Announcements

- UCS office hours
  - Held in Kaneff this week.
- Jan. 27
  - Deadline to register for Ski Trip. Pick up forms at Kaneff
    - Blue Mountain, Feb. 27-28
      - Amazing value!!!!
- Jan. 28
  - CSI Info Session, FREE
    - 11-1pm , SB 1135
      - for those interested in finance
  - Discover Careers in Marketing, FREE
    - 3-5pm, SC Boardroom
- Jan. 29/30
  - KPMG Food Path Visit
    - Sign up online or at the Kaneff
- Feb. 2
  - CMA Career Panel
    - Time and room TBA

MGT 415H5 S
Electronic Commerce

Lu Lahodynskyj

Week#4 – Storage & Administration

Agenda

- Group Projects
- Review of Last Week
- Storage
- Administration
- Next Week

Group Projects - Reminder

- Due Feb 11th
  - Two weeks time
- e-Commerce
  - Where your topic fits
  - Questions
    - My room after the meeting
      - CHANGED!

Review of Last Week

Linux

- Why do people work for free?
  - Enjoy the "work"
  - May sell it later on
- Open Source Licence
  - Still has one
  - Be aware when including with your product
- Why choose?
  - Lower costs
  - Robust
  - Can fix/change yourself
- Does it work?
  - Amazon saved US$17mil.p.yr
  - Gap, Home Depot, Marks Wear Warehouse

Business Awareness

- Common Sense
  - Nothing lasts for ever
  - Nortel stock going up
- Sales
  - Money
  - Always in Need
- People Skills
  - Managers/Leaders
- Interviews
  - Where can you contribute

Network Speeds

- Network
  - 1kbps = 1,000bps
    - One Kilo-bit per second
- Data Storage
  - 1KB = 2^{10} = 1,024Bytes
- Difference
  - 1Byte = 8bits
- Time
  - 8 secs approx to send

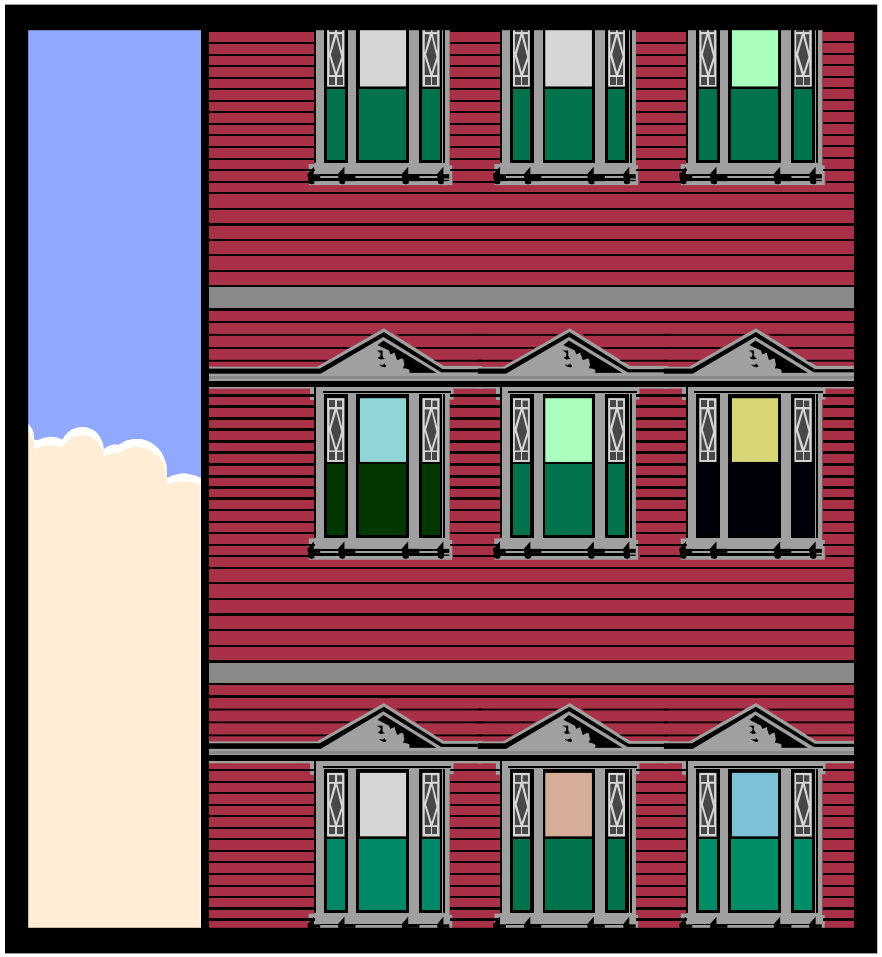
Faster & Bigger, is Better

- Network
  - 1Mbps = 1,000kbps
    - WAN approx. 45M
  - 1Gbps = 1,000Mbps
    - LAN approx. 10G
- Data
  - 1MB = 1,000KB
  - 1GB = 1,000MB

