

BTech 450 Project

Best Practices for Information System Design

End of Semester Presentation

May 30, 2006

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Agenda

- Objective
- Approach
- Visualization
- Requirements
- Problems
- Next Step

Objective

- Design a model information system for a “mid-sized” company
 - Not directly related to computer industry
 - Head office, 30 employees
 - Two branches, 5 employees each
 - 7 mobile works (5 + 1 + 1)

Objective

- Requirements
 - High Availability (24/7)
 - High Performance
 - Remote Access / Mobile Workers
 - High Security
 - Fast Disaster Recovery
 - Commercial Practicality

Approach

- 1. Set Requirements**
Software, hardware, services
- 2. Market Research**
Find and evaluate products
- 3. Design Template**
Put everything together
- 4. Refine Template**
Evaluate and redesign

Approach

- **Fitness For Purpose (FFP)**

Does the design satisfy our needs?

- **Total Cost of Ownership (TCO)**

How much does it cost to get it running?

- Startup cost
- Operating cost

Visualization

- Visualization of the final deliverable
- Help to identify the major components and requirements in the system
- The final design may or may not be based on this

Visualization

Workstation

Two types of configuration:

- **Process Worker**

General Office Task

e.g. word processing, spreadsheet

- **Knowledge Worker**

Resource Intensive Task

e.g. Photoshop, video editing

Visualization

Workstation

Personal files are stored in a central file server

- Easy remote access
- Easy backup
- Easy to update the workstation configuration

Visualization

Workstation

Operating System:

Microsoft Windows XP Professional

- Offers familiar working environment for most people
- Supports most software and hardware on the market

Visualization

Workstation

Office Applications:

Microsoft Office 2003

- Contains applications for most common tasks
 - Word, Excel, PowerPoint, Outlook
- Offers familiar working environment for most people
- Most commonly used, documents easily exchanged

Visualization

Workstation

Custom Applications:

- Depends on the nature of the company/department
- For example:
 - Engineering - AutoCAD
 - Advertising - Photoshop
 - Accountant - Banking Software

Visualization

Server

Public Website & E-mail

- Online presence for the company
- Microsoft Windows Server 2003
Easy to setup and maintain

Visualization

Server

Private Website

- Internal website for posting announcements, events, discussion, share files
- Microsoft SharePoint
 - Easy to setup and maintain

Visualization

Server

File Server

- Stores all employees' files
- Easy remote access and backup

Visualization

Server

Backup Server

- Automatically backup files from the servers every night
- Located in one of the branch office

Visualization

Services

System Admin

- One dedicated personnel to manage and support the company's information system

Backup

- DVD-R or external hard drive
- Kept by a trusted employee

Visualization

Remote Access

Virtual Private Network

- Connects the offices together
- Allows employees to access company resources from off-site

