

Changelog

v1.74.1 - 2026-05-08

[See commits](#)

- Bug Fixes
 - bisync: Fix retryable without `--resync` error message when `--resync` has a critical failure (Gustavo V. F.)
 - build
 - Fix multiple CVEs by upgrading to go1.26.3 (Nick Craig-Wood)
 - CVE-2026-42501: cmd/go: malicious module proxy can bypass checksum database
 - CVE-2026-39825: net/http/httputil: ReverseProxy forwards queries with more than urlmaxqueryparams parameters
 - CVE-2026-39836: net: panic in Dial and LookupPort when handling NUL byte on Windows
 - CVE-2026-42499: net/mail: quadratic string concatenation in consumePhrase
 - CVE-2026-39820: net/mail: quadratic string concatenation in consumeComment
 - CVE-2026-39819: cmd/go: "go bug" follows symlinks in predictable temporary filenames
 - CVE-2026-39817: cmd/go: "go tool pack" does not sanitize output paths
 - CVE-2026-33814: net/http: infinite loop in HTTP/2 transport when given bad SETTINGS_MAX_FRAME_SIZE
 - CVE-2026-39826: html/template: escaper bypass leads to XSS
 - CVE-2026-33811: net: crash when handling long CNAME response
 - CVE-2026-39823: html/template: bypass of meta content URL escaping causes XSS
 - Update golang.org/x/net to v0.53.0 to fix CVE-2026-33814 (Nick Craig-Wood)
 - cmd/serve/s3: Return object listings in key order (Leon Brocard)
- Cloudinary
 - Fix retrying every error and fix pacer sleep units (Nick Craig-Wood)
- Drime

- Fix large file uploads landing in drive root instead of configured folder (Nick Craig-Wood)
- Fix uploads of 100..200M files (Nick Craig-Wood)
- Protodrives
 - Route HTTP through rclone's transport (Nick Craig-Wood)
 - Route library logging through rclone's logger (Nick Craig-Wood)
 - Fix segfault when copying files missing revision metadata (Nick Craig-Wood)
- S3
 - Fix STS call per request by caching AssumeRole credentials (Nick Craig-Wood)
 - Add new Fastly Object Storage regions (Leon Brocard)

v1.74.0 - 2026-05-01

[See commits](#)

- New backends
 - [Huawei Drive](#) (王一赫)
 - [iCloud Photos](#) (read only) (Yakov Till)
 - New S3 providers
 - [Fastly Object Storage](#) (Leon Brocard)
 - [HCP](#) (Chris)
 - [Impossible Cloud](#) (Nick Craig-Wood)
 - [UCloud US3](#) (jinkeyuu)
 - [Zadara](#) (Shlomi Avihou)
- New commands
 - [gui](#): launch new embedded web based GUI for basic rclone operations (FTCHD, Nick Craig-Wood)
- New Features
 - build
 - Update `golang.org/x/image/webp` to v0.39.0 to fix CVE-2026-33813 (Nick Craig-Wood)
 - Bump `github.com/Azure/go-ntlmssp` to 0.1.1 to fix CVE-2026-32952 (dependabot[bot])
 - Update to go1.26 and make go1.25 the minimum required version (Nick Craig-Wood)
 - Update all dependencies (Nick Craig-Wood)
 - Modernize Go code with go fix for go1.25 (Nick Craig-Wood)
 - Fix `loong64` and `s390x` build (Suyun)
 - docs

- Modernize rclone.org site design (Nick Craig-Wood)
- fixes (albertony, Enduriel, Jason, Luke Cyca, mathieulongtin, Nick Craig-Wood, SyoBoN)
- fshttp: Add `--dump curl` for dumping HTTP requests as curl commands (Nick Craig-Wood)
- graphics: Optimise images losslessly with ImageOptim (Leon Brocard)
- listremotes: Add `--exact` flag for filtering (Anton Bordwine)
- rc
 - Flip auth default so all endpoints require auth unless opted out (Nick Craig-Wood)
 - Add `core/disks` to enumerate attached disks (Nick Craig-Wood)
 - Add `deletedDirs` stat to `core/stats` help output (Billy Hughes)
- serve http
 - Add fallback embedded favicon (Leon Brocard)
 - Add gzip compression for text responses (Leon Brocard)
 - Dark mode for file browser (FTCHD)
 - Add HTTP/2 cleartext support for all http servers (TheBabu)
- touch: Add metadata when using `--metadata-set` (Prakhar Chhalotre)
- Bug Fixes
 - accounting
 - Update String method output format for clarity in transfer rate representation (Prakhar Chhalotre)
 - Fix `rcat / copyurl` for `files.com` (Nick Craig-Wood)
 - bisync
 - Add missing rc params (nielash)
 - Add more structured info to rc output (nielash)
 - Auto-generate rc help docs (nielash)
 - Fix handling of unreadable lockfiles (lif)
 - Fix flaky TestBisyncConcurrent by increasing random name entropy (Nick Craig-Wood)
 - Fix integration tests after sftp log changes (Nick Craig-Wood)
 - copyurl: Fix ignored `--upload-headers` and `--download-headers` (Andriy Senyshyn)
 - librclone/ctest: Add Windows support and fix memory management (BizaNator)
 - log: Fix data race on OutputHandler.format field (Nick Craig-Wood)
 - operations
 - Multithread copy: grab memory before making go routines (Nick Craig-Wood)
 - serve dlina: Fix Samsung TV compatibility (Nick Craig-Wood)

- serve nfs: Fix EOF flag in READ response not being set when read reaches end of file (Nick Craig-Wood)
- Mount
 - rc: fix mounts created with mountPoint "*" overwriting each other (Nick Craig-Wood)
- VFS
 - Fix slow `nfs serve` by adding `--vfs-handle-caching` (Nick Craig-Wood)
 - Add context parameter to New() for config propagation (Nick Craig-Wood)
 - Replace `context.TODO / Background` with stored VFS context (Nick Craig-Wood)
- Local
 - Remove fadvise calls that cause spinlock contention (Patrick Farrell)
- Azure Blob
 - Add `--azureblob-copy-total-concurrency` to limit total multipart copy concurrency (Duncan F)
 - Add server side copy real time accounting (Nick Craig-Wood)
 - Add `--azureblob-decompress` flag to download gzip-encoded files (Nick Craig-Wood)
- Azurefiles
 - Fix missing `x-ms-file-request-intent` header with OAuth (Nick Craig-Wood)
- B2
 - Add server side copy real time accounting (Nick Craig-Wood)
- Drime
 - Implement About (Cohinem)
 - Fix listings of large directories (John Volk)
- Drive
 - Add integration test for handling folder names with single quotes (Prakhar Chhalotre)
- Filelu
 - Add multipart init response type (kingston125)
 - Migrate API calls to `lib/rest` (kingston125)
- Filen
 - Make multi-threaded upload chunks individually retryable (Enduriel)
- Icloudrive
 - Replace plaintext signin with SRP authentication (Mike Gillan)
 - Use dynamic origin for SRP auth headers (Xiangzhe)
 - Lowercase Apple ID for SRP authentication (Mike Gillan)
 - Add read only iCloud Photos support and SRP authentication (Yakov Till)
- Internxt
 - Implement multi-part uploads (José Zúniga)

- Jottacloud
 - Add encoding of percent character to default backend encoding (albertony)
- Linkbox
 - Fix downloading files by using web API (Nick Craig-Wood)
- Mega
 - Fix crash when logging in with previous auth keys fails (Andrew Gunnerson)
- Pcloud
 - Fix recursive listing from the root (Nick Craig-Wood)
- Pikpak
 - Support custom filenames for addurl backend command (wiserain)
- Protondrive
 - Align backend with newer Proton SDK stack (tdawe)
 - Update to latest go-proton-api to use new host (dlaumen)
 - Fix server-side moveto and DirMove against current API (Nick Craig-Wood)
- S3
 - Add Fastly Object Storage provider (Leon Brocard)
 - Add HCP provider and `list_versions_oldest_first` quirk (Chris)
 - Add Impossible Cloud as a new S3 provider (Nick Craig-Wood)
 - Add UCloud Object Storage provider (#9230) (jinkeyuu)
 - Add Zadara Object Storage provider (Shlomi Avihou)
 - Remove StackPath Object Storage provider (Leon Brocard)
 - Add server side copy real time accounting (Nick Craig-Wood)
 - Add OVHcloud storage classes (Bjoern Franke)
 - Add Object Lock support (Chris)
 - Add new Fastly Object Storage regions (Leon Brocard)
 - Scaleway: ONEZONE_IA is available in all zones, GLACIER only in FR-PAR (Bjoern Franke)
 - Ionos: updated regions & endpoints (hxnd)
 - IBM COS: provide `ibm_iam_endpoint` as a configurable param for IBM IAM-based auth (Bhagyashreek8)
 - Fix Content-MD5 for Object Lock uploads and add GCS quirk (Chris)
 - Fix regression where PutObject fails with non-seekable readers (Chris)
 - Fix `--s3-versions` flag ignored by cleanup-hidden when GetBucketVersioning fails (Chris)
 - Fix bucket creation failing on Ceph/radosgw (Jan Heylen)
- SFTP
 - Warn the user if no host key validation is configured (Nick Craig-Wood)
- WebDAV

- Permit redirects on PROPFIND for metadata (Brian Bockelman)
- Request only required properties in listAll to improve performance (ZRHan)
- Optimize performance by using `Depth=0` for metadata requests (ZRHan)

v1.73.5 - 2026-04-19

[See commits](#)

- Bug Fixes
 - operations: Add AuthRequired to operations/fsinfo to prevent backend creation CVE-2026-41179 (Nick Craig-Wood)
 - rc
 - Add AuthRequired to options/set to prevent auth bypass CVE-2026-41176 (Nick Craig-Wood)
 - Snapshot NoAuth at startup to prevent runtime auth bypass CVE-2026-41176 (Nick Craig-Wood)
 - filter: Fix debug logs that fire before logger is configured (Nick Craig-Wood)
- Azureblob
 - Add Microsoft Partner Network User-Agent prefix (Nick Craig-Wood)
- Drime
 - Fix User.EntryPermissions JSON unmarshalling (a1pcm)
- Icloudrive
 - Fix 'directory not found' error when the directory contains accent marks (Brais Couce)
- S3
 - Fix TencentCOS CDN endpoint failing on bucket check (Mozi)
 - Fix empty delimiter parameter rejected by Archiware P5 server (Nick Craig-Wood)

v1.73.4 - 2026-04-08

[See commits](#)

- Bug Fixes
 - build
 - Update to go 1.25.9 to fix multiple CVEs (Nick Craig-Wood)
 - CVE-2026-32282: os: Root.Chmod can follow symlinks out of the root on Linux
 - CVE-2026-32289: html/template: JS template literal context incorrectly tracked

- CVE-2026-33810: crypto/x509: excluded DNS constraints not properly applied to wildcard domains
- CVE-2026-27144: cmd/compile: no-op interface conversion bypasses overlap checking
- CVE-2026-27143: cmd/compile: possible memory corruption after bound check elimination
- CVE-2026-32288: archive/tar: unbounded allocation when parsing old format GNU sparse map
- CVE-2026-32283: crypto/tls: multiple key update handshake messages can cause connection to deadlock
- CVE-2026-27140: cmd/go: trust layer bypass when using cgo and SWIG
- CVE-2026-32280: crypto/x509: unexpected work during chain building
- CVE-2026-32281: crypto/x509: inefficient policy validation
- Fix Denial of Service due to Panic in AWS SDK for Go v2 SDK EventStream Decoder (dependabot[bot])
- Update golang.org/x/image to 0.38.0 to fix CVE-2026-33809 (dependabot[bot])
- docs
 - Fix header level for metadata option (Clément Notin)
 - Fix markdown issues in mount docs (albertony)
 - Fix link to not be language specific (Ross Smith II)
 - Note macOS 10.15 (Catalina) support with version v1.70.3 (kapitainsky)
- Filen
 - Update SDK version (Endurriel)

v1.73.3 - 2026-03-23

[See commits](#)

- Bug Fixes
 - build
 - Update to google.golang.org/grpc 1.79.3 to fix CVE-2026-33186 (dependabot[bot])
 - Update to github.com/buger/jsonparser 1.1.2 to fix GHSA-6g7g-w4f8-9c9x (dependabot[bot])
 - doc fixes
 - Added text to the label showing version-introduced info (Jan-Philipp Reißler)

- Clarify File password change requires updating both password and API key in rclone config (Jason)
- s3: clarify multi tenant support for Cubbit (Marco Ferretti)
- jottacloud: Fix broken link (albertony)
- lib/rest: Fix URLPathEscapeAll breaking WebDAV servers (eg nzbdav) with strict path matching (Andrew Furman)
- list: Fix nil pointer panic in Sorter when temp file creation fails (Nick Craig-Wood)

v1.73.2 - 2026-03-06

[See commits](#)

- Bug Fixes
 - build
 - Update to go 1.25.8 to fix CVE-2026-27137 CVE-2026-27138 CVE-2026-25679 CVE-2026-27142 (Nick Craig-Wood)
 - Update github.com/cloudflare/circl to v1.6.3 to fix CVE-2026-1229 (Nick Craig-Wood)
 - Update to golang.org/x/net v0.51.0 to fix CVE-2026-27141 (Nick Craig-Wood)
 - docs fixes:
 - bisync: Add group Sync to the bisync command (Jan-Philipp Reißler)
 - Note that --use-server-modtime only works on some backends (Nick Craig-Wood)
 - Document unsupported S3 object keys with double slashes (Adam Kasztenny)
 - Fix headers hierarchy for mount.md (Dark Dragon)
 - Fix new drive flag typo in changelog (razorloves)
- Archive
 - Extract: fix extraction with "." prefix from tar entry paths (Varun Chawla)
- Drime
 - Fix chunk-uploaded files ignoring workspace ID (a1pcm)
- Internxt
 - Fix Entry doesn't belong in directory errors on windows (jzunigax2)
- WebDAV
 - Escape reserved characters in URL path segments (Varun Chawla)
 - Add missing headers for CORS (Romāns Potašovs)

v1.73.1 - 2026-02-17

[See commits](#)

- Bug Fixes
 - accounting: Fix missing server side stats from core/stats rc (Nick Craig-Wood)
 - build
 - Fix CVE-2025-68121 by updating go to 1.25.7 or later (Nick Craig-Wood)
 - Bump github.com/go-chi/chi/v5 from 5.2.3 to 5.2.5 to fix GO-2026-4316 (albertony)
 - docs: Extend copyurl docs with an example of CSV FILENAMES starting with a path. (Jack Kelly)
 - march: Fix runtime: program exceeds 10000-thread limit (Nick Craig-Wood)
 - pacer
 - Fix deadlock between pacer token and --max-connections (Nick Craig-Wood)
 - Re-read the sleep time as it may be stale (Nick Craig-Wood)
- Drime
 - Fix files and directories being created in the default workspace (Nick Craig-Wood)
- Filelu
 - Avoid buffering entire file in memory (kingston125)
 - Add multipart upload support with configurable cutoff (kingston125)
- Filen
 - Fix 32 bit targets not being able to list directories (Endurriel)
 - Fix potential panic in case of error during upload (Endurriel)
- Internxt
 - Implement re-login under refresh logic, improve retry logic (José Zúniga) -S3
 - Set list_version to 2 for FileLu S3 configuration (kingston125)

v1.73.0 - 2026-01-30

[See commits](#)

- New backends
 - [Shade](#) (jhasse-shade)
 - [Drime](#) (dougal)
 - [Filen](#) (Endurriel)
 - [Internxt](#) (jzunigax2)
 - New S3 providers
 - [Bizfly Cloud Simple Storage](#) (vupn0712)
- New Features
 - docs: Add [Support Tiers](#) to the documentation (Nick Craig-Wood)

- rc: Add [operations/hashsumfile](#) to sum a single file only (Nick Craig-Wood)
- serve webdav: Implement download directory as Zip (Leo)
- Bug Fixes
 - fs: fix bwlimit: correct reporting (Mikel Olasagasti Uranga)
 - log: fix systemd adding extra newline (dougal)
 - docs: fixes (albertony, darkdragon-001, Duncan Smart, hyusap, Marc-Philip, Nick Craig-Wood, vicerace, vyv03354, yuval-cloudinary, yy)
 - serve s3: Make errors in `--s3-auth-key` fatal (Nick Craig-Wood)
- Mount
 - Fix OpenBSD mount support. (Nick Owens)
- Azure Blob
 - Add metadata and tags support across upload and copy paths (Cliff Frey)
 - Factor the common auth into a library (Nick Craig-Wood)
- Azurefiles
 - Factor the common auth into a library (Nick Craig-Wood)
- B2
 - Support authentication with new bucket restricted application keys (DianaNites)
- Drive
 - Add `--drive-metadata-enforce-expansive-access` flag (Nick Craig-Wood)
 - Fix crash when trying to creating shortcut to a Google doc (Nick Craig-Wood)
- FTP
 - Add http proxy authentication support (Nicolas Dessart)
- Mega
 - Reverts TLS workaround (necaran)
- Memory
 - Add `--memory-discard` flag for speed testing (Nick Craig-Wood)
- OneDrive
 - Fix cancelling multipart upload (Nick Craig-Wood)
 - Fix setting modification time on directories for OneDrive Personal (Nick Craig-Wood)
 - Fix OneDrive Personal no longer supports description (Nick Craig-Wood)
 - Fix require sign in for OneDrive Personal (Nick Craig-Wood)
 - Fix permissions on OneDrive Personal (Nick Craig-Wood)
- Oracle Object Storage
 - Eliminate unnecessary heap allocation (Qingwei Li)
- Pcloud
 - Add support for `ChangeNotify` to enable real-time updates in mount (masrlinu)
- Protodrive

- Update to use forks of upstream modules to unblock development (Nick Craig-Wood)
- S3
 - Add ability to specify an IAM role for cross-account interaction (Vladislav Tropnikov)
 - Linode: updated endpoints to use ISO 3166-1 alpha-2 standard (jbagwell-akamai)
 - Fix Copy ignoring storage class (vupn0712)
- SFTP
 - Add http proxy authentication support (Nicolas Dessart)
 - Eliminate unnecessary heap allocation (Qingwei Li)

v1.72.1 - 2025-12-10

[See commits](#)

- Bug Fixes
 - build: update to go1.25.5 to fix [CVE-2025-61729](#)
 - doc fixes (Duncan Smart, Nick Craig-Wood)
 - configfile: Fix piped config support (Jonas Tingeborn)
 - log
 - Fix PID not included in JSON log output (Tingsong Xu)
 - Fix backtrace not going to the --log-file (Nick Craig-Wood)
- Google Cloud Storage
 - Improve endpoint parameter docs (Johannes Rothe)
- S3
 - Add missing regions for Selectel provider (Nick Craig-Wood)

v1.72.0 - 2025-11-21

[See commits](#)

- New backends
 - [Archive](#) backend to read archives on cloud storage. (Nick Craig-Wood)
- New S3 providers
 - [Cubbit Object Storage](#) (Marco Ferretti)
 - [FileLu S5 Object Storage](#) (kingston125)
 - [Hetzner Object Storage](#) (spiffytech)
 - [Intercolo Object Storage](#) (Robin Rolf)
 - [Rabata S3-compatible secure cloud storage](#) (dougal)
 - [Servercore Object Storage](#) (dougal)
 - [SpectraLogic](#) (dougal)

- New commands
 - [rclone archive](#): command to create and read archive files (Fawzib Rojas)
 - [rclone config string](#): for making connection strings (Nick Craig-Wood)
 - [rclone test speed](#): Add command to test a specified remotes speed (dougal)
- New Features
 - backends: many backends have has a paged listing (`ListP`) interface added
 - this enables progress when listing large directories and reduced memory usage
 - build
 - Bump [golang.org/x/crypto](#) from 0.43.0 to 0.45.0 to fix CVE-2025-58181 (dependabot[bot])
 - Modernize code and tests (Nick Craig-Wood, russcoss, juejinyuxitu, reddaisy, dulanting, Oleksandr Redko)
 - Update all dependencies (Nick Craig-Wood)
 - Enable support for `aix/ppc64` (Lakshmi-Surekha)
 - check: Improved reporting of differences in sizes and contents (albertony)
 - copyurl: Added `--url` to read URLs from CSV file (S-Pegg1, dougal)
 - docs:
 - markdown linting (albertony)
 - fixes (albertony, Andrew Gunnerson, anon-pradip, Claudius Ellsel, dougal, iTrooz, Jean-Christophe Cura, Joseph Brownlee, kapitainsky, Matt LaPaglia, n4n5, Nick Craig-Wood, nielash, SublimePeace, Ted Robertson, vastonus)
 - fs: remove unnecessary Seek call on log file (Aneesh Agrawal)
 - hashsum: Improved output format when listing algorithms (albertony)
 - lib/http: Cleanup indentation and other whitespace in http serve template (albertony)
 - lsf: Add support for `unix` and `unixnano` time formats (Motte)
 - oaututil: Improved debug logs from token refresh (albertony)
 - rc
 - Add [job/batch](#) for sending batches of rc commands to run concurrently (Nick Craig-Wood)
 - Add `runningIds` and `finishedIds` to [job/list](#) (n4n5)
 - Add `osVersion`, `osKernel` and `osArch` to [core/version](#) (Nick Craig-Wood)
 - Make sure fatal errors run via the rc don't crash rclone (Nick Craig-Wood)
 - Add `executeId` to job statuses in [job/list](#) (Nikolay Kiryanov)
 - `config/unlock`: rename parameter to `configPassword` accept old as well (Nick Craig-Wood)

- serve http: Download folders as zip (dougal)
- Bug Fixes
 - build
 - Fix tls: failed to verify certificate: x509: negative serial number (Nick Craig-Wood)
 - march
 - Fix `--no-traverse` being very slow (Nick Craig-Wood)
 - serve s3: Fix log output to remove the EXTRA messages (iTrooz)
- Mount
 - Windows: improve error message on missing WinFSP (divinity76)
- Local
 - Add `--skip-specials` to ignore special files (Adam Dinwoodie)
- Azure Blob
 - Add ListP interface (dougal)
- Azurefiles
 - Add ListP interface (Nick Craig-Wood)
- B2
 - Add ListP interface (dougal)
 - Add Server-Side encryption support (fries1234)
 - Fix "expected a FileSseMode but found: "" (dougal)
 - Allow individual old versions to be deleted with `--b2-versions` (dougal)
- Box
 - Add ListP interface (Nick Craig-Wood)
 - Allow configuration with config file contents (Dominik Sander)
- Compress
 - Add zstd compression (Alex)
- Drive
 - Add ListP interface (Nick Craig-Wood)
- Dropbox
 - Add ListP interface (Nick Craig-Wood)
 - Fix error moving just created objects (Nick Craig-Wood)
- FTP
 - Fix SOCKS proxy support (dougal)
 - Fix transfers from servers that return 250 ok messages (jijamik)
- Google Cloud Storage
 - Add ListP interface (dougal)
 - Fix `--gcs-storage-class` to work with server side copy for objects (Riaz Arbi)
- HTTP

- Add basic metadata and provide it via serve (Oleg Kunitsyn)
- Jottacloud
 - Add support for Let's Go Cloud (from MediaMarkt) as a whitelabel service (albertony)
 - Add support for MediaMarkt Cloud as a whitelabel service (albertony)
 - Added support for traditional oauth authentication also for the main service (albertony)
 - Abort attempts to run unsupported rclone authorize command (albertony)
 - Improved token refresh handling (albertony)
 - Fix legacy authentication (albertony)
 - Fix authentication for whitelabel services from Elkjøp subsidiaries (albertony)
- Mega
 - Implement 2FA login (iTrooz)
- Memory
 - Add ListP interface (dougal)
- Onedrive
 - Add ListP interface (Nick Craig-Wood)
- Oracle Object Storage
 - Add ListP interface (dougal)
- Pcloud
 - Add ListP interface (Nick Craig-Wood)
- Proton Drive
 - Automated 2FA login with OTP secret key (Microscotch)
- S3
 - Make it easier to add new S3 providers (dougal)
 - Add `--s3-use-data-integrity-protections` quirk to fix BadDigest error in Alibaba, Tencent (hunshcn)
 - Add support for `--upload-header`, `If-Match` and `If-None-Match` (Sean Turner)
 - Fix single file copying behavior with low permission (hunshcn)
- SFTP
 - Fix zombie SSH processes with `--sftp-ssh` (Copilot)
- Smb
 - Optimize smb mount performance by avoiding stat checks during initialization (Sudipto Baral)
- Swift
 - Add ListP interface (dougal)
 - If `storage_policy` isn't set, use the root containers policy (Andrew Ruthven)

- Report disk usage in segment containers (Andrew Ruthven)
- Ulozto
 - Implement the About functionality (Lukas Krejci)
 - Fix downloads returning HTML error page (aliaj1)
- WebDAV
 - Optimize bearer token fetching with singleflight (hunshcn)
 - Add ListP interface (Nick Craig-Wood)
 - Use SpaceSepList to parse bearer token command (hunshcn)
 - Add `Access-Control-Max-Age` header for CORS preflight caching (viocha)
 - Fix out of memory with sharepoint-ntlm when uploading large file (Nick Craig-Wood)

v1.71.2 - 2025-10-20

[See commits](#)

- Bug Fixes
 - build
 - update Go to 1.25.3
 - Update Docker image Alpine version to fix CVE-2025-9230
 - bisync: Fix race when CaptureOutput is used concurrently (Nick Craig-Wood)
 - doc fixes (albertony, dougal, iTrooz, Matt LaPaglia, Nick Craig-Wood)
 - index: Add missing providers (dougal)
 - serve http: Fix: logging URL on start (dougal)
- Azurefiles
 - Fix server side copy not waiting for completion (Vikas Bhansali)
- B2
 - Fix 1TB+ uploads (dougal)
- Google Cloud Storage
 - Add region us-east5 (Dulani Woods)
- Mega
 - Fix 402 payment required errors (Nick Craig-Wood)
- Pikpak
 - Fix unnecessary retries by using URL expire parameter (Youfu Zhang)

v1.71.1 - 2025-09-24

[See commits](#)

- Bug Fixes

- bisync: Fix error handling for renamed conflicts (nielash)
- march: Fix deadlock when using --fast-list on syncs (Nick Craig-Wood)
- operations: Fix partial name collisions for non --inplace copies (Nick Craig-Wood)
- pacer: Fix deadlock with --max-connections (Nick Craig-Wood)
- doc fixes (albertony, anon-pradip, Claudius Ellsel, dougal, Jean-Christophe Cura, Nick Craig-Wood, nielash)
- Mount
 - Do not log successful unmount as an error (Tilman Vogel)
- VFS
 - Fix SIGHUP killing serve instead of flushing directory caches (dougal)
- Local
 - Fix rmdir "Access is denied" on windows (nielash)
- Box
 - Fix about after change in API return (Nick Craig-Wood)
- Combine
 - Propagate SlowHash feature (skbeh)
- Drive
 - Update making your own client ID instructions (Ed Craig-Wood)
- Internet Archive
 - Fix server side copy files with spaces (Nick Craig-Wood)

v1.71.0 - 2025-08-22

[See commits](#)

- New S3 providers
 - [Exaba](#) (Nick Craig-Wood)
 - We've been working with Exaba and they would love early adopters, self-hosters and testers
 - [OVHcloud Object Storage](#) (Florent Vennetier)
 - [Zata](#) (\$@M@RTH_)
- New Features
 - Allow [global config to be overridden or set on backend creation](#) (Nick Craig-Wood)
 - bisync: Promoted from beta to stable (nielash)
 - build
 - Update to go1.25 and make go1.24 the minimum required version (Nick Craig-Wood)
 - Update all dependencies (Nick Craig-Wood)
 - Upgrade golangci-lint to v2 and fix code and config (albertony)

- Add markdown linting to workflow and fix all the docs (albertony)
- Extend check for edits of autogenerated files to all commits in a pull request (albertony)
- Set default shell to bash in build.yml (Ross Smith II)
- config
 - Make parsing of `Duration` options consistent (albertony)
 - Add error if `RCLONE_CONFIG_PASS` was supplied it but didn't decrypt the config (n4n5)
- copy, copyto: Implement logger flags to store result of sync (Marvin Rösch)
- doc fixes (albertony, Ali Zein Yousuf, Binbin Qian, curlwget, Ed Craig-Wood, jinjingroad, Lucas Bremgartner, n4n5, Nick Craig-Wood)
- hash: Add support for BLAKE3, XXH3, XXH128 (albertony)
- http
 - Add `--client-pass` support for encrypted `--client-key` files (Nick Craig-Wood)
 - Allow setting of `--http-proxy` from the command line (Nick Craig-Wood)
- lib/mmap: Convert to using `unsafe.Slice` to avoid deprecated `reflect.SliceHeader` (cui)
- lib/transform: Avoid empty charmap entry (albertony)
- log: Add log rotation options when using `--log-file` (Nick Craig-Wood)
- move, moveto: Implement logger flags to store result of sync (Marvin Rösch)
- pool: Unify memory between multipart and asyncreader to use one pool (Nick Craig-Wood)
- purge: Exit with a fatal error if filters are set on `rclone purge` (Nick Craig-Wood)
- rc
 - Add `config/unlock` to unlock the config file (n4n5)
 - Fix `config/listremotes` to send an empty array instead of nil (n4n5)
 - Populate transfer snapshot with "what" value (Timothy Jacobs)
- serve sftp: Add support for more hashes (crc32, sha256, blake3, xxh3, xxh128) (albertony)
- transform: Add `truncate_keep_extension` and `truncate_bytes` (nielash)
- Bug Fixes
 - about: Fix potential overflow of about in various backends (Nick Craig-Wood)
 - accounting
 - Fix incorrect stats with `--transfers=1` (Yu Xin)
 - Fix stats (`speed=0` and `eta=nil`) when starting jobs via rc (Nick Craig-Wood)
 - bisync

- Fix concurrent runs via rc (nielash)
- Fix `--no-slow-hash` settings on path2 (nielash)
- config: fix problem reading pasted tokens over 4095 bytes (Nick Craig-Wood)
- oauthutil: Fix nil pointer crash when started with expired token (Nick Craig-Wood)
- operations: Fix too many connections open when using `--max-buffer-memory` (Nick Craig-Wood)
- pool: Fix deadlock with `--max-buffer-memory` and multipart transfers (Nick Craig-Wood)
- rc: Fix `operations/check` ignoring `oneWay` parameter (houance)
- Mount
 - Fix identification of symlinks in directory listings (huangnauh)
- Local
 - Configurable supported hashes (albertony)
 - Fix `--copy-links` on Windows when listing Junction points (Anagh Kumar Baranwal)
- Azure Blob
 - Add support for client assertion based authentication (Vikas Bhansali)
 - Fix deadlock with `--max-connections` with `InvalidBlockOrBlob` errors (Nick Craig-Wood)
 - Fix double accounting for multipart uploads (Nick Craig-Wood)
- Azurefiles
 - Add support for client assertion based authentication (Vikas Bhansali)
 - Fix hash getting erased when modtime is set (nielash)
- Box
 - Fix about: cannot unmarshal number 1.0e+18 into Go struct field (Nick Craig-Wood)
- Combine
 - Fix directory not found errors with ListP interface (Nick Craig-Wood)
- Filescom
 - Document that hashes need to be enabled (Nick Craig-Wood)
- FTP
 - Allow insecure TLS ciphers (Anagh Kumar Baranwal)
 - Make TLS config default to global TLS config (Nick Craig-Wood)
 - This allows `--ca-cert`, `--client-cert` etc to be used.
 - This also allows `override.ca_cert = XXX` to be used in the config file.
- Googlephotos
 - Added warning for Google Photos compatability-fixes (raider13209)
- Imagekit

- Return correct error when attempting to upload zero length files (Nick Craig-Wood)
- Don't low level retry uploads (Nick Craig-Wood)
- Remove server side Copy method as it was downloading and uploading (Nick Craig-Wood)
- Internetarchive
 - Fix server side copy of files with `&` (Nick Craig-Wood)
- Mega
 - Fix tls handshake failure (necaran)
- Oracleobjectstorage
 - Add read only metadata support (praveen-solanki-oracle)
- Pikpak
 - Rewrite upload to bypass AWS S3 manager (wiserain)
 - Enhance Move for better handling of error and name collision (wiserain)
 - Enhance Copy method to handle name collisions and improve error management (wiserain)
 - Add file name integrity check during upload (wiserain)
- S3
 - Add `--s3-use-arn-region` flag (Nick Craig-Wood)
 - Fix memory leak by cloning strings (liubingrun)
 - Fix multipart upload and server side copy when using bucket policy SSE-C (Albin Parou)
 - Fix `Content-Type: aws-chunked` causing upload errors with `--metadata` (Nick Craig-Wood)
- SFTP
 - Add support for more hashes (crc32, sha256, blake3, xxh3, xxh128) (albertony)
- Smb
 - Add `--smb-kerberos-ccache` option to set kerberos ccache per smb backend (Sudipto Baral)
 - Refresh Kerberos credentials when ccache file changes (Sudipto Baral)
 - Improve multithreaded upload performance using multiple connections (Sudipto Baral)

v1.70.3 - 2025-07-09

[See commits](#)

- Bug Fixes
 - check: Fix difference report (was reporting error counts) (albertony)
 - march: Fix deadlock when using `--no-traverse` (Nick Craig-Wood)

- doc fixes (albertony, Nick Craig-Wood)
- Azure Blob
 - Fix server side copy error "requires exactly one scope" (Nick Craig-Wood)
- B2
 - Fix finding objects when using `--b2-version-at` (Davide Bizzarri)
- Linkbox
 - Fix upload error "user upload file not exist" (Nick Craig-Wood)
- Pikpak
 - Improve error handling for missing links and unrecoverable 500s (wiserein)
- WebDAV
 - Fix setting modtime to that of local object instead of remote (WeidiDeng)

v1.70.2 - 2025-06-27

[See commits](#)

- Bug Fixes
 - convmv: Make --dry-run logs less noisy (nielash)
 - sync: Avoid copying dir metadata to itself (nielash)
 - build: Bump github.com/go-chi/chi/v5 from 5.2.1 to 5.2.2 to fix GHSA-vrw8-fxc6-2r93 (dependabot[bot])
 - convmv: Fix moving to unicode-equivalent name (nielash)
 - log: Fix deadlock when using systemd logging (Nick Craig-Wood)
 - pacer: Fix nil pointer deref in RetryError (Nick Craig-Wood)
 - doc fixes (Ali Zein Yousuf, Nick Craig-Wood)
- Local
 - Fix --skip-links on Windows when skipping Junction points (Nick Craig-Wood)

v1.70.1 - 2025-06-19

[See commits](#)

- Bug Fixes
 - convmv: Fix spurious "error running command echo" on Windows (Nick Craig-Wood)
 - doc fixes (albertony, Ed Craig-Wood, jinjingroad)

v1.70.0 - 2025-06-17

[See commits](#)

- New backends
 - [DOI](#) (Flora Thiebaut)
 - [FileLu](#) (kingston125)
 - New S3 providers:
 - [MEGA S4](#) (Nick Craig-Wood)
 - [Pure Storage FlashBlade](#) (Jeremy Daer)
- New commands
 - [convmv](#): for moving and transforming files (nielash)
- New Features
 - Add `--max-connections` to control maximum backend concurrency (Nick Craig-Wood)
 - Add `--max-buffer-memory` to limit total buffer memory usage (Nick Craig-Wood)
 - Add transform library and `--name-transform` flag (nielash)
 - sync: Implement `--list-cutoff` to allow on disk sorting for reduced memory use (Nick Craig-Wood)
 - accounting: Add listed stat for number of directory entries listed (Nick Craig-Wood)
 - backend: Skip hash calculation when the hashType is None (Oleksiy Stashok)
 - build
 - Update to go1.24 and make go1.22 the minimum required version (Nick Craig-Wood)
 - Disable docker builds on PRs & add missing dockerfile changes (Anagh Kumar Baranwal)
 - Modernize Go usage (Nick Craig-Wood)
 - Update all dependencies (Nick Craig-Wood)
 - cmd/authorize: Show required arguments in help text (simwai)
 - cmd/config: add `--no-output` option (Jess)
 - cmd/gitannex
 - Tweak parsing of "rcloneremotename" config (Dan McArdle)
 - Permit remotes with options (Dan McArdle)
 - Reject unknown layout modes in INITREMOTE (Dan McArdle)
 - docker image: Add label org.opencontainers.image.source for release notes in Renovate dependency updates (Robin Schneider)
 - doc fixes (albertony, Andrew Kreimer, Ben Boeckel, Christoph Berger, Danny Garside, Dimitri Papadopoulos, eccoisle, Ed Craig-Wood, Fernando Fernández, jack, Jeff Geerling, Jugal Kishore, kingston125, luzpaz, Markus Gerstel, Matt Ickstadt, Michael Kebe, Nick Craig-Wood, PrathameshLakawade, Ser-Bul, simonmcnair, Tim White, Zachary Vorhies)
 - filter:

