2.26.0

Git 2.26 Release Notes ======================

Updates since v2.25 ----------

Backward compatibility notes

- "git rebase" uses a different backend that is based on the ’merge’ machinery by default. There are a few known differences in the behaviour from the traditional machinery based on patch+apply.

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If your workflow is negatively affected by this change, please
report it to git@vger.kernel.org so that we can take a look into
it.  After doing so, you can set the 'rebase.backend' configuration
variable to 'apply', in order to use the old default behaviour in
the meantime.
```

UI, Workflows & Features

- Sample credential helper for using .netrc has been updated to work out of the box.
- gpg.minTrustLevel configuration variable has been introduced to tell various signature verification codepaths the required minimum trust level.
- The command line completion (in contrib/) learned to complete subcommands and arguments to "git worktree".
- Disambiguation logic to tell revisions and pathspec apart has been tweaked so that backslash-escaped glob special characters do not count in the "wildcards are pathspec" rule.
- One effect of specifying where the GIT_DIR is (either with the environment variable, or with the "git --git-dir=<where> cmd" option) is to disable the repository discovery. This has been placed a bit more stress in the documentation, as new users often get confused.
- Two help messages given when "git add" notices the user gave it nothing to add have been updated to use advise() API.
- A new version of fsmonitor-watchman hook has been introduced, to avoid races.

- "git config" learned to show in which "scope", in addition to in which file, each config setting comes from.
- The basic 7 colors learned the brighter counterparts (e.g. "brightred").
- "git sparse-checkout" learned a new "add" subcommand.
- A configuration element used for credential subsystem can now use wildcard pattern to specify for which set of URLs the entry applies.
- "git clone --recurse-submodules --single-branch" now uses the same single-branch option when cloning the submodules.
- "git rm" and "git stash" learns the new "--pathspec-from-file" option.
- "git am --show-current-patch" is a way to show the piece of e-mail for the stopped step, which is not suitable to directly feed "git apply" (it is designed to be a good "git am" input). It learned a new option to show only the patch part.
- Handling of conflicting renames in merge-recursive have further been made consistent with how existing codepaths try to mimic what is done to add/add conflicts.

Performance, Internal Implementation, Development Support etc.

- Tell .editorconfig that in this project, *.txt files are indented with tabs.
- The test-lint machinery knew to check "VAR=VAL shell_function" construct, but did not check "VAR= shell_function", which has been corrected.
- Replace "git config --bool" calls with "git config --type=bool" in sample templates.
- The effort to move "git-add—interactive" to C continues.
- Improve error message generation for "git submodule add".
- Preparation of test scripts for the day when the object names will use SHA-256 continues.
- Warn programmers about pretend_object_file() that allows the code to tentatively use in-core objects.
- The way "git pack-objects" reuses objects stored in existing pack to generate its result has been improved.
- The transport protocol version 2 becomes the default one.
- Traditionally, we avoided threaded grep while searching in objects (as opposed to files in the working tree) as accesses to the object layer is not thread-safe. This limitation is getting lifted.

- "git rebase -i" (and friends) used to unnecessarily check out the tip of the branch to be rebased, which has been corrected.

- A low-level API function get_oid(), that accepts various ways to name an object, used to issue end-user facing error messages without l10n, which has been updated to be translatable.

- Unneeded connectivity check is now disabled in a partial clone when fetching into it.

- Some rough edges in the sparse-checkout feature, especially around the cone mode, have been cleaned up.

- The diff-* plumbing family of subcommands now pay attention to the diff.wsErrorHighlight configuration, which has been ignored before; this allows "git add -p" to also show the whitespace problems to the end user.

- Some codepaths were given a repository instance as a parameter to work in the repository, but passed the_repository instance to its callees, which has been cleaned up (somewhat).

