

A New Winning Dream Team: Linux, SAS, and Oracle

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Abstract

Linux is the exciting Unix operating system (OS) that has earned a reputation for stability and low cost. It is the only OS besides Microsoft's NT that is increasing in number of installations. This presentation will cover the challenges of installing Linux and integrating it with SAS and Oracle into a powerful and synergistic environment. Linux, SAS, and Oracle compliment each other and make a powerful new winning combination.

Introduction

A copy of Linux, called a 'distribution', can be obtained for around \$50 from several vendors. Distributions from *Red Hat* or *Caldera* are two of the most popular. Usually included with a Linux distribution are additional office productivity tools and the Apache web server, the most widely installed web server. Because Linux has earned a reputation for stability and low cost, Linux has been popular with ISP's (Internet Service Providers). Linux is also making inroads in academia and the corporate world, usually through technical groups or under funded mandates. Linux is the only OS besides Microsoft's NT that is growing in number of installations with Linux experiencing significant growth in the last year. Linux inherited its stability from large Unix systems, from which it evolved. Considerable effort recently has gone into a graphical user interface (or GUI) instead of the traditional command line interface. Additional effort has been directed towards

making Linux scalable to multiple processors. Significant progress has been made on these objectives with the release of the 2.2 kernel in January 1999. Attention has also been given to making Linux easier to install and encouraging major vendor support. Most major database vendors have announced support of Linux, including of course Oracle. Ease of installation has clearly improved. However, it is not trivial to get all the pieces working together. This is even more complicated when one wishes to combine Linux with Oracle and with SAS, since SAS will be in a Windows environment. I will address these issues in this presentation.

Installation

Although well documented, a Linux installation consists of several steps, mostly transparent. It really isn't more difficult than installing Windows, just different. First of all, Linux needs a place to 'live' on the hard drive. This *place* is called a partition, and really is no different than dividing the drive C:\ and setting up a drive D:\. Most users however don't split their hard drive. Linux sets up a partition so it can segregate itself from Windows. Linux and Windows can co-exist without conflict on the same machine. After installation is complete, a user can choose to start, or boot, either Linux or Windows, but not both. Linux via a utility called *Samba* can read and write Windows files which provides essential interoperability. Oracle has recognized the interest in Linux and has a version of Oracle, Oracle 8i, that

will run natively under Linux. The 8i version of Oracle itself has generated considerable interest because of the features included with the 8i release. The 'i' of course stands for 'internet'. Because of the features included in 8i, Oracle could have called this version 9 instead. The most exciting new features are the ability for Oracle to store many new types of data directly in the database as a record. For example, Oracle 8i will understand a Word document format or an Excel spreadsheet format, can store it in the database, and maintain the integrity of it when it is retrieved. Oracle has a long heritage of running on Unix servers and is actually developed on Unix. Therefore, the conversion, or port, to Linux was straightforward. Oracle's support of Linux is certainly business driven, not some altruistic motive. Many ISPs run Linux because of its reliability and cost. Oracle is intent on being a strong competitor in the internet marketplace. They also believe, as many are coming to recognize, that major services and applications will be delivered via the browser over the internet. Therefore, Oracle is positioning 8i to satisfy these needs and requirements. Although SAS runs on many versions of Unix, unfortunately Linux is not one of them. On the hand, SAS too has embraced the internet. They also understand that easy access to data via the internet is strategic and the interface between the users and their data will be the browser. A new category of software called *middleware* has sprung up to address this no-mans-land between data and the browser. The SAS middleware product is called *SAS IntrNet*. The installation of SAS is standard. However, SAS is run in the Windows environment and it is here that SAS datasets are created.

Application

If Linux, Oracle, and SAS have all been installed properly and configured appropriately, the user actually has several choices. The user could essentially work in one of the products, completely oblivious to the presence of the others. For example, in Linux, the user could invoke Corel's WordPerfect. Or the user could execute a SQL query in Oracle. In SAS, the user could construct datasets. However, the reason for putting them together is so they can become transparent, which seems like a paradox. They become transparent because they are hiding behind the users web browser. The user's link to their data is through his browser; an interface with which the user is both very comfortable and familiar. Thus, the sophistication, power, and complexity of Linux, SAS, and Oracle are hidden.

Conclusion

The purpose of the presentation was to show you the possibilities of putting together your own new dream team on your home court using Linux, SAS, and Oracle.

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