- Add `--hash-filter` to deterministically select a subset of files (Nick Craig-Wood)
- Show `--min-size` and `--max-size` in `--dump` filters (Nick Craig-Wood)
- hash: Add SHA512 support for file hashes (Enduriel)
- http servers: Add `--user-from-header` to use for authentication (Moises Lima)
- lib/batcher: Deprecate unused option: `batch_commit_timeout` (Dan McArdle)
- log:
 - Remove `github.com/sirupsen/logrus` and replace with `log/slog` (Nick Craig-Wood)
 - Add `--windows-event-log-level` to support Windows Event Log (Nick Craig-Wood)
- rc
 - Add `short` parameter to `core/stats` to not return transferring and checking (Nick Craig-Wood)
 - In `options/info` make `FieldName` contain a "." if it should be nested (Nick Craig-Wood)
 - Add rc control for serve commands (Nick Craig-Wood)
 - rcserver: Improve content-type check (Jonathan Giannuzzi)
- serve nfs
 - Update docs to note Windows is not supported (Zachary Vorhies)
 - Change the format of `--nfs-cache-type symlink` file handles (Nick Craig-Wood)
 - Make metadata files have special file handles (Nick Craig-Wood)
- touch: Make touch obey `--transfers` (Nick Craig-Wood)
- version: Add `--deps` flag to show dependencies and other build info (Nick Craig-Wood)
- Bug Fixes
 - serve s3:
 - Fix `ListObjectsV2` response (fhuber)
 - Remove redundant handler initialization (Tho Neyugn)
 - stats: Fix goroutine leak and improve stats accounting process (Nathanael Demacon)
- VFS
 - Add `--vfs-metadata-extension` to expose metadata sidecar files (Nick Craig-Wood)
- Azure Blob
 - Add support for `x-ms-tags` header (Trevor Starick)
 - Cleanup uncommitted blocks on upload errors (Nick Craig-Wood)

- Speed up server side copies for small files (Nick Craig-Wood)
- Implement multipart server side copy (Nick Craig-Wood)
- Remove uncommitted blocks on InvalidBlobOrBlock error (Nick Craig-Wood)
- Fix handling of objects with // in (Nick Craig-Wood)
- Handle retry error codes more carefully (Nick Craig-Wood)
- Fix errors not being retried when doing single part copy (Nick Craig-Wood)
- Fix multipart server side copies of 0 sized files (Nick Craig-Wood)
- Azurefiles
 - Add `--azurefiles-use-az` and `--azurefiles-disable-instance-discovery` (b-wimmer)
- B2
 - Add SkipDestructive handling to backend commands (Pat Patterson)
 - Use file id from listing when not presented in headers (ahxxm)
- Cloudinary
 - Automatically add/remove known media files extensions (yuval-cloudinary)
 - Var naming convention (yuval-cloudinary)
- Drive
 - Added `backend moveid` command (Spencer McCullough)
- Dropbox
 - Support Dropbox Paper (Dave Vasilevsky)
- FTP
 - Add `--ftp-http-proxy` to connect via HTTP CONNECT proxy
- Gofile
 - Update to use new direct upload endpoint (wbulot)
- Googlephotos
 - Update read only and read write scopes to meet Google's requirements. (Germán Casares)
- Icloudrive
 - Fix panic and files potentially downloaded twice (Clément Wehrung)
- Internetarchive
 - Add `--internetarchive-metadata="key=value"` for setting item metadata (Corentin Barreau)
- Onedrive
 - Fix "The upload session was not found" errors (Nick Craig-Wood)
 - Re-add `--onedrive-upload-cutoff` flag (Nick Craig-Wood)
 - Fix crash if no metadata was updated (Nick Craig-Wood)
- Opendrive
 - Added `--opendrive-access` flag to handle permissions (Joel K Biju)

- Pcloud
 - Fix "Access denied. You do not have permissions to perform this operation" on large uploads (Nick Craig-Wood)
- S3
 - Fix handling of objects with // in (Nick Craig-Wood)
 - Add IBM IAM signer (Alexander Minbaev)
 - Split the GCS quirks into `--s3-use-x-id` and `--s3-sign-accept-encoding` (Nick Craig-Wood)
 - Implement paged listing interface ListP (Nick Craig-Wood)
 - Add Pure Storage FlashBlade provider support (Jeremy Daer)
 - Require custom endpoint for Lyve Cloud v2 support (PrathameshLakawade)
 - MEGA S4 support (Nick Craig-Wood)
- SFTP
 - Add `--sftp-http-proxy` to connect via HTTP CONNECT proxy (Nick Craig-Wood)
- Smb
 - Add support for kerberos authentication (Jonathan Giannuzzi)
 - Improve connection pooling efficiency (Jonathan Giannuzzi)
- WebDAV
 - Retry propfind on 425 status (Jörn Friedrich Dreyer)
 - Add an ownCloud Infinite Scale vendor that enables tus chunked upload support (Klaas Freitag)

v1.69.3 - 2025-05-21

[See commits](#)

- Bug Fixes
 - build: Reapply update github.com/golang-jwt/jwt/v5 from 5.2.1 to 5.2.2 to fix CVE-2025-30204 (dependabot[bot])
 - build: Update github.com/ebitengine/purego to work around bug in go1.24.3 (Nick Craig-Wood)

v1.69.2 - 2025-05-01

[See commits](#)

- Bug fixes
 - accounting: Fix percentDiff calculation -- (Anagh Kumar Baranwal)
 - build

- Update github.com/golang-jwt/jwt/v4 from 4.5.1 to 4.5.2 to fix CVE-2025-30204 (dependabot[bot])
- Update github.com/golang-jwt/jwt/v5 from 5.2.1 to 5.2.2 to fix CVE-2025-30204 (dependabot[bot])
- Update golang.org/x/crypto to v0.35.0 to fix CVE-2025-22869 (Nick Craig-Wood)
- Update golang.org/x/net from 0.36.0 to 0.38.0 to fix CVE-2025-22870 (dependabot[bot])
- Update golang.org/x/net to 0.36.0. to fix CVE-2025-22869 (dependabot[bot])
- Stop building with go < go1.23 as security updates forbade it (Nick Craig-Wood)
- Fix docker plugin build (Anagh Kumar Baranwal)
- cmd: Fix crash if rclone is invoked without any arguments (Janne Hellsten)
- config: Read configuration passwords from stdin even when terminated with EOF (Samantha Bowen)
- doc fixes (Andrew Kreimer, Danny Garside, eccoisle, Ed Craig-Wood, emyarod, jack, Jugal Kishore, Markus Gerstel, Michael Kebe, Nick Craig-Wood, simonmcnair, simwai, Zachary Vorhies)
- fs: Fix corruption of SizeSuffix with "B" suffix in config (eg --min-size) (Nick Craig-Wood)
- lib/http: Fix race between Serve() and Shutdown() (Nick Craig-Wood)
- object: Fix memory object out of bounds Seek (Nick Craig-Wood)
- operations: Fix call fmt.Errorf with wrong err (alingse)
- rc
 - Disable the metrics server when running `rclone rc` (hiddenmarten)
 - Fix debug/* commands not being available over unix sockets (Nick Craig-Wood)
- serve nfs: Fix unlikely crash (Nick Craig-Wood)
- stats: Fix the speed not getting updated after a pause in the processing (Anagh Kumar Baranwal)
- sync
 - Fix cpu spinning when empty directory finding with leading slashes (Nick Craig-Wood)
 - Copy dir modtimes even when copyEmptySrcDirs is false (ll3006)
- VFS
 - Fix directory cache serving stale data (Lorenz Brun)
 - Fix inefficient directory caching when directory reads are slow (huanghaojun)
 - Fix integration test failures (Nick Craig-Wood)

- Drive
 - Metadata: fix error when setting copy-requires-writer-permission on a folder (Nick Craig-Wood)
- Dropbox
 - Retry link without expiry (Dave Vasilevsky)
- HTTP
 - Correct root if definitely pointing to a file (nielash)
- Icloudrive
 - Fix so created files are writable (Ben Alex)
- Onedrive
 - Fix metadata ordering in permissions (Nick Craig-Wood)

v1.69.1 - 2025-02-14

[See commits](#)

- Bug Fixes
 - lib/oauthutil: Fix redirect URL mismatch errors (Nick Craig-Wood)
 - bisync: Fix listings missing concurrent modifications (nielash)
 - serve s3: Fix list objects encoding-type (Nick Craig-Wood)
 - fs: Fix confusing "didn't find section in config file" error (Nick Craig-Wood)
 - doc fixes (Christoph Berger, Dimitri Papadopoulos, Matt Ickstadt, Nick Craig-Wood, Tim White, Zachary Vorhies)
 - build: Added parallel docker builds and caching for go build in the container (Anagh Kumar Baranwal)
- VFS
 - Fix the cache failing to upload symlinks when `--links` was specified (Nick Craig-Wood)
 - Fix race detected by race detector (Nick Craig-Wood)
 - Close the change notify channel on Shutdown (izouxv)
- B2
 - Fix "fatal error: concurrent map writes" (Nick Craig-Wood)
- Icloudrive
 - Add notes on ADP and Missing PCS cookies (Nick Craig-Wood)
- Onedrive
 - Mark German (de) region as deprecated (Nick Craig-Wood)
- S3
 - Added new storage class to magalu provider (Bruno Fernandes)
 - Add DigitalOcean regions SFO2, LON1, TOR1, BLR1 (jkpe)

- Add latest Linode Object Storage endpoints (jbagwell-akamai)

v1.69.0 - 2025-01-12

See commits

- New backends
 - [iCloud Drive](#) (lostb1t)
 - [Cloudinary](#) (yuval-cloudinary)
 - New S3 providers:
 - [Outscale](#) (Matthias Gatto)
 - [Selectel](#) (Nick Craig-Wood)
- Security fixes
 - serve sftp: Resolve CVE-2024-45337 - Misuse of ServerConfig.PublicKeyCallback may cause authorization bypass (dependabot)
 - Rclone was **not** vulnerable to this.
 - See <https://github.com/advisories/GHSA-v778-237x-gjrc>
 - build: Update golang.org/x/net to v0.33.0 to fix CVE-2024-45338 - Non-linear parsing of case-insensitive content (Nick Craig-Wood)
 - Rclone was **not** vulnerable to this.
 - See <https://github.com/advisories/GHSA-w32m-9786-jp63>
- New Features
 - accounting: Write the current bwlimit to the log on SIGUSR2 (Nick Craig-Wood)
 - bisync: Change exit code from 2 to 7 for critically aborted run (albertony)
 - build
 - Update all dependencies (Nick Craig-Wood)
 - Replace Windows-specific `NewLazyDLL` with `NewLazySystemDLL` (albertony)
 - cmd: Change exit code from 1 to 2 for syntax and usage errors (albertony)
 - docker serve: make sure all mount and VFS options are parsed (Nick Craig-Wood)
 - doc fixes (albertony, Alexandre Hamez, Anthony Metzidis, buengese, Dan McArdle, David Seifert, Francesco Frassinelli, Michael R. Davis, Nick Craig-Wood, Pawel Palucha, Randy Bush, remygrandin, Sam Harrison, shenpengfeng, tgfisher, Thomas ten Cate, ToM, Tony Metzidis, vintagefuture, Yxxx)
 - fs: Make `--links` flag global and add new `--local-links` and `--vfs-links` flags (Nick Craig-Wood)
 - http servers: Disable automatic authentication skipping for unix sockets in http servers (Moises Lima)
 - This was making it impossible to use unix sockets with an proxy

- This might now cause rclone to need authentication where it didn't before
- oauthutil: add support for OAuth client credential flow (Martin Hassack, Nick Craig-Wood)
- operations: make log messages consistent for mkdir/rmdir at INFO level (Nick Craig-Wood)
- rc: Add `relative` to `vfs/queue-set-expiry` (Nick Craig-Wood)
- serve dlina: Sort the directory entries by directories first then alphabetically by name (Nick Craig-Wood)
- serve nfs
 - Introduce symlink support (Nick Craig-Wood)
 - Implement `--nfs-cache-type` symlink (Nick Craig-Wood)
- size: Make output compatible with `-P` (Nick Craig-Wood)
- test makefiles: Add `--flat` flag for making directories with many entries (Nick Craig-Wood)
- Bug Fixes
 - accounting
 - Fix global error accounting (Benjamin Legrand)
 - Fix debug printing when debug wasn't set (Nick Craig-Wood)
 - Fix race stopping/starting the stats counter (Nick Craig-Wood)
 - rc/job: Use mutex for adding listeners thread safety (hayden.pan)
 - serve docker: Fix incorrect GID assignment (TAKEI Yuya)
 - serve nfs: Fix missing inode numbers which was messing up `ls -laR` (Nick Craig-Wood)
 - serve s3: Fix `Last-Modified` timestamp (Nick Craig-Wood)
 - serve sftp: Fix loading of authorized keys file with comment on last line (albertony)
- Mount
 - Introduce symlink support (Filipe Azevedo, Nick Craig-Wood)
 - Better snap mount error message (divinity76)
 - mount2: Fix missing `.` and `..` entries (Filipe Azevedo)
- VFS
 - With `--vfs-used-is-size` value is calculated and then thrown away (Ilias Ozgur Can Leonard)
 - Add symlink support to VFS (Filipe Azevedo, Nick Craig-Wood)
 - This can be enabled with the specific `--vfs-links` flag or the global `--links` flag
 - Fix open files disappearing from directory listings (Nick Craig-Wood)
 - Add remote name to vfs cache log messages (Nick Craig-Wood)
- Cache

- Fix parent not getting pinned when remote is a file (nielash)
- Azure Blob
 - Add `--azureblob-disable-instance-discovery` (Nick Craig-Wood)
 - Add `--azureblob-use-az` to force the use of the Azure CLI for auth (Nick Craig-Wood)
 - Quit multipart uploads if the context is cancelled (Nick Craig-Wood)
- Azurefiles
 - Fix missing x-ms-file-request-intent header (Nick Craig-Wood)
- B2
 - Add `daysFromStartingToCancelingUnfinishedLargeFiles` to `backend lifecycle` command (Louis Laureys)
- Box
 - Fix server-side copying a file over existing dst (nielash)
 - Fix panic when decoding corrupted PEM from JWT file (Nick Craig-Wood)
- Drive
 - Add support for markdown format (Noam Ross)
 - Implement `rclone backend rescue` to rescue orphaned files (Nick Craig-Wood)
- Dropbox
 - Fix server side copying over existing object (Nick Craig-Wood)
 - Fix return status when full to be fatal error (Nick Craig-Wood)
- FTP
 - Implement `--ftp-no-check-upload` to allow upload to write only dirs (Nick Craig-Wood)
 - Fix ls commands returning empty on "Microsoft FTP Service" servers (Francesco Frassinelli)
- Gofile
 - Fix server side copying over existing object (Nick Craig-Wood)
- Google Cloud Storage
 - Add access token auth with `--gcs-access-token` (Leandro Piccilli)
 - Update docs on service account access tokens (Anthony Metzidis)
- Googlephotos
 - Implement `--gphotos-proxy` to allow download of full resolution media (Nick Craig-Wood)
 - Fix nil pointer crash on upload (Nick Craig-Wood)
- HTTP
 - Fix incorrect URLs with initial slash (Oleg Kunitsyn)
- Onedrive
 - Add support for OAuth client credential flow (Martin Hassack, Nick Craig-Wood)

- Fix time precision for OneDrive personal (Nick Craig-Wood)
- Fix server side copying over existing object (Nick Craig-Wood)
- Opendrive
 - Add `rcclone about` support to backend (quiescens)
- Oracle Object Storage
 - Make specifying `compartmentid` optional (Manoj Ghosh)
 - Quit multipart uploads if the context is cancelled (Nick Craig-Wood)
- Pikpak
 - Add option to use original file links (wiserain)
- Protondrive
 - Improve performance of Proton Drive backend (Lawrence Murray)
- Putio
 - Fix server side copying over existing object (Nick Craig-Wood)
- S3
 - Add initial `--s3-directory-bucket` to support AWS Directory Buckets (Nick Craig-Wood)
 - Add Wasabi `eu-south-1` region (Diego Monti)
 - Fix download of compressed files from Cloudflare R2 (Nick Craig-Wood)
 - Rename glacier storage class to flexible retrieval (Henry Lee)
 - Quit multipart uploads if the context is cancelled (Nick Craig-Wood)
- SFTP
 - Allow inline ssh public certificate for sftp (Dimitar Ivanov)
 - Fix nil check when using auth proxy (Nick Craig-Wood)
- Smb
 - Add initial support for Kerberos authentication (more work needed). (Francesco Frassinelli)
 - Fix panic if stat fails (Nick Craig-Wood)
- Sugarsync
 - Fix server side copying over existing object (Nick Craig-Wood)
- WebDAV
 - Nextcloud: implement backoff and retry for 423 LOCKED errors (Nick Craig-Wood)
 - Make `--webdav-auth-redirect` to fix 401 unauthorized on redirect (Nick Craig-Wood)
- Yandex
 - Fix server side copying over existing object (Nick Craig-Wood)
- Zoho
 - Use download server to accelerate downloads (buengese)

- Switch to large file upload API for larger files, fix missing URL encoding of filenames for the upload API (buengese)
- Print clear error message when missing oauth scope (buengese)
- Try to handle rate limits a bit better (buengese)
- Add support for private spaces (buengese)
- Make upload cutoff configurable (buengese)

v1.68.2 - 2024-11-15

See commits

- Security fixes
 - local backend: CVE-2024-52522: fix permission and ownership on symlinks with `-links` and `--metadata` (Nick Craig-Wood)
 - Only affects users using `--metadata` and `--links` and copying files to the local backend
 - See <https://github.com/rclone/rclone/security/advisories/GHSA-hrxh-9w67-g4cv>
 - build: bump github.com/golang-jwt/jwt/v4 from 4.5.0 to 4.5.1 (dependabot)
 - This is an issue in a dependency which is used for JWT certificates
 - See <https://github.com/golang-jwt/jwt/security/advisories/GHSA-29wx-vh33-7x7r>
- Bug Fixes
 - accounting: Fix wrong message on SIGUSR2 to enable/disable bwlimit (Nick Craig-Wood)
 - bisync: Fix output capture restoring the wrong output for logrus (Dimitrios Slamaris)
 - dlina: Fix loggingResponseWriter disregarding log level (Simon Bos)
 - serve s3: Fix excess locking which was making serve s3 single threaded (Nick Craig-Wood)
 - doc fixes (Nick Craig-Wood, tgfisher, Alexandre Hamez, Randy Bush)
- Local
 - Fix permission and ownership on symlinks with `--links` and `--metadata` (Nick Craig-Wood)
 - Fix `--copy-links` on macOS when cloning (nielash)
- Onedrive
 - Fix Retry-After handling to look at 503 errors also (Nick Craig-Wood)
- Pikpak
 - Fix cid/gcid calculations for fs.OverrideRemote (wiserain)
 - Fix fatal crash on startup with token that can't be refreshed (Nick Craig-Wood)

- S3
 - Fix crash when using `--s3-download-url` after migration to SDKv2 (Nick Craig-Wood)
 - Storj provider: fix server-side copy of files bigger than 5GB (Kaloyan Raev)
 - Fix multitenant multipart uploads with CEPH (Nick Craig-Wood)

v1.68.1 - 2024-09-24

[See commits](#)

- Bug Fixes
 - build: Fix docker release build (ttionya)
 - doc fixes (Nick Craig-Wood, Pawel Palucha)
 - fs
 - Fix `--dump filters` not always appearing (Nick Craig-Wood)
 - Fix setting `stringArray` config values from environment variables (Nick Craig-Wood)
 - rc: Fix default value of `--metrics-addr` (Nick Craig-Wood)
 - serve docker: Add missing `vfs-read-chunk-streams` option in docker volume driver (Divyam)
- Onedrive
 - Fix spurious "Couldn't decode error response: EOF" DEBUG (Nick Craig-Wood)
- Pikpak
 - Fix login issue where token retrieval fails (wiserain)
- S3
 - Fix rclone ignoring static credentials when `env_auth=true` (Nick Craig-Wood)

v1.68.0 - 2024-09-08

[See commits](#)

- New backends
 - [Files.com](#) (Sam Harrison)
 - [Gofile](#) (Nick Craig-Wood)
 - [Pixelrain](#) (Fornax)
- Changed backends
 - S3 backend updated to use [AWS SDKv2](#) as v1 is now unsupported.
 - The matrix of providers and auth methods is huge and there could be problems with obscure combinations.
 - Please report problems in a [new issue](#) on Github.

- New commands
 - [config encryption](#): set, remove and check to manage config file encryption (Nick Craig-Wood)
- New Features
 - build
 - Update to go1.23 and make go1.21 the minimum required version (Nick Craig-Wood)
 - Update all dependencies (Nick Craig-Wood)
 - Disable wasm/js build due to [go bug #64856](#) (Nick Craig-Wood)
 - Enable custom linting rules with ruleguard via gocritic (albertony)
 - Update logging statements to make `--use-json-log` work always (albertony)
 - Adding new code quality tests and fixing the fallout (albertony)
 - config
 - Internal config re-organised to be more consistent and make it available from the rc (Nick Craig-Wood)
 - Avoid remotes with empty names from the environment (albertony)
 - Make listing of remotes more consistent (albertony)
 - Make getting config values more consistent (albertony)
 - Use `--password-command` to set config file password if supplied (Nick Craig-Wood)
 - doc fixes (albertony, crystalstall, David Seifert, Eng Zer Jun, Ernie Hershey, Florian Klink, John Oxley, kapitainsky, Mathieu Moreau, Nick Craig-Wood, nipil, Pétr Bozsó, Russ Bublely, Sam Harrison, Thearas, URenko, Will Miles, yuval-cloudinary)
 - fs: Allow semicolons as well as spaces in `--bwlimit` timetable parsing (Kyle Reynolds)
 - help
 - Global flags help command now takes glob filter (albertony)
 - Make help command output less distracting (albertony)
 - lib/encoder: Add Raw encoding for use where no encoding at all is required, eg `--local-encoding Raw` (URenko)
 - listremotes: Added options for filtering, ordering and json output (albertony)
 - nfsmount
 - Make the `--sudo` flag work for umount as well as mount (Nick Craig-Wood)
 - Add `-o tcp` option to NFS mount options to fix mounting under Linux (Nick Craig-Wood)
 - operations: copy: generate stable partial suffix (Georg Welzel)
 - rc

- Add [options/info](#) call to enumerate options (Nick Craig-Wood)
- Add option blocks parameter to [options/get](#) and [options/info](#) (Nick Craig-Wood)
- Add [vfs/queue](#) to show the status of the upload queue (Nick Craig-Wood)
- Add [vfs/queue-set-expiry](#) to adjust expiry of items in the VFS queue (Nick Craig-Wood)
- Add `--unix-socket` option to `rc` command (Florian Klink)
- Prevent unmount rc command from sending a `STOPPING=1` sd-notify message (AThePeanut4)
- rcserver: Implement [prometheus metrics](#) on a dedicated port (Oleg Kunitsyn)
- serve dlna
 - Also look at "Subs" subdirectory (Florian Klink)
 - Don't swallow `video.{idx,sub}` (Florian Klink)
 - Set more correct mime type (Florian Klink)
- serve nfs
 - Implement on disk cache for file handles selected with `--nfs-cache-type` (Nick Craig-Wood)
 - Add tracing to filesystem calls (Nick Craig-Wood)
 - Mask unimplemented error from chmod (Nick Craig-Wood)
 - Unify the nfs library logging with rclone's logging better (Nick Craig-Wood)
 - Fix incorrect user id and group id exported to NFS (Nick Craig-Wood)
- serve s3
 - Implement `--auth-proxy` (Sawjan Gurung)
 - Update to AWS SDKv2 by updating `github.com/rclone/gofakes3` (Nick Craig-Wood)
- Bug Fixes
 - bisync: Fix sync time problems with backends that round time (eg Dropbox) (nielash)
 - serve dlna: Fix panic: invalid argument to Int63n (Nick Craig-Wood)
- VFS
 - Add [--vfs-read-chunk-streams](#) to parallel read chunks from files (Nick Craig-Wood)
 - This can increase mount performance on high bandwidth or large latency links
 - Fix cache encoding with special characters (URenko)
- Local
 - Fix encoding of root path fix (URenko)
 - Add server-side copy (using clone) with xattrs on macOS (nielash)
 - `--local-no-clone` flag to disable cloning for server-side copies (nielash)

- Support setting custom `--metadata` during server-side Copy (nielash)
- Azure Blob
 - Allow anonymous access for public resources (Nick Craig-Wood)
- B2
 - Include custom upload headers in large file info (Pat Patterson)
- Drive
 - Fix copying Google Docs to a backend which only supports SHA1 (Nick Craig-Wood)
- Fichier
 - Fix detection of Flood Detected error (Nick Craig-Wood)
 - Fix server side move (Nick Craig-Wood)
- HTTP
 - Reload client certificates on expiry (Saleh Dindar)
 - Support listening on passed FDs (Florian Klink)
- Jottacloud
 - Fix setting of metadata on server side move (albertony)
- Onedrive
 - Fix nil pointer error when uploading small files (Nick Craig-Wood)
- Pcloud
 - Implement `SetModTime` (Georg Welzel)
 - Implement `OpenWriterAt` feature to enable multipart uploads (Georg Welzel)
 - Fix failing large file uploads (Georg Welzel)
- Pikpak
 - Improve data consistency by ensuring async tasks complete (wiserain)
 - Implement custom hash to replace wrong sha1 (wiserain)
 - Fix error with `copyto` command (wiserain)
 - Optimize file move by removing unnecessary `readMetaData()` call (wiserain)
 - Non-buffered hash calculation for local source files (wiserain)
 - Optimize upload by pre-fetching gcid from API (wiserain)
 - Correct file transfer progress for uploads by hash (wiserain)
 - Update to using AWS SDK v2 (wiserain)
- S3
 - Update to using AWS SDK v2 (Nick Craig-Wood)
 - Add `--s3-sdk-log-mode` to control SDKv2 debugging (Nick Craig-Wood)
 - Fix incorrect region for Magalu provider (Filipe Herculano)
 - Allow restoring from intelligent-tiering storage class (Pawel Palucha)
- SFTP
 - Use `uint32` for mtime to save memory (Tomasz Melcer)

- Ignore useless errors when closing the connection pool (Nick Craig-Wood)
- Support listening on passed FDs (Florian Klink)
- Swift
 - Add workarounds for bad listings in Ceph RGW (Paul Collins)
 - Add total/free space info in `about` command. (fsantagostinobietti)
- Ulozto
 - Fix upload of > 2GB files on 32 bit platforms (Tobias Markus)
- WebDAV
 - Add `--webdav-unix-socket-path` to connect to a unix socket (Florian Klink)
- Yandex
 - Implement custom user agent to help with upload speeds (Sebastian Büniger)
- Zoho
 - Fix inefficiencies uploading with new API to avoid throttling (Nick Craig-Wood)

v1.67.0 - 2024-06-14

[See commits](#)

- New backends
 - [uloz.to](#) (iotmaestro)
 - New S3 providers
 - [Magalu Object Storage](#) (Bruno Fernandes)
- New commands
 - [gitannex](#): Enables git-annex to store and retrieve content from an rclone remote (Dan McArdle)
- New Features
 - accounting: Add deleted files total size to status summary line (Kyle Reynolds)
 - build
 - Fix `CVE-2023-45288` by upgrading `golang.org/x/net` (Nick Craig-Wood)
 - Fix `CVE-2024-35255` by upgrading `github.com/Azure/azure-sdk-for-go/sdk/azidentity` to 1.6.0 (dependabot)
 - Convert source files with CRLF to LF (albertony)
 - Update all dependencies (Nick Craig-Wood)
 - doc updates (albertony, Alex Garel, Dave Nicolson, Dominik Joe Pantůček, Eric Wolf, Erisa A, Evan Harris, Evan McBeth, Gachoud Philippe, hidewrong, jakzoe, jumbi77, kapitainsky, Kyle Reynolds, Lewis Hook, Nick Craig-Wood, overallteach, pawsey-kbuckley, Pieter van Oostrum, psychopatt, racerole, static-moonlight, Warrentheo, yudrywet, yumeiyin)
 - ncdu: Do not quit on Esc to aid usability (Katia Esposito)

- rcserver: Set `ModTime` for dirs and files served by `--rc-serve` (Nikita Shoshin)
- Bug Fixes
 - bisync: Add integration tests against all backends and fix many many problems (nielash)
 - config: Fix default value for `description` (Nick Craig-Wood)
 - copy: Fix `nil` pointer dereference when corrupted on transfer with `nil` dst (nielash)
 - fs
 - Improve JSON Unmarshalling for `Duration` types (Kyle Reynolds)
 - Close the CPU profile on exit (guangwu)
 - Replace `/bin/bash` with `/usr/bin/env bash` (Florian Klink)
 - oauthutil: Clear client secret if client ID is set (Michael Terry)
 - operations
 - Rework `rcat` so that it doesn't call the `--metadata-mapper` twice (Nick Craig-Wood)
 - Ensure `SrcFsType` is set correctly when using `--metadata-mapper` (Nick Craig-Wood)
 - Fix "optional feature not implemented" error with a crypted sftp bug (Nick Craig-Wood)
 - Fix very long file names when using copy with `--partial` (Nick Craig-Wood)
 - Fix retries downloading too much data with certain backends (Nick Craig-Wood)
 - Fix move when dst is nil and fdst is case-insensitive (nielash)
 - Fix `lsjson --encrypted` when using `--crypt-XXX` parameters (Nick Craig-Wood)
 - Fix missing metadata for multipart transfers to local disk (Nick Craig-Wood)
 - Fix incorrect modtime on some multipart transfers (Nick Craig-Wood)
 - Fix hashing problem in integration tests (Nick Craig-Wood)
 - rc
 - Fix stats groups being ignored in `operations/check` (Nick Craig-Wood)
 - Fix incorrect `Content-Type` in HTTP API (Kyle Reynolds)
 - serve s3
 - Fix `Last-Modified` header format (Butanediol)
 - Fix in-memory metadata storing wrong modtime (nielash)
 - Fix XML of error message (Nick Craig-Wood)
 - serve webdav: Fix webdav with `--baseurl` under Windows (Nick Craig-Wood)
 - serve dlina: Make `BrowseMetadata` more compliant (albertony)

- serve http: Added `Content-Length` header when HTML directory is served (Sunny)
- sync
 - Don't sync directories if they haven't been modified (Nick Craig-Wood)
 - Don't test reading metadata if we can't write it (Nick Craig-Wood)
 - Fix case normalisation (problem on on s3) (Nick Craig-Wood)
 - Fix management of empty directories to make it more accurate (Nick Craig-Wood)
 - Fix creation of empty directories when `--create-empty-src-dirs=false` (Nick Craig-Wood)
 - Fix directory modification times not being set (Nick Craig-Wood)
 - Fix "failed to update directory timestamp or metadata: directory not found" (Nick Craig-Wood)
 - Fix expecting SFTP to have MkdirMetadata method: optional feature not implemented (Nick Craig-Wood)
- test info: Improve cleanup of temp files (Kyle Reynolds)
- touch: Fix using `-R` on certain backends (Nick Craig-Wood)
- Mount
 - Add `--direct-io` flag to force uncached access (Nick Craig-Wood)
- VFS
 - Fix download loop when file size shrunk (Nick Craig-Wood)
 - Fix renaming a directory (nielash)
- Local
 - Add `--local-time-type` to use `mtime` / `atime` / `btime` / `ctime` as the time (Nick Craig-Wood)
 - Allow `SeBackupPrivilege` and/or `SeRestorePrivilege` to work on Windows (Charles Hamilton)
- Azure Blob
 - Fix encoding issue with dir path comparison (nielash)
- B2
 - Add new `cleanup` and `cleanup-hidden` backend commands. (Pat Patterson)
 - Update B2 URLs to new home (Nick Craig-Wood)
- Chunker
 - Fix startup when root points to composite multi-chunk file without metadata (nielash)
 - Fix case-insensitive comparison on local without metadata (nielash)
 - Fix "finalizer already set" error (nielash)
- Drive

- Add `backend query` command for general purpose querying of files (John-Paul Smith)
- Stop sending notification emails when setting permissions (Nick Craig-Wood)
- Fix server side copy with metadata from my drive to shared drive (Nick Craig-Wood)
- Set all metadata permissions and return error summary instead of stopping on the first error (Nick Craig-Wood)
- Make errors setting permissions into no retry errors (Nick Craig-Wood)
- Fix description being overwritten on server side moves (Nick Craig-Wood)
- Allow setting metadata to fail if `failok` flag is set (Nick Craig-Wood)
- Fix panic when using `--metadata-mapper` on large google doc files (Nick Craig-Wood)
- Dropbox
 - Add `--dropbox-root-namespace` to override the root namespace (Bill Fraser)
- Google Cloud Storage
 - Fix encoding issue with dir path comparison (nielash)
- Hdfs
 - Fix `f.String()` not including subpath (nielash)
- Http
 - Add `--http-no-escape` to not escape URL metacharacters in path names (Kyle Reynolds)
- Jottacloud
 - Set metadata on server side copy and move (albertony)
- Linkbox
 - Fix working with names longer than 8-25 Unicode chars. (Vitaly)
 - Fix list paging and optimized synchronization. (gvitali)
- Mailru
 - Attempt to fix throttling by increasing min sleep to 100ms (Nick Craig-Wood)
- Memory
 - Fix dst mutating src after server-side copy (nielash)
 - Fix deadlock in `operations.Purge` (nielash)
 - Fix incorrect list entries when rooted at subdirectory (nielash)
- Onedrive
 - Add `--onedrive-hard-delete` to permanently delete files (Nick Craig-Wood)
 - Make server-side copy work in more scenarios (YukiUnHappy)
 - Fix "unauthenticated: Unauthenticated" errors when downloading (Nick Craig-Wood)
 - Fix `--metadata-mapper` being called twice if writing permissions (nielash)

- Set all metadata permissions and return error summary instead of stopping on the first error (nielash)
- Make errors setting permissions into no retry errors (Nick Craig-Wood)
- Skip writing permissions with 'owner' role (nielash)
- Fix references to deprecated permissions properties (nielash)
- Add support for group permissions (nielash)
- Allow setting permissions to fail if `failok` flag is set (Nick Craig-Wood)
- Pikpak
 - Make `getFile()` usage more efficient to avoid the download limit (wiserein)
 - Improve upload reliability and resolve potential file conflicts (wiserein)
 - Implement configurable chunk size for multipart upload (wiserein)
- Protodrive
 - Don't auth with an empty access token (Michał Dzieńisiewicz)
- Qingstor
 - Disable integration tests as test account suspended (Nick Craig-Wood)
- Quatrix
 - Fix `f.String()` not including subpath (nielash)
- S3
 - Add new AWS region `il-central-1` Tel Aviv (yoelvini)
 - Update Scaleway's configuration options (Alexandre Lavigne)
 - Ceph: fix quirks when creating buckets to fix trying to create an existing bucket (Thomas Schneider)
 - Fix encoding issue with dir path comparison (nielash)
 - Fix 405 error on HEAD for delete marker with `versionId` (nielash)
 - Validate `--s3-copy-cutoff` size before copy (hoyho)
- SFTP
 - Add `--sftp-connections` to limit the maximum number of connections (Tomasz Melcer)
- Storj
 - Update `storj.io/uplink` to latest release (JT Olio)
 - Update bio on request (Nick Craig-Wood)
- Swift
 - Implement `--swift-use-segments-container` to allow >5G files on Blomp (Nick Craig-Wood)
- Union
 - Fix deleting dirs when all remotes can't have empty dirs (Nick Craig-Wood)
- WebDAV

- Fix setting modification times erasing checksums on owncloud and nextcloud (nielash)
- owncloud: Add `--webdav-owncloud-exclude-mounts` which allows excluding mounted folders when listing remote resources (Thomas Müller)
- Zoho
 - Fix throttling problem when uploading files (Nick Craig-Wood)
 - Use cursor listing for improved performance (Nick Craig-Wood)
 - Retry reading info after upload if size wasn't returned (Nick Craig-Wood)
 - Remove simple file names complication which is no longer needed (Nick Craig-Wood)
 - Sleep for 60 seconds if rate limit error received (Nick Craig-Wood)

v1.66.0 - 2024-03-10

[See commits](#)

