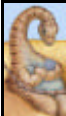


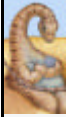
## Capitolo 2: Strutture dei sistemi operativi



## Capitolo 2: Strutture dei sistemi operativi

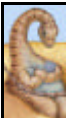
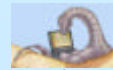
- Servizi di un sistema operativo
- Interfaccia con l'utente del sistema operativo
- Chiamate di sistema
- Categorie di chiamate di sistema
- Programmi di sistema
- Progettazione e realizzazione di un sistema operativo
- Struttura del sistema operativo
- Macchine virtuali
- Generazione di sistemi operativi
- Avvio del sistema



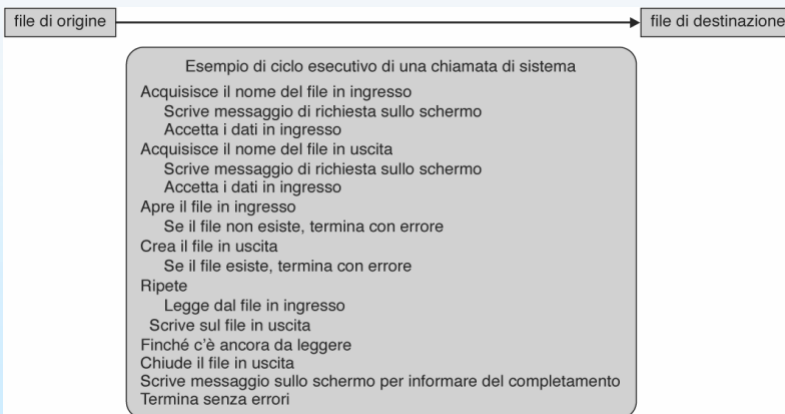


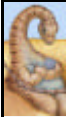
## Obiettivi

- Descrizione dei servizi messi a disposizione dal sistema operativo a utenti, processi e altri sistemi.
- Esame delle possibili strutture dei sistemi operativi.
- Installazione e adattamento dei sistemi operativi; descrizione delle operazioni da eseguire all'avvio.

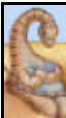
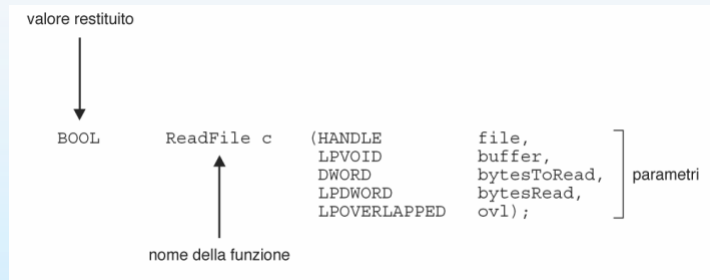


