



An Introduction to LINA

open source everywhere

**Licensed under Creative Commons
Attribution – Share Alike 3.0 Unported
<http://creativecommons.org/licenses/by-sa/3.0>**



White Paper: An Introduction to LINA

LINA allows Open Source Linux applications to run on Windows and Mac

LINA™ provides a major technological breakthrough in computer platform portability. With the advanced technology of LINA, Open Source Linux applications can be run simply and robustly on all flavors of Linux, as well as on UNIX, Windows, and Mac OS X platforms. This paper describes the unique benefits and features of LINA, and demonstrates why this powerful technology will bring Open Source everywhere.

The challenge

Today, numerous Open Source applications written for Linux are available free of charge. Unfortunately, Windows and Mac users cannot run these applications on their operating systems. Furthermore, due to the multiple versions of Linux currently available, even users on the Linux platform have difficulty benefiting from existing Open Source applications. The challenge that Open Source faces is how to bring its enormous base of applications to the ninety-five percent of users who cannot use it today. LINA meets this challenge head on.

LINA provides solutions for users and developers

LINA provides users with native look and feel

LINA allows users to run Open Source Linux applications on Windows and Mac operating systems. With LINA, users don't sacrifice the familiar look and feel of their operating systems since each LINA application will run exactly as expected, with native look and feel, regardless of the underlying operating system.

When companies develop their key applications to run on LINA, operating system can be upgraded with minimal business interruption. Businesses with a variety of operating systems on their network can also now run the same applications on all machines. LINA decreases operating system dependency by offering fully portable applications. At the same time, LINA expands the deployment of applications by enabling them to run on any operating system.

LINA in a nutshell

Native look and feel

With LINA, Open Source applications developed and compiled in a Linux environment can be run on Windows, Mac OS X, and UNIX operating systems, as well as any flavor of Linux. On the LINA platform, Linux applications adopt the appearance and interface characteristics of applications written for the underlying operating system, providing users the native look and feel of their familiar operating systems.



White Paper: An Introduction to LINA

LINA creates a secure and stable execution platform

Fully portable

LINA runs invisibly wherever installed, offering a fully integrated solution for development and deployment of cross-platform executables.

Secure and stable

Once installed, LINA creates a secure and stable execution platform for LINA applications. Each application runs in a separate instance of LINA, which is terminated upon completion of the application. The termination of the instance effectively insulates the underlying operating system from unplanned interference from the application.

From the application's perspective, since each instance of LINA is identical, programs written for LINA are guaranteed to run regardless of changes made to the underlying operating system.

LINA uses minimal system resources

LINA and other cross-platform solutions

LINA makes it simple to harness the power of Open Source Linux by combining the best aspects of all previous solutions. LINA is thin and fast, using minimal system resources. Applications running on LINA are completely integrated with the user's operating system, incorporating the look and feel of applications written for that operating system. LINA is secure -- these applications only interact with the core of the main operating system to the extent that the user allows them to. Perhaps most importantly, LINA runs code written for an existing, robust, well documented operating system -- Linux.

	System Call Mapping	Virtual Machine	Traditional Virtual OS	LINA
Low overhead	x	x		x
Run without recompiling	-	x	x	x
Access to host resources	x	x		x
Host resources secure		x	x	x
Native system integration		x		x
No porting necessary		x	x	x
Native look and feel		x		x
Support for legacy applications	x		x	x
Native programming languages	x		x	x

LINA compared to other cross-platform solutions



LINA: Operating system independence

Linux executables, written and compiled for LINA, work on all machines without the need to recompile.

With LINA, users have easy, straightforward access to Open Source Linux applications without changing any aspect of their existing operating system. With no sacrifice of their existing software, the user experience of LINA is “All Gain, No Pain.” LINA applications are simple to install and guaranteed to run. Complex packages can be easily installed with no configuring, no compiling, and no chance of missing dependencies.

Using LINA, Linux executables run on all machines without the need to recompile. Because they adopt the native look and feel of the host operating system, they function exactly as the user expects, and are fully integrated into the desktop.

