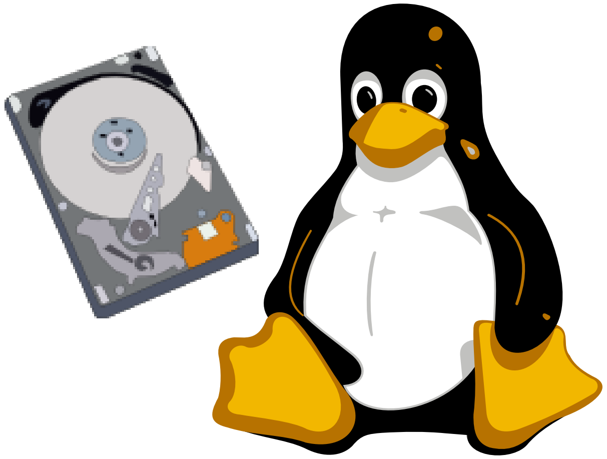
Open Source, Storage Innovation and Business Models



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What is Open Source

Open Source is any type of software made available under a freely redistributed Licence

Linux is just one example of an Open Source Project

FreeBSD is another

Essential element is redistributability

What is Linux?

Not organised: functions as a set of autonomous collectives (called subsystems)

Sole method of communication is email (exchanging code as patches)

Maintainer is an arbiter, but can be overridden by others in the hierarchy (like Linus)

Technical merit is sole qualification for patc inclusion

Linux and Open Source

Linux has a give back requiring licence (GPLv2).

Give Back requires publication of code for all modifications to pieces of the kernel

Acts to keep upstream head from forking.

Also makes life very difficult for vendors w wish to keep their source code proprietary.

Need good business reasons to avoid upstream.

Influencing Open Sourc

There is no central Architectural Council for guiding open source projects.

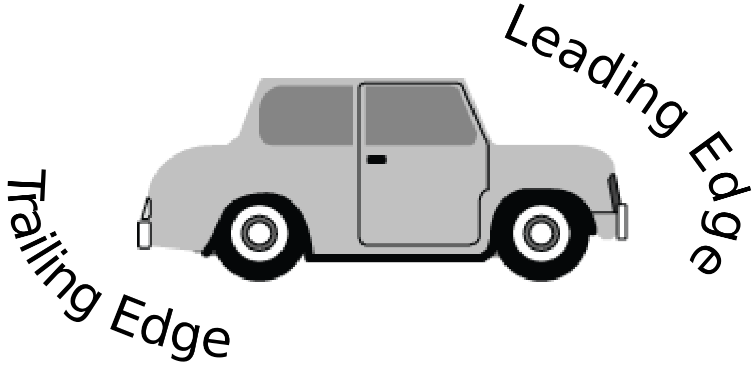
In Linux, guidance provided by a loose federation of Maintainers.

The development of projects is guided purely by ideas which are **backed with code**

Thus, to influence, you must field code back by engineers to argue for its inclusion.

Standards

Standards can be classified int



Most Linux standards (Posix, LSB) are Trailing

Storage standards mostly Leading

Business Models

The Business Model is usually to use a leading edge standard to drive development.

Ultimate object is getting some product or service to the end user via the OS.

Using a standard instead of direct OS development keeps delivery OS neutral.

Strategy takes a long time to mature!

Open Source Business Models

Traditional business value is commoditisation

- Takes pieces of stack that cost money to maintain and moves them into commodity