TCP/IP

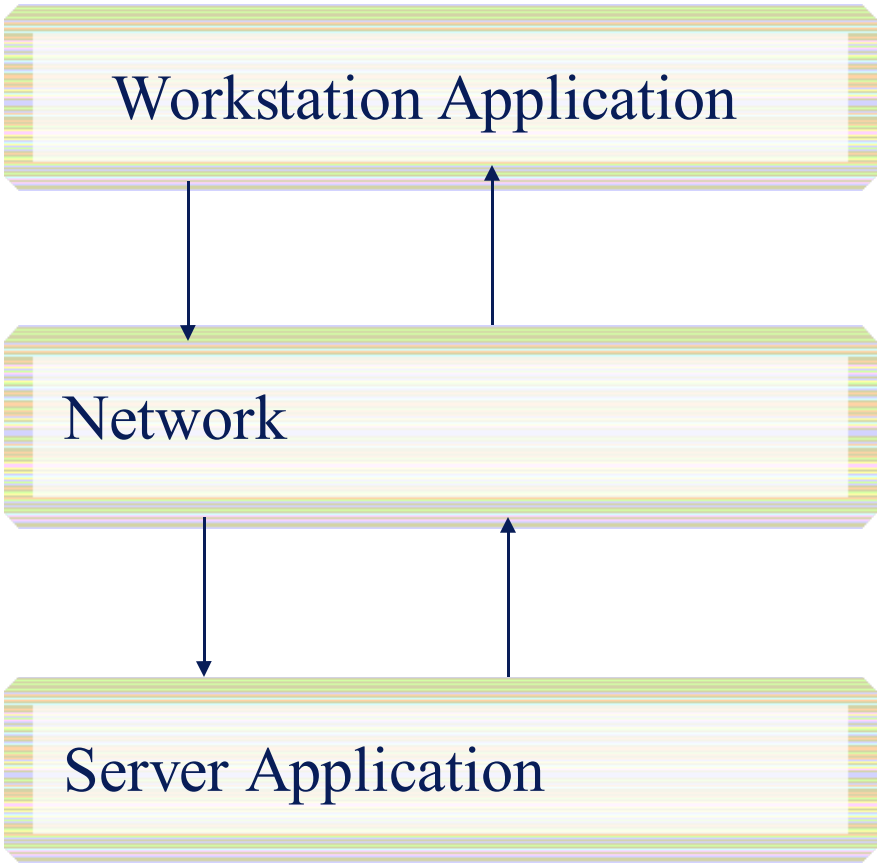
- Network transmissions use a protocol
  - Split message into small parts (packets)
  - Send packets
    - Receiving acknowledgements
  - Receiving rebuilds message from packets

IP – Internet



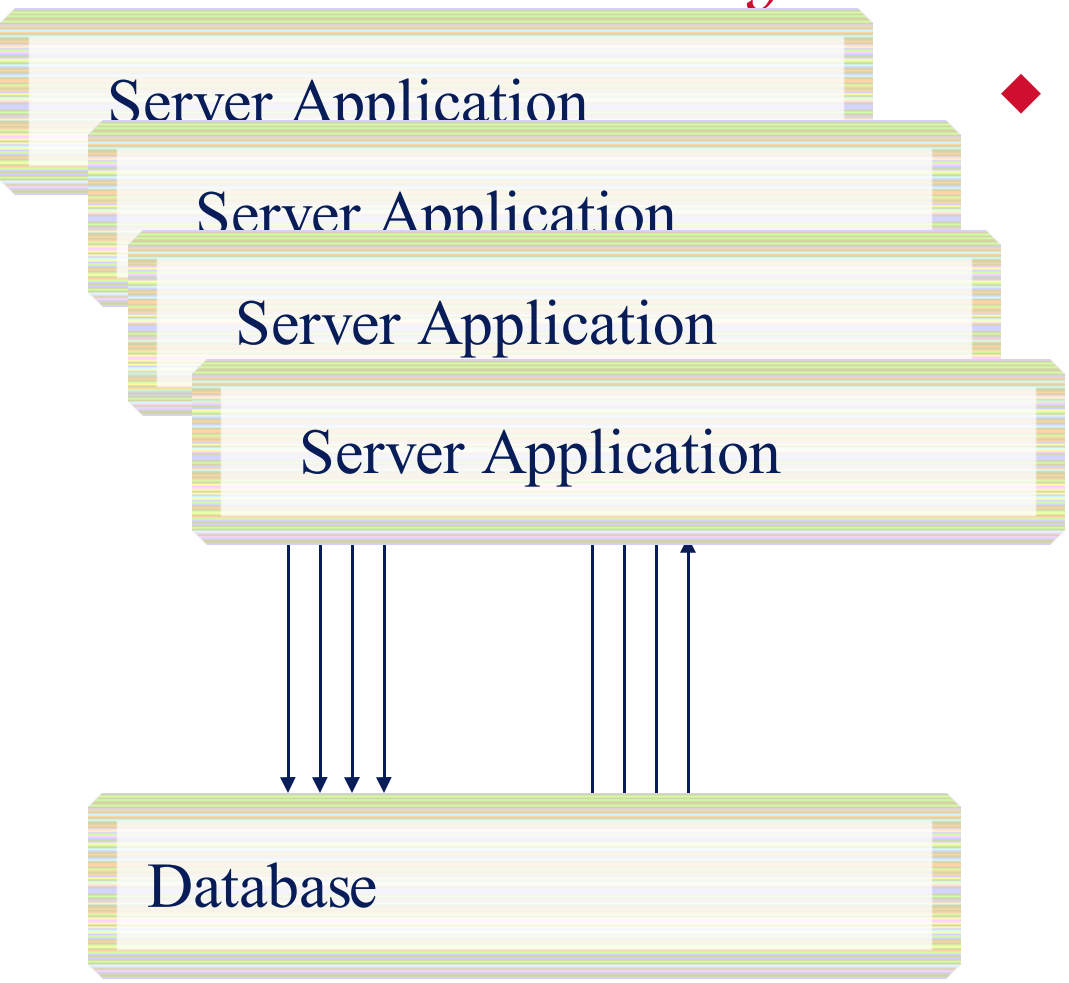
- Metaphor
  - Building = Network
  - Condominium = Device
    - eg: PC, Printer, Router
- Address uses 32bits (IPv4)
    - Will be 128bits (IPv6)
  - Mix of
    - network identifier
    - device in the network
  - Example
    - 64.231.48.17