- Major features
 - Rclone will now sync directory modification times if the backend supports it.
 - This can be disabled with `--no-update-dir-modtime`
 - See [the overview](#) and look for the `D` flags in the `ModTime` column to see which backends support it.
 - Rclone will now sync directory metadata if the backend supports it when `-M / --metadata` is in use.
 - See [the overview](#) and look for the `D` flags in the `Metadata` column to see which backends support it.
 - Bisync has received many updates see below for more details or [bisync's changelog](#)
- Removed backends
 - amazonclouddrive: Remove Amazon Drive backend code and docs (Nick Craig-Wood)
- New Features
 - backend
 - Add description field for all backends (Paul Stern)
 - build
 - Update to go1.22 and make go1.20 the minimum required version (Nick Craig-Wood)
 - Fix `CVE-2024-24786` by upgrading `google.golang.org/protobuf` (Nick Craig-Wood)

- check: Respect `--no-unicode-normalization` and `--ignore-case-sync` for `-checkfile` (nielash)
- cmd: Much improved shell auto completion which reduces the size of the completion file and works faster (Nick Craig-Wood)
- doc updates (albertony, ben-ba, Eli, emyarod, huajin tong, Jack Provance, kapitainsky, keongalvin, Nick Craig-Wood, nielash, rarspace01, rzitzer, Tera, Vincent Murphy)
- fs: Add more detailed logging for file includes/excludes (Kyle Reynolds)
- lsf
 - Add `--time-format` flag (nielash)
 - Make metadata appear for directories (Nick Craig-Wood)
- lsjson: Make metadata appear for directories (Nick Craig-Wood)
- rc
 - Add `srcFs` and `dstFs` to `core/stats` and `core/transferred` stats (Nick Craig-Wood)
 - Add `operations/hashsum` to the rc as `rclone hashsum` equivalent (Nick Craig-Wood)
 - Add `config/paths` to the rc as `rclone config paths` equivalent (Nick Craig-Wood)
- sync
 - Optionally report list of synced paths to file (nielash)
 - Implement directory sync for mod times and metadata (Nick Craig-Wood)
 - Don't set directory modtimes if already set (nielash)
 - Don't sync directory modtimes from backends which don't have directories (Nick Craig-Wood)
- Bug Fixes
 - backend
 - Make backends which use oauth implement the `Shutdown` and shutdown the oauth properly (rkonfj)
 - bisync
 - Handle unicode and case normalization consistently (nielash)
 - Partial uploads known issue on `local / ftp / sftp` has been resolved (unless using `--inplace`) (nielash)
 - Fixed handling of unicode normalization and case insensitivity, support for `--fix-case`, `--ignore-case-sync`, `--no-unicode-normalization` (nielash)
 - Bisync no longer fails to find the correct listing file when configs are overridden with backend-specific flags. (nielash)

- nfsmount
 - Fix exit after external unmount (nielash)
 - Fix `--volname` being ignored (nielash)
- operations
 - Fix renaming a file on macOS (nielash)
 - Fix case-insensitive moves in operations.Move (nielash)
 - Fix TestCaseInsensitiveMoveFileDryRun on chunker integration tests (nielash)
 - Fix TestMkdirModTime test (Nick Craig-Wood)
 - Fix TestSetDirModTime for backends with SetDirModTime but not Metadata (Nick Craig-Wood)
 - Fix typo in log messages (nielash)
- serve nfs: Fix writing files via Finder on macOS (nielash)
- serve restic: Fix error handling (Michael Eischer)
- serve webdav: Fix `--baseurl` without leading / (Nick Craig-Wood)
- stats: Fix race between ResetCounters and stopAverageLoop called from time.AfterFunc (Nick Craig-Wood)
- sync
 - `--fix-case` flag to rename case insensitive dest (nielash)
 - Use operations.DirMove instead of sync.MoveDir for `--fix-case` (nielash)
- systemd: Fix detection and switch to the coreos package everywhere rather than having 2 separate libraries (Anagh Kumar Baranwal)
- Mount
 - Fix macOS not noticing errors with `--daemon` (Nick Craig-Wood)
 - Notice daemon dying much quicker (Nick Craig-Wood)
- VFS
 - Fix unicode normalization on macOS (nielash)
- Bisync
 - Copies and deletes are now handled in one operation instead of two (nielash)
 - `--track-renames` and `--backup-dir` are now supported (nielash)
 - Final listings are now generated from sync results, to avoid needing to re-list (nielash)
 - Bisync is now much more resilient to changes that happen during a bisync run, and far less prone to critical errors / undetected changes (nielash)
 - Bisync is now capable of rolling a file listing back in cases of uncertainty, essentially marking the file as needing to be rechecked next time. (nielash)
 - A few basic terminal colors are now supported, controllable with `--color` (`AUTO` | `NEVER` | `ALWAYS`) (nielash)

- Initial listing snapshots of Path1 and Path2 are now generated concurrently, using the same "march" infrastructure as `check` and `sync`, for performance improvements and less risk of error. (nielash)
- `--resync` is now much more efficient (especially for users of `--create-empty-src-dirs`) (nielash)
- Google Docs (and other files of unknown size) are now supported (with the same options as in `sync`) (nielash)
- Equality checks before a sync conflict rename now fall back to `cryptcheck` (when possible) or `--download`, (nielash) instead of `--size-only`, when `check` is not available.
- Bisync now fully supports comparing based on any combination of size, modtime, and checksum, lifting the prior restriction on backends without modtime support. (nielash)
- Bisync now supports a "Graceful Shutdown" mode to cleanly cancel a run early without requiring `--resync`. (nielash)
- New `--recover` flag allows robust recovery in the event of interruptions, without requiring `--resync`. (nielash)
- A new `--max-lock` setting allows lock files to automatically renew and expire, for better automatic recovery when a run is interrupted. (nielash)
- Bisync now supports auto-resolving sync conflicts and customizing rename behavior with new `--conflict-resolve`, `--conflict-loser`, and `--conflict-suffix` flags. (nielash)
- A new `--resync-mode` flag allows more control over which version of a file gets kept during a `--resync`. (nielash)
- Bisync now supports `--retries` and `--retries-sleep` (when `--resilient` is set.) (nielash)
- Clarify file operation directions in dry-run logs (Kyle Reynolds)
- Local
 - Fix cleanRootPath on Windows after go1.21.4 stdlib update (nielash)
 - Implement setting modification time on directories (nielash)
 - Implement modtime and metadata for directories (Nick Craig-Wood)
 - Fix setting of btime on directories on Windows (Nick Craig-Wood)
 - Delete backend implementation of Purge to speed up and make stats (Nick Craig-Wood)
 - Support metadata setting and mapping on server side Move (Nick Craig-Wood)
- Cache
 - Implement setting modification time on directories (if supported by wrapped remote) (nielash)

- Implement setting metadata on directories (Nick Craig-Wood)
- Crypt
 - Implement setting modification time on directories (if supported by wrapped remote) (nielash)
 - Implement setting metadata on directories (Nick Craig-Wood)
 - Improve handling of undecryptable file names (nielash)
 - Add missing error check spotted by linter (Nick Craig-Wood)
- Azure Blob
 - Implement `--azureblob-delete-snapshots` (Nick Craig-Wood)
- B2
 - Clarify exactly what `--b2-download-auth-duration` does in the docs (Nick Craig-Wood)
- Chunker
 - Implement setting modification time on directories (if supported by wrapped remote) (nielash)
 - Implement setting metadata on directories (Nick Craig-Wood)
- Combine
 - Implement setting modification time on directories (if supported by wrapped remote) (nielash)
 - Implement setting metadata on directories (Nick Craig-Wood)
 - Fix directory metadata error on upstream root (nielash)
 - Fix directory move across upstreams (nielash)
- Compress
 - Implement setting modification time on directories (if supported by wrapped remote) (nielash)
 - Implement setting metadata on directories (Nick Craig-Wood)
- Drive
 - Implement setting modification time on directories (nielash)
 - Implement modtime and metadata setting for directories (Nick Craig-Wood)
 - Support metadata setting and mapping on server side Move, Copy (Nick Craig-Wood)
- FTP
 - Fix mkdir with rsftp which is returning the wrong code (Nick Craig-Wood)
- Hasher
 - Implement setting modification time on directories (if supported by wrapped remote) (nielash)
 - Implement setting metadata on directories (Nick Craig-Wood)
 - Fix error from trying to stop an already-stopped db (nielash)

- Look for cached hash if passed hash unexpectedly blank (nielash)
- Imagekit
 - Updated docs and web content (Harshit Budhraj)
 - Updated overview - supported operations (Harshit Budhraj)
- Mega
 - Fix panic with go1.22 (Nick Craig-Wood)
- Netstorage
 - Fix Root to return correct directory when pointing to a file (Nick Craig-Wood)
- Onedrive
 - Add metadata support (nielash)
- Opendrive
 - Fix moving file/folder within the same parent dir (nielash)
- Oracle Object Storage
 - Support `backend restore` command (Nikhil Ahuja)
 - Support workload identity authentication for OKE (Anders Swanson)
- Protodrive
 - Fix encoding of Root method (Nick Craig-Wood)
- Quatrix
 - Fix `Content-Range` header (Volodymyr)
 - Add option to skip project folders (Oksana Zhykina)
 - Fix Root to return correct directory when pointing to a file (Nick Craig-Wood)
- S3
 - Add `--s3-version-deleted` to show delete markers in listings when using versions. (Nick Craig-Wood)
 - Add IPv6 support with option `--s3-use-dual-stack` (Anthony Metzidis)
 - Copy parts in parallel when doing chunked server side copy (Nick Craig-Wood)
 - GCS provider: fix server side copy of files bigger than 5G (Nick Craig-Wood)
 - Support metadata setting and mapping on server side Copy (Nick Craig-Wood)
- Seafile
 - Fix download/upload error when `FILE_SERVER_ROOT` is relative (DanielEgbers)
 - Fix Root to return correct directory when pointing to a file (Nick Craig-Wood)
- SFTP
 - Implement setting modification time on directories (nielash)
 - Set directory modtimes update on write flag (Nick Craig-Wood)
 - Shorten wait delay for external ssh binaries now that we are using go1.20 (Nick Craig-Wood)
- Swift
 - Avoid unnecessary container versioning check (Joe Cai)

- Union
 - Implement setting modification time on directories (if supported by wrapped remote) (nielash)
 - Implement setting metadata on directories (Nick Craig-Wood)
- WebDAV
 - Reduce priority of chunks upload log (Gabriel Ramos)
 - owncloud: Add config `owncloud_exclude_shares` which allows to exclude shared files and folders when listing remote resources (Thomas Müller)

v1.65.2 - 2024-01-24

[See commits](#)

- Bug Fixes
 - build: bump github.com/cloudflare/circl from 1.3.6 to 1.3.7 (dependabot)
 - docs updates (Nick Craig-Wood, kapitainsky, nielash, Tera, Harshit Budhraj)
- VFS
 - Fix stale data when using `--vfs-cache-mode` full (Nick Craig-Wood)
- Azure Blob
 - **IMPORTANT** Fix data corruption bug - see [#7590](#) (Nick Craig-Wood)

v1.65.1 - 2024-01-08

[See commits](#)

- Bug Fixes
 - build
 - Bump golang.org/x/crypto to fix ssh terrapin CVE-2023-48795 (dependabot)
 - Update to go1.21.5 to fix Windows path problems (Nick Craig-Wood)
 - Fix docker build on arm/v6 (Nick Craig-Wood)
 - install.sh: fix harmless error message on install (Nick Craig-Wood)
 - accounting: fix stats to show server side transfers (Nick Craig-Wood)
 - doc fixes (albertony, ben-ba, Eli Orzitzer, emyarod, keongalvin, rarspace01)
 - nfsmount: Compile for all unix oses, add `--sudo` and fix error/option handling (Nick Craig-Wood)
 - operations: Fix files moved by rclone move not being counted as transfers (Nick Craig-Wood)
 - oauthutil: Avoid panic when `*token` and `*ts.token` are the same (rkonfj)
 - serve s3: Fix listing oddities (Nick Craig-Wood)
- VFS

- Note that `--vfs-refresh` runs in the background (Nick Craig-Wood)
- Azurefiles
 - Fix storage base url (Oksana)
- Crypt
 - Fix rclone move a file over itself deleting the file (Nick Craig-Wood)
- Chunker
 - Fix rclone move a file over itself deleting the file (Nick Craig-Wood)
- Compress
 - Fix rclone move a file over itself deleting the file (Nick Craig-Wood)
- Dropbox
 - Fix used space on dropbox team accounts (Nick Craig-Wood)
- FTP
 - Fix multi-thread copy (WeidiDeng)
- Googlephotos
 - Fix nil pointer exception when batch failed (Nick Craig-Wood)
- Hasher
 - Fix rclone move a file over itself deleting the file (Nick Craig-Wood)
 - Fix invalid memory address error when MaxAge == 0 (nielash)
- Onedrive
 - Fix error listing: unknown object type `<nil>` (Nick Craig-Wood)
 - Fix "unauthenticated: Unauthenticated" errors when uploading (Nick Craig-Wood)
- Oracleobjectstorage
 - Fix object storage endpoint for custom endpoints (Manoj Ghosh)
 - Multipart copy create bucket if it doesn't exist. (Manoj Ghosh)
- Protondrive
 - Fix CVE-2023-45286 / GHSA-xwh9-gc39-5298 (Nick Craig-Wood)
- S3
 - Fix crash if no UploadId in multipart upload (Nick Craig-Wood)
- Smb
 - Fix shares not listed by updating go-smb2 (halms)
- Union
 - Fix rclone move a file over itself deleting the file (Nick Craig-Wood)

v1.65.0 - 2023-11-26

[See commits](#)

- New backends
 - Azure Files (karan, moongdal, Nick Craig-Wood)

- ImageKit (Abhinav Dhiman)
- Linkbox (viktor, Nick Craig-Wood)
- New commands
 - `serve s3`: Let rclone act as an S3 compatible server (Mikubill, Artur Neumann, Saw-jan, Nick Craig-Wood)
 - `nfsmount`: mount command to provide mount mechanism on macOS without FUSE (Saleh Dindar)
 - `serve nfs`: to serve a remote for use by `nfsmount` (Saleh Dindar)
- New Features
 - `install.sh`: Clean up temp files in install script (Jacob Hands)
 - `build`
 - Update all dependencies (Nick Craig-Wood)
 - Refactor version info and icon resource handling on windows (albertony)
 - `doc updates` (albertony, alfish2000, asdfdsazqqq, Dimitri Papadopoulos, Herby Gillot, Joda Stößer, Manoj Ghosh, Nick Craig-Wood)
 - Implement `--metadata-mapper` to transform metadata with a user supplied program (Nick Craig-Wood)
 - Add `ChunkWriterDoesntSeek` feature flag and set it for b2 (Nick Craig-Wood)
 - `lib/http`: Export basic go string functions for use in `--template` (Gabriel Espinoza)
 - `makefile`: Use POSIX compatible install arguments (Mina Galić)
 - `operations`
 - Use less memory when doing multithread uploads (Nick Craig-Wood)
 - Implement `--partial-suffix` to control extension of temporary file names (Volodymyr)
 - `rc`
 - Add `operations/check` to the rc API (Nick Craig-Wood)
 - Always report an error as JSON (Nick Craig-Wood)
 - Set `Last-Modified` header for files served by `--rc-serve` (Nikita Shoshin)
 - `size`: Dont show duplicate object count when less than 1k (albertony)
- Bug Fixes
 - `fshttp`: Fix `--contimeout` being ignored (你知道未来吗)
 - `march`: Fix excessive parallelism when using `--no-traverse` (Nick Craig-Wood)
 - `ncdu`: Fix crash when re-entering changed directory after rescan (Nick Craig-Wood)
 - `operations`
 - Fix overwrite of destination when multi-thread transfer fails (Nick Craig-Wood)
 - Fix invalid UTF-8 when truncating file names when not using `--inplace` (Nick Craig-Wood)

- serve dnla: Fix crash on graceful exit (wuxingzhong)
- Mount
 - Disable mount for freebsd and alias cmount as mount on that platform (Nick Craig-Wood)
- VFS
 - Add `--vfs-refresh` flag to read all the directories on start (Beyond Meat)
 - Implement Name() method in WriteFileHandle and ReadFileHandle (Saleh Dindar)
 - Add go-billy dependency and make sure vfs.Handle implements billy.File (Saleh Dindar)
 - Error out early if can't upload 0 length file (Nick Craig-Wood)
- Local
 - Fix copying from Windows Volume Shadows (Nick Craig-Wood)
- Azure Blob
 - Add support for cold tier (Ivan Yanitra)
- B2
 - Implement "rclone backend lifecycle" to read and set bucket lifecycles (Nick Craig-Wood)
 - Implement `--b2-lifecycle` to control lifecycle when creating buckets (Nick Craig-Wood)
 - Fix listing all buckets when not needed (Nick Craig-Wood)
 - Fix multi-thread upload with copyto going to wrong name (Nick Craig-Wood)
 - Fix server side chunked copy when file size was exactly `--b2-copy-cutoff` (Nick Craig-Wood)
 - Fix streaming chunked files an exact multiple of chunk size (Nick Craig-Wood)
- Box
 - Filter more EventIDs when polling (David Sze)
 - Add more logging for polling (David Sze)
 - Fix performance problem reading metadata for single files (Nick Craig-Wood)
- Drive
 - Add read/write metadata support (Nick Craig-Wood)
 - Add support for SHA-1 and SHA-256 checksums (rinsuki)
 - Add `--drive-show-all-gdocs` to allow unexportable gdocs to be server side copied (Nick Craig-Wood)
 - Add a note that `--drive-scope` accepts comma-separated list of scopes (Keigo Imai)
 - Fix error updating created time metadata on existing object (Nick Craig-Wood)
 - Fix integration tests by enabling metadata support from the context (Nick Craig-Wood)

- Dropbox
 - Factor batcher into lib/batcher (Nick Craig-Wood)
 - Fix missing encoding for rclone purge (Nick Craig-Wood)
- Google Cloud Storage
 - Fix 400 Bad request errors when using multi-thread copy (Nick Craig-Wood)
- Googlephotos
 - Implement batcher for uploads (Nick Craig-Wood)
- Hdfs
 - Added support for list of namenodes in hdfs remote config (Tayo-pasedaRJ)
- HTTP
 - Implement set backend command to update running backend (Nick Craig-Wood)
 - Enable methods used with WebDAV (Alen Šiljak)
- Jottacloud
 - Add support for reading and writing metadata (albertony)
- Onedrive
 - Implement ListR method which gives `--fast-list` support (Nick Craig-Wood)
 - This must be enabled with the `--onedrive-delta` flag
- Quatrix
 - Add partial upload support (Oksana Zhykina)
 - Overwrite files on conflict during server-side move (Oksana Zhykina)
- S3
 - Add Linode provider (Nick Craig-Wood)
 - Add docs on how to add a new provider (Nick Craig-Wood)
 - Fix no error being returned when creating a bucket we don't own (Nick Craig-Wood)
 - Emit a debug message if anonymous credentials are in use (Nick Craig-Wood)
 - Add `--s3-disable-multipart-uploads` flag (Nick Craig-Wood)
 - Detect looping when using gcs and versions (Nick Craig-Wood)
- SFTP
 - Implement `--sftp-copy-is-hardlink` to server side copy as hardlink (Nick Craig-Wood)
- Smb
 - Fix incorrect `about` size by switching to `github.com/cloudsoda/go-smb2` fork (Nick Craig-Wood)
 - Fix modtime of multithread uploads by setting PartialUploads (Nick Craig-Wood)
- WebDAV
 - Added an rclone vendor to work with `rclone serve webdav` (Adithya Kumar)

v1.64.2 - 2023-10-19

[See commits](#)

- Bug Fixes
 - selfupdate: Fix "invalid hashsum signature" error (Nick Craig-Wood)
 - build: Fix docker build running out of space (Nick Craig-Wood)

v1.64.1 - 2023-10-17

[See commits](#)

- Bug Fixes
 - cmd: Make `--progress` output logs in the same format as without (Nick Craig-Wood)
 - docs fixes (Dimitri Papadopoulos Orfanos, Herby Gillot, Manoj Ghosh, Nick Craig-Wood)
 - lsjson: Make sure we set the global metadata flag too (Nick Craig-Wood)
 - operations
 - Ensure concurrency is no greater than the number of chunks (Pat Patterson)
 - Fix OpenOptions ignored in copy if operation was a multiThreadCopy (Vitor Gomes)
 - Fix error message on delete to have file name (Nick Craig-Wood)
 - serve sftp: Return not supported error for not supported commands (Nick Craig-Wood)
 - build: Upgrade golang.org/x/net to v0.17.0 to fix HTTP/2 rapid reset (Nick Craig-Wood)
 - pacer: Fix b2 deadlock by defaulting max connections to unlimited (Nick Craig-Wood)
- Mount
 - Fix automount not detecting drive is ready (Nick Craig-Wood)
- VFS
 - Fix update dir modification time (Saleh Dindar)
- Azure Blob
 - Fix "fatal error: concurrent map writes" (Nick Craig-Wood)
- B2
 - Fix multipart upload: corrupted on transfer: sizes differ XXX vs 0 (Nick Craig-Wood)
 - Fix locking window when getting multipart upload URL (Nick Craig-Wood)
 - Fix server side copies greater than 4GB (Nick Craig-Wood)
 - Fix chunked streaming uploads (Nick Craig-Wood)

- Reduce default `--b2-upload-concurrency` to 4 to reduce memory usage (Nick Craig-Wood)
- Onedrive
 - Fix the configurator to allow `/teams/ID` in the config (Nick Craig-Wood)
- Oracleobjectstorage
 - Fix OpenOptions being ignored in uploadMultipart with chunkWriter (Nick Craig-Wood)
- S3
 - Fix slice bounds out of range error when listing (Nick Craig-Wood)
 - Fix OpenOptions being ignored in uploadMultipart with chunkWriter (Vitor Gomes)
- Storj
 - Update storj.io/uplink to v1.12.0 (Kaloyan Raev)

v1.64.0 - 2023-09-11

[See commits](#)

- New backends
 - [Proton Drive](#) (Chun-Hung Tseng)
 - [Quatrix](#) (Oksana, Volodymyr Kit)
 - New S3 providers
 - [Synology C2](#) (BakaWang)
 - [Leviia](#) (Benjamin)
 - New Jottacloud providers
 - [Onlime](#) (Fjodor42)
 - [Telia Sky](#) (NoLooseEnds)
- Major changes
 - Multi-thread transfers (Vitor Gomes, Nick Craig-Wood, Manoj Ghosh, Edwin Mackenzie-Owen)
 - Multi-thread transfers are now available when transferring to:
 - `local`, `s3`, `azureblob`, `b2`, `oracleobjectstorage` and `smb`
 - This greatly improves transfer speed between two network sources.
 - In memory buffering has been unified between all backends and should share memory better.
 - See [--multi-thread docs](#) for more info
- New commands
 - `rclone config redacted` support mechanism for showing redacted config (Nick Craig-Wood)
- New Features

- accounting
 - Show server side stats in own lines and not as bytes transferred (Nick Craig-Wood)
- bisync
 - Add new `--ignore-listing-checksum` flag to distinguish from `--ignore-checksum` (nielash)
 - Add experimental `--resilient` mode to allow recovery from self-correctable errors (nielash)
 - Add support for `--create-empty-src-dirs` (nielash)
 - Dry runs no longer commit filter changes (nielash)
 - Enforce `--check-access` during `--resync` (nielash)
 - Apply filters correctly during deletes (nielash)
 - Equality check before renaming (leave identical files alone) (nielash)
 - Fix `dryRun` rc parameter being ignored (nielash)
- build
 - Update to `go1.21` and make `go1.19` the minimum required version (Anagh Kumar Baranwal, Nick Craig-Wood)
 - Update dependencies (Nick Craig-Wood)
 - Add snap installation (hideo aoyama)
 - Change Winget Releaser job to `ubuntu-latest` (sitiom)
- cmd: Refactor and use `sysdnotify` in more commands (eNV25)
- config: Add `--multi-thread-chunk-size` flag (Vitor Gomes)
- doc updates (antoinetran, Benjamin, Bjørn Smith, Dean Attali, gabriel-suela, James Braza, Justin Hellings, kapitainsky, Mahad, Masamune3210, Nick Craig-Wood, Nihaal Sangha, Niklas Hambüchen, Raymond Berger, r-ricci, Sawada Tsunayoshi, Tiago Boeing, Vladislav Vorobev)
- fs
 - Use atomic types everywhere (Roberto Ricci)
 - When `--max-transfer` limit is reached exit with code (10) (kapitainsky)
 - Add rclone completion powershell - basic implementation only (Nick Craig-Wood)
- http servers: Allow CORS to be set with `--allow-origin` flag (yuudi)
- lib/rest: Remove unnecessary `nil` check (Eng Zer Jun)
- ncd: Add keybinding to rescan filesystem (eNV25)
- rc
 - Add `executeId` to job listings (yuudi)
 - Add `core/du` to measure local disk usage (Nick Craig-Wood)
 - Add `operations/settier` to API (Drew Stinnett)

- rclone test info: Add `--check-base32768` flag to check can store all base32768 characters (Nick Craig-Wood)
- rmdirs: Remove directories concurrently controlled by `--checkers` (Nick Craig-Wood)
- Bug Fixes
 - accounting: Don't stop calculating average transfer speed until the operation is complete (Jacob Hands)
 - fs: Fix `transferTime` not being set in JSON logs (Jacob Hands)
 - fshttp: Fix `--bind 0.0.0.0` allowing IPv6 and `--bind ::0` allowing IPv4 (Nick Craig-Wood)
 - operations: Fix overlapping check on case insensitive file systems (Nick Craig-Wood)
 - serve dlina: Fix MIME type if backend can't identify it (Nick Craig-Wood)
 - serve ftp: Fix race condition when using the auth proxy (Nick Craig-Wood)
 - serve sftp: Fix hash calculations with `--vfs-cache-mode full` (Nick Craig-Wood)
 - serve webdav: Fix error: Expecting fs.Object or fs.Directory, got `nil` (Nick Craig-Wood)
 - sync: Fix lockup with `--cutoff-mode=soft` and `--max-duration` (Nick Craig-Wood)
- Mount
 - fix: Mount parsing for linux (Anagh Kumar Baranwal)
- VFS
 - Add `--vfs-cache-min-free-space` to control minimum free space on the disk containing the cache (Nick Craig-Wood)
 - Added cache cleaner for directories to reduce memory usage (Anagh Kumar Baranwal)
 - Update parent directory modtimes on vfs actions (David Pedersen)
 - Keep virtual directory status accurate and reduce deadlock potential (Anagh Kumar Baranwal)
 - Make sure struct field is aligned for atomic access (Roberto Ricci)
- Local
 - Rmdir return an error if the path is not a dir (zjx20)
- Azure Blob
 - Implement `OpenChunkWriter` and multi-thread uploads (Nick Craig-Wood)
 - Fix creation of directory markers (Nick Craig-Wood)
 - Fix purging with directory markers (Nick Craig-Wood)
- B2
 - Implement `OpenChunkWriter` and multi-thread uploads (Nick Craig-Wood)

- Fix rclone link when object path contains special characters (Alishan Ladhani)
- Box
 - Add polling support (David Sze)
 - Add `--box-impersonate` to impersonate a user ID (Nick Craig-Wood)
 - Fix unhelpful decoding of error messages into decimal numbers (Nick Craig-Wood)
- Chunker
 - Update documentation to mention issue with small files (Ricardo D'O. Albanus)
- Compress
 - Fix ChangeNotify (Nick Craig-Wood)
- Drive
 - Add `--drive-fast-list-bug-fix` to control ListR bug workaround (Nick Craig-Wood)
- Fichier
 - Implement `DirMove` (Nick Craig-Wood)
 - Fix error code parsing (alexia)
- FTP
 - Add `socks_proxy` support for SOCKS5 proxies (Zach)
 - Fix 425 "TLS session of data connection not resumed" errors (Nick Craig-Wood)
- Hdfs
 - Retry "replication in progress" errors when uploading (Nick Craig-Wood)
 - Fix uploading to the wrong object on Update with overridden remote name (Nick Craig-Wood)
- HTTP
 - CORS should not be sent if not set (yuudi)
 - Fix webdav OPTIONS response (yuudi)
- Opendrive
 - Fix List on a just deleted and remade directory (Nick Craig-Wood)
- Oracleobjectstorage
 - Use rclone's rate limiter in multipart transfers (Manoj Ghosh)
 - Implement `OpenChunkWriter` and multi-thread uploads (Manoj Ghosh)
- S3
 - Refactor multipart upload to use `OpenChunkWriter` and `ChunkWriter` (Vitor Gomes)
 - Factor generic multipart upload into `lib/multipart` (Nick Craig-Wood)
 - Fix purging of root directory with `--s3-directory-markers` (Nick Craig-Wood)
 - Add `rclone backend set` command to update the running config (Nick Craig-Wood)
 - Add `rclone backend restore-status` command (Nick Craig-Wood)

- SFTP
 - Stop uploads re-using the same ssh connection to improve performance (Nick Craig-Wood)
 - Add `--sftp-ssh` to specify an external ssh binary to use (Nick Craig-Wood)
 - Add socks_proxy support for SOCKS5 proxies (Zach)
 - Support dynamic `--sftp-path-override` (nielash)
 - Fix spurious warning when using `--sftp-ssh` (Nick Craig-Wood)
- Smb
 - Implement multi-threaded writes for copies to smb (Edwin Mackenzie-Owen)
- Storj
 - Performance improvement for large file uploads (Kaloyan Raev)
- Swift
 - Fix HEADING 0-length objects when `--swift-no-large-objects` set (Julian Lepinski)
- Union
 - Add `:writback` to act as a simple cache (Nick Craig-Wood)
- WebDAV
 - Nextcloud: fix segment violation in low-level retry (Paul)
- Zoho
 - Remove Range requests workarounds to fix integration tests (Nick Craig-Wood)

v1.63.1 - 2023-07-17

[See commits](#)

- Bug Fixes
 - build: Fix macos builds for versions < 12 (Anagh Kumar Baranwal)
 - dirtree: Fix performance with large directories of directories and `--fast-list` (Nick Craig-Wood)
 - operations
 - Fix deadlock when using `lsd / ls` with `--progress` (Nick Craig-Wood)
 - Fix `.rcloneLink` files not being converted back to symlinks (Nick Craig-Wood)
 - doc fixes (Dean Attali, Mahad, Nick Craig-Wood, Sawada Tsunayoshi, Vladislav Vorobev)
- Local
 - Fix partial directory read for corrupted filesystem (Nick Craig-Wood)
- Box
 - Fix reconnect failing with HTTP 400 Bad Request (albertony)

- Smb
 - Fix "Statfs failed: bucket or container name is needed" when mounting (Nick Craig-Wood)
- WebDAV
 - Nextcloud: fix must use /dav/files/USER endpoint not /webdav error (Paul)
 - Nextcloud chunking: add more guidance for the user to check the config (darix)

v1.63.0 - 2023-06-30

[See commits](#)

- New backends
 - [Pikpak](#) (wiserain)
 - New S3 providers
 - [petabox.io](#) (Andrei Smirnov)
 - [Google Cloud Storage](#) (Anthony Pessy)
 - New WebDAV providers
 - [Fastmail](#) (Arnavion)
- Major changes
 - Files will be copied to a temporary name ending in `.partial` when copying to `local`, `ftp`, `sftp` then renamed at the end of the transfer. (Janne Hellsten, Nick Craig-Wood)
 - This helps with data integrity as we don't delete the existing file until the new one is complete.
 - It can be disabled with the `--inplace` flag.
 - This behaviour will also happen if the backend is wrapped, for example `sftp` wrapped with `crypt`.
 - The `s3`, `azureblob` and `gcs` backends now support directory markers so empty directories are supported (Jānis Bebrītis, Nick Craig-Wood)
 - The `--default-time` flag now controls the unknown modification time of files/dirs (Nick Craig-Wood)
 - If a file or directory does not have a modification time rclone can read then rclone will display this fixed time instead.
 - For the old behaviour use `--default-time 0s` which will set this time to the time rclone started up.
- New Features
 - build
 - Modernise linters in use and fixup all affected code (albertony)
 - Push docker beta to GHCR (GitHub container registry) (Richard Tweed)

- cat: Add `--separator` option to cat command (Loren Gordon)
- config
 - Do not remove/overwrite other files during config file save (albertony)
 - Do not overwrite config file symbolic link (albertony)
 - Stop `config create` making invalid config files (Nick Craig-Wood)
- doc updates (Adam K, Aditya Basu, albertony, asdffdsazqqq, Damo, danielkrajnik, Dimitri Papadopoulos, dlitster, Drew Parsons, jumbi77, kapitainsky, mac-15, Mariusz Suchodolski, Nick Craig-Wood, NickIAm, Rintze Zelle, Stanislav Gromov, Tareq Sharafy, URenko, yuudi, Zach Kipp)
- fs
 - Add `size` to JSON logs when moving or copying an object (Nick Craig-Wood)
 - Allow boolean features to be enabled with `--disable !Feature` (Nick Craig-Wood)
- genautocomplete: Rename to `completion` with alias to the old name (Nick Craig-Wood)
- librcclone: Added example on using `librcclone` with Go (alankrit)
- lsjson: Make `--stat` more efficient (Nick Craig-Wood)
- operations
 - Implement `--multi-thread-write-buffer-size` for speed improvements on downloads (Paulo Schreiner)
 - Reopen downloads on error when using `check --download` and `cat` (Nick Craig-Wood)
- rc: `config/listremotes` includes remotes defined with environment variables (kapitainsky)
- selfupdate: Obey `--no-check-certificate` flag (Nick Craig-Wood)
- serve restic: Trigger systemd notify (Shyim)
- serve webdav: Implement owncloud checksum and modtime extensions (WeidiDeng)
- sync: `--suffix-keep-extension` preserve 2 part extensions like `.tar.gz` (Nick Craig-Wood)
- Bug Fixes
 - accounting
 - Fix Prometheus metrics to be the same as `core/stats` (Nick Craig-Wood)
 - Bwlimit signal handler should always start (Sam Lai)
 - bisync: Fix `maxDelete` parameter being ignored via the rc (Nick Craig-Wood)
 - cmd/ncdu: Fix screen corruption when logging (eNV25)
 - filter: Fix deadlock with errors on `--files-from` (douchen)

- fs
 - Fix interaction between `--progress` and `--interactive` (Nick Craig-Wood)
 - Fix infinite recursive call in pacer ModifyCalculator (fixes issue reported by the staticcheck linter) (albertony)
- lib/atexit: Ensure OnError only calls cancel function once (Nick Craig-Wood)
- lib/rest: Fix problems re-using HTTP connections (Nick Craig-Wood)
- rc
 - Fix `operations/stat` with trailing `/` (Nick Craig-Wood)
 - Fix missing `--rc` flags (Nick Craig-Wood)
 - Fix output of Time values in `options/get` (Nick Craig-Wood)
- serve dlina: Fix potential data race (Nick Craig-Wood)
- version: Fix reported os/kernel version for windows (albertony)
- Mount
 - Add `--mount-case-insensitive` to force the mount to be case insensitive (Nick Craig-Wood)
 - Removed unnecessary byte slice allocation for reads (Anagh Kumar Baranwal)
 - Clarify rclone mount error when installed via homebrew (Nick Craig-Wood)
 - Added `_netdev` to the example mount so it gets treated as a remote-fs rather than local-fs (Anagh Kumar Baranwal)
- Mount2
 - Updated go-fuse version (Anagh Kumar Baranwal)
 - Fixed statfs (Anagh Kumar Baranwal)
 - Disable xattrs (Anagh Kumar Baranwal)
- VFS
 - Add MkdirAll function to make a directory and all beneath (Nick Craig-Wood)
 - Fix reload: failed to add virtual dir entry: file does not exist (Nick Craig-Wood)
 - Fix writing to a read only directory creating spurious directory entries (WeidiDeng)
 - Fix potential data race (Nick Craig-Wood)
 - Fix backends being Shutdown too early when startup takes a long time (Nick Craig-Wood)
- Local
 - Fix filtering of symlinks with `-l` / `--links` flag (Nick Craig-Wood)
 - Fix `/path/to/file.rclonelink` when `-l` / `--links` is in use (Nick Craig-Wood)
 - Fix crash with `--metadata` on Android (Nick Craig-Wood)
- Cache
 - Fix backends shutting down when in use when used via the rc (Nick Craig-Wood)
- Crypt

