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IBM LAN Distributed Platform

and Linux

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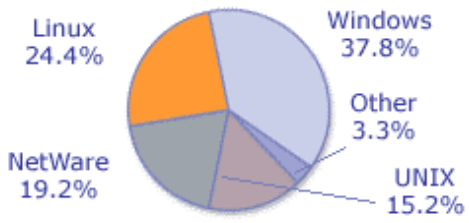
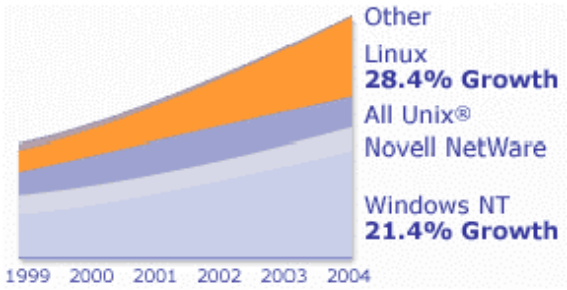
Introduction

LANDP offers you the flexibility of choice; choice of services and choice of operating environments. A consequence of the e-business revolution is that new technologies are emerging to the forefront of the IT industry. One of these new technologies is Linux. Linux can offer the LANDP customer a greater choice and greater ability to achieve their IT goals.

Linux is one of the fastest growing areas within the IT industry. IDC estimate that Linux is growing at a rate 30% higher than the Windows alternatives. The forecasts indicate that Linux may capture 40% of the server market within the next three years. The data below from IDC shows the percentage of new operating systems shipped in the year 2000 and the project growth rates through 2004.



Percentage of new OS Licenses sold in 2000



New Server Forecasts 1999-2004

IDC"Server Operating Environment Market Forecast Analysis" June 2000

This paper will explain what Linux is, why IBM supports it and what it could mean for you as a LANDP customer.
Later in this paper we discuss what Linux is and the benefits that it can offer. Linux can provide the LANDP user with a better choice of platform. Several LANDP customers have already made enquiries about Linux.

What Linux could mean for a LANDP Customer

We see Linux as a platform that can offer our customers greater choice and power. Currently, LANDP offers the choice of OS/2, Windows and DOS. Linux can enable LANDP to offer you a greater choice of operating system rather than dictate what you should use. You, the customer, would be able to choose between the two main server platforms, Windows and Linux.

Not only could Linux offer you a greater choice of operating system, but you could benefit from the plus points that are mentioned later. Enhanced stability and better performance are some of the benefits that Linux could bring you. In addition, Linux could potentially lower the total cost of ownership.

Possible LANDP function for Linux

We are in the process of establishing what you, our customers, would want from Linux.

The following descriptions highlight the areas of LANDP that may support Linux. We are still in the process of establishing what our customers would want from Linux.

- **Customization**
  Initially, LANDP will not be able to use Linux as a customization workstation. Customization will take place on a Windows or OS/2 machine.
- **Internal Communication**
  The internal communication will have to be supplied by the LANDP Internet Protocol (LIP). In other words, a LANDP workgroup would need to be based on a TCP/IP network.
- **Wide Area Communications**
  Support of the LANDP TCP/IP server. This server provides emulation of the LANDP SNA and PPC server API's, and encapsulates the SNA and PPC data over TCP/IP.
- **Data Management**
  Support for the Shared File Server. The shared file server could offer a seamless migration from Windows, OS/2 or DOS platforms. Support for other data management servers would also be possible.
- **Java**
  LANDP Java manager to enable clients to run on non-LANDP workstations, and even communicate through the Web.
- **I/O Devices**
  These devices will depend on whether a device driver exists for the given device. Providing the device drivers exist, LANDP could support the MSRE and PIN pad servers. The same applies for the financial printer server.
- **Application Development**
  AD support covers the C, C++ and Java languages. Using Java's power and portability, the LANDP Java support enables you to develop applications for any supported platform.

Linux is an open source operating system.

What is Linux?

Open Source

'Open source' is often thought of as software that is given away for free. In reality, open source software is software whose source is available to all without restrictions on use. Linux is an example of open source.

Linux defined

Linux is an open source operating system created by a community of developers and governed by the GNU General Public License. This license requires the source code to be available without restrictions on use or requiring royalties. The name Linux refers only to the operating system kernel, although it is often used to describe the complete system. The name is derived from the name of the inventor, Linus Torvalds. This paper will use the term Linux to describe the complete system.

