

OS Organization

- Monolithic
 - Layered
 - Modular
 - Microkernels
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- Pros and Cons: consider size, maintainability and correctness, extensibility and flexibility, performance, portability, ability to support existing applications...

Microkernels

- Liedtke: “... to minimize the kernel and to implement whatever possible outside of the kernel...”.
- What is a minimal kernel?
 - Provide minimal set of services, & support a minimal set of abstractions
 - Everything else implemented as a service outside of the ukernel

e.g.,

Abstraction	Services
Address space	Map, grant, flush pages
Execution context, i.e, thread	Context switch
Communication channel between address spaces	IPC/RPC

- and unique identifiers
- many other examples exist...
- is good performance feasible?