## Esempio d'uso delle chiamate di sistema

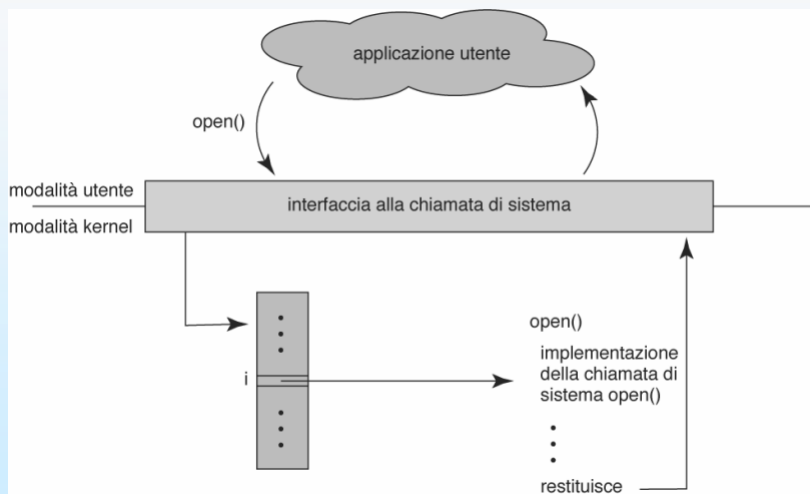




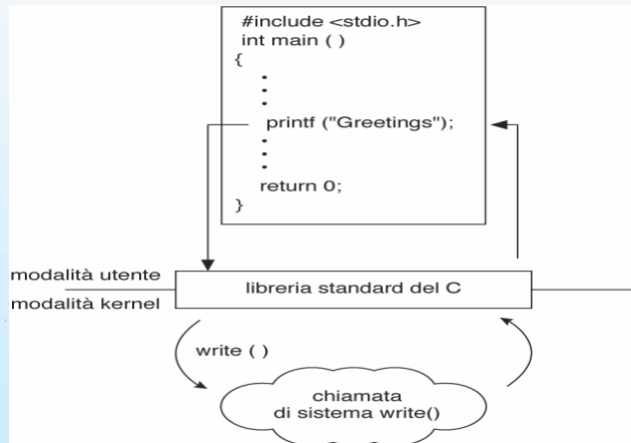
## Tipico esempio di API



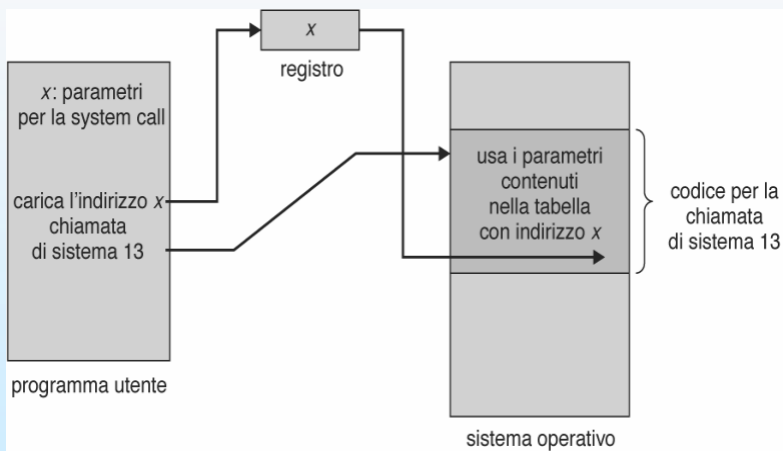
## Chiamata di sistema open() invocata da un'applicazione utente

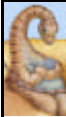


## Esempio di libreria standard del linguaggio C

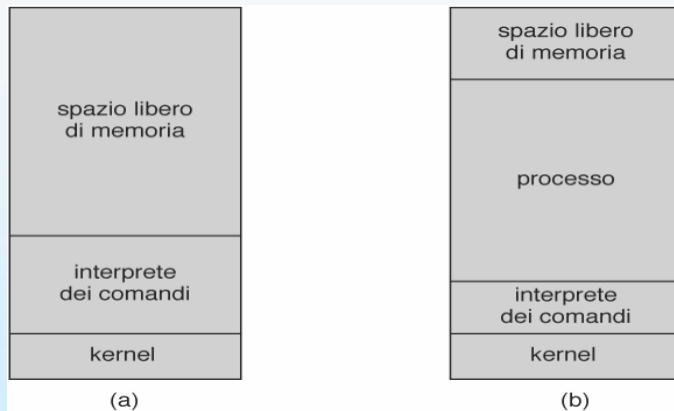


## Passaggio di parametri in forma di tabella

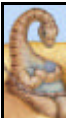
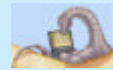




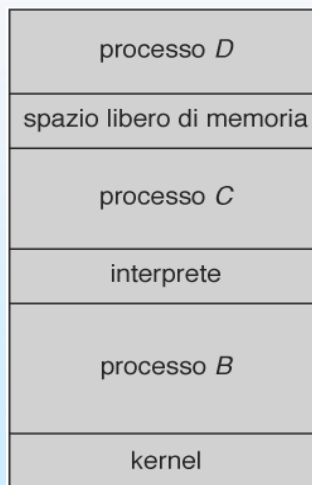
## Esecuzione nell'MS-DOS

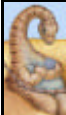


(a) All'avviamento del sistema (b) Durante l'esecuzione di un programma



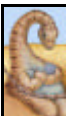
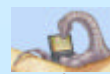
## Esecuzione di più programmi nel sistema operativo FreeBSD



