Migrating from UNIX to Linspire Nano

By Simon Lincoln
     Richard Dennis

Today Linux has taken over many tasks once reserved for UNIX and OpenVMS. While OpenVMS is gone, replaced by its grandchild Windows NT, UNIX is still deployed and still hosting mission critical applications. UNIX support, however, is steadily decreasing. There is only one vendor who still has UNIX on its roadmap : IBM with AIX. Solaris and HP-UX are currently in maintenance mode. Unless you are willing to spend a lot of money on hardware or move to FreeBSD, follow the industry lead and switch to Linux.

ENTER Linspire Nano

Linspire Nano is created and maintained by PC/OpenSystems LLC. While not a dedicated server platform, Linspire Nano can be deployed in many scenarios where a web, database and application hosting server is needed. Linspire Nano is based on Ubuntu LTS (Long Term Support) technologies - you can have the piece of mind that your investment will be supported and returning dividends in performance for a long period of time.

PLANNING YOUR MIGRATION

There are several keys when planning your migration:

- Verify that you can migrate all of your software
- Procure your hardware
- Retrain your IT staff to use Linspire Nano
- Select your applications to migrate
- Deploy a pilot program

VERIFY THAT YOU CAN MIGRATE ALL YOUR SOFTWARE

When moving applications to Linspire Nano, first verify that they can be migrated and that there is Linux support. If these are paid applications make sure you retain your licenses and negotiate their transfer from one platform to the other. For applications that you own the source code to, make sure you have competent staff and a development team that can assist in porting the software to Linspire Nano.

UNDERSTAND THE COSTS OF PORTING APPLICATIONS

The next step in the planning phase is to ensure you understand the costs of porting your applications from UNIX to Linspire Nano. Many business applications like enterprise resource planning (ERP), supply chain management (SCM) and customer relationship management (CRM) already run on Linux platforms, so no porting is required. Some vendors like HPE, PC/OpenSystems LLC, Micro Focus and IBM provide fee based application migration services for their customers.

SAP does not certify their application suite on any Debian based platforms. While these applications can be converted using the ALIEN utility we do not recommend them for production use; any further mention of SAP and HANA will be to reference a testing/non production environment ONLY. We encourage users of Linspire Nano to look at alternatives for SAP applications for deployment

https://alternativeto.net/software/sap-business-suite/?platform=linux

CHOOSE YOUR HARDWARE PLATFORM

Linspire Nano supports hundreds of x86_64 based hardware systems and devices; drivers for most are already included. Linspire Nano supports many server class systems and desktop based systems from:

- HP
- Lenovo
- SGI
- HPE

When choosing devices and systems make sure to take into consideration requirements for workload availability and total cost of ownership (TCO) before migrating to a different hardware platform. x86 systems typically have a low total cost of acquisition, and in most cases can meet your requirements for mission-critical applications. You want to ensure that the administrative and maintenance costs of replacing your current UNIX platform are not lower than the acquisition costs of new hardware. For small businesses and educational customers who may have limited resources for large-scale hardware refreshes, there are companies like CDW, Amazon and Rakuten that sell refurbished systems and server hardware for scenarios where cost is a factor.

BE SURE THAT YOUR IT STAFF IS READY FOR LINUX

An important step in the planning phase is to be sure that you have the buy-in and training for your IT staff. As the UNIX market declines, your systems administrators can develop Linux skills that increase their ability to remain current with the newest technologies and innovative solutions; UNIX experts can easily apply their existing knowledge as they transition to working with Linux environments. Investment in getting your best and proficient employees LPI (Linux Professional Institute) or Red Hat Certified would be bring future returns.

https://www.lpi.org/our-certifications/linux-essentials-overview

https://www.redhat.com/en/services/certification

SELECT THE APPLICATIONS TO MIGRATE

Begin by prioritizing the applications you want to migrate, and setting up a test environment. For the first few migrations, you want to balance meeting business requirements for reducing costs with getting early success with simple applications. For UNIX desktop productivity workers you may want to look at what similar applications are available on Linux. In our experience, WordPerfect for UNIX and StarOffice are still widely used even in 2018; these document formats and data may have to be migrated to Libre / OpenOffice. For server systems it's smart to start with an application that already runs on Linux. In some cases, the choices of where to start may be driven by expiring hardware leases or software license renewals.

