



IYA Linux technical overview

31/07/2026

Introduction

Since its birth Linux has gone a long way, from a curiosity to a major system to be reckoned with.

The industry, generally speaking, uses Linux for a huge number of applications, from e-commerce to scientific research passing by banking and telco.

IYA Linux has been created for the sole purpose to be the lead system in professional application by providing what industrial wants, meaning security, compatibility, performance, and cost reduction.

This is what has been achieved.

This document will provide you the details about the solution so that you can consider how fitting it may be for your environment.

Description of the solution

IYA Linux is a Linux system based on the GNU/Linux stack of utilities.

Its main purpose is to be a “Linux Operating system dedicated to servers”.

It means it can be used in development, testing and production stages.

For different kind of industries :

- Web infrastructure, Cloud technology, and SaaS systems
- Finance, Banking and High-Frequency trading
- Telecommunications and Networking
- E-commerce and Retail logistics
- Supercomputing, Aerospace and Scientific research

Advantages of our solution

Overall IYA Linux can provide several advantages

- Higher processing efficiency
- Lower memory footprint
- Reduced administration time
- Lower energy consumption
- Simplified system
- Total compatibility
- Sovereign solution

Here are the details about every point



Higher processing efficiency

When benchmarked, our solution has proven that the application can perform up to 10 times faster than the same application

This mean we can either go faster on a task or multiply the load of the machine.

This was achieved by :

- Optimizing the compilation options
- Removing all unneeded subsystems from the Kernel
- Lowering the number of libraries dependencies
- Tweaking the system configuration for server performance as opposed to end user computing

The advantages are :

- A system avoiding the misuse of micro cycles
- Less applications/libraries lowering the number of performance costly dependencies

Lower memory footprint

When testing our startup memory usage is 50 MB, which is smaller than Ubuntu Server (~160 MB) and Debian (~250 MB).

This means you can run smaller virtual machines, and you can use the saved memory for your applications, potentially saving in new hardware, especially when the memory gets expensive or difficult to get.

This was achieved by :

- Reducing the Linux kernel size
- Limiting the number of services at startup

Reduced administration time

Due to the re-engineering of the system, we expect to save administration time.

Basically we segregated the applications from the system, so that you can manage an application by herself without being messed up with unrelated configuration files.

On the other side, the system is free from applications configurations making it easier to use.

This was achieved by :

- Moving applications to their own directories
- Providing a large number of utilities for the management of all resources

Lower energy consumption

Since the system has been freed from useless module, drivers and applications, it can run without overhead, so faster, and without useless cpu cycle thus limiting the energy usage, and at another level the resource consumption for machine usage.

Not to mention your machines can last longer, before replacement.



This was achieved by :

- Optimizing the compilation options
- Removing all unneeded subsystems from the Kernel
- Lowering the number of libraries dependencies
- Tweaking the system configuration for server performance as opposed to end user computing

Simplified system

Our current number of packages is 214 to be compared to the 64000 of Debian.

Our target would be around 1000 packages in the end.

It is easier to work with us since we are only focusing on enterprise grade apps, and not useless (games, graphical, sound...) or obsolete applications.

This was achieved by :

- Rebuilding the system from scratch
- Deciding which applications are worth the use considering our professional scope

Improved security

Since our number of packages is restrained and our system simplified, the attack surface is lower.

Also simplicity leads to a better understanding, allowing a better management of the security scope.

In addition, we are using the SELinux system as an extra hardening precaution to prevent applications from taking resources they are not allowed too

This was achieved by :

- SELinux system setup
- Deciding which applications are worth the use considering our professional scope
- Limiting the number of packages

Total compatibility

Since the sources are available online, we use exactly the same software as other Linux operating systems use, so our compatibility is excellent, if not perfect.

This was achieved by :

- Internal policy to support all systems for 10 years
- Rebuild from scratch of the applications
- Side by side installation without interference

Sovereign solution

Today, the Linux system are mainly owned by US companies. Most of the clones are based on Red Hat and Debian.

On those uncertain days, it is a real important matter to get as much independence as you can.

We do not own all of the source code, yet, we know the recipe to make the system work, which is already one step forward compared to our competitors.

This was achieved by :

- Rebuild from scratch of the system
- Documentation of all building processes

Application support

Current

Since the system is still under build the number of supported applications is still limited, but targeted to the most used programs.

Infrastructure

Java 8u44, 17.0.0.1

PHP 8.2.9, 8.4.12

MySQL 8.4.6, 8.4.9

nGINX 1.23.4

Python 3.10.6, 3.11.2

Perl 5.36.0

.Net 10.0.203

SQLite 3.42.0vim

End user applications

Wordpress 7.0

Jenkins 2.555.1

Expected

As mentioned, it is planned that the system provides a full support on all technologies used for professional purposes, and as such we expect the following.

Please note that there is no planning about supplying such software.

Database

PostgreSQL

MariaDB

IBM DB2



Oracle Database

Webserver

Apache Tomcat

NodeJS

Apache Webserver

Caching

Memcached

Redis

Proxy

Squid

Search engine

Opensearch

ElasticSearch

Message queue

RabbitMQ

Conclusion

IYA Linux is a step forward in gaining back the control over our IT and optimize our business spendings.

The planned market launch is about Mid 2027.

You can get more information on <https://www.iyalimited.net>, where you will be able to have a look at the coming updates.

Stay tuned !