

Announcements

- Start your project and don't wait until the day before is due
- In-class discussion #2 will be next Wed (Sept 20)

VPN

- Virtual Private Network
- How it works
 - Machine within trusted network runs VPN server
 - Outside computers runs VPN client
 - VPN client registers with the VPN server
 - From this point on any message sent to by the client is sent to server.
 - Server sends out client message using an IP recognized in the trusted network
- Example
 - Some resources of the University are accessible by using university IPs. You need a VPN to get access from home.

Instant Messaging Systems

- Initial System: talk
 - You needed to know the target machine IP address.
 - The finger command helped in this process
- Example:
 - talk nelson@junkfood.cs.umd.edu
- To address the problem “RELAY Servers” were developed
 - Those that wanted to communicate just connected to a RELAY server
 - Those connected to different servers could not communicate

Instant Messaging

- Systems
 - IRC (Internet Relay Chat)
 - ICQ (“I Seek You”)
 - AOL Instance Messenger
- All the above systems rely on a centralized server

Instant Messaging Architecture

- Capabilities of IM systems like AOL IM and Microsoft Messages
 - Real-time communication (one-on-one chat, chatrooms)
 - File transfers
 - Audio/Video conversations
- Components of IM systems
 - IM User Application –
 - Allows user to connect to the central IM server or directly to another user
 - IM Server –
 - Allows user to “register” (among other things providing IP address)
 - Coordinates alerts between buddies
 - Supports message delivery
 - Facilitates direct connections between users

Instant Messaging Modes

- Standard IM
 - All messages go through the central server
- Peer To Peer
 - For those IM client applications that allows it you can make a direct connection to another user's computer to send information (e.g., data, video, etc.)

IM Security

- Clients providing encryption services
 - Trillian chat client with encryption built in
 - GAIM plug-in called OTR (“Off the Record”)