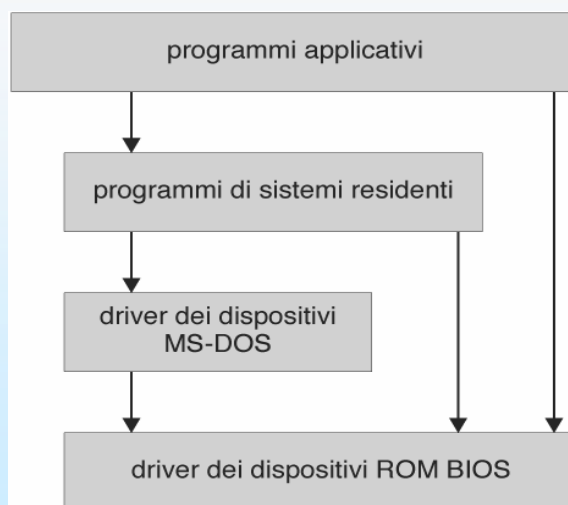


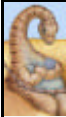
## Tracciatura di una chiamata di sistema in Solaris 10 tramite dtrace

```
# ./all.d 'pgrep xclock' XEventsQueued
dtrace: script './all.d' matched 52377 probes
CPU FUNCTION
0 -> XEventsQueued U
0 -> _XEventsQueued U
0 -> _X11TransBytesReadable U
0 <- _X11TransBytesReadable U
0 -> _X11TransSocketBytesReadable U
0 <- _X11TransSocketBytesReadable U
0 -> ioctl U
0 -> ioctl K
0 -> getf K
0 -> set_active_fd K
0 <- set_active_fd K
0 <- getf K
0 -> get_udatamodel K
0 <- get_udatamodel K
...
0 -> releasef K
0 -> clear_active_fd K
0 <- clear_active_fd K
0 -> cv_broadcast K
0 <- cv_broadcast K
0 <- releasef K
0 <- ioctl K
0 <- ioctl U
0 <- XEventsQueued U
0 <- XEventsQueued U
```

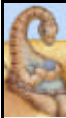
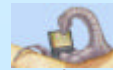
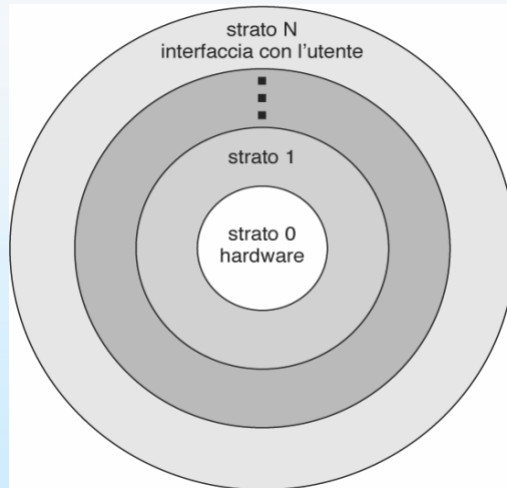


## Struttura degli strati dell'MS-DOS

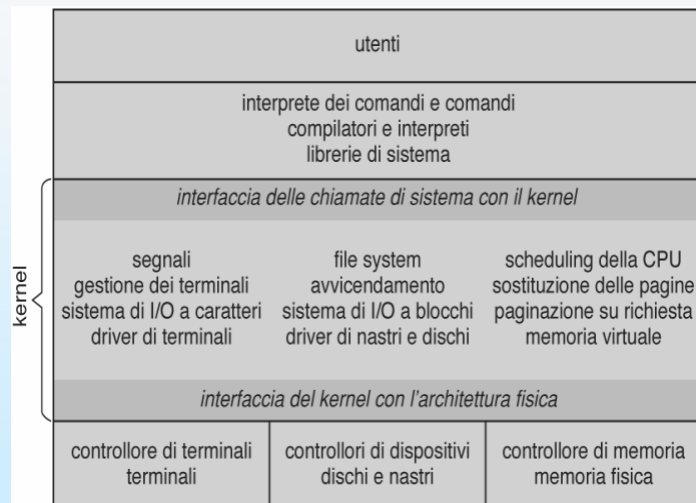




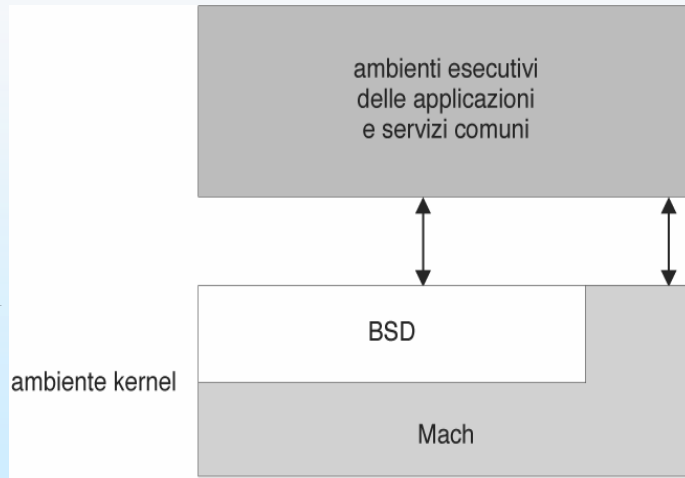
## Struttura a strati di un sistema operativo



