

# Basics of Port Addressing

CSE320 – Data Communications

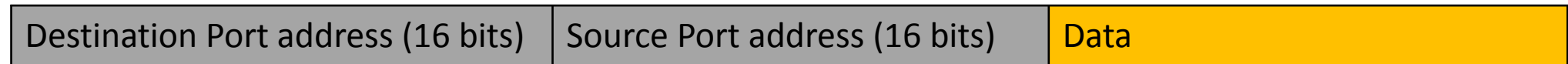
Department of Computer Science and Engineering  
School of Data & Science

# Port Addressing

- What does port number mean?
- How this port number is assigned?
- Port number ranges
- Port number in real devices

# Port Addressing

- A port address identifies a specific application or process running on a host(computer/server).



- At the software level, within an operating system, a port is a logical construct that identifies a specific process or a type of network service.

# How to assign port number?

- To differentiate the data for each application, Transport layer uses port numbers.

From Computer to Server

Dest. Port: 110	Source port: 49155	Email Data
Dest. Port: 80	Source port: 49156	HTML Page
Dest. Port: 531	Source port: 49157	Chat Data

From Server to Computer

Dest. Port: 49155	Source port: 110	Email Data
Dest. Port: 49156	Source port: 80	HTML Page
Dest. Port: 49157	Source port: 531	Chat Data

## Port Addressing

Source Port number:  
assigned by OS



To: you@example.com  
From: me@example.com  
Subject: Vacation



Different  
Applications →

Electronic Mail

HTML Page

Internet Chat

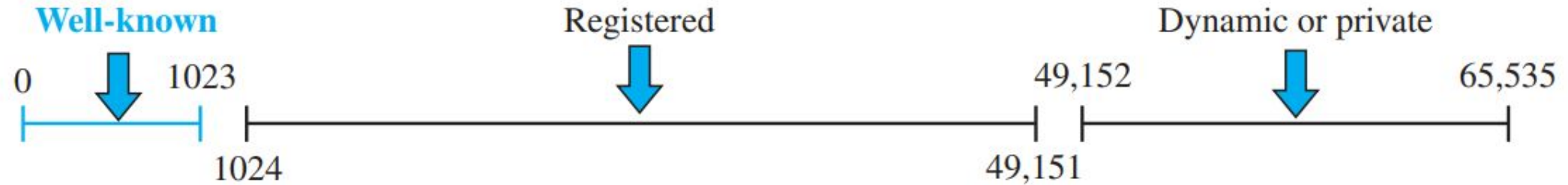
Destination Port  
number

Port 110

Port 80

Port 531

# Port Number Ranges



- ❑ Well-known ports: The ports ranging from 0 to 1023 are assigned and controlled by ICANN. These are the well-known ports used by the servers.
- ❑ Registered ports: The ports ranging from 1024 to 49,151 are not assigned or controlled by ICANN. They can only be registered with ICANN to prevent duplication.
- ❑ Dynamic or private ports: The ports ranging from 49,152 to 65,535 are neither controlled nor registered. They can be used as temporary or private port numbers.

**Clients can use any private port number, servers can't. Because clients won't be able to identify server process otherwise.**

# Port number in real devices

- Type resmon in cmd

*Some Notable well-known port numbers*

Number	Assignment
20	<a href="#">File Transfer Protocol</a> (FTP) Data Transfer
23	<a href="#">Telnet</a> remote login service
25	<a href="#">Simple Mail Transfer Protocol</a> (SMTP) email delivery
80	<a href="#">Hypertext Transfer Protocol</a> (HTTP) used in the <a href="#">World Wide Web</a>
443	<a href="#">HTTP Secure</a> (HTTPS) HTTP over TLS/SSL

