

Tracker 3

The Future is Present



Meta

Tracker



Desktop search, since 2005

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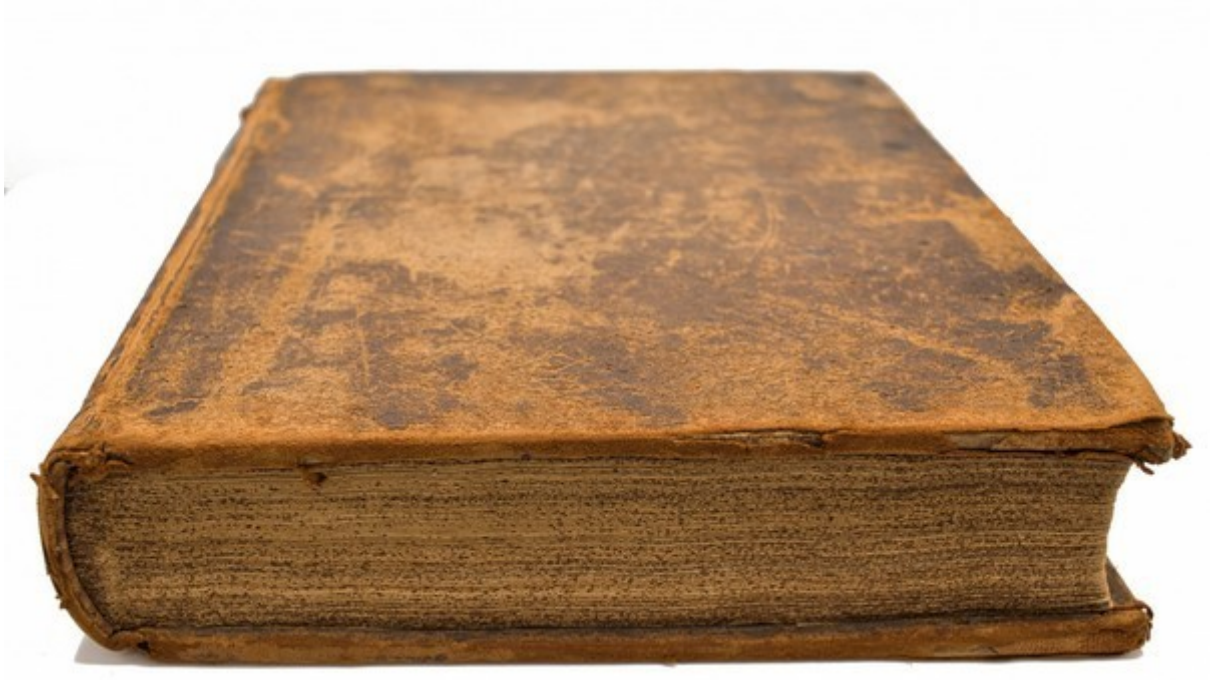
Meta

Tracker



Desktop search, since 2005

A brief history...



Talk contents:

1. When can we have it?

2. What's new?

- a) Improvements for apps

- b) Improvements for users

- c) Improvements for developers

3. How can you contribute?

1. “When can we have it?”



“When can we have it?”

Tracker 3 release plans

Big changes!

- Database format has changed.
- C and D-Bus interfaces have changed
- Tracker 3 is parallel installable with Tracker 2

```
~/src/tracker> git diff origin/tracker-2.3..origin/master --  
stat -- docs examples src tests utils |tail -n 1  
884 files changed, 25637 insertions(+), 67827 deletions(-)
```

```
~/src/tracker-miners> git diff origin/tracker-miners-  
2.3..origin/master --stat -- data docs src tests | tail -n 1  
370 files changed, 39819 insertions(+), 10231 deletions(-)
```

“When can we have it?”

Tracker 3 release plans

GNOME 3.38

<https://wiki.gnome.org/ThreePointThirtyseven>

| August | | | | | | | September | | | | | | |
|--------|----|----|----|----|----|----|-----------|----|----|----|----|----|----|
| 27 | 28 | 29 | 30 | 31 | 1 | 2 | 31 | 1 | 2 | 3 | 4 | 5 | 6 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 | 28 | 29 | 30 | 1 | 2 | 3 | 4 |
| 31 | 1 | 2 | 3 | 4 | 5 | 6 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

3.37.90 release – 8th August 2020

3.37.91 release – 22nd August 2020 (String freeze)

3.37.92 release – 5th September 2020 (Code freeze)

3.38.0 release – 12th September 2020

“When can we have it?”

