2.35.0

Git 2.35 Release Notes ======================

Updates since Git 2.34 ----------

Backward compatibility warts

- "_" is now treated as any other URL-valid characters in an URL when matching the per-URL configuration variable names.
- The color palette used by "git grep" has been updated to match that of GNU grep.

Note to those who build from the source

- You may need to define NO_UNCOMPRESS2 Makefile macro if you build with zlib older than 1.2.9.
- If your compiler cannot grok C99, the build will fail. See the instruction at the beginning of git-compat-util.h if this happens to you.

UI, Workflows & Features

- "git status --porcelain=v2" now show the number of stash entries with --show-stash like the normal output does.
- "git stash" learned the "--staged" option to stash away what has been added to the index (and nothing else).
- "git var GIT_DEFAULT_BRANCH" is a way to see what name is used for the newly created branch if "git init" is run.
- Various operating modes of "git reset" have been made to work better with the sparse index.
- "git submodule deinit" for a submodule whose .git metadata directory is embedded in its working tree refused to work, until the submodule gets converted to use the "absorbed" form where the metadata directory is stored in superproject, and a gitfile at the top-level of the working tree of the submodule points at it. The command is taught to convert such submodules to the absorbed form as needed.
- The completion script (in contrib/) learns that the "--date" option of commands from the "git log" family takes "human" and "auto" as valid values.

- "Zealous diff3" style of merge conflict presentation has been added.
- The "git log --format=%(describe)" placeholder has been extended to allow passing selected command-line options to the underlying "git describe" command.
- "default" and "reset" have been added to our color palette.
- The cryptographic signing using ssh keys can specify literal keys for keytypes whose name do not begin with the "ssh-" prefix by using the "key::" prefix mechanism (e.g. "key::ecdsa-sha2-nistp256").
- "git fetch" without the "--update-head-ok" option ought to protect a checked out branch from getting updated, to prevent the working tree that checks it out to go out of sync. The code was written before the use of "git worktree" got widespread, and only checked the branch that was checked out in the current worktree, which has been updated.
- "git name-rev" has been tweaked to give output that is shorter and easier to understand.
- "git apply" has been taught to ignore a message without a patch with the "--allow-empty" option. It also learned to honor the "--quiet" option given from the command line.
- The "init" and "set" subcommands in "git sparse-checkout" have been unified for a better user experience and performance.
- Many git commands that deal with working tree files try to remove a directory that becomes empty (i.e. "git switch" from a branch that has the directory to another branch that does not would attempt remove all files in the directory and the directory itself). This drops users into an unfamiliar situation if the command was run in a subdirectory that becomes subject to removal due to the command. The commands have been taught to keep an empty directory if it is the directory they were started in to avoid surprising users.
- "git am" learns "--empty=(stop|drop|keep)" option to tweak what is done to a piece of e-mail without a patch in it.
- The default merge message prepared by "git merge" records the name of the current branch; the name can be overridden with a new option to allow users to pretend a merge is made on a different branch.
- The way "git p4" shows file sizes in its output has been updated to use human-readable units.
- "git -c branch.autosetupmerge=inherit branch new old" makes "new" to have the same upstream as the "old" branch, instead of marking "old" itself as its upstream.

Performance, Internal Implementation, Development Support etc.

