

# Example of web server hardware and software case study

[Law](#), [Security](#)



## Web Server Hardware and Software

### Question 1

Open-source software encompasses a myriad of benefits, which make it the preferable option. Open-source software is quite cheap since they do not involve any licensing costs compared to their commercial equivalents, which are relatively expensive. Agencies can utilize free software versions to develop projects without having to experience protracted acquisitions cycles inherent in commercial software (Tanenbaum, 2007). This economical acquisition, as well as deployment models, will enable government agencies to determine their innovations and customization budgets. In addition, open-source systems allow for flexibility in terms of adapting the software for various solutions. This is because open-source architecture enables enhanced opportunities for information exchange. Moreover, centralized hosting using the center-controlled network offered by open-source software can afford agencies and the entire government economies of scale. In open-source software applications, a vast array of pre-existing tools used for both interface and reporting are already developed, and these tools make it exceedingly easy to construct generic instead of custom interfaces. Open-source software also has the capacity to incorporate tools for sensitive information hosting and sharing. This option is quite critical for government agencies, which hold and share sensitive information. Open-source applications can effectively fix security vulnerabilities since they are extremely agile and cohesive. Therefore, open-source software provides superior value, low costs and enhanced security addressing pertinent agency considerations today.

## Question 2

Windows operating system software is an immensely popular operating system. Windows operating systems, for instance, 7, XP and Vista are nearly ubiquitous user interfaces, which are designed to be effectively compatible with a vast majority of PC hardware combinations. As a result of this compatibility, memory chips, motherboards, expansion cards, internal disk drives, USB devices and processors and other standards and devices can be effectively configured to operate under Windows. This is as a result of the superior device drivers inherent in Windows operating system software. Through the provision of such a profound degree of compatibility, Windows operating software enables effective task computing (Tanenbaum & Woodhull, 2006). Although basic standards are in position for CPUs and motherboards, which go all the way back to the initial PCs from IBM, it would be impossible to build a computer without this key hardware support, which is one of the primary advantages of Windows operating system software. Additionally, Windows operating system software also provides a huge user base for software manufacturers. Most software available for purchase is designed to operate with Windows software. The Windows brand is so prominent that software and games prominently figure the Windows logo on their packaging so as to deter confusion and reinforce the products' safety. In essence, the Windows logo is now a valid indicator of product safety as all software and games that encompass the logo are considered safe.

### Question 3

Making a choice between Windows and Linux operating systems requires knowledge of the advantages of both systems. Windows operating system software is customer-oriented and tightly integrated, which allows easy information sharing and holding. However, part of the disadvantages inherent in Windows operating system is its vulnerability to viruses. The characteristic Windows operating software system's tight integration means that the operating system becomes slow after operating for 24 hours. In addition, Windows users have little control over their files since they are written all over disks haphazardly. In addition, the files systems present in MS-DOS do not have much to do with reality; thereby requiring frequent defragmentation (Tanenbaum, 2007). Lastly, Windows operating system is quite pricey compared to other software. On the other hand, Linux operating system is a modular operating system thereby allowing freedom within a nonproprietary operating system. Linux also inherits the immense security system provided by Unix and selinux, and this makes Linux operating system more secure than a vast majority of operating system software. In addition, Linux operating system software provides total control over internet access and files. However, it is pertinent that IBM realizes that Linux operating system owes its technical origin, as well as derivation from Unix, particularly with regard to elements such as Tape Archive (tar), copy without the vowels (cp) and other tools used in command line, and which are primarily used as back-ends for most GUI programs.

## Question 4

In order to enhance their market share in the PRC, Linux should target small business, particularly those with extensive reliance on computers but have little or no time or desire to perform routine computer maintenance. Linux should focus on small businesses rather than large corporations since the latter have sufficient resources and manpower to manage their computer maintenance efforts without requiring external assistance. In addition, Linux can enhance its market share by establishing a dynamic network environment, which consists of an ebb, as well as flow or both users and hardware (Penrod, 2003). This means the provision of reliable and cheap access to Linux technicians in the shortest time possible, for instance, within five to ten minutes at minimum monthly fees instead of requiring minimum callout fees for all technical assistance despite how minor. Moreover, Linux can have regularly scheduled visits to companies in PRC to ensure Linux technicians are knowledgeable of company requirements and weaknesses.

## References

- Penrod, J. I. (2003). Creating a realistic IT vision. Technology Source, March-April.
- Tanenbaum, A. S. (2007). Modern operating systems (3rd ed.). New York: Prentice Hall.
- Tanenbaum, A. S., & Woodhull, A. S. (2006). Operating systems design and implementation (3rd ed.). New York: Prentice Hall.