Better Src Management with GIT-SVN

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“I see Subversion as being the most pointless project ever started, because the whole slogan for the Subversion for a while was 'CVS done right' ....”

- Linus Torvalds

Have you ..

Used CVS / SVN

Frusturation in managing multiple tasks

Incomming ! (Grenade - New Urgent task)

Ever wished, you'd go back to yesterday when everything was working.

Ever Wondered : Whose commit broke that feature ? (167 commits to check)

Ever lost a patch ? ;-)

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Not about..

DSCM – Distributed Source Code Management.

GIT Internals (Itz wonderfull in there.)

GIT & SVN.

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Road to GIT(-svn)

Why ?

Tried **QUILT** for task (patch) management

- Stacked patches.
- Manual marking of files to track.
- Not suitable UI (yeah ! itz for patches).

Tried out **BZR** (Bazaar)

- Slower (when i tried it a year ago)

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Step 0.0 - 0.7.2

Step 0.0 – **Clone -** Setting it up

git-svn clone -t tags -b branches -T trunk -r 35350 *svn +ssh://jjohnny@svn.gnome.org/svn/evolution*

git checkout master

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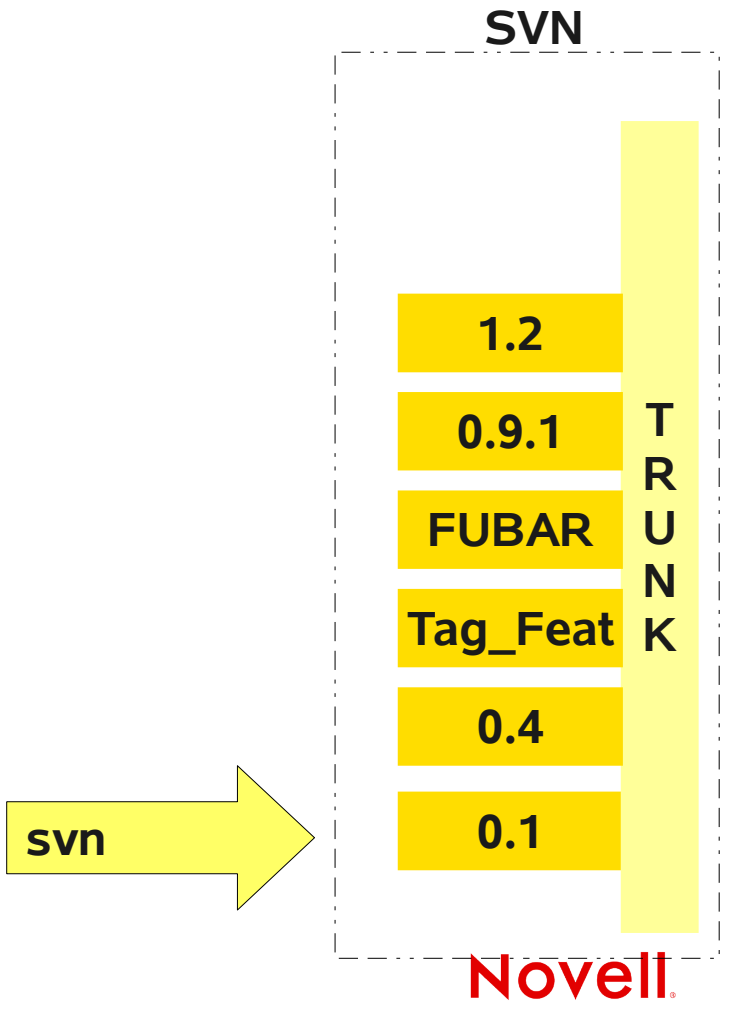
Step 0.0 - Clone



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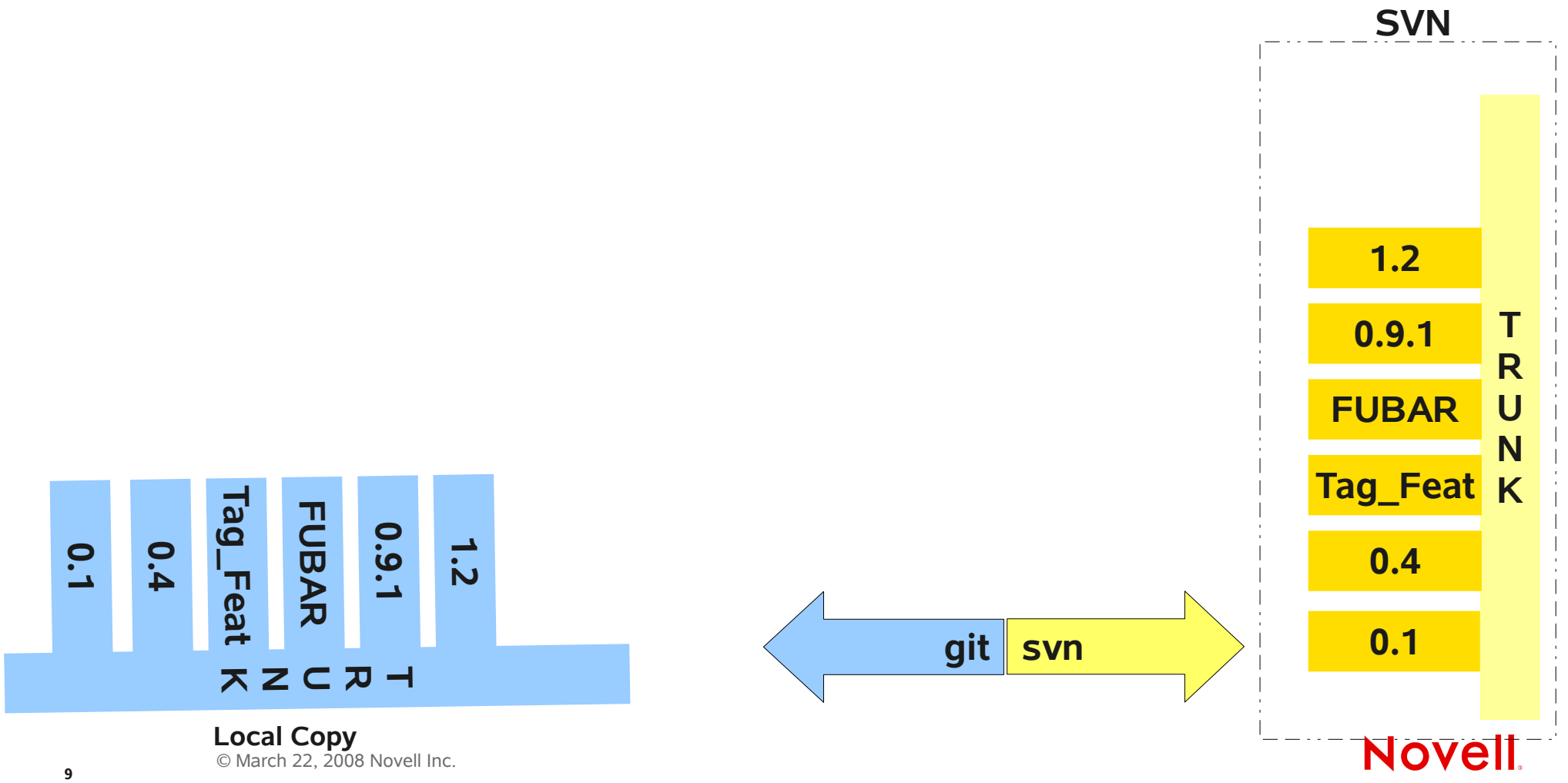
Step 0.0 - Clone



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Wait a Minute ...

50 Revisions ?

- Evolution Checkout of HEAD (rev 35398) : **229 M**

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Wait a Minute ...

50 Revisions ?

- Evolution Checkout of HEAD (rev 35398) - **229 M**
- GIT-SVN (rev 35350 – 35398) - **184 M**
  - git-repack -a -d : 149 M [Pack is **31M**]

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Wait a Minute ...

50 Revisions ?

- Evolution Checkout of HEAD (rev 35398) - **229 M**
- GIT-SVN (rev 35350 – 35398) - **184 M**
  - git-repack -a -d : 149 M [Pack is **31M**]

Mozilla repository

- SVN
  - Around **240,000** files.
  - Reported to be almost **12 GB** when stored in SVN.
- Git
  - Only **two** files
  - **420 MiB**