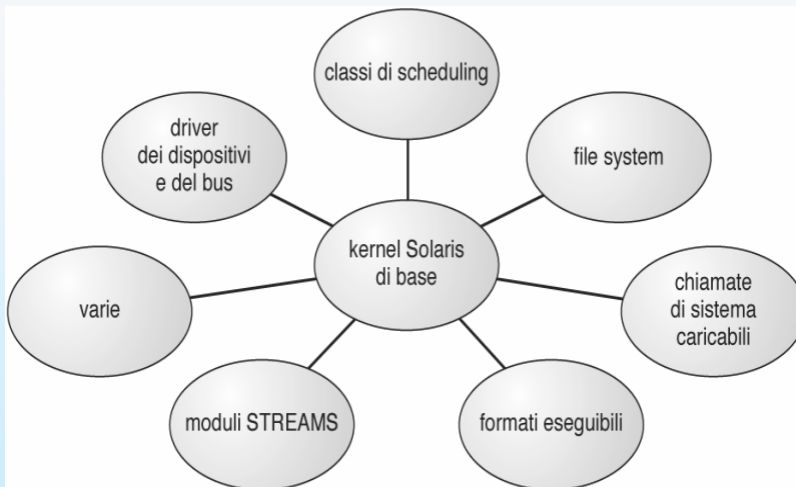
## Struttura del sistema UNIX



## Struttura di Mac OS X

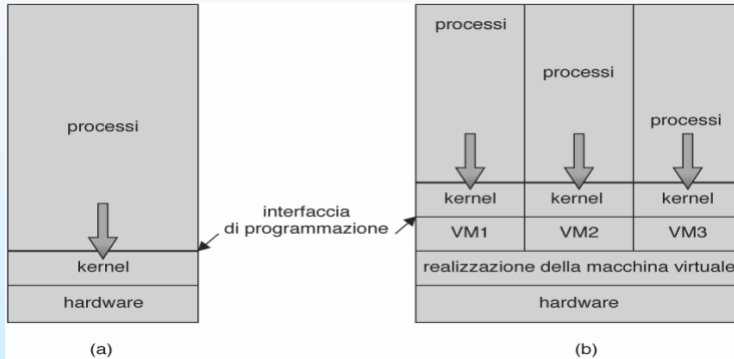


## Moduli caricabili di Solaris



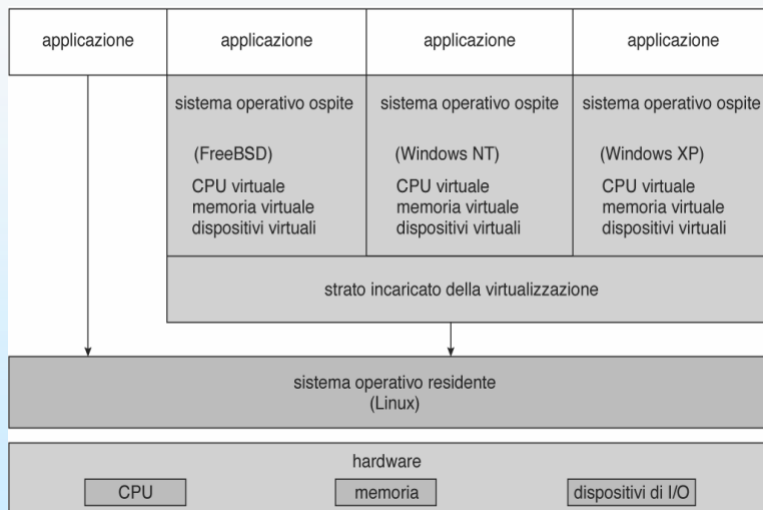


# Modelli di sistema

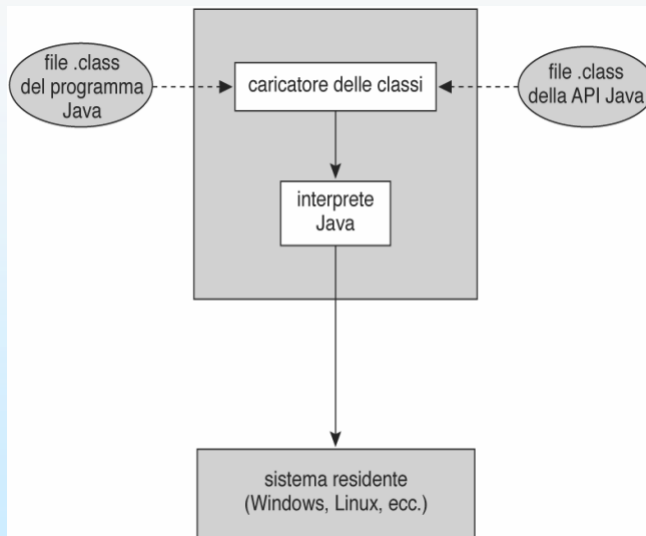


(a) Semplice (b) Macchina virtuale

# Architettura VMware



## La macchina virtuale Java



## Fine del Capitolo 2