Application Layers



- Eg: Chapters/Indigo
  - Browser
    - 'http' protocol
      - Sales Application
  - NOTE: Still
    - Applications
      - Operating System
        - Instruction Set
- Balance Complexity
  - Business
  - Workstation updates
  - Server updates

And the Data Layer



- Database
  - Repository
    - Usually accessed by multiple servers
    - Knowledge Base

Middleware

- Another layer
  - "The glue that binds"

Sample from IBM

The Middleware Salad Bar

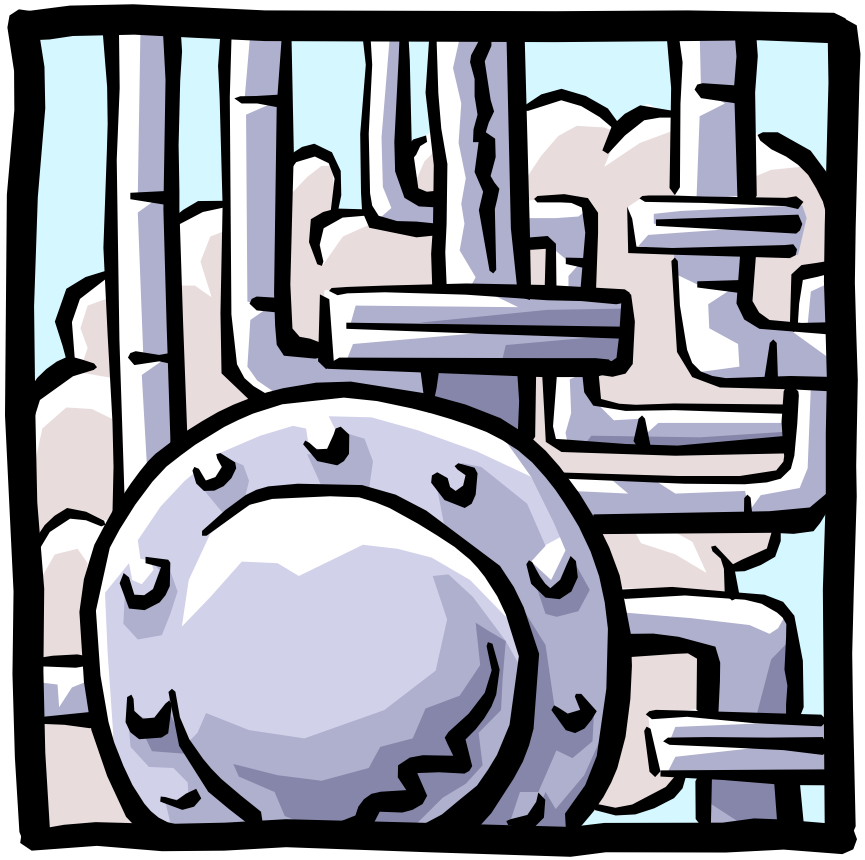
Capability	J2EE	COM+	CORBA/OMA	Web Services	OMG MDA	.Net
Network Layer	TCP/IP	TCP/IP	TCP/IP	TCP/IP	TCP/IP	TCP/IP
Web Protocol	HTTP	HTTP	HTTP	HTTP	HTTP	HTTP
Interface Definition	Java	Microsoft IDL	CORBA IDL	WSDL	IDL/WSDL…	WSDL/C#
Meta Language	XML	XML	MOF/XML	XML	MOF/XML	XML
RPC Mechanism	RMI/IIOP	DCOM	IIOP	SOAP; XMLP	SOAP; IIOP	SOAP
Registry/Repository	JNDI; LDAP	LDAP; ADSI	CORBA IR	UDDI	MOF;UDDI	UDDI
Process Flow	JPC	Proprietary	Proprietary	BPEL4WS..	UML	BPEL4WS
Modeling Language	UML	UML	UML	UML, XSD?	UML, MOF	UML