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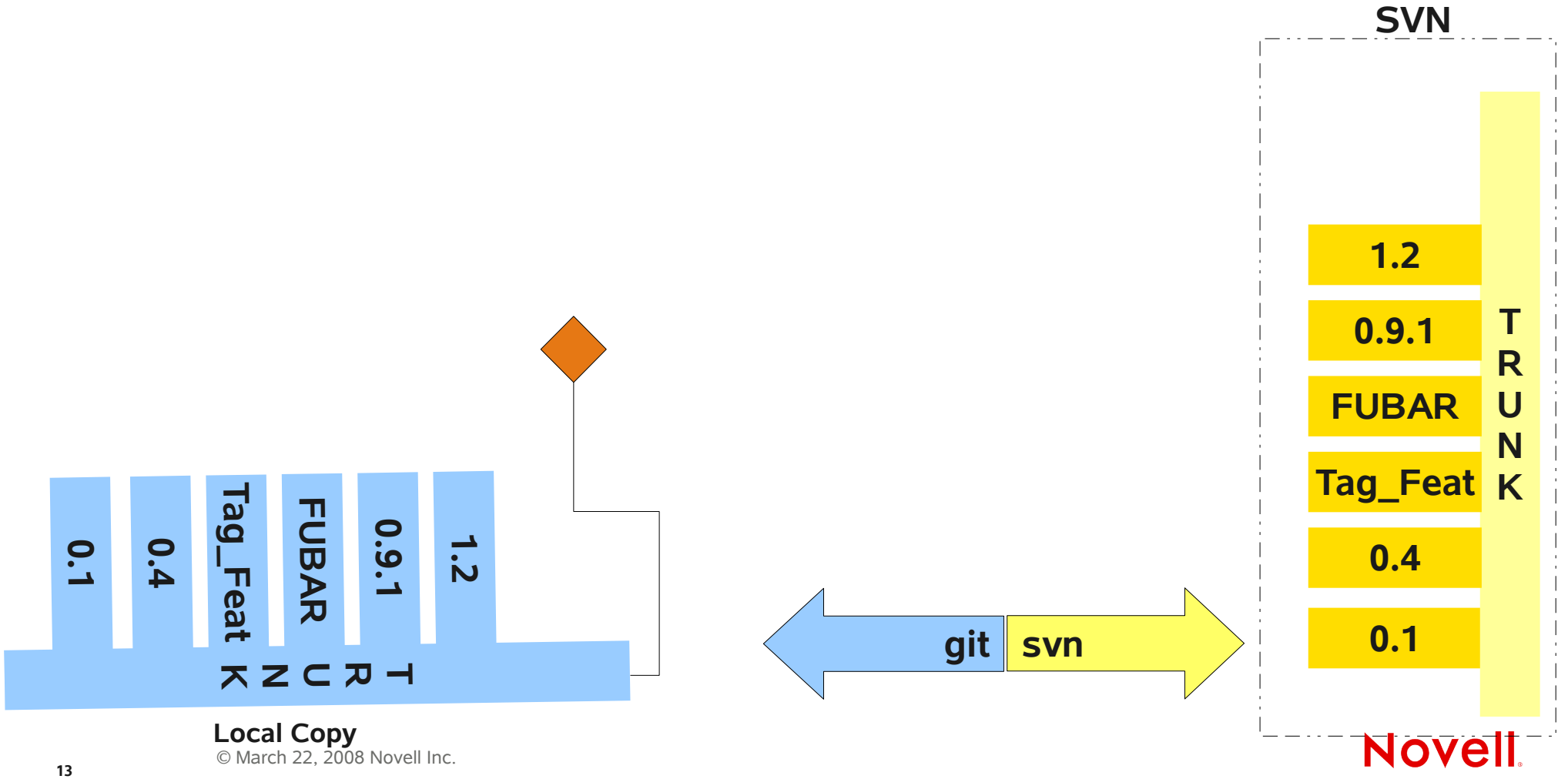
Step 0.1 - Branches



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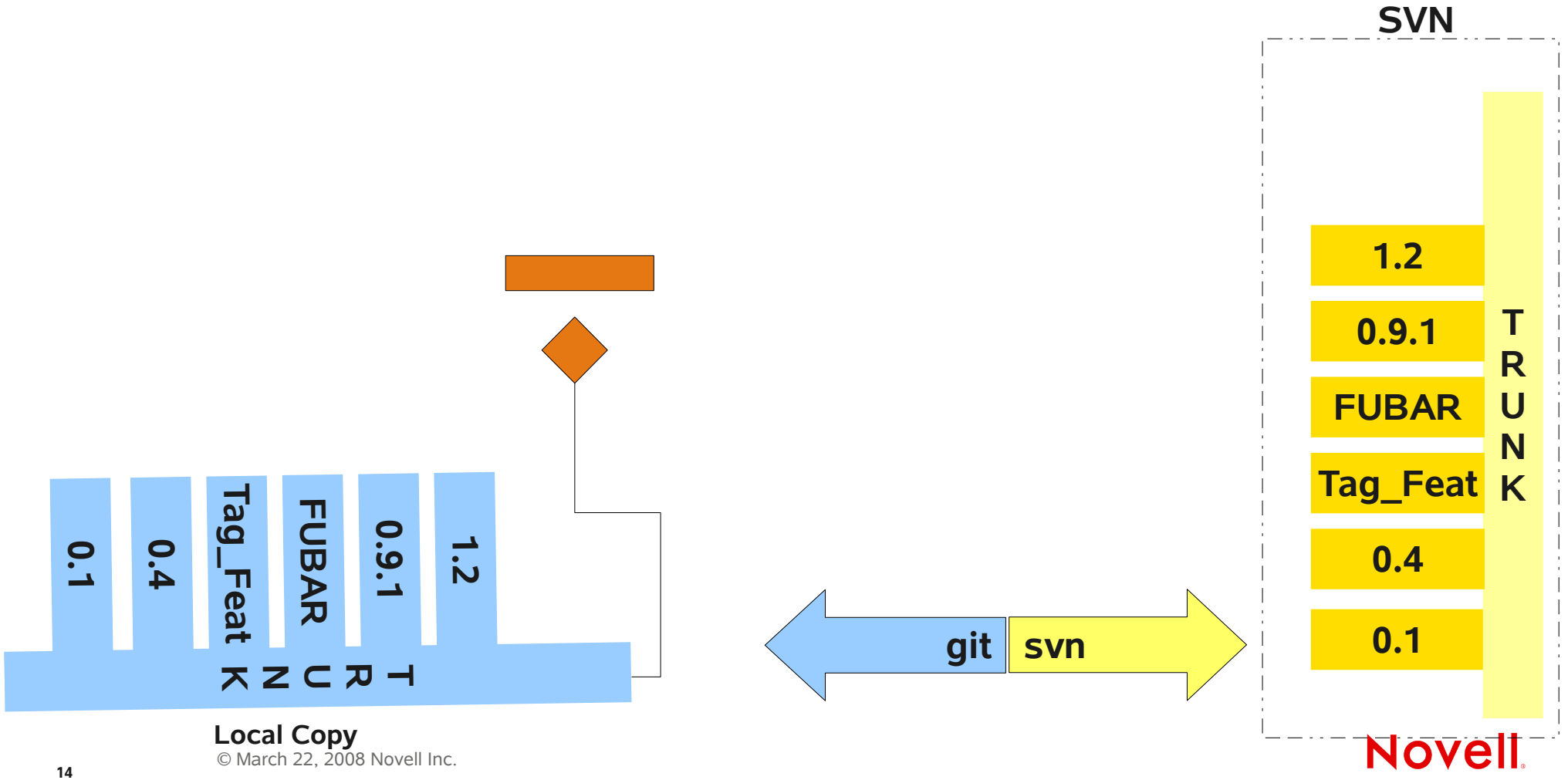
Step 0.1 - Branches



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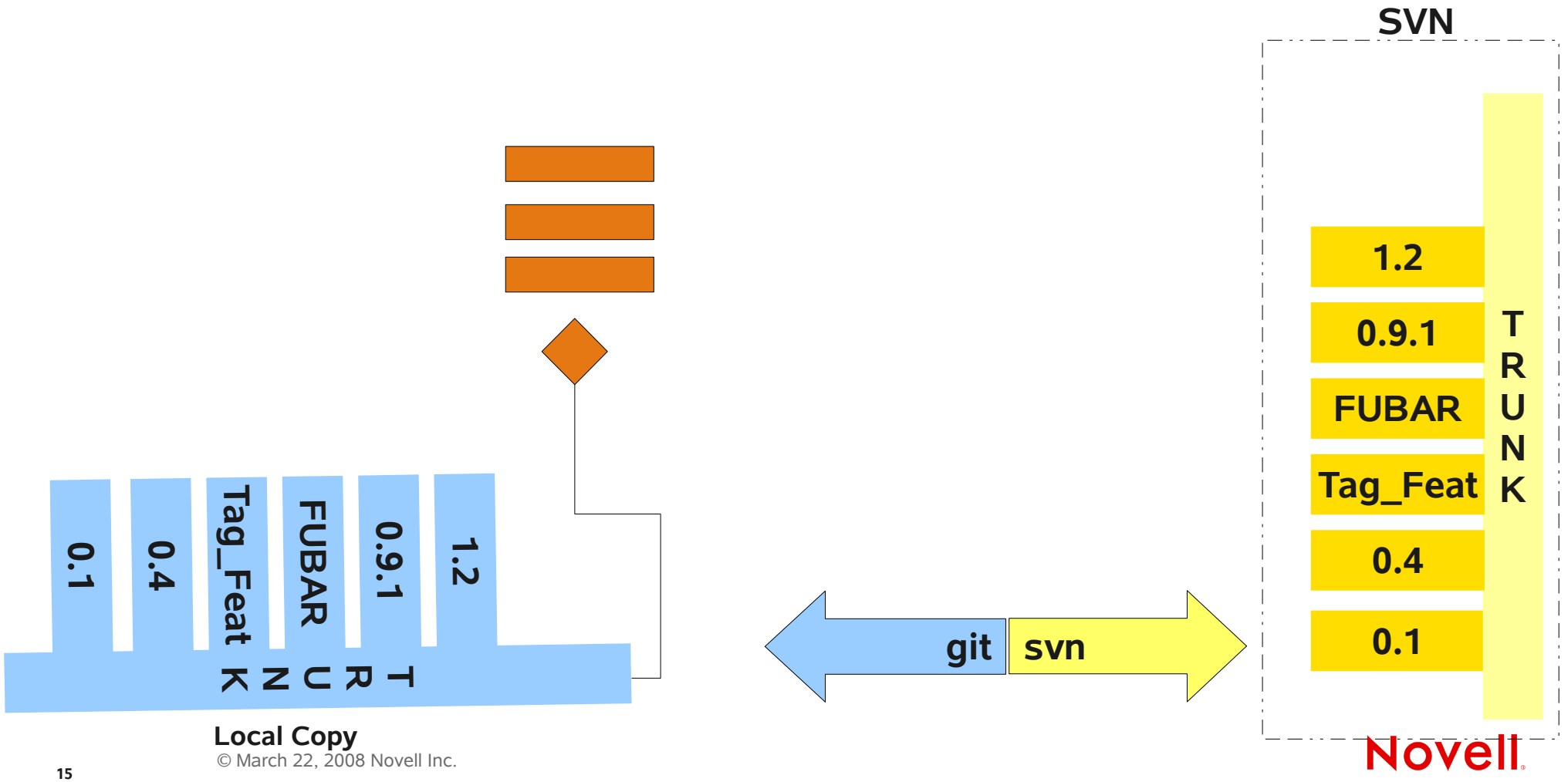
Step 0.1 - Branches



