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UNIX OPERATING SYSTEM

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Abstract- **Our research paper is on the topic "UNIX OPERATING SYSTEM". It covers the details about UNIX, its features, its applications, versions, functions, commands and other operating systems which are related to it. We will also deal with the various components of UNIX operating system. UNIX is a self-contained Operating system. Until now, seven versions of this operating system has been released. It has brought about a great impact in the Computer Programming world. It has drastically simplified file model compared to contemporary operating systems. Several programs of UNIX have been innovative enough to be discussed about in our research paper.It has brought the concept of modularity and reusability in software engineering.The commands which direct this operating system will be duly discussed. 'LINUX' is one of the healthiest directives of UNIX operating system.In reality, it can be specified as the programmers of Unix.**

I. INTRODUCTION

An operating system (or OS) is usually sitting between the user's application programs and the computer hardware, which exploits the computer hardware resources to provide a set of services to the computer system users. The operating system functions as an interface between a user and a computer. Usually, a common user is concerned about the applications rather than the architecture of computer. . The application programs are developed by application programmers who develop the programs generally without responsibility of how to control the computer hardware. The reason beneath this is that there is an overwhelmingly complex task related to the computer hardware control, especially when it comes to the portability of the application programs from one computer system to another different one.

As there are so many different types of the UNIX operating system and so many contributors involved into the UNIX development as well, it is necessary to learn the development history of the UNIX operating system. It can give a different angle to see how the UNIX development thoughts, which are usually brought into the basic theory of the textbooks of operating systems, influence the development of the whole operating systems. In the 1980s, some other companies started to develop their UNIX operating system for their own computers, such as Sun Microsystems' Sun OS(Solaris later on), Microsoft's Xenix (SCO's SCO UNIX later on).

Among the UNIX operating systems, two of the most influential are system III and V variant and BSD variant. The former is more likely for the commercial use, whose owner was AT&T; the latter tends more towards academic use, whose place of origin was the University of California, Berkeley.

II. Types of UNIX

In fact, the types of the UNIX operating system are almost countless (Kim1999; Mann 1992; Martin 1995; Mckusick et al 2005; Perrone 1991; Perrone1993; Riggs 1995). Since 1969, when Ken Thompson, Dennis Ritchie and others started working on an idle PDP-7 at AT&T Bell Labs and developed what was to become UNIX (Cooke 1999; McKusick 1999; Ritchie et al 1974; Sarwar 2006), many groups of developers and programmers, no matter who came from the companies for commercial purposes or who were from universities for academic reasons, have been involved in different stages of UNIX development.

In the early 1970s, there was UNIX Time-Sharing System firstly (Cooke1999; McKusick1999; Ritchie 1974; Sarwar 2006). Since then, it has split into

several branches. Even though there are assorted branches and some of their contributors moved from one branch to another or combined with others, two of the most influential are the System variant and BSD (Berkeley Software Distribution) variant.

The former is the UNIX Time-Sharing System (Niehet al 1997; Ritchie et al 1974), including six editions from System I to System VI. Even though at the very beginning it was developed just for programmers own, this branch is more likely for the commercial purpose later, whose owner was AT&T. The latter was originated from the former because of one of the former developers, Ken

Thompson, who installed one of UNIX operating system to a PDP-11/70 at the University of California, Berkeley (McKusick 1999).

III. TODAYS UNIX SYSTEM

The key to the continuing growth of the UNIX system is the free-market demands placed upon suppliers who produce and support software built to public standards. The "open systems" approach is in bold contrast to other operating environments that lock in their customers with high switching costs. UNIX system suppliers, on the other hand, must constantly provide the highest quality systems in order to retain their customers. Those who become dissatisfied with one UNIX system implementation retain the ability to easily move to another UNIX system implementation.

The continuing success of the UNIX system should come as no surprise. No other operating environment enjoys the support of every major system supplier. Mention the UNIX system and IT professionals immediately think not only of the operating system itself, but also of the large family of hardware and application software that the UNIX system supports. In the IT marketplace, the UNIX system has been the catalyst for sweeping changes that have empowered consumers to seek the best-of-breed without the arbitrary constraints imposed by proprietary environments.

The market's pull for the UNIX system was amplified by other events as well. The availability of relational database management systems, the shift to the client/server architecture, and the introduction of low-cost UNIX system servers together set the stage for business applications to flourish. For client/server systems, the networking strengths of the UNIX system shine. Standardized relational database engines delivered on low-cost high-performance UNIX system servers offered substantial cost savings over proprietary alternatives.

IV. SUMMARY

An operating system (OS) is usually in between the user’s application programs and the computer hardware, which operates the computer hardware resources to provide a set of services for the computer system users. Usually, the operating system provides some typical services for its users: execute a program, create a program, operate files, control I/O devices, manage system and users, and detect and respond errors.

Operating systems usually have three types according to the number of the users and the processes that operating systems can handle simultaneously :single-user and single-process operating systems, single-user and multiprocessing operating systems, and multi-user and multiprocessing operating

systems. UNIX, Linux, Microsoft Windows NT Server, and Windows2003 Server belong to the multi-user and multiprocessing operating systems.

Among the UNIX operating systems, two of the most influential are System III and V variant and BSD variant. The former is more likely for the commercial use, whose was AT&T the latter the tends more towards academic use, whose place of origin was the university of California, Berkley.