Core apps and libraries that need attention:

- ☒ GTK (Tracker search engine) - @carlosg (gtk!1944 (merged) ,gtk!1945 (merged))
- ☐ gnome-online-miners - @sthursfield (gnome-online-miners!3)
- ☐ grilo-plugins (Tracker plugin) - @carlosg (grilo-plugins!85)
- ☐ libfolks (Tracker backend) and GNOME Contacts
- ☐ Rygel (Tracker plugin) - @jensgeorg
- ☐ GNOME Boxes - @carlosg (gnome-boxes!332)
- ☐ GNOME Files (Nautilus) - @sthursfield (nautilus!553)
- ☐ GNOME Music (uses grilo) - @jfelder and @carlosg (gnome-music!728)
- ☐ GNOME Photos (uses gnome-online-miners) - @sthursfield (gnome-photos#152)
- ☐ GNOME Videos (uses grilo) - @carlosg (totem!146)

Others we should look at:

- ☐ GNOME Books
- ☐ GNOME Documents (uses gnome-online-miners)
- ☐ GNOME Games - @jfelder
- ☒ GNOME Notes (Bijiben) - @carlosg (gnome-notes!60 (merged))



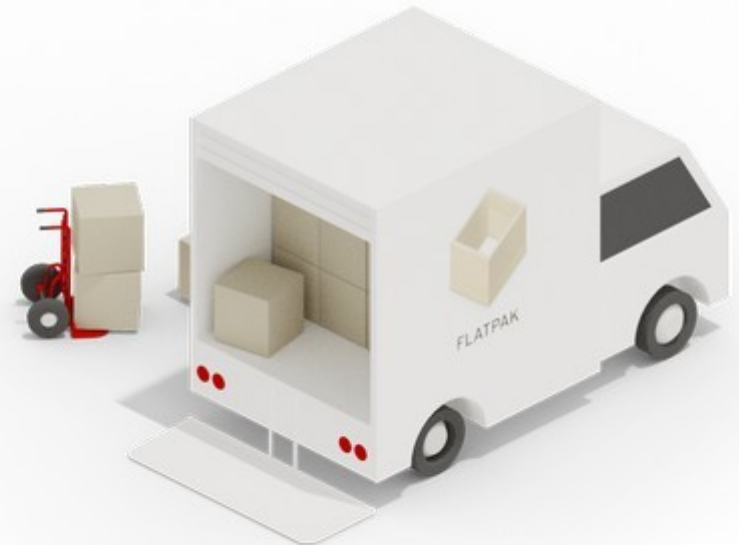
<https://blog.codinghorror.com/the-works-on-my-machine-certification-program/>

“When can we have it?”

Plan B

Tracker 3 Miners will work inside a Flatpak bundle.

