THE INTERNATIONAL CONFERENCE ON APPLIED MANAGEMENT AND DECISION SCIENCES

AMDS 2006

A Survey of Operating System Options for Server and Client Side Computing

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A Survey of Operating System Options for Server and Client Side Computing

Agenda

- Introduction to the research
- Problem statement and research questions
- Significance of the study
- Primary operating systems
- Alternative Operating Systems
- Examples
- Summary
- Further research

Introduction to the Research

What is an operating system (OS)?

- An operating system is the middleman between the computer hardware and applications.

What are the aspects of an operating system?

- Controls allocation and use of the system resources
- Processing, memory, storage, input & output, files, networking, security, command interpreters, kernels, and services
- Multi-user, multi-processing, multi-tasking, multi-threading, & GUI

Problem Statement / Research Questions

- Advancements in operating system research and the option of open source, as increased the number of operating system choices available.

- There is a need for a more complete guide of operating systems and a model of operation selection in order to allow management to make more informed decisions.

- Research questions: What are some of the common and alternative operating systems? What are the differences between these operating systems? When might an alternative operating system be the better choice?

Significance of the Study

The corporate world is increasingly complex

- Availability
- Global competition
- Security
- Support
- Technical expertise
- Usability
- Interfacing
- Budgeting
- Customizability

Increase awareness and acceptance of alternative operating systems, leading to more needs satisfying systems.

Primary Operating Systems

Microsoft Windows

- Appeared in 1983
- Known designed faults
- Requires continuous upgrades
- Marketed as multi-platform

UNIX

- Around for 3 decades
- Multi-platform, multi-task, multi-user
- Timesharing

MAC

- Built upon the UNIX platform
- Proprietary
- Open Source

Linux

- Built from the UNIX OS
- Pioneer in the area of free source
- Customizable
- Trust worthiness

Alternative Operating Systems

Ubuntu

- Linux based
- Free & Open Source
- Runs on USB thumb drive
- Over 16,000 applications included

Debian GNU/Linux

- Linux based
- Free & Open Source
- Limited system compatibility
- Over 15,000 applications

FreeBSD

- Based on the BSD UNIX architecture
- Purchase required with open source

Alternative Operating Systems (Continued)

Mandriva Linux

- Mult-platform
- Customizable
- Over a hundred bundled applications
- Free to individuals, Corporate purchases required

AmigaOS

- Over 20 years old
- Original equipment manufacturer (OEM) solution
- Clears the random access memory disk upon shut down

GEM, GNU, Suse, Linspire, NetBSD, ReachOS, Fedora, StackWare, GeekOS, Pebble, Solaris, and Choices

Examples

A business with a limited budget may opt for a free operating system, by determining that the risk of using the free OS is less then the value of debt required to use a primary OS.

A more customizable operating system may be sought, in which case one of the alternative open source operating systems would be the better selection.

If the risk of using a free OS is not acceptable and funding is not an issue then the best selection would be one of the primary operating systems.

Summary

1. Management should clear determine and evaluate needs, before selecting a corporate operating system.

2. Compare needs to advantages, disadvantages, risk, and cost.

3. To make an informed decision, expect ones.

Further Research

- Examine current operating system selection processes
- Case study or comparative approach
- Quantitative study
- Study methods to develop and bring spirituality into organizations
- Apply decision theories to each operating system

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