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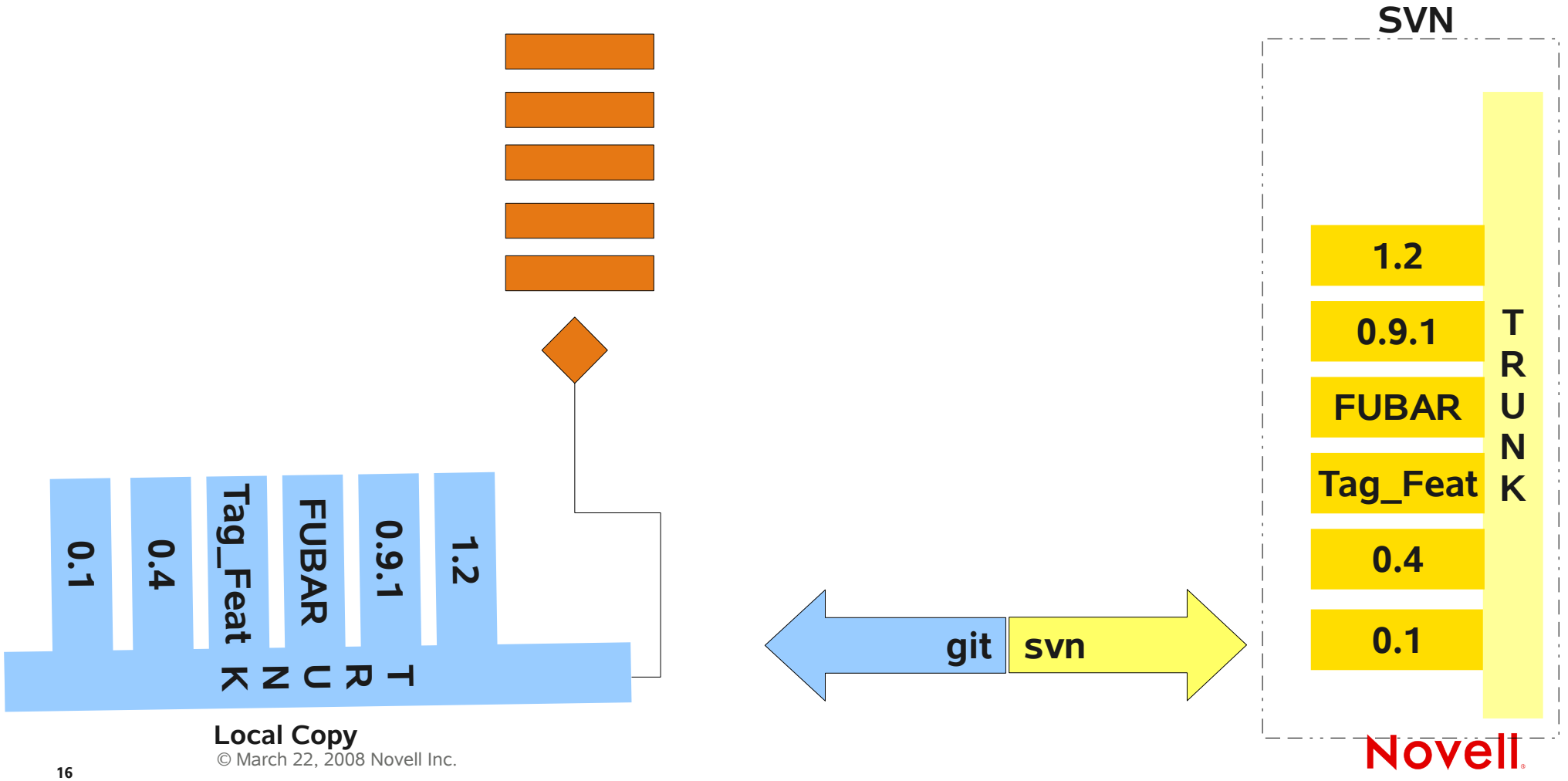
Step 0.1 - Branches



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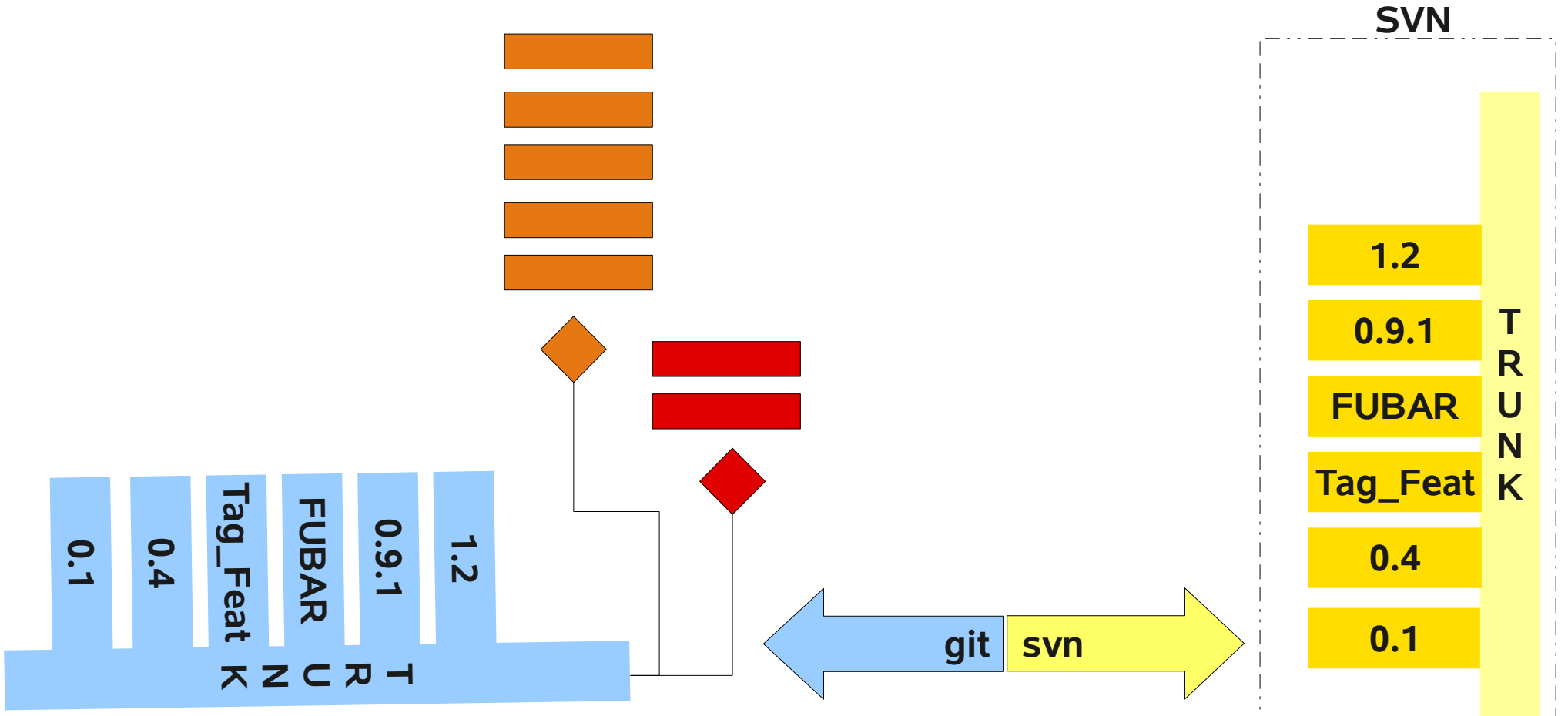
Step 0.1 - Branches



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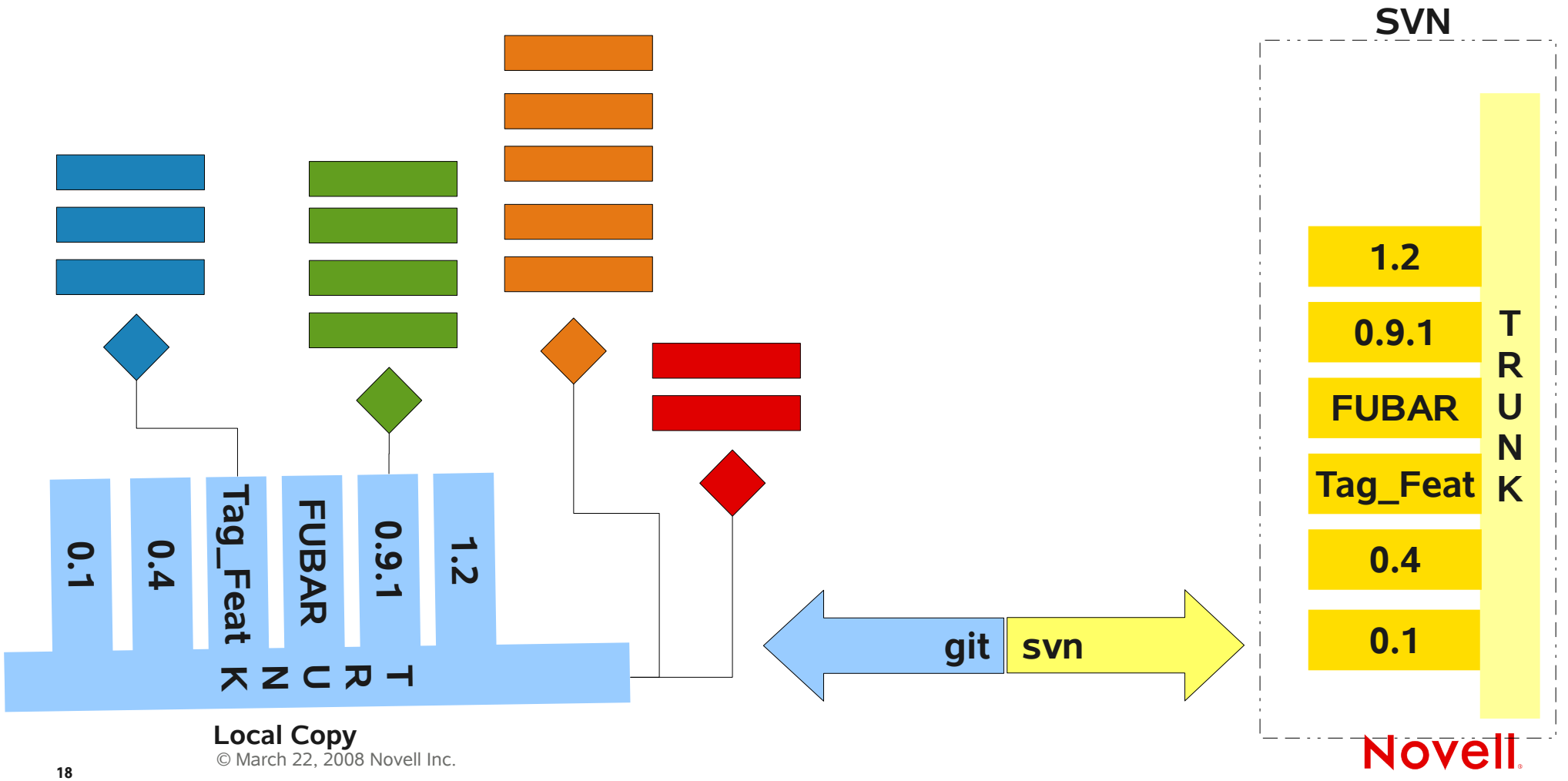
Step 0.1 - Branches



