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MIRA

Packaged systems on basis of

Micro-PDP and Micro-VAX

for control of critical operations.

Bert de Bock, Software and Application Services

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Approaches to High availability

- ***Master/standby***
  Fully duplicated independent Configurations.
- ***Non-stop***

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Approaches to High availability

Master/standby

- Cold standby:
  - Manual/automatic line switching.
  - Standby update and restart under operator control.
  - Significant break in service.
- Warm standby:
  - Automatic line switching.
  - Automatic restart.
  - Automatic standby updating.
  - Short break in service.
- Hot standby:
  - Automatic standby updating/line splitting.
  - Parallel processing on master and standby.
  - Automatic line switching.
  - Automatic restart.
  - No evident break in service.

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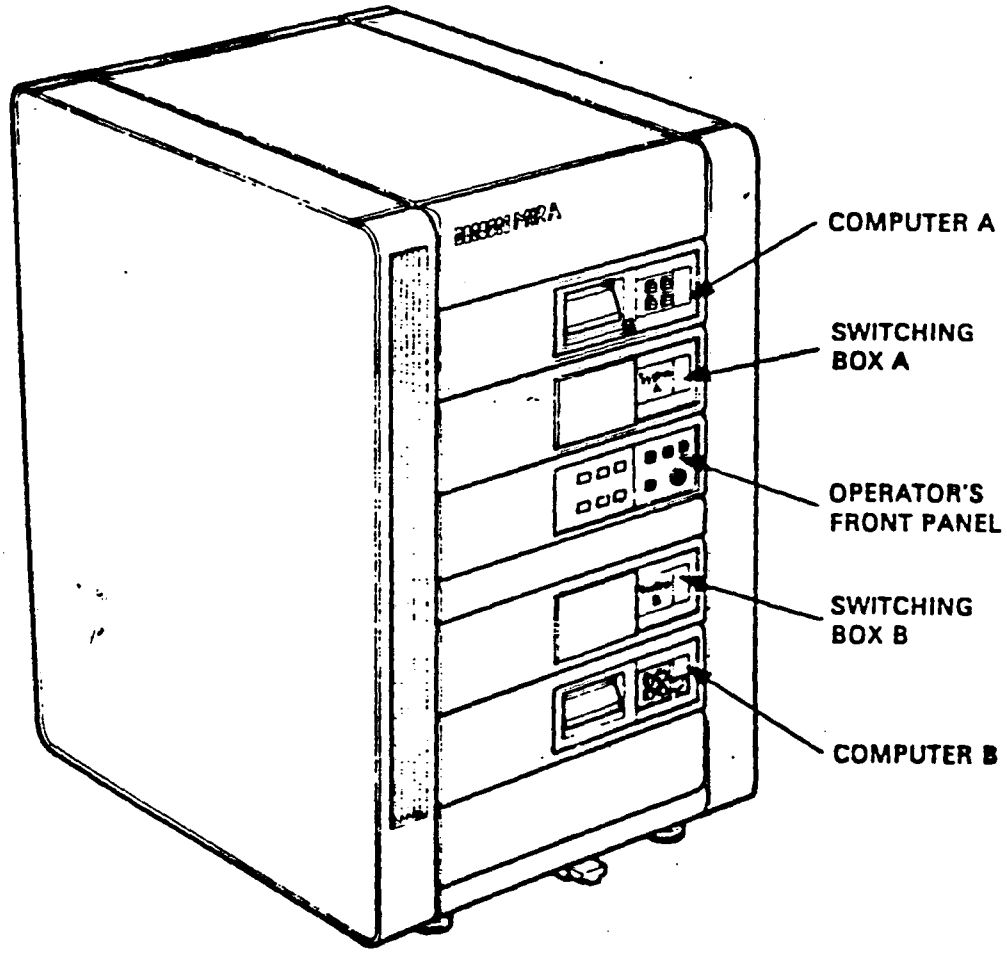
Approaches to High availability

