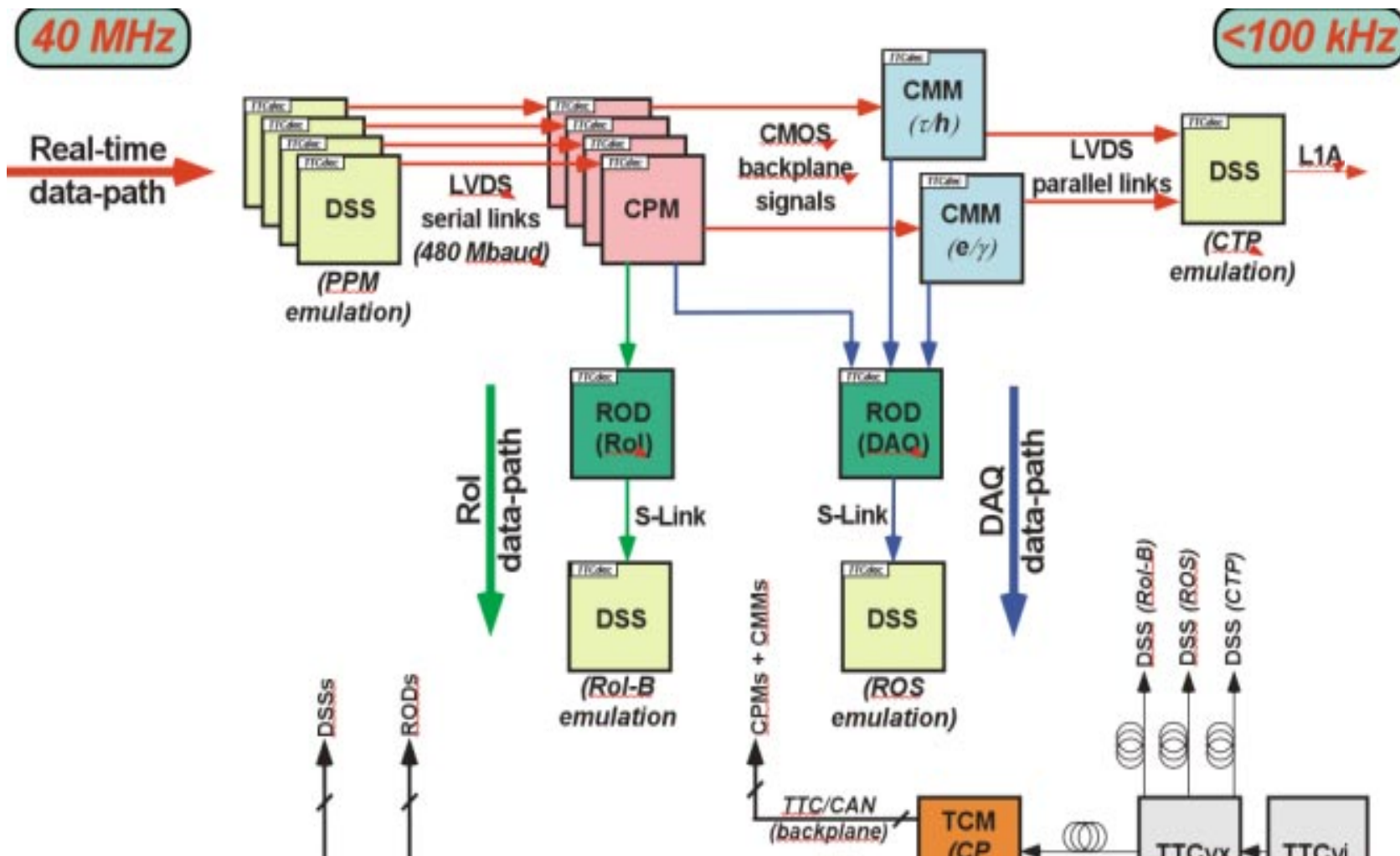


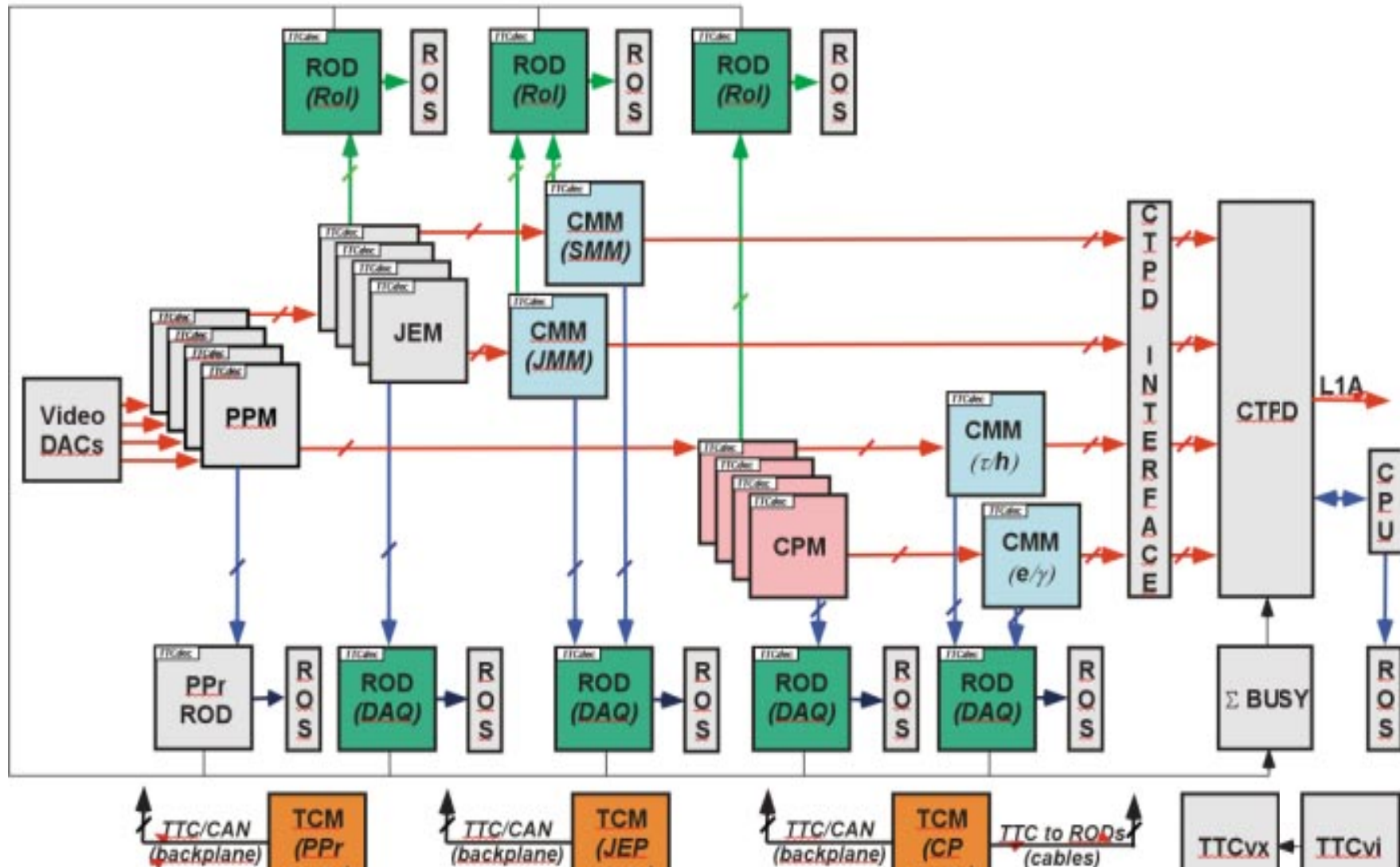


# UK Sub-System Tests





# Heidelberg "Slice" Tests





# *Hardware Requirements*



- ◆ Goal is to complete UK sub-system tests by ~Q3 2002
- ◆ Very large number of tested modules/cards before system is assembled
- ◆ Four stages of readiness for each module/card:
  - ◆ (A) still needing design or layout
  - ◆ (B) still to be manufactured, assembled and tested (*or purchased*)
  - ◆ (C) still to be tested
  - ◆ (D) fully-tested and available
- ◆ What do we need?
  - ◆ What do we already have?
  - ◆ What is missing?
  - ◆ When will it be available?



