Source Control in MATLAB

A tool for tracking changes in software development projects.

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Source Control
(A.K.A. Revision Control, Version Control)

- The management of changes to documents, programs, and other information stored as computer files.

- Used in software development where a team of people can edit the same files

Why Do We Use Source Control?

- Allows programmers to work simultaneously on updates even when geographically far apart

- Aids in the fixing of bugs as they are often only present in one version

- Keeps track of who has made a change, and what change has been made
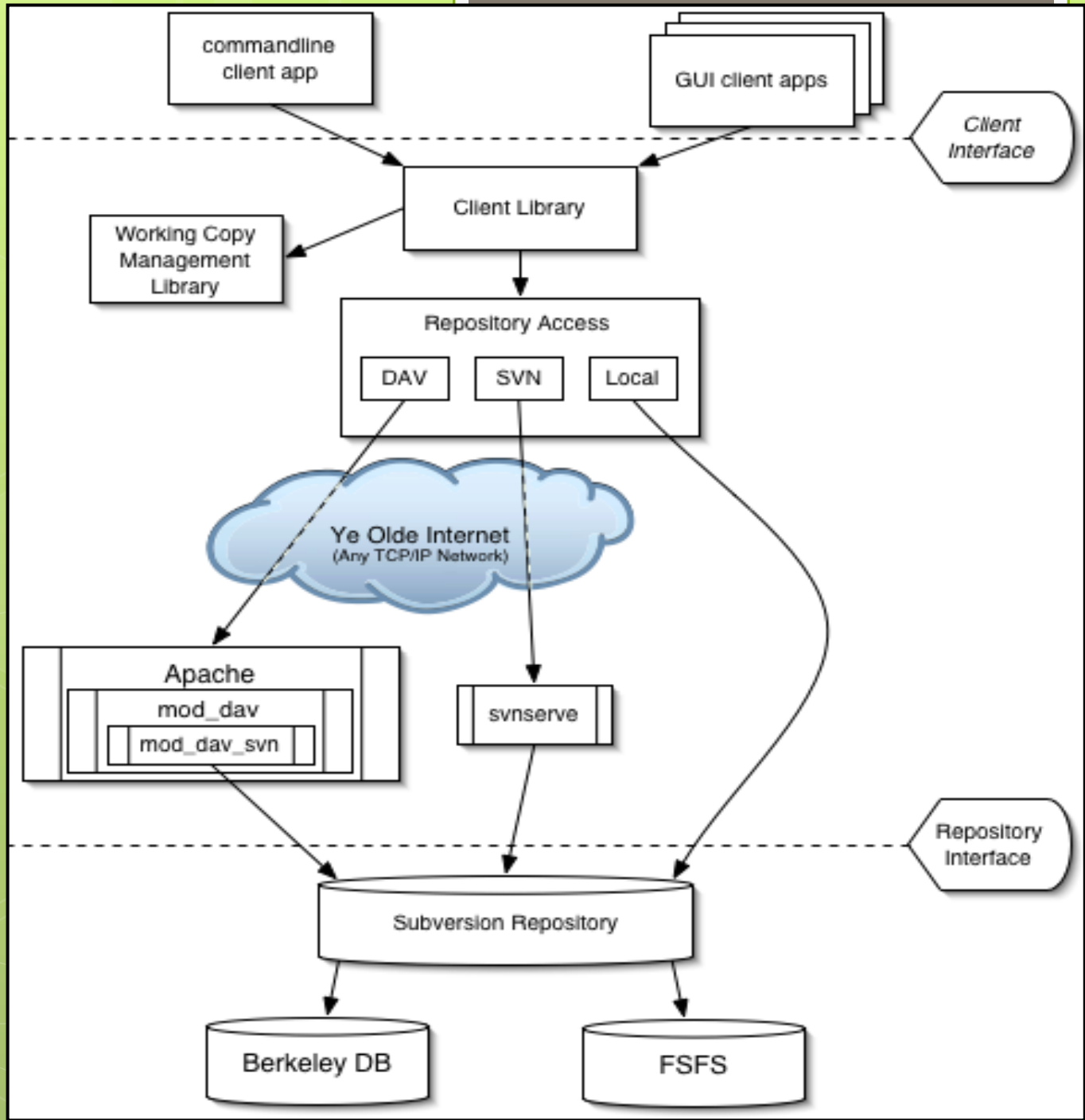
Version Development

BRANCH – A set of files under source control can be branched so two copies of the files can develop at different speeds

TRUNKS – The unique line of development that is not a branch

MERGES – Two sets of changes are applied to a set of files

TAGS – Denotes an important snapshot in time

WORKING COPY – Local copy of files from a repository, at a specific time or revision
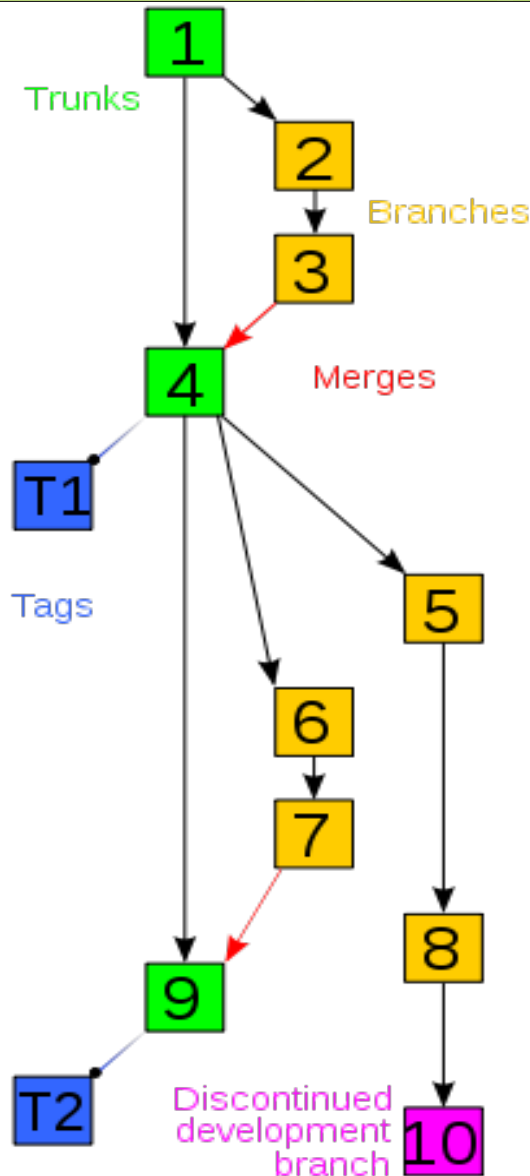
Merging Scenarios

- A user, working on a set of files, syncs his or her working copy with changes made.

- A user tries to check-in files that have been updated by others since the files were checked out. The revision control software automatically merges the files.

- A set of files is branched, a problem that existed before the branching is fixed in one branch, and the fix is then merged into the other branch.

- A branch is created, the code in the files is independently edited, and the updated branch is later incorporated into a single, unified trunk.

Software Showcase

- MATLAB has tools for utilising external source control software which can be set in the preferences and extended through plugins

- We will be looking at:
  - Subversion (SVN) – Open source software
  - svnX – Open source GUI for SVN
  - MATLAB Interface

Demo Time

Any Questions?