Tiny fragment of the landscape

IBM

 Slide 5

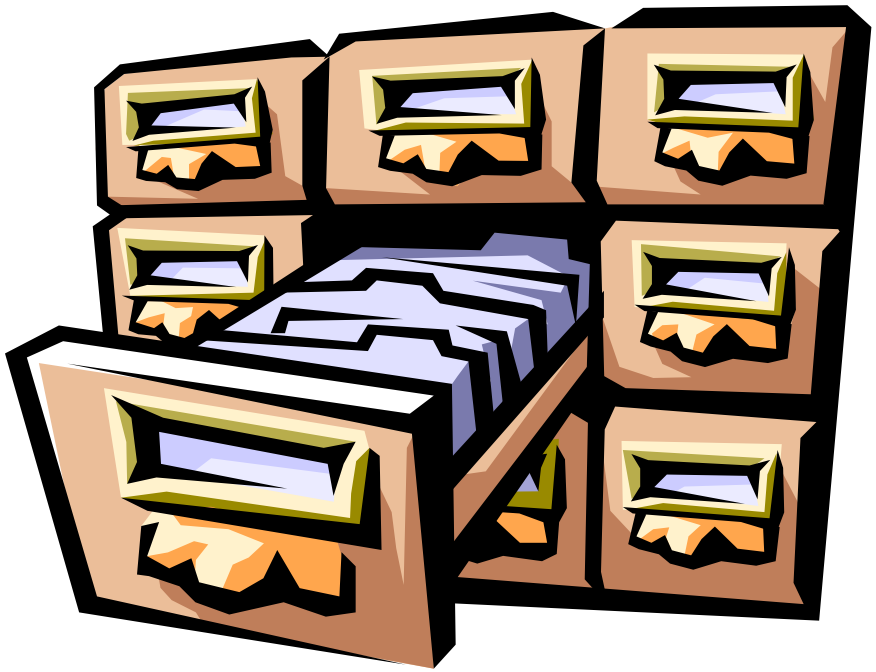
Summary



- Increase Traffic
  - Higher Bandwidth
    - New Applications
      - data (app. or browser)
      - e-mail
      - voice
      - video
      - Instant Messaging
      - Spam
    - Increase Traffic
      - Higher....
- Metaphor
  - Highways
  - New Technologies

Data

Databases



- Group 4
  - Presenting databases
- Information
  - Growing
    - in size
    - in speed
    - in use
  - But is it any good?
    - Data entry?

