

COMPSCI 111 / 111G

*Mastering Cyberspace:
An introduction to practical computing*

Electronic Communication

- Email, instant messaging, forums

Electronic mail (e-mail)

Started very early (late 1960's)

- Before the Internet
- Multiple people shared the same machine
- Messages for other users



<http://en.wikipedia.org/wiki/Email>

First network email

Ray Tomlinson

- 1971
- First email message from one computer to another over network
- Used the @ sign



<http://openmap.bbn.com/~tomlinso/ray/firstemailframe.html>

What is e-mail?

Electronic mail

- System for sending and receiving message over the Internet

Asynchronous system

- Messages are sent and received some time later
- Just like physical letters, but faster
- Normally takes seconds

Must know the address of the recipient

Email Address

Understanding the address

localpart@domainname

The local part of the address
Often a username

The domain name where the mail
server is located

Sending an email message (1)

Compose the message

- Use an application
- Thunderbird

source address

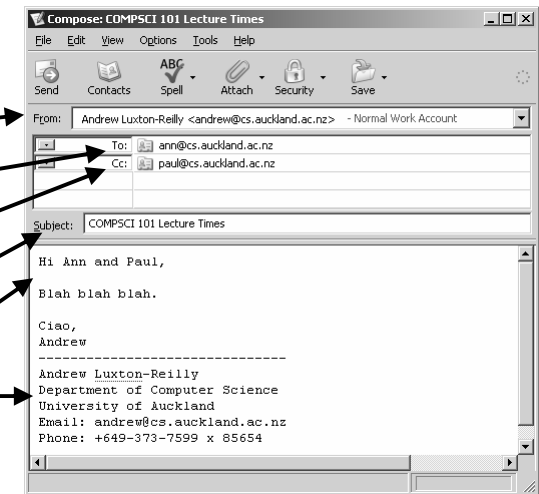
destination address

carbon copy

subject

message body

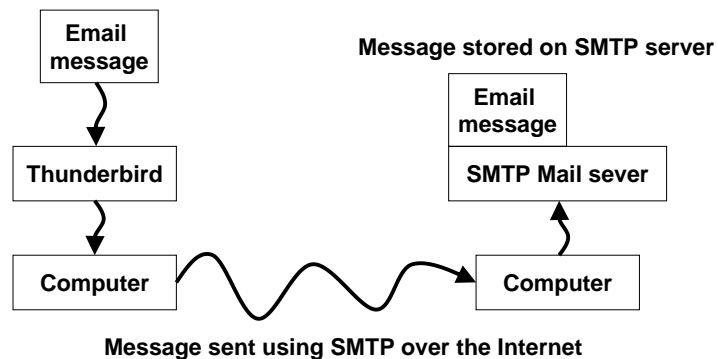
signature



Sending an email message (2)

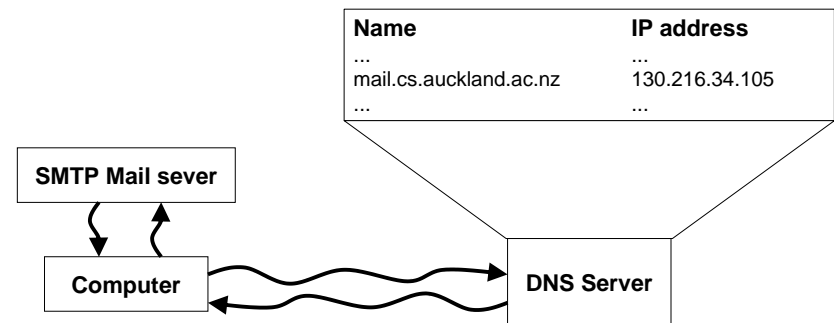
Program sends the email message to mail server

