

Open Subversion Repository Access For OpenFOAM

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Outline of the presentation

- **Why Version Control for source code ?**
- **What is Version Control**
- **What is Subversion?**
- **Why a Subversion site for OpenFOAM?**
- **Openfoam-extend on SourceForge**
- **Proposed structure for the svn archive**
- **Subversion basic working cycle**
- **Browsing the Subversion archive**
- **Conclusion**

Why Version Control for source code?

- **Questions that are asked at every software project:**
 - “Is the latest version in the Folder *Devel* or *Debug*?”
 - “Who copied an old version over my changes?”
 - “Who wrote that stuff? And what was he thinking?”
 - “Cool feature. Who wrote that? Me? When?”
 - “It worked 3 weeks ago. What changed in the meantime?”
 - “Could I have an up-to-date copy of the source code?”
 - “Someone found a bug in Release 10.4 of my software. My new version 10.5 is not ready for release yet! Where is the source code for version 10.4 again?”
 - “Who wants to merge versions?”

- **Version Control tools can help here.**

What is Version Control?

- **Version control is the management of *information changes* in respect of time.**
- **Version control organizes the work of multiple authors.**
- **Widely used in software development and engineering.**
- **Version control systems keep track of multiple versions of multiples files of multiple projects.**
- **Many systems are available out there:**
 - RCS
 - Microsoft SourceSafe
 - BitKeeper
 - CVS
 - Subversion
 - ...

What is Subversion?

- **The goal of the Subversion project is to build a version control system that is a compelling replacement for CVS in the open source community.**
- **A Subversion site :**
 - Is a centralized repository for storing and sharing data (files, source code, documents, etc).
 - Is built on a hierarchy of files and directories
 - Offers version control of files AND directories
 - Is a Client/Server system
 - Enables the collaborative editing and sharing of source code.
 - Is Operating System agnostic
 - Can store meta-data (key/value pairs) for files and directories
 - Is a replacement for the now aging CVS

What is Subversion?

- **The advantages of Subversion versus CVS**
 - Versioning of files, **directories** and symbolic links
 - Creating, Renaming, Moving and Deleting
 - Atomic commits
 - Repository-wide version numbering
 - Efficient handling of binary files
 - Can be hosted over HTTP/HTTPS
 - SVN is faster than CVS
 - Cheap or lazy copy mechanism

What is Subversion?

➤ For more information:

- Subversion home site:
 - <http://subversion.tigris.org/>
- On-line electronic book:
 - Version Control with Subversion, Collins-Sussman, Fitzpatrick, Pilato
 - <http://svnbook.red-bean.com>
- On-line tutorials and training:
 - Subtrain by POLARION:
 - <http://www.polarion.org/index.php?page=download&project=subtrain>

Why a Subversion site for OpenFOAM

➤ For the OpenFOAM users:

- The patches and bug fixes are currently published over the OpenFOAM discussion forum or mailing list:
 - patching OpenFOAM source code is a do-it-yourself job in between releases.
- With version control, you can see where, when, and by whom the OpenFOAM source code has been modified.
- Some very interesting add-on packages are available on a few external sites : a centralized access point would be very convenient.
- Experimental versions of OpenFOAM will be easier to download and test.

Why a Subversion site for OpenFOAM

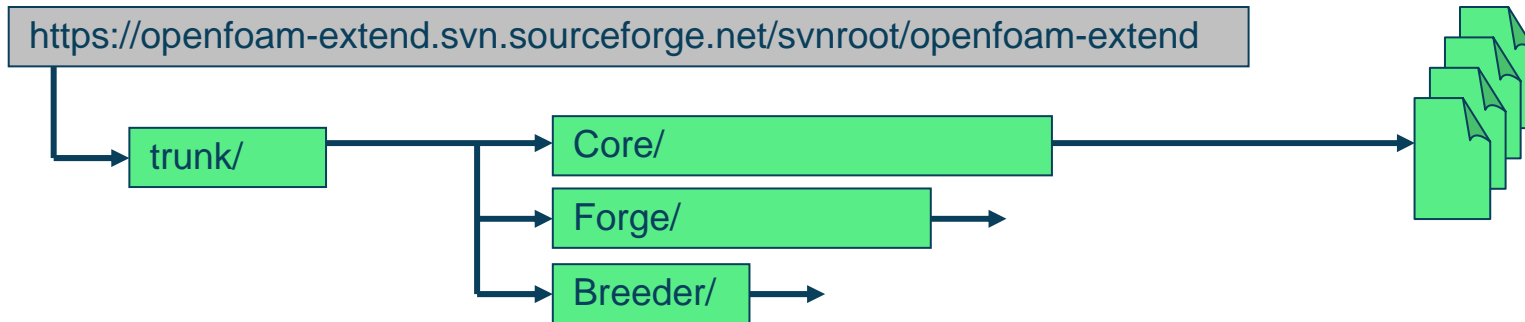
➤ For the OpenFOAM developers:

- We need a centralized archive for sharing source code and facilitate collaboration.
- We need incremental download of modified files instead of downloading large monolithic tarballs (.tgz)
- We need a powerful tool to detect and track source code modifications from release to release.
- “Unsupported” code can now have a home.

Openfoam-extend on SourceForge

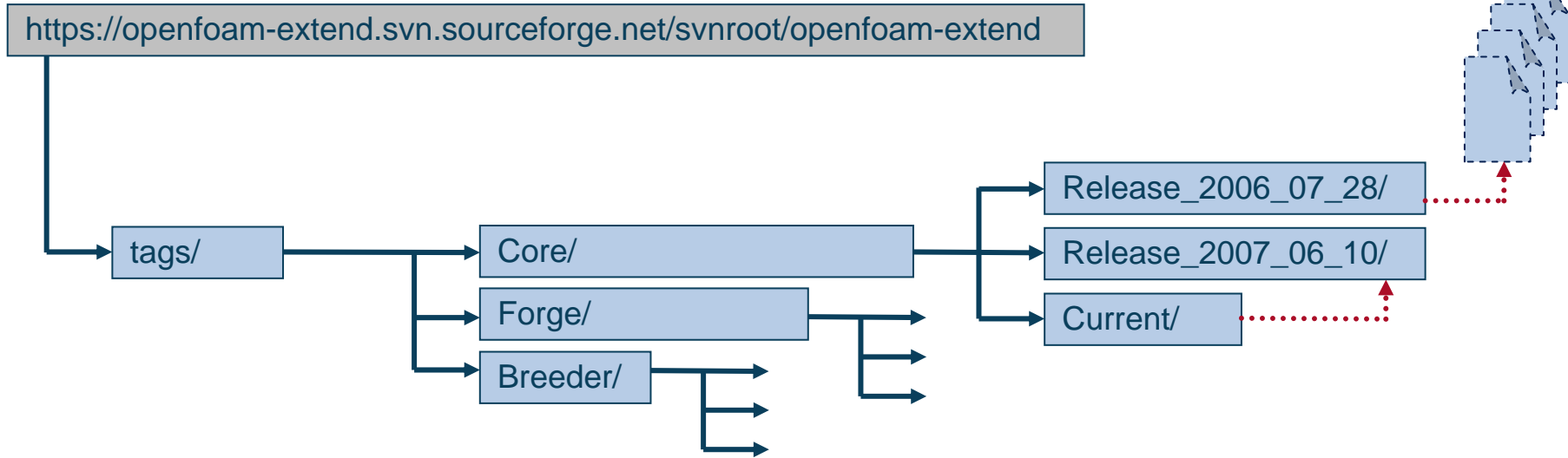
- **A new project has been registered on SourceForge for the OpenFOAM community: openfoam-extend**
- **SourceForge: more than just a Subversion archive**
 - SourceForge.net is by far the most popular site for sharing source code over the Internet.
 - A project hosted on SourceForge also gets access to:
 - Mailing lists for project users and administrators
 - Tools for submitting bug reports, support requests, feature requests, user-submitted patches.
 - Forums
 - Web based source code browsing