- Add `--crypt-suffix` option to set a custom suffix for encrypted files (jladbrook)
- Add `--crypt-pass-bad-blocks` to allow corrupted file output (Nick Craig-Wood)
- Fix reading 0 length files (Nick Craig-Wood)
- Try not to return "unexpected EOF" error (Nick Craig-Wood)
- Reduce allocations (albertony)
- Recommend Dropbox for `base32768` encoding (Nick Craig-Wood)
- Azure Blob
 - Empty directory markers (Nick Craig-Wood)
 - Support azure workload identities (Tareq Sharafy)
 - Fix azure blob uploads with multiple bits of metadata (Nick Craig-Wood)
 - Fix azurite compatibility by sending nil tier if set to empty string (Roel Arents)
- Combine
 - Implement missing methods (Nick Craig-Wood)
 - Fix goroutine stack overflow on bad object (Nick Craig-Wood)
- Drive
 - Add `--drive-env-auth` to get IAM credentials from runtime (Peter Brunner)
 - Update drive service account guide (Juang, Yi-Lin)
 - Fix change notify picking up files outside the root (Nick Craig-Wood)
 - Fix trailing slash mis-identificaton of folder as file (Nick Craig-Wood)
 - Fix incorrect remote after Update on object (Nick Craig-Wood)
- Dropbox
 - Implement `--dropbox-pacer-min-sleep` flag (Nick Craig-Wood)
 - Fix the dropbox batcher stalling (Misty)
- Fichier
 - Add `--ficicher-cdn` option to use the CDN for download (Nick Craig-Wood)
- FTP
 - Lower log message priority when `SetModTime` is not supported to debug (Tobias Gion)
 - Fix "unsupported LIST line" errors on startup (Nick Craig-Wood)
 - Fix "501 Not a valid pathname." errors when creating directories (Nick Craig-Wood)
- Google Cloud Storage
 - Empty directory markers (Jānis Bebrītis, Nick Craig-Wood)
 - Added `--gcs-user-project` needed for requester pays (Christopher Merry)
- HTTP
 - Add client certificate user auth middleware. This can auth `serve restic` from the username in the client cert. (Peter Fern)
- Jottacloud

- Fix vfs writeback stuck in a failed upload loop with file versioning disabled (albertony)
- Onedrive
 - Add `--onedrive-av-override` flag to download files flagged as virus (Nick Craig-Wood)
 - Fix quickxorhash on 32 bit architectures (Nick Craig-Wood)
 - Report any list errors during `rclone cleanup` (albertony)
- Putio
 - Fix uploading to the wrong object on Update with overridden remote name (Nick Craig-Wood)
 - Fix modification times not being preserved for server side copy and move (Nick Craig-Wood)
 - Fix server side copy failures (400 errors) (Nick Craig-Wood)
- S3
 - Empty directory markers (Jānis Bebrītis, Nick Craig-Wood)
 - Update Scaleway storage classes (Brian Starkey)
 - Fix `--s3-versions` on individual objects (Nick Craig-Wood)
 - Fix hang on aborting multipart upload with iDrive e2 (Nick Craig-Wood)
 - Fix missing "tier" metadata (Nick Craig-Wood)
 - Fix V3sign: add missing subresource delete (cc)
 - Fix Arvancloud Domain and region changes and alphabetise the provider (Ehsan Tadayon)
 - Fix Qiniu KODO quirks virtualHostStyle is false (zzq)
- SFTP
 - Add `--sftp-host-key-algorithms` to allow specifying SSH host key algorithms (Joel)
 - Fix using `--sftp-key-use-agent` and `--sftp-key-file` together needing private key file (Arnav Singh)
 - Fix move to allow overwriting existing files (Nick Craig-Wood)
 - Don't stat directories before listing them (Nick Craig-Wood)
 - Don't check remote points to a file if it ends with / (Nick Craig-Wood)
- Sharefile
 - Disable streamed transfers as they no longer work (Nick Craig-Wood)
- Smb
 - Code cleanup to avoid overwriting ctx before first use (fixes issue reported by the staticcheck linter) (albertony)
- Storj

- Fix "uplink: too many requests" errors when uploading to the same file (Nick Craig-Wood)
- Fix uploading to the wrong object on Update with overridden remote name (Nick Craig-Wood)
- Swift
 - Ignore 404 error when deleting an object (Nick Craig-Wood)
- Union
 - Implement missing methods (Nick Craig-Wood)
 - Allow errors to be unwrapped for inspection (Nick Craig-Wood)
- Uptobox
 - Add `--uptobox-private` flag to make all uploaded files private (Nick Craig-Wood)
 - Fix improper regex (Aaron Gokaslan)
 - Fix Update returning the wrong object (Nick Craig-Wood)
 - Fix rmdir declaring that directories weren't empty (Nick Craig-Wood)
- WebDAV
 - nextcloud: Add support for chunked uploads (Paul)
 - Set modtime using propset for owncloud and nextcloud (WeidiDeng)
 - Make pacer minSleep configurable with `--webdav-pacer-min-sleep` (ed)
 - Fix server side copy/move not overwriting (WeidiDeng)
 - Fix modtime on server side copy for owncloud and nextcloud (Nick Craig-Wood)
- Yandex
 - Fix 400 Bad Request on transfer failure (Nick Craig-Wood)
- Zoho
 - Fix downloads with `Range:` header returning the wrong data (Nick Craig-Wood)

v1.62.2 - 2023-03-16

[See commits](#)

- Bug Fixes
 - docker volume plugin: Add missing fuse3 dependency (Nick Craig-Wood)
 - docs: Fix size documentation (asdffdsazqqq)
- FTP
 - Fix 426 errors on downloads with vsftpd (Lesmiscore)

v1.62.1 - 2023-03-15

[See commits](#)

- Bug Fixes
 - docker: Add missing fuse3 dependency (cycneuramus)
 - build: Update release docs to be more careful with the tag (Nick Craig-Wood)
 - build: Set Github release to draft while uploading binaries (Nick Craig-Wood)

v1.62.0 - 2023-03-14

[See commits](#)

- New Features
 - accounting: Make checkers show what they are doing (Nick Craig-Wood)
 - authorize: Add support for custom templates (Hunter Wittenborn)
 - build
 - Update to go1.20 (Nick Craig-Wood, Anagh Kumar Baranwal)
 - Add winget releaser workflow (Ryan Caezar Itang)
 - Add dependabot (Ryan Caezar Itang)
 - doc updates (albertony, Bryan Kaplan, Gerard Bosch, IMTheNachoMan, Justin Winokur, Manoj Ghosh, Nick Craig-Wood, Ole Frost, Peter Brunner, piyushgarg, Ryan Caezar Itang, Simmon Li, ToBeFree)
 - filter: Emit INFO message when can't work out directory filters (Nick Craig-Wood)
 - fs
 - Added multiple ca certificate support. (alankrit)
 - Add `--max-delete-size` a delete size threshold (Leandro Sacchet)
 - fspath: Allow the symbols `@` and `+` in remote names (albertony)
 - lib/terminal: Enable windows console virtual terminal sequences processing (ANSI/VT100 colors) (albertony)
 - move: If `--check-first` and `--order-by` are set then delete with perfect ordering (Nick Craig-Wood)
 - serve http: Support `--auth-proxy` (Matthias Baur)
- Bug Fixes
 - accounting
 - Avoid negative ETA values for very slow speeds (albertony)
 - Limit length of ETA string (albertony)
 - Show human readable elapsed time when longer than a day (albertony)
 - all: Apply codeql fixes (Aaron Gokaslan)
 - build
 - Fix condition for manual workflow run (albertony)
 - Fix building for ARMv5 and ARMv6 (albertony)
 - selfupdate: Consider ARM version

- install.sh: fix ARMv6 download
- version: Report ARM version
- deletefile: Return error code 4 if file does not exist (Nick Craig-Wood)
- docker: Fix volume plugin does not remount volume on docker restart (logopk)
- fs: Fix race conditions in `--max-delete` and `--max-delete-size` (Nick Craig-Wood)
- lib/oauthutil: Handle fatal errors better (Alex Chen)
- mount2: Fix `--allow-non-empty` (Nick Craig-Wood)
- operations: Fix concurrency: use `--checkers` unless transferring files (Nick Craig-Wood)
- serve ftp: Fix timestamps older than 1 year in listings (Nick Craig-Wood)
- sync: Fix concurrency: use `--checkers` unless transferring files (Nick Craig-Wood)
- tree
 - Fix nil pointer exception on stat failure (Nick Craig-Wood)
 - Fix colored output on windows (albertony)
 - Fix display of files with illegal Windows file system names (Nick Craig-Wood)
- Mount
 - Fix creating and renaming files on case insensitive backends (Nick Craig-Wood)
 - Do not treat `\\?\` prefixed paths as network share paths on windows (albertony)
 - Fix check for empty mount point on Linux (Nick Craig-Wood)
 - Fix `--allow-non-empty` (Nick Craig-Wood)
 - Avoid incorrect or premature overlap check on windows (albertony)
 - Update to fuse3 after bazil.org/fuse update (Nick Craig-Wood)
- VFS
 - Make uploaded files retain modtime with non-modtime backends (Nick Craig-Wood)
 - Fix incorrect modtime on fs which don't support setting modtime (Nick Craig-Wood)
 - Fix rename of directory containing files to be uploaded (Nick Craig-Wood)
- Local
 - Fix `%!w(<nil>)` in "failed to read directory" error (Marks Polakovs)
 - Fix exclusion of dangling symlinks with `-L/--copy-links` (Nick Craig-Wood)
- Crypt
 - Obey `--ignore-checksum` (Nick Craig-Wood)
 - Fix for unencrypted directory names on case insensitive remotes (Ole Frost)
- Azure Blob
 - Remove workarounds for SDK bugs after v0.6.1 update (Nick Craig-Wood)
- B2

- Fix uploading files bigger than 1TiB (Nick Craig-Wood)
- Drive
 - Note that `--drive-acknowledge-abuse` needs SA Manager permission (Nick Craig-Wood)
 - Make `--drive-stop-on-upload-limit` to respond to storageQuotaExceeded (Ninh Pham)
- FTP
 - Retry 426 errors (Nick Craig-Wood)
 - Retry errors when initiating downloads (Nick Craig-Wood)
 - Revert to upstream `github.com/jlaffaye/ftp` now fix is merged (Nick Craig-Wood)
- Google Cloud Storage
 - Add `--gcs-env-auth` to pick up IAM credentials from env/instance (Peter Brunner)
- Mega
 - Add `--mega-use-https` flag (NodudeWasTaken)
- Onedrive
 - Default onedrive personal to QuickXorHash as Microsoft is removing SHA1 (Nick Craig-Wood)
 - Add `--onedrive-hash-type` to change the hash in use (Nick Craig-Wood)
 - Improve speed of QuickXorHash (LXY)
- Oracle Object Storage
 - Speed up operations by using S3 pacer and setting minsleep to 10ms (Manoj Ghosh)
 - Expose the `storage_tier` option in config (Manoj Ghosh)
 - Bring your own encryption keys (Manoj Ghosh)
- S3
 - Check multipart upload ETag when `--s3-no-head` is in use (Nick Craig-Wood)
 - Add `--s3-sts-endpoint` to specify STS endpoint (Nick Craig-Wood)
 - Fix incorrect tier support for StorJ and IDrive when pointing at a file (Ole Frost)
 - Fix AWS STS failing if `--s3-endpoint` is set (Nick Craig-Wood)
 - Make purge remove directory markers too (Nick Craig-Wood)
- Seafile
 - Renew library password (Fred)
- SFTP
 - Fix uploads being 65% slower than they should be with crypt (Nick Craig-Wood)
- Smb
 - Allow SPN (service principal name) to be configured (Nick Craig-Wood)

- Check smb connection is closed (happyxhw)
- Storj
 - Implement `rclone link` (Kaloyan Raev)
 - Implement `rclone purge` (Kaloyan Raev)
 - Update satellite urls and labels (Kaloyan Raev)
- WebDAV
 - Fix interop with davrods server (Nick Craig-Wood)

v1.61.1 - 2022-12-23

[See commits](#)

- Bug Fixes
 - docs:
 - Show only significant parts of version number in version introduced label (albertony)
 - Fix unescaped HTML (Nick Craig-Wood)
 - lib/http: Shutdown all servers on exit to remove unix socket (Nick Craig-Wood)
 - rc: Fix `--rc-addr` flag (which is an alternate for `--url`) (Anagh Kumar Baranwal)
 - serve restic
 - Don't serve via http if serving via `--stdio` (Nick Craig-Wood)
 - Fix immediate exit when not using stdio (Nick Craig-Wood)
 - serve webdav
 - Fix `--baseurl` handling after `lib/http` refactor (Nick Craig-Wood)
 - Fix running duplicate Serve call (Nick Craig-Wood)
- Azure Blob
 - Fix "409 Public access is not permitted on this storage account" (Nick Craig-Wood)
- S3
 - storj: Update endpoints (Kaloyan Raev)

v1.61.0 - 2022-12-20

[See commits](#)

- New backends
 - New S3 providers
 - [Llara LOS](#) (MohammadReza)
- New Features
 - build: Add vulnerability testing using govulncheck (albertony)

- cmd: Enable `SIGINFO` (Ctrl-T) handler on FreeBSD, NetBSD, OpenBSD and Dragonfly BSD (x3-apptech)
- config: Add `config/setpath` for setting config path via rc/librclone (Nick Craig-Wood)
- dedupe
 - Count Checks in the stats while scanning for duplicates (Nick Craig-Wood)
 - Make dedupe obey the filters (Nick Craig-Wood)
- dlina: Properly attribute code used from <https://github.com/anacrolix/dms> (Nick Craig-Wood)
- docs
 - Add minimum versions and status badges to backend and command docs (Nick Craig-Wood, albertony)
 - Remote names may not start or end with space (albertony)
- filter: Add metadata filters `--metadata-include/exclude/filter` and friends (Nick Craig-Wood)
- fs
 - Make all duration flags take `y`, `M`, `w`, `d` etc suffixes (Nick Craig-Wood)
 - Add global flag `--color` to control terminal colors (Kevin Verstaen)
- fspath: Allow unicode numbers and letters in remote names (albertony)
- lib/file: Improve error message for creating dir on non-existent network host on windows (albertony)
- lib/http: Finish port of rclone servers to `lib/http` (Tom Mombourquette, Nick Craig-Wood)
- lib/oauthutil: Improved usability of config flows needing web browser (Ole Frost)
- ncd
 - Add support for modification time (albertony)
 - Fallback to sort by name also for sort by average size (albertony)
 - Rework to use tcell directly instead of the termbox wrapper (eNV25)
- rc: Add commands to set `GC Percent` & `Memory Limit` (go 1.19+) (Anagh Kumar Baranwal)
- rcat: Preserve metadata when Copy falls back to Rcat (Nick Craig-Wood)
- rcd: Refactor rclone rc server to use `lib/http` (Nick Craig-Wood)
- rcserver: Avoid generating default credentials with htpasswd (Kamui)
- restic: Refactor to use `lib/http` (Nolan Woods)
- serve http: Support unix sockets and multiple listeners (Tom Mombourquette)
- serve webdav: Refactor to use `lib/http` (Nick Craig-Wood)
- test: Replace defer cleanup with `t.Cleanup` (Eng Zer Jun)
- test memory: Read metadata if `-M` flag is specified (Nick Craig-Wood)
- wasm: Comply with `wasm_exec.js` licence terms (Matthew Vernon)

- Bug Fixes
 - build: Update `golang.org/x/net/http2` to fix GO-2022-1144 (Nick Craig-Wood)
 - restic: Fix typo in docs 'remove' should be 'remote' (asdffdsazqqq)
 - serve dlna: Fix panic: Logger uninitialized. (Nick Craig-Wood)
- Mount
 - Update cgofuse for FUSE-T support for mounting volumes on Mac (Nick Craig-Wood)
- VFS
 - Windows: fix slow opening of exe files by not truncating files when not necessary (Nick Craig-Wood)
 - Fix IO Error opening a file with `O_CREATE|O_RDONLY` in `--vfs-cache-mode` not full (Nick Craig-Wood)
- Crypt
 - Fix compress wrapping crypt giving upload errors (Nick Craig-Wood)
- Azure Blob
 - Port to new SDK (Nick Craig-Wood)
 - Revamp authentication to include all methods and docs (Nick Craig-Wood)
 - Port old authentication methods to new SDK (Nick Craig-Wood, Brad Ackerman)
 - Thanks to [Stonebranch](#) for sponsoring this work.
 - Add `--azureblob-no-check-container` to assume container exists (Nick Craig-Wood)
 - Add `--use-server-modtime` support (Abdullah Saglam)
 - Add support for custom upload headers (rkettelerij)
 - Allow emulator account/key override (Roel Arents)
 - Support simple "environment credentials" (Nathaniel Wesley Filardo)
 - Ignore `AuthorizationFailure` when trying to create a create a container (Nick Craig-Wood)
- Box
 - Added note on Box API rate limits (Ole Frost)
- Drive
 - Handle shared drives with leading/trailing space in name (related to) (albertony)
- FTP
 - Update help text of implicit/explicit TLS options to refer to FTPS instead of FTP (ycdtosa)
 - Improve performance to speed up `--files-from` and `NewObject` (Anthony Pessy)
- HTTP

- Parse GET responses when `no_head` is set (Arnie97)
- Do not update object size based on `Range` requests (Arnie97)
- Support `Content-Range` response header (Arnie97)
- Onedrive
 - Document workaround for shared with me files (vanplus)
- S3
 - Add Liara LOS to provider list (MohammadReza)
 - Add DigitalOcean Spaces regions `sfo3`, `fra1`, `syd1` (Jack)
 - Avoid privileged `GetBucketLocation` to resolve s3 region (Anthony Pessy)
 - Stop setting object and bucket ACL to `private` if it is an empty string (Philip Harvey)
 - If bucket or object ACL is empty string then don't add `X-Amz-Acl:` header (Nick Craig-Wood)
 - Reduce memory consumption for s3 objects (Erik Agterdenbos)
 - Fix listing loop when using v2 listing on v1 server (Nick Craig-Wood)
 - Fix nil pointer exception when using Versions (Nick Craig-Wood)
 - Fix excess memory usage when using versions (Nick Craig-Wood)
 - Ignore versionIDs from uploads unless using `--s3-versions` or `--s3-versions-at` (Nick Craig-Wood)
- SFTP
 - Add configuration options to set ssh Ciphers / MACs / KeyExchange (dgouju)
 - Auto-detect shell type for fish (albertony)
 - Fix NewObject with leading / (Nick Craig-Wood)
- Smb
 - Fix issue where spurious dot directory is created (albertony)
- Storj
 - Implement server side Copy (Kaloyan Raev)

v1.60.1 - 2022-11-17

[See commits](#)

- Bug Fixes
 - lib/cache: Fix alias backend shutting down too soon (Nick Craig-Wood)
 - wasm: Fix walltime link error by adding up-to-date `wasm_exec.js` (João Henrique Franco)
 - docs
 - Update `faq.md` with `bisync` (Samuel Johnson)
 - Corrected download links in windows install docs (coultonluke)

- Add direct download link for windows arm64 (albertony)
- Remove link to rclone slack as it is no longer supported (Nick Craig-Wood)
- FAQ: how to use a proxy server that requires a username and password (asdffdsazqqq)
- Oracle-object-storage: doc fix (Manoj Ghosh)
- Fix typo `remove` in `rclone_serve_restic` command (Joda Stößer)
- Fix character that was incorrectly interpreted as markdown (Clément Notin)
- VFS
 - Fix deadlock caused by cache cleaner and upload finishing (Nick Craig-Wood)
- Local
 - Clean absolute paths (albertony)
 - Fix `-L/--copy-links` with filters missing directories (Nick Craig-Wood)
- Mailru
 - Note that an app password is now needed (Nick Craig-Wood)
 - Allow timestamps to be before the epoch 1970-01-01 (Nick Craig-Wood)
- S3
 - Add provider quirk `--s3-might-gzip` to fix corrupted on transfer: sizes differ (Nick Craig-Wood)
 - Allow Storj to server side copy since it seems to work now (Nick Craig-Wood)
 - Fix for unchecked err value in s3 listv2 (Aaron Gokaslan)
 - Add additional Wasabi locations (techknowlogick)
- Smb
 - Fix `Failed to sync: context canceled` at the end of syncs (Nick Craig-Wood)
- WebDAV
 - Fix Move/Copy/DirMove when using `-server-side-across-configs` (Nick Craig-Wood)

v1.60.0 - 2022-10-21

[See commits](#)

- New backends
 - [Oracle object storage](#) (Manoj Ghosh)
 - [SMB / CIFS](#) (Windows file sharing) (Lesmiscore)
 - New S3 providers
 - [IONOS Cloud Storage](#) (Dmitry Deniskin)
 - [Qiniu KODO](#) (Bachue Zhou)
- New Features
 - build

- Update to go1.19 and make go1.17 the minimum required version (Nick Craig-Wood)
- Install.sh: fix arm-v7 download (Ole Frost)
- fs: Warn the user when using an existing remote name without a colon (Nick Craig-Wood)
- httplib: Add `--xxx-min-tls-version` option to select minimum TLS version for HTTP servers (Robert Newson)
- librclone: Add PHP bindings and test program (Jordi Gonzalez Muñoz)
- operations
 - Add `--server-side-across-configs` global flag for any backend (Nick Craig-Wood)
 - Optimise `--copy-dest` and `--compare-dest` (Nick Craig-Wood)
- rc: add `job/stopgroup` to stop group (Evan Spensley)
- serve dlina
 - Add `--announce-interval` to control SSDP Announce Interval (YanceyChiew)
 - Add `--interface` to Specify SSDP interface names line (Simon Bos)
 - Add support for more external subtitles (YanceyChiew)
 - Add verification of addresses (YanceyChiew)
- sync: Optimise `--copy-dest` and `--compare-dest` (Nick Craig-Wood)
- doc updates (albertony, Alexander Knorr, anonion, João Henrique Franco, Josh Soref, Lorenzo Milesi, Marco Molteni, Mark Trolley, Ole Frost, partev, Ryan Morey, Tom Mombourquette, YFdyh000)
- Bug Fixes
 - filter
 - Fix incorrect filtering with `UseFilter` context flag and wrapping backends (Nick Craig-Wood)
 - Make sure we check `--files-from` when looking for a single file (Nick Craig-Wood)
 - rc
 - Fix `mount/listmounts` not returning the full Fs entered in `mount/mount` (Tom Mombourquette)
 - Handle external unmount when mounting (Isaac Aymerich)
 - Validate Daemon option is not set when mounting a volume via RC (Isaac Aymerich)
 - sync: Update docs and error messages to reflect fixes to overlap checks (Nick Naumann)
- VFS

- Reduce memory use by embedding `sync.Cond` (Nick Craig-Wood)
- Reduce memory usage by re-ordering commonly used structures (Nick Craig-Wood)
- Fix excess CPU used by VFS cache cleaner looping (Nick Craig-Wood)
- Local
 - Obey file filters in listing to fix errors on excluded files (Nick Craig-Wood)
 - Fix "Failed to read metadata: function not implemented" on old Linux kernels (Nick Craig-Wood)
- Compress
 - Fix crash due to nil metadata (Nick Craig-Wood)
 - Fix error handling to not use or return nil objects (Nick Craig-Wood)
- Drive
 - Make `--drive-stop-on-upload-limit` obey quota exceeded error (Steve Kowalik)
- FTP
 - Add `--ftp-force-list-hidden` option to show hidden items (Øyvind Heddeland Instefjord)
 - Fix hang when using ExplicitTLS to certain servers. (Nick Craig-Wood)
- Google Cloud Storage
 - Add `--gcs-endpoint` flag and config parameter (Nick Craig-Wood)
- Hubic
 - Remove backend as service has now shut down (Nick Craig-Wood)
- Onedrive
 - Rename Onedrive(cn) 21Vianet to Vnet Group (Yen Hu)
 - Disable change notify in China region since it is not supported (Nick Craig-Wood)
- S3
 - Implement `--s3-versions` flag to show old versions of objects if enabled (Nick Craig-Wood)
 - Implement `--s3-version-at` flag to show versions of objects at a particular time (Nick Craig-Wood)
 - Implement `backend versioning` command to get/set bucket versioning (Nick Craig-Wood)
 - Implement `Purge` to purge versions and `backend cleanup-hidden` (Nick Craig-Wood)
 - Add `--s3-decompress` flag to decompress gzip-encoded files (Nick Craig-Wood)
 - Add `--s3-sse-customer-key-base64` to supply keys with binary data (Richard Bateman)

- Try to keep the maximum precision in ModTime with `--user-server-modtime` (Nick Craig-Wood)
- Drop binary metadata with an ERROR message as it can't be stored (Nick Craig-Wood)
- Add `--s3-no-system-metadata` to suppress read and write of system metadata (Nick Craig-Wood)
- SFTP
 - Fix directory creation races (Lesmiscore)
- Swift
 - Add `--swift-no-large-objects` to reduce HEAD requests (Nick Craig-Wood)
- Union
 - Propagate SlowHash feature to fix hasher interaction (Lesmiscore)

v1.59.2 - 2022-09-15

[See commits](#)

- Bug Fixes
 - config: Move locking to fix fatal error: concurrent map read and map write (Nick Craig-Wood)
- Local
 - Disable xattr support if the filesystems indicates it is not supported (Nick Craig-Wood)
- Azure Blob
 - Fix chunksize calculations producing too many parts (Nick Craig-Wood)
- B2
 - Fix chunksize calculations producing too many parts (Nick Craig-Wood)
- S3
 - Fix chunksize calculations producing too many parts (Nick Craig-Wood)

v1.59.1 - 2022-08-08

[See commits](#)

- Bug Fixes
 - accounting: Fix panic in core/stats-reset with unknown group (Nick Craig-Wood)
 - build: Fix android build after GitHub actions change (Nick Craig-Wood)
 - dlina: Fix SOAP action header parsing (Joram Schrijver)
 - docs: Fix links to mount command from install docs (albertony)
 - dropbox: Fix ChangeNotify was unable to decrypt errors (Nick Craig-Wood)

- fs: Fix parsing of times and durations of the form "YYYY-MM-DD HH:MM:SS" (Nick Craig-Wood)
- serve sftp: Fix checksum detection (Nick Craig-Wood)
- sync: Add accidentally missed filter-sensitivity to --backup-dir option (Nick Naumann)
- Combine
 - Fix docs showing `remote=` instead of `upstreams=` (Nick Craig-Wood)
 - Throw error if duplicate directory name is specified (Nick Craig-Wood)
 - Fix errors with backends shutting down while in use (Nick Craig-Wood)
- Dropbox
 - Fix hang on quit with --dropbox-batch-mode off (Nick Craig-Wood)
 - Fix infinite loop on uploading a corrupted file (Nick Craig-Wood)
- Internetarchive
 - Ignore checksums for files using the different method (Lesmiscore)
 - Handle hash symbol in the middle of filename (Lesmiscore)
- Jottacloud
 - Fix working with whitelabel Elgiganten Cloud
 - Do not store username in config when using standard auth (albertony)
- Mega
 - Fix nil pointer exception when bad node received (Nick Craig-Wood)
- S3
 - Fix --s3-no-head panic: reflect: Elem of invalid type s3.PutObjectInput (Nick Craig-Wood)
- SFTP
 - Fix issue with WS_FTP by working around failing RealPath (albertony)
- Union
 - Fix duplicated files when using directories with leading / (Nick Craig-Wood)
 - Fix multiple files being uploaded when roots don't exist (Nick Craig-Wood)
 - Fix panic due to misalignment of struct field in 32 bit architectures (r-ricci)

v1.59.0 - 2022-07-09

[See commits](#)

- New backends
 - [Combine](#) multiple remotes in one directory tree (Nick Craig-Wood)
 - [Hidrive](#) (Ovidiu Victor Tatar)
 - [Internet Archive](#) (Lesmiscore (Naoya Ozaki))
 - New S3 providers

- [ArvanCloud AOS](#) (ehsantdy)
- [Cloudflare R2](#) (Nick Craig-Wood)
- [Huawei OBS](#) (m00594701)
- [IDrive e2](#) (vyloy)
- New commands
 - [test makefile](#): Create a single file for testing (Nick Craig-Wood)
- New Features
 - [Metadata framework](#) to read and write system and user metadata on backends (Nick Craig-Wood)
 - Implemented initially for `local`, `s3` and `internetarchive` backends
 - `--metadata / -M` flag to control whether metadata is copied
 - `--metadata-set` flag to specify metadata for uploads
 - Thanks to [Manz Solutions](#) for sponsoring this work.
 - `build`
 - Update to go1.18 and make go1.16 the minimum required version (Nick Craig-Wood)
 - Update android go build to 1.18.x and NDK to 23.1.7779620 (Nick Craig-Wood)
 - All windows binaries now no longer CGO (Nick Craig-Wood)
 - Add `linux/arm/v6` to docker images (Nick Craig-Wood)
 - A huge number of fixes found with [staticcheck](#) (albertony)
 - Configurable version suffix independent of version number (albertony)
 - `check`: Implement `--no-traverse` and `--no-unicode-normalization` (Nick Craig-Wood)
 - `config`: Readability improvements (albertony)
 - `copyurl`: Add `--header-filename` to honor the HTTP header filename directive (J-P Treen)
 - `filter`: Allow multiple `--exclude-if-present` flags (albertony)
 - `fshttp`: Add `--disable-http-keep-alives` to disable HTTP Keep Alives (Nick Craig-Wood)
 - `install.sh`
 - Set the modes on the files and/or directories on macOS (Michael C Tiernan - MIT-Research Computing Project)
 - Pre verify sudo authorization `-v` before calling curl. (Michael C Tiernan - MIT-Research Computing Project)
 - `lib/encoder`: Add Semicolon encoding (Nick Craig-Wood)
 - `lsf`: Add metadata support with `M` flag (Nick Craig-Wood)
 - `lsjson`: Add `--metadata / -M` flag (Nick Craig-Wood)

- ncd�
 - Implement multi selection (CrossR)
 - Replace termbox with tcell's termbox wrapper (eNV25)
 - Display correct path in delete confirmation dialog (Roberto Ricci)
- operations
 - Speed up hash checking by aborting the other hash if first returns nothing (Nick Craig-Wood)
 - Use correct src/dst in some log messages (zzr93)
- rcat: Check checksums by default like copy does (Nick Craig-Wood)
- selfupdate: Replace deprecated `x/crypto/openpgp` package with `ProtonMail/go-crypto` (albertony)
- serve ftp: Check `--passive-port` arguments are correct (Nick Craig-Wood)
- size: Warn about inaccurate results when objects with unknown size (albertony)
- sync: Overlap check is now filter-sensitive so `--backup-dir` can be in the root provided it is filtered (Nick)
- test info: Check file name lengths using 1,2,3,4 byte unicode characters (Nick Craig-Wood)
- test makefile(s): `--sparse`, `--zero`, `--pattern`, `--ascii`, `--chergen` flags to control file contents (Nick Craig-Wood)
- Make sure we call the `Shutdown` method on backends (Martin Czygan)
- Bug Fixes
 - accounting: Fix unknown length file transfers counting 3 transfers each (buda)
 - ncd�: Fix issue where dir size is summed when file sizes are -1 (albertony)
 - sync/copy/move
 - Fix `--fast-list` `--create-empty-src-dirs` and `--exclude` (Nick Craig-Wood)
 - Fix `--max-duration` and `--cutoff-mode soft` (Nick Craig-Wood)
 - Fix fs cache unpin (Martin Czygan)
 - Set proper exit code for errors that are not low-level retried (e.g. size/timestamp changing) (albertony)
- Mount
 - Support `windows/arm64` (may still be problems - see [#5828](#)) (Nick Craig-Wood)
 - Log IO errors at ERROR level (Nick Craig-Wood)
 - Ignore `_netdev` mount argument (Hugal31)
- VFS
 - Add `--vfs-fast-fingerprint` for less accurate but faster fingerprints (Nick Craig-Wood)

- Add `--vfs-disk-space-total-size` option to manually set the total disk space (Claudio Maradonna)
- vfstcache: Fix fatal error: sync: unlock of unlocked mutex error (Nick Craig-Wood)
- Local
 - Fix parsing of `--local-nounc` flag (Nick Craig-Wood)
 - Add Metadata support (Nick Craig-Wood)
- Crypt
 - Support metadata (Nick Craig-Wood)
- Azure Blob
 - Calculate Chunksize/blocksize to stay below maxUploadParts (Leroy van Logchem)
 - Use chunksize lib to determine chunksize dynamically (Derek Battams)
 - Case insensitive access tier (Rob Pickerill)
 - Allow remote emulator (azurite) (Lorenzo Maiorfi)
- B2
 - Add `--b2-version-at` flag to show file versions at time specified (SwazRGB)
 - Use chunksize lib to determine chunksize dynamically (Derek Battams)
- Chunker
 - Mark as not supporting metadata (Nick Craig-Wood)
- Compress
 - Support metadata (Nick Craig-Wood)
- Drive
 - Make `backend config -o config` add a combined `AllDrives:` remote (Nick Craig-Wood)
 - Make `--drive-shared-with-me` work with shared drives (Nick Craig-Wood)
 - Add `--drive-resource-key` for accessing link-shared files (Nick Craig-Wood)
 - Add backend commands `exportformats` and `importformats` for debugging (Nick Craig-Wood)
 - Fix 404 errors on copy/server side copy objects from public folder (Nick Craig-Wood)
 - Update Internal OAuth consent screen docs (Phil Shackleton)
 - Moved `root_folder_id` to advanced section (Abhiraj)
- Dropbox
 - Migrate from deprecated api (m8rge)
 - Add logs to show when poll interval limits are exceeded (Nick Craig-Wood)
 - Fix nil pointer exception on dropbox impersonate user not found (Nick Craig-Wood)
- Fichier
 - Parse api error codes and them accordingly (buengese)

- FTP
 - Add support for `disable_utf8` option (Jason Zheng)
 - Revert to upstream `github.com/jlaffaye/ftp` from our fork (Nick Craig-Wood)
- Google Cloud Storage
 - Add `--gcs-no-check-bucket` to minimise transactions and perms (Nick Gooding)
 - Add `--gcs-decompress` flag to decompress gzip-encoded files (Nick Craig-Wood)
 - by default these will be downloaded compressed (which previously failed)
- Hasher
 - Support metadata (Nick Craig-Wood)
- HTTP
 - Fix missing response when using custom auth handler (albertony)
- Jottacloud
 - Add support for upload to custom device and mountpoint (albertony)
 - Always store username in config and use it to avoid initial API request (albertony)
 - Fix issue with server-side copy when destination is in trash (albertony)
 - Fix listing output of remote with special characters (albertony)
- Mailru
 - Fix timeout by using int instead of time.Duration for keeping number of seconds (albertony)
- Mega
 - Document using MEGAcmd to help with login failures (Art M. Gallagher)
- Onedrive
 - Implement `--poll-interval` for onedrive (Hugo Laloge)
 - Add access scopes option (Sven Gerber)
- Opendrive
 - Resolve lag and truncate bugs (Scott Grimes)
- Pcloud
 - Fix about with no free space left (buengese)
 - Fix cleanup (buengese)
- S3
 - Use PUT Object instead of presigned URLs to upload single part objects (Nick Craig-Wood)
 - Backend restore command to skip non-GLACIER objects (Vincent Murphy)
 - Use chunksize lib to determine chunksize dynamically (Derek Battams)
 - Retry RequestTimeout errors (Nick Craig-Wood)
 - Implement reading and writing of metadata (Nick Craig-Wood)
- SFTP
 - Add support for about and hashsum on windows server (albertony)

- Use vendor-specific VFS statistics extension for about if available (albertony)
- Add `--sftp-chunk-size` to control packets sizes for high latency links (Nick Craig-Wood)
- Add `--sftp-concurrency` to improve high latency transfers (Nick Craig-Wood)
- Add `--sftp-set-env` option to set environment variables (Nick Craig-Wood)
- Add Hetzner Storage Boxes to supported sftp backends (Anthrazz)
- Storj
 - Fix put which lead to the file being unreadable when using mount (Erik van Velzen)
- Union
 - Add `min_free_space` option for `lfs` / `eplfs` policies (Nick Craig-Wood)
 - Fix uploading files to union of all bucket based remotes (Nick Craig-Wood)
 - Fix get free space for remotes which don't support it (Nick Craig-Wood)
 - Fix `eplus` policy to select correct entry for existing files (Nick Craig-Wood)
 - Support metadata (Nick Craig-Wood)
- Uptobox
 - Fix root path handling (buengese)
- WebDAV
 - Add SharePoint in other specific regions support (Noah Hsu)
- Yandex
 - Handle api error on server-side move (albertony)
- Zoho
 - Add Japan and China regions (buengese)

v1.58.1 - 2022-04-29

[See commits](#)

