



INTEGRATING THE KWORKFLOW SYSTEM WITH THE LORE ARCHIVES

Enhancing the Linux kernel developer interaction with mailing lists

LINUX KERNEL DEVELOPMENT

The Linux kernel is collaboratively developed by a global network of people using public mailing lists as a medium for distributing changes (patches) to the community for review.

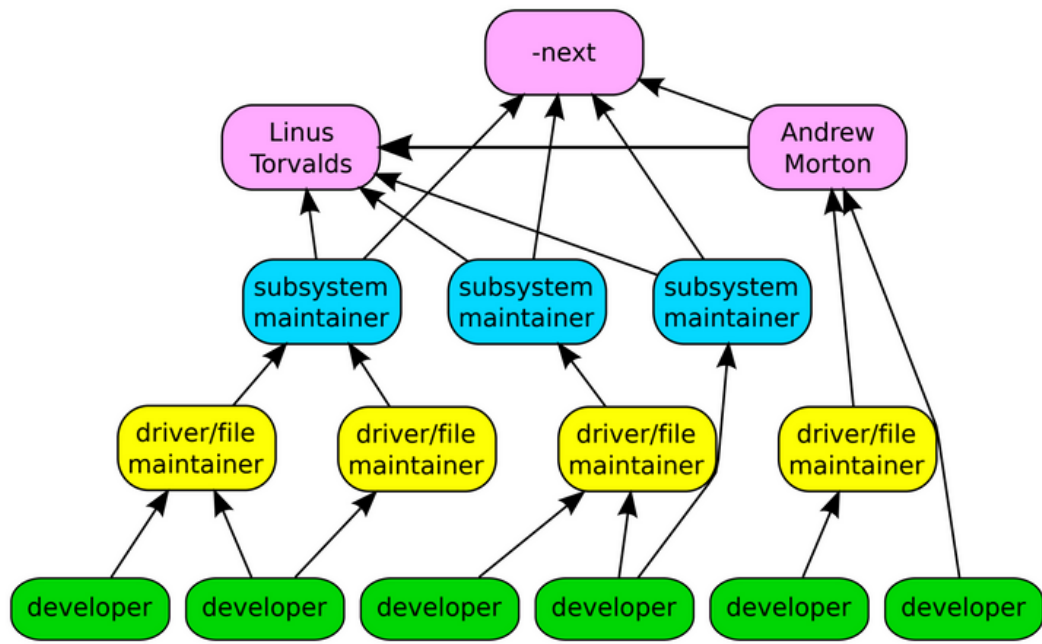


Figure 1. Patch way until merging into the Linux mainline

Updated registers of the mailing lists are accessible in the Lore archives, which delivers an on-demand approach to consulting the flow of patches.

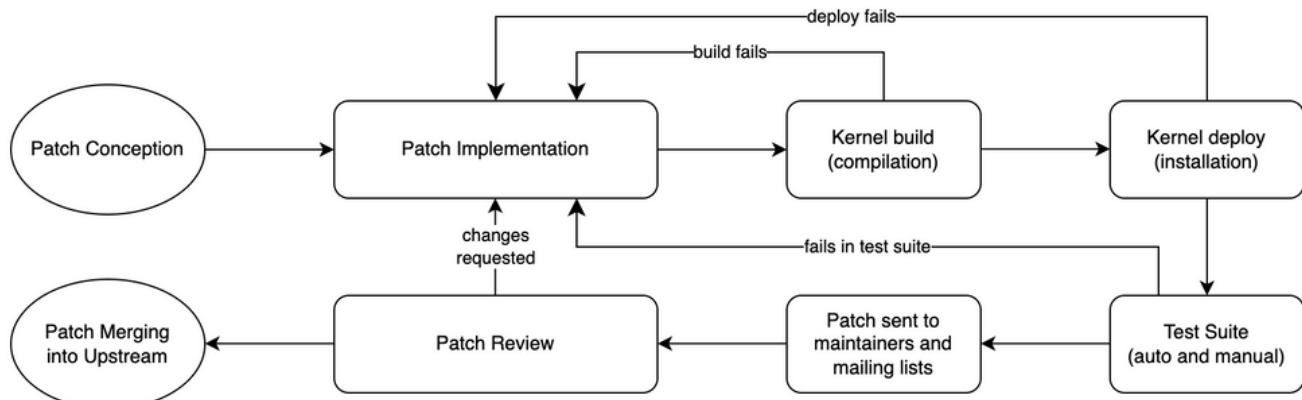


Figure 2. Patch lifecycle on the Linux kernel project

KWORKFLOW

KWorkflow (kw) is a system, under the GPL v2, that streamlines and optimizes the workflows of Linux kernel developers by providing features in a unified environment.

