elego
Software Solutions GmbH

libgit2

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Hello there

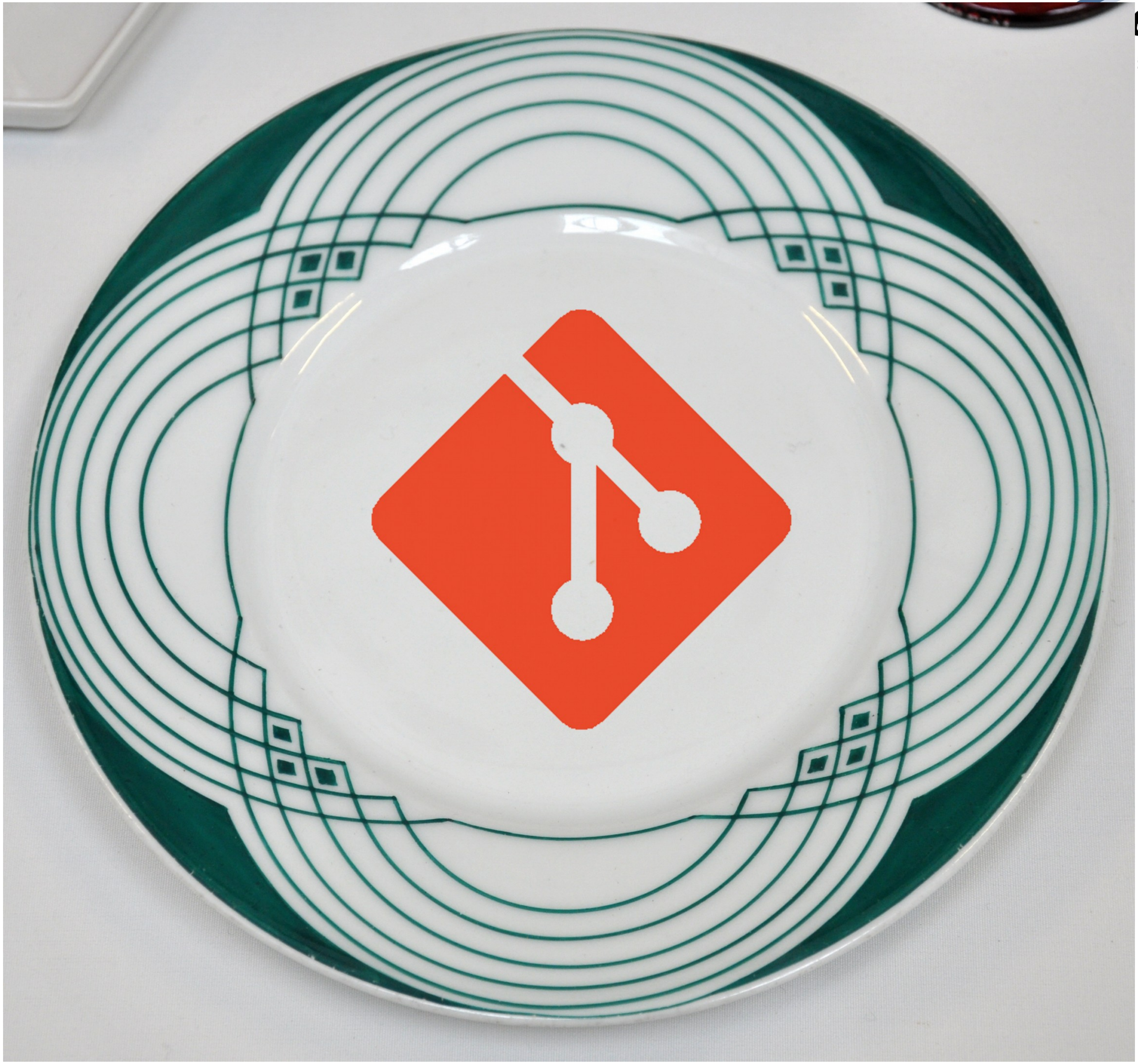
- Carlos Martín
- Git & libgit2 since 2011
- elego Software Solutions

git

API

```
% ls -l ~/libexec/git-core | wc -l
169
```

Porcelain



Plumbing

API

```
% git cat-file commit HEAD^{commit}
% git show --format=...
```

libgit.a

libgit.a

NOTE: This function isn't used in Git outside graph.c but it is used by CGit [...] to use HTML for colors.