- Uses Simple Mail Transfer Protocol (SMTP)
- Usually located at your ISP



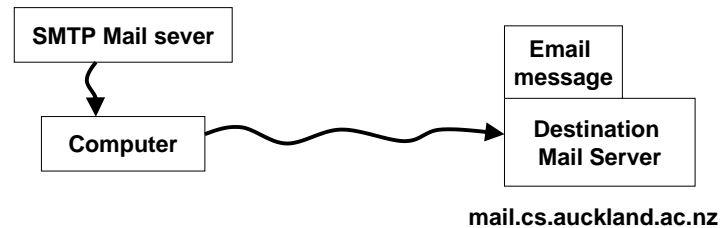
Sending an email message (3)

SMTP server contacts the DNS to find address of mail server



Sending an email message (4)

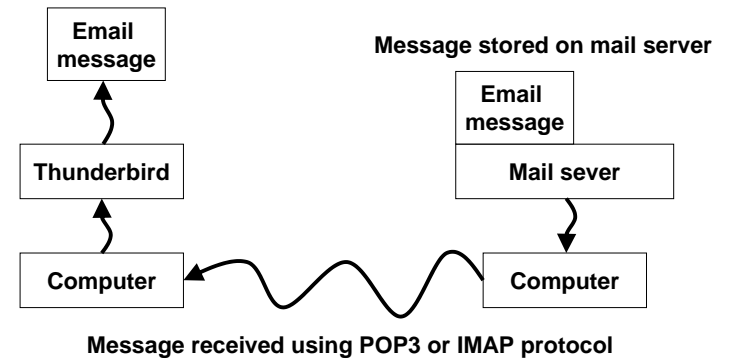
SMTP server sends the email message to destination mail server



Sending an email message (5)

User collects mail from mail server

- Different protocols for collecting mail
- POP3 (Post Office Protocol 3)
- IMAP (Internet Message Access Protocol)



POP3 vs IMAP

POP3

- Email is moved from server to local computer
- Access all messages when not connected
- Lose messages if local computer erased

IMAP

- Email is stored on server
- Can be set to maintain a local copy
- Access all messages from different machines

Privacy and email

Messages pass through many machines

- Can't easily be read while in transit

Messages are stored on the destination mail server

- Can be accessed by the administrator of the system
- Misdirected email automatically send to administrator
- Backup copies might be made automatically by the mail server

Legality

- Illegal to read physically posted mail (Federal crime in the USA)
- Perfectly legal to read email messages
- Many major companies in USA check employees email
 - (25% - 75% depending on the survey)

Email and workplace

American Management Association

- 13% of companies faced lawsuits based on employee email
- 25% of companies fired employee due to misuse of email

Elron Software survey 1999

- 60% of employees send or receive "adult" email at work
- 55% sent racist, sexist or offensive personal email
- 10% received confidential information about another company

Chevron Corp.

- "25 reasons beer is better than women." cost them \$2.2 million US

Costs

- A company with 1,000 employees spends nearly \$4 million dollars a year on email - Tally Systems survey
- 20 - 30% of work email is personal in nature - Gartner Group

SPAM

What is spam?

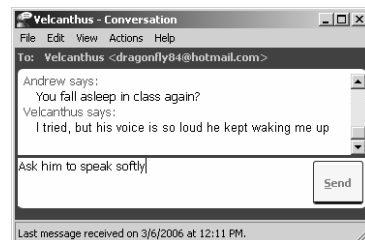
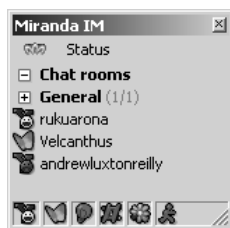
- Canned Meat
- Same message repeated over and over
- Unwanted email



