



Distributed Software Development ***TCP/IP overview***

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2b-0: A Brief overview of TCP/IP

- ⑥ Goal: Understand how a network transmits messages at different layers.
- ⑥ How is a network composed?
- ⑥ What really happens when Firefox opens a connection to a web server?
- ⑥ Note: this will be an overview: For more details, you should take Prof. Buckwalter's class.

2b-1: Layering

- ⑥ Modern network design takes advantage of the idea of *layering*
- ⑥ A particular service or module is constructed as a black box.
- ⑥ Users of that service do not need to know its internals, just its interface.
- ⑥ This makes it easy to later build new modules (or layers) that use the lower layers.
- ⑥ For example, HTTP is built on top of TCP.
 - ▲ A web browser does not typically need to worry about the implementation of TCP, just that it works.
- ⑥ Unlike modules in a typical OO system, the layers in a networked system comprise protocols that span multiple machines.