Proposed structure for the svn archive



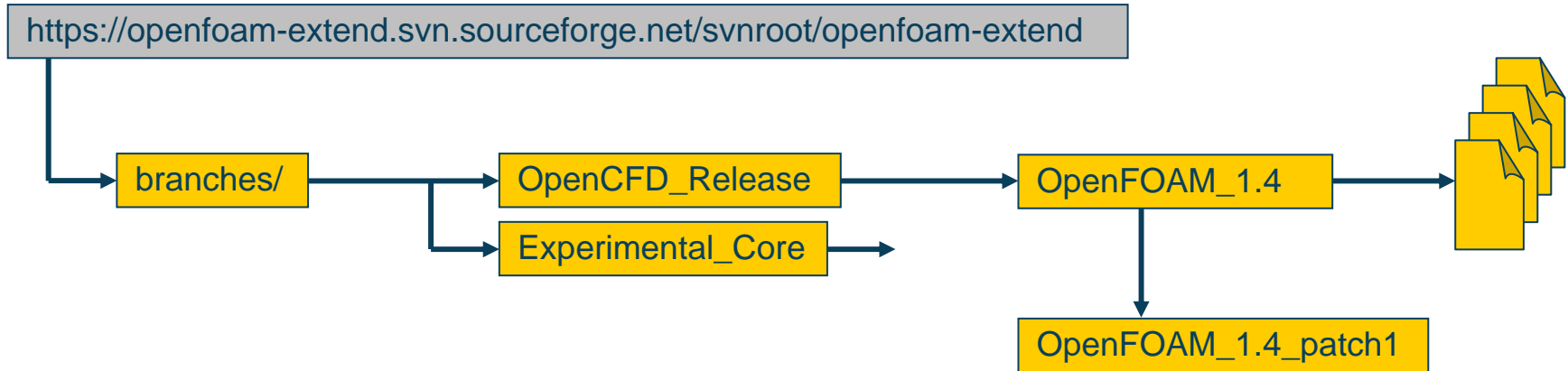
- **Trunk:** main line of development. “Work in progress”, so wear protective gear at all times
 - **Core :**
 - Structured like the original OpenFOAM distribution
 - Content: what currently is known as “Hrv’s development version”.
 - Permanent beta, with intermediate stable releases
 - **Forge:**
 - Assorted collection of utilities, libraries and other stuff OF-related.
 - Fulfill some quality standards.
 - Should provides test cases and documentation. Ideally version agnostic.
 - **Breeder:**
 - Things that are not ready to go to the Forge yet.
 - Where people can have a first go at the development.
 - Playground for starting collaborations and workgroups
 - Minimal or no test cases/documentation

