

Q: I've purchased a NeXTdimension system and wish to expand the memory. What performance advantages can I expect to gain from adding memory to the NeXTdimension board as opposed to the CPU board? Is there a mini-Mach running on the i860? Can the i860 swap to disk? Can I memory-map the memory on the ND board?

A: The DRAM on the NeXTdimension is used for displaying all windows which appear on the NeXTdimension monitor. The NeXTdimension board is driven by a Mach loadable device driver (which loads into the Mach kernel on the host) and a NeXTdimension screen driver, part of which loads into the WindowServer, and another part which loads into the i860. This i860 software consists of a mini Mach-like kernel, specially designed to support low-level PostScript drawing, 3D rendering, and virtual memory for window backing stores. It is NOT possible to program the i860 directly.

Neither the DRAM nor the VRAM on the NeXTdimension can be memory mapped by the application. When it becomes necessary, the i860 pages to disk via the host 68040. It does not write directly to disk itself.

Whether you increase memory on the 68040 or the NeXTdimension depends upon how you plan to use the system. In general we recommend that you keep them fairly balanced. If you are going to be keeping lots of windows on the ND system then we suggest that you keep the memory on the i860 somewhat ahead. The less paging you do the better. You cannot extend the VRAM [video ram] on the NeXTdimension.

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Valid for 2.0, 3.0