To enhance the interaction with mailing lists, we developed kw patch-hub, a terminal-based user interface to the Lore archives integrated with the kw environment.

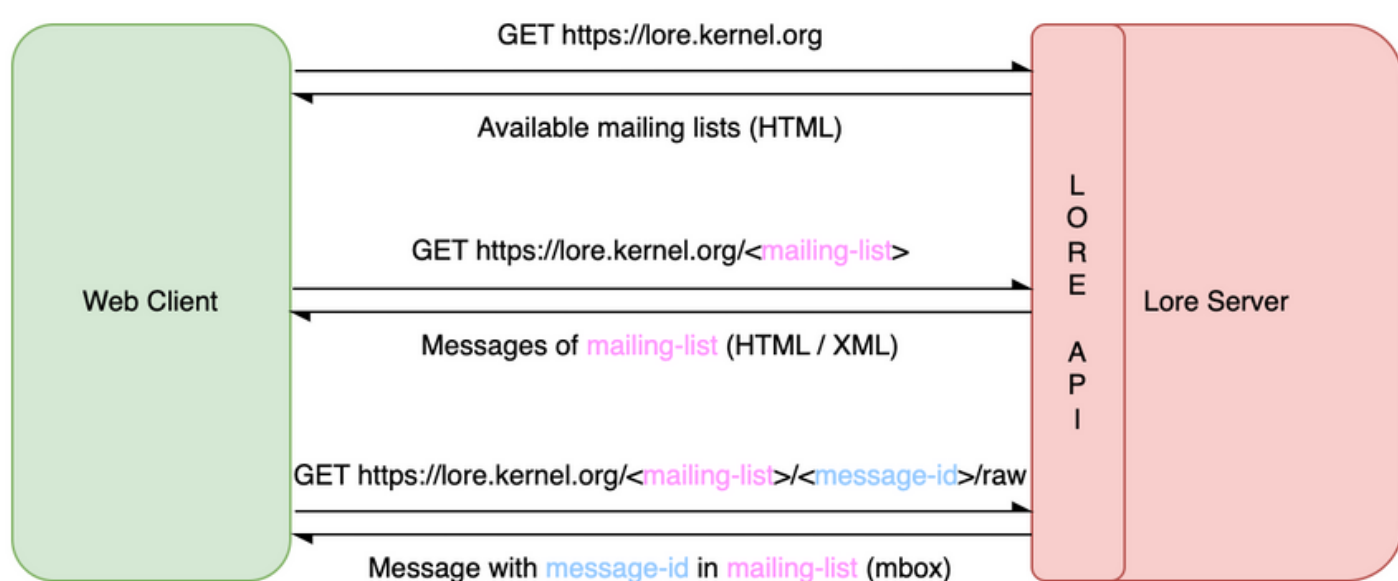


Figure 3. Lore API requests and responses leveraged by kw patch-hub

KW PATCH-HUB CAPABILITIES

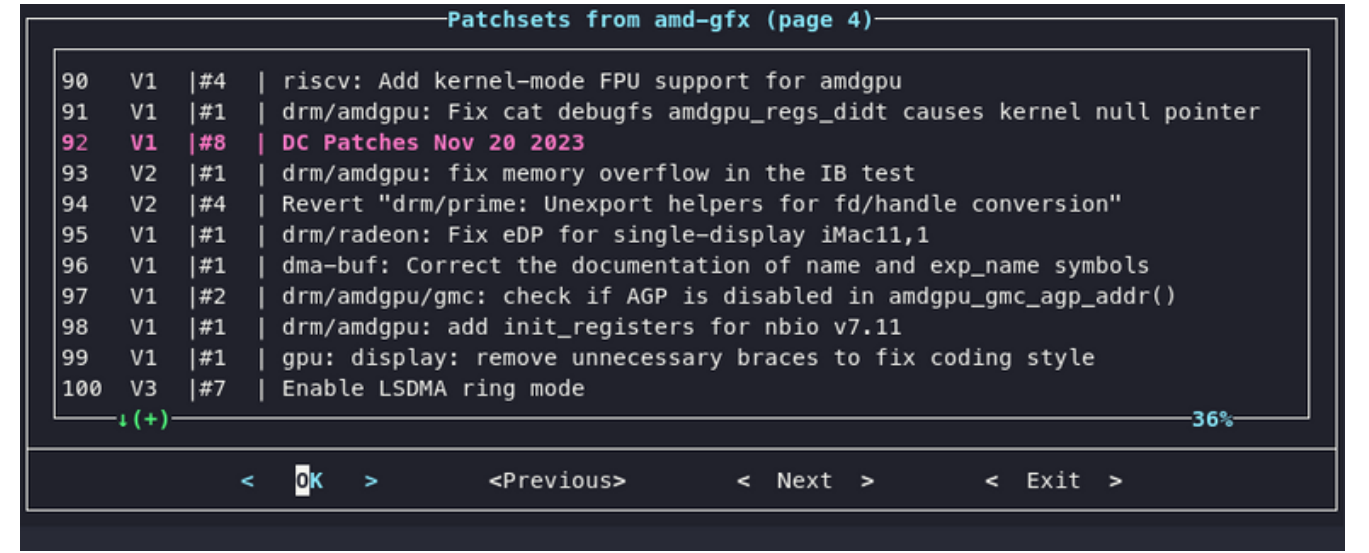