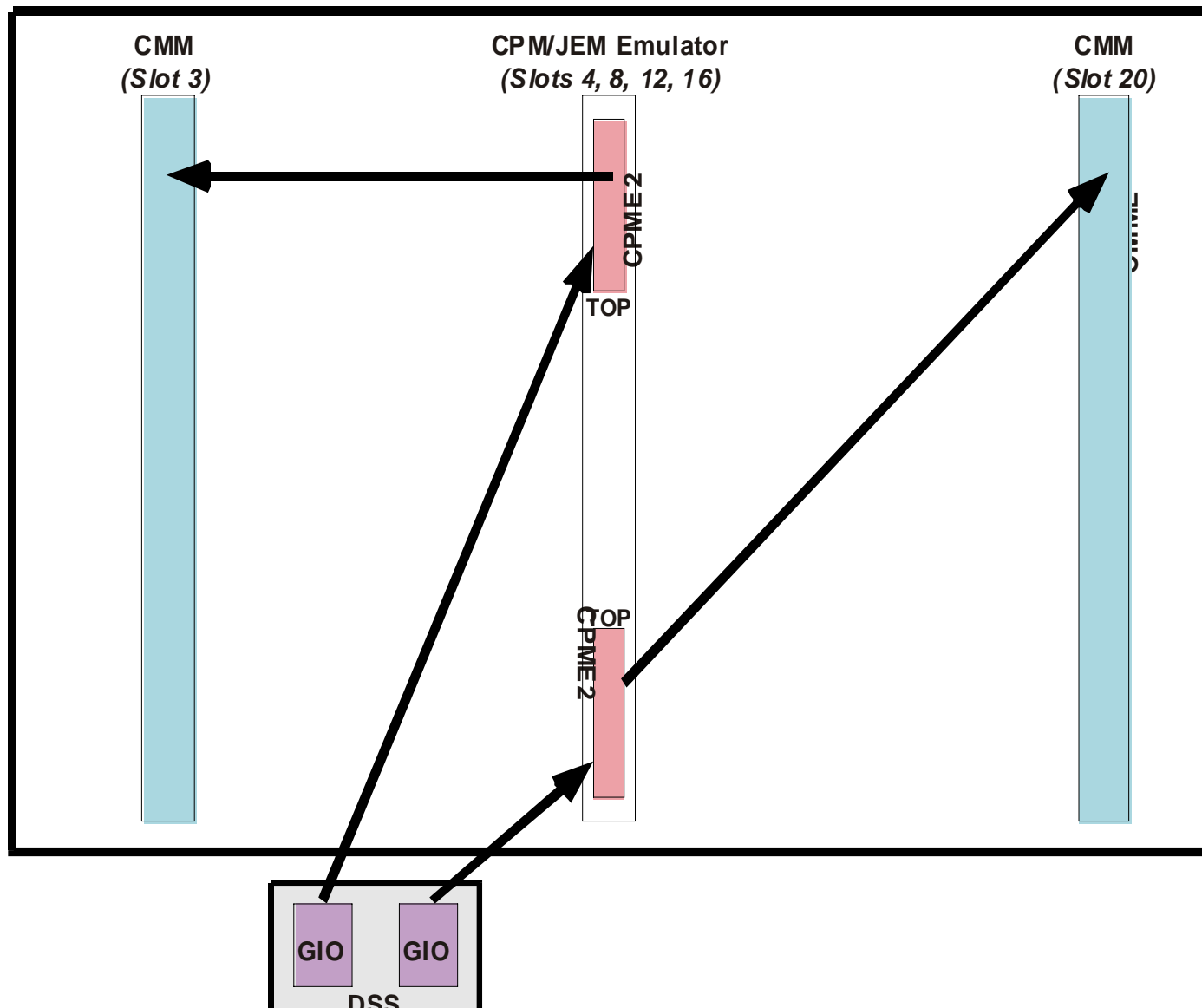
# Electronics Status



| <u>Module/card</u>        | <u>Needed</u> | <u>Design/<br/>Layout</u> | <u>Manufacture/<br/>Purchase</u> | <u>Number to<br/>be tested</u> | <u>Tested</u> | <u>Comments</u>                                     |
|---------------------------|---------------|---------------------------|----------------------------------|--------------------------------|---------------|---|
| DSS                       | 10            | Done                      | 0                                | 8 (?)                          | 2 (?)         | } Populates 1 full CPM (80 channels)                |
| CMC LVDS Tx Card          | 20            | Done                      | 16                               | 0                              | 4             | } and 2 partial CPMs (40 + 40 channels)             |
| CMC Generic I/O Card(GIO) | 3 (?)         | Layout                    | 3 (?)                            | 0                              | 0             | CPM-CMM tests via PB; CTP-D emulation               |
| CERN TTC Test Card        | 4             | N/A                       | 0                                | 0                              | 4             | Only usable on DSS - optical input                  |
| TTCdec Interposer         | 8             | Done                      | 6                                | 0                              | 2             | Needed to allow use of TTCdec with RODs             |
| TTCdec                    | 30            | Design                    | 20                               | 7                              | 3             | Re-design needed for new TTCrx footprint            |
| LVDS 4-channel Link Cable | 40 (?)        | Done                      | 40 (?)                           | 0                              | 0             | 15m - from 4 PPMs -> 4 CPMs (HD to supply?)         |
| CPM                       | 4             | Done                      | 4                                | 0                              | 0             | 2 fully-populated, 1 partially-populated            |
| CPM Emulator 1 (CPME1)    | 4             | Layout                    | 4                                | 0                              | 0             | Sources/sinks 160 Mbit/s serial data (firmware?)    |
| CPM Emulator 2 (CPME2)    | 4             | Layout                    | 4                                | 0                              | 0             | } Sources/sinks HIT data for CMM via PB             |
