



# 95-702 Distributed Systems

## Lecture 18: Naming

Sources: "Computer Networks" by Peterson and Davie and Sun Microsystems Java documentation.

# Name Services

- User friendly name usually vary in length and are mnemonic.
- Little in a user friendly name helps locate a host.
- Addresses, by contrast, may have imbedded routing information.
- Flat addresses (those not divisible into component parts) are the exception.
- IP addresses have a network part and a host part.
- IP addresses are used by routers.
- But IP addresses are not user friendly.
- A system is needed to map user friendly names to router friendly addresses.

# Terminology

- A **namespace** defines a set of possible name.
- In a **flat namespace**, names are not divisible into components.
- In a **hierarchical namespace**, names are broken into components. E.g., Unix, DOS, URL's, etc.
- A **naming system** is a collection of bindings of names to values. These values are often addresses.
- A **resolution mechanism** is a procedure that, when invoked with a name, returns a corresponding value.
- A **name server** is a specific implementation of a resolution mechanism that is available on a network and can be queried by sending it a message.