

Application Layer

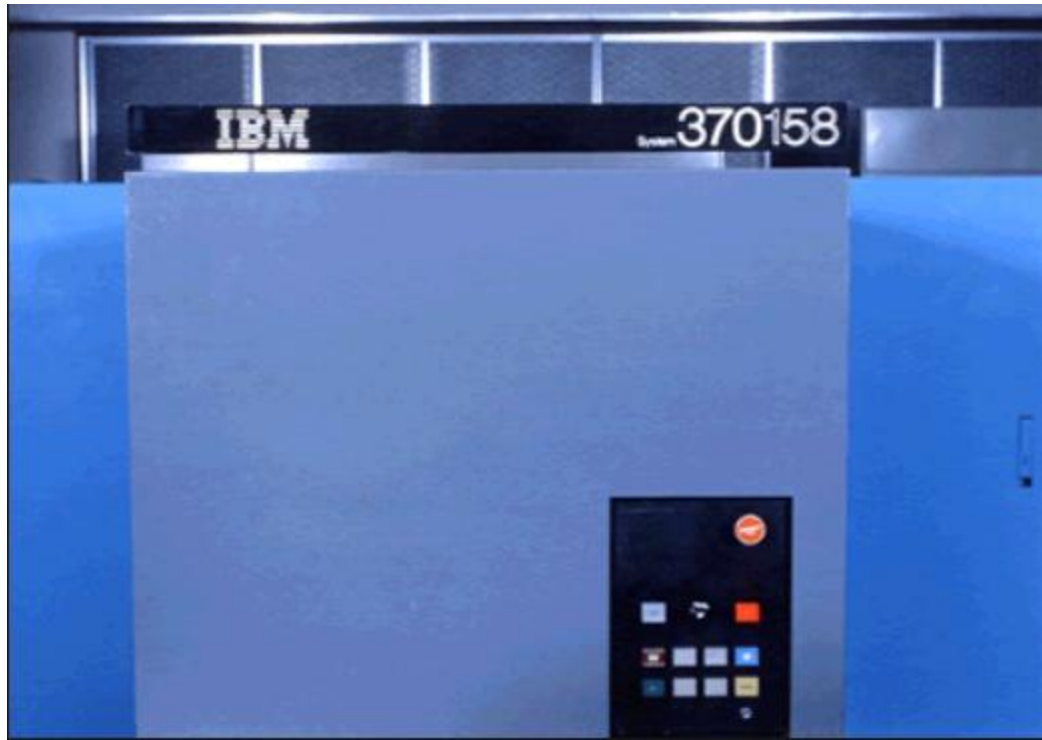
Chapter 2 Summary

Ed Crowley

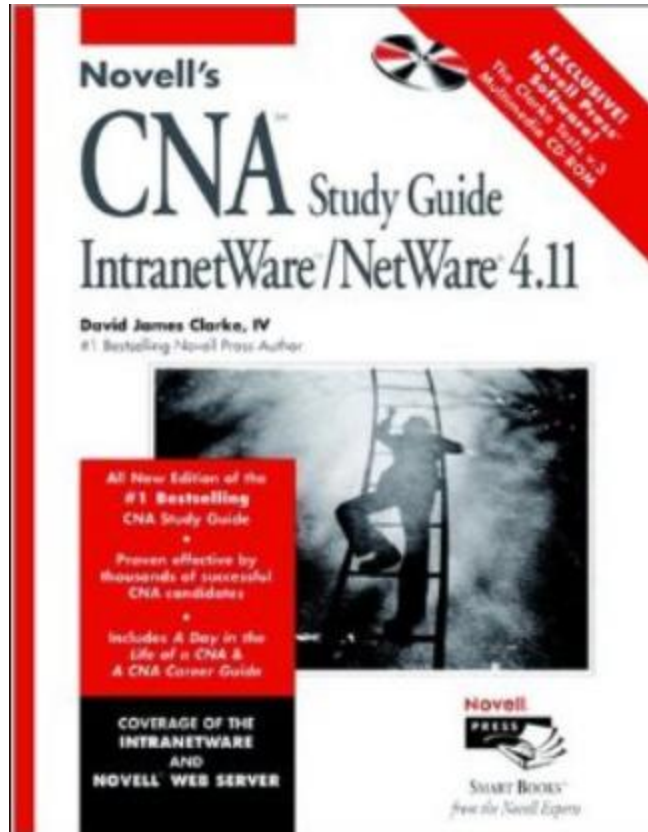
Four Application Architectures

1. Host-based networks
 - Server performs virtually all of the work.
2. Client-based networks
 - Client computer does most of the work
