

Linux operating system on business essay

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Introduction about Linux Linux is an operating system that was initially created as a hobby by a young student, Linus Torvalds, at the University of Helsinki in Finland.

Linus had an interest in Minix, a small UNIX system, and decided to develop a system that exceeded the Minix standards. He began his work in 1991 when he released version 0.02 and worked steadily until 1994 when version 1.0 of the Linux Kernel was released. Linux is developed and released under the GNU General Public License and its source code is freely available to everyone. There are now literally hundreds of companies and organizations and an equal number of individuals that have released their own versions of operating systems based on the Linux kernel.

Apart from the fact that it's freely distributed, Linux's functionality, adaptability and robustness, has made it the main alternative for proprietary Unix and Microsoft operating systems. IBM, Hewlett-Packard and other giants of the computing world have embraced Linux and support its ongoing development. Well into its second decade of existence, Linux has been adopted worldwide primarily as a server platform. Its use as a home and office desktop operating system is also on the rise. The operating system can also be incorporated directly into microchips in a process called "embedding" and is increasingly being used this way in appliances and devices. Each day, Linux use is increasing in every sector of our society. We have information about Linux deployments in government, business and the arts.

Linux operating system on Business Linux is now more than a decade old. Throughout its history there have been many high-profile companies that have decided that Linux was the ideal operating system to handle their mission-critical computing needs. This list gets larger every day. Here are lists of some of the more notable cases of Linux use.

| Company | Background | | AIG Sales, South Africa | South African steel and pipe company AIG Sales migrated their | | | DOS-based accounting system to one running Sage on Linux servers. | Amadeus Development Company | Amadeus, a travel reservations system provider, uses Linux extensively| | | throughout their operations. | | Axfood | The Scandinavian food retailer is using Red Hat Linux to power their | | | SAP business software.

They are also using the JBoss Enterprise | | | Application Platform, also provided by Red Hat. | Banrisul | One of the largest banks in Brazil, all of Banrisul's ATM machines | | | runs the Linux operating system. | | BMW | BMW uses Xen virtualization technology on Novell's SUSE Linux in their| | | data center.

| BMW Williams Formula 1 | The Formula 1 team uses a Linux cluster built by Hewlett-Packard to | | | carry out high-resolution aerodynamic modelling of its team's cars. | | Continental Airlines | Continental Airlines has switched over to Linux to power their | | | ticket-reissuing system. | Country Energy, NSW, Australia | A Linux user since 1995, Country Energy has been steadily moving more | | | and more systems over to Linux. | | Deutsche Bahn | German railway system manager Deutsche Bahn began in late 2004 to | | | migrate its servers to Linux. The migrated systems include a Lotus | | | Notes

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server, a SAP system and their web servers. Other systems will follow. Endress+Hauser | In the summer of 2004, the sensors and instruments manufacturer migrated its SAP system on to a mainframe running Linux. | Ernie Ball Inc.

The guitar string manufacturer abandoned Microsoft and migrated its entire IT infrastructure to Linux after a highly publicized audit by the Business Software Alliance, a Microsoft-funded licensing watchdog. | Fiat | The Italian automaker uses a Linux-based system to run its European sales and support network. | Hyundai Motor Company | Hyundai uses a Linux cluster built by IBM for crash simulation tests and analysis. | LIF (Swedish Association of the Pharmaceutical Industry) | LIF uses Red Hat Linux to power their information portal where they provide information about medicines. | PayPal | The on-line payment manager runs its web presence and middleware tier on thousands of Linux servers | Pioneer Petroleum | Ontario, Canada gasoline retailer Pioneer Petroleum are migrating computers in their stations to Red Hat Linux Workstation.

| Priority Healthcare Corp. | The Florida-based pharmaceutical company has migrated its infrastructure to IBM eServer xSeries servers running Red Hat Linux. | PSA Peugeot Citroen | The European automaker has a contract with Novell Inc. to migrate over 20,000 desktops and 2000 servers to SUSE Enterprise Linux. | Qantas Airways | Qantas has migrated 80% of their datacenter servers to Linux. | Sallie Mae Inc. | The student loan provider uses Linux extensively in their IT infrastructure.

| | Singapore Airlines | Red Hat Linux powers its KrisWorld in-flight entertainment system. | Spanair | The Spanish airline is using Red Hat Enterprise Linux in two of their | | | major areas of operation. | | Starwood Hotels & Resorts Worldwide | The owner of the Le Meridien and Sheraton hotel chains uses Linux to | | | run their reservations system. | Statoil | Norway's largest oil company has migrated some key pieces of their IT | | | infrastructure to Red Hat Linux. | | The Chicago Mercantile Exchange | In early 2005, the Chicago Mercantile Exchange began to migrate their | | | Sparc hardware running Sun's Solaris to commodity servers running | | | Linux.