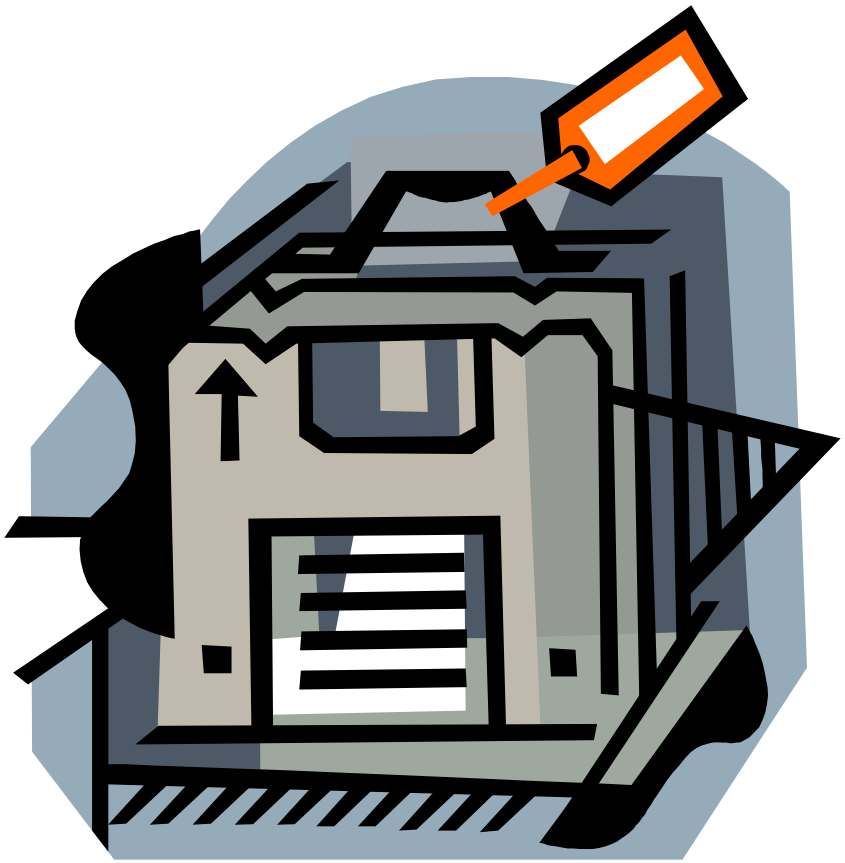
Database Clean-up

- Proprietary
  - Eg: Credit card companies
- Vendors
  - Eg:FirstLogic
    - Partnered with PeopleSoft & Seibel
    - Scrubs Customer addresses
      - At entry
        - Travelocity
      - En-mass
        - Approx 40/sec

Database House-Keeping

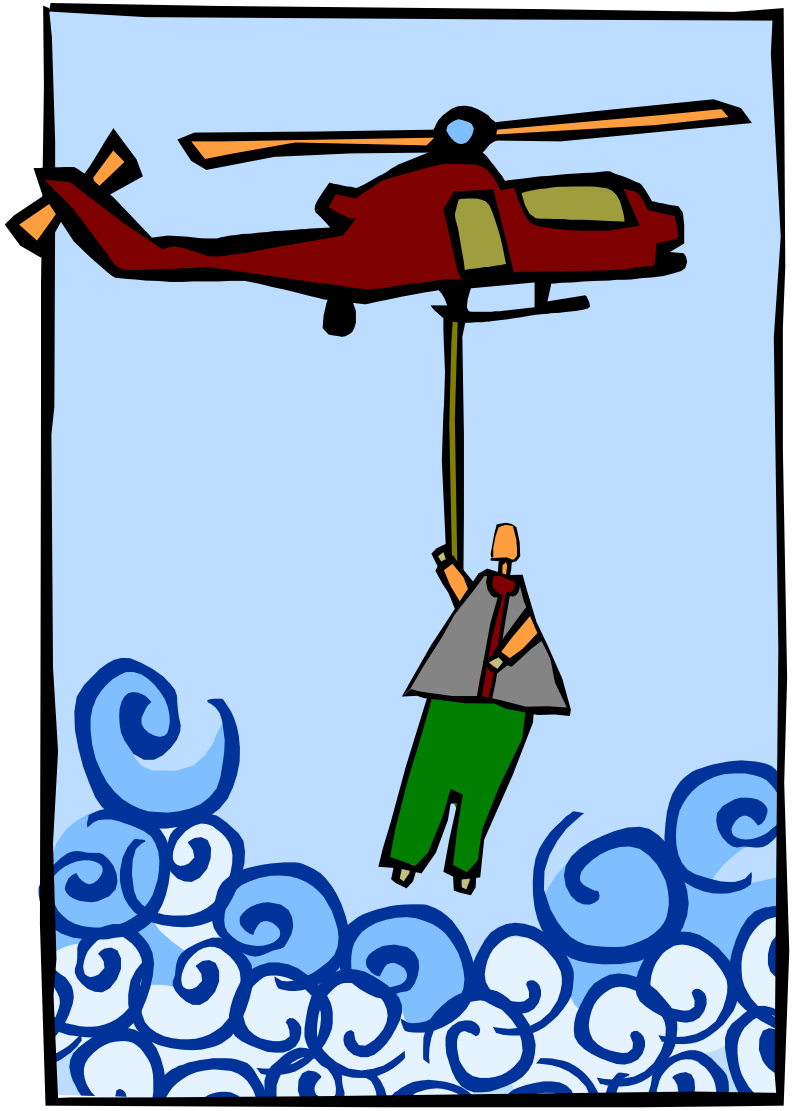
- Life-cycle
  - CRUD
  - Legal requirements
    - 7years
    - PIPEDA

