



## State Diagrams

EE 122: Intro to Communication Networks

Fall 2007 (WF 4-5:30 in Cory 277)

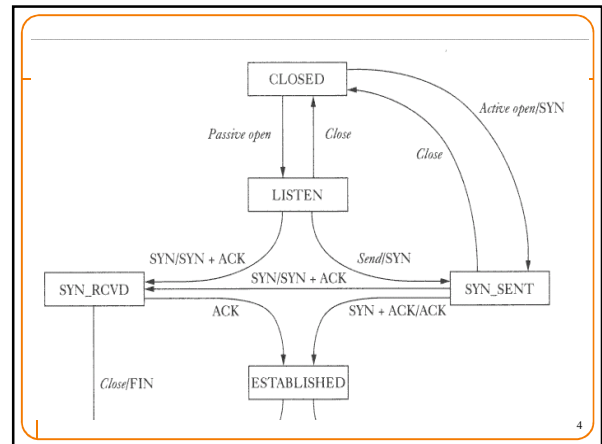
Vern Paxson

TAs: Lisa Fowler, Daniel Killebrew & Jorge Ortiz

<http://inst.eecs.berkeley.edu/~ee122/>

Materials with thanks to Jennifer Rexford, Ion Stoica, and colleagues at Princeton and UC Berkeley

1

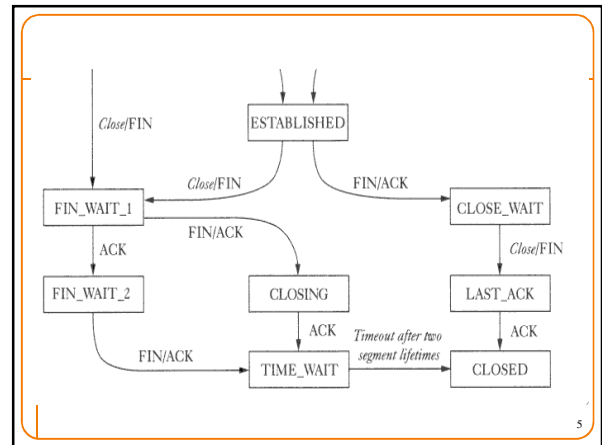


4

## State Diagrams

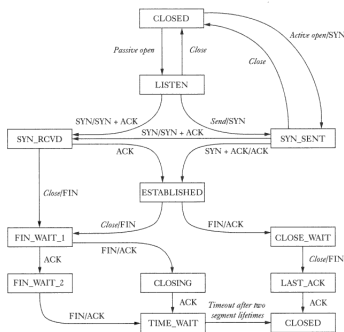
- For complicated protocols, operation depends critically on current mode of operation
- Important tool for capture this: **state diagram**
- At any given time, protocol endpoint is in a particular state
  - Dictates its current behavior
- Endpoint transitions to other states on **events**
  - Interaction with lower layer
    - o Reception of certain types of packets
  - Interaction with upper layer
    - o New data arrives to send, or received data is consumed
  - Timers

2



5

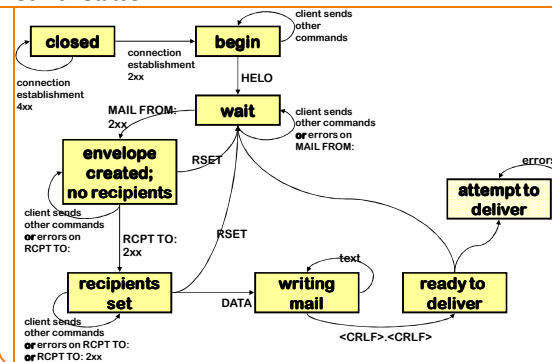
## TCP State Diagram



3

## SMTP State Diagram

### Server States



6

# SMTP State Diagram

## Command States

HELO  
MAIL  
RCPT  
RSET  
SEND  
SOML  
SAML  
VRFY  
EXPN  
HELP  
NOOP  
QUIT  
TURN