libgit.a

```
die("foo is barred");
```

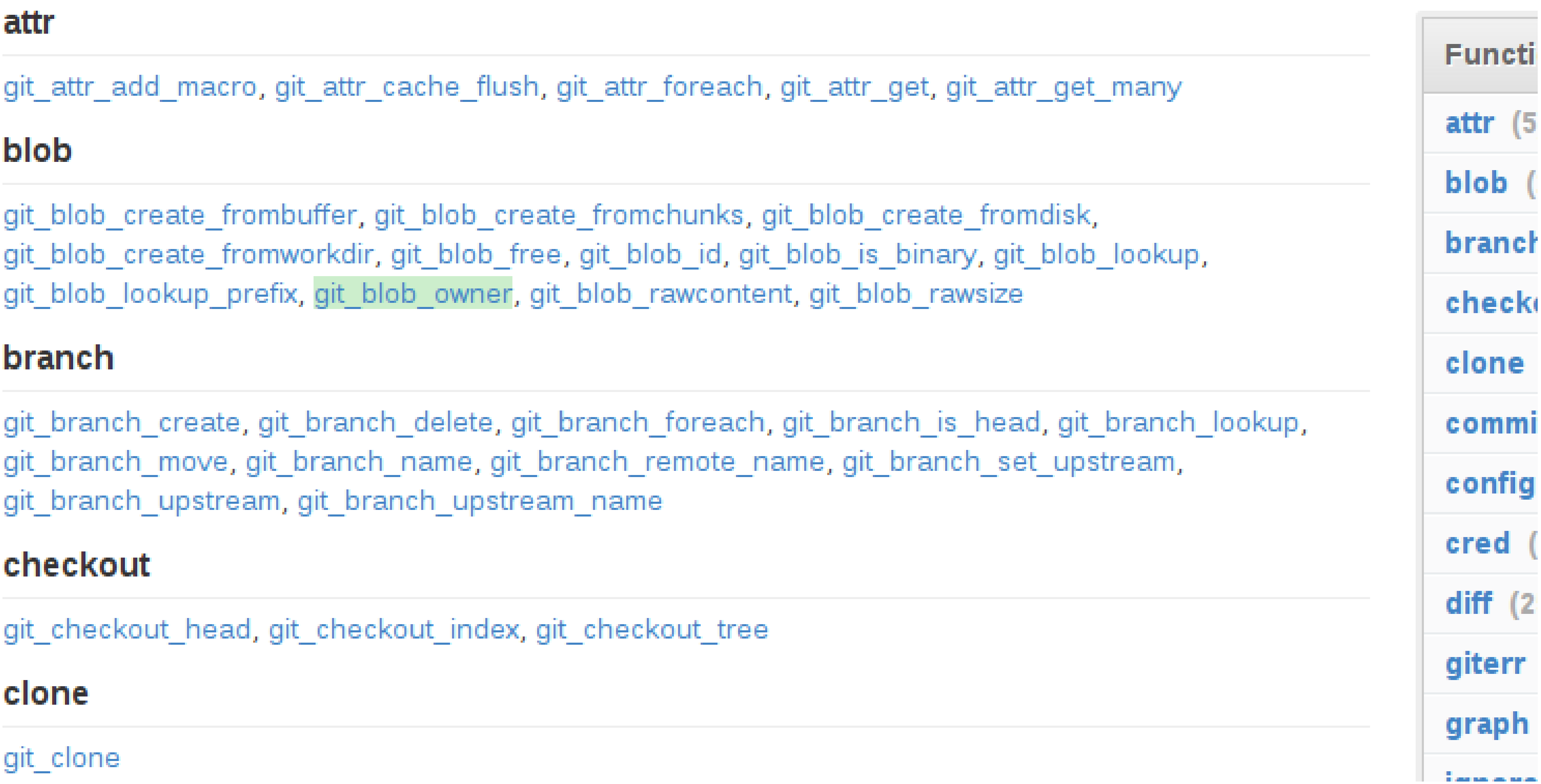
A new hope

Other implementations

Other implementations

A new hope

API



attr

git_attr_add_macro, git_attr_cache_flush, git_attr_foreach, git_attr_get, git_attr_get_many

