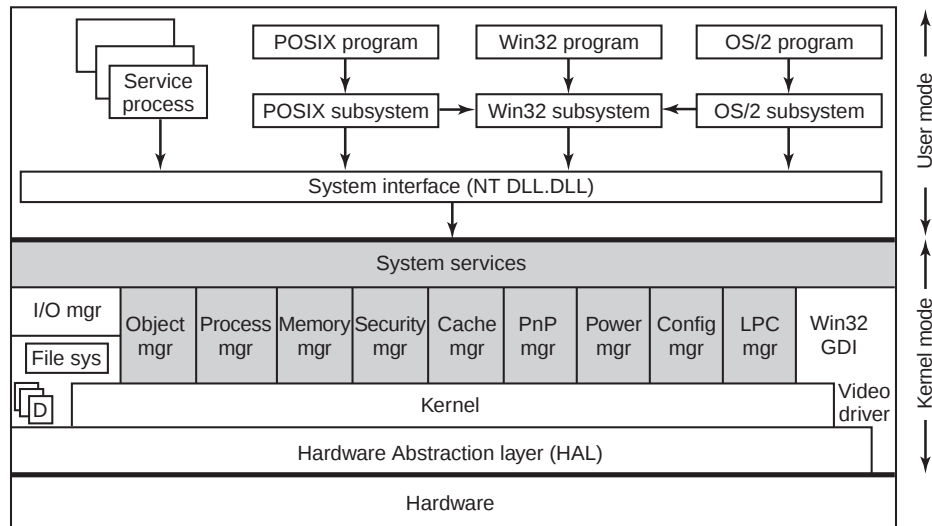
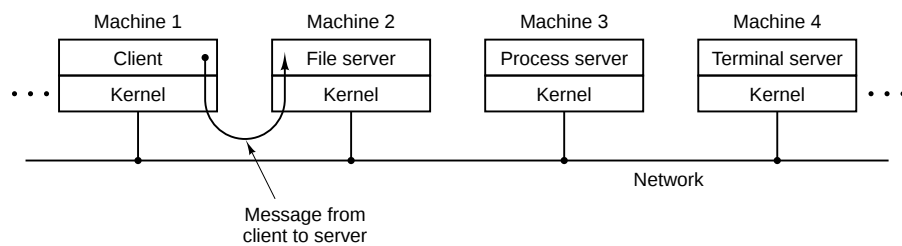


System calls					Interrupts and traps		
Terminal handling		Sockets	File naming	Map- ping	Page faults	Signal handling	Process creation and termination
Raw tty	Cooked tty	Network protocols	File systems	Virtual memory			
	Line disciplines	Routing	Buffer cache	Page cache		Process scheduling	
Character devices		Network device drivers	Disk device drivers			Process dispatching	
Hardware							

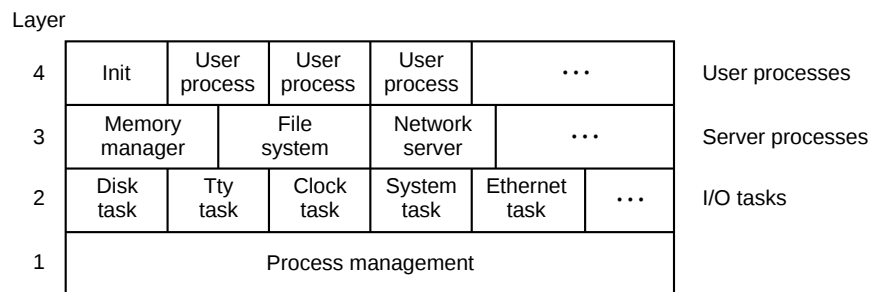
Windows NT /2000/XP/ ...



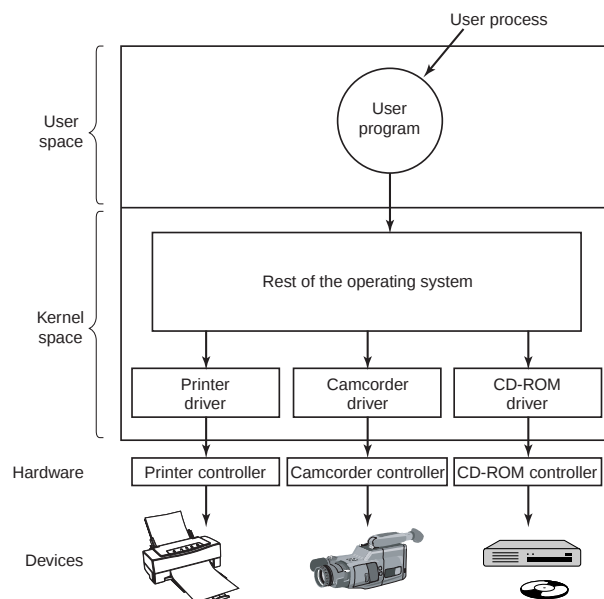
Distributed Micro-kernel



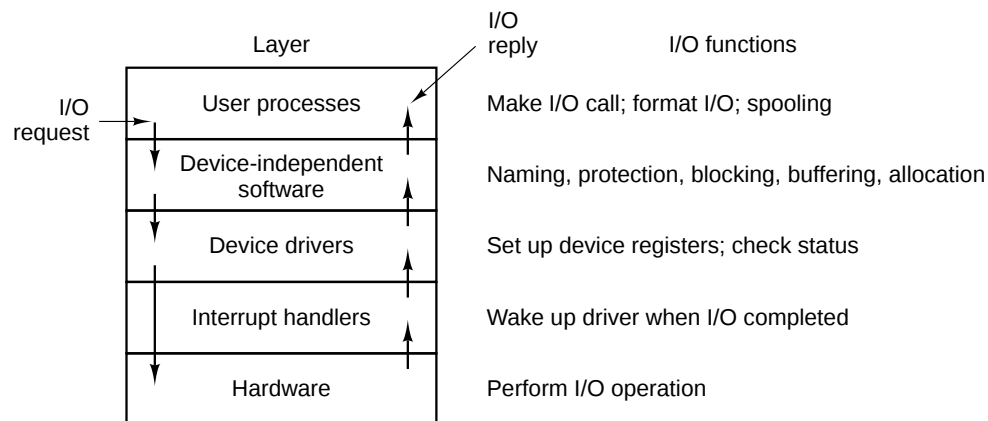
Minix Architecture



Input/output



Driver Layers



Kernel Concurrency

Simple

- Non-preemptive, non-interruptable
- Single processor: Disabling of interrupts
- Multi-processors: Must be supplemented with a global *spin lock*

Traditional

- Non-preemptive, interruptable (nested)
- Multi-processors: Global lock.

Modern

- Traditional + scheduling points
- Allows for *scheduable kernel activities*
- Multi-processors: Fine grade locking

High-performance

- Kernel operations preemptive (= concurrent threads)

Kernel Control Paths

