

Algoritmi e Linguaggi di Programmazione

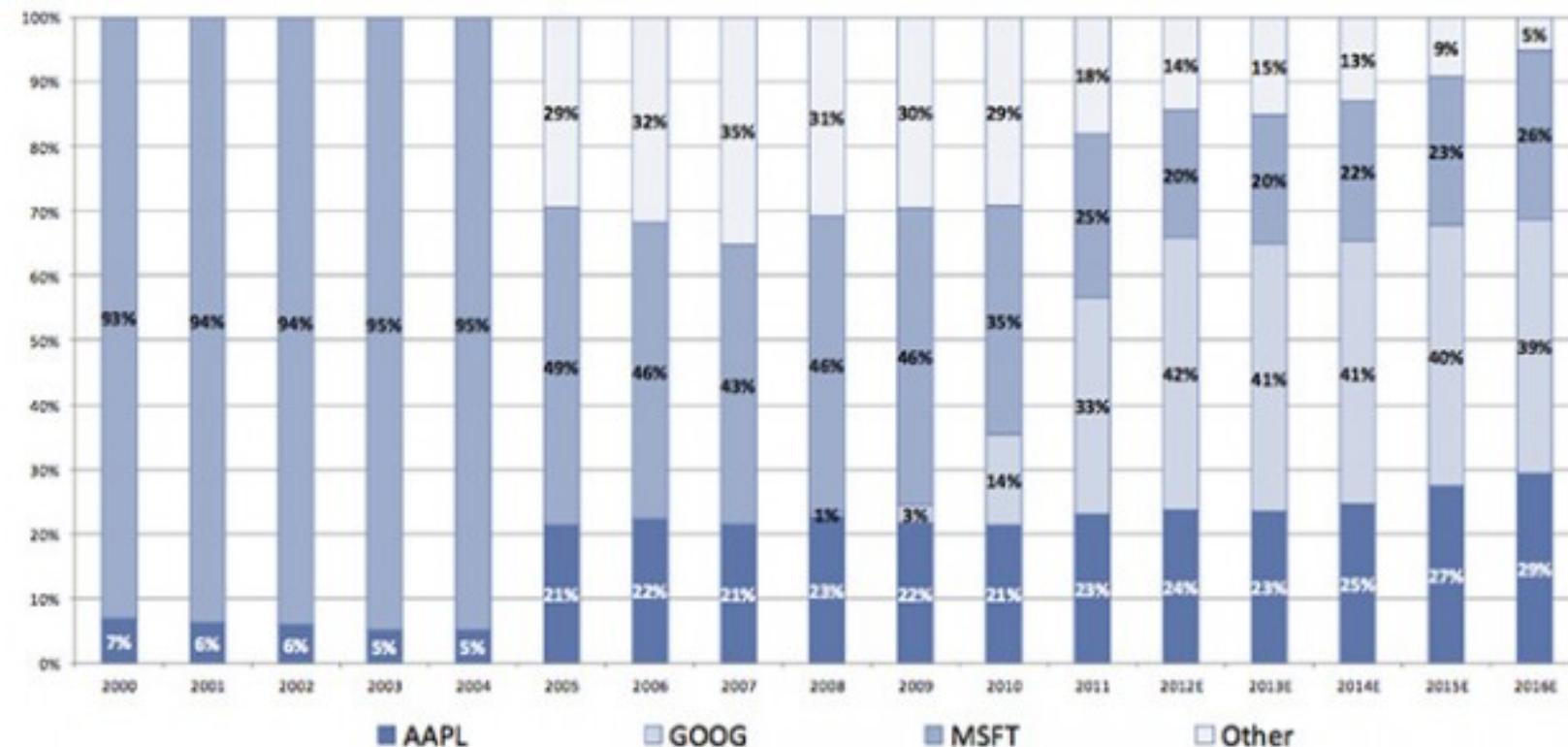