Backups



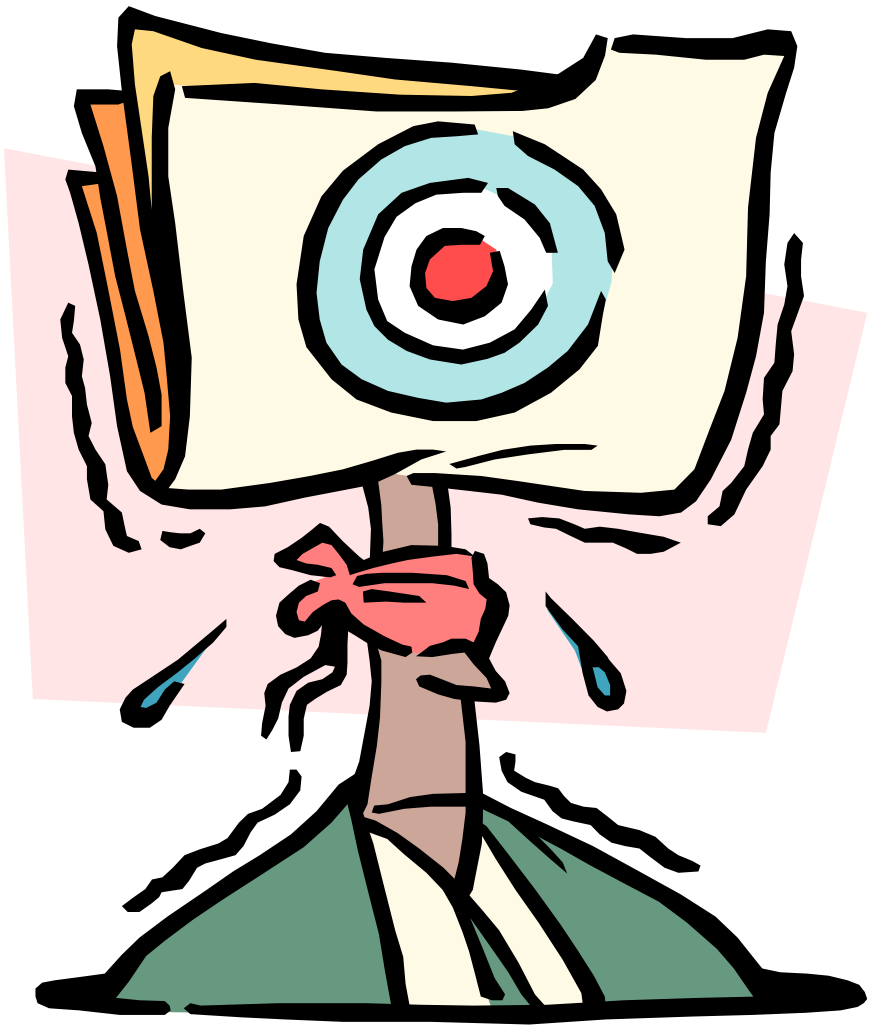
- Mirrored
  - Hot-swap
- NAS
- SAN
  - Virtual
    - 3rd party
- Tape
  - DLT
    - Quantum
  - LTO
    - IBM/HP/Seagate

Business Continuation Management (BCM)



- More than data
  - People
    - Phones
    - Desks
    - Food & Drink
  - Paperwork
  - Computer
- Business Driven
  - 3rd party
    - eg: Bell Canada's Business Backup service for Small & Mediums sized businesses (SMB)
- Test

Do I have to think about storage?



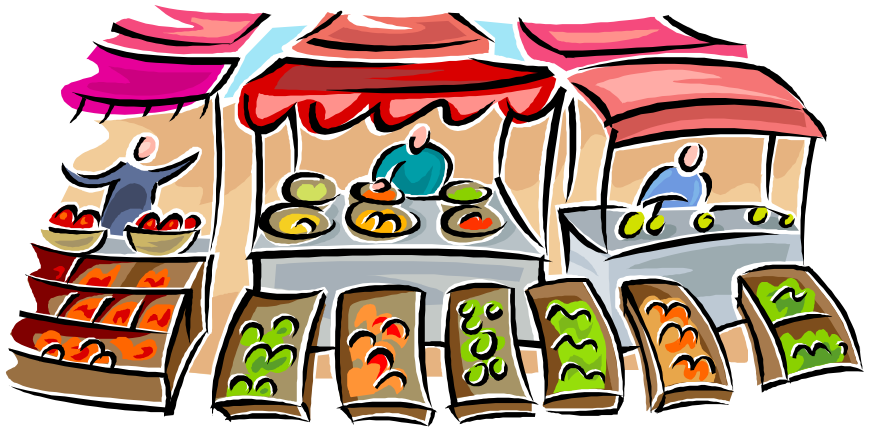
- These components
  - Web-site
  - Transactions
  - History
- Why

Administration

Principles

- Same
- Differences
  - Speed – ish
  - Blind-spots
  - Health

Customer Perspective



- Type
  - WWW
  - In-store
  - In-office
- Test & Monitor
  - Before
    - Browsers (More than IE)
    - Resolutions (800x600 +)
  - During

How to Clog a Network

- Spam
  - We will have a group presentation on this
  - Even on
    - your cell-phone
    - Internet Messenger
- Kazaa, Overnet
  - People downloading movies = 800Megs
    - Rogers cable running into capacity issues?
    - Sympatico has an upper limit, then charge more.

