so a realistic limit is 16 CPUs. Beyond that, Tandem supplies a fast fiber-optic connection capable of connecting up to 14 systems together in a kind of local area cluster. In most respects it is a higher-speed version of EXPAND.

File System

Tandem uses the term *file system* to mean the access to system resources that can supply data ("read") or accept it ("write"). Apart from disk files, the file system also handles devices, such as terminals, printers, and tape units, and processes (interprocess communication).

File Naming

There is a common naming convention for devices, disk files, and processes, but unfortunately it is complicated by many exceptions. Processes can have names, but only I/O processes and paired processes *must* have a name. In all cases, the file "name" is 24 characters long and consists of three 8-byte components. Only the first component is required; the other two are used only for disk files and named processes.

Unnamed processes use only the first 8 bytes of the name. Unpaired system processes, such as the monitor or memory manager, have the format shown in Figure 8-7.

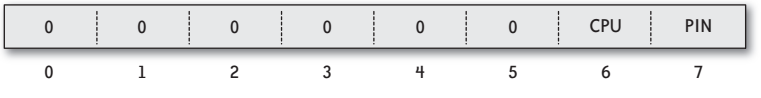

FIGURE 8-7. Name format for unpaired system processes

Unpaired user processes have the format shown in Figure 8-8.

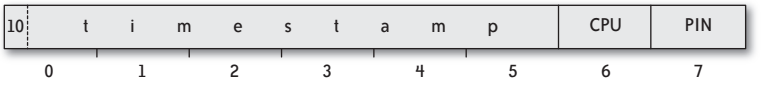

FIGURE 8-8. Name format for unpaired user processes

The combination *CPU* and *PIN* together forms the process ID, or *PID*. The PIN is the *process identification number* within the CPU. This limits each CPU to 256 processes.

Real names start with a $ sign. Devices use only the first 8 bytes, and disk files use all three components. The individual components look like the names of the disk, the directory, and the file, though in fact there is only one directory per disk volume. Processes can also use the other two components for passing information to the process.

Typical names are shown in Table 8-2.