 - Server used only for data storage.
3. Client-server networks
 - Work is shared between the servers and clients.
4. Peer-to-peer networks
 - Client computers also play the role of a server.

Host Based

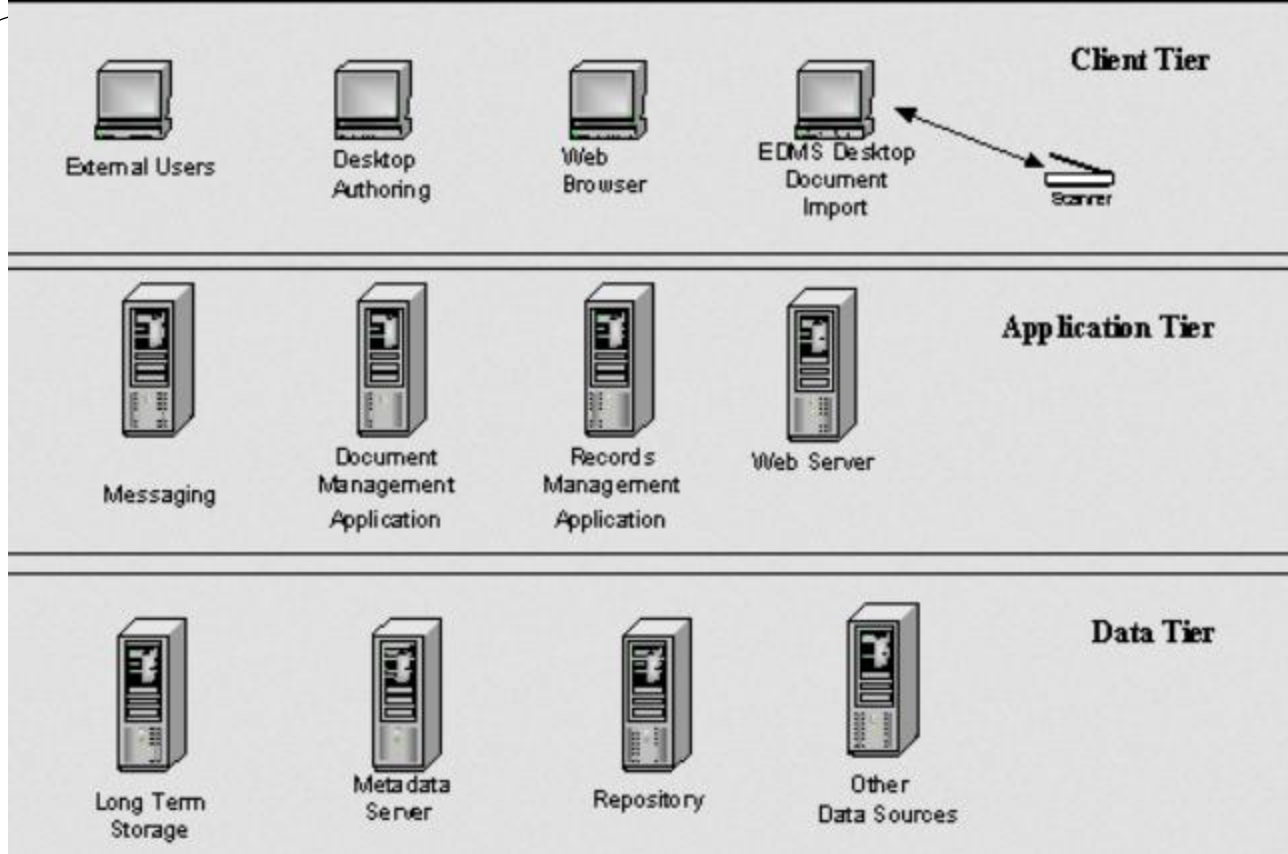


- Host-based networks
- Server performs virtually all of the work.



