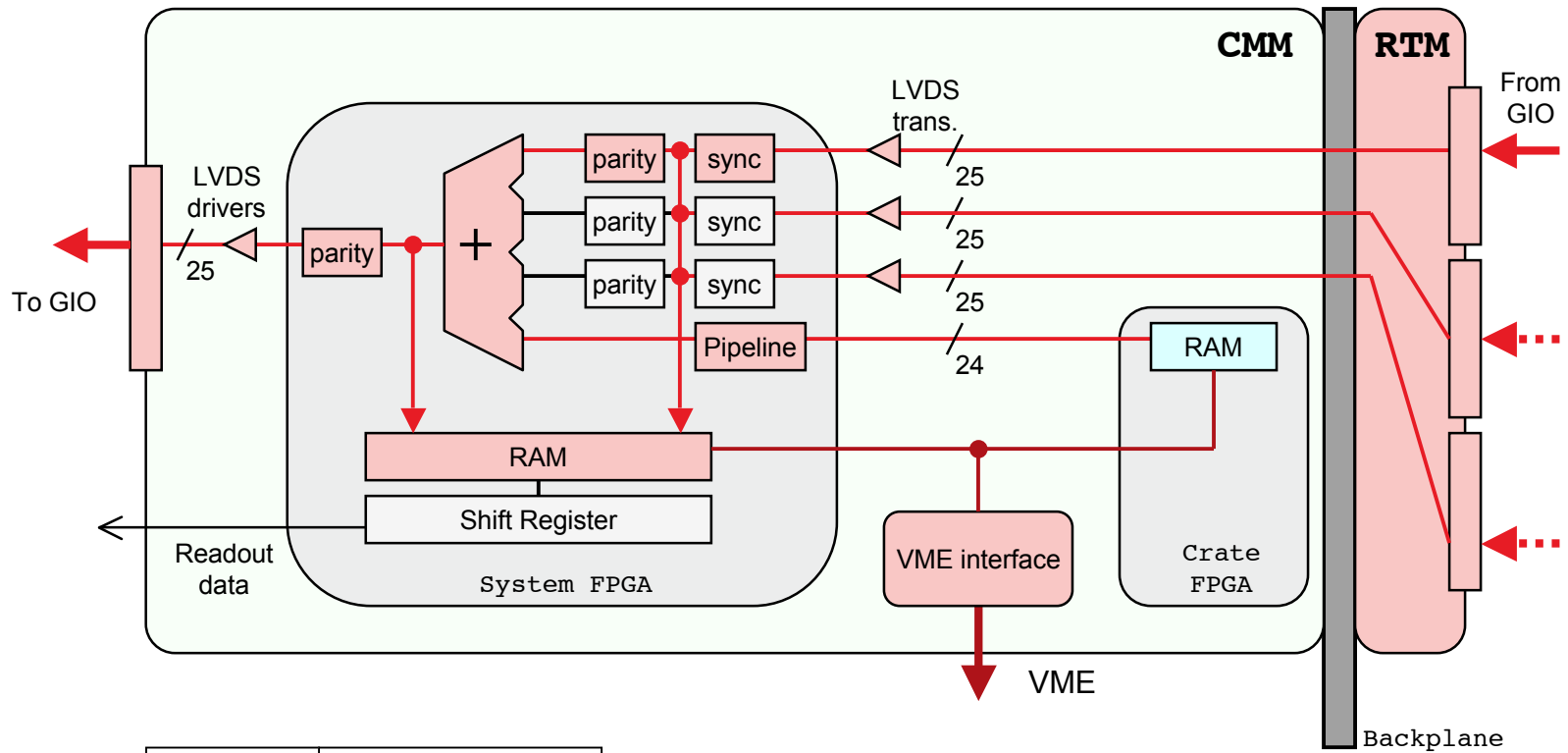
- Four RTMs assembled July '02.
- One tested so far.
- Fixed to back of crate using 2 horizontal, aluminium bars with guide slots.
- This is now the most sturdy part of the crate.



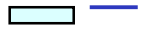


Test Plan

- Concentrating on testing Real-Time data path (RT path).
- Aim to be ready for slice tests as soon as possible, (maybe without some of the bells and whistles).
- Testing functionality using a few (hopefully) well-chosen test patterns.
- No soak tests at this stage.