WAP version of website

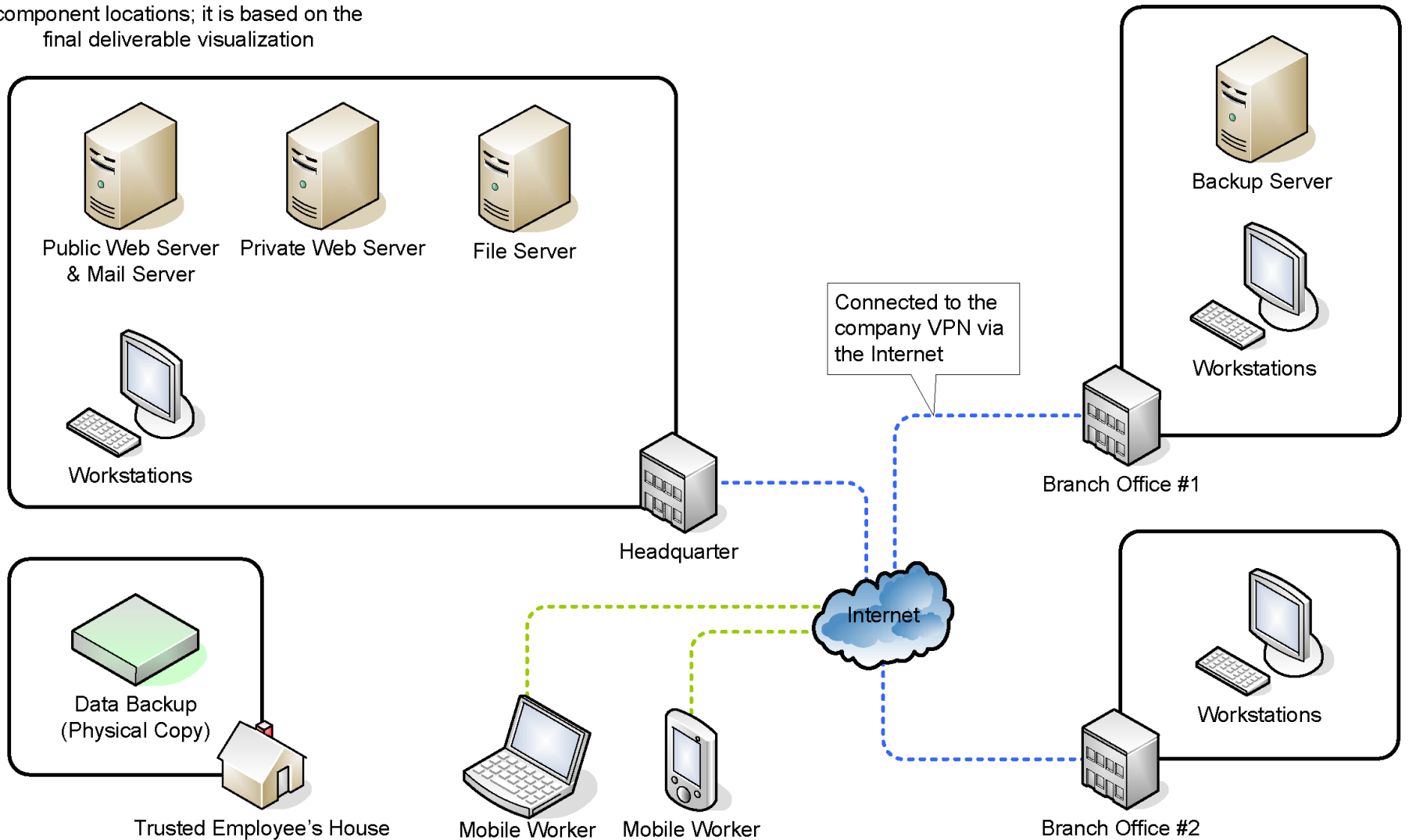
- Allows mobile devices (mobile phone, PDA) to access important resources

Terminal Services (“Remote Desktop”)

- Allows off-site access to all resources

Preliminary Topology

This topology diagram shows the main component locations; it is based on the final deliverable visualization



Identified Requirements

Software

Operating System

- Support many hardware and software

- Easy to use and maintain

Office Application

- Exchangeable format

Identified Requirements

Hardware

Workstation

Process Worker

Knowledge Worker

Server

Public Website / E-mail

Private Website

File Server

Backup Server

Identified Requirements

Service

System Administrator

Manage and support the system

Backup

Regular off-site backups

Identified Problems

Network

How are the computers and servers connected?

What kind of internet connection is necessary?

Servers

Are the different servers really required? Can they be combined?

What about redundant servers?

Backup power?

Identified Problems

Remote Access

What kind of remote access is necessary?

Is terminal services really required?

Mobile Worker

In order to ensure service quality, does the company need to supply notebook/PDA and the internet connection?

Others

What about security, anti-virus and firewall?

Disaster recovery?

Next Step

- Solve Problems
- Market Research
- Template Design

Questions?

The End

Thank you for attending this presentation