Proposed structure for the svn archive



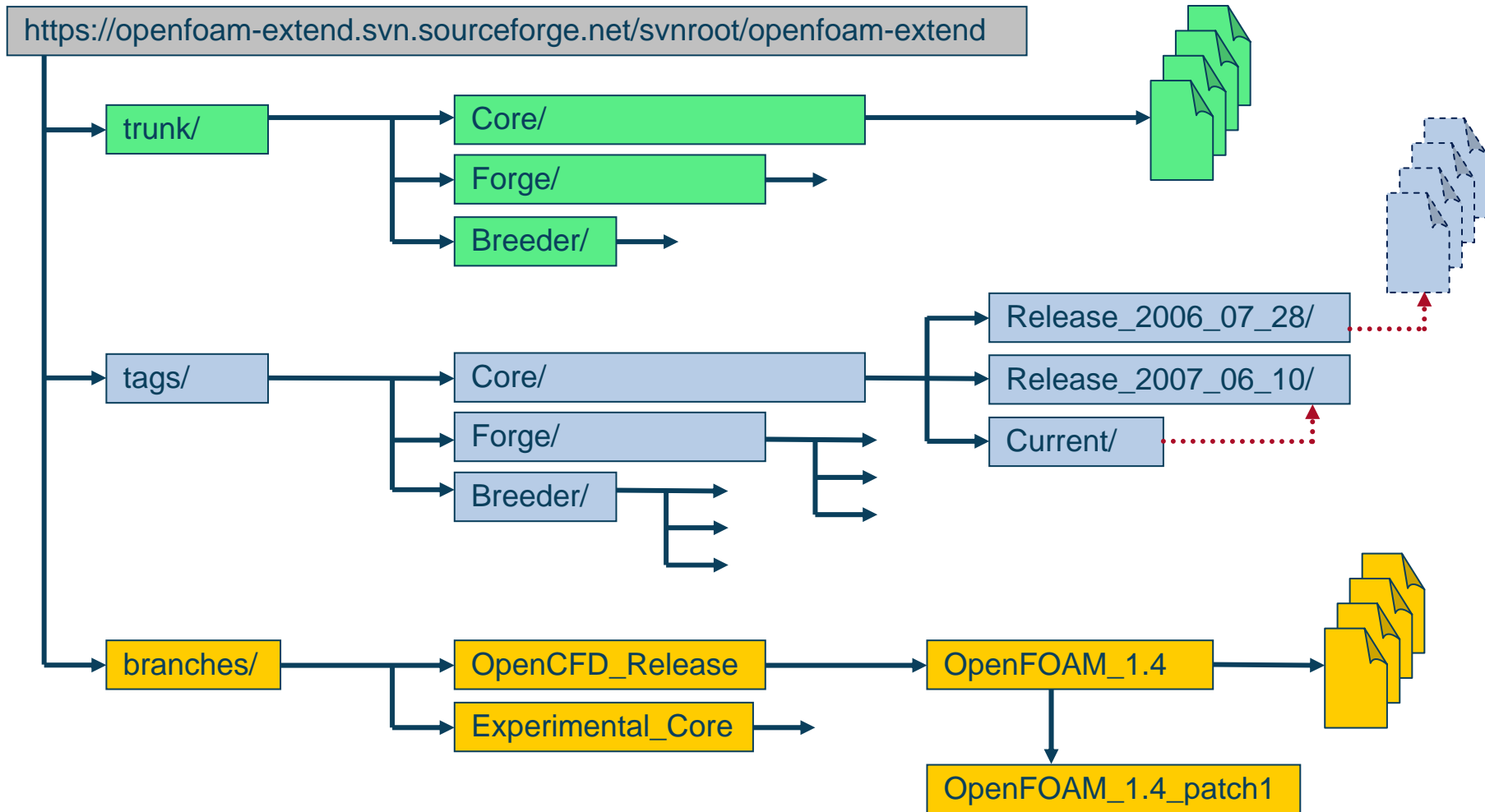
- **Tags:** snapshots of the trunk. Consistent, relatively bug-free: Releases
 - **Core :**
 - **Forge:**
 - **Breeder:**
- Release_YYYY_MM_DD, or whatever numbering scheme that makes sense.
- Current : Always points to the latest stable released version