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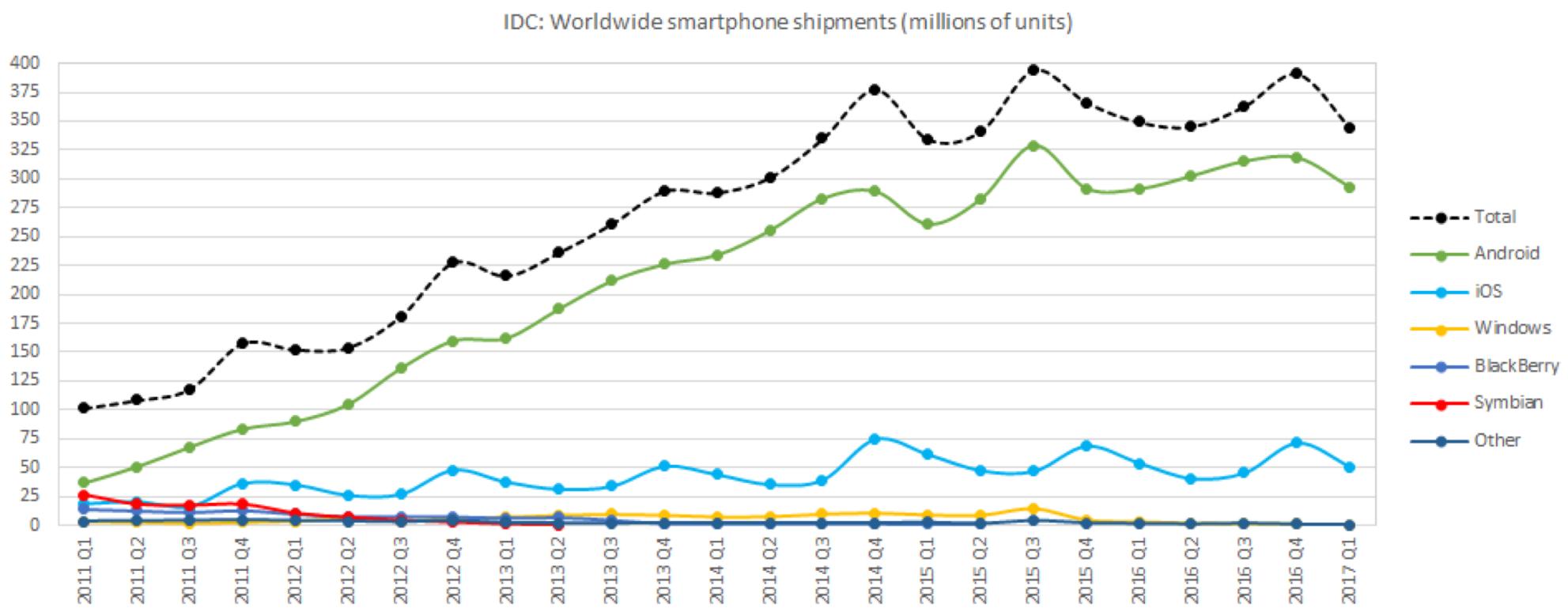
Total Market Share

