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Putting the Great in Migrate: Linux Migration Strategies and Best Practices

“The two main reasons that migration projects fail are lack of understanding of the goals and a lack of planning”

Chip Nickolett, President of Comprehensive Consulting Solutions Inc.

by Drew Robb

Linux is making increasingly impressive headway in the enterprise environment, a fact supported recently in a Bloor Research study. Reversing its findings of three years ago, Bloor concluded that Linux is finally enterprise ready. This growing maturity requires a body of practices for migrating to a Linux environment.

In this article, we take a look at some of these best practices in terms of planning, architecting, developing, deploying, and managing a migration. These are based on interviews with vendors and those who have made the transition to Linux.

Planning

Consultants and end users alike seem to agree that clearly defining project requirements for performance, scalability, reliability, and cost is the foundation of migration success.

“The two main reasons that migration projects fail are lack of understanding of the goals and a lack of planning,” said Chip Nickolett, President of Comprehensive Consulting Solutions Inc. a specialist in Linux and database migrations.

“Understanding what is expected, knowing the constraints, and identifying risks are the keys to developing a plan that addresses or mitigates risk.” Nickolett, stated as well.

While a far from complete list, the following seven points should be considered during the planning stages of any migration.

1. Define IT objectives and determine what you hope to achieve by migrating to Linux. IT objectives should serve as a foundation for all technology decisions.
2. Define the scope of the Linux project. Migrating to Linux involves considerably more than just swapping an operating system.
3. Meet with all appropriate constituents. This includes internal staff and other parties such as existing software vendors to ensure that they can support a Linux deployment.
4. Understand cultural issues. Typically a few Linux evangelists within IT are promoting the promise of Linux. But that is a far cry from achieving a team consensus. It is folly to attempt to push forth a large-scale Linux migration in the teeth of indifference or outright resistance.
5. Plan for tomorrow. Organizations should understand IT objectives for today and for two to three years down the line. A migration geared to the current objectives may hinder future expansion unless carefully planned.
6. Determine what to port to Linux. For example, migrating an IBM DB2 database onto Linux would probably require you to port other interconnecting components of the infrastructure stack.
7. Establish benchmarks. Companies must use benchmarks of the existing system to set performance and availability standards for the proposed Linux environment. Benchmarks are vital not just to ensure targets be met, but also to prove the effectiveness of the migration, as there may be opponents. And on the other side of the coin, ensure the Linux migration not only saves you money, but also improves business and technology performance.

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“The allure of Linux, with its open source properties and free price point is an enticing prospect for both IT and business managers,” said Candle Corp’s Assistant VP Pete Marshall. “Before making a rash decision regarding Linux, companies must first evaluate how a migration to Linux supports overall business objectives.”

Architecture

When it comes to architecting a Linux migration, there is no substitute for a thorough understanding of the existing platform and the proposed new technology elements. Systems integration issues must be comprehensively addressed.

Hardware must be evaluated to determine if the current machines can be harnessed or will have to be replaced. Such decisions can have a major impact on the cost equation. Thorough testing should also be performed on representative hardware—all key components tested and proven upfront as part of a validation or proof of concept effort, before you even make a start on the actual migration. This really is the make/break point of any project.

Nickolett illustrates this point with a story about a client who insisted that they port applications to Linux without proper planning or evaluation. Everything went well until they benchmarked the new system.

“Tests showed that the stability of the system had decreased and performance was not on a par with the existing SVR4.2-based Unix system,” said Nickolett. “It was a surprise for everyone involved, and experience that the client still vividly remembers.”

Development and Deployment

While a Linux migration may look good on paper, the cost/benefit equation can quickly change if a large amount of development work must be conducted to successfully port the old system over to Linux and Linux-based applications.

Therefore, IT managers should attempt to keep development requirements to a minimum or risk losing control of costs and timeline. Unless, of course, the development time/cost has been factored in at the onset.

Once it comes to deployment, allow for the fact that processes, applications, and/or interfaces will come to view that were missed during the initial inventory and planning phase. Once again, this adds to the budget and extends the timeline.

Bottom line: the more carefully the project is planned, the less surprises that will be experienced, but all the planning in the world will never completely eliminate some surprises. So anticipate surprises.

Management

Once Linux has been deployed, it’s time to relax, right? Not quite. In many ways the challenges are just beginning.

“Linux is significantly more than just downloading and installing the software,” said Marshall. “Post deployment issues such as performance monitoring, patch management, and security require both time and training to manage.”

Therefore, companies must ensure they have in place sufficient expertise to properly manage a Linux environment.

Looking Beyond Licensing

Any attempt to sell a Linux deployment based on raw dollar value in terms of license savings is misleading. Yes, a sizable reduction of licensing fees can be expected. But these will be offset to some degree by migration and deployment costs. And if the project is poorly planned, costs can spiral out of control. However, if intelligently thought out and competently deployed, a Linux migration will not only result in substantial savings, it can transform a maze of disparate hardware and software solutions into a streamlined Web-enabled enterprise system that meets the technology needs of the 21st century.