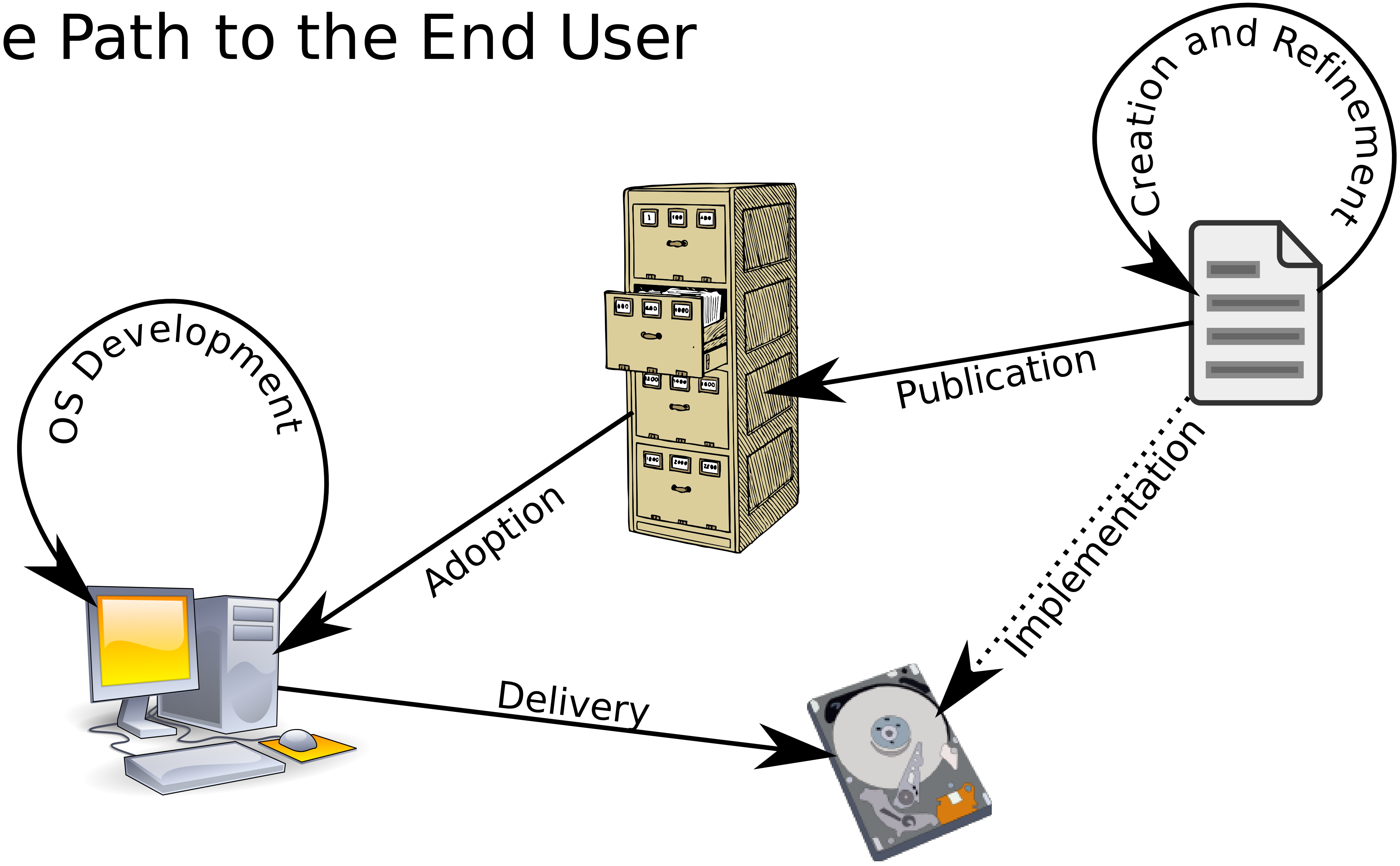
Rising value is participatory development

- All competitors work on same base
- Can franchise customers and ISVs in shared development

Loss of control empowers customers/partners

Standards, Products and Operating Systems

The Path to the End User



Old World Methods

In the old world, operating systems were binary.

No ability to see or change code (except with OS development licence).

All changes go through Architecture review boards.