Proposed structure for the svn archive

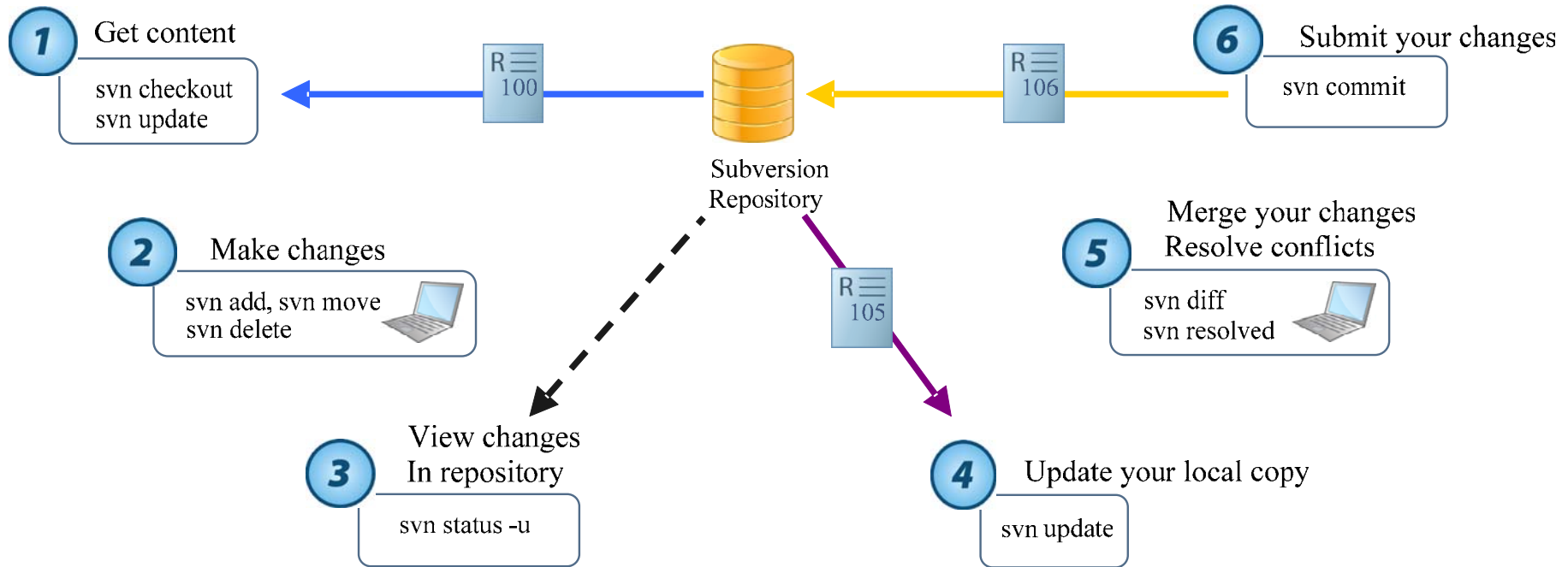


- **Branches:** variations of the trunk
 - We need a place for an up-to-date patched version of OpenCFD releases
 - We need a convenient way to browse the source code and compare changes from release to release
 - We need a place for “highly experimental” developments that will be merged into the trunk when stable.

Proposed structure for the svn archive



Subversion basic working cycle



From: "Subversion – Cheatsheet", Subtrain, by Polarion

- A "Howto" guide will be made available to illustrate the most common operations when working with the Subversion archive.

Browsing the Subversion archive

SourceForge.net Repository - [openfoam-extend] Index of /

http://openfoam-extend.svn.sourceforge.net/viewvc/openfoam-extend/

[openfoam-extend]

Index of /



Files shown: 0

Directory revision: [3](#) (of [3](#))

Sticky Revision:

File ▲	Rev.	Age	Author	Last log entry
branches/	1	45 hours	bgschaid	Basic directory structure
tags/	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
testing/	1	45 hours	bgschaid	Basic directory structure
trunk/	1	45 hours	bgschaid	Basic directory structure

[Back to SourceForge.net](#)

[ViewVC and Help](#)

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Browsing the Subversion archive

SourceForge.net Repository - [openfoam-extend] Index of /tags/Releases/OpenFOAM-1.4

http://openfoam-extend.svn.sourceforge.net/viewvc/openfoam-extend/tags/Releases/OpenFOAM-1.4

[\[openfoam-extend\]](#) / [tags](#) / [Releases](#) / [OpenFOAM-1.4](#)

Index of /tags/Releases/OpenFOAM-1.4



Files shown: 7

Directory revision: [3](#) (of [3](#))

Sticky Revision:

File ▲	Rev.	Age	Author	Last log entry
Parent Directory				
.OpenFOAM-1.4/	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
applications/	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
bin/	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
doc/	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
src/	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
tutorials/	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
wmake/	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
.bashrc	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
.cshrc	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
.timeStamp	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
Allwmake	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
COPYING	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
README	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...
ReleaseNotes-1.4	3	39 hours	oforiginal	Added the unmodified 1.4 Sources for testing purposes and for reference Minus -...

[Back to SourceForge.net](#)

[ViewVC and Help](#)

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Conclusion

- A new project has been registered on SourceForge for the OpenFOAM community: openfoam-extend
- Subversion was chosen as the Version Control system.
- A repository structure is proposed.
- “Unsupported” code can now have a home.
- Come and share your OpenFOAM code with the community.
- Your comments will be appreciated.

Questions?

➤ Thank you for your attention!