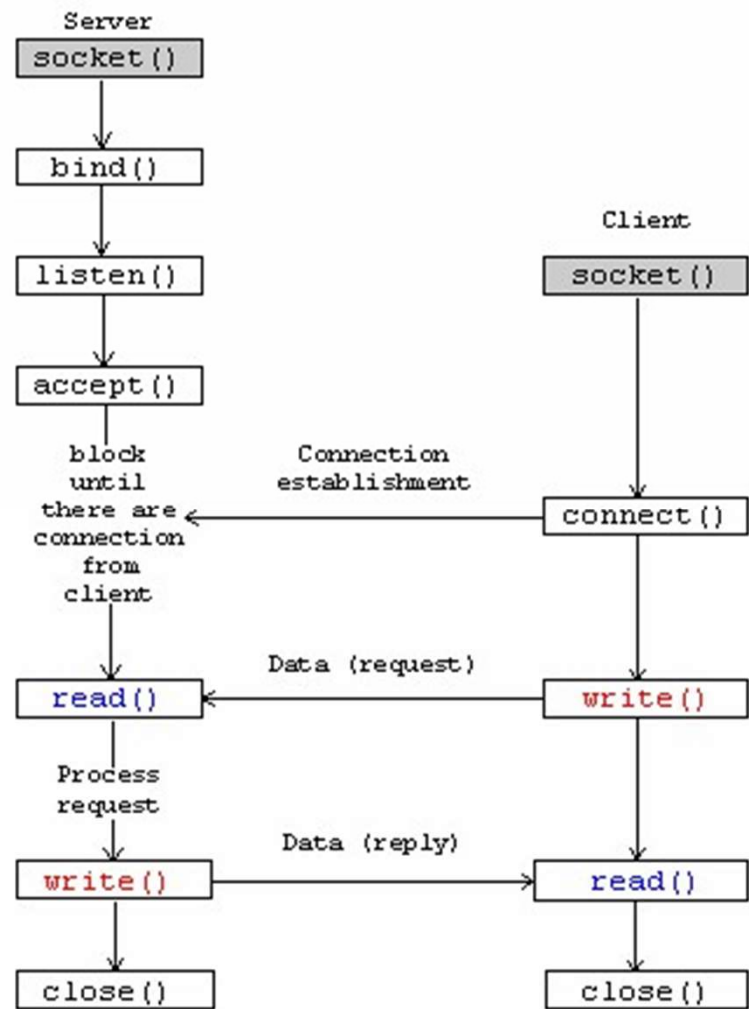


Socket UDP

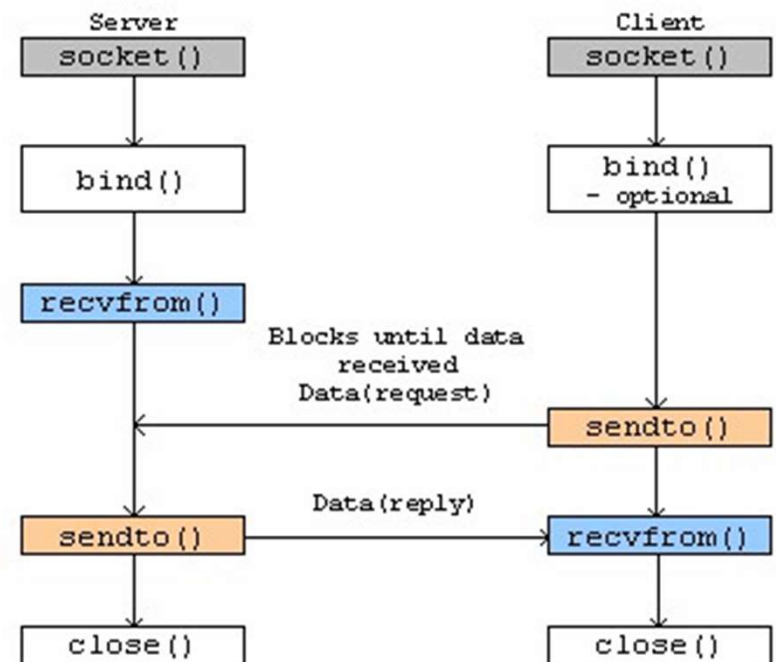
Fast but unreliable

TCP vs. UDP

TCP	UDP
Reliable	Unreliable
Connection-oriented	Connectionless
Segment retransmission and flow control through windowing	No windowing or retransmission
Segment sequencing	No sequencing
Acknowledge segments	No acknowledgement



TCP



UDP

Basic system calls

```
struct sockaddr_in      destAddr, senderAddr;
```

```
socket(AF_INET, SOCK_DGRAM, 0)
```

```
sendto(sockd, sendline, n, 0, (struct sockaddr*)&destAddr, servlen)
```

```
recvfrom(sockfd, mesg, MAXLINE, 0, (struct sockaddr*)&senderAddr, &len)
```

Basic system calls (cont'd)

Client

- `socket()`
- ...
- `sendto()`
- `recvfrom()`
- ...
- `close()`

Server

- `socket()`
- `bind()`
- `while(1)`
 - `recvfrom()`
 - `sendto()`
- `close()`

Assignment

- Write an echo application by using UDP socket
 - Try to send packets to an non-existent server
- Write an echo application by using UDP-connected socket
 - `connect()` and `write()/read()` on client side
 - try to send packets to an non-existent server
 - the system call "`read()`" will fail