Client Based Net

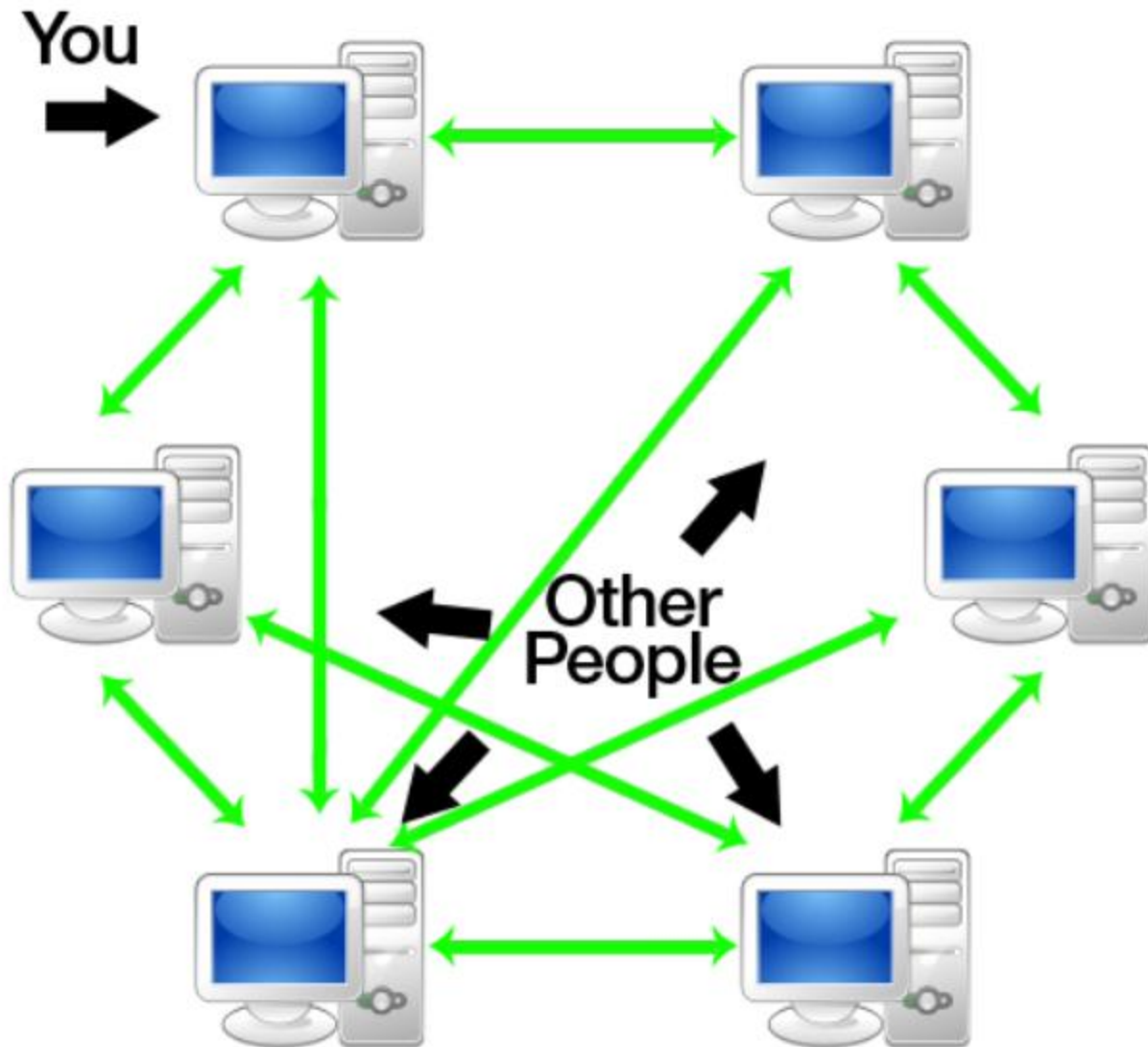
- Client does most of the work
- Server used only for data storage.



