

Leveraging the Git object store

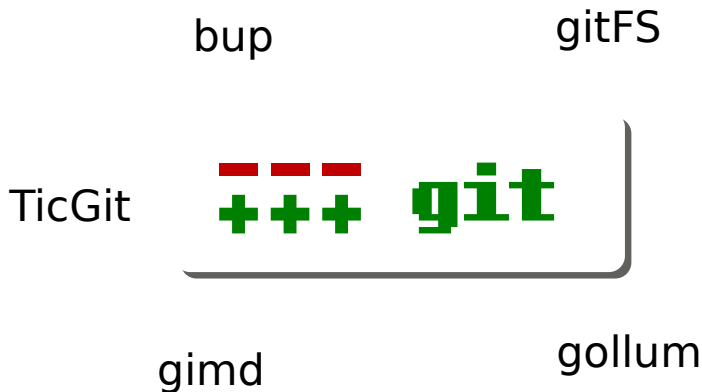
Ramkumar Ramachandra

FOSS.IN/2010

16th December 2010

- 1 Part I: The background noise
- 2 Part II: A fast-import crash course
- 3 Part III: Conclusion

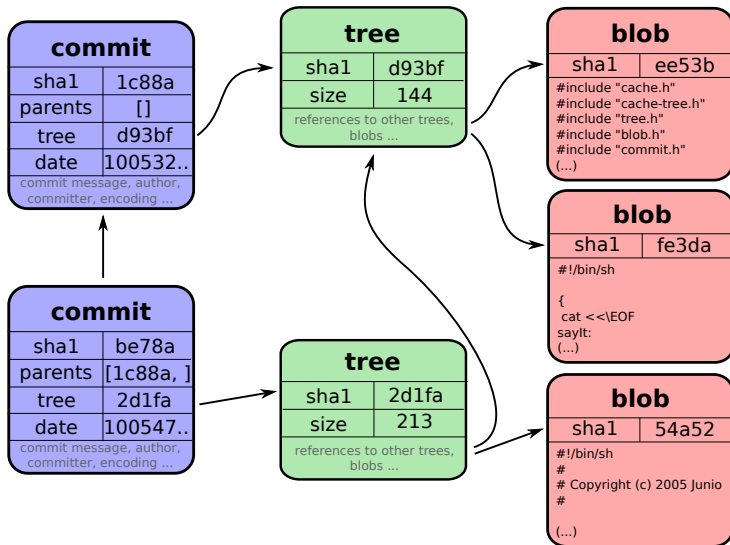
Why is everyone obsessed with Git?



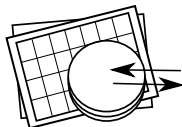
The guts of Git

Porcelain	git-pull.sh, git-rebase.sh git-stash.sh, git-am.sh
Plumbing	ls-tree.c, read-tree.c, update-index.c, fsck.c
UI layer	rev-parse.c
Transport	transport.c, transport-helper.c, send-pack.c, receive-pack.c
Walkers	walker.c, tree-walk.c, diffcore-*.c
Packing	pack-*.c, unpack-*.c (.git/objects/pack/*)
Object API	object.c, commit.c, tree.c, blob.c, tag.c, refs.c
Object store	.git/objects/*

... and the guts of the object store



What does the protocol look like?



```

commit refs/heads/remote-helper mark :30 author Ramkumar Ramachandra
<artagnon@gmail.com> 1170314617 +0530 committer Junio C Hamano
<gitster@pobox.com> 1170325891 +0100 data 111 vcs-svn: Fix delete operation in
the treap
from :28 M 100644 :29 vcs-svn/trp.h
blob mark :31 data 4941 /* * C macro implementation of treaps.

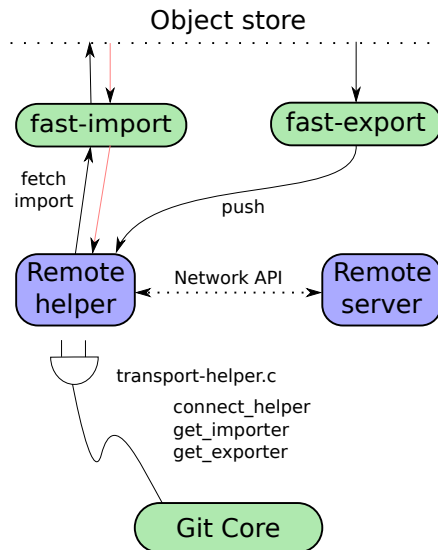
```

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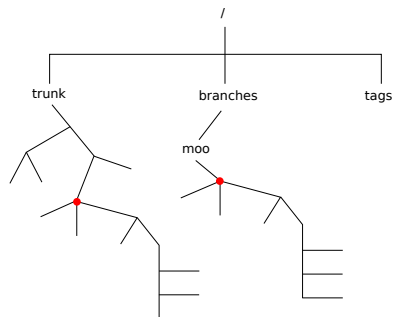
- Usage:

[...]

The concept of a remote helper



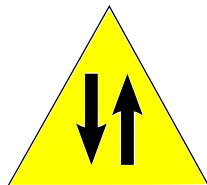
The import-export machinery



```
Node-path: commons/STATUS
Node-kind: (file|dir) Node-action:
(change|add|delete|replace)
svn:log svn:author svn:date svn:executable
svn:special
```


Bi-directional how?

- 1 Keep track of written blobs using marks
- 2 Fetch a previously written blob
- 3 Apply the delta
- 4 Write back the new blob



What you should hack on when you go home



fast-import

git-based
things

gitcore

import-export
machinery

Can I have these slides?

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<http://artagnon.com>

Source: <http://github.com/artagnon/foss.in>