- Memory footprint and performance of "git name-rev" has been improved.

- The object reachability bitmap machinery and the partial cloning machinery were not prepared to work well together, because some object-filtering criteria that partial clones use inherently rely on object traversal, but the bitmap machinery is an optimization to bypass that object traversal. There however are some cases where they can work together, and they were taught about them.

- "git rebase" has learned to use the merge backend (i.e. the machinery that drives "rebase -i") by default, while allowing "--apply" option to use the "apply" backend (e.g. the moral equivalent of "format-patch piped to am"). The rebase.backend configuration variable can be set to customize.

- Underlying machinery of "git bisect—helper" is being refactored into pieces that are more easily reused.

Fixes since v2.25 ----------

- "git commit" gives output similar to "git status" when there is nothing to commit, but without honoring the advise.statusHints configuration variable, which has been corrected.

- has_object_file() said "no" given an object registered to the system via pretend_object_file(), making it inconsistent with read_object_file(), causing lazy fetch to attempt fetching an empty tree from promisor remotes.

- Complete an update to tutorial that encourages "git switch" over "git checkout" that was done only half-way.

- C pedantry ;-) fix.
- The code that tries to skip over the entries for the paths in a single directory using the cache-tree was not careful enough against corrupt index file.
- Reduce unnecessary round-trip when running "ls-remote" over the stateless RPC mechanism.
- "git restore --staged" did not correctly update the cache-tree structure, resulting in bogus trees to be written afterwards, which has been corrected.
- The code recently added to move to the entry beyond the ones in the same directory in the index in the sparse-cone mode did not count the number of entries to skip over incorrectly, which has been corrected.
- Rendering by "git log --graph" of ancestry lines leading to a merge commit were made suboptimal to waste vertical space a bit with a recent update, which has been corrected.
- Work around test breakages caused by custom regex engine used in libasan, when address sanitizer is used with more recent versions of gcc and clang.
- Minor bugfixes to "git add -i" that has recently been rewritten in C.
- "git fetch --refmap=" option has got a better documentation.
- "git checkout X" did not correctly fail when X is not a local branch but could name more than one remote-tracking branches (i.e. to be dwimmed as the starting point to create a corresponding local branch), which has been corrected. (merge fa74180d08 am/checkout-file-and-ref-ref-ambiguity later to maint).
- Corner case bugs in "git clean" that stems from a (necessarily for performance reasons) awkward calling convention in the directory enumeration API has been corrected.
- A fetch that is told to recursively fetch updates in submodules inevitably produces reams of output, and it becomes hard to spot error messages. The command has been taught to enumerate submodules that had errors at the end of the operation. (merge 0222540827 es/fetch-show-failed-submodules-atend later to maint).
- The "--recurse-submodules" option of various subcommands did not work well when run in an alternate worktree, which has been corrected.
- Futureproofing a test not to depend on the current implementation detail.
- Running "git rm" on a submodule failed unnecessarily when .gitmodules is only cache-dirty, which has been corrected.
- C pedantry ;-) fix.

- "git grep --no-index" should not get affected by the contents of the .gitmodules file but when "--recurse-submodules" is given or the "submodule.recurse" variable is set, it did. Now these settings are ignored in the "--no-index" mode.

- Technical details of the bundle format has been documented.

- Unhelpful warning messages during documentation build have been squelched.

- "git rebase -i" identifies existing commits in its todo file with their abbreviated object name, which could become ambiguous as it goes to create new commits, and has a mechanism to avoid ambiguity in the main part of its execution. A few other cases however were not covered by the protection against ambiguity, which has been corrected.

- Allow the rebase.missingCommitsCheck configuration to kick in when "rebase --edit-todo" and "rebase --continue" restarts the procedure. (merge 5a5445d878 ag/edit-todo-drop-check later to maint).