How to Break a Network

- Hacking
  - Spoofing
- Denial of Service

Inventory

- The first step
  - Record
    - Hardware
    - Software
- Implications
  - Asset management
  - Patches
  - Upgrades
  - Licenses

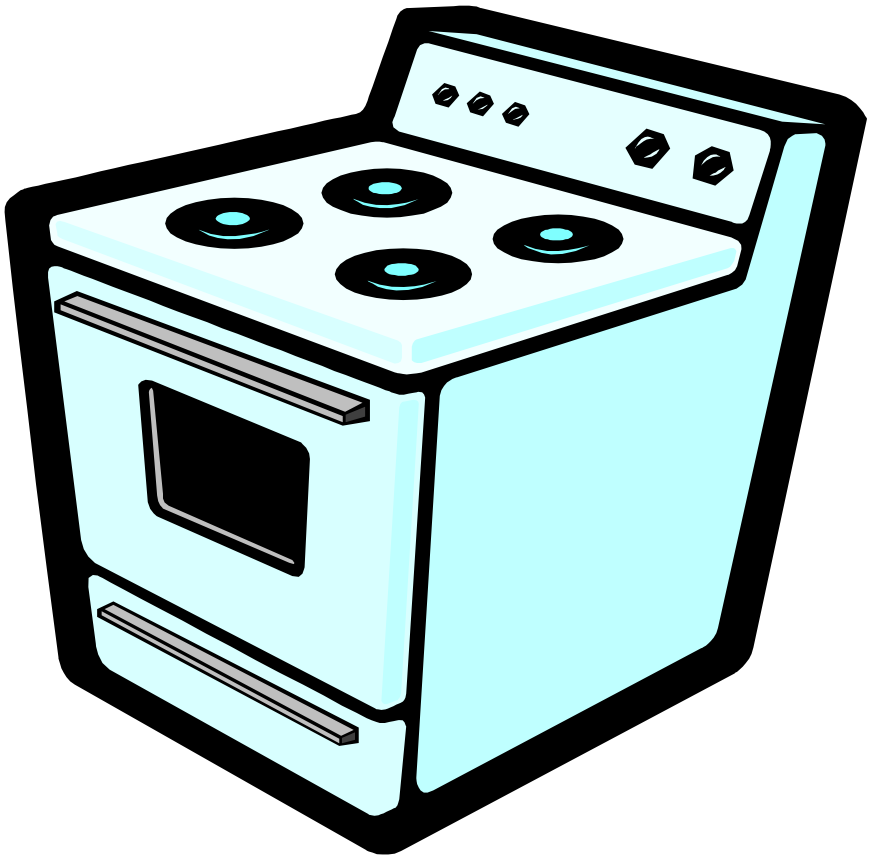
Asset Management

- Client Computing Devices
  - eg:
    - PCAnywhere
    - Client Mgmt Suite
    - PC Pinpoint PRO
- Browser
- Java

Asset Management

- Network
  - Status
    - What's working
      - What's not
    - Software
      - eg: Observer from Network Instruments
  - Maintenance
    - Security
      - Addresses
    - Active Directory

Asset Management



- Servers
  - Patches
    - Microsoft
      - Monthly Schedule
  - e-mail
  - Firewall
- Consolidation
  - Pro
    - Fewer boxes to manage
      - Cheaper
  - Con
    - More apps could fail at same time
    - Licence complexity

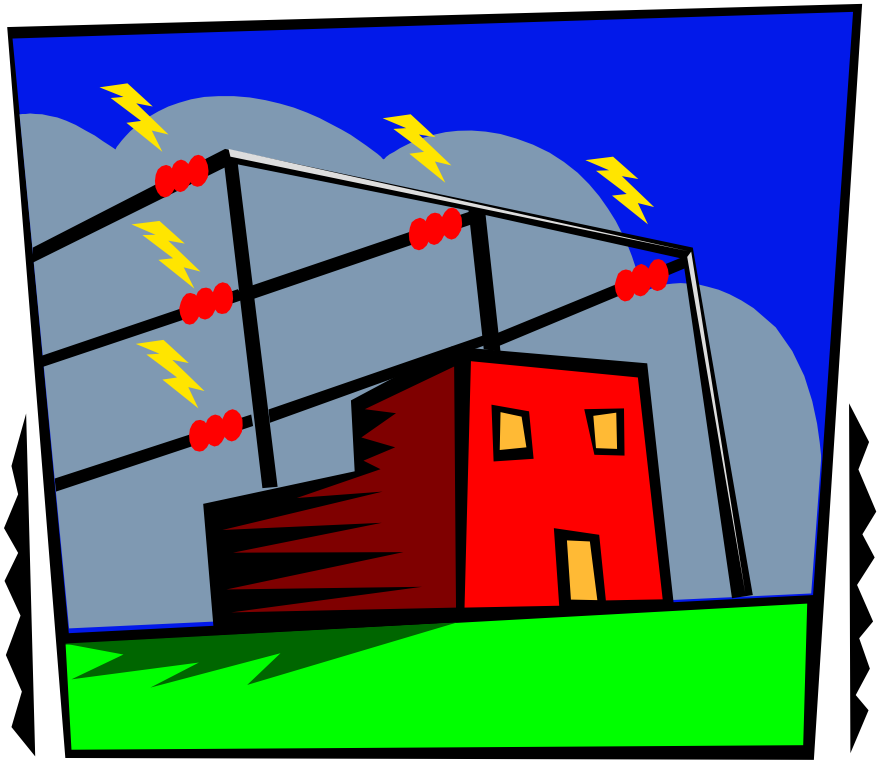
Licenses

- 33% of Software is from Illegal Copies
  - CAAST
  - BSA
  - Microsoft
- Vendor
  - cost plus
    - by instance
    - by Client/Server
  - by subscription