Instant messages

Synchronous system of communication

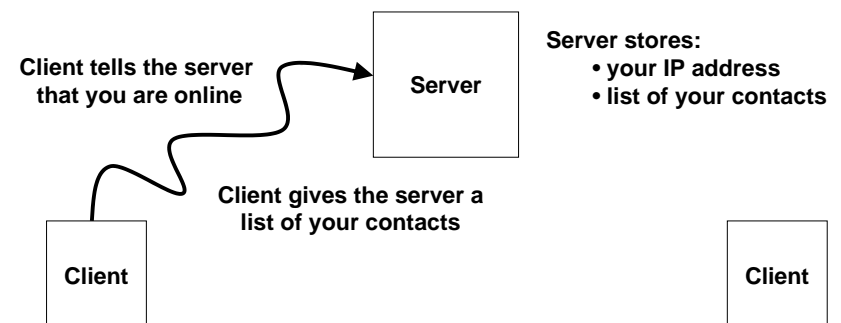
- List of contacts
- Displays contacts that are currently online
- Messages are sent immediately in real time



Chat system (1)

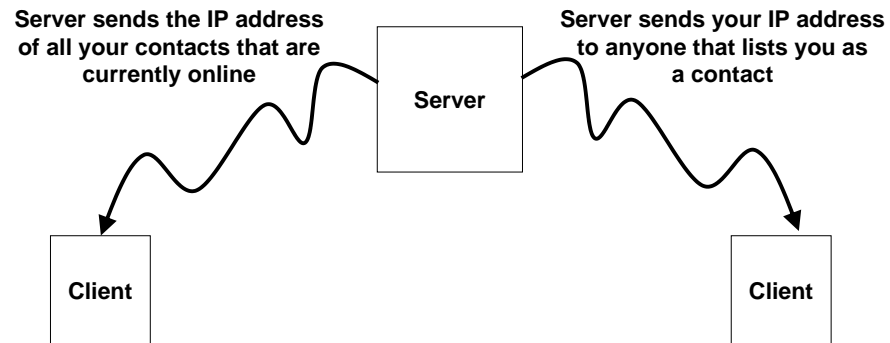
Start up the chat client

- Set the status to "online"



Chat system (2)

Server responds



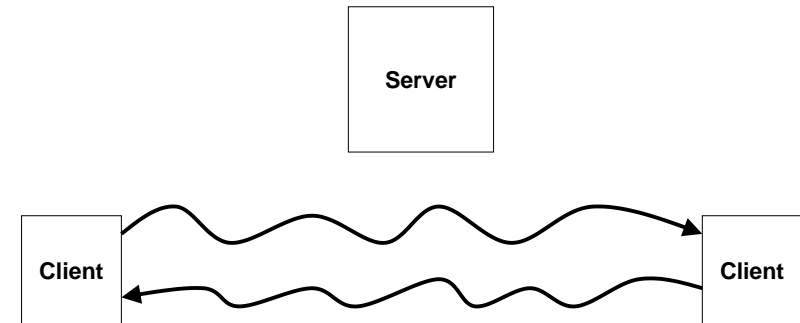
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Chat system (3)

Clients can chat to each other without the server



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Common chat systems

Chat Systems

- ICQ (November 1996)
- AIM
- IRC
- MSN
- Yahoo
- Jabber
- Google Chat

Applications used as clients

- Many
- Some clients allow user to connect to multiple chat systems
- Miranda / Trillian

Chat rooms

- Anyone in the same "room" can see the same chat

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Dangers

Any electronic communication

- Don't always know who the person is
- People misrepresent themselves



Who they say they are



Who they really are

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Attachments

File that is attached to a message

- Sent via email or instant message system
- Use to keep backups of important files on email system
- Not secure

Dangers

- Viruses
- Spyware

Guidelines

- Never open an executable attachment (.exe)
- Never open an attachment from a stranger
- Only open documents from within an application
 - Powerpoint
 - MS-Word
 - Excel

Forums

Message board

- Asynchronous communication
- Discussion group
- Online communities

Moderator

- Administrator with ability to edit, delete, move messages

Thread

- An online conversation
- Message with replies

USENET

- Huge system of public forums
- Over 50,000 different groups

Being a good online citizen

Netiquette (Ettiquette on the Net)

- Understand the cultural norms
- Expectations of good behavior

Required Reading

- <http://www.netmanners.com/courtesy1.html>
- <http://www.albion.com/netiquette/>

Optional Reading

- <http://www.emailreplies.com/>