Client Server

- client-server networks, work is shared between the servers and clients.
- Typically, client performs all presentation logic
- Server handles all data storage and data access logic
- One or both perform application logic.

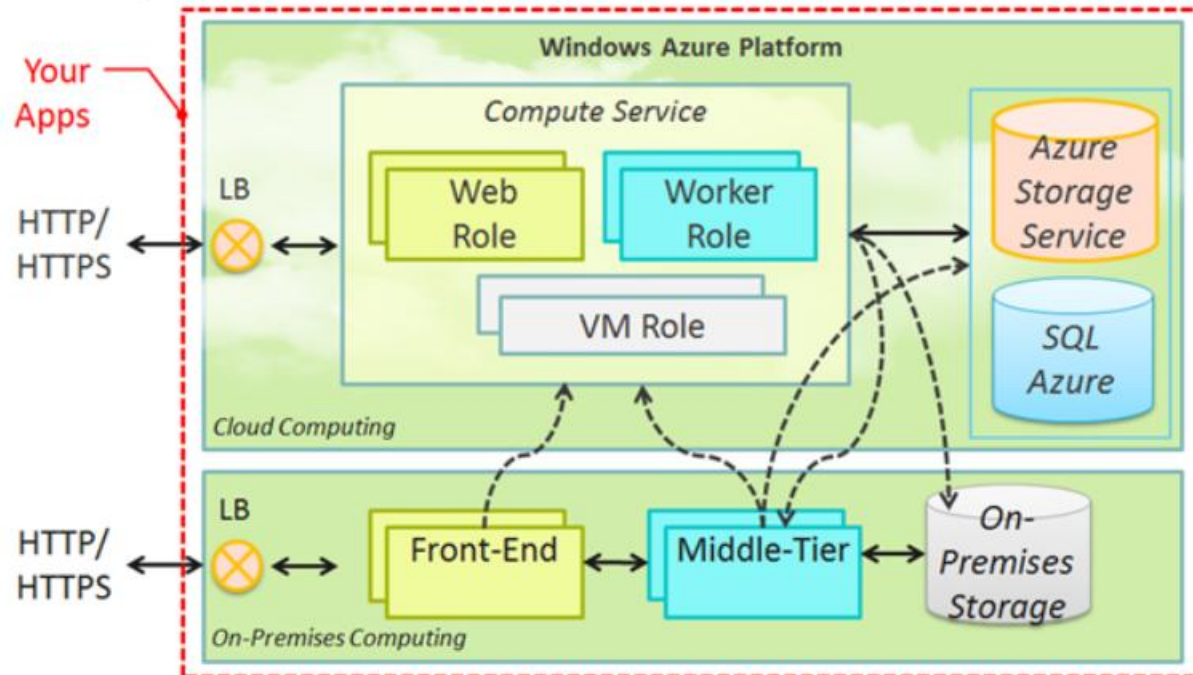
Peer-to-Peer Model



- Peer-to-peer networks
- Client computers also play the role of a server.

Example Cloud PaaS Architecture

Application Architecture with PaaS



Salesforce.com – PaaS Example



- Salesforce.com a cloud computing company with a customer relationship management (CRM) product. ,
- As of 2015, it is one of the most highly valued American cloud computing companies with a market capitalization of \$50 billion,

World Wide Web

- Most common way for businesses to establish an Internet presence.
- Two application software packages:
 1. Web browser on client
 2. Web server on server.
- Web browsers and servers communicate with one another using a HTTP.
- Most Web pages are written in HTML, but many also use other formats.

Time permitting WireShark Demo...

Electronic Mail

- With email, users create and send messages using an application-layer software package on client computers called user agents.
- User agent sends the mail to a server running an application-layer software package called a mail transfer agent, which then forwards the message through a series of mail transfer agents to the mail transfer agent on the receiver's server.
- Email is faster and cheaper than regular mail and can substitute for telephone conversations in some cases.
- Several standards have been developed to ensure compatibility between different user agents and mail transfer agents such as SMTP, POP, and IMAP.

Questions?

- Further inquiry:

Hands On Activity 2A

Looking inside your HTTP Packets