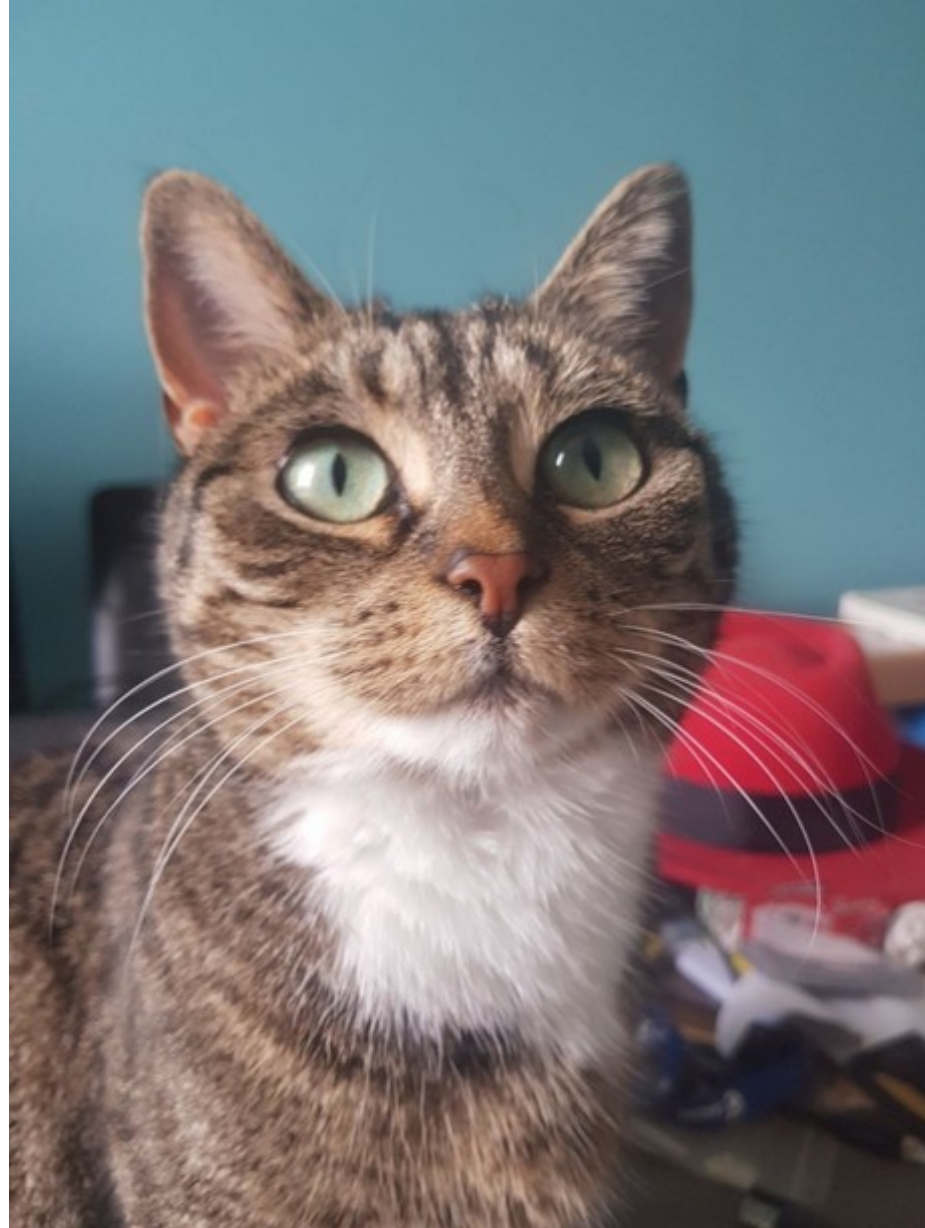
Apps can use 3.x while core depends on 2.x, if needed.



How it can be packaged

- **Plan A:** Update existing tracker packages, mark 3.x as conflicting with 2.x
- **Plan B:** Add new tracker3 and tracker3-miners packages