- Bug Fixes
 - build: Update github.com/billziss-gh to github.com/winfsp (Nick Craig-Wood)
 - filter: Fix timezone of `--min-age` / `-max-age` from UTC to local as documented (Nick Craig-Wood)
 - rc/js: Correct RC method names (Sơn Trần-Nguyễn)
 - docs
 - Fix some links to command pages (albertony)
 - Add `--multi-thread-streams` note to `--transfers`. (Zsolt Ero)
- Mount
 - Fix `--devname` and fusermount: unknown option 'fsname' when mounting via rc (Nick Craig-Wood)
- VFS

- Remove wording which suggests VFS is only for mounting (Nick Craig-Wood)
- Dropbox
 - Fix retries of multipart uploads with incorrect_offset error (Nick Craig-Wood)
- Google Cloud Storage
 - Use the s3 pacer to speed up transactions (Nick Craig-Wood)
 - pacer: Default the Google pacer to a burst of 100 to fix gcs pacing (Nick Craig-Wood)
- Jottacloud
 - Fix scope in token request (albertony)
- Netstorage
 - Fix unescaped HTML in documentation (Nick Craig-Wood)
 - Make levels of headings consistent (Nick Craig-Wood)
 - Add support contacts to netstorage doc (Nil Alexandrov)
- Onedrive
 - Note that sharepoint also changes web files (.html, .aspx) (GH)
- Putio
 - Handle rate limit errors (Berkan Teber)
 - Fix multithread download and other ranged requests (rafma0)
- S3
 - Add ChinaMobile EOS to provider list (GuoXingbin)
 - Sync providers in config description with providers (Nick Craig-Wood)
- SFTP
 - Fix OpenSSH 8.8+ RSA keys incompatibility (KARBOWSKI Piotr)
 - Note that Scaleway C14 is deprecating SFTP in favor of S3 (Adrien Rey-Jarthon)
- Storj
 - Fix bucket creation on Move (Nick Craig-Wood)
- WebDAV
 - Don't override Referer if user sets it (Nick Craig-Wood)

v1.58.0 - 2022-03-18

[See commits](#)

- New backends
 - [Akamai Netstorage](#) (Nil Alexandrov)
 - [Seagate Lyve](#), [SeaweedFS](#), [Storj](#), [RackCorp](#) via s3 backend
 - [Storj](#) (renamed from Tardigrade - your old config files will continue working)
- New commands
 - [bisync](#) - experimental bidirectional cloud sync (Ivan Andreev, Chris Nelson)

- New Features
 - build
 - Add `windows/arm64` build (`rclone mount` not supported yet) (Nick Craig-Wood)
 - Raise minimum go version to go1.15 (Nick Craig-Wood)
 - config: Allow dot in remote names and improve config editing (albertony)
 - dedupe: Add quit as a choice in interactive mode (albertony)
 - dlina: Change icons to the newest ones. (Alain Nussbaumer)
 - filter: Add `{{ regexp }}` `syntax` to pattern matches (Nick Craig-Wood)
 - fshttp: Add prometheus metrics for HTTP status code (Michał Matczuk)
 - hashsum: Support creating hash from data received on stdin (albertony)
 - librclone
 - Allow empty string or null input instead of empty json object (albertony)
 - Add support for mount commands (albertony)
 - operations: Add server-side moves to stats (Ole Frost)
 - rc: Allow user to disable authentication for web gui (negative0)
 - tree: Remove obsolete `--human` replaced by global `--human-readable` (albertony)
 - version: Report correct friendly-name for newer Windows 10/11 versions (albertony)
- Bug Fixes
 - build
 - Fix ARM architecture version in .deb packages after nfpm change (Nick Craig-Wood)
 - Hard fork `github.com/jlaffaye/ftp` to fix `go get github.com/rclone/rclone` (Nick Craig-Wood)
 - oauthutil: Fix crash when webbrowser requests `/robots.txt` (Nick Craig-Wood)
 - operations: Fix goroutine leak in case of copy retry (Ankur Gupta)
 - rc:
 - Fix `operations/publiclink` default for `expires` parameter (Nick Craig-Wood)
 - Fix missing computation of `transferQueueSize` when summing up statistics group (Carlo Mion)
 - Fix missing `StatsInfo` fields in the computation of the group sum (Carlo Mion)
 - sync: Fix `--max-duration` so it doesn't retry when the duration is exceeded (Nick Craig-Wood)
 - touch: Fix issue where a directory is created instead of a file (albertony)

- Mount
 - Add `--devname` to set the device name sent to FUSE for mount display (Nick Craig-Wood)
- VFS
 - Add `vfs/stats` remote control to show statistics (Nick Craig-Wood)
 - Fix `failed to _ensure cache internal error: downloaders is nil error` (Nick Craig-Wood)
 - Fix handling of special characters in file names (Bumsu Hyeon)
- Local
 - Fix hash invalidation which caused errors with local crypt mount (Nick Craig-Wood)
- Crypt
 - Add `base64` and `base32768` filename encoding options (Max Sum, Sinan Tan)
- Azure Blob
 - Implement `--azureblob-upload-concurrency` parameter to speed uploads (Nick Craig-Wood)
 - Remove 100MB upper limit on `chunk_size` as it is no longer needed (Nick Craig-Wood)
 - Raise `--azureblob-upload-concurrency` to 16 by default (Nick Craig-Wood)
 - Fix crash with SAS URL and no container (Nick Craig-Wood)
- Compress
 - Fix crash if metadata upload failed (Nick Craig-Wood)
 - Fix memory leak (Nick Craig-Wood)
- Drive
 - Added `--drive-copy-shortcut-content` (Abhiraj)
 - Disable OAuth OOB flow (copy a token) due to Google deprecation (Nick Craig-Wood)
 - See [the deprecation note](#).
 - Add `--drive-skip-dangling-shortcuts` flag (Nick Craig-Wood)
 - When using a link type `--drive-export-formats` shows all doc types (Nick Craig-Wood)
- Dropbox
 - Speed up directory listings by specifying 1000 items in a chunk (Nick Craig-Wood)
 - Save an API request when at the root (Nick Craig-Wood)
- Fichier
 - Implemented About functionality (Gourav T)
- FTP
 - Add `--ftp-ask-password` to prompt for password when needed (Borna Butkovic)
- Google Cloud Storage

- Add missing regions (Nick Craig-Wood)
- Disable OAuth OOB flow (copy a token) due to Google deprecation (Nick Craig-Wood)
 - See [the deprecation note](#).
- Googlephotos
 - Disable OAuth OOB flow (copy a token) due to Google deprecation (Nick Craig-Wood)
 - See [the deprecation note](#).
- Hasher
 - Fix crash on object not found (Nick Craig-Wood)
- Hdfs
 - Add file (Move) and directory move (DirMove) support (Andy Jackson)
- HTTP
 - Improved recognition of URL pointing to a single file (albertony)
- Jottacloud
 - Change API used by recursive list (ListR) (Kim)
 - Add support for Tele2 Cloud (Fredric Arklid)
- Koofr
 - Add Digistorage service as a Koofr provider. (jaKa)
- Mailru
 - Fix int32 overflow on arm32 (Ivan Andreev)
- Onedrive
 - Add config option for oauth scope `Sites.Read.All` (Charlie Jiang)
 - Minor optimization of quickxorhash (Isaac Levy)
 - Add `--onedrive-root-folder-id` flag (Nick Craig-Wood)
 - Do not retry on `400 pathIsTooLong` error (ctrl-q)
- Pcloud
 - Add support for recursive list (ListR) (Niels van de Weem)
 - Fix pre-1970 time stamps (Nick Craig-Wood)
- S3
 - Use `ListObjectsV2` for faster listings (Felix Bünemann)
 - Fallback to `ListObject` v1 on unsupported providers (Nick Craig-Wood)
 - Use the `Etag` on multipart transfers to verify the transfer was OK (Nick Craig-Wood)
 - Add `--s3-use-multipart-etag` provider quirk to disable this on unsupported providers (Nick Craig-Wood)
 - New Providers
 - RackCorp object storage (bbabich)

- Seagate Lyve Cloud storage (Nick Craig-Wood)
- SeaweedFS (Chris Lu)
- Storj Shared gateways (Márton Elek, Nick Craig-Wood)
- Add Wasabi AP Northeast 2 endpoint info (lindwurm)
- Add `GLACIER_IR` storage class (Yunhai Luo)
- Document `Content-MD5` workaround for object-lock enabled buckets (Paulo Martins)
- Fix multipart upload with `--no-head` flag (Nick Craig-Wood)
- Simplify content length processing in s3 with download url (Logeshwaran Murugesan)
- SFTP
 - Add rclone to list of supported `md5sum` / `sha1sum` commands to look for (albertony)
 - Refactor so we only have one way of running remote commands (Nick Craig-Wood)
 - Fix timeout on hashing large files by sending keepalives (Nick Craig-Wood)
 - Fix unnecessary seeking when uploading and downloading files (Nick Craig-Wood)
 - Update docs on how to create `known_hosts` file (Nick Craig-Wood)
- Storj
 - Rename tardigrade backend to storj backend (Nick Craig-Wood)
 - Implement server side Move for files (Nick Craig-Wood)
 - Update docs to explain differences between s3 and this backend (Elek, Márton)
- Swift
 - Fix About so it shows info about the current container only (Nick Craig-Wood)
- Union
 - Fix treatment of remotes with `//` in (Nick Craig-Wood)
 - Fix deadlock when one part of a multi-upload fails (Nick Craig-Wood)
 - Fix eplus policy returned nil (Vitor Arruda)
- Yandex
 - Add permanent deletion support (deinferno)

v1.57.0 - 2021-11-01

[See commits](#)

- New backends
 - Sia: for Sia decentralized cloud (Ian Levesque, Matthew Sevey, Ivan Andreev)
 - Hasher: caches hashes and enable hashes for backends that don't support them (Ivan Andreev)

- New commands
 - lsjson --stat: to get info about a single file/dir and `operations/stat` api (Nick Craig-Wood)
 - config paths: show configured paths (albertony)
- New Features
 - about: Make human-readable output more consistent with other commands (albertony)
 - build
 - Use go1.17 for building and make go1.14 the minimum supported (Nick Craig-Wood)
 - Update Go to 1.16 and NDK to 22b for Android builds (x0b)
 - config
 - Support hyphen in remote name from environment variable (albertony)
 - Make temporary directory user-configurable (albertony)
 - Convert `--cache-dir` value to an absolute path (albertony)
 - Do not override MIME types from OS defaults (albertony)
 - docs
 - Toc styling and header levels cleanup (albertony)
 - Extend documentation on valid remote names (albertony)
 - Mention make for building and cmount tag for macos (Alex Chen)
 - ...and many more contributions to numerous to mention!
 - fs: Move with `--ignore-existing` will not delete skipped files (Nathan Collins)
 - hashsum
 - Treat hash values in sum file as case insensitive (Ivan Andreev)
 - Don't put `ERROR` or `UNSUPPORTED` in output (Ivan Andreev)
 - lib/encoder: Add encoding of square brackets (Ivan Andreev)
 - lib/file: Improve error message when attempting to create dir on nonexistent drive on windows (albertony)
 - lib/http: Factor password hash salt into options with default (Nolan Woods)
 - lib/kv: Add key-value database api (Ivan Andreev)
 - librclone
 - Add `RcloneFreeString` function (albertony)
 - Free strings in python example (albertony)
 - log: Optionally print pid in logs (Ivan Andreev)
 - ls: Introduce `--human-readable` global option to print human-readable sizes (albertony)
 - ncd: Introduce key `u` to toggle human-readable (albertony)
 - operations: Add `rmdirs -v` output (Justin Winokur)

- serve sftp
 - Generate an ECDSA server key as well as RSA (Nick Craig-Wood)
 - Generate an Ed25519 server key as well as ECDSA and RSA (albertony)
- serve docker
 - Allow to customize proxy settings of docker plugin (Ivan Andreev)
 - Build docker plugin for multiple platforms (Thomas Stachl)
- size: Include human-readable count (albertony)
- touch: Add support for touching files in directory, with recursive option, filtering and `--dry-run / -i` (albertony)
- tree: Option to print human-readable sizes removed in favor of global option (albertony)
- Bug Fixes
 - lib/http
 - Fix bad username check in single auth secret provider (Nolan Woods)
 - Fix handling of SSL credentials (Nolan Woods)
 - serve ftp: Ensure modtime is passed as UTC always to fix timezone oddities (Nick Craig-Wood)
 - serve sftp: Fix generation of server keys on windows (albertony)
 - serve docker: Fix octal umask (Ivan Andreev)
- Mount
 - Enable rclone to be run as mount helper direct from the fstab (Ivan Andreev)
 - Use procs to validate mount on linux (Ivan Andreev)
 - Correctly daemonize for compatibility with automount (Ivan Andreev)
- VFS
 - Ensure names used in cache path are legal on current OS (albertony)
 - Ignore `ECLOSED` when truncating file handles to fix intermittent bad file descriptor error (Nick Craig-Wood)
- Local
 - Refactor default OS encoding out from local backend into shared encoder lib (albertony)
- Crypt
 - Return wrapped object even with `--crypt-no-data-encryption` (Ivan Andreev)
 - Fix uploads with `--crypt-no-data-encryption` (Nick Craig-Wood)
- Azure Blob
 - Add `--azureblob-no-head-object` (Tatsuya Noyori)
- Box
 - Make listings of heavily used directories more reliable (Nick Craig-Wood)
 - When doing cleanup delete as much as possible (Nick Craig-Wood)

- Add `--box-list-chunk` to control listing chunk size (Nick Craig-Wood)
- Delete items in parallel in cleanup using `--checkers` threads (Nick Craig-Wood)
- Add `--box-owned-by` to only show items owned by the login passed (Nick Craig-Wood)
- Retry `operation_blocked_temporary` errors (Nick Craig-Wood)
- Chunker
 - Md5all must create metadata if base hash is slow (Ivan Andreev)
- Drive
 - Speed up directory listings by constraining the API listing using the current filters (fotile96, Ivan Andreev)
 - Fix buffering for single request upload for files smaller than `--drive-upload-cutoff` (YenForYang)
 - Add `-o config` option to `backend drives` to make config for all shared drives (Nick Craig-Wood)
- Dropbox
 - Add `--dropbox-batch-commit-timeout` to control batch timeout (Nick Craig-Wood)
- Filefabric
 - Make backoff exponential for `error_background` to fix errors (Nick Craig-Wood)
 - Fix directory move after API change (Nick Craig-Wood)
- FTP
 - Enable `tls session cache` by default (Ivan Andreev)
 - Add option to disable `tls13` (Ivan Andreev)
 - Fix timeout after long uploads (Ivan Andreev)
 - Add support for precise time (Ivan Andreev)
 - Enable CI for ProFtpd, PureFtpd, VsFtpd (Ivan Andreev)
- Googlephotos
 - Use encoder for album names to fix albums with control characters (Parth Shukla)
- Jottacloud
 - Implement `SetModTime` to support modtime-only changes (albertony)
 - Improved error handling with `SetModTime` and corrupt files in general (albertony)
 - Add support for `UserInfo` (`rcclone config userinfo`) feature (albertony)
 - Return direct download link from `rcclone link` command (albertony)
- Koofr
 - Create direct share link (Dmitry Bogatov)
- Pcloud
 - Add sha256 support (Ken Enrique Morel)
- Premiumizeme

- Fix directory listing after API changes (Nick Craig-Wood)
- Fix server side move after API change (Nick Craig-Wood)
- Fix server side directory move after API changes (Nick Craig-Wood)
- S3
 - Add support to use CDN URL to download the file (Logeshwaran)
 - Add AWS Snowball Edge to providers examples (r0kk3rz)
 - Use a combination of SDK retries and rclone retries (Nick Craig-Wood)
 - Fix IAM Role for Service Account not working and other auth problems (Nick Craig-Wood)
 - Fix `shared_credentials_file` auth after reverting incorrect fix (Nick Craig-Wood)
 - Fix corrupted on transfer: sizes differ 0 vs xxxx with Ceph (Nick Craig-Wood)
- Seafile
 - Fix error when not configured for 2fa (Fred)
- SFTP
 - Fix timeout when doing MD5SUM of large file (Nick Craig-Wood)
- Swift
 - Update OCI URL (David Liu)
 - Document OVH Cloud Archive (HNGamingUK)
- Union
 - Fix rename not working with union of local disk and bucket based remote (Nick Craig-Wood)

v1.56.2 - 2021-10-01

[See commits](#)

- Bug Fixes
 - serve http: Re-add missing auth to http service (Nolan Woods)
 - build: Update golang.org/x/sys to fix crash on macOS when compiled with go1.17 (Herby Gillot)
- FTP
 - Fix deadlock after failed update when concurrency=1 (Ivan Andreev)

v1.56.1 - 2021-09-19

[See commits](#)

- Bug Fixes

- accounting: Fix maximum bwlimit by scaling scale max token bucket size (Nick Craig-Wood)
- rc: Fix speed does not update in core/stats (negative0)
- selfupdate: Fix `--quiet` option, not quite quiet (yedamo)
- serve http: Fix `serve http` exiting directly after starting (Cnly)
- build
 - Apply gofmt from golang 1.17 (Ivan Andreev)
 - Update Go to 1.16 and NDK to 22b for android/any (x0b)
- Mount
 - Fix `--daemon` mode (Ivan Andreev)
- VFS
 - Fix duplicates on rename (Nick Craig-Wood)
 - Fix crash when truncating a just uploaded object (Nick Craig-Wood)
 - Fix issue where empty dirs would build up in cache meta dir (albertony)
- Drive
 - Fix instructions for auto config (Greg Sadetsky)
 - Fix lsf example without drive-impersonate (Greg Sadetsky)
- Onedrive
 - Handle HTTP 400 better in PublicLink (Alex Chen)
 - Clarification of the process for creating custom client_id (Mariano Absatz)
- Pcloud
 - Return an early error when Put is called with an unknown size (Nick Craig-Wood)
 - Try harder to delete a failed upload (Nick Craig-Wood)
- S3
 - Add Wasabi's AP-Northeast endpoint info (hota)
 - Fix typo in s3 documentation (Greg Sadetsky)
- Seafile
 - Fix 2fa config state machine (Fred)
- SFTP
 - Remove spurious error message on `--sftp-disable-concurrent-reads` (Nick Craig-Wood)
- Sugarsync
 - Fix initial connection after config re-arrangement (Nick Craig-Wood)

v1.56.0 - 2021-07-20

[See commits](#)

- New backends

- [Uptobox](#) (buengese)
- New commands
 - [serve docker](#) (Antoine GIRARD) (Ivan Andreev)
 - and accompanying [docker volume plugin](#)
 - [checksum](#) to check files against a file of checksums (Ivan Andreev)
 - this is also available as `rclone md5sum -C` etc
 - [config touch](#): ensure config exists at configured location (albertony)
 - [test changenotify](#): command to help debugging changenotify (Nick Craig-Wood)
- Deprecations
 - `dbhashsum` : Remove command deprecated a year ago (Ivan Andreev)
 - `cache` : Deprecate cache backend (Ivan Andreev)
- New Features
 - rework config system so it can be used non-interactively via cli and rc API.
 - See docs in [config create](#)
 - This is a very big change to all the backends so may cause breakages - please file bugs!
 - `librclone` - export the rclone RC as a C library (lewisxy) (Nick Craig-Wood)
 - Link a C-API rclone shared object into your project
 - Use the RC as an in memory interface
 - Python example supplied
 - Also supports Android and gomobile
 - `fs`
 - Add `--disable-http2` for global http2 disable (Nick Craig-Wood)
 - Make `--dump` imply `-vv` (Alex Chen)
 - Use binary prefixes for size and rate units (albertony)
 - Use decimal prefixes for counts (albertony)
 - Add google search widget to rclone.org (Ivan Andreev)
 - `accounting`: Calculate rolling average speed (Haochen Tong)
 - `atexit`: Terminate with non-zero status after receiving signal (Michael Hanselmann)
 - `build`
 - Only run event-based workflow scripts under rclone repo with manual override (Mathieu Carbou)
 - Add Android build with gomobile (x0b)
 - `check`: Log the hash in use like cryptcheck does (Nick Craig-Wood)
 - `version`: Print os/version, kernel and bitness (Ivan Andreev)
 - `config`
 - Prevent use of Windows reserved names in config file name (albertony)
 - Create config file in windows appdata directory by default (albertony)

- Treat any config file paths with filename notfound as memory-only config (albertony)
 - Delay load config file (albertony)
 - Replace defaultConfig with a thread-safe in-memory implementation (Chris Macklin)
 - Allow `config create` and friends to take `key=value` parameters (Nick Craig-Wood)
 - Fixed issues with flags/options set by environment vars. (Ole Frost)
- fshttp: Implement graceful DSCP error handling (Tyson Moore)
- lib/http - provides an abstraction for a central http server that services can bind routes to (Nolan Woods)
 - Add `--template` config and flags to serve/data (Nolan Woods)
 - Add default 404 handler (Nolan Woods)
- link: Use "off" value for unset expiry (Nick Craig-Wood)
- oauthutil: Raise fatal error if token expired without refresh token (Alex Chen)
- rcat: Add `--size` flag for more efficient uploads of known size (Nazar Mishturak)
- serve sftp: Add `--stdio` flag to serve via stdio (Tom)
- sync: Don't warn about `--no-traverse` when `--files-from` is set (Nick Gaya)
- `test makefiles`
 - Add `--seed` flag and make data generated repeatable (Nick Craig-Wood)
 - Add log levels and speed summary (Nick Craig-Wood)
- Bug Fixes
 - accounting: Fix startTime of statsGroups.sum (Haochen Tong)
 - cmd/ncdu: Fix out of range panic in delete (buengese)
 - config
 - Fix issues with memory-only config file paths (albertony)
 - Fix in memory config not saving on the fly backend config (Nick Craig-Wood)
 - fshttp: Fix address parsing for DSCP (Tyson Moore)
 - ncdu: Update termbox-go library to fix crash (Nick Craig-Wood)
 - oauthutil: Fix old authorize result not recognised (Cnly)
 - operations: Don't update timestamps of files in `--compare-dest` (Nick Gaya)
 - selfupdate: fix archive name on macos (Ivan Andreev)
- Mount
 - Refactor before adding serve docker (Antoine GIRARD)
- VFS
 - Add cache reset for `--vfs-cache-max-size` handling at cache poll interval (Leo Luan)
 - Fix modtime changing when reading file into cache (Nick Craig-Wood)

- Avoid unnecessary subdir in cache path (albertony)
- Fix that umask option cannot be set as environment variable (albertony)
- Do not print notice about missing poll-interval support when set to 0 (albertony)
- Local
 - Always use readlink to read symlink size for better compatibility (Nick Craig-Wood)
 - Add `--local-unicode-normalization` (and remove `--local-no-unicode-normalization`) (Nick Craig-Wood)
 - Skip entries removed concurrently with List() (Ivan Andreev)
- Crypt
 - Support timestamped filenames from `--b2-versions` (Dominik Mydlil)
- B2
 - Don't include the bucket name in public link file prefixes (Jeffrey Tolar)
 - Fix versions and .files with no extension (Nick Craig-Wood)
 - Factor version handling into lib/version (Dominik Mydlil)
- Box
 - Use upload preflight check to avoid listings in file uploads (Nick Craig-Wood)
 - Return errors instead of calling log.Fatal with them (Nick Craig-Wood)
- Drive
 - Switch to the Drives API for looking up shared drives (Nick Craig-Wood)
 - Fix some google docs being treated as files (Nick Craig-Wood)
- Dropbox
 - Add `--dropbox-batch-mode` flag to speed up uploading (Nick Craig-Wood)
 - Read the [batch mode](#) docs for more info
 - Set visibility in link sharing when `--expire` is set (Nick Craig-Wood)
 - Simplify chunked uploads (Alexey Ivanov)
 - Improve "own App IP" instructions (Ivan Andreev)
- Fichier
 - Check if more than one upload link is returned (Nick Craig-Wood)
 - Support downloading password protected files and folders (Florian Penzkofer)
 - Make error messages report text from the API (Nick Craig-Wood)
 - Fix move of files in the same directory (Nick Craig-Wood)
 - Check that we actually got a download token and retry if we didn't (buengese)
- Filefabric
 - Fix listing after change of from field from "int" to int. (Nick Craig-Wood)
- FTP
 - Make upload error 250 indicate success (Nick Craig-Wood)
- GCS
 - Make compatible with gsutil's mtime metadata (database64128)

- Clean up time format constants (database64128)
- Google Photos
 - Fix read only scope not being used properly (Nick Craig-Wood)
- HTTP
 - Replace httplib with lib/http (Nolan Woods)
 - Clean up Bind to better use middleware (Nolan Woods)
- Jottacloud
 - Fix legacy auth with state based config system (buengese)
 - Fix invalid url in output from link command (albertony)
 - Add no versions option (buengese)
- Onedrive
 - Add `list_chunk option` (Nick Gaya)
 - Also report root error if unable to cancel multipart upload (Cnly)
 - Fix failed to configure: empty token found error (Nick Craig-Wood)
 - Make link return direct download link (Xuanchen Wu)
- S3
 - Add `--s3-no-head-object` (Tatsuya Noyori)
 - Remove WebIdentityRoleProvider to fix crash on auth (Nick Craig-Wood)
 - Don't check to see if remote is object if it ends with / (Nick Craig-Wood)
 - Add SeaweedFS (Chris Lu)
 - Update Alibaba OSS endpoints (Chuan Zh)
- SFTP
 - Fix performance regression by re-enabling concurrent writes (Nick Craig-Wood)
 - Expand tilde and environment variables in configured `known_hosts_file` (albertony)
- Tardigrade
 - Upgrade to uplink v1.4.6 (Caleb Case)
 - Use negative offset (Caleb Case)
 - Add warning about `too many open files` (acsfer)
- WebDAV
 - Fix sharepoint auth over http (Nick Craig-Wood)
 - Add headers option (Antoon Prins)

v1.55.1 - 2021-04-26

[See commits](#)

- Bug Fixes
 - selfupdate

- Dont detect FUSE if build is static (Ivan Andreev)
- Add build tag noselfupdate (Ivan Andreev)
- sync: Fix incorrect error reported by graceful cutoff (Nick Craig-Wood)
- install.sh: fix macOS arm64 download (Nick Craig-Wood)
- build: Fix version numbers in android branch builds (Nick Craig-Wood)
- docs
 - Contributing.md: update setup instructions for go1.16 (Nick Gaya)
 - WinFsp 2021 is out of beta (albertony)
 - Minor cleanup of space around code section (albertony)
 - Fixed some typos (albertony)
- VFS
 - Fix a code path which allows dirty data to be removed causing data loss (Nick Craig-Wood)
- Compress
 - Fix compressed name regexp (buengese)
- Drive
 - Fix backend copyid of google doc to directory (Nick Craig-Wood)
 - Don't open browser when service account... (Ansh Mittal)
- Dropbox
 - Add missing team_data.member scope for use with --impersonate (Nick Craig-Wood)
 - Fix About after scopes changes - rclone config reconnect needed (Nick Craig-Wood)
 - Fix Unable to decrypt returned paths from changeNotify (Nick Craig-Wood)
- FTP
 - Fix implicit TLS (Ivan Andreev)
- Onedrive
 - Work around for random "Unable to initialize RPS" errors (OleFrost)
- SFTP
 - Revert sftp library to v1.12.0 from v1.13.0 to fix performance regression (Nick Craig-Wood)
 - Fix Update ReadFrom failed: failed to send packet: EOF errors (Nick Craig-Wood)
- Zoho
 - Fix error when region isn't set (buengese)
 - Do not ask for mountpoint twice when using headless setup (buengese)

v1.55.0 - 2021-03-31

[See commits](#)

- New commands
 - [selfupdate](#) (Ivan Andreev)
 - Allows rclone to update itself in-place or via a package (using `--package` flag)
 - Reads cryptographically signed signatures for non beta releases
 - Works on all OSes.
 - [test](#) - these are test commands - use with care!
 - `histogram` - Makes a histogram of file name characters.
 - `info` - Discovers file name or other limitations for paths.
 - `makefiles` - Make a random file hierarchy for testing.
 - `memory` - Load all the objects at remote:path into memory and report memory stats.
- New Features
 - [Connection strings](#)
 - Config parameters can now be passed as part of the remote name as a connection string.
 - For example, to do the equivalent of `--drive-shared-with-me` use `drive,shared_with_me:`
 - Make sure we don't save on the fly remote config to the config file (Nick Craig-Wood)
 - Make sure backends with additional config have a different name for caching (Nick Craig-Wood)
 - This work was sponsored by CERN, through the [CS3MESH4EOSC Project](#).
 - CS3MESH4EOSC has received funding from the European Union's Horizon 2020
 - research and innovation programme under Grant Agreement no. 863353.
 - [build](#)
 - Update go build version to go1.16 and raise minimum go version to go1.13 (Nick Craig-Wood)
 - Make a macOS ARM64 build to support Apple Silicon (Nick Craig-Wood)
 - Install macfuse 4.x instead of osxfuse 3.x (Nick Craig-Wood)
 - Use `G0386=softfloat` instead of deprecated `G0386=387` for 386 builds (Nick Craig-Wood)
 - Disable IOS builds for the time being (Nick Craig-Wood)
 - Androids builds made with up to date NDK (x0b)

- Add an rclone user to the Docker image but don't use it by default (cynthia kwok)
- dedupe: Make largest directory primary to minimize data moved (Saksham Khanna)
- config
 - Wrap config library in an interface (Fionera)
 - Make config file system pluggable (Nick Craig-Wood)
 - `--config ""` or `"/notfound"` for in memory config only (Nick Craig-Wood)
 - Clear fs cache of stale entries when altering config (Nick Craig-Wood)
- copyurl: Add option to print resulting auto-filename (albertony)
- delete: Make `--rmdirs` obey the filters (Nick Craig-Wood)
- docs - many fixes and reworks from edwardxml, albertony, pvalls, Ivan Andreev, Evan Harris, buengese, Alexey Tabakman
- encoder/filename - add SCSU as tables (Klaus Post)
- Add multiple paths support to `--compare-dest` and `--copy-dest` flag (K265)
- filter: Make `--exclude "dir/"` equivalent to `--exclude "dir/**"` (Nick Craig-Wood)
- fshttp: Add DSCP support with `--dscp` for QoS with differentiated services (Max Sum)
- lib/cache: Add Delete and DeletePrefix methods (Nick Craig-Wood)
- lib/file
 - Make pre-allocate detect disk full errors and return them (Nick Craig-Wood)
 - Don't run preallocate concurrently (Nick Craig-Wood)
 - Retry preallocate on EINTR (Nick Craig-Wood)
- operations: Made copy and sync operations obey a RetryAfterError (Ankur Gupta)
- rc
 - Add string alternatives for setting options over the rc (Nick Craig-Wood)
 - Add `options/local` to see the options configured in the context (Nick Craig-Wood)
 - Add `_config` parameter to set global config for just this rc call (Nick Craig-Wood)
 - Implement passing filter config with `_filter` parameter (Nick Craig-Wood)
 - Add `fscache/clear` and `fscache/entries` to control the fs cache (Nick Craig-Wood)
 - Avoid +Inf value for speed in `core/stats` (albertony)
 - Add a full set of stats to `core/stats` (Nick Craig-Wood)
 - Allow `fs=` params to be a JSON blob (Nick Craig-Wood)

- rcd: Added systemd notification during the `rclone rcd` command. (Naveen Honest Raj)
- rmdirs: Make `--rmdirs` obey the filters (Nick Craig-Wood)
- version: Show build tags and type of executable (Ivan Andreev)
- Bug Fixes
 - install.sh: make it fail on download errors (Ivan Andreev)
 - Fix excessive retries missing `--max-duration` timeout (Nick Craig-Wood)
 - Fix crash when `--low-level-retries=0` (Nick Craig-Wood)
 - Fix failed token refresh on mounts created via the rc (Nick Craig-Wood)
 - fshttp: Fix bandwidth limiting after bad merge (Nick Craig-Wood)
 - lib/atexit
 - Unregister interrupt handler once it has fired so users can interrupt again (Nick Craig-Wood)
 - Fix occasional failure to unmount with CTRL-C (Nick Craig-Wood)
 - Fix deadlock calling Finalise while Run is running (Nick Craig-Wood)
 - lib/rest: Fix multipart uploads not stopping on context cancel (Nick Craig-Wood)
- Mount
 - Allow mounting to root directory on windows (albertony)
 - Improved handling of relative paths on windows (albertony)
 - Fix unicode issues with accented characters on macOS (Nick Craig-Wood)
 - Docs: document the new FileSecurity option in WinFsp 2021 (albertony)
 - Docs: add note about volume path syntax on windows (albertony)
 - Fix caching of old directories after renaming them (Nick Craig-Wood)
 - Update cgofuse to the latest version to bring in macfuse 4 fix (Nick Craig-Wood)
- VFS
 - `--vfs-used-is-size` to report used space using recursive scan (tYYGH)
 - Don't set modification time if it was already correct (Nick Craig-Wood)
 - Fix Create causing windows explorer to truncate files on CTRL-C CTRL-V (Nick Craig-Wood)
 - Fix modtimes not updating when writing via cache (Nick Craig-Wood)
 - Fix modtimes changing by fractional seconds after upload (Nick Craig-Wood)
 - Fix modtime set if `--vfs-cache-mode writes / full` and no write (Nick Craig-Wood)
 - Rename files in cache and cancel uploads on directory rename (Nick Craig-Wood)
 - Fix directory renaming by renaming dirs cached in memory (Nick Craig-Wood)
- Local
 - Add flag `--local-no-preallocate` (David Sze)
 - Make `nounc` an advanced option except on Windows (albertony)

- Don't ignore preallocate disk full errors (Nick Craig-Wood)
- Cache
 - Add `--fs-cache-expire-duration` to control the fs cache (Nick Craig-Wood)
- Crypt
 - Add option to not encrypt data (Vesnyx)
 - Log hash ok on upload (albertony)
- Azure Blob
 - Add container public access level support. (Manish Kumar)
- B2
 - Fix HTML files downloaded via cloudflare (Nick Craig-Wood)
- Box
 - Fix transfers getting stuck on token expiry after API change (Nick Craig-Wood)
- Chunker
 - Partially implement no-rename transactions (Maxwell Calman)
- Drive
 - Don't stop server side copy if couldn't read description (Nick Craig-Wood)
 - Pass context on to drive SDK - to help with cancellation (Nick Craig-Wood)
- Dropbox
 - Add polling for changes support (Robert Thomas)
 - Make `--timeout 0` work properly (Nick Craig-Wood)
 - Raise priority of rate limited message to INFO to make it more noticeable (Nick Craig-Wood)
- Fichier
 - Implement copy & move (buengese)
 - Implement public link (buengese)
- FTP
 - Implement Shutdown method (Nick Craig-Wood)
 - Close idle connections after `--ftp-idle-timeout` (1m by default) (Nick Craig-Wood)
 - Make `--timeout 0` work properly (Nick Craig-Wood)
 - Add `--ftp-close-timeout` flag for use with awkward ftp servers (Nick Craig-Wood)
 - Retry connections and logins on 421 errors (Nick Craig-Wood)
- Hdfs
 - Fix permissions for when directory is created (Lucas Messenger)
- Onedrive
 - Make `--timeout 0` work properly (Nick Craig-Wood)
- S3

- Fix `--s3-profile` which wasn't working (Nick Craig-Wood)
- SFTP
 - Close idle connections after `--sftp-idle-timeout` (1m by default) (Nick Craig-Wood)
 - Fix "file not found" errors for read once servers (Nick Craig-Wood)
 - Fix SetModTime stat failed: object not found with `--sftp-set-modtime=false` (Nick Craig-Wood)
- Swift
 - Update github.com/ncw/swift to v2.0.0 (Nick Craig-Wood)
 - Implement copying large objects (nguyenhuuluan434)
- Union
 - Fix crash when using epff policy (Nick Craig-Wood)
 - Fix union attempting to update files on a read only file system (Nick Craig-Wood)
 - Refactor to use fspath.SplitFs instead of fs.ParseRemote (Nick Craig-Wood)
 - Fix initialisation broken in refactor (Nick Craig-Wood)
- WebDAV
 - Add support for sharepoint with NTLM authentication (Rauno Ots)
 - Make sharepoint-ntlm docs more consistent (Alex Chen)
 - Improve terminology in sharepoint-ntlm docs (Ivan Andreev)
 - Disable HTTP/2 for NTLM authentication (georne)
 - Fix sharepoint-ntlm error 401 for parallel actions (Ivan Andreev)
 - Check that purged directory really exists (Ivan Andreev)
- Yandex
 - Make `--timeout 0` work properly (Nick Craig-Wood)
- Zoho
 - Replace client id - you will need to `rclone config reconnect` after this (buengese)
 - Add forgotten setupRegion() to NewFs - this finally fixes regions other than EU (buengese)

v1.54.1 - 2021-03-08

[See commits](#)