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Step 0.1 – **Local Branches**

git checkout -b orange-feature remotes/trunk

- *What is remotes/*?*

Local Commits

- *git status | less*
- *git add Changelog main.c*
- *git commit -a -m "Phase 1 completed. TODO : Cleanups"*

git checkout -b blocker-red-issue remotes/gnome-2-20

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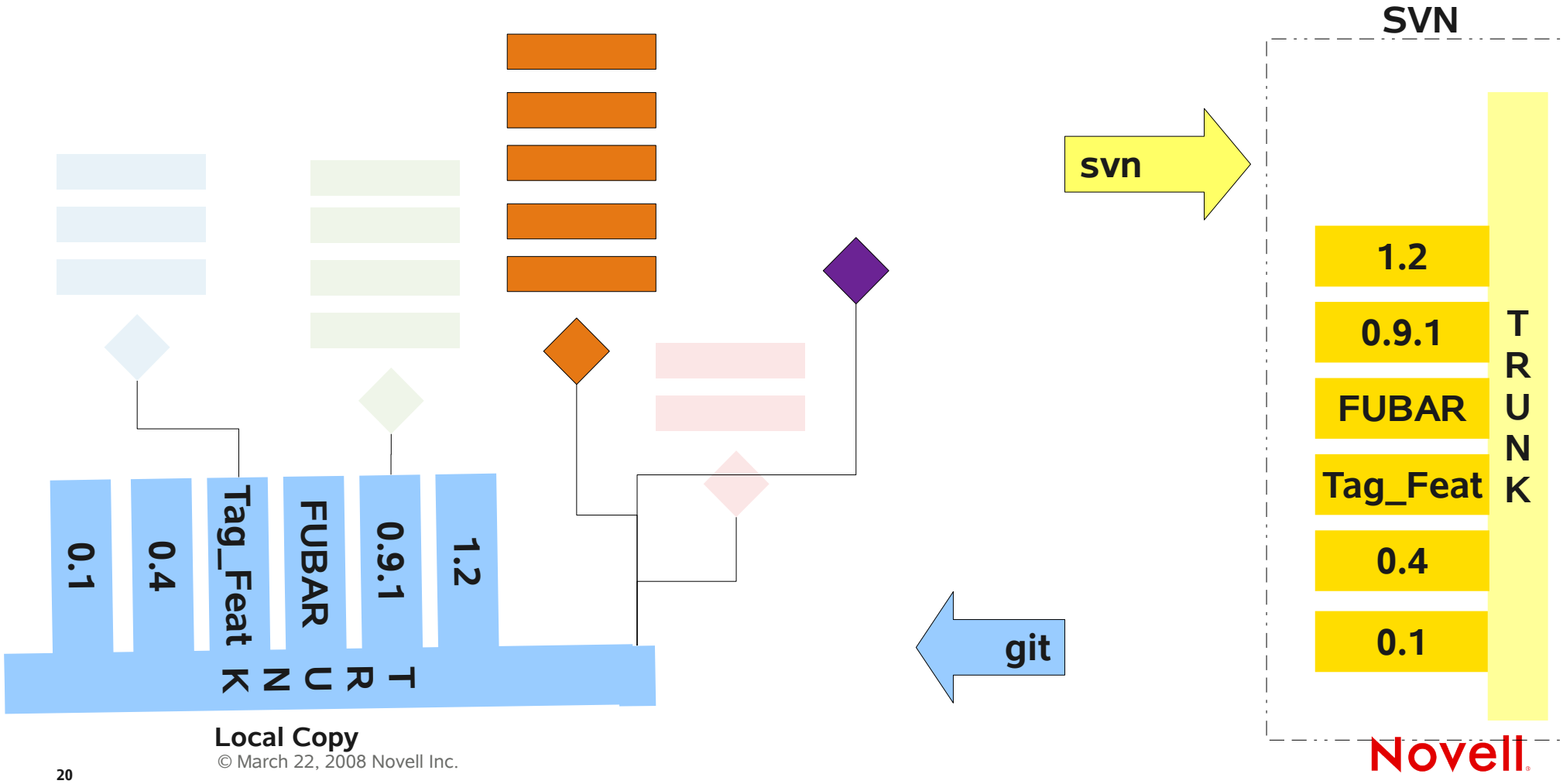
Step 0.2 - Merging



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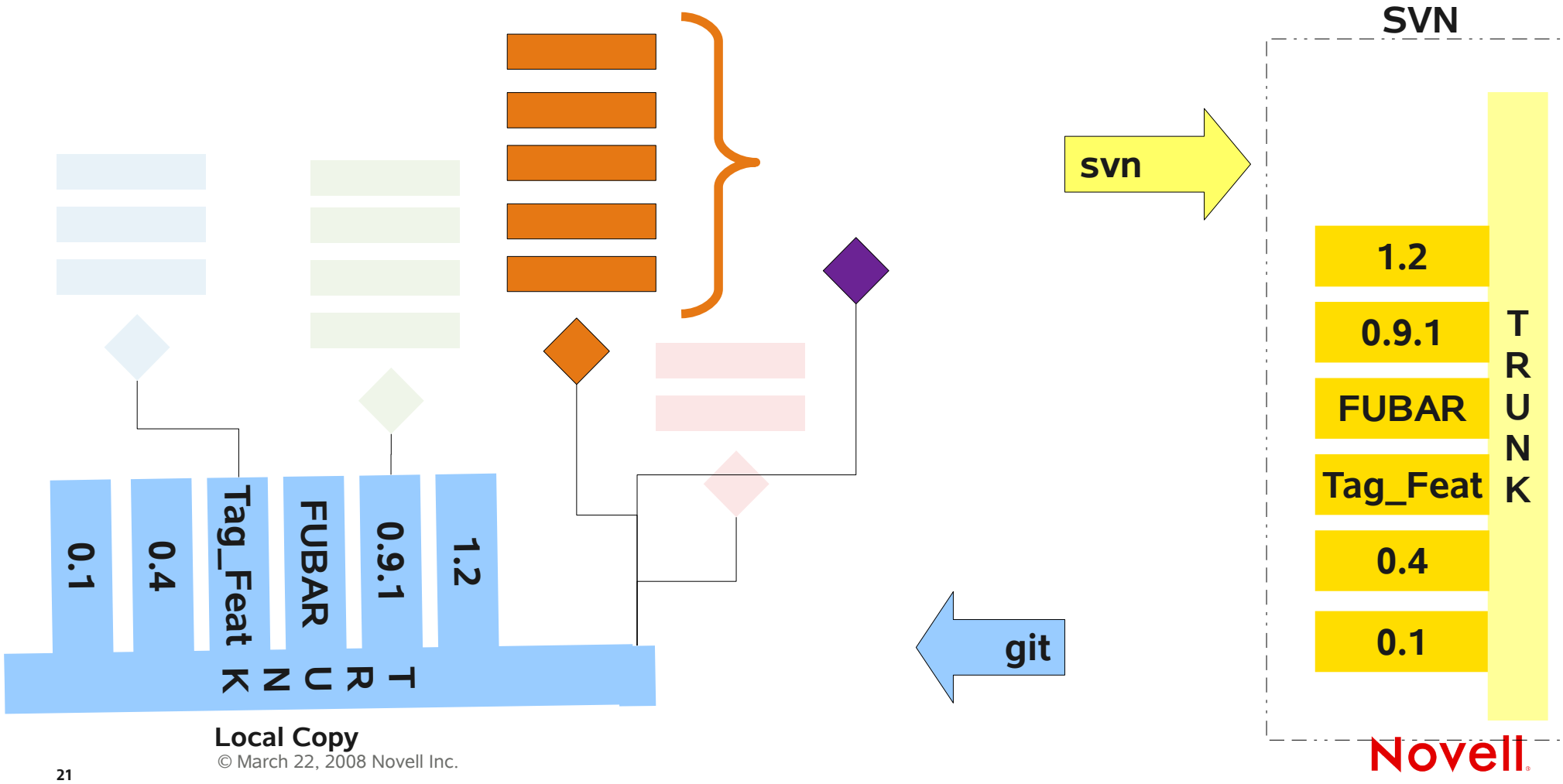
Step 0.2 - Merging