- The use of errno as a means to carry the nature of error in the ref API implementation has been reworked and reduced.
- Teach and encourage first-time contributors to this project to state the base commit when they submit their topic.
- The command line completion for "git send-email" options have been tweaked to make it easier to keep it in sync with the command itself.
- Ensure that the sparseness of the in-core index matches the index.sparse configuration specified by the repository immediately after the on-disk index file is read.
- Code clean-up to eventually allow information on remotes defined for an arbitrary repository to be read.
- Build optimization.
- Tighten code for testing pack-bitmap.
- Weather balloon to break people with compilers that do not support C99.
- The "reftable" backend for the refs API, without integrating into the refs subsystem, has been added.
- More tests are marked as leak-free.
- The test framework learns to list unsatisfied test prerequisites, and optionally error out when prerequisites that are expected to be satisfied are not.
- The default setting for trace2 event nesting was too low to cause test failures, which is worked around by bumping it up in the test framework.
- Drop support for TravisCI and update test workflows at GitHub.
- Many tests that used to need GIT_TEST_DEFAULT_INITIAL_BRANCH_NAME mechanism to force "git" to use ’master’ as the default name for the initial branch no longer need it; the use of the mechanism from them have been removed.
- Allow running our tests while disabling fsync.
- Document the parameters given to the reflog entry iterator callback functions. (merge e6e94f34b2 jc/reflog-iterator-callback-doc later to maint).
- The test helper for refs subsystem learned to write bogus and/or nonexistent object name to refs to simulate error situations we want to test Git in.
- "diff --histogram" optimization.

- Weather balloon to find compilers that do not grok variable declaration in the for() loop.
- diff and blame commands have been taught to work better with sparse index.
- The chainlint test script linter in the test suite has been updated.
- The DEVELOPER=yes build uses -std=gnu99 now.
- "git format-patch" uses a single rev_info instance and then exits. Mark the structure with UNLEAK() macro to squelch leak sanitizer.
- New interface into the tmp-objdir API to help in-core use of the quarantine feature.
- Broken &&-chains in the test scripts have been corrected.
- The RCS keyword substitution in "git p4" used to be done assuming that the contents are UTF-8 text, which can trigger decoding errors. We now treat the contents as a bytestring for robustness and correctness.
- The conditions to choose different definitions of the FLEX_ARRAY macro for vendor compilers has been simplified to make it easier to maintain.
- Correctness and performance update to "diff --color-moved" feature.
- "git upload-pack" (the other side of "git fetch") used a 8kB buffer but most of its payload came on 64kB "packets". The buffer size has been enlarged so that such a packet fits.
- "git fetch" and "git pull" are now declared sparse-index clean. Also "git ls-files" learns the "--sparse" option to help debugging.
- Similar message templates have been consolidated so that translators need to work on fewer number of messages.

Fixes since v2.34 ----------

- "git grep" looking in a blob that has non-UTF8 payload was completely broken when linked with certain versions of PCREv2 library in the latest release.
- Other code cleanup, docfix, build fix, etc.
- "git pull" with any strategy when the other side is behind us should succeed as it is a no-op, but doesn’t.
- An earlier change in 2.34.0 caused JGit application (that abused GIT_EDITOR mechanism when invoking "git config") to get stuck with a SIGTTOU signal; it has been reverted.
- An earlier change that broke .gitignore matching has been reverted.

- Things like "git -c branch.sort=bogus branch new HEAD", i.e. the operation modes of the "git branch" command that do not need the sort key information, no longer errors out by seeing a bogus sort key. (merge 98e7ab6d42 jc/fix-ref-sorting-parse later to maint).

- The compatibility implementation for unsetenv(3) were written to mimic ancient, non-POSIX, variant seen in an old glibc; it has been changed to return an integer to match the more modern era. (merge a38989bd5b jc/unsetenv-returns-an-int later to maint).

- The clean/smudge conversion code path has been prepared to better work on platforms where ulong is narrower than size_t. (merge 596b5e77c9 mc/clean-smudge-with-llp64 later to maint).

- Redact the path part of packfile URI that appears in the trace output. (merge 0ba558ffb1 if/redact-packfile-uri later to maint).

- CI has been taught to catch some Unicode directional formatting sequence that can be used in certain mischief. (merge 0e7696c64d js/ci-no-directional-formatting later to maint).

- The "--date=format:<strftime>" gained a workaround for the lack of system support for a non-local timezone to handle "%s" placeholder. (merge 9b591b9403 jk/strbuf-addftime-seconds-since-epoch later to maint).

- The "merge" subcommand of "git jump" (in contrib/) silently ignored pathspec and other parameters. (merge 67ba13e5a4 jk/jump-merge-with-pathspec later to maint).