- Bug Fixes
 - accounting: Fix --bwlimit when up or down is off (Nick Craig-Wood)
 - docs
 - Fix nesting of brackets and backticks in ftp docs (edwardxml)
 - Fix broken link in sftp page (edwardxml)

- Fix typo in crypt.md (Romeo Kienzler)
- Changelog: Correct link to digitalis.io (Alex JOST)
- Replace #file-caching with #vfs-file-caching (Miron Veryanskiy)
- Convert bogus example link to code (edwardxml)
- Remove dead link from rc.md (edwardxml)
- rc: Sync,copy,move: document createEmptySrcDirs parameter (Nick Craig-Wood)
- Isjson: Fix unterminated JSON in the presence of errors (Nick Craig-Wood)
- Mount
 - Fix mount dropping on macOS by setting --daemon-timeout 10m (Nick Craig-Wood)
- VFS
 - Document simultaneous usage with the same cache shouldn't be used (Nick Craig-Wood)
- B2
 - Automatically raise upload cutoff to avoid spurious error (Nick Craig-Wood)
 - Fix failed to create file system with application key limited to a prefix (Nick Craig-Wood)
- Drive
 - Refer to Shared Drives instead of Team Drives (Nick Craig-Wood)
- Dropbox
 - Add scopes to oauth request and optionally "members.read" (Nick Craig-Wood)
- S3
 - Fix failed to create file system with folder level permissions policy (Nick Craig-Wood)
 - Fix Wasabi HEAD requests returning stale data by using only 1 transport (Nick Craig-Wood)
 - Fix shared_credentials_file auth (Dmitry Chepurovskiy)
 - Add --s3-no-head to reducing costs docs (Nick Craig-Wood)
- Union
 - Fix mkdir at root with remote:/ (Nick Craig-Wood)
- Zoho
 - Fix custom client id's (buengese)

v1.54.0 - 2021-02-02

[See commits](#)

- New backends
 - Compression remote (experimental) (buengese)

- Enterprise File Fabric (Nick Craig-Wood)
 - This work was sponsored by [Storage Made Easy](#)
- HDFS (Hadoop Distributed File System) (Yury Stankevich)
- Zoho workdrive (buengese)
- New Features
 - Deglobalise the config (Nick Craig-Wood)
 - Global config now read from the context
 - This will enable passing of global config via the rc
 - This work was sponsored by [Digitalis](#)
 - Add `--bwlimit` for upload and download (Nick Craig-Wood)
 - Obey bwlimit in http Transport for better limiting
 - Enhance systemd integration (Hekmon)
 - log level identification, manual activation with flag, automatic systemd launch detection
 - Don't compile systemd log integration for non unix systems (Benjamin Gustin)
 - Add a `--download` flag to md5sum/sha1sum/hashsum to force rclone to download and hash files locally (lostheli)
 - Add `--progress-terminal-title` to print ETA to terminal title (LaSombra)
 - Make backend env vars show in help as the defaults for backend flags (Nick Craig-Wood)
 - build
 - Raise minimum go version to go1.12 (Nick Craig-Wood)
 - dedupe
 - Add `--by-hash` to dedupe on content hash not file name (Nick Craig-Wood)
 - Add `--dedupe-mode list` to just list dupes, changing nothing (Nick Craig-Wood)
 - Add warning if used on a remote which can't have duplicate names (Nick Craig-Wood)
 - fs
 - Add Shutdown optional method for backends (Nick Craig-Wood)
 - When using `--files-from` check files concurrently (zhucan)
 - Accumulate stats when using `--dry-run` (Ingo Weiss)
 - Always show stats when using `--dry-run` or `--interactive` (Nick Craig-Wood)
 - Add support for flag `--no-console` on windows to hide the console window (albertony)
 - genautocomplete: Add support to output to stdout (Ingo)
 - ncd

- Highlight read errors instead of aborting (Claudio Bantaloukas)
- Add sort by average size in directory (Adam Plánský)
- Add toggle option for average s3ize in directory - key 'a' (Adam Plánský)
- Add empty folder flag into ncd browser (Adam Plánský)
- Add `!` (error) and `.` (unreadable) file flags to go with `e` (empty) (Nick Craig-Wood)
- obscure: Make `rc\one obscure -` ignore newline at end of line (Nick Craig-Wood)
- operations
 - Add logs when need to upload files to set mod times (Nick Craig-Wood)
 - Move and copy log name of the destination object in verbose (Adam Plánský)
 - Add size if known to skipped items and JSON log (Nick Craig-Wood)
- rc
 - Prefer actual listener address if using `:"port"` or `"addr:0"` only (Nick Craig-Wood)
 - Add listener for finished jobs (Aleksandar Jankovic)
- serve ftp: Add options to enable TLS (Deepak Sah)
- serve http/webdav: Redirect requests to the base url without the / (Nick Craig-Wood)
- serve restic: Implement object cache (Nick Craig-Wood)
- stats: Add counter for deleted directories (Nick Craig-Wood)
- sync: Only print "There was nothing to transfer" if no errors (Nick Craig-Wood)
- webui
 - Prompt user for updating webui if an update is available (Chaitanya Bankanhal)
 - Fix plugins initialization (negative0)
- Bug Fixes
 - fs
 - Fix nil pointer on copy & move operations directly to remote (Anagh Kumar Baranwal)
 - Fix parsing of `..` when joining remotes (Nick Craig-Wood)
 - log: Fix enabling systemd logging when using `--log-file` (Nick Craig-Wood)
 - check
 - Make the error count match up in the log message (Nick Craig-Wood)
 - move: Fix data loss when source and destination are the same object (Nick Craig-Wood)
 - operations
 - Fix `--cutoff-mode` hard not cutting off immediately (Nick Craig-Wood)

- Fix `--immutable` error message (Nick Craig-Wood)
- sync
 - Fix `--cutoff-mode` soft & cautious so it doesn't end the transfer early (Nick Craig-Wood)
 - Fix `--immutable` errors retrying many times (Nick Craig-Wood)
- Docs
 - Many fixes and a rewrite of the filtering docs (edwardxml)
 - Many spelling and grammar fixes (Josh Soref)
 - Doc fixes for commands delete, purge, rmdir, rmdirs and mount (albertony)
 - And thanks to these people for many doc fixes too numerous to list
 - Ameer Dawood, Antoine GIRARD, Bob Bagwill, Christopher Stewart
 - CokeMine, David, Dov Murik, Durval Menezes, Evan Harris, gtoorely
 - Ilyess Bachiri, Janne Johansson, Kerry Su, Marcin Zelent,
 - Martin Michlmayr, Milly, Sơn Trần-Nguyễn
- Mount
 - Update systemd status with cache stats (Hekmon)
 - Disable bazil/fuse based mount on macOS (Nick Craig-Wood)
 - Make `rclone mount` actually run `rclone cmount` under macOS (Nick Craig-Wood)
 - Implement mknod to make NFS file creation work (Nick Craig-Wood)
 - Make sure we don't call umount more than once (Nick Craig-Wood)
 - More user friendly mounting as network drive on windows (albertony)
 - Detect if uid or gid are set in same option string: `-o uid=123,gid=456` (albertony)
 - Don't attempt to unmount if fs has been destroyed already (Nick Craig-Wood)
- VFS
 - Fix virtual entries causing deleted files to still appear (Nick Craig-Wood)
 - Fix "file already exists" error for stale cache files (Nick Craig-Wood)
 - Fix file leaks with `--vfs-cache-mode` full and `--buffer-size 0` (Nick Craig-Wood)
 - Fix invalid cache path on windows when using `:backend:` as remote (albertony)
- Local
 - Continue listing files/folders when a circular symlink is detected (Manish Gupta)
 - New flag `--local-zero-size-links` to fix sync on some virtual filesystems (Riccardo Iaconelli)
- Azure Blob
 - Add support for service principals (James Lim)
 - Add support for managed identities (Brad Ackerman)
 - Add examples for access tier (Bob Pusateri)

- Utilize the streaming capabilities from the SDK for multipart uploads (Denis Neuling)
- Fix setting of mime types (Nick Craig-Wood)
- Fix crash when listing outside a SAS URL's root (Nick Craig-Wood)
- Delete archive tier blobs before update if `--azureblob-archive-tier-delete` (Nick Craig-Wood)
- Fix crash on startup (Nick Craig-Wood)
- Fix memory usage by upgrading the SDK to v0.13.0 and implementing a TransferManager (Nick Craig-Wood)
- Require go1.14+ to compile due to SDK changes (Nick Craig-Wood)
- B2
 - Make NewObject use less expensive API calls (Nick Craig-Wood)
 - This will improve `--files-from` and `restic serve` in particular
 - Fixed crash on an empty file name (lluuaapp)
- Box
 - Fix NewObject for files that differ in case (Nick Craig-Wood)
 - Fix finding directories in a case insensitive way (Nick Craig-Wood)
- Chunker
 - Skip long local hashing, hash in-transit (fixes) (Ivan Andreev)
 - Set Features ReadMimeType to false as Object.MimeType not supported (Nick Craig-Wood)
 - Fix case-insensitive NewObject, test metadata detection (Ivan Andreev)
- Drive
 - Implement `rclone backend copyid` command for copying files by ID (Nick Craig-Wood)
 - Added flag `--drive-stop-on-download-limit` to stop transfers when the download limit is exceeded (Anagh Kumar Baranwal)
 - Implement CleanUp workaround for team drives (buengese)
 - Allow shortcut resolution and creation to be retried (Nick Craig-Wood)
 - Log that emptying the trash can take some time (Nick Craig-Wood)
 - Add xdg office icons to xdg desktop files (Pau Rodriguez-Estivill)
- Dropbox
 - Add support for viewing shared files and folders (buengese)
 - Enable short lived access tokens (Nick Craig-Wood)
 - Implement IDer on Objects so `rclone lsf` etc can read the IDs (buengese)
 - Set Features ReadMimeType to false as Object.MimeType not supported (Nick Craig-Wood)
 - Make malformed_path errors from too long files not retrievable (Nick Craig-Wood)

- Test file name length before upload to fix upload loop (Nick Craig-Wood)
- Fichier
 - Set Features ReadMimeType to true as Object.MimeType is supported (Nick Craig-Wood)
- FTP
 - Add `--ftp-disable-msld` option to ignore MLSD for really old servers (Nick Craig-Wood)
 - Make `--tpslimit apply` (Nick Craig-Wood)
- Google Cloud Storage
 - Storage class object header support (Laurens Janssen)
 - Fix anonymous client to use rclone's HTTP client (Nick Craig-Wood)
 - Fix `Entry doesn't belong in directory "" (same as directory) - ignoring` (Nick Craig-Wood)
- Googlephotos
 - New flag `--gphotos-include-archived` to show archived photos as well (Nicolas Rueff)
- Jottacloud
 - Don't erroneously report support for writing mime types (buengese)
 - Add support for Telia Cloud (Patrik Nordlén)
- Mailru
 - Accept special folders eg camera-upload (Ivan Andreev)
 - Avoid prehashing of large local files (Ivan Andreev)
 - Fix uploads after recent changes on server (Ivan Andreev)
 - Fix range requests after June 2020 changes on server (Ivan Andreev)
 - Fix invalid timestamp on corrupted files (fixes) (Ivan Andreev)
 - Remove deprecated protocol quirks (Ivan Andreev)
- Memory
 - Fix setting of mime types (Nick Craig-Wood)
- Onedrive
 - Add support for China region operated by 21vianet and other regional suppliers (NyaMisty)
 - Warn on gateway timeout errors (Nick Craig-Wood)
 - Fall back to normal copy if server-side copy unavailable (Alex Chen)
 - Fix server-side copy completely disabled on OneDrive for Business (Cnly)
 - (business only) workaround to replace existing file on server-side copy (Alex Chen)
 - Enhance link creation with expiry, scope, type and password (Nick Craig-Wood)
 - Remove % and # from the set of encoded characters (Alex Chen)
 - Support addressing site by server-relative URL (kice)

- Opendrive
 - Fix finding directories in a case insensitive way (Nick Craig-Wood)
- Pcloud
 - Fix setting of mime types (Nick Craig-Wood)
- Premiumizeme
 - Fix finding directories in a case insensitive way (Nick Craig-Wood)
- Qingstor
 - Fix error propagation in CleanUp (Nick Craig-Wood)
 - Fix rclone cleanup (Nick Craig-Wood)
- S3
 - Added `--s3-disable-http2` to disable http/2 (Anagh Kumar Baranwal)
 - Complete SSE-C implementation (Nick Craig-Wood)
 - Fix hashes on small files with AWS:KMS and SSE-C (Nick Craig-Wood)
 - Add MD5 metadata to objects uploaded with SSE-AWS/SSE-C (Nick Craig-Wood)
 - Add `--s3-no-head` parameter to minimise transactions on upload (Nick Craig-Wood)
 - Update docs with a Reducing Costs section (Nick Craig-Wood)
 - Added error handling for error code 429 indicating too many requests (Anagh Kumar Baranwal)
 - Add requester pays option (kelv)
 - Fix copy multipart with v2 auth failing with 'SignatureDoesNotMatch' (Louis Koo)
- SFTP
 - Allow cert based auth via optional pubkey (Stephen Harris)
 - Allow user to optionally check server hosts key to add security (Stephen Harris)
 - Defer asking for user passwords until the SSH connection succeeds (Stephen Harris)
 - Remember entered password in AskPass mode (Stephen Harris)
 - Implement Shutdown method (Nick Craig-Wood)
 - Implement keyboard interactive authentication (Nick Craig-Wood)
 - Make `--tpslimit` apply (Nick Craig-Wood)
 - Implement `--sftp-use-fstat` for unusual SFTP servers (Nick Craig-Wood)
- Sugarsync
 - Fix NewObject for files that differ in case (Nick Craig-Wood)
 - Fix finding directories in a case insensitive way (Nick Craig-Wood)
- Swift
 - Fix deletion of parts of Static Large Object (SLO) (Nguyễn Hữu Luân)

- Ensure partially uploaded large files are uploaded unless `--swift-leave-parts-on-error` (Nguyễn Hữu Luân)
- Tardigrade
 - Upgrade to uplink v1.4.1 (Caleb Case)
- WebDAV
 - Updated docs to show streaming to nextcloud is working (Durval Menezes)
- Yandex
 - Set Features WriteMimeType to false as Yandex ignores mime types (Nick Craig-Wood)

v1.53.4 - 2021-01-20

[See commits](#)

- Bug Fixes
 - accounting: Fix data race in Transferred() (Maciej Zimnoch)
 - build
 - Stop tagged releases making a current beta (Nick Craig-Wood)
 - Upgrade docker buildx action (Matteo Pietro Dazzi)
 - Add -buildmode to cross-compile.go (Nick Craig-Wood)
 - Fix docker build by upgrading ilteood/docker_buildx (Nick Craig-Wood)
 - Revert GitHub actions brew fix since this is now fixed (Nick Craig-Wood)
 - Fix brew install --cask syntax for macOS build (Nick Craig-Wood)
 - Update nfpn syntax to fix build of .deb/.rpm packages (Nick Craig-Wood)
 - Fix for Windows build errors (Ivan Andreev)
 - fs: Parseduration: fixed tests to use UTC time (Ankur Gupta)
 - fshttp: Prevent overlap of HTTP headers in logs (Nathan Collins)
 - rc
 - Fix core/command giving 500 internal error (Nick Craig-Wood)
 - Add Copy method to rc.Params (Nick Craig-Wood)
 - Fix 500 error when marshalling errors from core/command (Nick Craig-Wood)
 - plugins: Create plugins files only if webui is enabled. (negative0)
 - serve http: Fix serving files of unknown length (Nick Craig-Wood)
 - serve sftp: Fix authentication on one connection blocking others (Nick Craig-Wood)
- Mount
 - Add optional `brew` tag to throw an error when using mount in the binaries installed via Homebrew (Anagh Kumar Baranwal)
 - Add "." and ".." to directories to match cmount and expectations (Nick Craig-Wood)
- VFS

- Make cache dir absolute before using it to fix path too long errors (Nick Craig-Wood)
- Chunker
 - Improve detection of incompatible metadata (Ivan Andreev)
- Google Cloud Storage
 - Fix server side copy of large objects (Nick Craig-Wood)
- Jottacloud
 - Fix token renewer to fix long uploads (Nick Craig-Wood)
 - Fix token refresh failed: is not a regular file error (Nick Craig-Wood)
- Pcloud
 - Only use SHA1 hashes in EU region (Nick Craig-Wood)
- Sharefile
 - Undo Fix backend due to API swapping integers for strings (Nick Craig-Wood)
- WebDAV
 - Fix Open Range requests to fix 4shared mount (Nick Craig-Wood)
 - Add "Depth: 0" to GET requests to fix bitrix (Nick Craig-Wood)

v1.53.3 - 2020-11-19

[See commits](#)

- Bug Fixes
 - random: Fix incorrect use of math/rand instead of crypto/rand CVE-2020-28924 (Nick Craig-Wood)
 - Passwords you have generated with `rclone config` may be insecure
 - See [issue #4783](#) for more details and a checking tool
 - random: Seed math/rand in one place with crypto strong seed (Nick Craig-Wood)
- VFS
 - Fix vfs/refresh calls with fs= parameter (Nick Craig-Wood)
- Sharefile
 - Fix backend due to API swapping integers for strings (Nick Craig-Wood)

v1.53.2 - 2020-10-26

[See commits](#)

- Bug Fixes
 - accounting
 - Fix incorrect speed and transferTime in core/stats (Nick Craig-Wood)
 - Stabilize display order of transfers on Windows (Nick Craig-Wood)

- operations
 - Fix use of --suffix without --backup-dir (Nick Craig-Wood)
 - Fix spurious "--checksum is in use but the source and destination have no hashes in common" (Nick Craig-Wood)
- build
 - Work around GitHub actions brew problem (Nick Craig-Wood)
 - Stop using set-env and set-path in the GitHub actions (Nick Craig-Wood)
- Mount
 - mount2: Fix the swapped UID / GID values (Russell Cattelan)
- VFS
 - Detect and recover from a file being removed externally from the cache (Nick Craig-Wood)
 - Fix a deadlock vulnerability in downloaders.Close (Leo Luan)
 - Fix a race condition in retryFailedResets (Leo Luan)
 - Fix missed concurrency control between some item operations and reset (Leo Luan)
 - Add exponential backoff during ENOSPC retries (Leo Luan)
 - Add a missed update of used cache space (Leo Luan)
 - Fix --no-modtime to not attempt to set modtimes (as documented) (Nick Craig-Wood)
- Local
 - Fix sizes and syncing with --links option on Windows (Nick Craig-Wood)
- Chunker
 - Disable ListR to fix missing files on GDrive (workaround) (Ivan Andreev)
 - Fix upload over crypt (Ivan Andreev)
- Fichier
 - Increase maximum file size from 100GB to 300GB (gyutw)
- Jottacloud
 - Remove clientSecret from config when upgrading to token based authentication (buengese)
 - Avoid double url escaping of device/mountpoint (albertony)
 - Remove DirMove workaround as it's not required anymore - also (buengese)
- Mailru
 - Fix uploads after recent changes on server (Ivan Andreev)
 - Fix range requests after june changes on server (Ivan Andreev)
 - Fix invalid timestamp on corrupted files (fixes) (Ivan Andreev)
- Onedrive
 - Fix disk usage for sharepoint (Nick Craig-Wood)

- S3
 - Add missing regions for AWS (Anagh Kumar Baranwal)
- Seafile
 - Fix accessing libraries > 2GB on 32 bit systems (Muffin King)
- SFTP
 - Always convert the checksum to lower case (buengese)
- Union
 - Create root directories if none exist (Nick Craig-Wood)

v1.53.1 - 2020-09-13

[See commits](#)

- Bug Fixes
 - accounting: Remove new line from end of --stats-one-line display (Nick Craig-Wood)
 - check
 - Add back missing --download flag (Nick Craig-Wood)
 - Fix docs (Nick Craig-Wood)
 - docs
 - Note --log-file does append (Nick Craig-Wood)
 - Add full stops for consistency in rclone --help (edwardxml)
 - Add Tencent COS to s3 provider list (wjielai)
 - Updated mount command to reflect that it requires Go 1.13 or newer (Evan Harris)
 - jottacloud: Mention that uploads from local disk will not need to cache files to disk for md5 calculation (albertony)
 - Fix formatting of rc docs page (Nick Craig-Wood)
 - build
 - Include vendor tar ball in release and fix startdev (Nick Craig-Wood)
 - Fix "Illegal instruction" error for ARMv6 builds (Nick Craig-Wood)
 - Fix architecture name in ARMv7 build (Nick Craig-Wood)
- VFS
 - Fix spurious error "vfs cache: failed to _ensure cache EOF" (Nick Craig-Wood)
 - Log an ERROR if we fail to set the file to be sparse (Nick Craig-Wood)
- Local
 - Log an ERROR if we fail to set the file to be sparse (Nick Craig-Wood)
- Drive
 - Re-adds special oauth help text (Tim Gallant)

- Opendrive
 - Do not retry 400 errors (Evan Harris)

v1.53.0 - 2020-09-02

[See commits](#)

- New Features
 - The [VFS layer](#) was heavily reworked for this release - see below for more details
 - Interactive mode [-i/--interactive](#) for destructive operations (fishbullet)
 - Add [--bwlimit-file](#) flag to limit speeds of individual file transfers (Nick Craig-Wood)
 - Transfers are sorted by start time in the stats and progress output (Max Sum)
 - Make sure backends expand `~` and environment vars in file names they use (Nick Craig-Wood)
 - Add [--refresh-times](#) flag to set modtimes on hashless backends (Nick Craig-Wood)
 - build
 - Remove vendor directory in favour of Go modules (Nick Craig-Wood)
 - Build with go1.15.x by default (Nick Craig-Wood)
 - Drop macOS 386 build as it is no longer supported by go1.15 (Nick Craig-Wood)
 - Add ARMv7 to the supported builds (Nick Craig-Wood)
 - Enable `rclone cmount` on macOS (Nick Craig-Wood)
 - Make rclone build with gccgo (Nick Craig-Wood)
 - Make rclone build with wasm (Nick Craig-Wood)
 - Change beta numbering to be semver compatible (Nick Craig-Wood)
 - Add file properties and icon to Windows executable (albertony)
 - Add experimental interface for integrating rclone into browsers (Nick Craig-Wood)
 - lib: Add file name compression (Klaus Post)
 - rc
 - Allow installation and use of plugins and test plugins with rclone-webui (Chaitanya Bankanhal)
 - Add reverse proxy pluginsHandler for serving plugins (Chaitanya Bankanhal)
 - Add `mount/listmounts` option for listing current mounts (Chaitanya Bankanhal)
 - Add `operations/uploadfile` to upload a file through rc using encoding multipart/form-data (Chaitanya Bankanhal)
 - Add `core/command` to execute rclone terminal commands. (Chaitanya Bankanhal)

- `rclone check`
 - Add reporting of filenames for same/missing/changed (Nick Craig-Wood)
 - Make check command obey `--dry-run` / `-i` / `--interactive` (Nick Craig-Wood)
 - Make check do `--checkers` files concurrently (Nick Craig-Wood)
 - Retry downloads if they fail when using the `--download` flag (Nick Craig-Wood)
 - Make it show stats by default (Nick Craig-Wood)
- `rclone obscure`: Allow obscure command to accept password on STDIN (David Ibarra)
- `rclone config`
 - Set `RCLONE_CONFIG_DIR` for use in config files and subprocesses (Nick Craig-Wood)
 - Reject remote names starting with a dash. (jtagcat)
- `rclone cryptcheck`: Add reporting of filenames for same/missing/changed (Nick Craig-Wood)
- `rclone dedupe`: Make it obey the `--size-only` flag for duplicate detection (Nick Craig-Wood)
- `rclone link`: Add `--expire` and `--unlink` flags (Roman Kredentser)
- `rclone mkdir`: Warn when using `mkdir` on remotes which can't have empty directories (Nick Craig-Wood)
- `rclone rc`: Allow JSON parameters to simplify command line usage (Nick Craig-Wood)
- `rclone serve ftp`
 - Don't compile on < go1.13 after dependency update (Nick Craig-Wood)
 - Add error message if auth proxy fails (Nick Craig-Wood)
 - Use refactored `goftp.io/server` library for binary shrink (Nick Craig-Wood)
- `rclone serve restic`: Expose interfaces so that `rclone` can be used as a library from within `restic` (Jack)
- `rclone sync`: Add `--track-renames-strategy leaf` (Nick Craig-Wood)
- `rclone touch`: Add ability to set nanosecond resolution times (Nick Craig-Wood)
- `rclone tree`: Remove `-i` shorthand for `--noindent` as it conflicts with `-i` / `--interactive` (Nick Craig-Wood)
- Bug Fixes
 - accounting
 - Fix documentation for `speed` / `speedAvg` (Nick Craig-Wood)
 - Fix elapsed time not show actual time since beginning (Chaitanya Bankanhal)
 - Fix deadlock in stats printing (Nick Craig-Wood)

- build
 - Fix file handle leak in GitHub release tool (Garrett Squire)
- `rc\clone check`: Fix successful retries with `--download` counting errors (Nick Craig-Wood)
- `rc\clone dedupe`: Fix logging to be easier to understand (Nick Craig-Wood)
- Mount
 - Warn macOS users that mount implementation is changing (Nick Craig-Wood)
 - to test the new implementation use `rc\clone cmount` instead of `rc\clone mount`
 - this is because the library rclone uses has dropped macOS support
 - rc interface
 - Add call for unmount all (Chaitanya Bankanhal)
 - Make `mount/mount` remote control take `vfsOpt` option (Nick Craig-Wood)
 - Add `mountOpt` to `mount/mount` (Nick Craig-Wood)
 - Add VFS and Mount options to `mount/listmounts` (Nick Craig-Wood)
 - Catch panics in cgofuse initialization and turn into error messages (Nick Craig-Wood)
 - Always supply stat information in Readdir (Nick Craig-Wood)
 - Add support for reading unknown length files using direct IO (Windows) (Nick Craig-Wood)
 - Fix On Windows don't add `-o uid/gid=-1` if user supplies `-o uid/gid`. (Nick Craig-Wood)
 - Fix macOS losing directory contents in `cmount` (Nick Craig-Wood)
 - Fix volume name broken in recent refactor (Nick Craig-Wood)
- VFS
 - Implement partial reads for `--vfs-cache-mode full` (Nick Craig-Wood)
 - Add `--vfs-writeback` option to delay writes back to cloud storage (Nick Craig-Wood)
 - Add `--vfs-read-ahead` parameter for use with `--vfs-cache-mode full` (Nick Craig-Wood)
 - Restart pending uploads on restart of the cache (Nick Craig-Wood)
 - Support synchronous cache space recovery upon ENOSPC (Leo Luan)
 - Allow ReadAt and WriteAt to run concurrently with themselves (Nick Craig-Wood)
 - Change modtime of file before upload to current (Rob Calistri)
 - Recommend `--vfs-cache-modes writes` on backends which can't stream (Nick Craig-Wood)
 - Add an optional `fs` parameter to `vfs rc` methods (Nick Craig-Wood)
 - Fix errors when using > 260 char files in the cache in Windows (Nick Craig-Wood)

- Fix renaming of items while they are being uploaded (Nick Craig-Wood)
- Fix very high load caused by slow directory listings (Nick Craig-Wood)
- Fix renamed files not being uploaded with `--vfs-cache-mode minimal` (Nick Craig-Wood)
- Fix directory locking caused by slow directory listings (Nick Craig-Wood)
- Fix saving from chrome without `--vfs-cache-mode writes` (Nick Craig-Wood)
- Local
 - Add `--local-no-updated` to provide a consistent view of changing objects (Nick Craig-Wood)
 - Add `--local-no-set-modtime` option to prevent modtime changes (tyhuber1)
 - Fix race conditions updating and reading Object metadata (Nick Craig-Wood)
- Cache
 - Make any created backends be cached to fix rc problems (Nick Craig-Wood)
 - Fix dedupe on caches wrapping drives (Nick Craig-Wood)
- Crypt
 - Add `--crypt-server-side-across-configs` flag (Nick Craig-Wood)
 - Make any created backends be cached to fix rc problems (Nick Craig-Wood)
- Alias
 - Make any created backends be cached to fix rc problems (Nick Craig-Wood)
- Azure Blob
 - Don't compile on < go1.13 after dependency update (Nick Craig-Wood)
- B2
 - Implement server-side copy for files > 5GB (Nick Craig-Wood)
 - Cancel in progress multipart uploads and copies on rclone exit (Nick Craig-Wood)
 - Note that b2's encoding now allows \ but rclone's hasn't changed (Nick Craig-Wood)
 - Fix transfers when using `download_url` (Nick Craig-Wood)
- Box
 - Implement rclone cleanup (buengese)
 - Cancel in progress multipart uploads and copies on rclone exit (Nick Craig-Wood)
 - Allow authentication with access token (David)
- Chunker
 - Make any created backends be cached to fix rc problems (Nick Craig-Wood)
- Drive
 - Add `rclone backend drives` to list shared drives (teamdrives) (Nick Craig-Wood)
 - Implement `rclone backend untrash` (Nick Craig-Wood)
 - Work around drive bug which didn't set modtime of copied docs (Nick Craig-Wood)

- Added `--drive-starred-only` to only show starred files (Jay McEntire)
- Deprecate `--drive-alternate-export` as it is no longer needed (themylogin)
- Fix duplication of Google docs on server-side copy (Nick Craig-Wood)
- Fix "panic: send on closed channel" when recycling dir entries (Nick Craig-Wood)
- Dropbox
 - Add copyright detector info in limitations section in the docs (Alex Guerrero)
 - Fix `rclone link` by removing expires parameter (Nick Craig-Wood)
- Fichier
 - Detect Flood detected: IP Locked error and sleep for 30s (Nick Craig-Wood)
- FTP
 - Add explicit TLS support (Heiko Bornholdt)
 - Add support for `--dump bodies` and `--dump auth` for debugging (Nick Craig-Wood)
 - Fix interoperation with pure-ftpd (Nick Craig-Wood)
- Google Cloud Storage
 - Add support for anonymous access (Kai Lüke)
- Jottacloud
 - Bring back legacy authentication for use with whitelabel versions (buengese)
 - Switch to new api root - also implement a very ugly workaround for the DirMove failures (buengese)
- Onedrive
 - Rework cancel of multipart uploads on rclone exit (Nick Craig-Wood)
 - Implement rclone cleanup (Nick Craig-Wood)
 - Add `--onedrive-no-versions` flag to remove old versions (Nick Craig-Wood)
- Pcloud
 - Implement `rclone link` for public link creation (buengese)
- Qingstor
 - Cancel in progress multipart uploads on rclone exit (Nick Craig-Wood)
- S3
 - Preserve metadata when doing multipart copy (Nick Craig-Wood)
 - Cancel in progress multipart uploads and copies on rclone exit (Nick Craig-Wood)
 - Add `rclone link` for public link sharing (Roman Kredentser)
 - Add `rclone backend restore` command to restore objects from GLACIER (Nick Craig-Wood)
 - Add `rclone cleanup` and `rclone backend cleanup` to clean unfinished multipart uploads (Nick Craig-Wood)
 - Add `rclone backend list-multipart-uploads` to list unfinished multipart uploads (Nick Craig-Wood)

- Add `--s3-max-upload-parts` support (Kamil Trzcíński)
- Add `--s3-no-check-bucket` for minimising rclone transactions and perms (Nick Craig-Wood)
- Add `--s3-profile` and `--s3-shared-credentials-file` options (Nick Craig-Wood)
- Use regional s3 us-east-1 endpoint (David)
- Add Scaleway provider (Vincent Feltz)
- Update IBM COS endpoints (Egor Margineanu)
- Reduce the default `--s3-copy-cutoff` to < 5GB for Backblaze S3 compatibility (Nick Craig-Wood)
- Fix detection of bucket existing (Nick Craig-Wood)
- SFTP
 - Use the absolute path instead of the relative path for listing for improved compatibility (Nick Craig-Wood)
 - Add `--sftp-subsystem` and `--sftp-server-command` options (aus)
- Swift
 - Fix dangling large objects breaking the listing (Nick Craig-Wood)
 - Fix purge not deleting directory markers (Nick Craig-Wood)
 - Fix update multipart object removing all of its own parts (Nick Craig-Wood)
 - Fix missing hash from object returned from upload (Nick Craig-Wood)
- Tardigrade
 - Upgrade to uplink v1.2.0 (Kaloyan Raev)
- Union
 - Fix writing with the all policy (Nick Craig-Wood)
- WebDAV
 - Fix directory creation with 4shared (Nick Craig-Wood)

v1.52.3 - 2020-08-07

[See commits](#)

- Bug Fixes
 - docs
 - Disable smart typography (e.g. en-dash) in MANUAL.* and man page (Nick Craig-Wood)
 - Update install.md to reflect minimum Go version (Evan Harris)
 - Update install from source instructions (Nick Craig-Wood)
 - make_manual: Support SOURCE_DATE_EPOCH (Morten Linderud)
 - log: Fix --use-json-log going to stderr not --log-file on Windows (Nick Craig-Wood)

- serve dlina: Fix file list on Samsung Series 6+ TVs (Matteo Pietro Dazzi)
- sync: Fix deadlock with --track-renames-strategy modtime (Nick Craig-Wood)
- Cache
 - Fix moveto/copyto remote:file remote:file2 (Nick Craig-Wood)
- Drive
 - Stop using root_folder_id as a cache (Nick Craig-Wood)
 - Make dangling shortcuts appear in listings (Nick Craig-Wood)
 - Drop "Disabling ListR" messages down to debug (Nick Craig-Wood)
 - Workaround and policy for Google Drive API (Dmitry Ustalov)
- FTP
 - Add note to docs about home vs root directory selection (Nick Craig-Wood)
- Onedrive
 - Fix reverting to Copy when Move would have worked (Nick Craig-Wood)
 - Avoid comma rendered in URL in onedrive.md (Kevin)
- Pcloud
 - Fix oauth on European region "eapi.pcloud.com" (Nick Craig-Wood)
- S3
 - Fix bucket Region auto detection when Region unset in config (Nick Craig-Wood)

v1.52.2 - 2020-06-24

[See commits](#)

- Bug Fixes
 - build
 - Fix docker release build action (Nick Craig-Wood)
 - Fix custom timezone in Docker image (NoLooseEnds)
 - check: Fix misleading message which printed errors instead of differences (Nick Craig-Wood)
 - errors: Add WSAECONNREFUSED and more to the list of retrieable Windows errors (Nick Craig-Wood)
 - rcd: Fix incorrect prometheus metrics (Gary Kim)
 - serve restic: Fix flags so they use environment variables (Nick Craig-Wood)
 - serve webdav: Fix flags so they use environment variables (Nick Craig-Wood)
 - sync: Fix --track-renames-strategy modtime (Nick Craig-Wood)
- Drive
 - Fix not being able to delete a directory with a trashed shortcut (Nick Craig-Wood)
 - Fix creating a directory inside a shortcut (Nick Craig-Wood)
 - Fix --drive-impersonate with cached root_folder_id (Nick Craig-Wood)

- SFTP
 - Fix SSH key PEM loading (Zac Rubin)
- Swift
 - Speed up deletes by not retrying segment container deletes (Nick Craig-Wood)
- Tardigrade
 - Upgrade to uplink v1.1.1 (Caleb Case)
- WebDAV
 - Fix free/used display for rclone about/df for certain backends (Nick Craig-Wood)

v1.52.1 - 2020-06-10

[See commits](#)

- Bug Fixes
 - lib/file: Fix SetSparse on Windows 7 which fixes downloads of files > 250MB (Nick Craig-Wood)
 - build
 - Update go.mod to go1.14 to enable -mod=vendor build (Nick Craig-Wood)
 - Remove quickestest from Dockerfile (Nick Craig-Wood)
 - Build Docker images with GitHub actions (Matteo Pietro Dazzi)
 - Update Docker build workflows (Nick Craig-Wood)
 - Set user_allow_other in /etc/fuse.conf in the Docker image (Nick Craig-Wood)
 - Fix xgo build after go1.14 go.mod update (Nick Craig-Wood)
 - docs
 - Add link to source and modified time to footer of every page (Nick Craig-Wood)
 - Remove manually set dates and use git dates instead (Nick Craig-Wood)
 - Minor tense, punctuation, brevity and positivity changes for the home page (edwardxml)
 - Remove leading slash in page reference in footer when present (Nick Craig-Wood)
 - Note commands which need obscured input in the docs (Nick Craig-Wood)
 - obscure: Write more help as we are referencing it elsewhere (Nick Craig-Wood)
- VFS
 - Fix OS vs Unix path confusion - fixes ChangeNotify on Windows (Nick Craig-Wood)
- Drive
 - Fix missing items when listing using --fast-list / ListR (Nick Craig-Wood)
- Putio

- Fix panic on Object.Open (Cenk Alti)
- S3
 - Fix upload of single files into buckets without create permission (Nick Craig-Wood)
 - Fix --header-upload (Nick Craig-Wood)
- Tardigrade
 - Fix listing bug by upgrading to v1.0.7
 - Set UserAgent to rclone (Caleb Case)

v1.52.0 - 2020-05-27

Special thanks to Martin Michlmayr for proof reading and correcting all the docs and Edward Barker for helping re-write the front page.

