

Lecture 8 — Port numbers and Sockets

number

port

IANA

well known Port numbers

not

/etc/protocols

grep /etc/services

User (Registered) Ports

rlogin

SSL

Dynamic and/or Private Ports

Sockets

A *socket* is the combination of an IP address, type, and port number.

socket number

read/recv *write/send*

Stream sockets

Datagram sockets

raw socket



Example pseudo-code of client using TCP/IP socket to connect to server:

```
sock = create_socket( PF_INET, SOCK_STREAM );
sock.connect( dest_addr, dest_port );
if ( sock.is_connected() ) {
    sock.send( request_data );
    sock.recv( response_data );
}
sock.close();
```

inetd

inetd *xinetd*

daemons

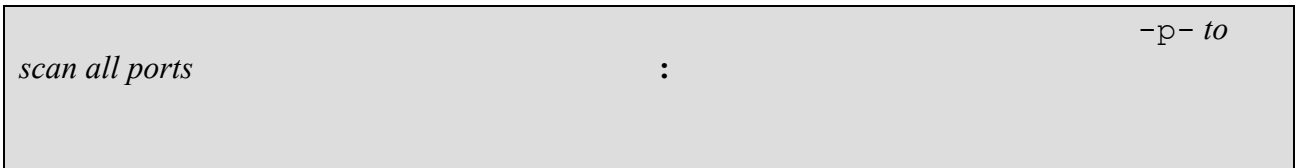
spawn

/etc/inetd.conf

port protocol

lsof -

i | grep LISTEN



```
# Shows what program is listening on what port:
# Show all connections, like lsof
# Show LISTENING (services) only
```

Question

Answer:

RPC

RPC

service-name program-number aliases *RPC program number* */etc/rpc*
procedure numbers

With dynamic port number assignment it is difficult to open firewall holes for just the services your host provides.

NFS rlogin

-p