blob

git_blob_create_frombuffer, git_blob_create_fromchunks, git_blob_create_fromdisk, git_blob_create_fromworkdir, git_blob_free, git_blob_id, git_blob_is_binary, git_blob_lookup, git_blob_lookup_prefix, git_blob_owner, git_blob_rawcontent, git_blob_rawsize

branch

git_branch_create, git_branch_delete, git_branch_foreach, git_branch_is_head, git_branch_lookup, git_branch_move, git_branch_name, git_branch_remote_name, git_branch_set_upstream, git_branch_upstream, git_branch_upstream_name

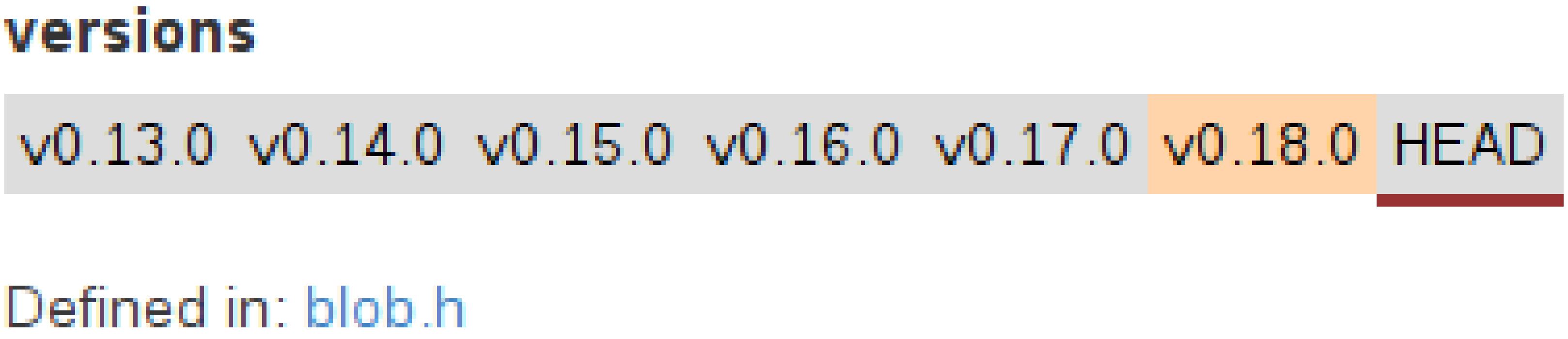
checkout

git_checkout_head, git_checkout_index, git_checkout_tree

clone

git_clone

API

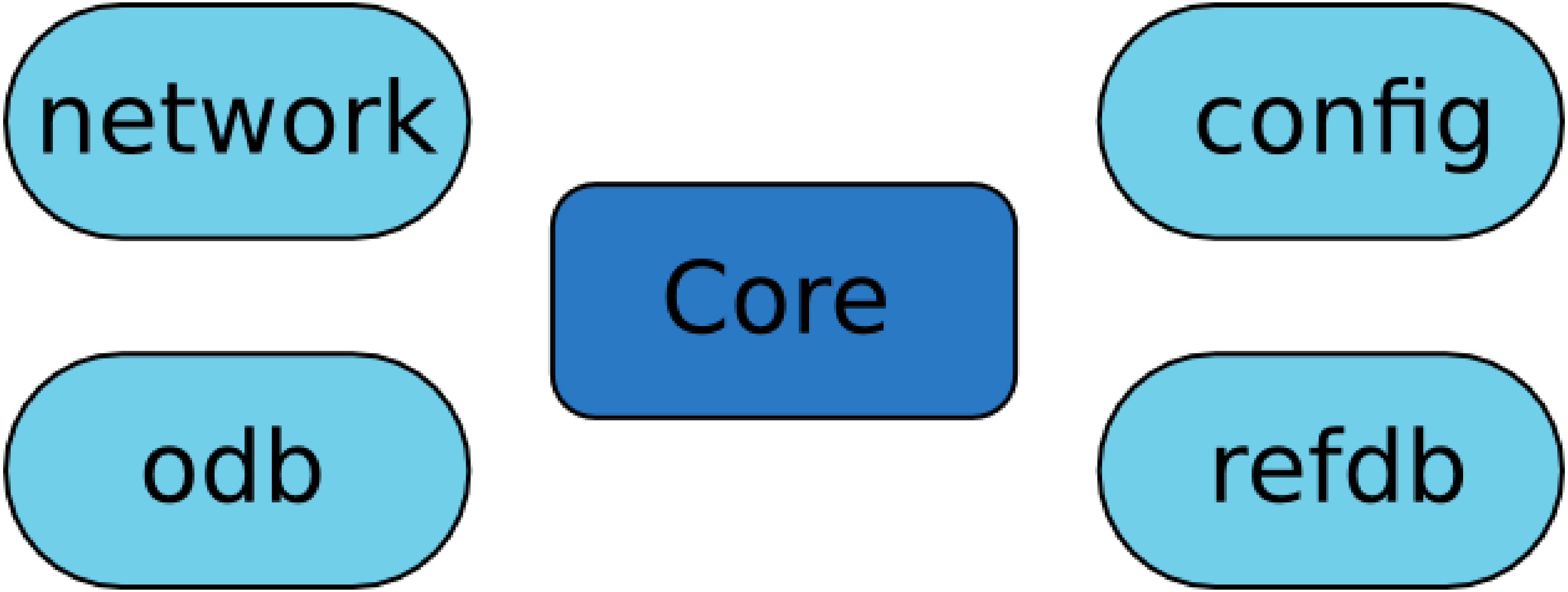


versions

v0.13.0 v0.14.0 v0.15.0 v0.16.0 v0.17.0 v0.18.0 HEAD

Defined in: blob.h

A new hope



API

```
git_repository_init(&repo,
        "projects/foo");

git_repository_open(&repo,
        "projects/foo.git", 1);
```

API

```
git_reference_lookup(&ref,
        repo, "HEAD");

git_reference_lookup_resolved(&ref,
        repo, "HEAD");
```

API

```
git_branch_lookup(&ref, repo,
    "master", GIT_BRANCH_LOCAL);

git_branch_lookup(&ref, repo,
    "origin/master",
    GIT_BRANCH_REMOTE);
```

API

```
git_repository_config(&config, repo);

git_config_open_level(&cfg, config,
        GIT_CONFIG_LEVEL_SYSTEM);
```

API

```
git_repository_config(&config, repo);

git_config_open_level(&cfg, config,
        GIT_CONFIG_LEVEL_SYSTEM);

git_config_open_global(&cfg, config);
```

API

```
git_repository_odb(&odb, repo);

git_odb_add_backend(odb,
        my_fancy_odb, prio);
```

API

```
git_remote_set_transport(remote,
          my_cool_transport);
```

API

```
git_remote_set_callbacks(remote,
        &callbacks);

git_remote_stats(remote);
```

