# Research Data Management: Version Control

**Version Control Open source software comparison table**

| Software | Technical Expertise Required | Platform | Website | Description |
|---|---|---|---|---|
| Git | No Programming GUI available | Linux, BSD, Sol | http://git-scm.com/ "A Git *repository* is a database containing all the information needed to retain and manage the revisions and history of a project. In Git, as with most version control systems, a repository retains a complete copy of the entire project throughout its lifetime. However, unlike most other VCSs, the Git repository not only provides a complete working copy of all the files in the repository, but also a copy of the repository itself with which to work." | "Git is a distributed revision control tool that was developed for managing the Linux kernel source tree. Like Mercurial, its early design was somewhat influenced by Monotone. Git is extremely fast. However, on Windows, the performance and general level of support that Git provides is, at the time of writing, far behind that of Mercurial. While a Mercurial repository needs no maintenance, a Git repository requires frequent manual "repacks" of its metadata. Without these, performance degrades, while space usage grows rapidly. A server that contains many Git repositories that are not rigorously and frequently repacked will become heavily disk-bound during backups, and there have been instances of daily backups taking far longer than 24 hours as a result. A freshly packed Git repository is slightly smaller than a Mercurial repository, but an unpacked repository is several orders of magnitude larger. The core of Git is written in C. Many Git commands are implemented as shell or Perl scripts." |
| Mercurial (Hg) | No Programming (implemented in Python) GUI available for Windows: TortoiseHg integrates Mercurial directly into your explorer. Focus on simplicity for user. | Microsoft Windows, GNU/Linux, Mac OS X, Sun/Oracle Solaris 11 Express | http://mercurial.selenic.com GUI: http://tortoisehg.bitbucket.org/ "Subversion and Mercurial have similarly named commands for performing the same operations, so if you're familiar with one, it is easy to learn to use the other. Both tools are | |

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| | | | portable to all popular operating systems." "Mercurial can import revision history from a Git repository." | |
| SVN - Subversion | No Programming GUI not found | Unix, Win32, BeOS, OS/2, MacOS X | http://subversion.apache.org | "Subversion is a popular revision control tool, developed to replace CVS. It has centralized client/server architecture." |
| GNU RCS | No Programming GUI not found | UNIX, Windows, DOS | http://www.gnu.org/software/rcs/ The Revision Control System (RCS) manages multiple revisions of files. RCS automates the storing, retrieval, logging, identification, and merging of revisions. | Manual: http://www.gnu.org/software/rcs/manual/rcs.html RCS is useful for text that is revised frequently, including source code, programs, documentation, graphics, papers, and form letters |