Vendor share of consumer compute, 2000-2016E

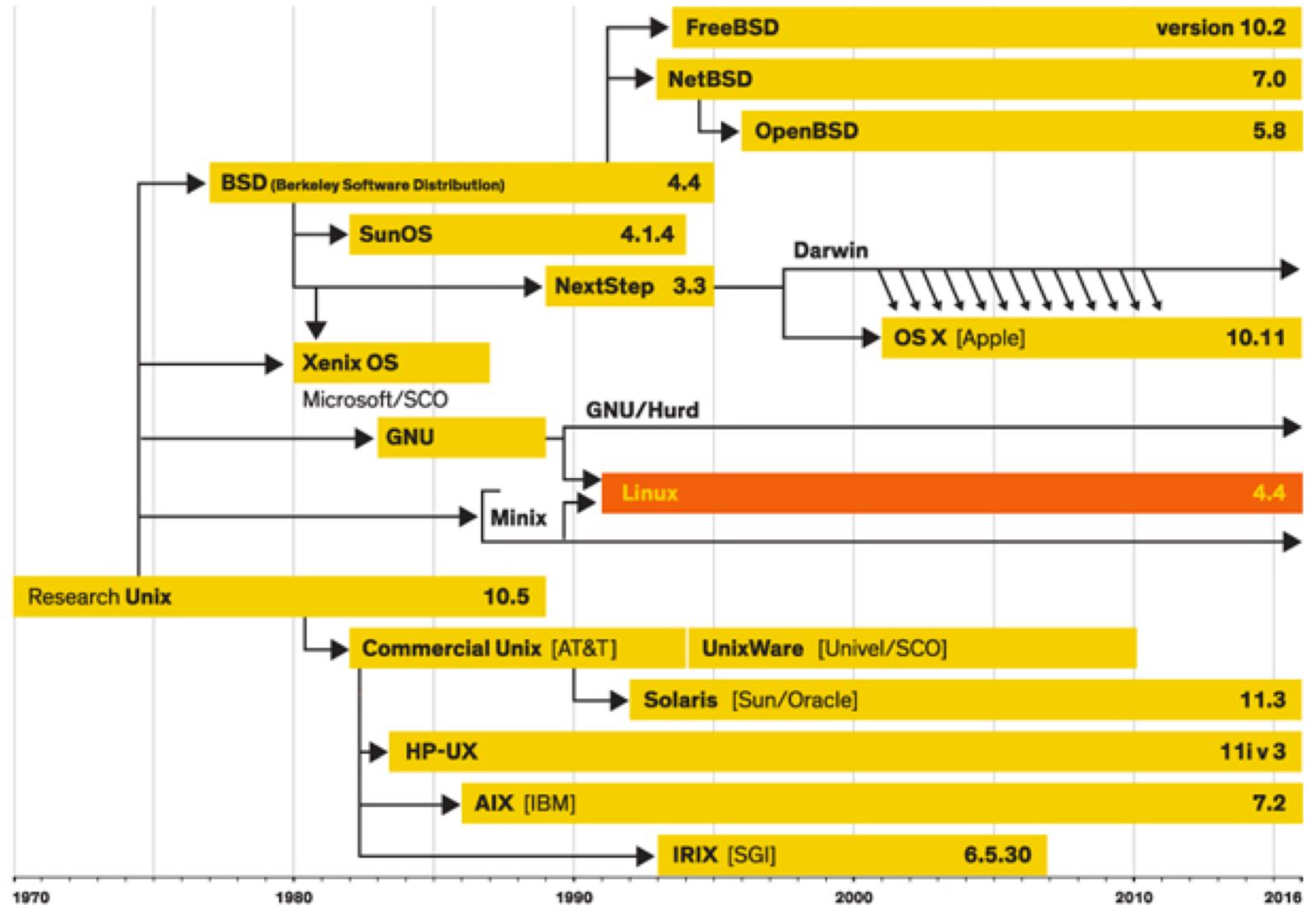


Source: IDC, Goldman Sachs Research.