For businesses, all machines on a corporate network comprised of diverse desktops and servers can now run the same software. And LINA protects enterprise software, since applications written for LINA continue to work regardless of changes made to the underlying operating system. Further, with LINA the decision to upgrade or migrate to a new operating system no longer causes incompatibility issues that have historically kept businesses locked in. Because applications written for LINA are distributed as fully compiled executables with all dependencies included, complex solutions that currently require detailed configuration efforts are instantly usable upon installation.

LINA unleashes the reusability of Open Source code

LINA unleashes the reusability of Open Source code. Businesses and individuals can now reap the benefits that results from the global collaboration of the Open Source community.

LINA for users – a new level of application portability

The great operating system bazaar

LINA brings Open Source Linux applications to everyone

All computer users - individuals and organizations alike - make the most fundamental software decision when they choose an operating system. Historically, this choice locks the user into a single, clearly-demarcated realm of available software. As a result, Windows and Mac users have virtually no access to the vast world of Open Source software.

LINA allows non-Linux users to choose Open Source applications

Users base their initial choice of operating system on a variety of factors, including convenience, software availability, perceived quality, and economy. In addition, proprietary formats and essential applications keep users locked into familiar operating systems. Because LINA allows users to choose Open Source applications, LINA enables the ninety-five percent of computer users currently running Windows and Mac to use Open Source applications with the same ease as Linux users.



White Paper: An Introduction to LINA

A single executable rarely runs on all types of Linux

LINA solves the Linux fragmentation problem

There are numerous versions of Linux, each with various, differing sets of libraries and applications. The fragmentation of the Linux operating system means that a single executable rarely runs on all versions of Linux. Although major Linux distributors package a number of applications for easy installation on the version of Linux provided, countless applications are not supported by any Linux distribution. Thus, the burden is on the user to download the source code, find and install any missing components or dependencies, then compile and install the application. This process taxes the skills of most users, especially those unaccustomed to the Linux environment. LINA solves this problem by enabling users to download a single binary for any Linux distribution.

LINA minimizes migration risks

LINA encourages Linux migration

Many businesses resist changing operating systems because of support costs and productivity losses typically associated with migration. Despite this reluctance, Linux has made huge inroads on corporate servers due to its low cost, high reliability, and robust security. Companies such as Red Hat and Novell contribute greatly to the increased adoption rate of Linux servers by providing enterprise Linux packages and support. LINA minimizes migration risks for businesses by allowing them to first transition their applications one by one to open source alternatives and then transition their operating systems.

LINA for developers

The developer's dilemma: Choosing a platform

Software developers face a dilemma similar to that of users when deciding which operating system to write applications for. Despite the benefits of Open Source, the most popular operating systems have the upper hand in attracting developers. Why? Because developers want people to use their applications. Why target a platform used by less than five percent of the population, when you can target a platform used by almost everyone?

Open Source developers are also affected by the Linux fragmentation problem. Developers who choose to support Linux must also choose *which* Linux. As a result of these complexities, companies offering enterprise software products that run on Linux typically support only one or two Linux distributions.

On the other hand, the benefits of developing Open Source software are vast. "Open Source" means the source code is free to be used, added to, revised and/or adapted in whatever way suits the developer's needs. Not only is the code open, the Open Source community itself is open and knowledge is freely shared, resulting in a dynamic, highly collaborative environment. Using an open platform greatly accelerates the development process.

Developers writing to



White Paper: An Introduction to LINA

*LINA produce
applications that run on
all operating systems*

The developer's solution: Choosing LINA

Developing to the LINA platform allows software developers to experience all the benefits of developing Open Source Linux applications, and simultaneously brings them the huge user base associated with the Windows and Mac platforms. Writing to LINA produces applications that run on ALL operating systems. And with LINA, all software developers can become part of the Open Source community and enjoy the increased productivity that results from the community's global collaboration.

The LINA development platform is the Linux development platform – well-established, stable, and with plenty of support for new developers. The developer writing a LINA application creates easy-to-install executables packaged with all dependencies, guaranteed not to interfere with anything else installed on the user's machine.

LINA into the future

*LINA – Open Source
everywhere*

With LINA, the freedom and economy of Open Source applications are now available with minimal risk and time investment. With the power of this technology, LINA will bring Open Source everywhere.

About Lina the company

Lina brings Open Source to more users through innovative software solutions and technologies. LINA™ is currently the main focus of the company's engineering efforts. Lina is headquartered in Alameda, California. For more information, visit our website at www.openlina.com.