

Araxis Merge Professional v. 6.5
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Merge is a file and folder comparison and (obviously enough) merge application created by Araxis Ltd. It's what programmers use to analyze and reconcile differences between various versions of their source code files or synchronize directory trees between their development machine and the web server, for example. The professional edition handles up to three way merges more typical of team development (two people check out and edit a common file and then must untangle the changes), while the less expensive standard edition supports only two way. Each offers a choice of user interface language including English, Japanese, Chinese, German, French, and Spanish (although I noticed several untranslated texts) and each supports a large number of character sets and encodings from ASCII to Unicode.

Merge is available only via electronic download from the Araxis web site, where the 30-day trial edition can also be found in addition to an HTML edition of the well-written and fairly thorough documentation. The software is activated by a serial number sent to your email address. Araxis offers several installation options depending on whether any potential operating system updates should be included, whether the Microsoft installer can be used, etc. I downloaded the entire CD (*.iso.rar) and installed without incident to discover a single, unobtrusive icon added to the start menu. When the icon is first clicked, the user is offered direct access to an overview of Merge which is part of the help file. This documentation goes so far as to state the circumstances under which the program attempts to access the internet (mainly to check for product updates). So far my firewall confirms the program's network activities and I wish that all software were this forthright.

The application was set to two immediate tasks. The first was to figure out why a Java servlet checked out from CVS (Concurrent Versions System) would not run while the copy transferred directly from a coworker's computer did. Nothing appeared to be missing from the CVS repository. I pressed the folder comparison icon, dragged the two directory names from Windows Explorer into the left and right entry fields, and pressed refresh. Two directory trees appeared side by side and there on a line highlighted in blue was a pair of jar files with different sizes. Merge can compare based on file date, size, and content. It was then obvious that someone had neglected to mark the files as binary and they were being truncated upon checkout. With another button click the good version was copied to the other side and the problem was resolved. Merge folder comparisons use two windows placed side by side, although file comparisons are shown either left (and middle) and right or top (and middle) and bottom. The folder comparison display uses blank lines to show where a file exists on one side but not the other. This differs from the file comparison display in which "linking lines" are drawn where text from one side would be inserted into the other side. Most of the reports that can be generated, being textual in nature, also use blank lines rather than graphics. The program is capable of both, so I for one would appreciate being able to choose between them. It might be important to note that the program identifies

neither moved files nor renamed files. In each case there will be both a deleted and inserted file on either side.

The second task involved a three-way file merge. I was slow checking my changes back into CVS and someone else had checked in theirs first so that the onus fell on me to reconcile the differences. We each started with version 1.16, the common ancestor, someone checked in 1.17a before I could check in my 1.17b, and I would have to create version 1.18 out of 1.16 and the changes incorporated into the other two. JBuilder Foundation seems capable of only two way comparisons, although it can alternate between different ones, e.g., 1.16 vs. 1.17a or 1.17a vs. 1.17b, and it displays the files in a confusing interleaved format. Eclipse compares just two at a time and automatic merging all too often leaves the resulting file in a mess. Merge interfaces with TortoiseCVS and SVN (as well as Perforce, Visual SourceSafe, StarTeam, ClearCase, WinCVS, and many others), so I arranged to have a copy of 1.16 (the future 1.18) in the middle, 1.17a on the left, and 1.17b on the right. Changes were transferred from the left and right to the middle until it became version 1.18. In cases where neither side contains the correct code, Merge allows one to edit the files directly and even updates the comparison as one types. Although Merge does very well at this task, perhaps better than any other program I've used, I really miss syntax highlighting. The black and white text is nearly 15 years outdated. The program will display line endings, but not any invisible spaces or tabs within lines, which I like to monitor. Lastly, moved lines are outside the purview of the program even though they are a typical programming change. Still, the job was handled quite impressively.

Merge has many additional capabilities that I haven't described, but most of which are available in other packages, although Merge seems to have the slicker, cleaner, and more tested implementation. What I haven't seen elsewhere and what is really exciting is Merge's programming interface. Not only are both Windows and command line executables included, but COM (Component Object Model) and virtual file system (VFS) interfaces along with ample documentation and example implementations. The automation API (i.e., COM interface) allows one to control Merge from within one's own program. This provides much finer control than does the command line interface: it allows enumeration of comparison results, control of all options, sizing of windows, printing, reporting, etc. Araxis has also defined a VFS interface that one can implement to enable Merge to access data that reasonably resembles files or directories (just about everything from the Unix perspective) and this is how it reads Perforce, VSS, and FTP data. This is an extremely powerful capability in programmers' hands. To test both interfaces, I implemented a VFS inside my Smalltalk environment to expose the class hierarchy with each class being a folder and each method being a file containing the source code for itself. The automation API is used to start Merge and pass it a custom URL that allows VFS access to the same running Smalltalk system, potentially showing the very code calling Merge in the first place. This has allowed me to run comparisons on methods spread widely across the class hierarchy and has already provided insight into the inner workings of the system.

In reviewing this product I had two occasions to contact support. There were some typos in the documentation, which were reported to have been corrected immediately (although the changes haven't turned up on the web site yet), and a bug that crashed the program consistently. I also needed some assistance with the VFS plugin. In both cases a hand crafted response was returned within a day stating that the message had been forwarded to technical personnel who responded within a few days. In the first case they reported the bug already having been repaired and a new version awaiting download. The second response included an offer to trace my code and report where it was causing Merge to crash. This is many levels above the runaround I usually receive from technical support for other products.

Merge is not the newest or most cutting edge of this class of program: it lacks syntax highlighting, support for moved lines, can't compare binary files, runs on Windows only, etc. However, if these qualities don't rule it out, it is probably much more extensible than others and can easily be customized into exactly what you need if it isn't that already. It's very solid, has a long history, and is professionally supported. I'm very satisfied with it.

Company/Product information

Vendor: Araxis Ltd.
URL: <http://www.araxis.com>
Email: sales@araxis.com
Product: Araxis Merge Professional v. 6.5
Price: \$269 online

System requirements

Operating System: Windows 95 OSR2 through XP Pro

Test system

Home-built PC

Processor: AMD Athlon XP 2200+
Memory: 1 GB
Disk Drives: 2 x 120 GB configured RAID 1
Operating System: Windows XP Pro

For a screen shot of the class hierarchy comparison tool for Dolphin Smalltalk, please see my web site at <http://www.keithalcock.com>.