
Lecture 3

Applications and Application Requirements

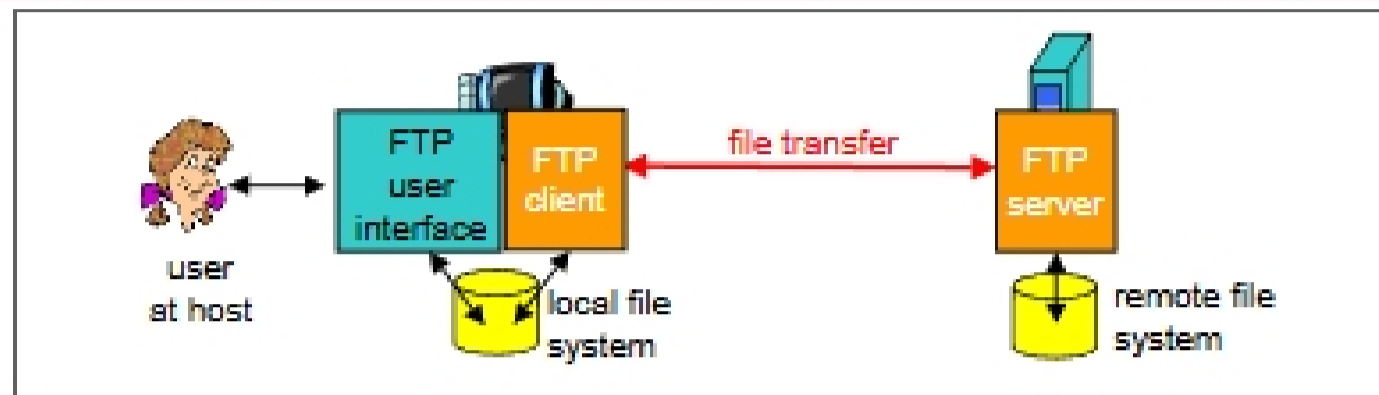
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Lecture Overview

- **Application examples.**
 - » ftp
 - » http
- **Application requirements.**
 - » “ilities”
 - » Sharing
- **Internet architecture discussion.**

Ftp: The File Transfer Protocol



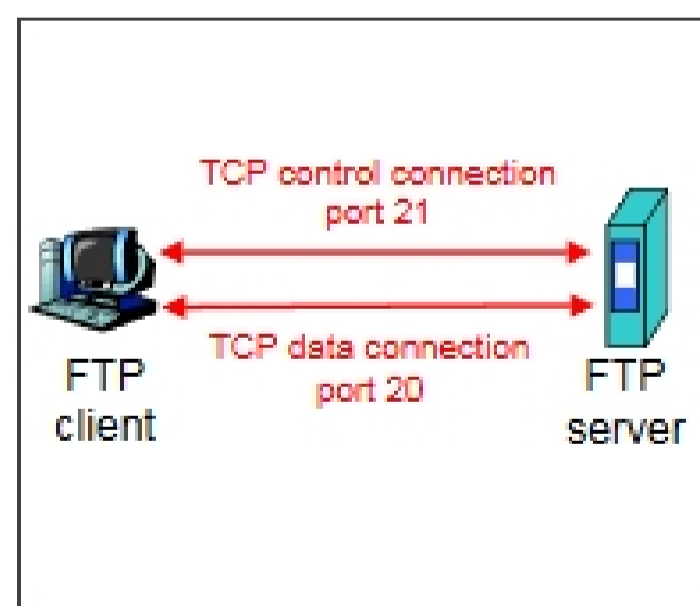
- Transfer file to/from remote host
- Client/server model
 - » *Client*: side that initiates transfer (either to/from remote)
 - » *Server*: remote host
- ftp: RFC 959
- ftp server: port 21

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Ftp: Separate Control, Data Connections

- Ftp client contacts ftp server at port 21, specifying TCP as transport protocol
- Two parallel TCP connections opened:
 - » **Control**: exchange commands, responses between client, server.
"out of band control"
 - » **Data**: file data to/from server
- Ftp server maintains "state": current directory, earlier authentication



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Ftp Commands, Responses

Sample Commands:

- sent as ASCII text over control channel
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