While Linux can be downloaded free of charge from the Internet, most commercial users obtain Linux for a small fee from a distributor. Each distributor provides the user with a different view of the Linux system. More importantly they provide the user with service and support. IBM is partnered with distributors such as Red Hat, SuSE, TurboLinux and Caldera.

Linux takes its direction from the Linux Open Source development community headed by Linux Torvalds. The community is made up of individual software professionals as well as corporate ones. They are focused on the quality and functionality of Linux.

Linux is being used more and more as an application development platform, a Web application server and to drive wireless devices.

More specifically

In a nutshell, Linux is a UNIX-like operating system. It is being used more and more as an application development platform, a Web application server and to drive wireless devices. Linux is fast and efficient at managing resources such as CPU power, memory and disk space.

Due to the nature of its development Linux is available for many different platforms. These include the normal x86 architecture (Intel, AMD and Cyrix), PowerPC's, and even IBM's zSeries. This is possible because Linux has been built using the POSIX standard as its foundation.

Linux has a very modular design. This allows the kernel (the core of Linux) to be very small yet able to load and unload modules as they are required. For this reason, Linux remains small and fast, yet highly extensible in comparison with other operating systems.

Why use Linux?

Many companies are now choosing Linux for their distributed e-business applications

Since its introduction in 1991, Linux has steadily grown in popularity and functionality. It is now poised to challenge the paradigm of centrally planned and controlled proprietary operating systems. No other operating system in history has grown as quickly across as broad a range of systems as Linux. Its widespread adoption is poised to change the very nature of application development as well as the economics of application deployment.

Many companies are now choosing Linux for their distributed e-business applications, especially those that need to be replicated in many different locations such as branch offices, stores, agent offices and public kiosks. Combine Linux's reliability, scalability and low total cost of ownership and you have an attractive choice for these applications.

Linux is emerging as a key element in the "device" arena because it is small, fast and modular. The market sees Linux as a simple and economic choice to implement next generation e-business applications.

The following benefits should help you decide whether Linux is right for you and your needs.

- **Enhanced stability:** Linux servers are often up for hundreds of days and it is not uncommon for a server uptime of over a year. An application crash is less unlikely to bring the server down.
- **Networking:** Linux allows users to share CPUs and peripheral devices, and applications like Samba allow Windows and Linux machines to interact flawlessly.
- **Lower total cost of ownership:** since Linux is available for free or a very small fee the total cost of your system could be far less than your current one.
- **Performance:** Linux is unmatched in terms of stability, flexibility and reliability
- **Server Technology:** stemming from system's stability, Linux is an ideal operating system for server solutions. A variety of Linux applications support most server functions, DNS, Web, and FTP servers.
- **Software availability:** wide variety of commercial and free software.
- **Easily upgradeable:** Linux supports a quick and an efficient upgrade process. The directory structure of the Linux operating system makes it much easier to maintain.
- **Desktop environments:** there are many to choose from and are more flexible than traditional operating systems. This means that a user may enjoy the attractive interface and ease of use found in a Windows system, with the power to customize their desktop environment to meet their individual needs.
- **Interaction** with other operating systems such as Windows and OS/2.

IBM and Linux

At IBM, we are fully committed to the open source movement and believe that Linux will emerge as a key platform for e-business.

At IBM, we are fully committed to the open source movement and believe that Linux will emerge as a key platform for e-business. Our support for Linux can be seen through our participation in three main venues:

1. IBM Development and Competency Centers for Linux
2. IBM-Linux Technology Center
3. The Open Source Development Lab (OSDL)

We believe so strongly in Linux that we will provide the same support for Linux as we do for our own operating systems. We have enabled all of our server machines for Linux. We provide the complete suite of middleware products to support enterprise Linux applications, including DB2, WebSphere and MQ Series. We can also train and certify your staff.

IBM will not become a Linux distributor. We will continue to work closely with our four partners (Red Hat, SuSE, TurboLinux and Caldera) to provide a better Linux for the community. IBM is working with new initiatives, such as OSDL, LSB, GNOME and KDE, to drive innovation and development by the industry.

For further Information

For further information about LANDP and IBM's support of Linux please send an e-mail to LANDP@uk.ibm.com or visit IBM's Linux Web site.

LANDP Web site	www.ibm.com/software/landp
IBM's Linux Web site	www.ibm.com/linux

For Further information about Linux sources mentioned, visit the following Web sites:

Linux Standard Base (LSB)	www.linuxbase.org
Red Hat	www.redhat.com
SuSE	www.suse.com
TurboLinux	www.turbolinux.com
Caldera	www.caldera.com

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