- The way "git submodule status" reports an initialized but not yet populated submodule has not been reimplemented correctly when a part of the "git submodule" command was rewritten in C, which has been corrected. (merge f38c92452d pk/status-of-uncloned-submodule later to maint).

- The code to automatically shrink the fan-out in the notes tree had an off-by-one bug, which has been killed.

- The index-pack code now diagnoses a bad input packstream that records the same object twice when it is used as delta base; the code used to declare a software bug when encountering such an input, but it is an input error.

- The code to compute the commit-graph has been taught to use a more robust way to tell if two object directories refer to the same thing. (merge a7df60cac8 tb/commit-graph-object-dir later to maint).

- "git remote rename X Y" needs to adjust configuration variables (e.g. branch.<name>.remote) whose value used to be X to Y. branch.<name>.pushRemote is now also updated.

- Update to doc-diff.

- Doc markup fix.

- "git check-ignore" did not work when the given path is explicitly marked as not ignored with a negative entry in the .gitignore file.

- The merge-recursive machinery failed to refresh the cache entry for a merge result in a couple of places, resulting in an unnecessary merge failure, which has been fixed.

- Fix for a bug revealed by a recent change to make the protocol v2 the default.

- In rare cases "git worktree add <path>" could think that <path> was already a registered worktree even when it wasn’t and refuse to add the new worktree. This has been corrected. (merge bb69b3b009 es/worktree-avoid-duplication-fix later to maint).

- "git push" should stop from updating a branch that is checked out when receive.denyCurrentBranch configuration is set, but it failed to pay attention to checkouts in secondary worktrees. This has been corrected. (merge 4d864895a2 hv/receive-denycurrent-everywhere later to maint).

- "git rebase BASE BRANCH" rebased/updated the tip of BRANCH and checked it out, even when the BRANCH is checked out in a different worktree. This has been corrected. (merge b5cabb4a96 es/do-not-let-rebase-switch-to-protected-branch later to maint).

- "git describe" in a repository with multiple root commits sometimes gave up looking for the best tag to describe a given commit with too early, which has been adjusted.

- "git merge signed-tag" while lacking the public key started to say "No signature", which was utterly wrong. This regression has been reverted.

- MinGW’s poll() emulation has been improved.

- "git show" and others gave an object name in raw format in its error output, which has been corrected to give it in hex.

- "git fetch" over HTTP walker protocol did not show any progress output. We inherently do not know how much work remains, but still we can show something not to bore users. (merge 7655b4119d rs/show-progress-in-dumb-http-fetch later to maint).

- Both "git ls-remote -h" and "git grep -h" give short usage help, like any other Git subcommand, but it is not unreasonable to expect that the former would behave the same as "git ls-remote --head" (there is no other sensible behaviour for the latter). The documentation has been updated in an attempt to clarify this.

- Other code cleanup, docfix, build fix, etc. (merge d0d0a357a1 am/update-pathspec-f-f-tests later to maint). (merge f94f7bd00d am/test-pathspec-f-f-error-cases later to maint). (merge c513a958b6 ss/t6025-modernize later to maint). (merge b441717256 dl/test-must-fail-fixes later to maint). (merge d031049da3 mt/sparse-checkout-doc-update later to maint). (merge 145136a95a jc/skip-prefix later to maint). (merge 5290d45134 jk/alloc-cleanups later to maint). (merge 7a9f8ca805 rs/parse-options-concat-dup later to maint). (merge 517b60564e rs/strbuf-insertstr later to maint). (merge f696a2b1c8 jk/mailinfo-cleanup later to maint). (merge de26f02db1 js/test-avoid-pipe later to maint). (merge a2dc43414c es/doc-mentoring later to maint). (merge 02bbbe9df9 es/worktree-cleanup later to maint). (merge 2ce6d075fa rs/micro-cleanups later to maint). (merge 27f182b3fc rs/blame-typefix-for-fingerprint later to maint). (merge 3c29e21eb0 ma/test-cleanup later to maint). (merge 240fc04f81 ag/rebase-remove-redundant-code later to maint). (merge d68ce906c7 rs/commit-graph-code-simplification later to maint). (merge a51d9e8f07

rj/t1050-use-test-path-is-file later to maint). (merge fd0bc17557 kk/complete-diff-color-moved later to maint). (merge 65bf820d0e en/test-cleanup later to maint).

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