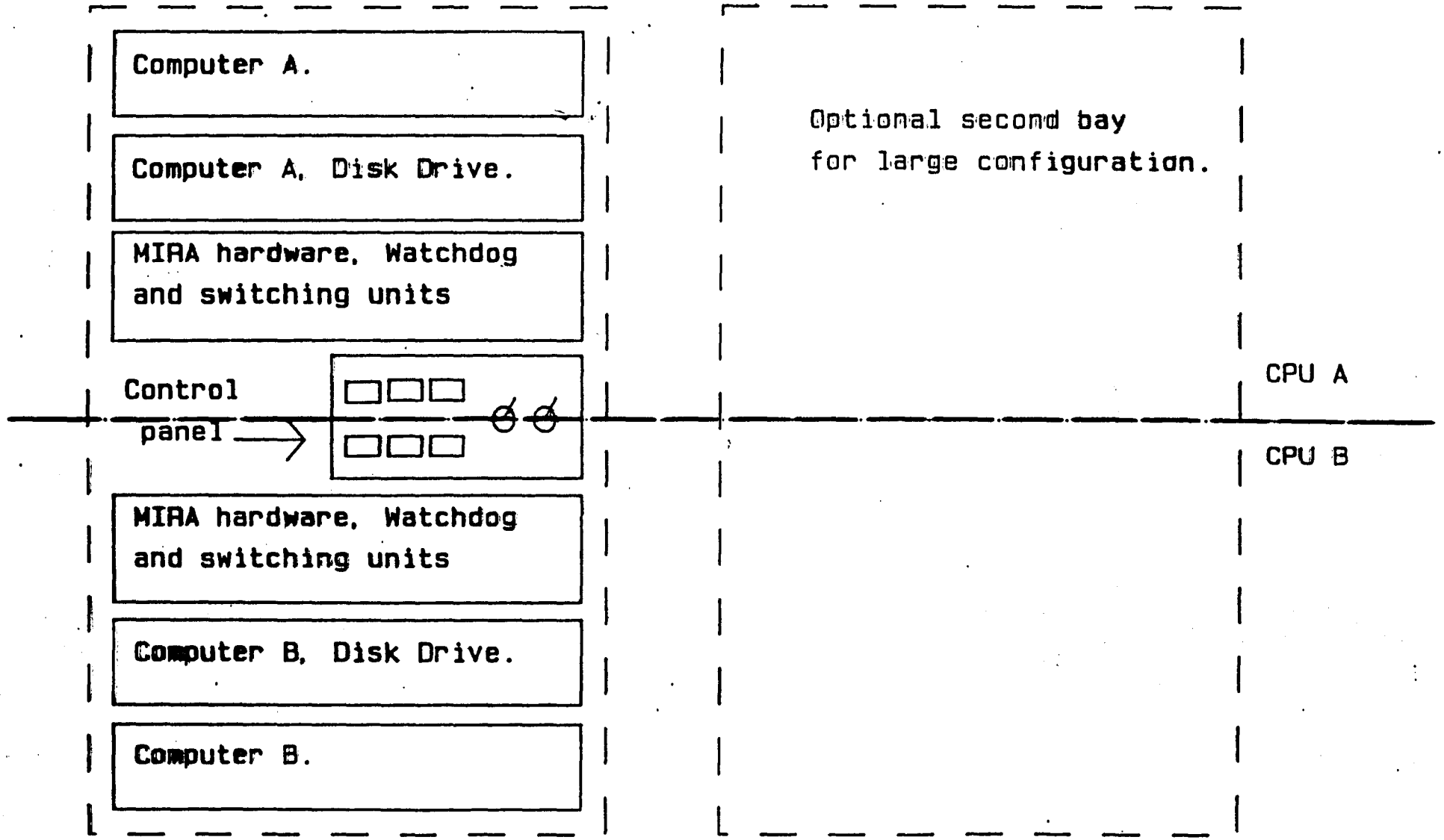
Non-stop

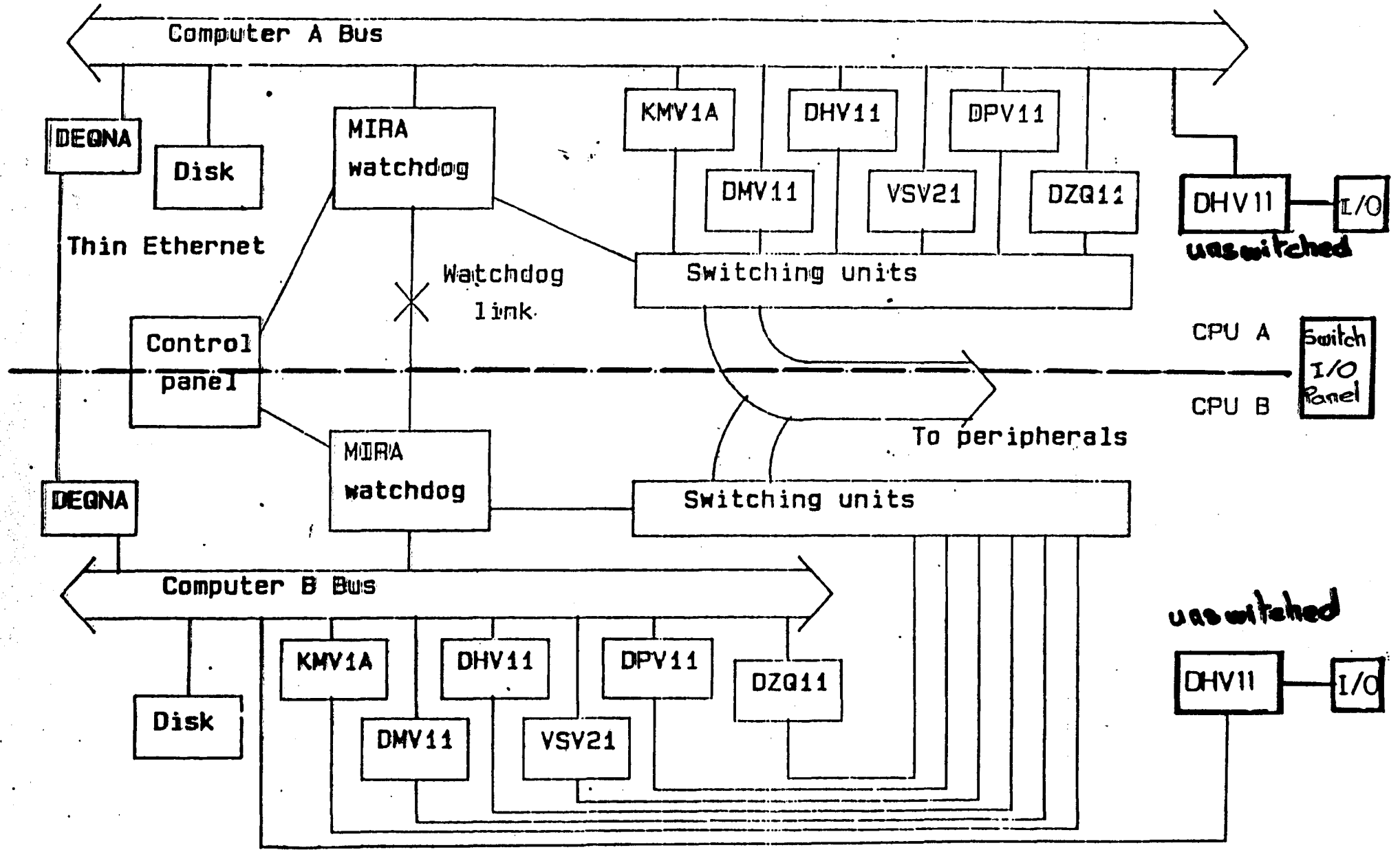
- **Transparant failure detection/recovery.**
- **Duplication at component level.**
- **High end solution.**