| CMM Emulator (CMME)       | 2             | Design                    | 2                                | 0                              | 0             | } and provides CPM-CMM PB testing                   |
| CMM                       | 4             | Done                      | 4                                | 0                              | 0             | 2 for CP sub-system, 2 for JEP sub-system           |
| Rear Transition Module    | 2             | Layout                    | 2                                | 0                              | 0             | Sources/sinks CMM I/O data                          |
| TCM/Proc Personality Card | 6             | Done                      | 3                                | 0                              | 3             | 2 for UK, 2 for Heidelberg, 2 for Mainz (+ 1 spare) |
| ROD (6U)                  | 8             | Done                      | 6                                | 0                              | 2             | } "Slice" Tests - 3 for CP and 4 for JEP            |
| CMC G-Link Rx Card        | 8             | Done                      | 4 (?)                            | 0                              | 4 (?)         | } sub-systems (+ 1 spare) - CMM firmware needed     |
| S-Link Tx/Rx Card-set     | 7             | N/A                       | 1                                | 0                              | 6             | "Slice" Tests RODs - 3 for CP, 4 for JEP            |
| S-Link Rx PCI I/F         | 7             | N/A                       | 1                                | 0                              | 6             | "Slice" Tests ROSs - 3 for CP, 4 for JEP            |
| VME Mount Module (VMM)    | 4             | Done                      | 3                                | 1                              | 0             | Adapts 6U CPU to 9U VME-- crate                     |
| CPU (Concurrent)          | 6             | N/A                       | 2                                | 0                              | 4             | "Slice" Tests - 2 VME crates + 4 VME-- crates       |
| TTCvi + TTCvx             | 2             | N/A                       | 0                                | 0                              | 2             | Birmingham + RAL sub-systems                        |
| 6U VME crate              | 4             | N/A                       | 1 (?)                            | 0                              | 3 (?)         | Birmingham (1) + RAL (3) sub-systems                |
| 9U crate/PB               | 4             | Done                      | 0                                | 4                              | 0             | } 2 for CP sub-system (UK)                          |