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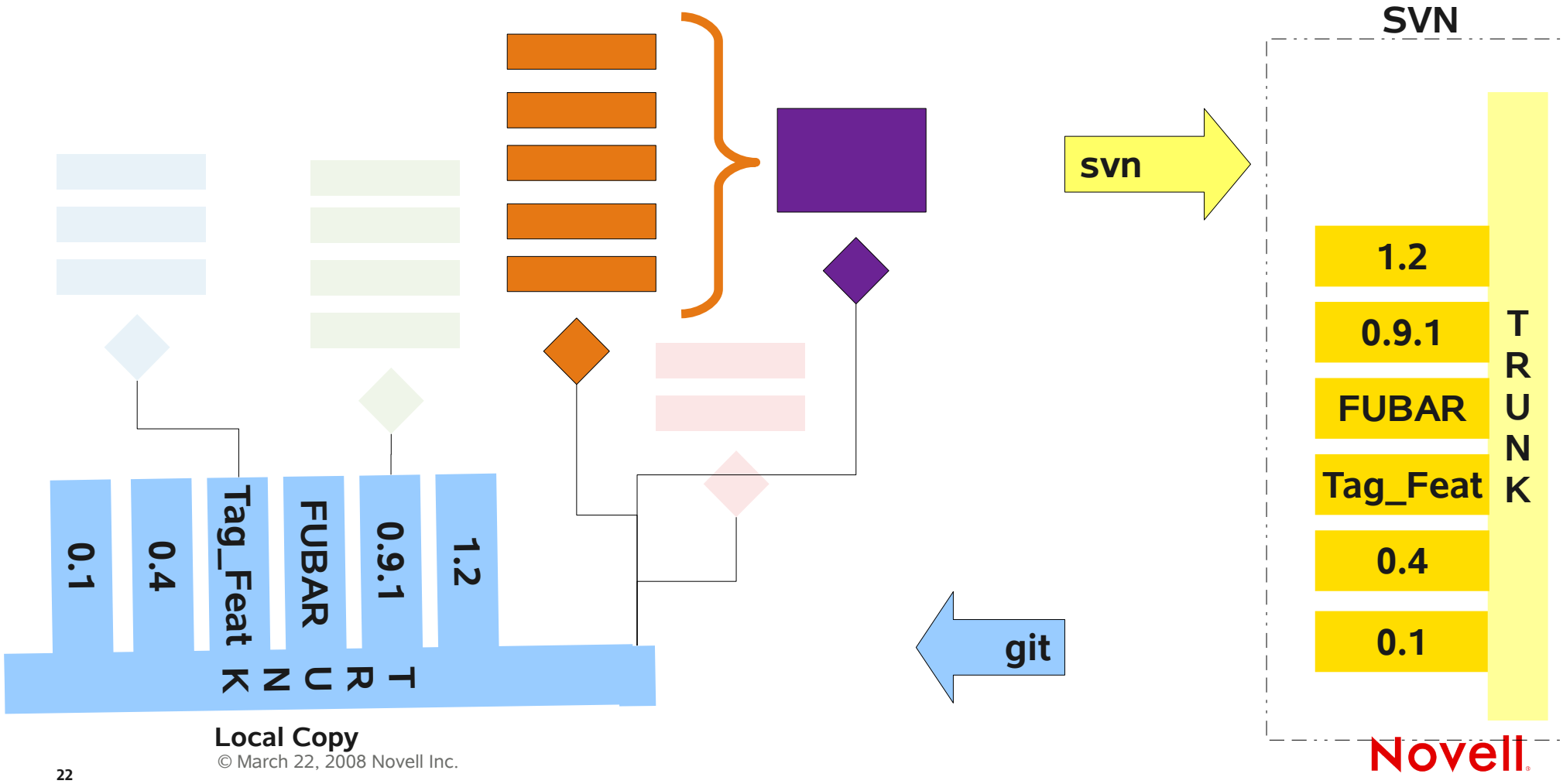
Step 0.2 - Merging



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Step 0.2 - **Merging**

git checkout master

*git merge **--squash** blocker-issue*

- *Merged but no committed*
- *Can do final check and commit*

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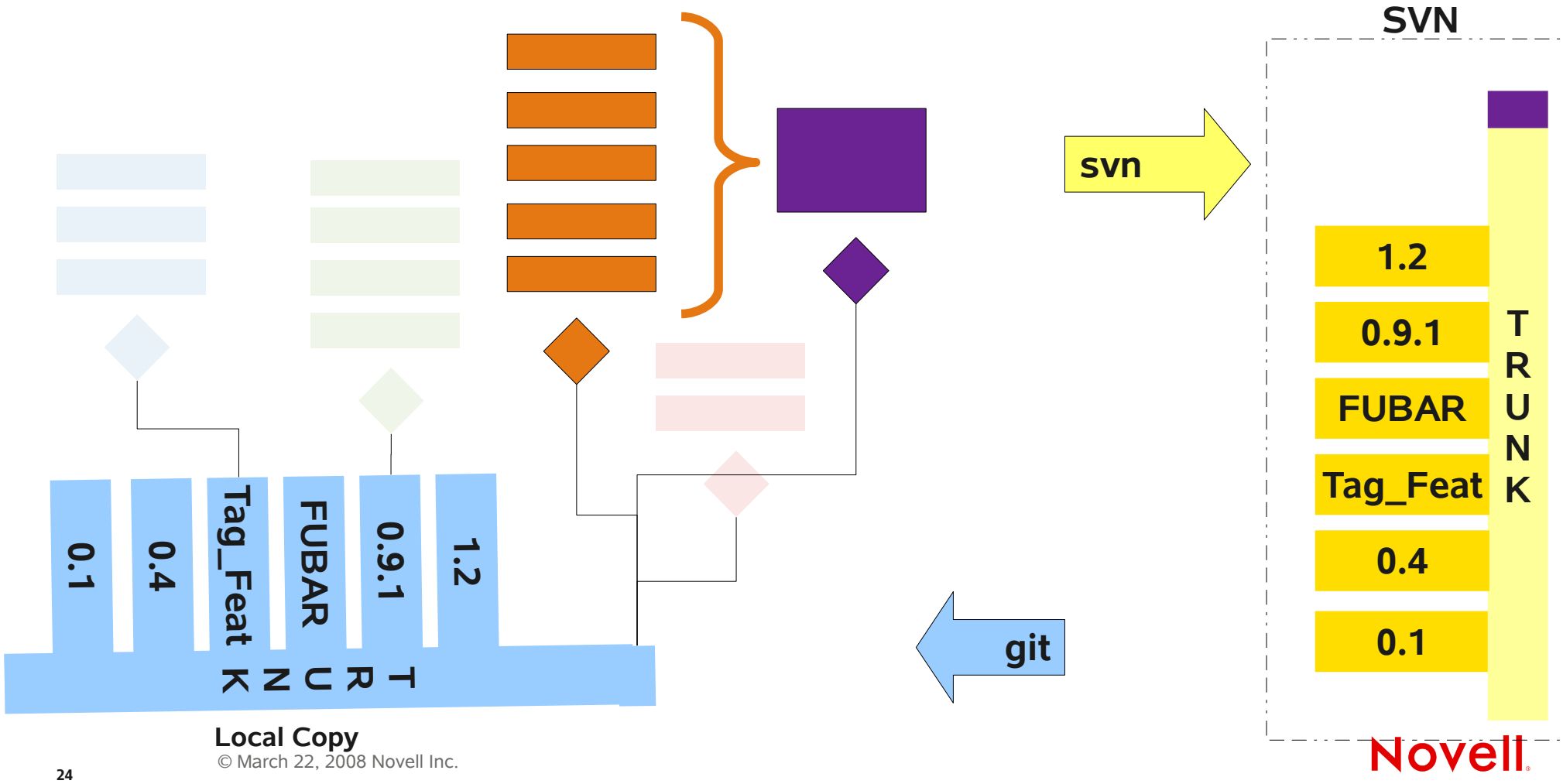
Step 0.3 - DCommit



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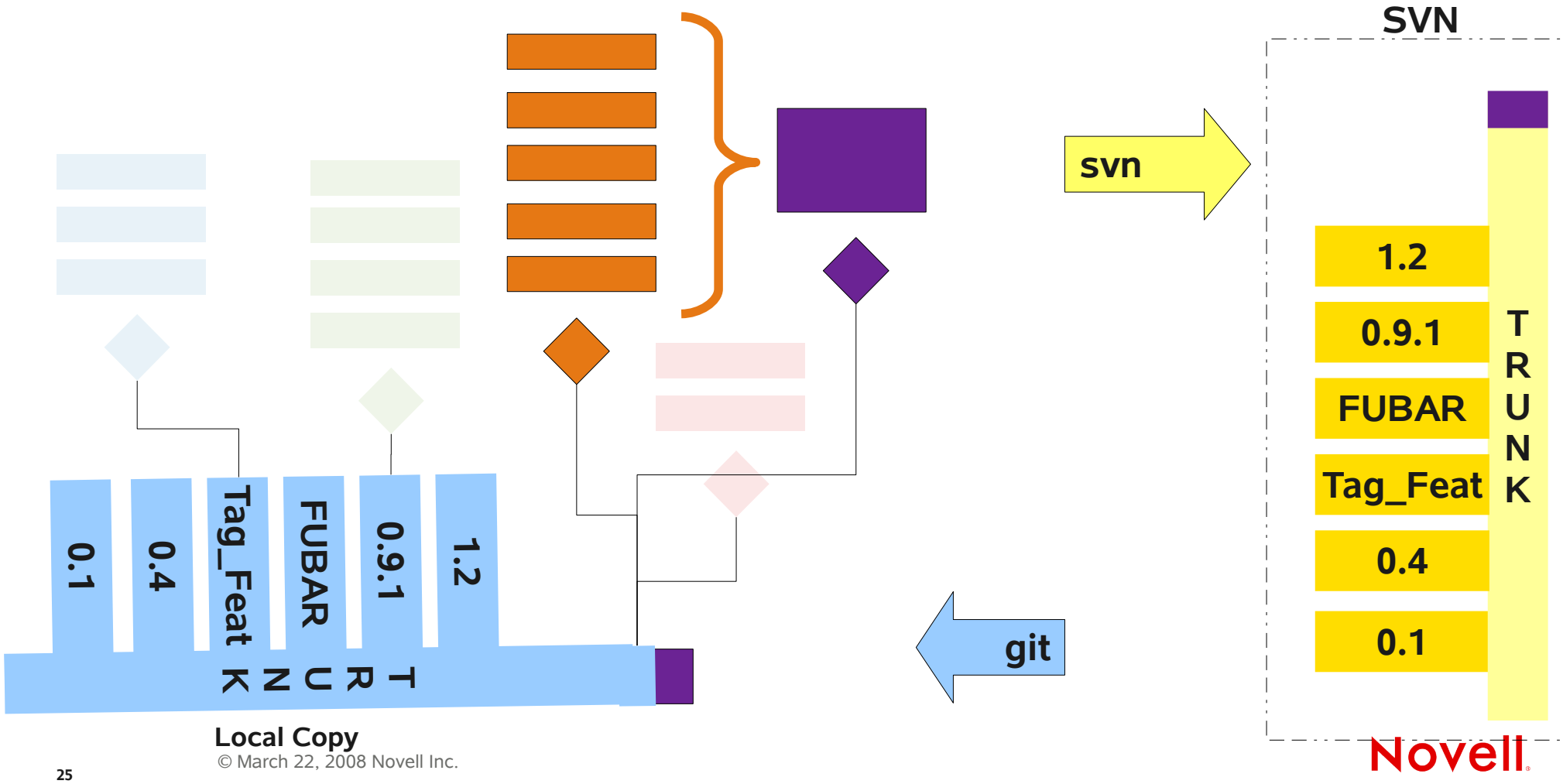
Step 0.3 - DCommit



