

Nautilus

The internals of a file manager

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Overview

- Threads
- File management
- Search
- Network



Nautilus – What is it?

- Used in Ubuntu, Fedora, Open Suse and all enterprise distros
- Created by Eazel and contributed by Linux Foundation
- 16 years old C code
- Predates libraries
- Manages Desktop



Threads

- Pthread
- GIOScheduler
- GTask
- Thread pool



Nautilus – Stay in context

- Question. Who thinks Nautilus uses...? Raise hand!!
 - Pthread
 - GIOScheduler
 - Gtask
- Question. Who thinks Nautilus uses Glib Threadpools?

File Management – A NautilusFile

- NautilusFile
 - GFile
 - Cache
- NautilusDirectory
 - Gfile
 - Cache
 - NautilusFiles



File Management – A GFile

- File abstraction → `g_file_from_uri`
- Operation abstraction → `g_file_move`, `g_file_copy`...
- Attributes abstraction → `g_file_query_info`...



File Management - GVFS

- GVFS implementation of GFile
- GVFS implementation of GFile operations
- GVFS Recent, Trash, FUSE, Google Drive
- Command line tool



Search - How can possibly work?



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What you should keep in mind

- Use threads
- Use a frecking threadpool
- Use a cache
- Use already well tested libraries
- IMHO Don't use c. I mean, DON'T USE C.



Phew we are finishing

- Nautilus - <https://wiki.gnome.org/Apps/Nautilus>
- Email - csoriano@gnome.org
- Catch me to play ping pong



Thank You!