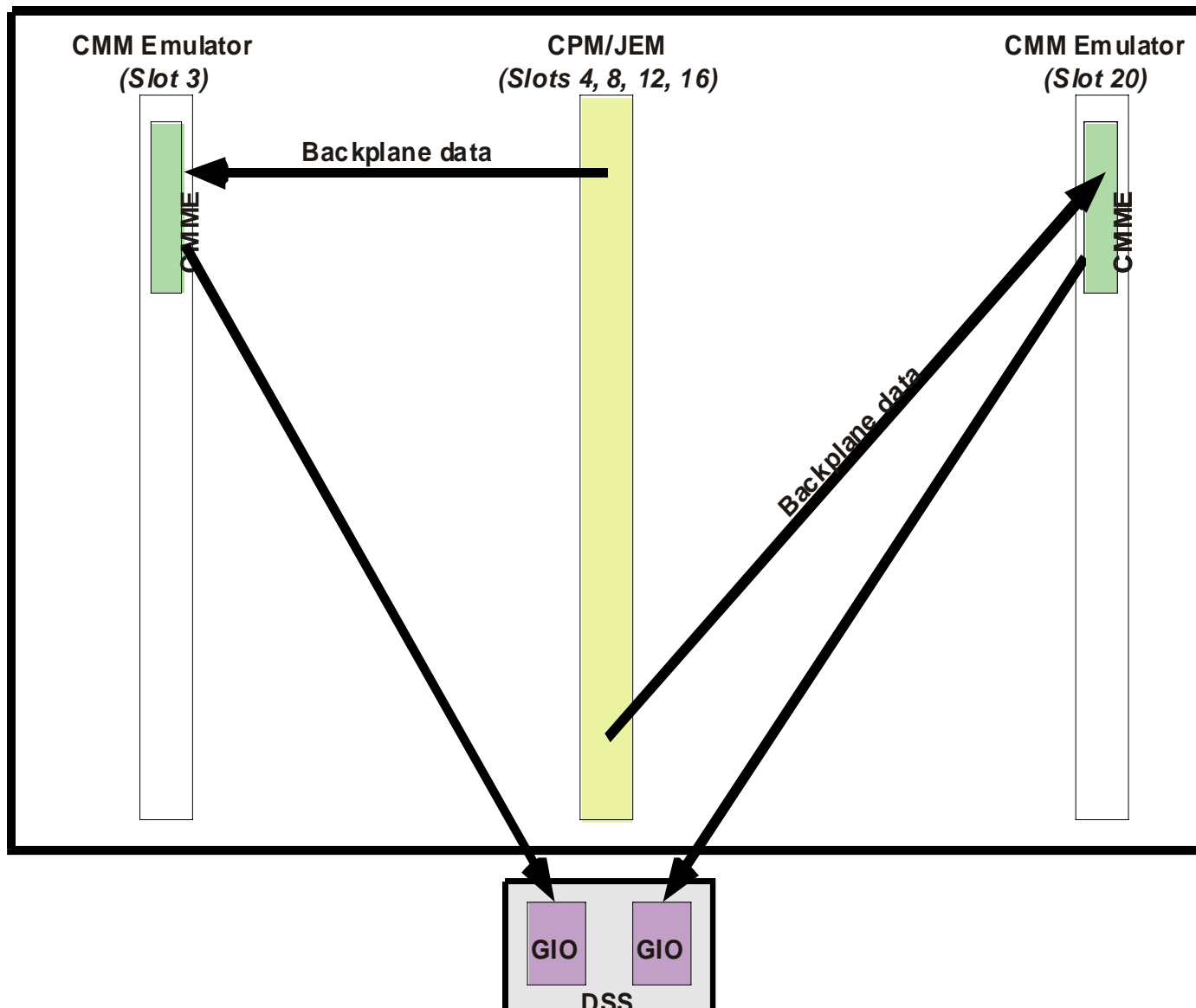


# CPM-CMM HIT Data Testing 1