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Step 0.3 - **DCommit**

git-svn dcommit

- *Everything is pushed to SVN.*

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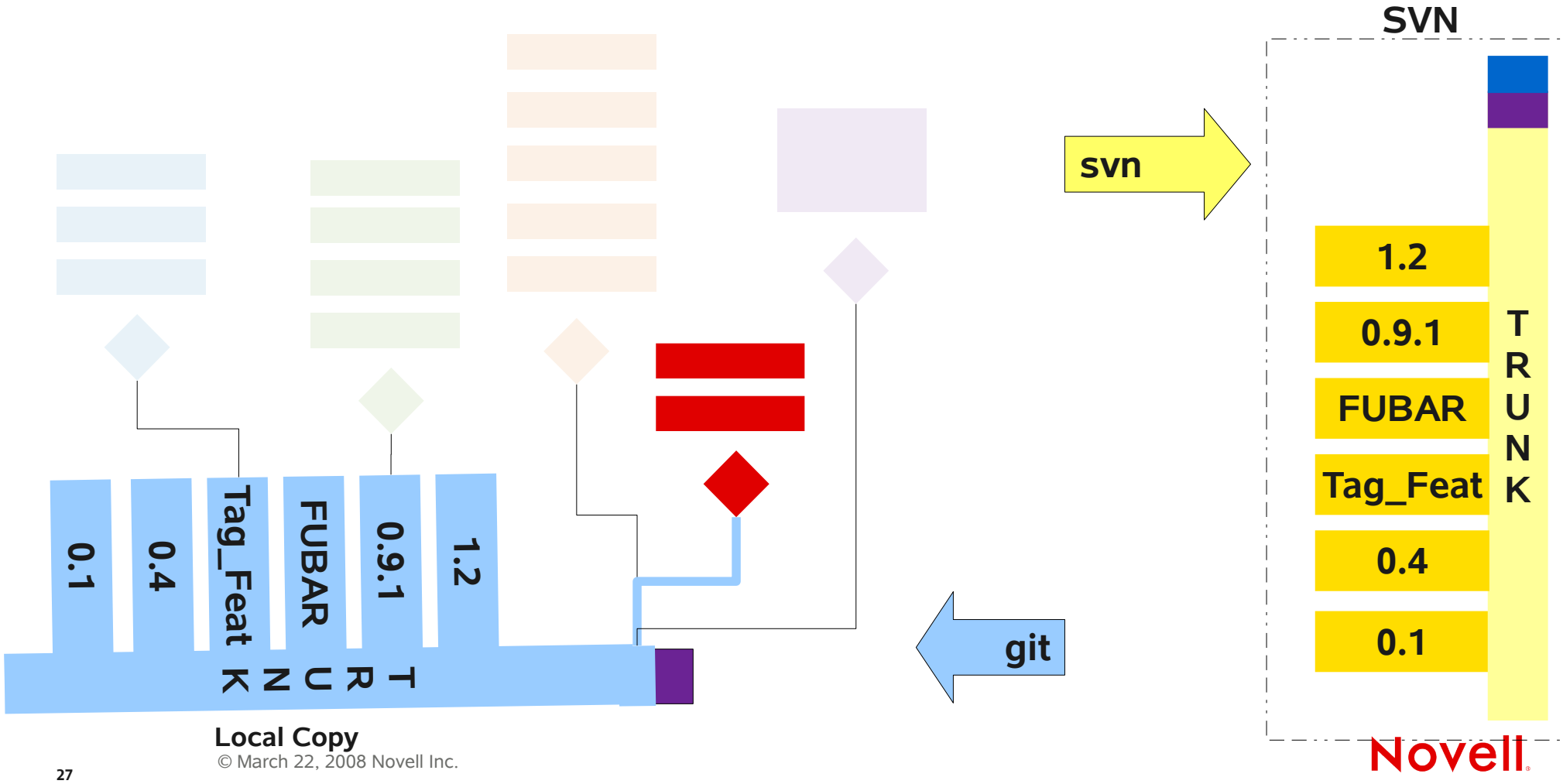
Step 0.4 – Updating Code



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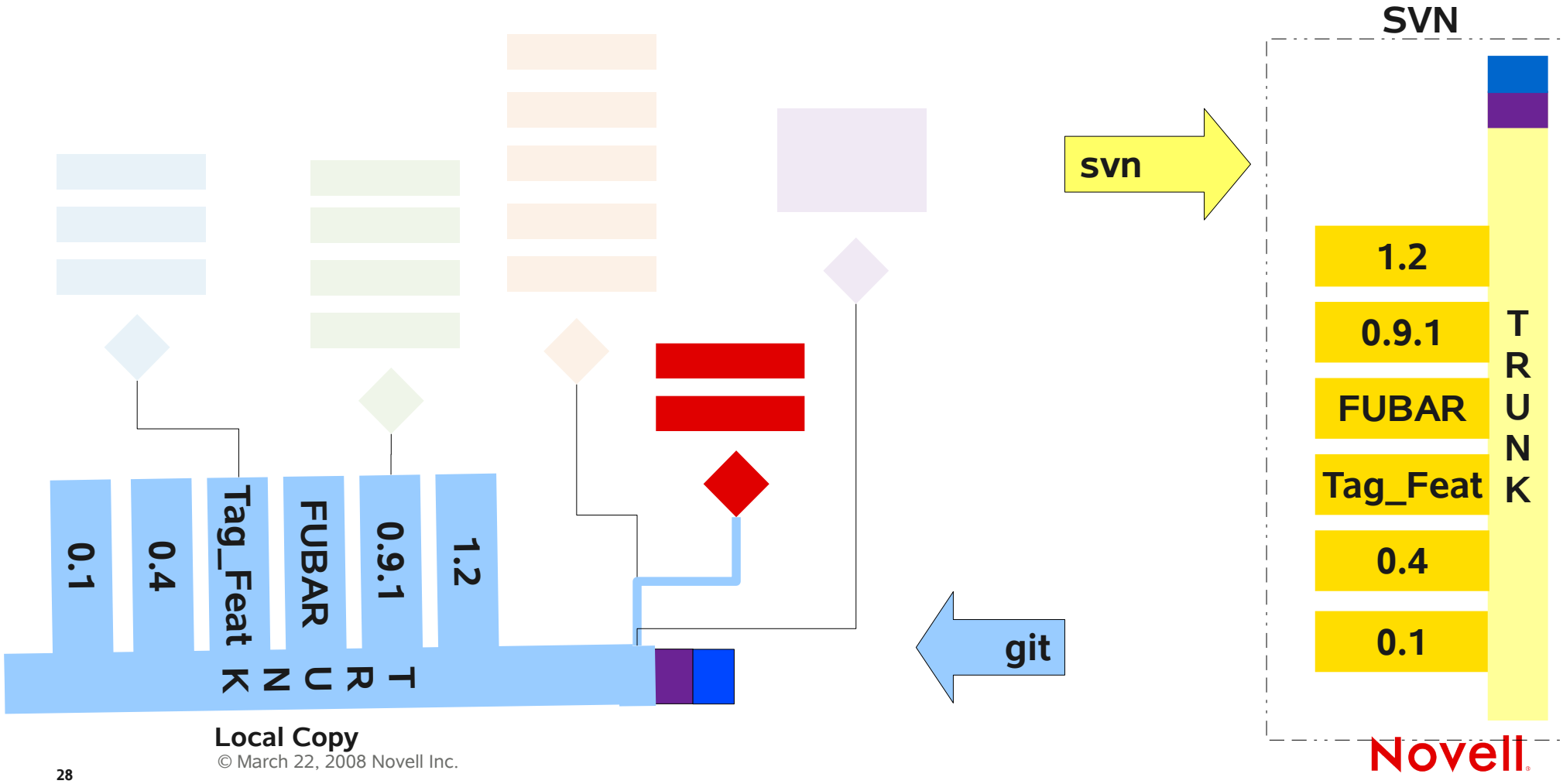
Step 0.4 – Updating Code