| Thrifty Car Rental | Thrifty is running a large percentage of their IT infrastructure on | | | Ubuntu Linux | | Unilever | The Anglo-Dutch food conglomerate started a migration to open source | | | and Linux in 2004. | Union Bank of California | The California USA based bank has migrated its IT infrastructure to | | | Red Hat Enterprise Linux | | Virgin America Airlines | Red Hat Enterprise Linux powers the airline's web presence | | Volvo | Volvo is using an IBM-built Linux cluster to process vehicle crash | | | test data. | | Welch Foods Inc.

The jam, jelly and juice maker switched to Dell servers running Oracle| | | on Linux in early 2005 | Linux OS on Server & Mainframe Today's new breed of smaller, cheaper mainframes, paired with the Linux operating system, look like an attractive alternative to Unix on RISC or SPARC servers. Linux on the mainframe seems to give us the best of all worlds: the dependability and resilience of over 40 years of hardware innovation and a flexible, reliable

open source operating system. The big question: When should companies choose Linux mainframes over Unix? From a business perspective, the values that the mainframe gives to IBM customers include:

- Economics — Prices are flat, and there has been an increase in computation power. Recent averages have shown an increase in performance of 28% per year.
- Utilization — Mainframes typically run at 80-100% utilization, while distributed systems typically run at less than 20%
- Energy efficiency — The fact that the mainframe has consolidated processors makes for a more efficient space configuration in the data center. This includes decreased power demands
- Security — The mainframe provides integrated security solutions for identity management, encryption capabilities and simplified key management.

We've discussed some of the benefits of the mainframe, but why Linux? Standardization Many companies are already running Linux on distributed platforms. For those that already do, in addition to having IBM mainframes running centralized applications, using Linux on the mainframe becomes a natural evolutionary step for their business' mission-critical applications. Virtually any application that runs Linux on Wintel computers will run on System z, with only a simple recompile. This solution provides the organization with a corporate-wide Linux adoption policy. Consolidation Many distributed Unix and/or Linux servers can be consolidated onto one System z machine, which leads to substantial cost savings. For example, if a company has a server farm of 200 distributed servers, it can be easily be consolidated into either one or two System boxes, hosting 60-70 Linux servers in a high-availability environment that can scale. Support If you are already using

Linux, why would you want to migrate to Unix? It is more expensive to staff Unix engineers and administrators than their Linux or mainframe counterparts. Flexibility Linux, being open source, lends itself to faster innovation, as well as more timely releases of bug fixes.

The open source community delivers faster because it does not have to go through the endless development cycles of commercial-based operating systems. Market share Unix is undeniably losing market share, while Linux is gaining daily. Open systems Where Unix had been known as an “ open system” up until the advent of Linux, it is seen more as proprietary today.

Anyone that has worked on AIX, Solaris and HP-UX, will tell you that Unix is certainly not Unix. On the other hand, the Linux distributions may have some differences, but the underlying kernel is the same. Price Though there is plenty of open source software that runs on Unix, open source and Linux go together like peanut butter and jelly.

While not all open source software is free, one is certainly free to modify its source code. Security Over the years, Linux incorporated many of the same characteristics and functions found in Unix, including the segmentation of the user domain in a multi-user environment, the isolation of tasks in a multi-tasking environment, a password system that can be encrypted and/or located remotely and much more. At the same time, as an open source operating system, it is supported by tens of thousands of developers worldwide. To reiterate, this allows for better innovation and quicker-to-market features than anything Unix can provide. In conclusion, rather than

Linux on the mainframe being some kind of oxymoron, it may actually be the best of all worlds.

How can you beat the innovate and flexibility of Linux, along with the availability and support of an IBM mainframe? Lindows Operating system Lindows is a Linux distribution intended to be as easy to use as possible, even for complete beginners. The Lindows promotional literature promised a ten-minute install, and indeed, the process took about ten minutes. Lindows is based mostly on KDE. The desktop is a KDE desktop, heavily customized with the Lindows brand. The custom theme's icons run to green and blue colors that match the Lindows logo.