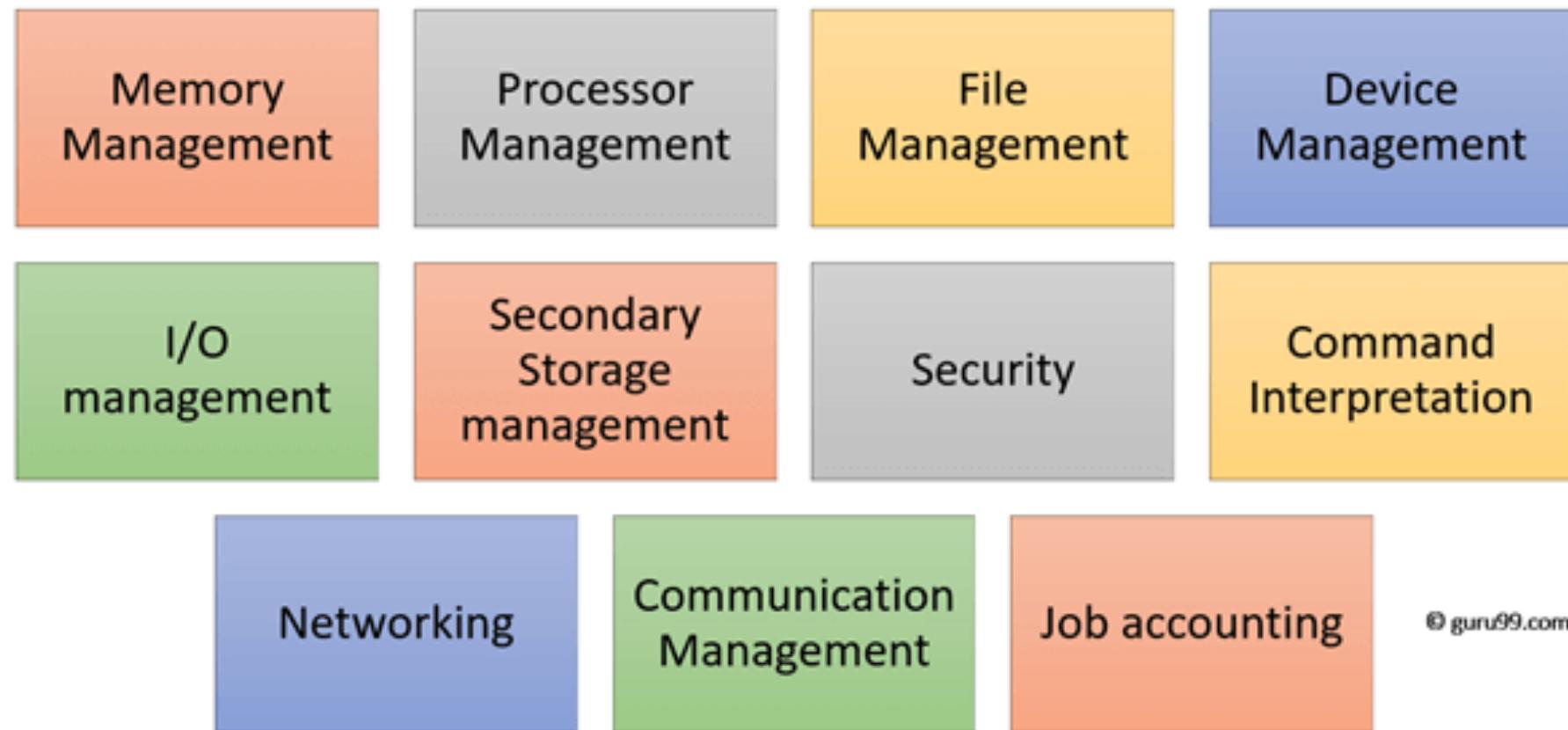
Mobile Market Share



Genealogia famiglia Unix

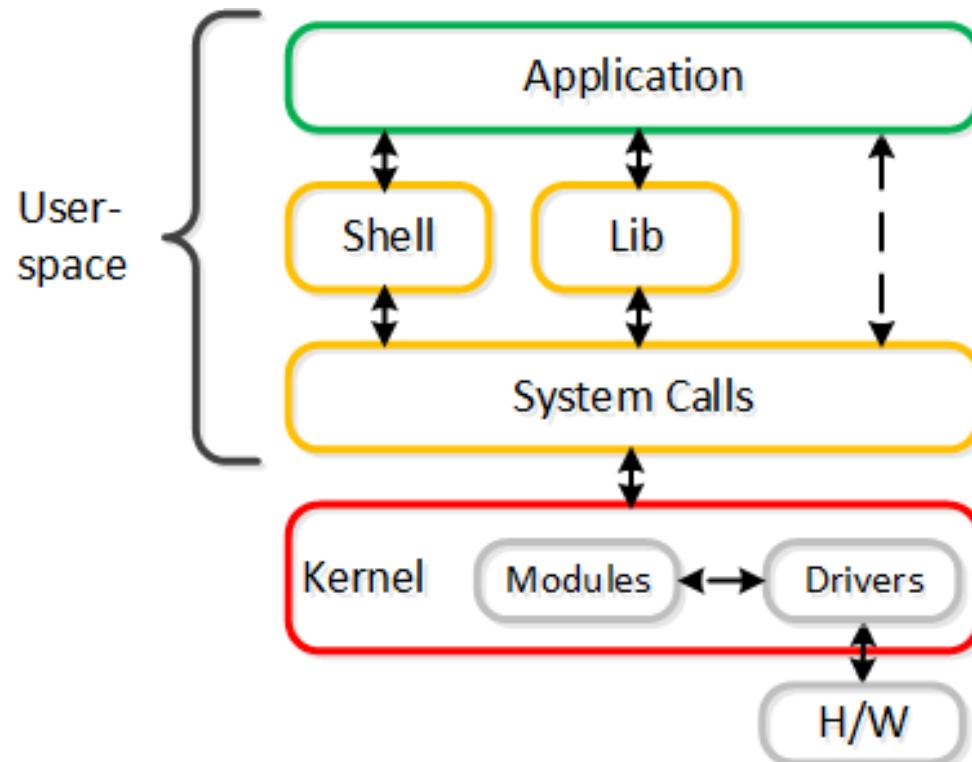


Funzionalità principali OS



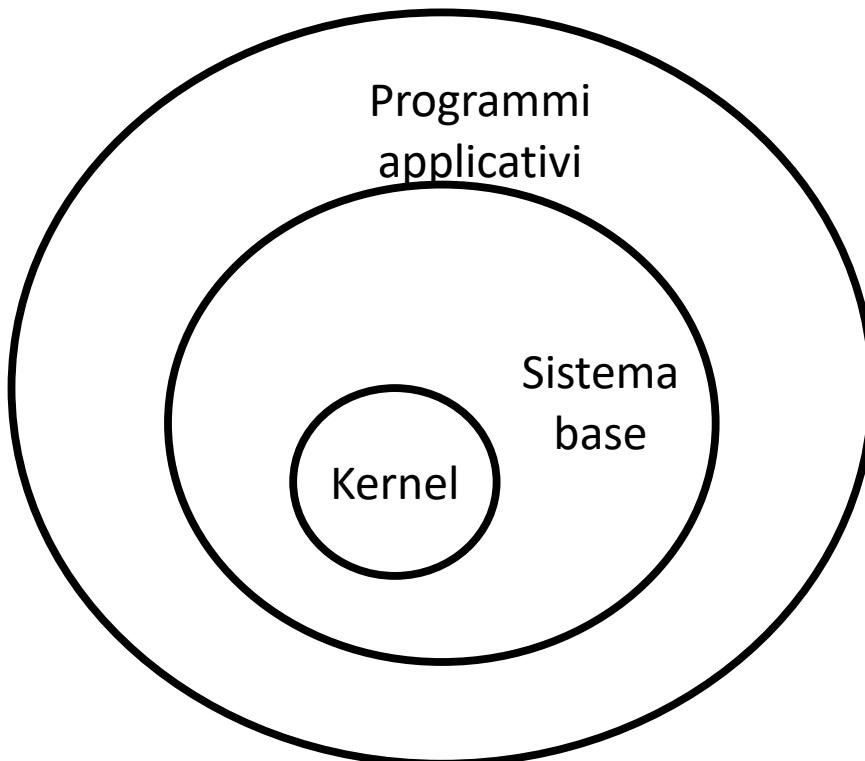
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Architettura interna



- Sistema Operativo
 - Kernel: mediatore fra applicazioni e hardware
 - Sistema base: gestisce la fase di boot ed un insieme di funzionalità minime
- Programmi applicativi

