Leveraging the Git object store

Ramkumar Ramachandra
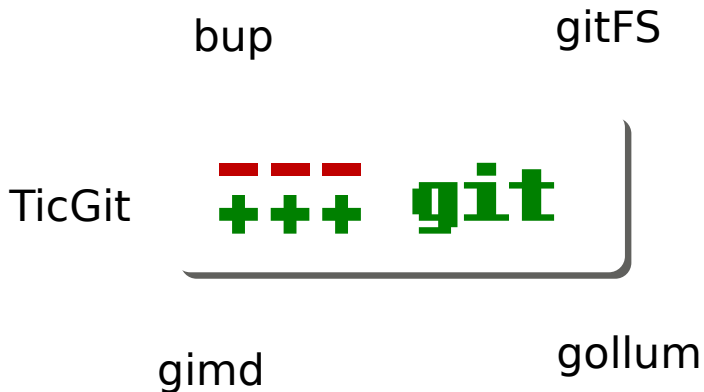
FOSS.IN/2010

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Outline

Why is everyone obsessed with Git?

bup   gitFS

TicGit   **+++ git**

gimd   gollum

The guts of Git

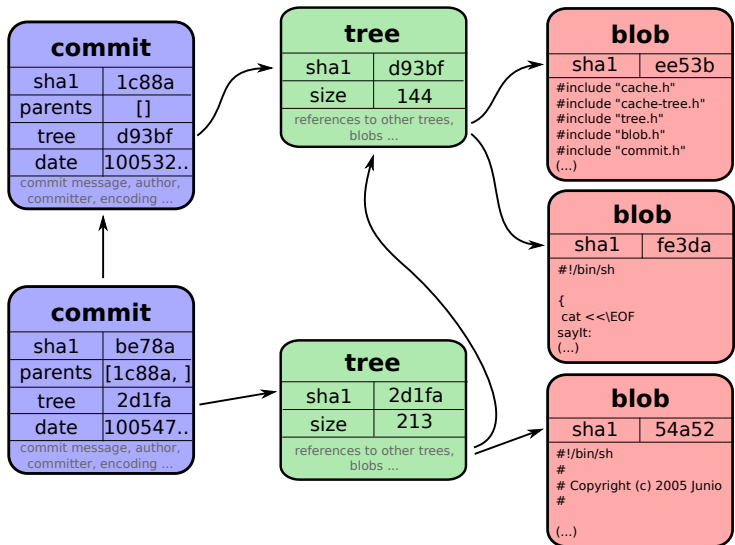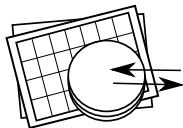|	
Porcelain	git-pull.sh, git-rebase.sh git-stash.sh, git-am.sh
Plumbing	ls-tree.c, read-tree.c, update-index.c, fsck.c
UI layer	rev-parse.c
Transport	transport.c, transport-helper.c, send-pack.c, receive-pack.c
Walkers	walker.c, tree-walk.c, diffcore-*.c
Packing	pack-*.c, unpack-*.c (.git/objects/pack/*)
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?
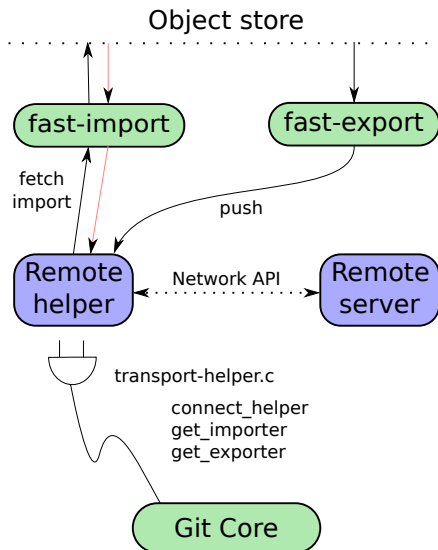
```
commit refs/heads/remote-helper
mark :30
author Ramkumar Ramachandra <artagnon@gmail.com> 1170314617 +0530
committer Junio C Hamano <gitster@pobox.com> 1170325891 +0100
data 111
vcs-svn: Fix delete operation in the treap

from :28
M 100644 :29 vcs-svn/trp.h

blob
mark :31
data 4941
/*
 * C macro implementation of treaps.
[...]
```
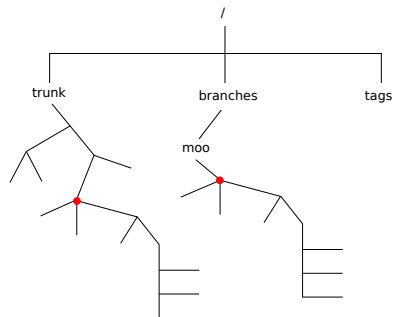
The concept of a remote helper
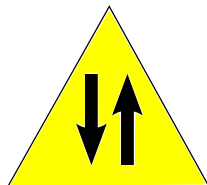
The import-export machinery


```
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?

Ramkumar Ramachandra
artagnon@gmail.com
http://artagnon.com
Source: http://github.com/artagnon/authored