2. What's new?

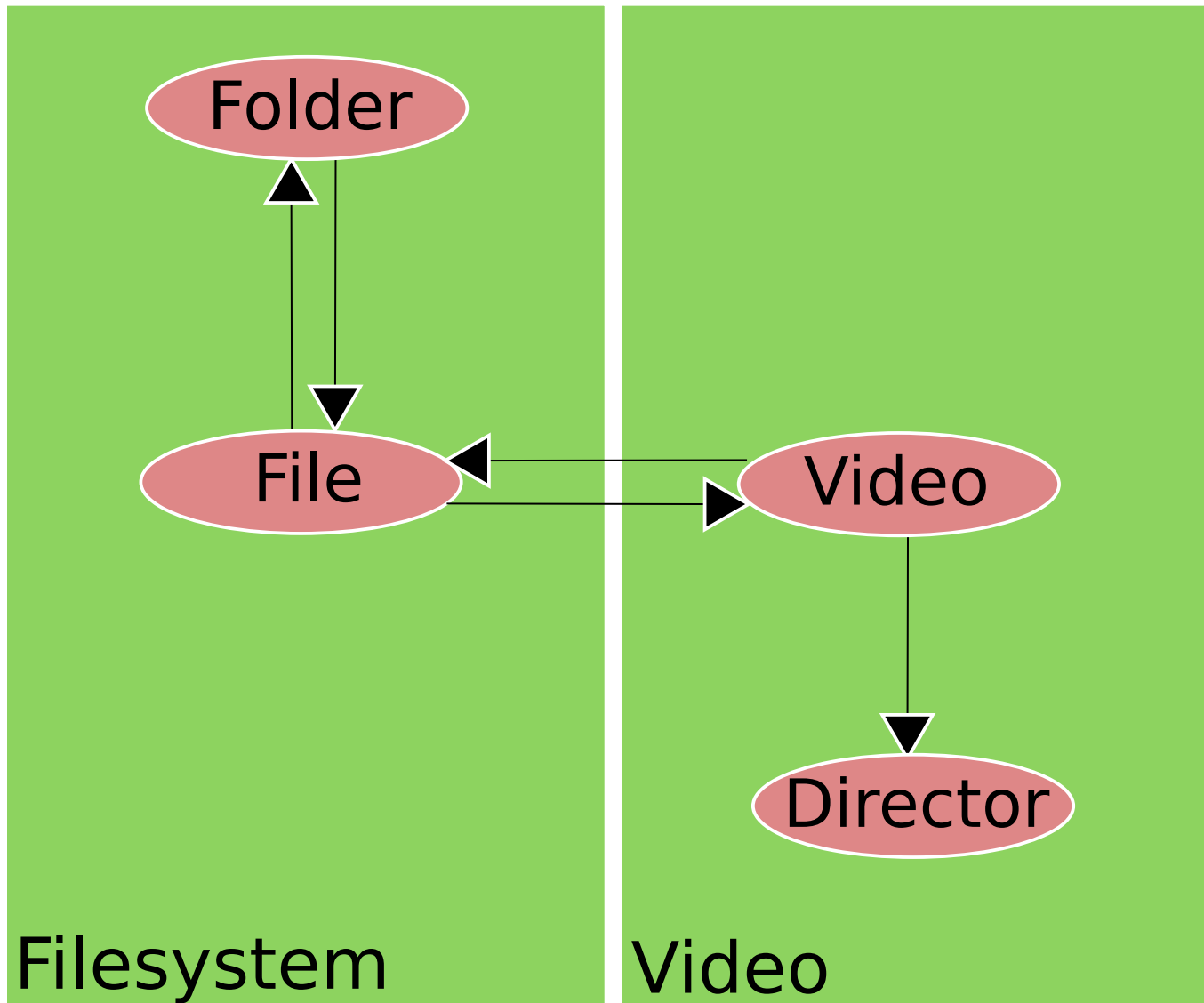


Improvements for apps

Data isolation

- Built on top of SPARQL language features
 - Sits well with SPARQL
 - Sits well with us
- Reasonably sized chunks
 - Video
 - Audio
 - ...

Anatomy of a file



The secret sauce

```
[📦 org.gnome.Music.Devel ~]$ tail -n 2 /.flatpak-info  
[Policy Tracker3]  
dbus:org.freedesktop.Tracker3.Miner.Files=tracker:Audio;
```


Improvements for apps

Stores and endpoints

- `tracker_sparql_connection_new()` creates a SPARQL triple store
 - Pretty much in the SQLite sense
- `TrackerEndpoint` makes a `TrackerSparqlConnection` public
 - DBus currently
- SPARQL ties it together with service graph patterns
- Mixed together, we get a distributed database

Application A

- Consumes tracker-miners data
- Does not need to store anything

```
tracker_sparql_connection_bus_new()
```

Application B

- Does not consume tracker-miners data
- Stores its own data

```
tracker_sparql_connection_new()
```