Approval and justification is required

New World Methods

Open Source facilitates the New World

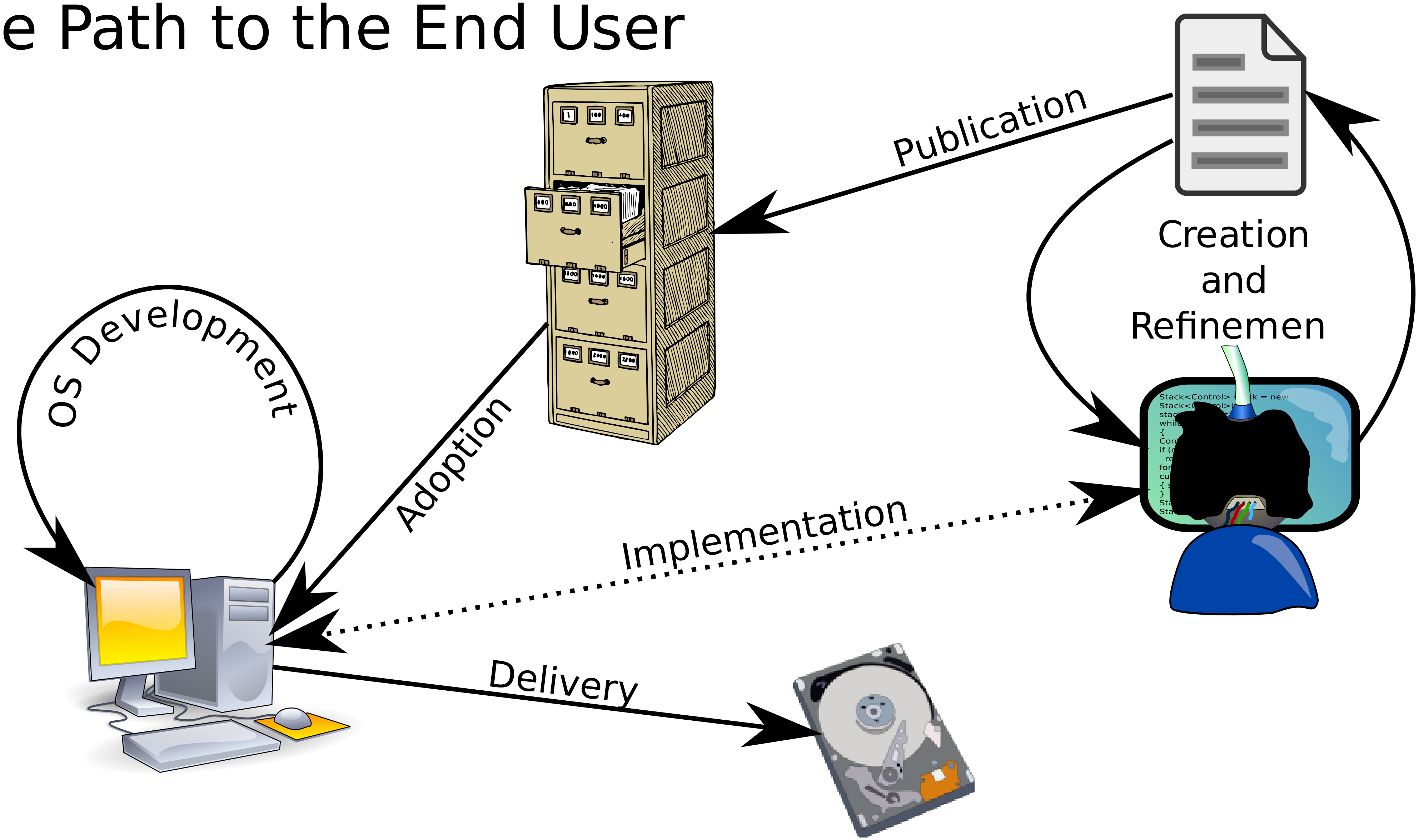
Can see and participate in development process (No approvals required)

No need to use Standards to drive development

Can also use OS as proving ground for Implementations.

Standards In the New World

The Path to the End User



What does this Mean?

The OS becomes both the delivery vehicle and the implementation test bed.

To leverage the OS resources, need to seed development with early access devices.

Traditional standards path still followed for push to non Open Source OSs.

Early adoption in Open Source will drive faster adoption in other OSs.

How is this Done?

Need to have OS coders working on Standard.

Coders need to interact with the upstream community.

Object is early adoption of driver code for feature.

Development becomes a partnership with Open Source.

What does Open Source need from Standards?

Participation, but in the form of the ability to read evolving standard

i.e. Open Access

Don't necessarily need ability to attend meetings (hard to engage developer interest)

Do need contact to complain to if things look to be going in the wrong direction

Conclusions

Open Source development can help drive device/feature adoption faster than Old World Models.

Using this strategy requires changes in the Business Model.

Standards development and implementation becomes much more of a partnership

Questions?

Can also use email:

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Would prefer the mailing lists;
Allows Q&A to be archived

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