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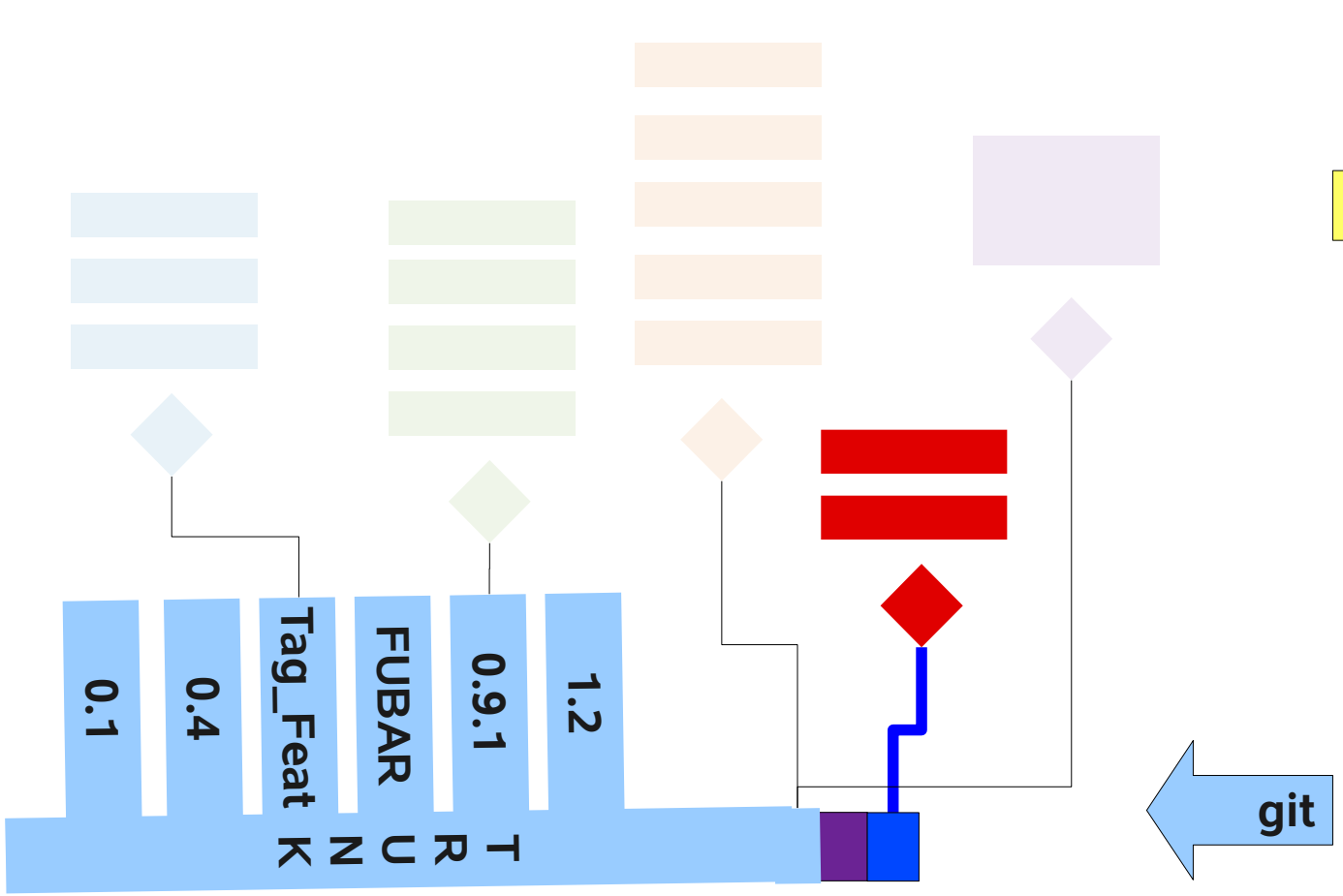
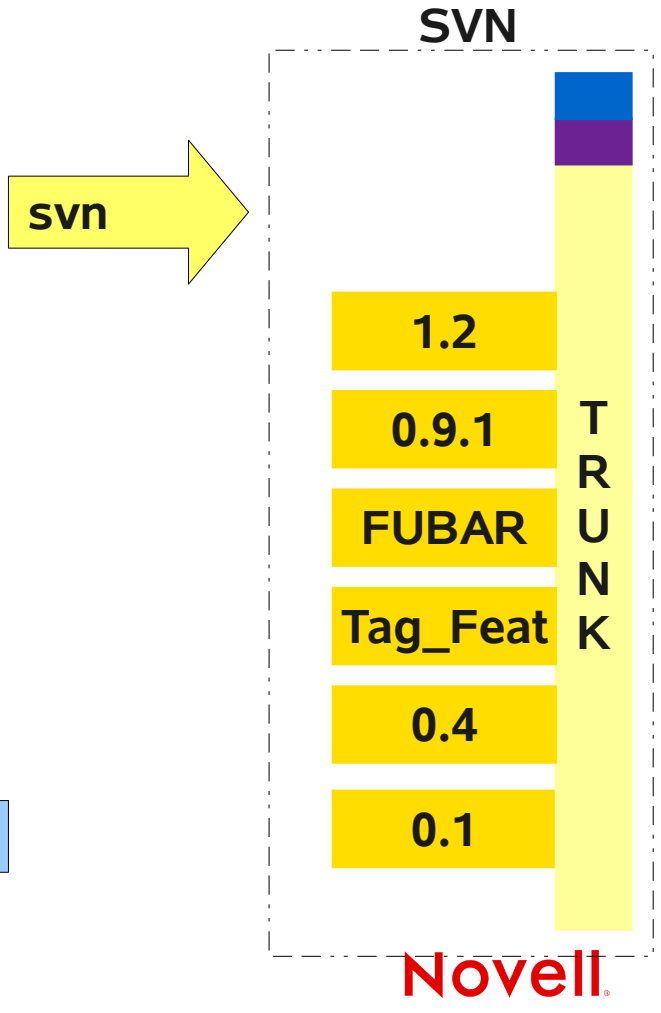
Step 0.4 – Updating Code



Local Copy



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Step 0.4 – **Updating Code**

*git-svn **fetch***

- *Fetches all the changes*
- *** Your local branches are not changed ***

*git **rebase** master remotes/trunk*

- *So you can selectively apply changes.*

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Step 0.5 – **Deleting Branches**

*git **branch -D** orange_feature*

- *Deletes the branch orange_feature*

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0.7.1 New GIT Repository

Versioning a TarBall.

- Untar.
  - cd my-tarball-src
  - git init
  - git add .
- ***The directory in under GIT!***

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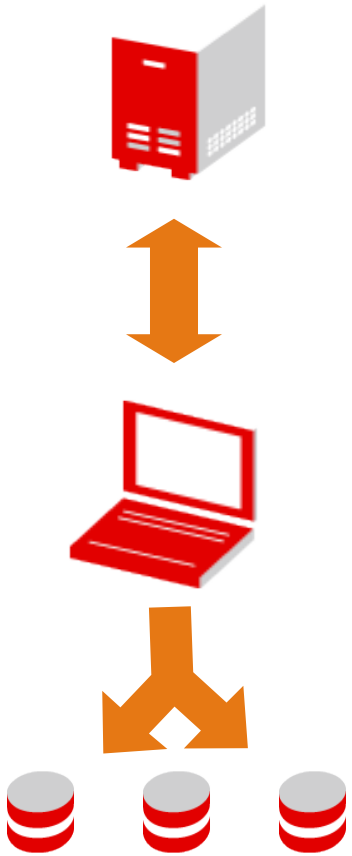
Step 0.7.2 - Need another Working Copy

Local & Shared repositories.



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Step 0.7.2 - Need another Working Copy

Local & Shared repositories.

git clone --local --shared $HOME/git/project $HOME/git/rewrite

- Not a complete clone
- Objects are reused.
- ** Don't delete the local parent **

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Step 0.8 Cherry Pick

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Step 0.9 Stash / Bisect

git-stash

- Working on “World Peace”
- Disturbed – New BLOCKER ISSUE - “Fix for Bin Laden's insanity”
- Stash away -”World Peace”- and start “Bin Laden's Fix”
- Then come backt o “World Peace”