Small MIRA Configuration

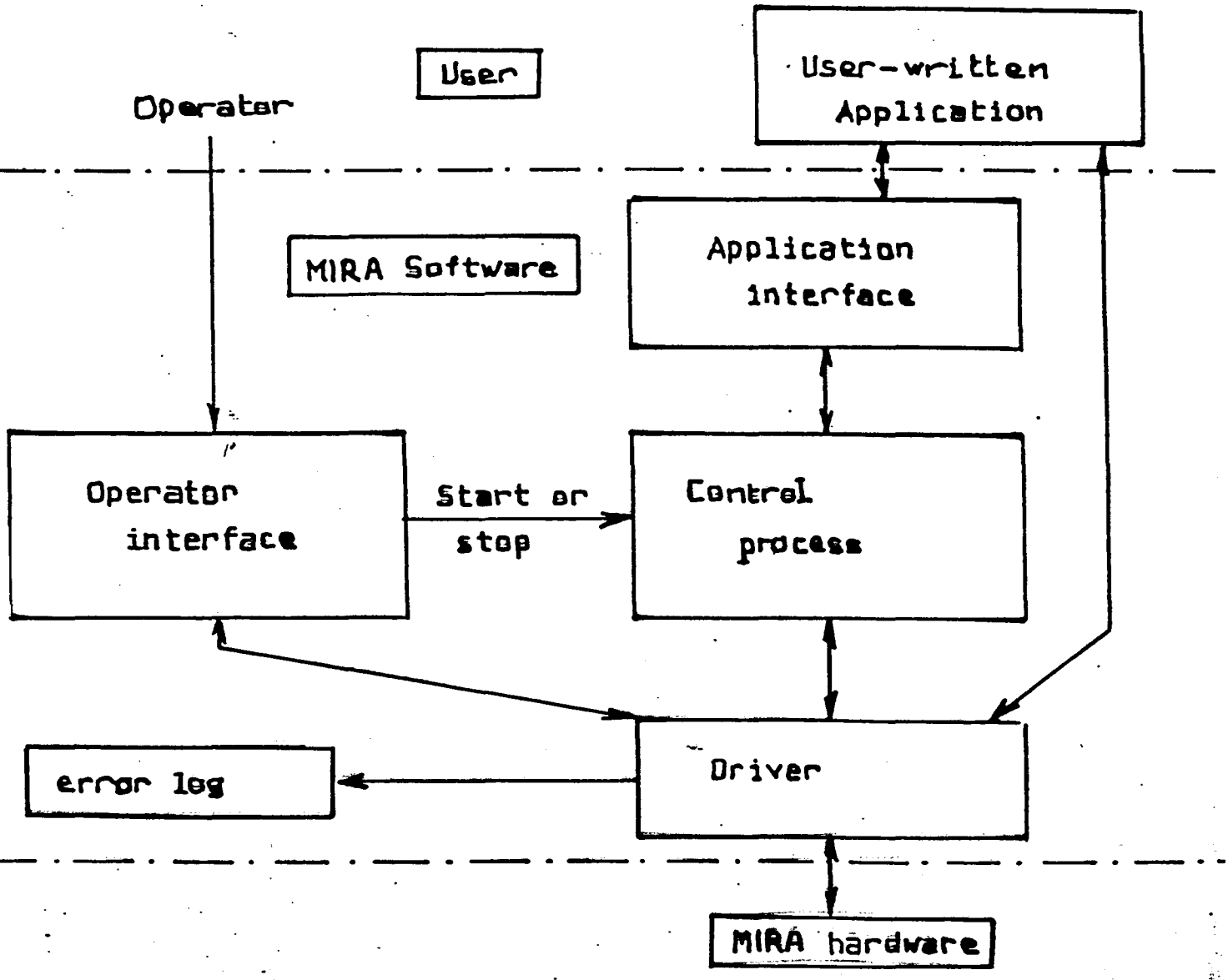
Hardware overview.




Computer A Bus
DEQNA
Disk
Thin Ethernet
MIRA watchdog
Watchdog link
KMV1A
DHV11
DPV11
DMV11
VSV21
DZQ11
Switching units
DHV11
I/O
unswitched
Control panel
CPU A
CPU B
Switch I/O Panel
To peripherals
MIRA watchdog
DEQNA
Switching units
Computer B Bus
unswitched
KMV1A
DHV11
DPV11
DZQ11
DMV11
VSV21
Disk
DHV11
I/O

MIRA Software components (continued)

The inter-relationships between the MIRA software components can be viewed in the following way:



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MIRA summary:

- Master/Standby approach to high availability.
- Duplicated MicroPDP or MicroVAX configurations.
  Proc.: LSI 11/83 , Micro-Vax 2 or Micro-VAX 3500.
- Switches standard interfaces.
  Synchronous and asynchronous.
- Layered software and ethernet for simple user application development.

Next month addition of Volume Shadowing.