Application C

- Consumes tracker-miners data
- Stores its own data

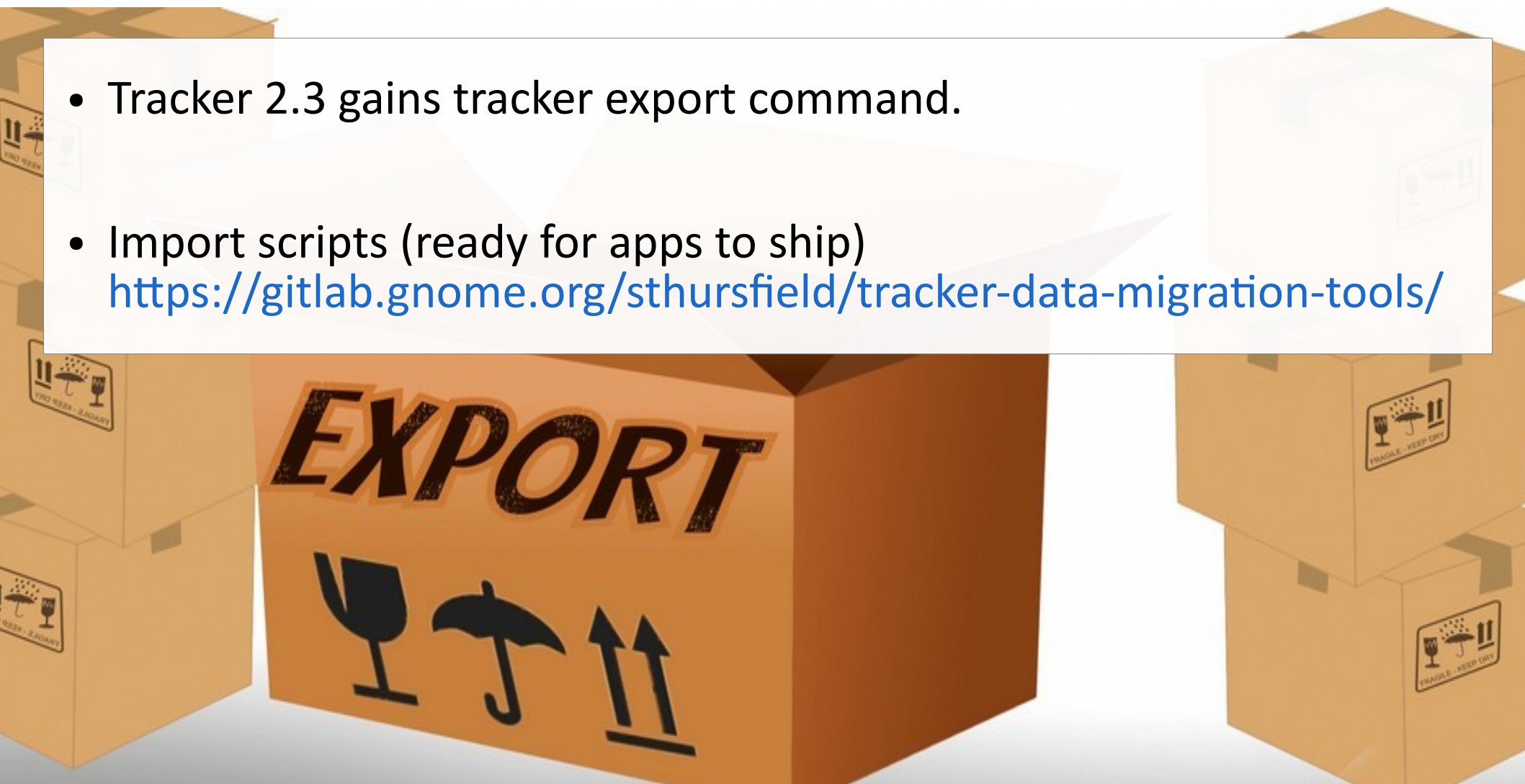
→ `tracker_sparql_connection_new()`

→ Explicit service graph patterns

Exporting 2.x data

```
tracker export --data=files-starred | ./nautilus-import-starred-files
```

- Tracker 2.3 gains tracker export command.
- Import scripts (ready for apps to ship)
<https://gitlab.gnome.org/sthursfield/tracker-data-migration-tools/>



“What’s new?”

Improvements for users

- Data security
- Online documentation
- Commandline improvements

Improvements for users

<https://gnome.gitlab.pages.gnome.org/tracker/>

Tracker

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Commandline reference

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[tracker miner-rss](#)

[tracker reset](#)

[tracker search](#)

[tracker sparql](#)

[tracker sql](#)

Commandline reference

You can control tracker using the `tracker` commandline tool. The various commands are documented below.

This documentation is also available on your computer using the `man` command.

Note

This documentation is for the latest in-development version of Tracker.

tracker daemon

Name

`tracker daemon` Start, stop, restart and list daemons responsible for indexing content

“What’s new?”

Improvements for users

- Extensible CLI, git alike
- Modernized, some nice references:
 - coredumpd
 - systemctl
 - sqlite
- Gateway to all of Tracker

“What’s in it for me?”

Improvements for current developers

- Streamlined API
 - SPARQL library
 - `org.freedesktop.Tracker3.Miner.Files` DBus name and interface
- Better documentation
- Standards compliant
- Easy sandboxing
- Easy testing
- Better validation tools

“What’s in it for me?”

Improvements for current developers

- Still fit!
 - Low footprint
 - Fast
 - ~350K updates in 30s
 - ~6M queries in 30s
- * Recorded in ideal circumstances

“What’s in it for me?”

Improvements for tentative developers

- It is not just about indexing anymore
- All benefits from SQLite, different mindset
 - And more on top
- No impositions
 - Your own schema^Wontology
 - Your own data
- You can also benefit from sandboxing!

“What if ...?”

Endpoints, endpoints everywhere

- Application data does not necessarily stay in the application
 - Everyone can be an endpoint
 - Lightweight search providers
- Import/export + endpoints → data synchronization
 - “Synchronization” panel in Settings?
- Sprawling search
 - Local network machines
 - Virtual machines

I SHOULD HELP TO TEST TRACKER 3



How to get involved



Everyone can ... test the apps!

→ Look for a `.flatpak` artifact in the merge request.

Developers can ... package Tracker 3 in distros

... review merge requests

... `4. Help Wanted` label on gitlab.gnome.org

Get in touch!

Join [#tracker:gnome.org](https://matrix.to/#/#tracker:gnome.org) on Matrix / [#tracker](https://irc.gnome.org) on IRC

Use **tracker** tag on discourse.gnome.org