[See commits](#)

- New backends
 - [Tardigrade](#) backend for use with storj.io (Caleb Case)
 - [Union](#) re-write to have multiple writable remotes (Max Sum)
 - [Seafile](#) for Seafile server (Fred @creativeprojects)
- New commands
 - backend: command for backend-specific commands (see backends) (Nick Craig-Wood)
 - cachestats: Deprecate in favour of `rclone backend stats cache:` (Nick Craig-Wood)
 - dbhashsum: Deprecate in favour of `rclone hashsum DropboxHash` (Nick Craig-Wood)
- New Features
 - Add `--header-download` and `--header-upload` flags for setting HTTP headers when uploading/downloading (Tim Gallant)
 - Add `--header` flag to add HTTP headers to every HTTP transaction (Nick Craig-Wood)
 - Add `--check-first` to do all checking before starting transfers (Nick Craig-Wood)
 - Add `--track-renames-strategy` for configurable matching criteria for `--track-renames` (Bernd Schoolmann)
 - Add `--cutoff-mode` hard,soft,cautious (Shing Kit Chan & Franklyn Tackitt)
 - Filter flags (e.g. `--files-from -`) can read from stdin (fishbullet)
 - Add `--error-on-no-transfer` option (Jon Fautley)

- Implement `--order-by xxx,mixed` for copying some small and some big files (Nick Craig-Wood)
- Allow `--max-backlog` to be negative meaning as large as possible (Nick Craig-Wood)
- Added `--no-unicode-normalization` flag to allow Unicode filenames to remain unique (Ben Zenker)
- Allow `--min-age` / `--max-age` to take a date as well as a duration (Nick Craig-Wood)
- Add rename statistics for file and directory renames (Nick Craig-Wood)
- Add statistics output to JSON log (reddi)
- Make stats be printed on non-zero exit code (Nick Craig-Wood)
- When running `--password-command` allow use of stdin (Sébastien Gross)
- Stop empty strings being a valid remote path (Nick Craig-Wood)
- accounting: support `WriterTo` for less memory copying (Nick Craig-Wood)
- build
 - Update to use go1.14 for the build (Nick Craig-Wood)
 - Add `-trimpath` to release build for reproduceable builds (Nick Craig-Wood)
 - Remove GOOS and GOARCH from Dockerfile (Brandon Philips)
- config
 - Fsync the config file after writing to save more reliably (Nick Craig-Wood)
 - Add `--obscure` and `--no-obscure` flags to `config create` / `update` (Nick Craig-Wood)
 - Make `config show` take `remote:` as well as `remote` (Nick Craig-Wood)
- copyurl: Add `--no-clobber` flag (Denis)
- delete: Added `--rmdirs` flag to delete directories as well (Kush)
- filter: Added `--files-from-raw` flag (Ankur Gupta)
- genautocomplete: Add support for fish shell (Matan Rosenberg)
- log: Add support for syslog LOCAL facilities (Patrik Jakuszew)
- lsjson: Add `--hash-type` parameter and use it in `lsf` to speed up hashing (Nick Craig-Wood)
- rc
 - Add `-o` / `--opt` and `-a` / `--arg` for more structured input (Nick Craig-Wood)
 - Implement `backend/command` for running backend-specific commands remotely (Nick Craig-Wood)
 - Add `mount/mount` command for starting `rclone mount` via the API (Chaitanya)
- rcd: Add Prometheus metrics support (Gary Kim)

- serve http
 - Added a `--template` flag for user defined markup (calistri)
 - Add Last-Modified headers to files and directories (Nick Craig-Wood)
- serve sftp: Add support for multiple host keys by repeating `--key` flag (Maxime Suret)
- touch: Add `--localtime` flag to make `--timestamp` localtime not UTC (Nick Craig-Wood)
- Bug Fixes
 - accounting
 - Restore "Max number of stats groups reached" log line (Michał Matczuk)
 - Correct exitcode on Transfer Limit Exceeded flag. (Anuar Serdaliyev)
 - Reset bytes read during copy retry (Ankur Gupta)
 - Fix race clearing stats (Nick Craig-Wood)
 - copy: Only create empty directories when they don't exist on the remote (Ishuah Kariuki)
 - dedupe: Stop dedupe deleting files with identical IDs (Nick Craig-Wood)
 - oauth
 - Use custom http client so that `--no-check-certificate` is honored by oauth token fetch (Mark Spieth)
 - Replace deprecated oauth2.NoContext (Lars Lehtonen)
 - operations
 - Fix setting the timestamp on Windows for multithread copy (Nick Craig-Wood)
 - Make rcat obey `--ignore-checksum` (Nick Craig-Wood)
 - Make `--max-transfer` more accurate (Nick Craig-Wood)
 - rc
 - Fix dropped error (Lars Lehtonen)
 - Fix misplaced http server config (Xiaoxing Ye)
 - Disable duplicate log (ElonH)
 - serve dlina
 - Cds: don't specify childCount at all when unknown (Dan Walters)
 - Cds: use modification time as date in dlina metadata (Dan Walters)
 - serve restic: Fix tests after restic project removed vendoring (Nick Craig-Wood)
 - sync
 - Fix incorrect "nothing to transfer" message using `--delete-before` (Nick Craig-Wood)
 - Only create empty directories when they don't exist on the remote (Ishuah Kariuki)
- Mount

- Add `--async-read` flag to disable asynchronous reads (Nick Craig-Wood)
- Ignore `--allow-root` flag with a warning as it has been removed upstream (Nick Craig-Wood)
- Warn if `--allow-non-empty` used on Windows and clarify docs (Nick Craig-Wood)
- Constrain to go1.13 or above otherwise bazil.org/fuse fails to compile (Nick Craig-Wood)
- Fix fail because of too long volume name (evileye)
- Report 1PB free for unknown disk sizes (Nick Craig-Wood)
- Map more rclone errors into file systems errors (Nick Craig-Wood)
- Fix disappearing cwd problem (Nick Craig-Wood)
- Use ReaddirPlus on Windows to improve directory listing performance (Nick Craig-Wood)
- Send a hint as to whether the filesystem is case insensitive or not (Nick Craig-Wood)
- Add rc command `mount/types` (Nick Craig-Wood)
- Change maximum leaf name length to 1024 bytes (Nick Craig-Wood)
- VFS
 - Add `--vfs-read-wait` and `--vfs-write-wait` flags to control time waiting for a sequential read/write (Nick Craig-Wood)
 - Change default `--vfs-read-wait` to 20ms (it was 5ms and not configurable) (Nick Craig-Wood)
 - Make `df` output more consistent on a rclone mount. (Yves G)
 - Report 1PB free for unknown disk sizes (Nick Craig-Wood)
 - Fix race condition caused by unlocked reading of Dir.path (Nick Craig-Wood)
 - Make File lock and Dir lock not overlap to avoid deadlock (Nick Craig-Wood)
 - Implement lock ordering between File and Dir to eliminate deadlocks (Nick Craig-Wood)
 - Factor the vfs cache into its own package (Nick Craig-Wood)
 - Pin the Fs in use in the Fs cache (Nick Craig-Wood)
 - Add SetSys() methods to Node to allow caching stuff on a node (Nick Craig-Wood)
 - Ignore file not found errors from Hash in Read.Release (Nick Craig-Wood)
 - Fix hang in read wait code (Nick Craig-Wood)
- Local
 - Speed up multi thread downloads by using sparse files on Windows (Nick Craig-Wood)
 - Implement `--local-no-sparse` flag for disabling sparse files (Nick Craig-Wood)
 - Implement `rclone backend noop` for testing purposes (Nick Craig-Wood)

- Fix "file not found" errors on post transfer Hash calculation (Nick Craig-Wood)
- Cache
 - Implement `rcclone backend stats` command (Nick Craig-Wood)
 - Fix Server Side Copy with Temp Upload (Brandon McNama)
 - Remove Unused Functions (Lars Lehtonen)
 - Disable race tests until bbolt is fixed (Nick Craig-Wood)
 - Move methods used for testing into test file (greatroar)
 - Add Pin and Unpin and canonicalised lookup (Nick Craig-Wood)
 - Use proper import path `go.etcd.io/bbolt` (Robert-André Mauchin)
- Crypt
 - Calculate hashes for uploads from local disk (Nick Craig-Wood)
 - This allows encrypted Jottacloud uploads without using local disk
 - This means encrypted s3/b2 uploads will now have hashes
 - Added `rcclone backend decode / encode` commands to replicate functionality of `cryptdecode` (Anagh Kumar Baranwal)
 - Get rid of the unused Cipher interface as it obfuscated the code (Nick Craig-Wood)
- Azure Blob
 - Implement streaming of unknown sized files so `rcat` is now supported (Nick Craig-Wood)
 - Implement memory pooling to control memory use (Nick Craig-Wood)
 - Add `--azureblob-disable-checksum` flag (Nick Craig-Wood)
 - Retry `InvalidBlobOrBlock` error as it may indicate block concurrency problems (Nick Craig-Wood)
 - Remove unused `Object.parseTimeString()` (Lars Lehtonen)
 - Fix permission error on SAS URL limited to container (Nick Craig-Wood)
- B2
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)
 - Ignore directory markers at the root also (Nick Craig-Wood)
 - Force the case of the SHA1 to lowercase (Nick Craig-Wood)
 - Remove unused `largeUpload.clearUploadURL()` (Lars Lehtonen)
- Box
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)
 - Implement About to read size used (Nick Craig-Wood)
 - Add token renew function for jwt auth (David Bramwell)
 - Added support for interchangeable root folder for Box backend (Sunil Patra)
 - Remove unnecessary iat from jws claims (David)
- Drive

- Follow shortcuts by default, skip with `--drive-skip-shortcuts` (Nick Craig-Wood)
- Implement `rclone backend shortcut` command for creating shortcuts (Nick Craig-Wood)
- Added `rclone backend` command to change `service_account_file` and `chunk_size` (Anagh Kumar Baranwal)
- Fix missing files when using `--fast-list` and `--drive-shared-with-me` (Nick Craig-Wood)
- Fix duplicate items when using `--drive-shared-with-me` (Nick Craig-Wood)
- Extend `--drive-stop-on-upload-limit` to respond to `teamDriveFileLimitExceeded`. (harry)
- Don't delete files with multiple parents to avoid data loss (Nick Craig-Wood)
- Server side copy docs use default description if empty (Nick Craig-Wood)
- Dropbox
 - Make error insufficient space to be fatal (harry)
 - Add info about required redirect url (Elan Ruusamäe)
- Fichier
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)
 - Implement custom pacer to deal with the new rate limiting (buengese)
- FTP
 - Fix lockup when using concurrency limit on failed connections (Nick Craig-Wood)
 - Fix lockup on failed upload when using concurrency limit (Nick Craig-Wood)
 - Fix lockup on Close failures when using concurrency limit (Nick Craig-Wood)
 - Work around pureftp sending spurious 150 messages (Nick Craig-Wood)
- Google Cloud Storage
 - Add support for `--header-upload` and `--header-download` (Nick Craig-Wood)
 - Add `ARCHIVE` storage class to help (Adam Stroud)
 - Ignore directory markers at the root (Nick Craig-Wood)
- Googlephotos
 - Make the start year configurable (Daven)
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)
 - Create feature/favorites directory (Brandon Philips)
 - Fix "concurrent map write" error (Nick Craig-Wood)
 - Don't put an image in error message (Nick Craig-Wood)
- HTTP
 - Improved directory listing with new template from Caddy project (calisro)
- Jottacloud
 - Implement `--jottacloud-trashed-only` (buengese)

- Add support for `--header-upload` and `--header-download` (Tim Gallant)
- Use `RawURLEncoding` when decoding base64 encoded login token (buengese)
- Implement cleanup (buengese)
- Update docs regarding cleanup, removed remains from old auth, and added warning about special mountpoints. (albertony)
- Mailru
 - Describe 2FA requirements (valery1707)
- Onedrive
 - Implement `--onedrive-server-side-across-configs` (Nick Craig-Wood)
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)
 - Fix occasional 416 errors on multipart uploads (Nick Craig-Wood)
 - Added maximum chunk size limit warning in the docs (Harry)
 - Fix missing drive on config (Nick Craig-Wood)
 - Make error `quotaLimitReached` to be fatal (harry)
- Opendrive
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)
- Pcloud
 - Added support for interchangeable root folder for pCloud backend (Sunil Patra)
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)
 - Fix initial config "Auth state doesn't match" message (Nick Craig-Wood)
- Premiumizeme
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)
 - Prune unused functions (Lars Lehtonen)
- Putio
 - Add support for `--header-upload` and `--header-download` (Nick Craig-Wood)
 - Make downloading files use the rclone http Client (Nick Craig-Wood)
 - Fix parsing of remotes with leading and trailing / (Nick Craig-Wood)
- Qingstor
 - Make `rclone cleanup` remove pending multipart uploads older than 24h (Nick Craig-Wood)
 - Try harder to cancel failed multipart uploads (Nick Craig-Wood)
 - Prune `multiUploader.list()` (Lars Lehtonen)
 - Lint fix (Lars Lehtonen)
- S3
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)
 - Use memory pool for buffer allocations (Maciej Zimnoch)
 - Add SSE-C support for AWS, Ceph, and MinIO (Jack Anderson)
 - Fail fast multipart upload (Michał Matczuk)

- Report errors on bucket creation (mkdir) correctly (Nick Craig-Wood)
- Specify that Minio supports URL encoding in listings (Nick Craig-Wood)
- Added 500 as retryErrorCode (Michał Matczuk)
- Use `--low-level-retries` as the number of SDK retries (Aleksandar Janković)
- Fix multipart abort context (Aleksandar Jankovic)
- Replace deprecated `session.New()` with `session.NewSession()` (Lars Lehtonen)
- Use the provided size parameter when allocating a new memory pool (Joachim Brandon LeBlanc)
- Use rclone's low level retries instead of AWS SDK to fix listing retries (Nick Craig-Wood)
- Ignore directory markers at the root also (Nick Craig-Wood)
- Use single memory pool (Michał Matczuk)
- Do not resize buf on put to memBuf (Michał Matczuk)
- Improve docs for `--s3-disable-checksum` (Nick Craig-Wood)
- Don't leak memory or tokens in edge cases for multipart upload (Nick Craig-Wood)
- Seafile
 - Implement 2FA (Fred)
- SFTP
 - Added `--sftp-pem-key` to support inline key files (calisro)
 - Fix post transfer copies failing with 0 size when using `set_modtime=false` (Nick Craig-Wood)
- Sharefile
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)
- Sugarsync
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)
- Swift
 - Add support for `--header-upload` and `--header-download` (Nick Craig-Wood)
 - Fix cosmetic issue in error message (Martin Michlmayr)
- Union
 - Implement multiple writable remotes (Max Sum)
 - Fix server-side copy (Max Sum)
 - Implement ListR (Max Sum)
 - Enable ListR when upstreams contain local (Max Sum)
- WebDAV
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)
 - Fix `X-OC-Mtime` header for Transip compatibility (Nick Craig-Wood)
 - Report full and consistent usage with `about` (Yves G)

- Yandex
 - Add support for `--header-upload` and `--header-download` (Tim Gallant)

v1.51.0 - 2020-02-01

- New backends
 - [Memory](#) (Nick Craig-Wood)
 - [Sugarsync](#) (Nick Craig-Wood)
- New Features
 - Adjust all backends to have `--backend-encoding` parameter (Nick Craig-Wood)
 - this enables the encoding for special characters to be adjusted or disabled
 - Add `--max-duration` flag to control the maximum duration of a transfer session (boosh)
 - Add `--expect-continue-timeout` flag, default 1s (Nick Craig-Wood)
 - Add `--no-check-dest` flag for copying without testing the destination (Nick Craig-Wood)
 - Implement `--order-by` flag to order transfers (Nick Craig-Wood)
 - accounting
 - Don't show entries in both transferring and checking (Nick Craig-Wood)
 - Add option to delete stats (Aleksandar Jankovic)
 - build
 - Compress the test builds with gzip (Nick Craig-Wood)
 - Implement a framework for starting test servers during tests (Nick Craig-Wood)
 - cmd: Always print elapsed time to tenth place seconds in progress (Gary Kim)
 - config
 - Add `--password-command` to allow dynamic config password (Damon Permezel)
 - Give config questions default values (Nick Craig-Wood)
 - Check a remote exists when creating a new one (Nick Craig-Wood)
 - copyurl: Add `--stdout` flag to write to stdout (Nick Craig-Wood)
 - dedupe: Implement keep smallest too (Nick Craig-Wood)
 - hashsum: Add flag `--base64` flag (landall)
 - lsf: Speed up on s3/swift/etc by not reading mimetype by default (Nick Craig-Wood)
 - lsjson: Add `--no-mimetype` flag (Nick Craig-Wood)
 - rc: Add methods to turn on blocking and mutex profiling (Nick Craig-Wood)
 - rcd
 - Adding group parameter to stats (Chaitanya)

- Move webgui apart; option to disable browser (Xiaoxing Ye)
- serve sftp: Add support for public key with auth proxy (Paul Tinsley)
- stats: Show deletes in stats and hide zero stats (anuar45)
- Bug Fixes
 - accounting
 - Fix error counter counting multiple times (Ankur Gupta)
 - Fix error count shown as checks (Cnly)
 - Clear finished transfer in stats-reset (Maciej Zimnoch)
 - Added StatsInfo locking in statsGroups sum function (Michał Matczuk)
 - asyncreader: Fix EOF error (buengese)
 - check: Fix `--one-way` recursing more directories than it needs to (Nick Craig-Wood)
 - chunkedReader: Disable hash calculation for first segment (Nick Craig-Wood)
 - config
 - Do not open browser on headless on drive/gcs/google photos (Xiaoxing Ye)
 - SetValueAndSave ignore error if config section does not exist yet (buengese)
 - cmd: Fix completion with an encrypted config (Danil Semelenov)
 - dbhashsum: Stop it returning UNSUPPORTED on dropbox (Nick Craig-Wood)
 - dedupe: Add missing modes to help string (Nick Craig-Wood)
 - operations
 - Fix dedupe continuing on errors like insufficientFilePersimmon (SezalAgrawal)
 - Clear accounting before low level retry (Maciej Zimnoch)
 - Write debug message when hashes could not be checked (Ole Schütt)
 - Move interface assertion to tests to remove pflag dependency (Nick Craig-Wood)
 - Make NewOverrideObjectInfo public and factor uses (Nick Craig-Wood)
 - proxy: Replace use of bcrypt with sha256 (Nick Craig-Wood)
 - vendor
 - Update bazil.org/fuse to fix FreeBSD 12.1 (Nick Craig-Wood)
 - Update github.com/t3rm1n4l/go-mega to fix mega "illegal base64 data at input byte 22" (Nick Craig-Wood)
 - Update termbox-go to fix ncd command on FreeBSD (Kuang-che Wu)
 - Update t3rm1n4l/go-mega - fixes mega: couldn't login: crypto/aes: invalid key size 0 (Nick Craig-Wood)
- Mount
 - Enable async reads for a 20% speedup (Nick Craig-Wood)

- Replace use of WriteAt with Write for cache mode `>=` writes and `O_APPEND` (Brett Dutro)
- Make sure we call unmount when exiting (Nick Craig-Wood)
- Don't build on go1.10 as bazil/fuse no longer supports it (Nick Craig-Wood)
- When setting dates discard out of range dates (Nick Craig-Wood)
- VFS
 - Add a newly created file straight into the directory (Nick Craig-Wood)
 - Only calculate one hash for reads for a speedup (Nick Craig-Wood)
 - Make ReadAt for non cached files work better with non-sequential reads (Nick Craig-Wood)
 - Fix edge cases when reading ModTime from file (Nick Craig-Wood)
 - Make sure existing files opened for write show correct size (Nick Craig-Wood)
 - Don't cache the path in RW file objects to fix renaming (Nick Craig-Wood)
 - Fix rename of open files when using the VFS cache (Nick Craig-Wood)
 - When renaming files in the cache, rename the cache item in memory too (Nick Craig-Wood)
 - Fix open file renaming on drive when using `--vfs-cache-mode writes` (Nick Craig-Wood)
 - Fix incorrect modtime for mv into mount with `--vfs-cache-modes writes` (Nick Craig-Wood)
 - On rename, rename in cache too if the file exists (Anagh Kumar Baranwal)
- Local
 - Make source file being updated errors be NoLowLevelRetry errors (Nick Craig-Wood)
 - Fix update of hidden files on Windows (Nick Craig-Wood)
- Cache
 - Follow move of upstream library github.com/coreos/bbolt github.com/etcd-io/bbolt (Nick Craig-Wood)
 - Fix `fatal error: concurrent map writes` (Nick Craig-Wood)
- Crypt
 - Reorder the filename encryption options (Thomas Eales)
 - Correctly handle trailing dot (buengese)
- Chunker
 - Reduce length of temporary suffix (Ivan Andreev)
- Drive
 - Add `--drive-stop-on-upload-limit` flag to stop syncs when upload limit reached (Nick Craig-Wood)

- Add `--drive-use-shared-date` to use date file was shared instead of modified date (Garry McNulty)
- Make sure invalid auth for teamdrives always reports an error (Nick Craig-Wood)
- Fix `--fast-list` when using `appDataFolder` (Nick Craig-Wood)
- Use multipart resumable uploads for streaming and uploads in mount (Nick Craig-Wood)
- Log an ERROR if an incomplete search is returned (Nick Craig-Wood)
- Hide dangerous config from the configurator (Nick Craig-Wood)
- Dropbox
 - Treat `insufficient_space` errors as non retrievable errors (Nick Craig-Wood)
- Jottacloud
 - Use new auth method used by official client (buengese)
 - Add URL to generate Login Token to config wizard (Nick Craig-Wood)
 - Add support whitelabel versions (buengese)
- Koofr
 - Use rclone HTTP client. (jaKa)
- Onedrive
 - Add Sites.Read.All permission (Benjamin Richter)
 - Add support "Retry-After" header (Motonori IWAMURO)
- Opendrive
 - Implement `--opendrive-chunk-size` (Nick Craig-Wood)
- S3
 - Re-implement multipart upload to fix memory issues (Nick Craig-Wood)
 - Add `--s3-copy-cutoff` for size to switch to multipart copy (Nick Craig-Wood)
 - Add new region Asia Pacific (Hong Kong) (Outvi V)
 - Reduce memory usage streaming files by reducing max stream upload size (Nick Craig-Wood)
 - Add `--s3-list-chunk` option for bucket listing (Thomas Kriechbaumer)
 - Force path style bucket access to off for AWS deprecation (Nick Craig-Wood)
 - Use AWS web identity role provider if available (Tennix)
 - Add StackPath Object Storage Support (Dave Koston)
 - Fix ExpiryWindow value (Aleksandar Jankovic)
 - Fix DisableChecksum condition (Aleksandar Janković)
 - Fix URL decoding of NextMarker (Nick Craig-Wood)
- SFTP
 - Add `--sftp-skip-links` to skip symlinks and non regular files (Nick Craig-Wood)
 - Retry Creation of Connection (Sebastian Brandt)

- Fix "failed to parse private key file: ssh: not an encrypted key" error (Nick Craig-Wood)
- Open files for update write only to fix AWS SFTP interop (Nick Craig-Wood)
- Swift
 - Reserve segments of dynamic large object when delete objects in container what was enabled versioning. (Nguyễn Hữu Luân)
 - Fix parsing of X-Object-Manifest (Nick Craig-Wood)
 - Update OVH API endpoint (unbelauscht)
- WebDAV
 - Make nextcloud only upload SHA1 checksums (Nick Craig-Wood)
 - Fix case of "Bearer" in Authorization: header to agree with RFC (Nick Craig-Wood)
 - Add Referer header to fix problems with WAFs (Nick Craig-Wood)

v1.50.2 - 2019-11-19

- Bug Fixes
 - accounting: Fix memory leak on retries operations (Nick Craig-Wood)
- Drive
 - Fix listing of the root directory with drive.files scope (Nick Craig-Wood)
 - Fix --drive-root-folder-id with team/shared drives (Nick Craig-Wood)

v1.50.1 - 2019-11-02

- Bug Fixes
 - hash: Fix accidentally changed hash names for `DropboxHash` and `CRC-32` (Nick Craig-Wood)
 - fshttp: Fix error reporting on tpslimit token bucket errors (Nick Craig-Wood)
 - fshttp: Don't print token bucket errors on context cancelled (Nick Craig-Wood)
- Local
 - Fix listings of `.` on Windows (Nick Craig-Wood)
- Onedrive
 - Fix DirMove/Move after Onedrive change (Xiaoxing Ye)

v1.50.0 - 2019-10-26

- New backends
 - [Citrix Sharefile](#) (Nick Craig-Wood)
 - [Chunker](#) - an overlay backend to split files into smaller parts (Ivan Andreev)

- [Mail.ru Cloud](#) (Ivan Andreev)
- New Features
 - encodings (Fabian Möller & Nick Craig-Wood)
 - All backends now use file name encoding to ensure any file name can be written to any backend.
 - See the [restricted file name docs](#) for more info and the [local backend docs](#).
 - Some file names may look different in rclone if you are using any control characters in names or [unicode FULLWIDTH symbols](#).
 - build
 - Update to use go1.13 for the build (Nick Craig-Wood)
 - Drop support for go1.9 (Nick Craig-Wood)
 - Build rclone with GitHub actions (Nick Craig-Wood)
 - Convert python scripts to python3 (Nick Craig-Wood)
 - Swap Azure/go-ansiterm for mattn/go-colorable (Nick Craig-Wood)
 - Dockerfile fixes (Matei David)
 - Add [plugin support](#) for backends and commands (Richard Patel)
 - config
 - Use alternating Red/Green in config to make more obvious (Nick Craig-Wood)
 - contrib
 - Add sample DLNA server Docker Compose manifest. (pataquets)
 - Add sample WebDAV server Docker Compose manifest. (pataquets)
 - copyurl
 - Add `--auto-filename` flag for using file name from URL in destination path (Denis)
 - serve dlna:
 - Many compatibility improvements (Dan Walters)
 - Support for external srt subtitles (Dan Walters)
 - rc
 - Added command core/quit (Saksham Khanna)
- Bug Fixes
 - sync
 - Make `--update` / `-u` not transfer files that haven't changed (Nick Craig-Wood)
 - Free objects after they come out of the transfer pipe to save memory (Nick Craig-Wood)
 - Fix `--files-from` without `--no-traverse` doing a recursive scan (Nick Craig-Wood)

- operations
 - Fix accounting for server-side copies (Nick Craig-Wood)
 - Display 'All duplicates removed' only if dedupe successful (Sezal Agrawal)
 - Display 'Deleted X extra copies' only if dedupe successful (Sezal Agrawal)
- accounting
 - Only allow up to 100 completed transfers in the accounting list to save memory (Nick Craig-Wood)
 - Cull the old time ranges when possible to save memory (Nick Craig-Wood)
 - Fix panic due to server-side copy fallback (Ivan Andreev)
 - Fix memory leak noticeable for transfers of large numbers of objects (Nick Craig-Wood)
 - Fix total duration calculation (Nick Craig-Wood)
- cmd
 - Fix environment variables not setting command line flags (Nick Craig-Wood)
 - Make autocomplete compatible with bash's posix mode for macOS (Danil Semelenov)
 - Make `--progress` work in git bash on Windows (Nick Craig-Wood)
 - Fix 'compopt: command not found' on autocomplete on macOS (Danil Semelenov)
- config
 - Fix setting of non top level flags from environment variables (Nick Craig-Wood)
 - Check config names more carefully and report errors (Nick Craig-Wood)
 - Remove error: can't use `--size-only` and `--ignore-size` together. (Nick Craig-Wood)
- filter: Prevent mixing options when `--files-from` is in use (Michele Caci)
- serve sftp: Fix crash on unsupported operations (e.g. Readlink) (Nick Craig-Wood)
- Mount
 - Allow files of unknown size to be read properly (Nick Craig-Wood)
 - Skip tests on ≤ 2 CPUs to avoid lockup (Nick Craig-Wood)
 - Fix panic on File.Open (Nick Craig-Wood)
 - Fix "mount_fusefs: -o timeout=: option not supported" on FreeBSD (Nick Craig-Wood)
 - Don't pass huge filenames (>4k) to FUSE as it can't cope (Nick Craig-Wood)
- VFS
 - Add flag `--vfs-case-insensitive` for windows/macOS mounts (Ivan Andreev)
 - Make objects of unknown size readable through the VFS (Nick Craig-Wood)

- Move writeback of dirty data out of close() method into its own method (FlushWrites) and remove close() call from Flush() (Brett Dutro)
- Stop empty dirs disappearing when renamed on bucket-based remotes (Nick Craig-Wood)
- Stop change notify polling clearing so much of the directory cache (Nick Craig-Wood)
- Azure Blob
 - Disable logging to the Windows event log (Nick Craig-Wood)
- B2
 - Remove `unverified:` prefix on sha1 to improve interop (e.g. with CyberDuck) (Nick Craig-Wood)
- Box
 - Add options to get access token via JWT auth (David)
- Drive
 - Disable HTTP/2 by default to work around INTERNAL_ERROR problems (Nick Craig-Wood)
 - Make sure that drive root ID is always canonical (Nick Craig-Wood)
 - Fix `--drive-shared-with-me` from the root with `lsand --fast-list` (Nick Craig-Wood)
 - Fix ChangeNotify polling for shared drives (Nick Craig-Wood)
 - Fix change notify polling when using appDataFolder (Nick Craig-Wood)
- Dropbox
 - Make disallowed filenames errors not retry (Nick Craig-Wood)
 - Fix nil pointer exception on restricted files (Nick Craig-Wood)
- Fichier
 - Fix accessing files > 2GB on 32 bit systems (Nick Craig-Wood)
- FTP
 - Allow disabling EPSV mode (Jon Fautley)
- HTTP
 - HEAD directory entries in parallel to speedup (Nick Craig-Wood)
 - Add `--http-no-head` to stop rclone doing HEAD in listings (Nick Craig-Wood)
- Putio
 - Add ability to resume uploads (Cenk Alti)
- S3
 - Fix signature v2_auth headers (Anthony Rusdi)
 - Fix encoding for control characters (Nick Craig-Wood)
 - Only ask for URL encoded directory listings if we need them on Ceph (Nick Craig-Wood)

- Add option for multipart failure behaviour (Aleksandar Jankovic)
- Support for multipart copy (庄天翼)
- Fix nil pointer reference if no metadata returned for object (Nick Craig-Wood)
- SFTP
 - Fix `--sftp-ask-password` trying to contact the ssh agent (Nick Craig-Wood)
 - Fix hashes of files with backslashes (Nick Craig-Wood)
 - Include more ciphers with `--sftp-use-insecure-cipher` (Carlos Ferreyra)
- WebDAV
 - Parse and return Sharepoint error response (Henning Surmeier)

v1.49.5 - 2019-10-05

- Bug Fixes
 - Revert back to go1.12.x for the v1.49.x builds as go1.13.x was causing issues (Nick Craig-Wood)
 - Fix rpm packages by using master builds of nfpm (Nick Craig-Wood)
 - Fix macOS build after brew changes (Nick Craig-Wood)

v1.49.4 - 2019-09-29

- Bug Fixes
 - cmd/rcd: Address ZipSlip vulnerability (Richard Patel)
 - accounting: Fix file handle leak on errors (Nick Craig-Wood)
 - oauthutil: Fix security problem when running with two users on the same machine (Nick Craig-Wood)
- FTP
 - Fix listing of an empty root returning: error dir not found (Nick Craig-Wood)
- S3
 - Fix SetModTime on GLACIER/ARCHIVE objects and implement set/get tier (Nick Craig-Wood)

v1.49.3 - 2019-09-15

- Bug Fixes
 - accounting
 - Fix total duration calculation (Aleksandar Jankovic)
 - Fix "file already closed" on transfer retries (Nick Craig-Wood)

v1.49.2 - 2019-09-08

- New Features
 - build: Add Docker workflow support (Alfonso Montero)
- Bug Fixes
 - accounting: Fix locking in Transfer to avoid deadlock with `--progress` (Nick Craig-Wood)
 - docs: Fix template argument for mktemp in install.sh (Cnly)
 - operations: Fix `-u` / `--update` with google photos / files of unknown size (Nick Craig-Wood)
 - rc: Fix docs for config/create /update /password (Nick Craig-Wood)
- Google Cloud Storage
 - Fix need for elevated permissions on SetModTime (Nick Craig-Wood)

v1.49.1 - 2019-08-28

- Bug Fixes
 - config: Fix generated passwords being stored as empty password (Nick Craig-Wood)
 - rcd: Added missing parameter for web-gui info logs. (Chaitanya)
- Googlephotos
 - Fix crash on error response (Nick Craig-Wood)
- Onedrive
 - Fix crash on error response (Nick Craig-Wood)

v1.49.0 - 2019-08-26

- New backends
 - [1fichier](#) (Laura Hausmann)
 - [Google Photos](#) (Nick Craig-Wood)
 - [Putio](#) (Cenk Altı)
 - [premiumize.me](#) (Nick Craig-Wood)
- New Features
 - Experimental [web GUI](#) (Chaitanya Bankanhal)
 - Implement `--compare-dest` & `--copy-dest` (yparitcher)
 - Implement `--suffix` without `--backup-dir` for backup to current dir (yparitcher)

- `config reconnect` to re-login (re-run the oauth login) for the backend. (Nick Craig-Wood)
- `config userinfo` to discover which user you are logged in as. (Nick Craig-Wood)
- `config disconnect` to disconnect you (log out) from the backend. (Nick Craig-Wood)
- Add `--use-json-log` for JSON logging (justinalin)
- Add context propagation to rclone (Aleksandar Jankovic)
- Reworking internal statistics interfaces so they work with rc jobs (Aleksandar Jankovic)
- Add Higher units for ETA (AbelThar)
- Update rclone logos to new design (Andreas Chlupka)
- hash: Add CRC-32 support (Cenk Altı)
- help showbackend: Fixed advanced option category when there are no standard options (buengese)
- ncd: Display/Copy to Clipboard Current Path (Gary Kim)
- operations:
 - Run hashing operations in parallel (Nick Craig-Wood)
 - Don't calculate checksums when using `--ignore-checksum` (Nick Craig-Wood)
 - Check transfer hashes when using `--size-only` mode (Nick Craig-Wood)
 - Disable multi thread copy for local to local copies (Nick Craig-Wood)
 - Debug successful hashes as well as failures (Nick Craig-Wood)
- rc
 - Add ability to stop async jobs (Aleksandar Jankovic)
 - Return current settings if core/bwlimit called without parameters (Nick Craig-Wood)
 - Rclone-WebUI integration with rclone (Chaitanya Bankanhal)
 - Added command line parameter to control the cross origin resource sharing (CORS) in the rcd. (Security Improvement) (Chaitanya Bankanhal)
 - Add anchor tags to the docs so links are consistent (Nick Craig-Wood)
 - Remove `_async` key from input parameters after parsing so later operations won't get confused (buengese)
 - Add call to clear stats (Aleksandar Jankovic)
- rcd
 - Auto-login for web-gui (Chaitanya Bankanhal)
 - Implement `--baseurl` for rcd and web-gui (Chaitanya Bankanhal)
- serve dlina
 - Only select interfaces which can multicast for SSDP (Nick Craig-Wood)

