



PCI-RMS SOFTWARE

FEATURES

- PCI-RMS Daemon or Windows' Service
- Access Library for PIO, DMA, and Memory Mapping
- Standard and Spinlock Reflective Memory
- High Performance Memory Channel
- Health Monitoring and Diagnostics
- Software Support Service

BENEFITS

- No Driver to Write
- Easy to Install and Maintain
- Flexible Programming Model
- Available for Linux®, Windows XP® and NT4®, Tru64 UNIX®, and Solaris®

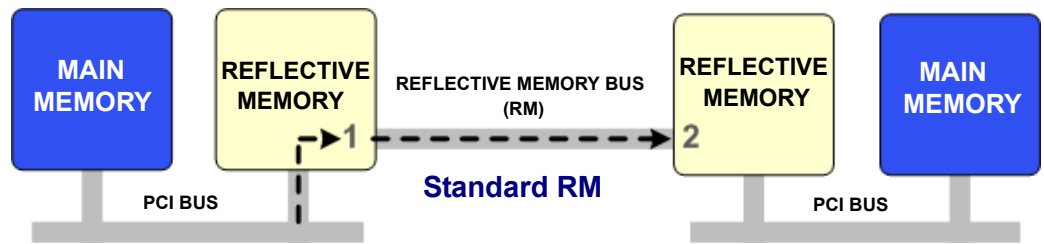
COMPRO's PCI-RMS software facilitates and simplifies the use of PCI Reflective Memory by providing the three modes of operation shown below as well as a number of other features:

- Standard Reflective Memory
- Spinlock Reflective Memory
- Memory Channel

Each memory type has particular strengths and they can be used simultaneously to match the programming model desired. In each mode, block move data transfers are supported. The PCI-RMS software supports up to 256 MB of physical memory space.

Standard Reflective Memory

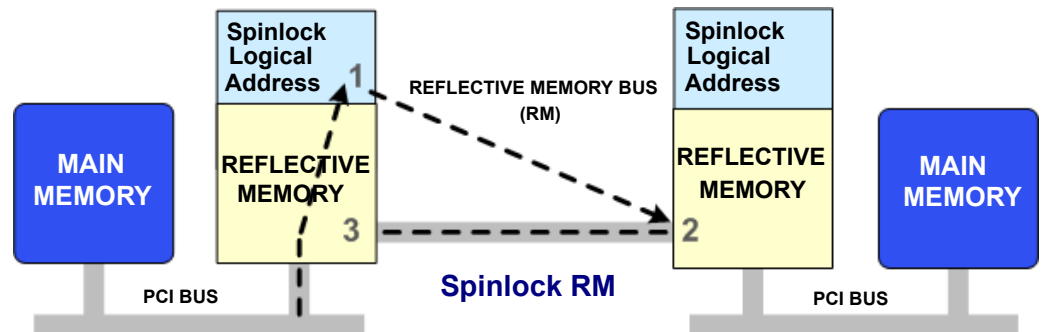
Standard Reflective Memory is an SRAM buffer located on the physical PCI-RMS circuit board. Data written into this buffer is also reflected to the Standard Reflective Memory address space on remote nodes. Standard Reflective Memory is very flexible and easy to use.



Writes into the Reflected area are transmitted to other Nodes/Reflected area.

Spinlock Reflective Memory

Spinlock Reflective Memory actually overlays the Standard Reflective Memory. The only difference is that the local buffer is not updated until each node in the ring receives the write request. By testing that the Spinlock write completed, the application program is assured that the message has been passed to all nodes in the ring.



Writes to Spinlock Address. Updates the Remote Reflective Address. Updates the Local Reflective Address when all Remote Node updates are completed.



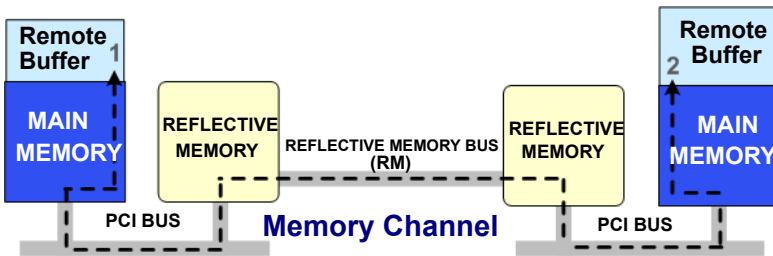
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PCI-RMS SOFTWARE (Cont'd)

Memory Channel

The Memory Channel uses the local processor's memory instead of a buffer on the PCI-RMS circuit board. Memory Channel writes reflect through each PCI-RMS board on the ring into local processor memory on the other nodes. Memory Channel reads are fulfilled from local processor memory. Thus, reads do not require access to the PCI bus and are fully cached.



Writes to Memory Mapped Region or to Local Main Memory. Block DMA from Local Main Memory Buffer (addressable range) to Remote Main Memory (addressable range) using on-board DMA engine.

Other PCI-RMS Software Features

COMPRO's PCI-RMS software also provides these features:

- **Driver** – This feature, which handles all operations requiring access to the PCI-RMS hardware, eliminates the need to write a custom device driver to control PCI devices.
- **RMS Diagnostic** – This feature enables the operator to verify individual and multiple node functionality.

- **PCI-RMS Daemon/Windows' service** – This feature initializes the Reflective Memory System (RMS) hardware. It also manages the RMS memory space by allowing static definition of named partitions.
- **Diagnostic Health Monitor** – This feature, which is available only in the Linux®/UNIX®/Solaris® environment, checks the connectivity status of systems. It includes a daemon that executes on each node to be monitored, and a graphical monitor that shows the current state of each node.
- **Access Library** – This feature provides an application interface to the driver. You can call various functions in the Access library that invoke routines in the driver to perform PCI-RMS activities.

Prerequisites

Requirements

- Linux®, Windows XP® (SP2), Windows NT4®, Tru64 UNIX V4.0D or later Alpha-based system, or Solaris®
- COMPRO's PCI-RMS board
- 8 MB of free system memory
- Minimum of 10 MB of free disk space
- Graphical display monitor (used by Diagnostic Health Monitor only). This requirement can be satisfied with either an X-Terminal or an X11-capable PC.



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