git-bisect

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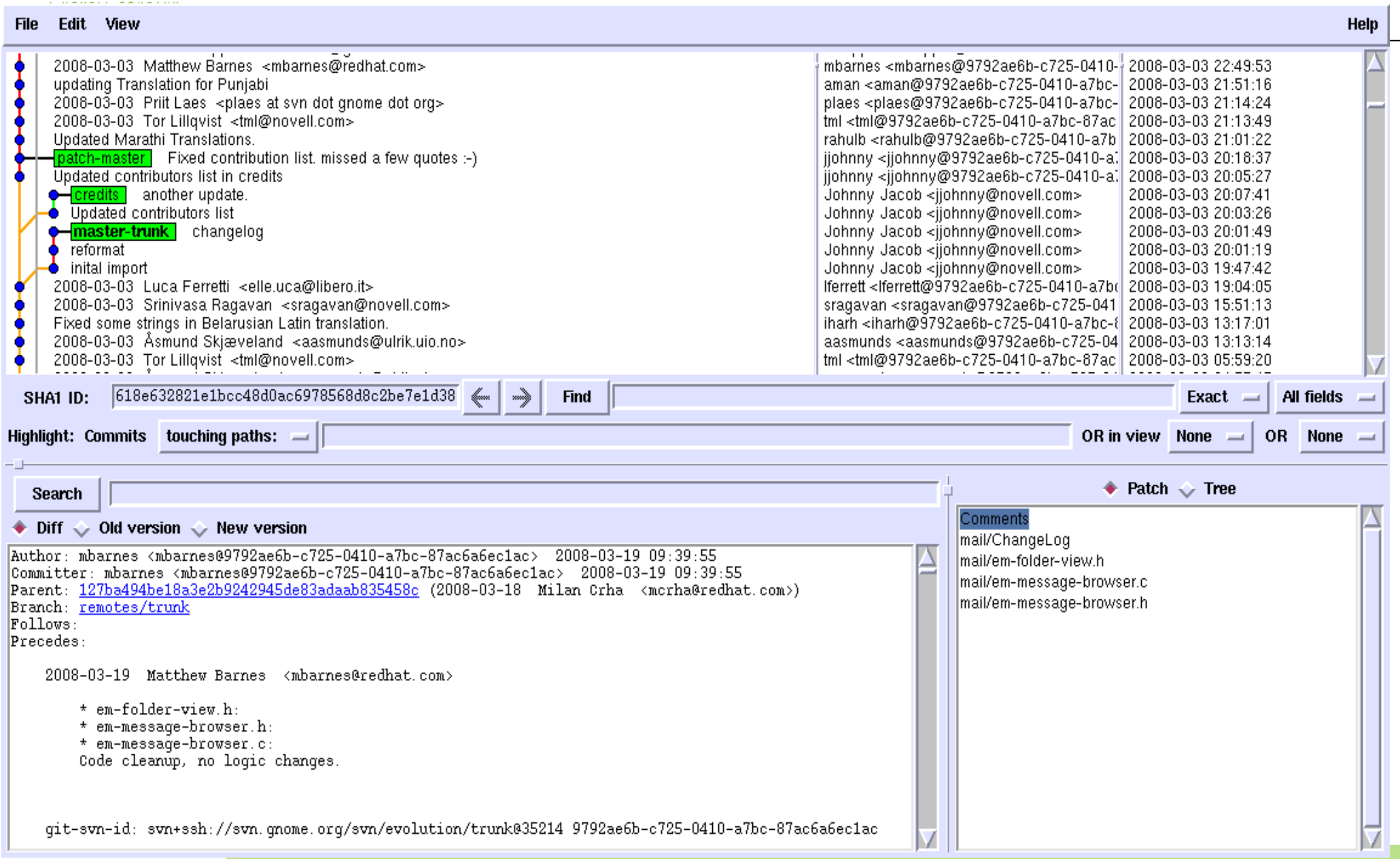
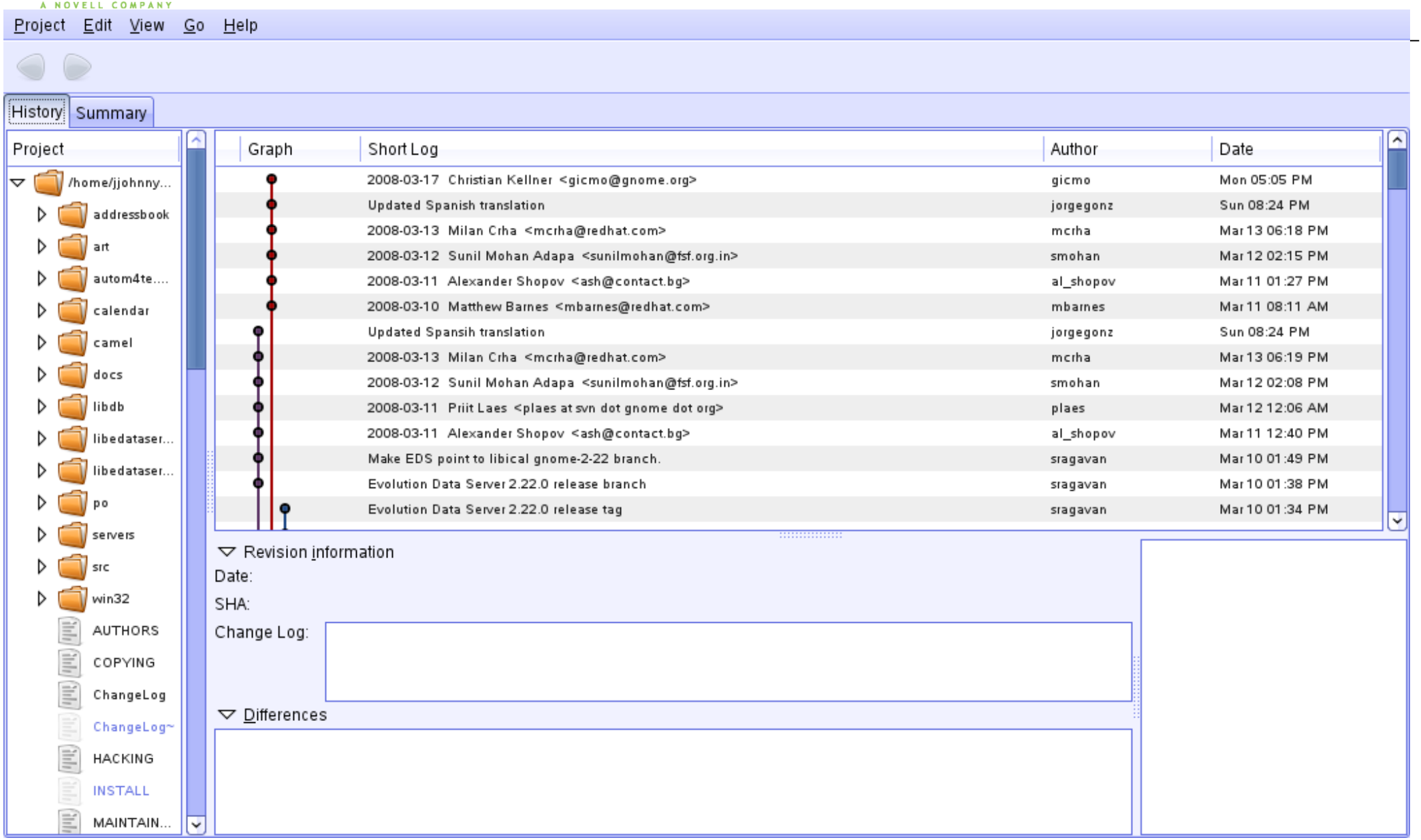
Gooyey - GUI

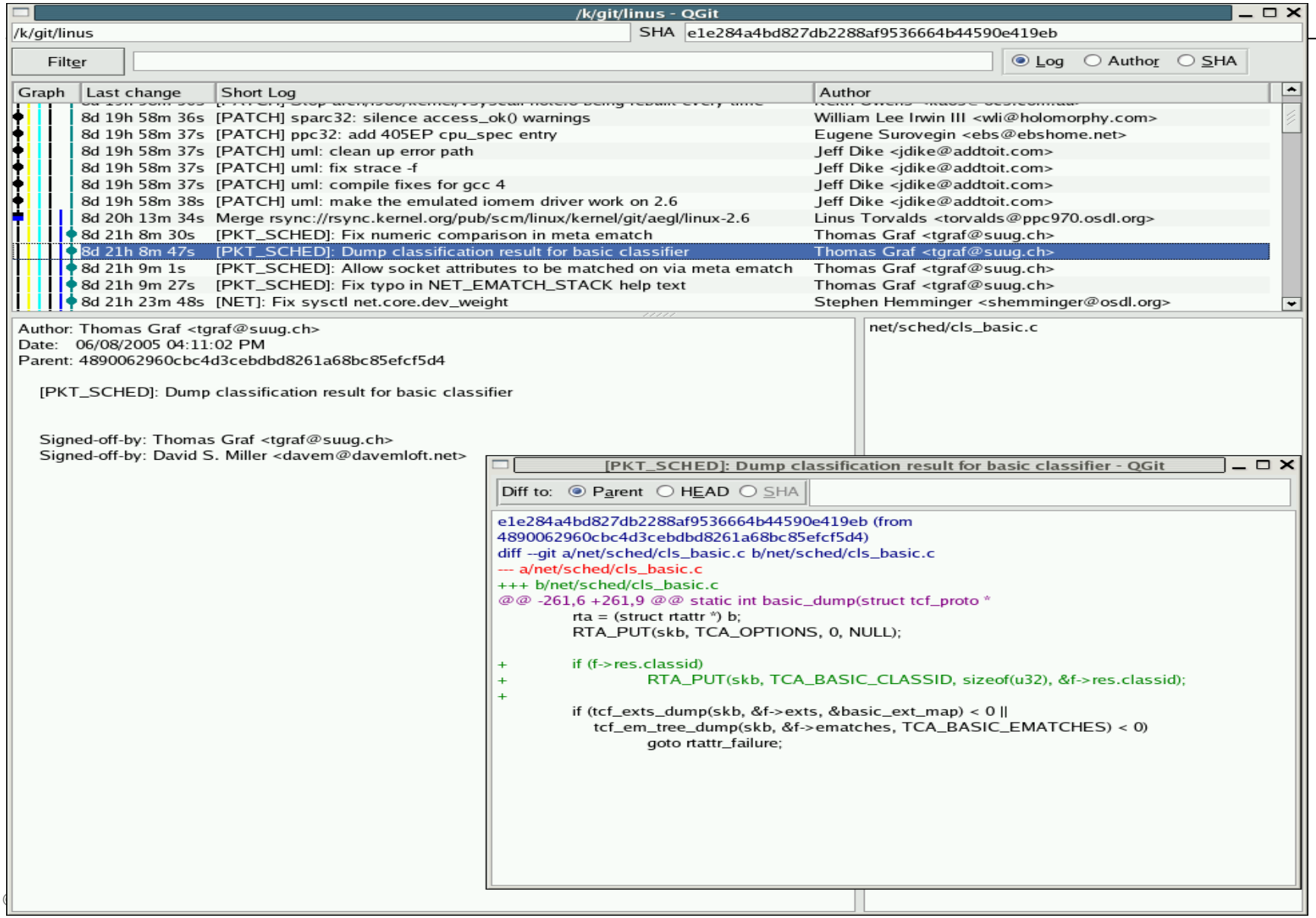
Gooyey – GUI - gitk



Gooyey – GUI - giggle



Gooyey – GUI - qgit



Publishing

GIT Hosting

Easy - git-push

- git push --force --all ssh://www.example.com/~username/public_html/git/myproject.git

Hosting Services

- Gitorious.org
- Github.com
- http://any.webserver/.git

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So now .. When you ..

Used CVS / SVN Working knowledge

- **Naah .. Move on !!**

Frusturation in managing multiple tasks

- **Use local branches**

Ever wished, you'd go back to yesterday when everything was working.

- **Local Commits – Commit whenever you feel like!**

Ever Wondered : Whose commit broke that feature ? (167 commits to check)

- **Git-Bisect**

Ever lost a patch ? ;-)

- **Easy Publishing / Sharing** (Next Talk ;-))

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Trivia

Why name GIT.

- Linus : “can mean anything, depending on your mood”
  - Global information tracker
  - Goddamn idiotic truckload of sh*t
  - British slang for "silly, stupid, or worthless person

Maintained by WHO

- Junio C Hamano.

http://git.or.cz/gitwiki

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Glossary

index / cache

working copy

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Other Tools

- **BitKeeper** (bk)
- **GNU Arch** (tla)
- **ArX** (arx) — started as fork of Arch, written in C++.
- **Bazaar**-NG (bzr)
- **Monotone** — full-decentralized in a P2P way.
- **Mercurial (hg)** — written in Python. Extremely fast, lightweight, portable, and easy to use.
- **Codeville** written in Python — Uses an innovative merging algorithm.
- **Darcs** is a decentralized and free revision control system written in the Haskell language can keep track of inter-patch dependencies using a "theory of patches" with roots in quantum mechanics.
- **SVK** is written in Perl — built on top of Subversion to allow distributed commits.

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Questions ?

Use Google !