CREATE STANDARD BUILDS FOR THE SOFTWARE STACK

Take the time to create a checklist and use the included build tools to start preparing your software base that you want to deploy on your hardware. Also for internal software applications that you have the source code to, check packaging. Linspire Nano supports the following package formats:

- DEB
- SNAP
- RPM
- APPIMAGE

A standard, packaging format for the installation, upgrade and configuration of each software package can simplify setup, implementation and maintenance of the software stack. SAP delivers an installation wizard with automation features that can reduce deployment times on Linspire Nano from days to hours. For mission-critical application migrations, it's important that you prepare high-availability capabilities for (un)planned downtime. Linspire Nano includes utilities for IT staff to set up physical / virtual clusters for redundancy.

DEPLOY THE PILOT PROGRAM

When you are ready to deploy your pilot program it is necessary to separate it from your production environment. Not doing so can lead to security breaches and possible downtime from using an untested stack. Using the supported package formats, develop repeatable installation processes for the software stack; be sure to include any recent updates or patches as part of the process. If build tools are used to customize ISOs / IMGs, carefully document any changes made, applications added and updates applied to the base image. Now more than ever it's crucial to demonstrate the value of IT projects to the business; this is especially true with migration projects where there could be a significant initial investment in time and resources. To effectively validate that you are getting the desired improvements in capital expenditures, operational costs and reduced downtime, you need to start with a cost estimate for your current operations.

GET A ESTIMATE FOR YOUR CURRENT COSTS

To demonstrate savings over your previous UNIX system, you'll first need to calculate what you spend on that solution. Consider :

- Your average yearly capital expenditure for new system
- The cost of running and maintaining those systems (for example, electrical power and cooling)
- License fees for UNIX
- License fees for the commercial applications
- Maintenance or support subscriptions
- Hardware upkeep

Before making any migration, it's important to have a complete picture of what is technically possible, whether the costs are justified and if your IT staff is ready / needs additional training.

CALCULATE YOUR COSTS

Calculating the costs of your previous setup vs. the same costs for your Linspire Nano system is relatively straightforward. You want to consider your estimated capital expenditure for systems and the cost of maintaining those systems; if you're purchasing new hardware, your hardware vendor can help with this assessment. Because Linspire Nano is open source, your software expenses will follow a slightly different model subscription than a typical UNIX software license. Your new solution will be much cheaper than your previous one but, as with the previous one, you will need to calculate the costs of application licenses, your software maintenance and support and the staff time spent maintaining the new setup.

Other costs to consider are contingent on your organization; depending on the available Linux skillset, outside consultants to help plan and build your solution or aid in performing the migration can be retained. This can be a significant costs, but is often offset by other savings. Factor in the costs to retrain your IT staff on the system as well. UNIX and Linux are similar, so the time and expense of bringing a proficient UNIX user up to speed will likely be much less than for a user with no UNIX / Linux experience. Staff with have no technical expertise at all, only familiar with the Windows / macOS based desktop, will take the longest to migrate in terms of time and expense.

AVAILABILITY AND DOWNTIME

Downtime is expensive. You probably already have a good idea of what level of service you provide your organization. If not, collecting this historical data for a short time before starting the migration can pay off in demonstrating its value. When making your determinations, make sure this number includes the amount of time services will be available and the costs of significant downtime. When proposing the migration, make the cost assessments high; they can be adjusted lower later in the process.

MAKE YOUR CASE

Now that you have all the costs planned out and a migration path prepared, it is the time to make your case to your organization's leaders. Make sure that your results also include the 'Other scenario' where the costs of acquiring a new UNIX based system and the cost of implementing that solution as well are incorporated.

CONCLUSIONS

Migrations are not quick, cheap or easy. However, if properly planned and executed, they can be (relatively) painless.

For more information on Linspire Nano go to http://www.blacklablinux.org