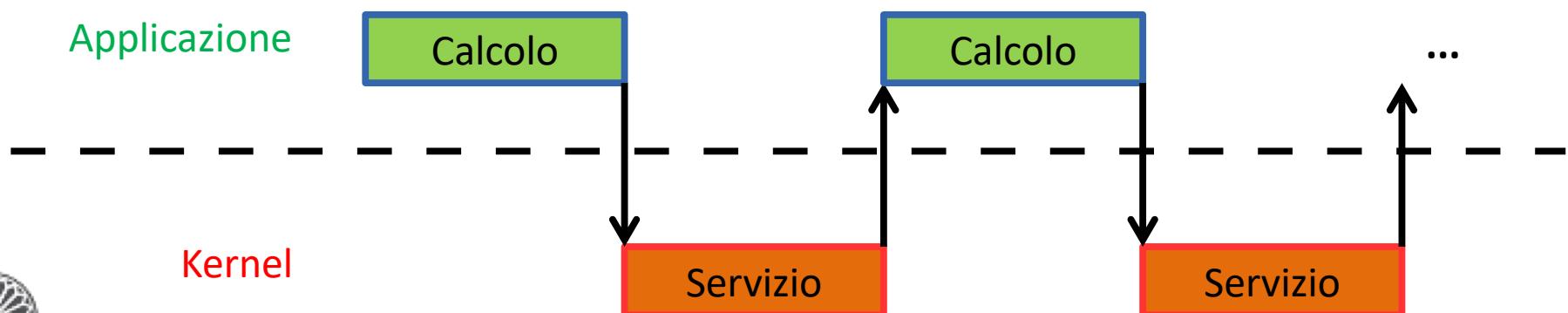
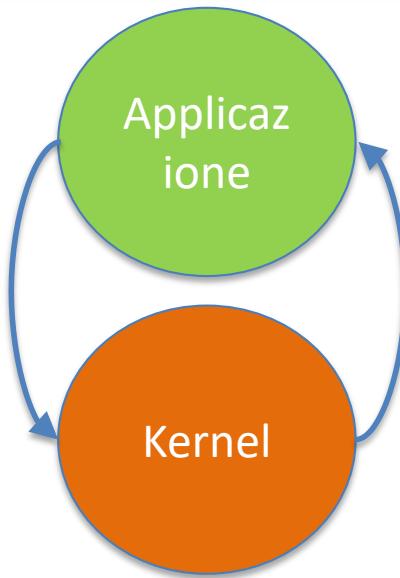
Struttura a guscio



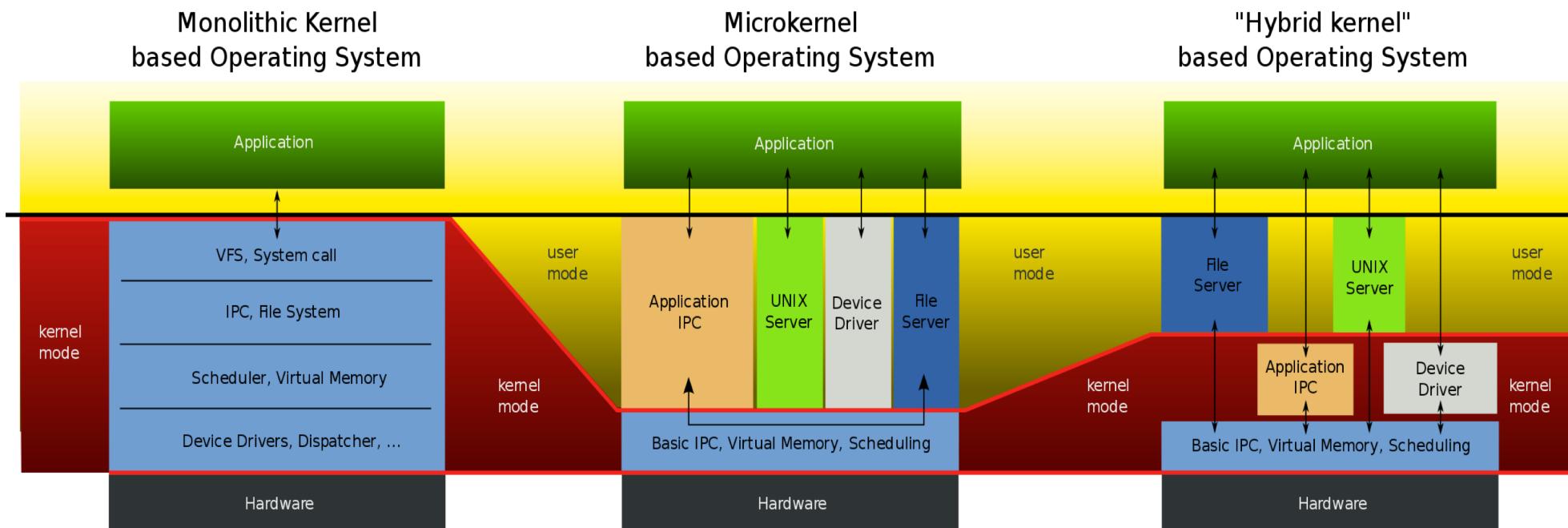
- Applicativi: browser, email, programme ufficio, compilatori
- Sistema base: libreria di sistema, sistema di boot, shell, terminale
- Kernel: gestione processi, filesystem, memoria, IPC