Outsourcing

- Trends
  - Help Desk
  - Support
  - Development
  - Processes
- Application Service Providers (ASP)
  - Affordable

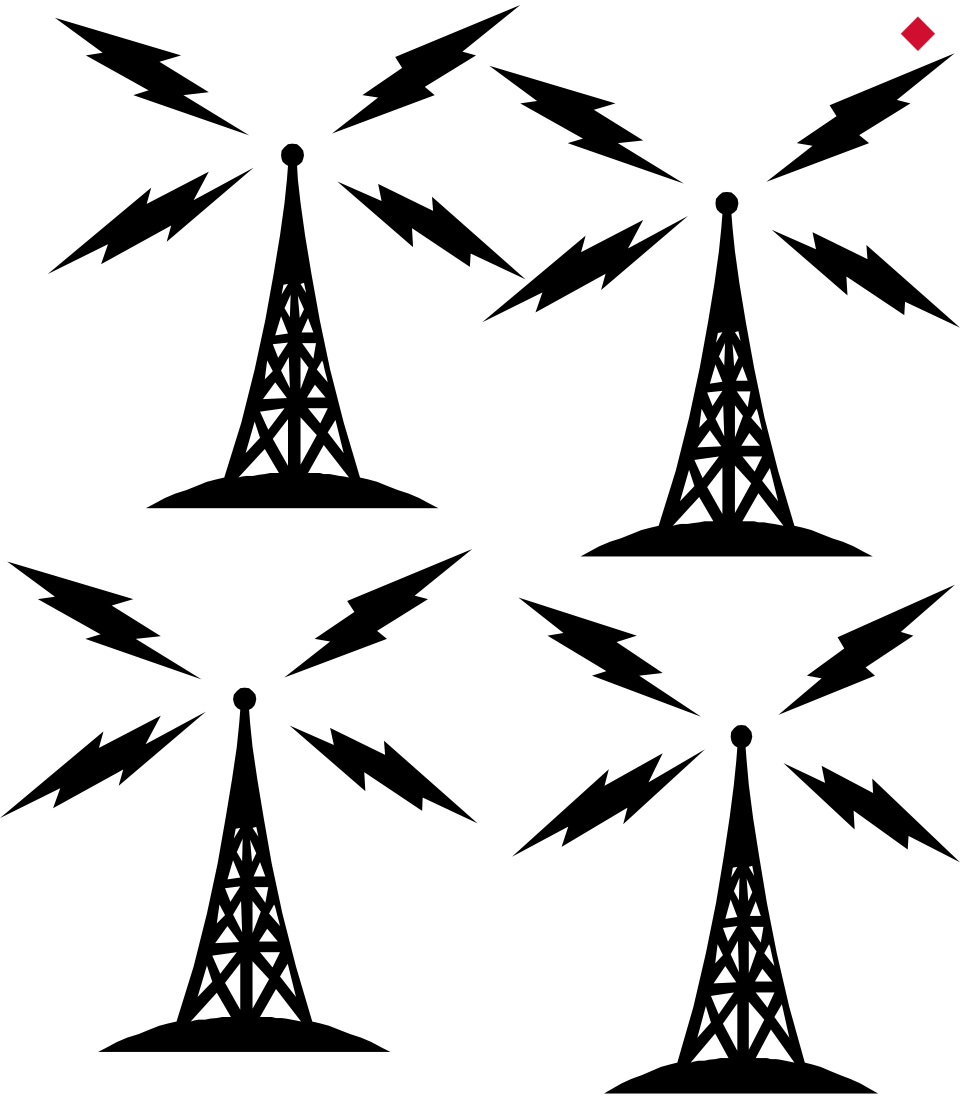
Utility Computing



- Contracts
  - Negotiation
  - Management
- Utility Computing
  - Networks
  - Pay-for-use
    - Not that easy.....

Final Thoughts

Example - BT's Mobile phone network



- Wireless Stations
  - Based on fruit fly's process to establish bristles on it's body
    - Move control to lowest possible level
  - Stations negotiate as to which one uses which channel
    - Stations do not use same channels, so improved quality and less blocking
    - No need to configure a new station
    - Better handling of demand peaks
  - Carleton University
  - IBM

Next Week

- Business Basics
  - Processes needed to run a business
  - Speaker
- After class
  - I will not be available
  - TA will be on-hand to answer questions
    - Examples