Figure 4. Consult latest patchsets

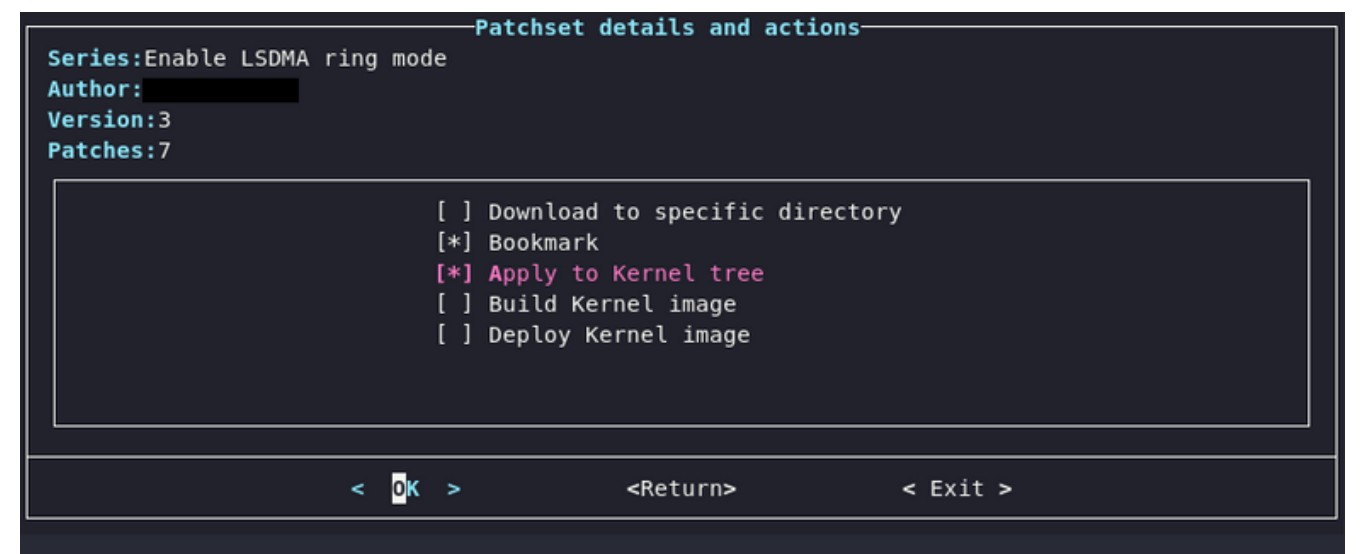


Figure 5. See details and execute actions on patchsets

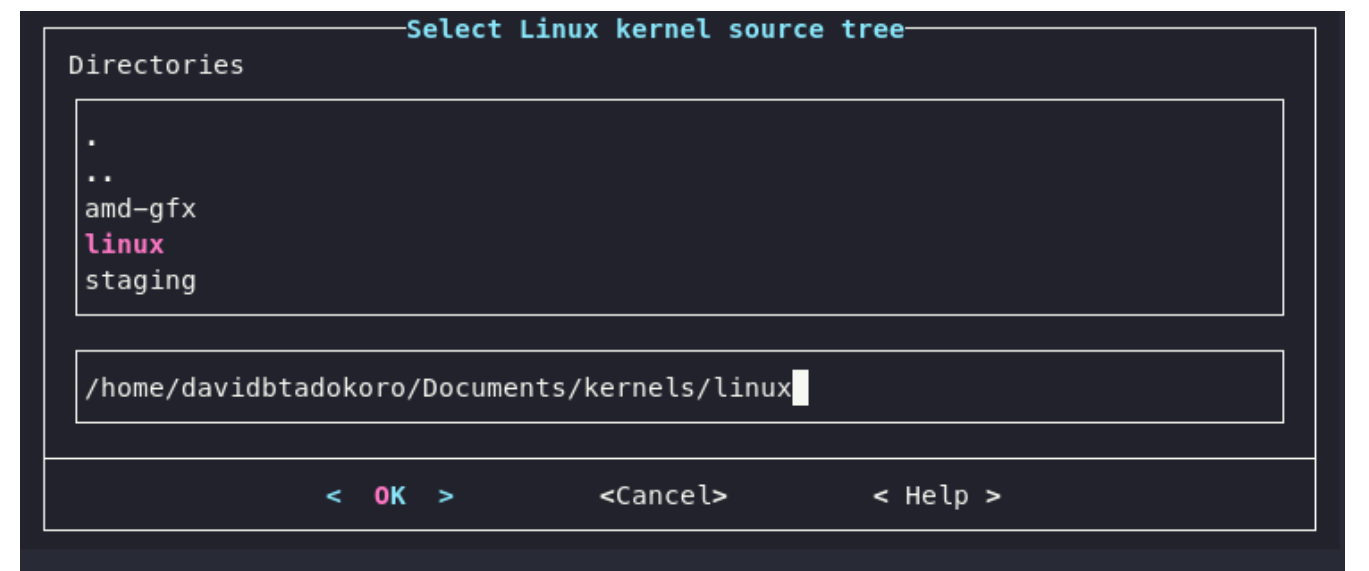


Figure 6. Utilize the feature to configure itself

KW PATCH-HUB ARCHITECTURE

Using the Model-View-Controller (MVC) architectural pattern and the