- The code to decode the length of packed object size has been corrected. (merge 34de5b8eac jt/pack-header-lshift-overflow later to maint).

- The advice message given by "git pull" when the user hasn’t made a choice between merge and rebase still said that the merge is the default, which no longer is the case. This has been corrected. (merge 71076d0edd ah/advice-pull-has-no-preference-between-rebase-and-merge later to maint).

- "git fetch", when received a bad packfile, can fail with SIGPIPE. This wasn’t wrong per-se, but we now detect the situation and fail in a more predictable way. (merge 2a4aed42ec jk/fetch-pack-avoid-sigpipe-to-index-pack later to maint).

- The function to cull a child process and determine the exit status had two separate code paths for normal callers and callers in a signal handler, and the latter did not yield correct value when the child has caught a signal. The handling of the exit status has been unified for these two code paths. An existing test with flakiness has also been corrected. (merge 5263e22cba jk/t7006-sigpipe-tests-fix later to maint).

- When a non-existent program is given as the pager, we tried to reuse an uninitialized child_process structure and crashed, which has been fixed. (merge f917f57f40 em/missing-pager later to maint).

- The single-key-input mode in "git add -p" had some code to handle keys that generate a sequence of input via ReadKey(), which did not handle end-of-file correctly, which has been fixed. (merge fc8a8126df cb/add-p-single-key-fix later to maint).

- "git rebase -x" added an unnecessary ’exec’ instructions before ’noop’, which has been corrected. (merge cc9dcdee61 en/rebase-x-fix later to maint).

- When the "git push" command is killed while the receiving end is trying to report what happened to the ref update proposals, the latter used to die, due to SIGPIPE. The code now ignores SIGPIPE to increase our chances to run the post-receive hook after it happens. (merge d34182b9e3 rj/receive-pack-avoid-sigpipe-during-status-reporting later to maint).

- "git worktree add" showed "Preparing worktree" message to the standard output stream, but when it failed, the message from die() went to the standard error stream. Depending on the order the stdio streams are flushed at the program end, this resulted in confusing output. It has been corrected by sending all the chatty messages to the standard error stream. (merge b50252484f es/worktree-chatty-to-stderr later to maint).

- Coding guideline document has been updated to clarify what goes to standard error in our system. (merge e258eb4800 es/doc-stdout-vs-stderr later to maint).

- The sparse-index/sparse-checkout feature had a bug in its use of the matching code to determine which path is in or outside the sparse checkout patterns. (merge 8c5de0d265 ds/sparse-deep-pattern-checkout-fix later to maint).

- "git rebase -x" by mistake started exporting the GIT_DIR and GIT_WORK_TREE environment variables when the command was rewritten in C, which has been corrected. (merge 434e0636db en/rebase-x-wo-git-dir-env later to maint).

- When "git log" implicitly enabled the "decoration" processing without being explicitly asked with "--decorate" option, it failed to read and honor the settings given by the "--decorate-refs" option.

- "git fetch --set-upstream" did not check if there is a current branch, leading to a segfault when it is run on a detached HEAD, which has been corrected. (merge 17baeaf82d ab/fetch-set-upstream-while-detached later to maint).

- Among some code paths that ask an yes/no question, only one place gave a prompt that looked different from the others, which has been updated to match what the others create. (merge 0fc8ed154c km/help-prompt-fix later to maint).

- "git log --invert-grep --author=<name>" used to exclude commits written by the given author, but now "--invert-grep" only affects the matches made by the "--grep=<pattern>" option. (merge 794c000267 rs/log-invert-grep-with-headers later to maint).

- "git grep --perl-regexp" failed to match UTF-8 characters with wildcard when the pattern consists only of ASCII letters, which has been corrected. (merge 32e3e8bc55 rs/pcre2-utf later to maint).

- Certain sparse-checkout patterns that are valid in non-cone mode led to segfault in cone mode, which has been corrected.