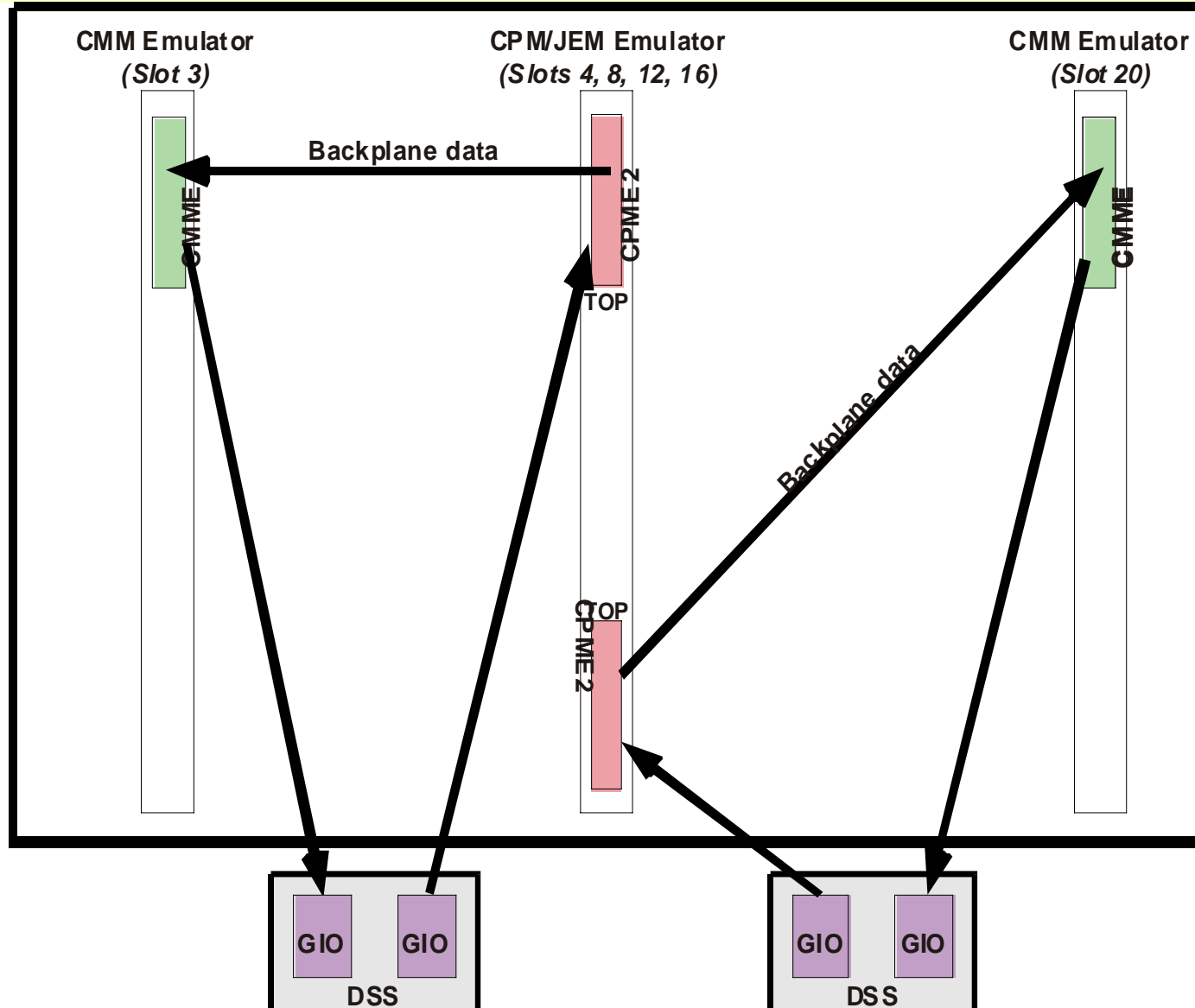


# CPM-CMM HIT Data Testing 2



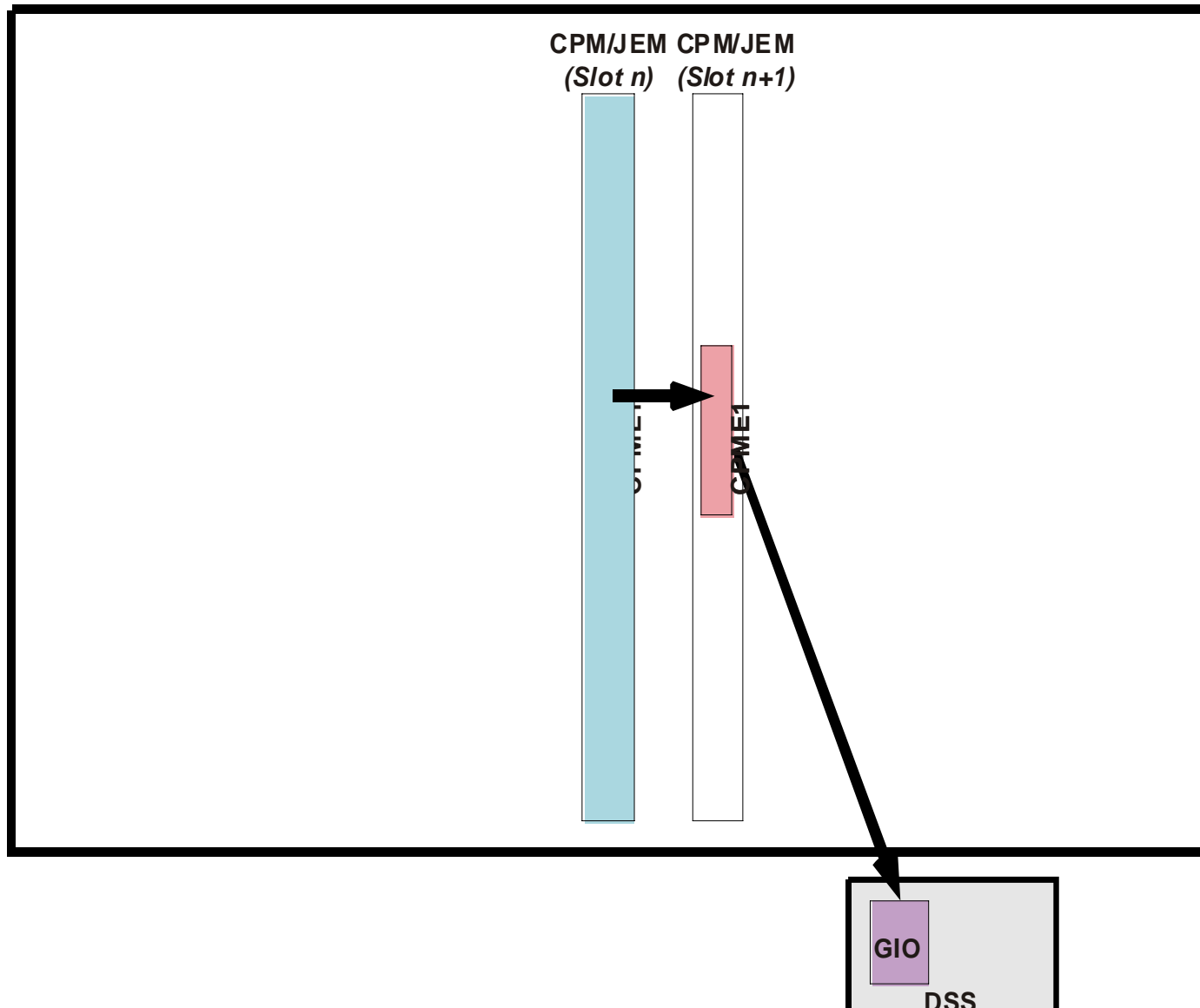


# PB Data-Path Testing





# CPM PB Data Testing 1







# CPM PB Data Testing 2