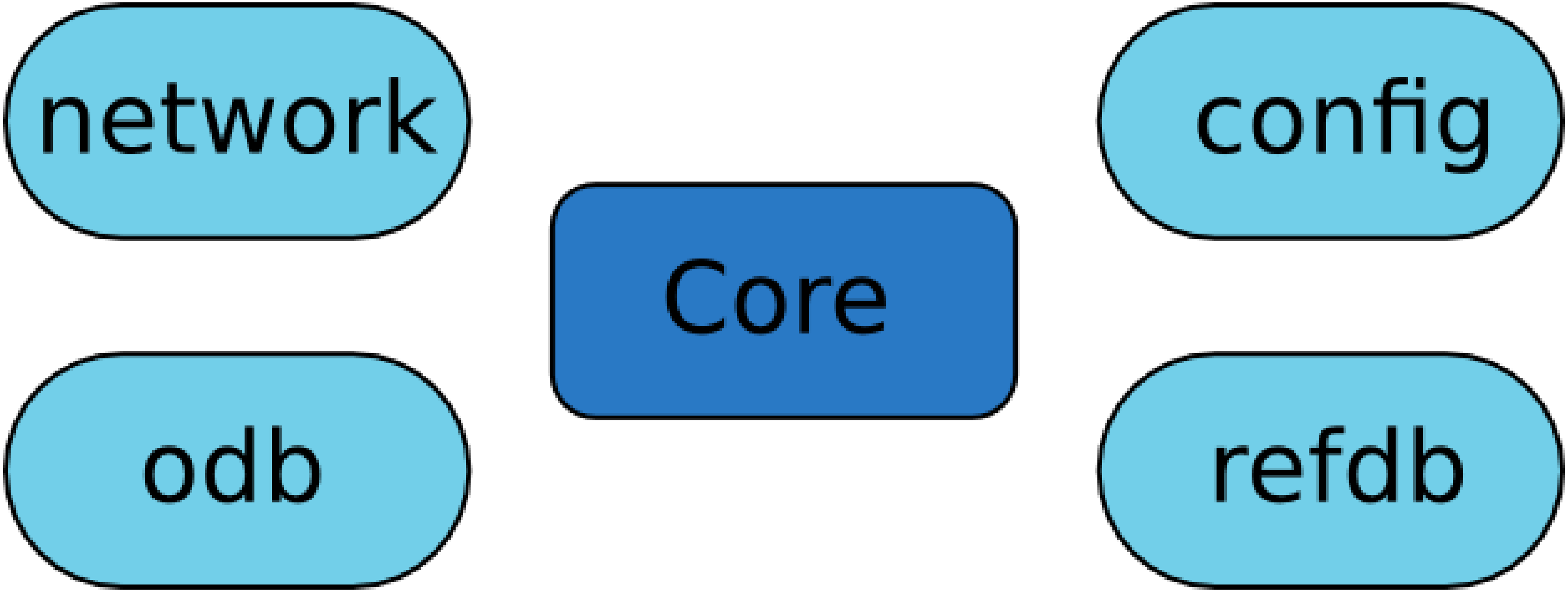
API

```
git_revparse_single(&obj, repo,
        "HEAD^2^{tree}");

git_revparse(&spec, repo,
        "HEAD...HEAD^3");
```

API

```
git_status_file(&flags, repo,
        "src/main.c");

git_status_foreach(repo, fun, NULL);
```

A new hope



Git-based HTTP server

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```ruby
repo = Rugged::Repository.new(REPO_PATH)

get '*' do |path|
  commit = repo.lookup(repo.ref(REF_NAME).target)
  path.slice!(0)
  path = 'index.html' if path.empty?

  entry = commit.tree.path path
  blob = repo.lookup entry[:oid]
  content = blob.content
  halt 404, "404 Not Found" unless content

  content_type mime_type_for(path)
  content
end
```

Sightings in the wild

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TortoiseGIT

GitHub

Visual Studio

plasticscm™

codicesoftware

Bindings

- Ruby - rugged
- Python - pygit2
- C# - LibGit2Sharp
- Objective-C - objective-git
- Go - git2go
- GLib - libgit2-glib

Future

- Merge
- Even better API
- HFS+
- Sequencer
- Reflog backend

Sources

http://en.wikipedia.org/wiki/File:Peter_Behrens_Porcelain_plate_linear_pattern_1901_BM.jpg

http://upload.wikimedia.org/wikipedia/commons/0/07/ASU_Turbo-train.jpg

Links

- https://libgit2.github.com/
- https://github.com/libgit2/
- https://github.com/libgit2/libgit2sharp/pull/429
- https://github.com/fpco/gitlib/tree/master/gitlib-s3
- https://github.com/carlosmn/git-httpd