- Use of certain "git rev-list" options with "git fast-export" created nonsense results (the worst two of which being "--reverse" and "--invert-grep --grep=<foo>"). The use of "--first-parent" is made to behave a bit more sensible than before. (merge 726a228dfb ws/fast-export-with-revision-options later to maint).

- Perf tests were run with end-user’s shell, but it has been corrected to use the shell specified by $TEST_SHELL_PATH. (merge 9ccab75608 ja/perf-use-specified-shell later to maint).

- Fix dependency rules to generate hook-list.h header file. (merge d3fd1a6667 ab/makefile-hook-list-dependency-fix later to maint).

- "git stash" by default triggers its "push" action, but its implementation also made "git stash -h" to show short help only for "git stash push", which has been corrected. (merge ca7990cea5 ab/do-not-limit-stash-help-to-push later to maint).

- "git apply --3way" bypasses the attempt to do a three-way application in more cases to address the regression caused by the recent change to use direct application as a fallback. (merge 34d607032c jz/apply-3-corner-cases later to maint).

- Fix performance-releated bug in "git subtree" (in contrib/). (merge 3ce8888fb4 jl/subtree-check-parents-argument-passing-fix later to maint).

- Extend the guidance to choose the base commit to build your work on, and hint/nudge contributors to read others’ changes. (merge fdfae830f8 jc/doc-submitting-patches-choice-of-base later to maint).

- A corner case bug in the ort merge strategy has been corrected. (merge d30126c20d en/merge-ort-renorm-with-rename-delete-conflict-fix later to maint).

- "git stash apply" forgot to attempt restoring untracked files when it failed to restore changes to tracked ones. (merge 71cade5a0b en/stash-df-fix later to maint).

- Calling dynamically loaded functions on Windows has been corrected. (merge 4a9b204920 ma/windows-dynload-fix later to maint).

- Some lockfile code called free() in signal-death code path, which has been corrected. (merge 58d4d7f1c5 ps/lockfile-cleanup-fix later to maint).

- Other code cleanup, docfix, build fix, etc. (merge 74db416c9c cw/protocol-v2-doc-fix later to maint). (merge f9b2b6684d ja/doc-cleanup later to maint). (merge 7d1b866778 jc/fix-

first-object-walk later to maint). (merge 538ac74604 js/trace2-avoid-recursive-errors later to maint). (merge 152923b132 jk/t5319-midx-corruption-test-deflake later to maint). (merge 9081a421a6 ab/checkout-branch-info-leakfix later to maint). (merge 42c456ff81 rs/mergesort later to maint). (merge ad506e6780 tl/midx-docfix later to maint). (merge bf5b83fd8a hk/ci-checkwhitespace-commentfix later to maint). (merge 49f1eb3b34 jk/refs-g11-workaround later to maint). (merge 7d3fc7df70 jt/midx-doc-fix later to maint). (merge 7b089120d9 hn/create-reflog-simplify later to maint). (merge 9e12400da8 cb/mingw-gmtime-r later to maint). (merge 0bf0de6cc7 tb/pack-revindex-on-disk-cleanup later to maint). (merge 2c68f577fc ew/cbtree-remove-unused-and-broken-cb-unlink later to maint). (merge eafd6e7e55 ab/die-with-bug later to maint). (merge 91028f7659 jc/grep-patterntype-default-doc later to maint). (merge 47ca93d071 ds/repack-fixlets later to maint). (merge e6a9bc0c60 rs/t4202-invert-grep-test-fix later to maint). (merge deb5407a42 gh/gpg-doc-markup-fix later to maint). (merge 999bba3e0b rs/daemon-plug-leak later to maint). (merge 786eb1ba39 js/l10n-mention-ngettext-early-in-readme later to maint). (merge 2f12b31b74 ab/makefile-msgfmt-wo-stats later to maint). (merge 0517f591ca fs/gpg-unknown-key-test-fix later to maint). (merge 97d6fb5a1f ma/header-dup-cleanup later to maint).

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