The LindowsOS interface is based on an enhanced version of KDE, which should make former Windows users feel right at home. Network and file browsing is handled by Konqueror, and the default Web browser is Mozilla-based. On the other hand, to Windows users, “Lindows” may imply an operating system that can run both Windows and Linux applications. Out of the box, Lindows cannot, though applications like Win4Lin, Wine, and CrossOver Office can give it some Windows capabilities, just as they do with other distros. Lindows, however, makes a good Windows replacement for users who want their operating system vendor to do most of the work of installing new applications.

While Lindows and Linux can't match the number of applications available for the Windows platform, it offers reasonable equivalents for most of the crucial ones. Lindows is certainly a good distro for many people who don't know (and don't want to know) too much about some of the more inner

workings of an OS. It's also quite solid – after all it's based on Debian. Sun's StarOffice is Sun Microsystems' proprietary office suite software package.

It was originally developed by StarDivision and acquired by Sun in August 1999. The source code of the suite was released in July 2000, creating a free, open source office suite called OpenOffice.org; subsequent versions of StarOffice have been based upon OpenOffice.org, with additional proprietary components. The version sold in East Asia is known as StarSuite and is functionally identical to StarOffice, with full file interchange and compatibility, but includes language and font support for Simplified Chinese, Traditional Chinese, Japanese and Korean. StarOffice 8 supports the OpenDocument standard. Features & Benefits Easy to use, compatible with Microsoft Office, with all the features and tools you could ever want.

StarOffice 9 Software — the best office suite value by far. Much improved Microsoft file imports; support for OpenDocument format by default; vastly superior visual experience; finally feels like a quality commercial product rather than an open source also-ran. Customers most agreed on the following attributes: Good value (9), High quality (9), Durable (3) Great value for the money. Contrary to some reviews a definite improvement over Open office. Great help in many languages, nice interface.

A more polished product than Open Office. Near total compatibility with Microsoft Office (macros not fully supported). On the negative side, Sun REALLY needs to work harder to make Staroffice a real killer application and to introduce a product even more polished so it can really become an

alternative to Microsoft Office. Improvement of Open Source Software Open source software (OSS) is defined as computer software for which the source code and certain other rights normally reserved for copyright holders are provided under a software license that meets the Open Source Definition or that is in the public domain. This permits users to use, change, and improve the software, and to redistribute it in modified or unmodified forms. It is very often developed in a public, collaborative manner.

Open source software is the most prominent example of open source development and often compared to user-generated content. The term open source software originated as part of a marketing campaign for free software. A report by Standish Group states that adoption of open source software models has resulted in savings of about \$60 billion per year to consumers. The easiest way to improve a computer system is to change some components of its software system.

The major problems of this undertaking are the described technical and social dependencies that have to be considered. Although developers give their best to produce good software it is the regular case that software contains a lot of bugs and insufficiencies. Many methods have been tried to improve software systems, but there are still many bugs to be fixed and a lot of modifications to be made in order to support the users' tasks in the most efficient way.

Research Process A project is established and starts to work on a software component to help processing certain tasks. These tasks normally are not formally specified in detail, but described in various forms like text

documents or software prototypes. Another opportunity to learn anything about the idea the project is based on is communication with developers and users.

Once in a while the project decides to collect some of the results of their research work and releases it to the public as a new version of the corresponding software component. The time intervals between two releases could range from hours to years. However, users have to distinguish different types of releases, e. g. bug fix releases are published whenever they are required.

New major versions with a set of added features are usually only released when a reasonable usage of the new functionality is possible. Besides, there might be different release branches for different software systems, e. g. an experimental version for developers and a stable one for productive work. Therefore it is sometimes hard work for an inexperienced user to identify the version that is best for his system. Research-Support-System Relation OSPs are actually producing valuable goods. Although they normally are not paid directly by anyone, they have many indirect benefits.

One of them are several free integrated services. The commitment of the sponsors might have several reasons like advertising income, better social image, personal usage of the produced component. Experience shows that the provision of free services is a good deal for many organizations.

Other services are simply paid by someone, e. g. the Internet service provider of a private developer. Conclusion By looking at open source

software, software usage and development turned out to be inseparable. Therefore the development process starts with the first related idea and ends with the removal of the software from the last hosting computer system. Another effect is the direct or indirect inclusion of all users in the development, though; some of them might only frequently update their software components.

In order to handle these new circumstances, the major task of special development environments for open source software is the provision of a suitable information and communication infrastructure. This infrastructure must consider all special features of the entire process of open source software development, particularly, the mentioned integration of users in the development process. Several basic structures have been identified that could help to create a complete open source model in the future.