Interazione Kernel - Applicazioni

- Modello Client-Server
 - Applicazioni richiedono servizi al kernel
 - Kernel elabora la risposta e la fornisce alla applicazione

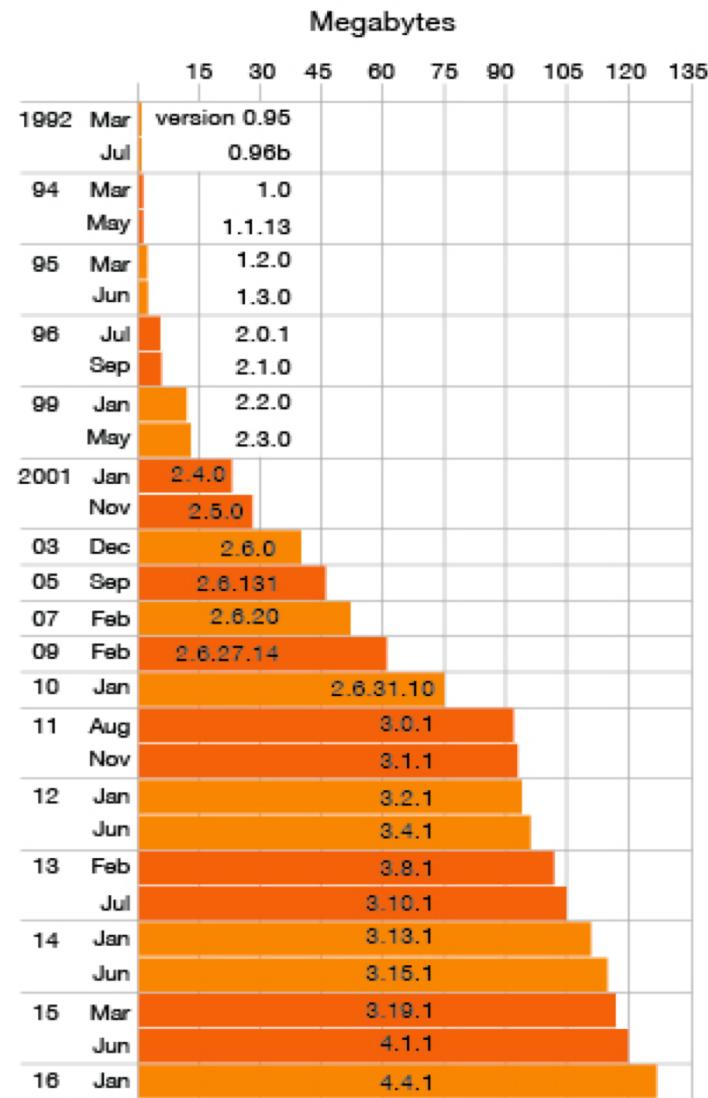


Monolitici, Micro, Ibridi



Quanto è complesso un kernel?

- 20K SLOC (XV6)
- <https://github.com/mit-pdos/xv6-public>
- 30M SLOC (Linux Kernel 5)
- <https://www.kernel.org/>



Linux Performance Tools

