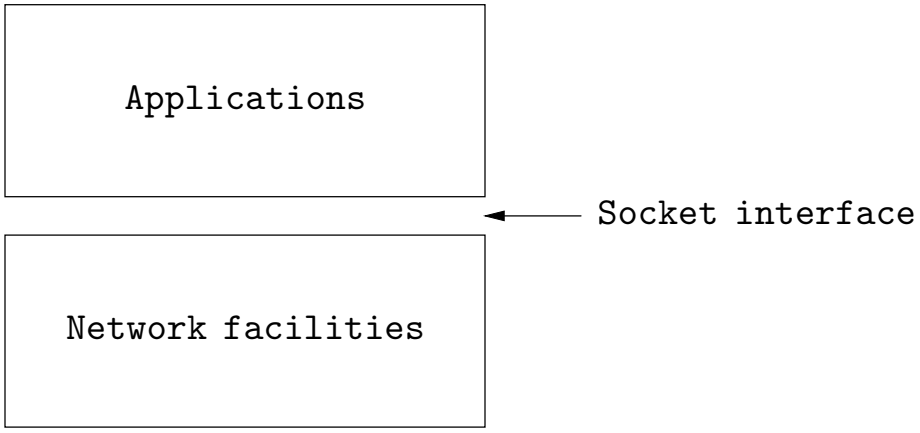
Chapter 4
Interfaces

Problem: How to talk to TCP/IP



Sockets provide an interface to the network facilities

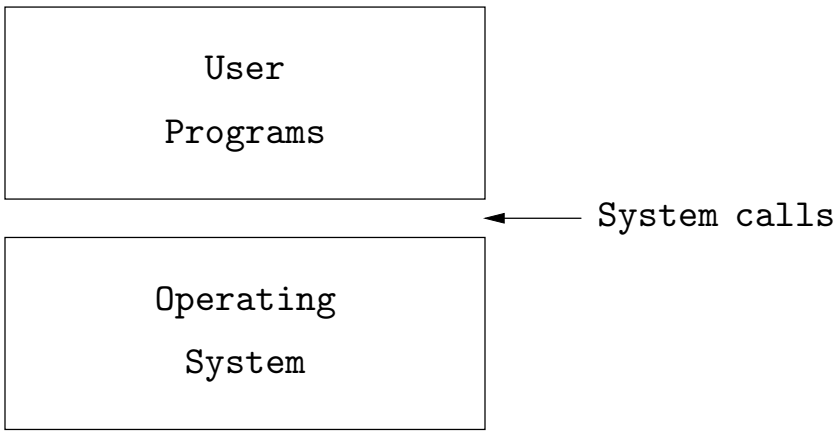
Other interfaces to TCP/IP include TLI (Transport Layer Interface)

Design decision: the nature of the interface

Operating System Interfaces

Some way of accessing system capabilities is needed.

Including: file access, terminal access, protection (passwd, access permissions), interprocess communications, synchronization capabilities, and network communications.



Methodology: System calls
What calls are/should be provided?

Berkeley Unix design decision: files.
Interprocess communication = pipes = file like
disks and terminals = special files
Network communication = sockets = file like

File Operations in Unix

open: get I/O access to a file

close: end access to a file

read: get information from a file

write: send information to a file

lseek: shift position in a file

ioctl: I/O control, do something with a file

Socket Operations:

Will follow file operations as closely as pratical

Overview:

TCP/IP: Specifies how two machines communicate. It specifies the network facilities provided.

Sockets: Specifies how to talk to the TCP/IP network facilities. Other methods of talking to the network facilities are allowed.

For machines to communicate both must use TCP/IP. They *do not* both have to use sockets.