Finite-State Machine (FSM) model grants low coupling, providing extensibility and maintainability.

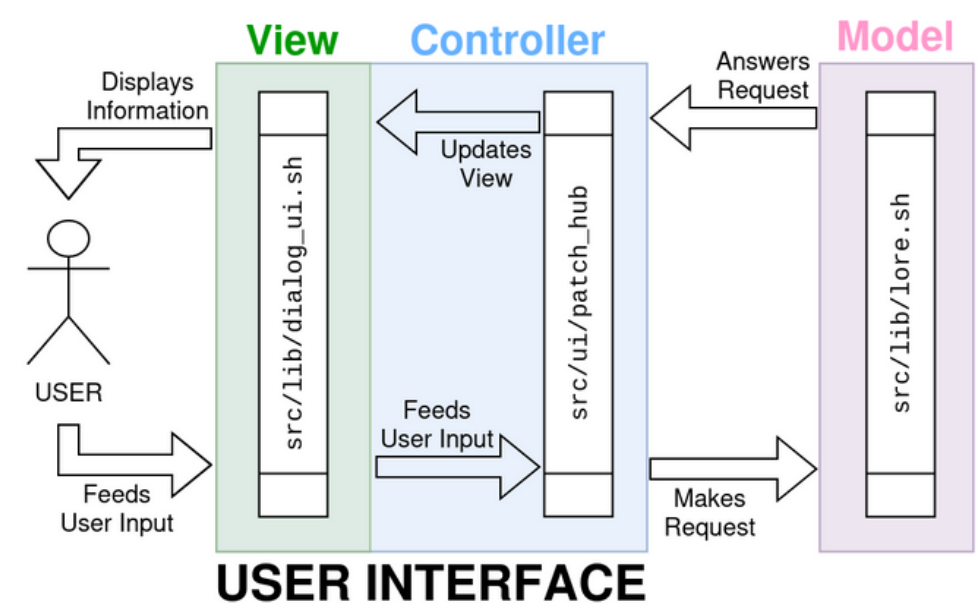


Figure 7. kw patch-hub architecture

NEXT STEPS

- Optimize the listing of patchsets
- More integrations with the kw environment
- Support replying of patches with commit tags and inline comments