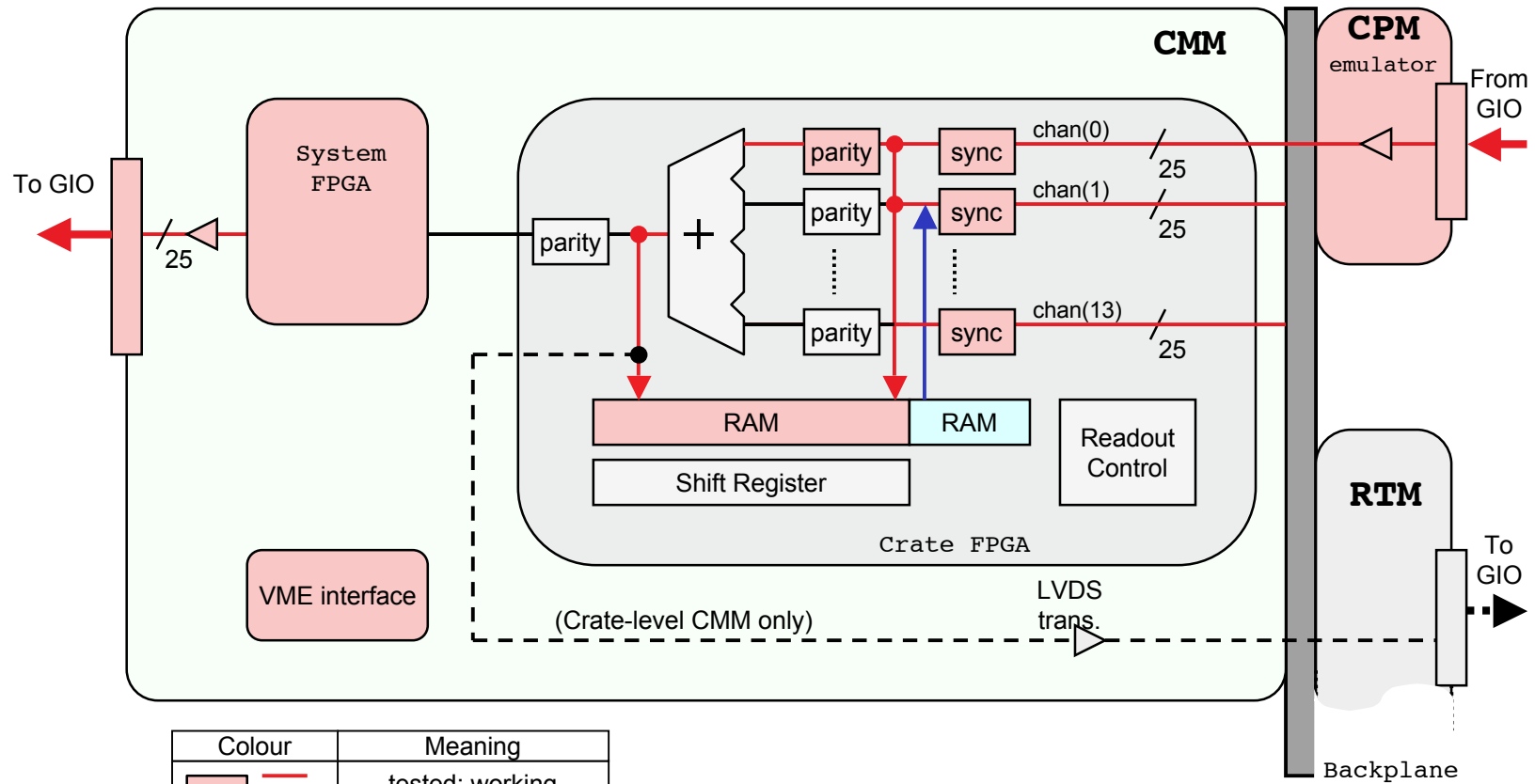
CMM System FPGA tests



Colour	Meaning
	tested: working
	untested
	temporary test logic



CMM Crate FPGA tests



Colour	Meaning
	tested: working
	untested
	temporary test logic



Summary of Results So Far

- No major bugs yet found on CMM
 - Most problems have been due to failure to drive test equipment properly.
 - All I/O tested so far works. Not yet tested input from JEM slots 14 & 15; not yet tested LVDS output over RTM.
 - All FPGA Logic so far tested works.
 - Have had fuse problems: strange behaviour of FPGAs was seen for 2 days before 1.8V fuse blew. Replacing fuse corrected behaviour. Presumably fuse was slowly burning out.



The Next Few Steps

- **Finish testing RT path:**
 - test Crate FPGA
 - build data loops:
DSS □ Crate FPGA □ RTM □ GIO
GIO □ Crate FPGA □ Sys FPGA □ GIO
- **Implement and test logic to configure FPGAs on power up.**
 - still using JTAG at present
 - much of required logic exists; not yet tested in hardware
 - wait until we've finished testing RT path because CMM has no spare...
(risk small; consequences large).

After this...

- CMM could be used sensibly in tests with other modules or software.
- Or, we can carry on testing in Electronics Lab:
 - Readout logic,
 - TCM interface,
 - RT soak tests,
 - etc....