- Add more builtin mime types to cover standard audio/video (Nick Craig-Wood)
- Fix missing mime types on Android causing missing videos (Nick Craig-Wood)
- serve ftp
 - Refactor to bring into line with other serve commands (Nick Craig-Wood)
 - Implement `--auth-proxy` (Nick Craig-Wood)
- serve http: Implement `--baseurl` (Nick Craig-Wood)
- serve restic: Implement `--baseurl` (Nick Craig-Wood)
- serve sftp
 - Implement auth proxy (Nick Craig-Wood)
 - Fix detection of whether server is authorized (Nick Craig-Wood)
- serve webdav
 - Implement `--baseurl` (Nick Craig-Wood)
 - Support `--auth-proxy` (Nick Craig-Wood)
- Bug Fixes
 - Make "bad record MAC" a retrieable error (Nick Craig-Wood)
 - copyurl: Fix copying files that return HTTP errors (Nick Craig-Wood)
 - march: Fix checking sub-directories when using `--no-traverse` (buengese)
 - rc
 - Fix unmarshalable http.AuthFn in options and put in test for marshalability (Nick Craig-Wood)
 - Move job expire flags to rc to fix initialization problem (Nick Craig-Wood)
 - Fix `--loopback` with rc/list and others (Nick Craig-Wood)
 - rcat: Fix slowdown on systems with multiple hashes (Nick Craig-Wood)
 - rcd: Fix permissions problems on cache directory with web gui download (Nick Craig-Wood)
- Mount
 - Default `--daemon-timeout` to 15 minutes on macOS and FreeBSD (Nick Craig-Wood)
 - Update docs to show mounting from root OK for bucket-based (Nick Craig-Wood)
 - Remove nonseekable flag from write files (Nick Craig-Wood)
- VFS
 - Make write without cache more efficient (Nick Craig-Wood)
 - Fix `--vfs-cache-mode minimal` and `writes` ignoring cached files (Nick Craig-Wood)
- Local

- Add `--local-case-sensitive` and `--local-case-insensitive` (Nick Craig-Wood)
- Avoid polluting page cache when uploading local files to remote backends (Michał Matczuk)
- Don't calculate any hashes by default (Nick Craig-Wood)
- Advise run syscall on a dedicated go routine (Michał Matczuk)
- Azure Blob
 - Azure Storage Emulator support (Sandeep)
 - Updated config help details to remove connection string references (Sandeep)
 - Make all operations work from the root (Nick Craig-Wood)
- B2
 - Implement link sharing (yparitcher)
 - Enable server-side copy to copy between buckets (Nick Craig-Wood)
 - Make all operations work from the root (Nick Craig-Wood)
- Drive
 - Fix server-side copy of big files (Nick Craig-Wood)
 - Update API for teamdrive use (Nick Craig-Wood)
 - Add error for purge with `--drive-trashed-only` (ginvine)
- Fichier
 - Make FolderID int and adjust related code (buengese)
- Google Cloud Storage
 - Reduce oauth scope requested as suggested by Google (Nick Craig-Wood)
 - Make all operations work from the root (Nick Craig-Wood)
- HTTP
 - Add `--http-headers` flag for setting arbitrary headers (Nick Craig-Wood)
- Jottacloud
 - Use new api for retrieving internal username (buengese)
 - Refactor configuration and minor cleanup (buengese)
- Koofr
 - Support setting modification times on Koofr backend. (jaKa)
- Opendrive
 - Refactor to use existing lib/rest facilities for uploads (Nick Craig-Wood)
- Qingstor
 - Upgrade to v3 SDK and fix listing loop (Nick Craig-Wood)
 - Make all operations work from the root (Nick Craig-Wood)
- S3
 - Add INTELLIGENT_TIERING storage class (Matti Niemenmaa)
 - Make all operations work from the root (Nick Craig-Wood)

- SFTP
 - Add missing interface check and fix About (Nick Craig-Wood)
 - Completely ignore all modtime checks if SetModTime=false (Jon Fautley)
 - Support md5/sha1 with rsync.net (Nick Craig-Wood)
 - Save the md5/sha1 command in use to the config file for efficiency (Nick Craig-Wood)
 - Opt-in support for diffie-hellman-group-exchange-sha256 diffie-hellman-group-exchange-sha1 (Yi FU)
- Swift
 - Use FixRangeOption to fix 0 length files via the VFS (Nick Craig-Wood)
 - Fix upload when using no_chunk to return the correct size (Nick Craig-Wood)
 - Make all operations work from the root (Nick Craig-Wood)
 - Fix segments leak during failed large file uploads. (nguyenhuuluan434)
- WebDAV
 - Add `--webdav-bearer-token-command` (Nick Craig-Wood)
 - Refresh token when it expires with `--webdav-bearer-token-command` (Nick Craig-Wood)
 - Add docs for using bearer_token_command with oidc-agent (Paul Millar)

v1.48.0 - 2019-06-15

- New commands
 - `serve sftp`: Serve an rclone remote over SFTP (Nick Craig-Wood)
- New Features
 - Multi threaded downloads to local storage (Nick Craig-Wood)
 - controlled with `--multi-thread-cutoff` and `--multi-thread-streams`
 - Use `rclone.conf` from rclone executable directory to enable portable use (albertony)
 - Allow sync of a file and a directory with the same name (forgems)
 - this is common on bucket-based remotes, e.g. s3, gcs
 - Add `--ignore-case-sync` for forced case insensitivity (garry415)
 - Implement `--stats-one-line-date` and `--stats-one-line-date-format` (Peter Berbec)
 - Log an ERROR for all commands which exit with non-zero status (Nick Craig-Wood)
 - Use `go-homedir` to read the home directory more reliably (Nick Craig-Wood)
 - Enable creating encrypted config through external script invocation (Wojciech Smigielski)
 - `build`: Drop support for go1.8 (Nick Craig-Wood)

- config: Make config create/update encrypt passwords where necessary (Nick Craig-Wood)
- copyurl: Honor `--no-check-certificate` (Stefan Breunig)
- install: Linux skip man pages if no mandb (didil)
- Isf: Support showing the Tier of the object (Nick Craig-Wood)
- Isjson
 - Added EncryptedPath to output (calisro)
 - Support showing the Tier of the object (Nick Craig-Wood)
 - Add IsBucket field for bucket-based remote listing of the root (Nick Craig-Wood)
- rc
 - Add `--loopback` flag to run commands directly without a server (Nick Craig-Wood)
 - Add operations/fsinfo: Return information about the remote (Nick Craig-Wood)
 - Skip auth for OPTIONS request (Nick Craig-Wood)
 - cmd/providers: Add DefaultStr, ValueStr and Type fields (Nick Craig-Wood)
 - jobs: Make job expiry timeouts configurable (Aleksandar Jankovic)
- serve dlna reworked and improved (Dan Walters)
- serve ftp: add `--ftp-public-ip` flag to specify public IP (calistri)
- serve restic: Add support for `--private-repos` in `serve restic` (Florian Apolloner)
- serve webdav: Combine serve webdav and serve http (Gary Kim)
- size: Ignore negative sizes when calculating total (Garry McNulty)
- Bug Fixes
 - Make move and copy individual files obey `--backup-dir` (Nick Craig-Wood)
 - If `--ignore-checksum` is in effect, don't calculate checksum (Nick Craig-Wood)
 - moveto: Fix case-insensitive same remote move (Gary Kim)
 - rc: Fix serving bucket-based objects with `--rc-serve` (Nick Craig-Wood)
 - serve webdav: Fix serveDir not being updated with changes from webdav (Gary Kim)
- Mount
 - Fix poll interval documentation (Animosity022)
- VFS
 - Make WriteAt for non cached files work with non-sequential writes (Nick Craig-Wood)
- Local
 - Only calculate the required hashes for big speedup (Nick Craig-Wood)

- Log errors when listing instead of returning an error (Nick Craig-Wood)
- Fix preallocate warning on Linux with ZFS (Nick Craig-Wood)
- Crypt
 - Make rclone dedupe work through crypt (Nick Craig-Wood)
 - Fix wrapping of ChangeNotify to decrypt directories properly (Nick Craig-Wood)
 - Support PublicLink (rclone link) of underlying backend (Nick Craig-Wood)
 - Implement Optional methods SetTier, GetTier (Nick Craig-Wood)
- B2
 - Implement server-side copy (Nick Craig-Wood)
 - Implement SetModTime (Nick Craig-Wood)
- Drive
 - Fix move and copy from TeamDrive to GDrive (Fionera)
 - Add notes that cleanup works in the background on drive (Nick Craig-Wood)
 - Add `--drive-server-side-across-configs` to default back to old server-side copy semantics by default (Nick Craig-Wood)
 - Add `--drive-size-as-quota` to show storage quota usage for file size (Garry McNulty)
- FTP
 - Add FTP List timeout (Jeff Quinn)
 - Add FTP over TLS support (Gary Kim)
 - Add `--ftp-no-check-certificate` option for FTPS (Gary Kim)
- Google Cloud Storage
 - Fix upload errors when uploading pre 1970 files (Nick Craig-Wood)
- Jottacloud
 - Add support for selecting device and mountpoint. (buengese)
- Mega
 - Add cleanup support (Gary Kim)
- Onedrive
 - More accurately check if root is found (Cnly)
- S3
 - Support S3 Accelerated endpoints with `--s3-use-accelerate-endpoint` (Nick Craig-Wood)
 - Add config info for Wasabi's EU Central endpoint (Robert Marko)
 - Make SetModTime work for GLACIER while syncing (Philip Harvey)
- SFTP
 - Add About support (Gary Kim)
 - Fix about parsing of `df` results so it can cope with -ve results (Nick Craig-Wood)
 - Send custom client version and debug server version (Nick Craig-Wood)

- WebDAV
 - Retry on 423 Locked errors (Nick Craig-Wood)

v1.47.0 - 2019-04-13

- New backends
 - Backend for Koofr cloud storage service. (jaKa)
- New Features
 - Resume downloads if the reader fails in copy (Nick Craig-Wood)
 - this means rclone will restart transfers if the source has an error
 - this is most useful for downloads or cloud to cloud copies
 - Use `--fast-list` for listing operations where it won't use more memory (Nick Craig-Wood)
 - this should speed up the following operations on remotes which support `ListR`
 - `dedupe`, `serve restic`, `lsf`, `ls`, `lsl`, `lsjson`, `lsd`, `md5sum`, `shasum`, `hashsum`, `size`, `delete`, `cat`, `settler`
 - use `--disable ListR` to get old behaviour if required
 - Make `--files-from` traverse the destination unless `--no-traverse` is set (Nick Craig-Wood)
 - this fixes `--files-from` with Google drive and excessive API use in general.
 - Make server-side copy account bytes and obey `--max-transfer` (Nick Craig-Wood)
 - Add `--create-empty-src-dirs` flag and default to not creating empty dirs (ishuah)
 - Add client side TLS/SSL flags `--ca-cert` / `--client-cert` / `--client-key` (Nick Craig-Wood)
 - Implement `--suffix-keep-extension` for use with `--suffix` (Nick Craig-Wood)
 - build:
 - Switch to semver compliant version tags to be go modules compliant (Nick Craig-Wood)
 - Update to use go1.12.x for the build (Nick Craig-Wood)
 - serve dlina: Add connection manager service description to improve compatibility (Dan Walters)
 - lsf: Add 'e' format to show encrypted names and 'o' for original IDs (Nick Craig-Wood)

- lsjson: Added `--files-only` and `--dirs-only` flags (calistri)
- rc: Implement operations/publiclink the equivalent of `rclone link` (Nick Craig-Wood)
- Bug Fixes
 - accounting: Fix total ETA when `--stats-unit bits` is in effect (Nick Craig-Wood)
 - Bash TAB completion
 - Use private custom func to fix clash between rclone and kubectl (Nick Craig-Wood)
 - Fix for remotes with underscores in their names (Six)
 - Fix completion of remotes (Florian Gamböck)
 - Fix autocompletion of remote paths with spaces (Danil Semelenov)
 - serve dlina: Fix root XML service descriptor (Dan Walters)
 - ncd: Fix display corruption with Chinese characters (Nick Craig-Wood)
 - Add SIGTERM to signals which run the exit handlers on unix (Nick Craig-Wood)
 - rc: Reload filter when the options are set via the rc (Nick Craig-Wood)
- VFS / Mount
 - Fix FreeBSD: Ignore Truncate if called with no readers and already the correct size (Nick Craig-Wood)
 - Read directory and check for a file before mkdir (Nick Craig-Wood)
 - Shorten the locking window for vfs/refresh (Nick Craig-Wood)
- Azure Blob
 - Enable MD5 checksums when uploading files bigger than the "Cutoff" (Dr.Rx)
 - Fix SAS URL support (Nick Craig-Wood)
- B2
 - Allow manual configuration of backblaze downloadUrl (Vince)
 - Ignore already_hidden error on remove (Nick Craig-Wood)
 - Ignore malformed `src_last_modified_millis` (Nick Craig-Wood)
- Drive
 - Add `--skip-checksum-gphotos` to ignore incorrect checksums on Google Photos (Nick Craig-Wood)
 - Allow server-side move/copy between different remotes. (Fionera)
 - Add docs on team drives and `--fast-list` eventual consistency (Nestar47)
 - Fix imports of text files (Nick Craig-Wood)
 - Fix range requests on 0 length files (Nick Craig-Wood)
 - Fix creation of duplicates with server-side copy (Nick Craig-Wood)
- Dropbox
 - Retry blank errors to fix long listings (Nick Craig-Wood)
- FTP

- Add `--ftp-concurrency` to limit maximum number of connections (Nick Craig-Wood)
- Google Cloud Storage
 - Fall back to default application credentials (marcintustin)
 - Allow bucket policy only buckets (Nick Craig-Wood)
- HTTP
 - Add `--http-no-slash` for websites with directories with no slashes (Nick Craig-Wood)
 - Remove duplicates from listings (Nick Craig-Wood)
 - Fix socket leak on 404 errors (Nick Craig-Wood)
- Jottacloud
 - Fix token refresh (Sebastian Büniger)
 - Add device registration (Oliver Heyme)
- Onedrive
 - Implement graceful cancel of multipart uploads if rclone is interrupted (Cnly)
 - Always add trailing colon to path when addressing items, (Cnly)
 - Return errors instead of panic for invalid uploads (Fabian Möller)
- S3
 - Add support for "Glacier Deep Archive" storage class (Manu)
 - Update Dreamhost endpoint (Nick Craig-Wood)
 - Note incompatibility with CEPH Jewel (Nick Craig-Wood)
- SFTP
 - Allow custom ssh client config (Alexandru Bumbacea)
- Swift
 - Obey Retry-After to enable OVH restore from cold storage (Nick Craig-Wood)
 - Work around token expiry on CEPH (Nick Craig-Wood)
- WebDAV
 - Allow IsCollection property to be integer or boolean (Nick Craig-Wood)
 - Fix race when creating directories (Nick Craig-Wood)
 - Fix About/df when reading the available/total returns 0 (Nick Craig-Wood)

v1.46 - 2019-02-09

- New backends
 - Support Alibaba Cloud (Aliyun) OSS via the s3 backend (Nick Craig-Wood)
- New commands
 - `serve dnla`: serves a remove via DLNA for the local network (nicolov)
- New Features

- copy, move: Restore deprecated `--no-traverse` flag (Nick Craig-Wood)
 - This is useful for when transferring a small number of files into a large destination
- genautocomplete: Add remote path completion for bash completion (Christopher Peterson & Danil Semelenov)
- Buffer memory handling reworked to return memory to the OS better (Nick Craig-Wood)
 - Buffer recycling library to replace sync.Pool
 - Optionally use memory mapped memory for better memory shrinking
 - Enable with `--use-mmap` if having memory problems - not default yet
- Parallelise reading of files specified by `--files-from` (Nick Craig-Wood)
- check: Add stats showing total files matched. (Dario Guzik)
- Allow rename/delete open files under Windows (Nick Craig-Wood)
- Isjson: Use exactly the correct number of decimal places in the seconds (Nick Craig-Wood)
- Add cookie support with cmdline switch `--use-cookies` for all HTTP based remotes (qip)
- Warn if `--checksum` is set but there are no hashes available (Nick Craig-Wood)
- Rework rate limiting (pacer) to be more accurate and allow bursting (Nick Craig-Wood)
- Improve error reporting for too many/few arguments in commands (Nick Craig-Wood)
- listremotes: Remove `-l` short flag as it conflicts with the new global flag (weetmuts)
- Make http serving with auth generate INFO messages on auth fail (Nick Craig-Wood)
- Bug Fixes
 - Fix layout of stats (Nick Craig-Wood)
 - Fix `--progress` crash under Windows Jenkins (Nick Craig-Wood)
 - Fix transfer of google/onedrive docs by calling Rcat in Copy when size is -1 (Only)
 - copyurl: Fix checking of `--dry-run` (Denis Skovpen)
- Mount
 - Check that mountpoint and local directory to mount don't overlap (Nick Craig-Wood)
 - Fix mount size under 32 bit Windows (Nick Craig-Wood)
- VFS
 - Implement renaming of directories for backends without DirMove (Nick Craig-Wood)

- now all backends except b2 support renaming directories
- Implement `--vfs-cache-max-size` to limit the total size of the cache (Nick Craig-Wood)
- Add `--dir-perms` and `--file-perms` flags to set default permissions (Nick Craig-Wood)
- Fix deadlock on concurrent operations on a directory (Nick Craig-Wood)
- Fix deadlock between `RWFileHandle.close` and `File.Remove` (Nick Craig-Wood)
- Fix renaming/deleting open files with cache mode "writes" under Windows (Nick Craig-Wood)
- Fix panic on rename with `--dry-run` set (Nick Craig-Wood)
- Fix vfs/refresh with `recurse=true` needing the `--fast-list` flag
- Local
 - Add support for `-l / --links` (symbolic link translation) (yair@unicorn)
 - this works by showing links as `link.rclonelink` - see local backend docs for more info
 - this errors if used with `-L / --copy-links`
 - Fix renaming/deleting open files on Windows (Nick Craig-Wood)
- Crypt
 - Check for maximum length before decrypting filename to fix panic (Garry McNulty)
- Azure Blob
 - Allow building azureblob backend on *BSD (theymylogin)
 - Use the rclone HTTP client to support `--dump-headers`, `--tpslimit`, etc. (Nick Craig-Wood)
 - Use the s3 pacer for 0 delay in non error conditions (Nick Craig-Wood)
 - Ignore directory markers (Nick Craig-Wood)
 - Stop Mkdir attempting to create existing containers (Nick Craig-Wood)
- B2
 - cleanup: will remove unfinished large files >24hrs old (Garry McNulty)
 - For a bucket limited application key check the bucket name (Nick Craig-Wood)
 - before this, rclone would use the authorised bucket regardless of what you put on the command line
 - Added `--b2-disable-checksum` flag (Wojciech Smigielski)
 - this enables large files to be uploaded without a SHA-1 hash for speed reasons
- Drive
 - Set default pacer to 100ms for 10 tps (Nick Craig-Wood)
 - This fits the Google defaults much better and reduces the 403 errors massively

- Add `--drive-pacer-min-sleep` and `--drive-pacer-burst` to control the pacer
- Improve ChangeNotify support for items with multiple parents (Fabian Möller)
- Fix ListR for items with multiple parents - this fixes oddities with `vfs/refresh` (Fabian Möller)
- Fix using `--drive-impersonate` and appfolders (Nick Craig-Wood)
- Fix google docs in rclone mount for some (not all) applications (Nick Craig-Wood)
- Dropbox
 - Retry-After support for Dropbox backend (Mathieu Carbou)
- FTP
 - Wait for 60 seconds for a connection to Close then declare it dead (Nick Craig-Wood)
 - helps with indefinite hangs on some FTP servers
- Google Cloud Storage
 - Update google cloud storage endpoints (weetmuts)
- HTTP
 - Add an example with username and password which is supported but wasn't documented (Nick Craig-Wood)
 - Fix backend with `--files-from` and nonexistent files (Nick Craig-Wood)
- Hubic
 - Make error message more informative if authentication fails (Nick Craig-Wood)
- Jottacloud
 - Resume and deduplication support (Oliver Heyme)
 - Use token auth for all API requests Don't store password anymore (Sebastian Bünger)
 - Add support for 2-factor authentication (Sebastian Bünger)
- Mega
 - Implement v2 account login which fixes logins for newer Mega accounts (Nick Craig-Wood)
 - Return error if an unknown length file is attempted to be uploaded (Nick Craig-Wood)
 - Add new error codes for better error reporting (Nick Craig-Wood)
- Onedrive
 - Fix broken support for "shared with me" folders (Alex Chen)
 - Fix root ID not normalised (Cnly)
 - Return err instead of panic on unknown-sized uploads (Cnly)
- Qingstor
 - Fix go routine leak on multipart upload errors (Nick Craig-Wood)

- Add upload chunk size/concurrency/cutoff control (Nick Craig-Wood)
- Default `--qingstor-upload-concurrency` to 1 to work around bug (Nick Craig-Wood)
- S3
 - Implement `--s3-upload-cutoff` for single part uploads below this (Nick Craig-Wood)
 - Change `--s3-upload-concurrency` default to 4 to increase performance (Nick Craig-Wood)
 - Add `--s3-bucket-acl` to control bucket ACL (Nick Craig-Wood)
 - Auto detect region for buckets on operation failure (Nick Craig-Wood)
 - Add GLACIER storage class (William Cocker)
 - Add Scaleway to s3 documentation (Rémy Léone)
 - Add AWS endpoint eu-north-1 (weetnuts)
- SFTP
 - Add support for PEM encrypted private keys (Fabian Möller)
 - Add option to force the usage of an ssh-agent (Fabian Möller)
 - Perform environment variable expansion on key-file (Fabian Möller)
 - Fix rmdir on Windows based servers (e.g. CrushFTP) (Nick Craig-Wood)
 - Fix rmdir deleting directory contents on some SFTP servers (Nick Craig-Wood)
 - Fix error on dangling symlinks (Nick Craig-Wood)
- Swift
 - Add `--swift-no-chunk` to disable segmented uploads in rcat/mount (Nick Craig-Wood)
 - Introduce application credential auth support (kayrus)
 - Fix memory usage by slimming Object (Nick Craig-Wood)
 - Fix extra requests on upload (Nick Craig-Wood)
 - Fix reauth on big files (Nick Craig-Wood)
- Union
 - Fix poll-interval not working (Nick Craig-Wood)
- WebDAV
 - Support About which means rclone mount will show the correct disk size (Nick Craig-Wood)
 - Support MD5 and SHA1 hashes with Owncloud and Nextcloud (Nick Craig-Wood)
 - Fail soft on time parsing errors (Nick Craig-Wood)
 - Fix infinite loop on failed directory creation (Nick Craig-Wood)
 - Fix identification of directories for Bitrix Site Manager (Nick Craig-Wood)
 - Fix upload of 0 length files on some servers (Nick Craig-Wood)
 - Fix if MKCOL fails with 423 Locked assume the directory exists (Nick Craig-Wood)

v1.45 - 2018-11-24

- New backends
 - The Yandex backend was re-written - see below for details (Sebastian Büniger)
- New commands
 - rcd: New command just to serve the remote control API (Nick Craig-Wood)
- New Features
 - The remote control API (rc) was greatly expanded to allow full control over rclone (Nick Craig-Wood)
 - sensitive operations require authorization or the `--rc-no-auth` flag
 - `config/*` operations to configure rclone
 - `options/*` for reading/setting command line flags
 - `operations/*` for all low level operations, e.g. copy file, list directory
 - `sync/*` for sync, copy and move
 - `--rc-files` flag to serve files on the rc http server
 - this is for building web native GUIs for rclone
 - Optionally serving objects on the rc http server
 - Ensure rclone fails to start up if the `--rc` port is in use already
 - See [the rc docs](#) for more info
 - `sync/copy/move`
 - Make `--files-from` only read the objects specified and don't scan directories (Nick Craig-Wood)
 - This is a huge speed improvement for destinations with lots of files
 - filter: Add `--ignore-case` flag (Nick Craig-Wood)
 - ncd: Add remove function ('d' key) (Henning Surmeier)
 - rc command
 - Add `--json` flag for structured JSON input (Nick Craig-Wood)
 - Add `--user` and `--pass` flags and interpret `--rc-user`, `--rc-pass`, `--rc-addr` (Nick Craig-Wood)
 - build
 - Require go1.8 or later for compilation (Nick Craig-Wood)
 - Enable softfloat on MIPS arch (Scott Edlund)
 - Integration test framework revamped with a better report and better retries (Nick Craig-Wood)
- Bug Fixes
 - cmd: Make `--progress` update the stats correctly at the end (Nick Craig-Wood)
 - config: Create config directory on save if it is missing (Nick Craig-Wood)
 - dedupe: Check for existing filename before renaming a dupe file (ssaqua)

- move: Don't create directories with `--dry-run` (Nick Craig-Wood)
- operations: Fix Purge and Rmdir when dir is not the root (Nick Craig-Wood)
- serve http/webdav/restic: Ensure rclone exits if the port is in use (Nick Craig-Wood)
- Mount
 - Make `--volname` work for Windows and macOS (Nick Craig-Wood)
- Azure Blob
 - Avoid context deadline exceeded error by setting a large TryTimeout value (brused27)
 - Fix erroneous Rmdir error "directory not empty" (Nick Craig-Wood)
 - Wait for up to 60s to create a just deleted container (Nick Craig-Wood)
- Dropbox
 - Add dropbox impersonate support (Jake Coggiano)
- Jottacloud
 - Fix bug in `--fast-list` handing of empty folders (albertony)
- Opendrive
 - Fix transfer of files with `+` and `&` in (Nick Craig-Wood)
 - Fix retries of upload chunks (Nick Craig-Wood)
- S3
 - Set ACL for server-side copies to that provided by the user (Nick Craig-Wood)
 - Fix role_arn, credential_source, ... (Erik Swanson)
 - Add config info for Wasabi's US-West endpoint (Henry Ptasinski)
- SFTP
 - Ensure file hash checking is really disabled (Jon Fautley)
- Swift
 - Add pacer for retries to make swift more reliable (Nick Craig-Wood)
- WebDAV
 - Add Content-Type to PUT requests (Nick Craig-Wood)
 - Fix config parsing so `--webdav-user` and `--webdav-pass` flags work (Nick Craig-Wood)
 - Add RFC3339 date format (Ralf Hemberger)
- Yandex
 - The yandex backend was re-written (Sebastian Bunger)
 - This implements low level retries (Sebastian Bunger)
 - Copy, Move, DirMove, PublicLink and About optional interfaces (Sebastian Bunger)
 - Improved general error handling (Sebastian Bunger)
 - Removed ListR for now due to inconsistent behaviour (Sebastian Bunger)

v1.44 - 2018-10-15

- New commands
 - `serve ftp`: Add ftp server (Antoine GIRARD)
 - `settler`: perform storage tier changes on supported remotes (sandeepkru)
- New Features
 - Reworked command line help
 - Make default help less verbose (Nick Craig-Wood)
 - Split flags up into global and backend flags (Nick Craig-Wood)
 - Implement specialised help for flags and backends (Nick Craig-Wood)
 - Show URL of backend help page when starting config (Nick Craig-Wood)
 - `stats`: Long names now split in center (Joanna Marek)
 - Add `--log-format` flag for more control over log output (dcpu)
 - `rc`: Add support for OPTIONS and basic CORS (frenos)
 - `stats`: show FatalErrors and NoRetryErrors in stats (Cédric Connes)
- Bug Fixes
 - Fix `-P` not ending with a new line (Nick Craig-Wood)
 - `config`: don't create default config dir when user supplies `--config` (albertony)
 - Don't print non-ASCII characters with `--progress` on windows (Nick Craig-Wood)
 - Correct logs for excluded items (ssaqua)
- Mount
 - Remove EXPERIMENTAL tags (Nick Craig-Wood)
- VFS
 - Fix race condition detected by `serve ftp` tests (Nick Craig-Wood)
 - Add `vfs/poll-interval rc` command (Fabian Möller)
 - Enable rename for nearly all remotes using server-side Move or Copy (Nick Craig-Wood)
 - Reduce directory cache cleared by `poll-interval` (Fabian Möller)
 - Remove EXPERIMENTAL tags (Nick Craig-Wood)
- Local
 - Skip bad symlinks in dir listing with `-L` enabled (Cédric Connes)
 - Preallocate files on Windows to reduce fragmentation (Nick Craig-Wood)
 - Preallocate files on linux with `fallocate(2)` (Nick Craig-Wood)
- Cache
 - Add `cache/fetch rc` function (Fabian Möller)
 - Fix worker scale down (Fabian Möller)
 - Improve performance by not sending info requests for cached chunks (dcpu)
 - Fix error return value of `cache/fetch rc` method (Fabian Möller)

- Documentation fix for cache-chunk-total-size (Anagh Kumar Baranwal)
- Preserve leading / in wrapped remote path (Fabian Möller)
- Add plex_insecure option to skip certificate validation (Fabian Möller)
- Remove entries that no longer exist in the source (dcpu)
- Crypt
 - Preserve leading / in wrapped remote path (Fabian Möller)
- Alias
 - Fix handling of Windows network paths (Nick Craig-Wood)
- Azure Blob
 - Add `--azureblob-list-chunk` parameter (Santiago Rodríguez)
 - Implemented settier command support on azureblob remote. (sandeepkru)
 - Work around SDK bug which causes errors for chunk-sized files (Nick Craig-Wood)
- Box
 - Implement link sharing. (Sebastian Büniger)
- Drive
 - Add `--drive-import-formats` - google docs can now be imported (Fabian Möller)
 - Rewrite mime type and extension handling (Fabian Möller)
 - Add document links (Fabian Möller)
 - Add support for multipart document extensions (Fabian Möller)
 - Add support for apps-script to json export (Fabian Möller)
 - Fix escaped chars in documents during list (Fabian Möller)
 - Add `--drive-v2-download-min-size` a workaround for slow downloads (Fabian Möller)
 - Improve directory notifications in ChangeNotify (Fabian Möller)
 - When listing team drives in config, continue on failure (Nick Craig-Wood)
- FTP
 - Add a small pause after failed upload before deleting file (Nick Craig-Wood)
- Google Cloud Storage
 - Fix service_account_file being ignored (Fabian Möller)
- Jottacloud
 - Minor improvement in quota info (omit if unlimited) (albertony)
 - Add `--fast-list` support (albertony)
 - Add permanent delete support: `--jottacloud-hard-delete` (albertony)
 - Add link sharing support (albertony)
 - Fix handling of reserved characters. (Sebastian Büniger)
 - Fix socket leak on Object.Remove (Nick Craig-Wood)
- Onedrive

- Rework to support Microsoft Graph (Cnly)
 - **NB** this will require re-authenticating the remote
- Removed upload cutoff and always do session uploads (Oliver Heyme)
- Use single-part upload for empty files (Cnly)
- Fix new fields not saved when editing old config (Alex Chen)
- Fix sometimes special chars in filenames not replaced (Alex Chen)
- Ignore OneNote files by default (Alex Chen)
- Add link sharing support (jackzy823)
- S3
 - Use custom pacer, to retry operations when reasonable (Craig Miskell)
 - Use configured server-side-encryption and storage class options when calling CopyObject() (Paul Kohout)
 - Make `--s3-v2-auth` flag (Nick Craig-Wood)
 - Fix v2 auth on files with spaces (Nick Craig-Wood)
- Union
 - Implement union backend which reads from multiple backends (Felix Brucker)
 - Implement optional interfaces (Move, DirMove, Copy, etc.) (Nick Craig-Wood)
 - Fix ChangeNotify to support multiple remotes (Fabian Möller)
 - Fix `--backup-dir` on union backend (Nick Craig-Wood)
- WebDAV
 - Add another time format (Nick Craig-Wood)
 - Add a small pause after failed upload before deleting file (Nick Craig-Wood)
 - Add workaround for missing mtime (buergi)
 - Sharepoint: Renew cookies after 12hrs (Henning Surmeier)
- Yandex
 - Remove redundant nil checks (teresy)

v1.43.1 - 2018-09-07

Point release to fix hubic and azureblob backends.

- Bug Fixes
 - ncd: Return error instead of log.Fatal in Show (Fabian Möller)
 - cmd: Fix crash with `--progress` and `--stats 0` (Nick Craig-Wood)
 - docs: Tidy website display (Anagh Kumar Baranwal)
- Azure Blob:
 - Fix multi-part uploads. (sandeepkru)
- Hubic
 - Fix uploads (Nick Craig-Wood)

- Retry auth fetching if it fails to make hubic more reliable (Nick Craig-Wood)

v1.43 - 2018-09-01

- New backends
 - Jottacloud (Sebastian Büniger)
- New commands
 - copyurl: copies a URL to a remote (Denis)
- New Features
 - Reworked config for backends (Nick Craig-Wood)
 - All backend config can now be supplied by command line, env var or config file
 - Advanced section in the config wizard for the optional items
 - A large step towards rclone backends being usable in other go software
 - Allow on the fly remotes with :backend: syntax
 - Stats revamp
 - Add `--progress` / `-P` flag to show interactive progress (Nick Craig-Wood)
 - Show the total progress of the sync in the stats (Nick Craig-Wood)
 - Add `--stats-one-line` flag for single line stats (Nick Craig-Wood)
 - Added weekday schedule into `--bwlimit` (Mateusz)
 - Isjson: Add option to show the original object IDs (Fabian Möller)
 - serve webdav: Make Content-Type without reading the file and add `--etag-hash` (Nick Craig-Wood)
 - build
 - Build macOS with native compiler (Nick Craig-Wood)
 - Update to use go1.11 for the build (Nick Craig-Wood)
 - rc
 - Added core/stats to return the stats (reddi1)
 - `version --check`: Prints the current release and beta versions (Nick Craig-Wood)
- Bug Fixes
 - accounting
 - Fix time to completion estimates (Nick Craig-Wood)
 - Fix moving average speed for file stats (Nick Craig-Wood)
 - config: Fix error reading password from piped input (Nick Craig-Wood)
 - move: Fix `--delete-empty-src-dirs` flag to delete all empty dirs on move (ishuah)
- Mount

- Implement `--daemon-timeout` flag for OSXFUSE (Nick Craig-Wood)
- Fix mount `--daemon` not working with encrypted config (Alex Chen)
- Clip the number of blocks to $2^{32}-1$ on macOS - fixes borg backup (Nick Craig-Wood)
- VFS
 - Enable vfs-read-chunk-size by default (Fabian Möller)
 - Add the vfs/refresh rc command (Fabian Möller)
 - Add non recursive mode to vfs/refresh rc command (Fabian Möller)
 - Try to seek buffer on read only files (Fabian Möller)
- Local
 - Fix crash when deprecated `--local-no-unicode-normalization` is supplied (Nick Craig-Wood)
 - Fix mkdir error when trying to copy files to the root of a drive on windows (Nick Craig-Wood)
- Cache
 - Fix nil pointer deref when using lsjson on cached directory (Nick Craig-Wood)
 - Fix nil pointer deref for occasional crash on playback (Nick Craig-Wood)
- Crypt
 - Fix accounting when checking hashes on upload (Nick Craig-Wood)
- Amazon Cloud Drive
 - Make very clear in the docs that rclone has no ACD keys (Nick Craig-Wood)
- Azure Blob
 - Add connection string and SAS URL auth (Nick Craig-Wood)
 - List the container to see if it exists (Nick Craig-Wood)
 - Port new Azure Blob Storage SDK (sandeepkru)
 - Added blob tier, tier between Hot, Cool and Archive. (sandeepkru)
 - Remove leading / from paths (Nick Craig-Wood)
- B2
 - Support Application Keys (Nick Craig-Wood)
 - Remove leading / from paths (Nick Craig-Wood)
- Box
 - Fix upload of > 2GB files on 32 bit platforms (Nick Craig-Wood)
 - Make `--box-commit-retries` flag defaulting to 100 to fix large uploads (Nick Craig-Wood)
- Drive
 - Add `--drive-keep-revision-forever` flag (lewapm)
 - Handle gdocs when filtering file names in list (Fabian Möller)
 - Support using `--fast-list` for large speedups (Fabian Möller)

- FTP
 - Fix Put mkParentDir failed: 521 for BunnyCDN (Nick Craig-Wood)
- Google Cloud Storage
 - Fix index out of range error with `--fast-list` (Nick Craig-Wood)
- Jottacloud
 - Fix MD5 error check (Oliver Heyme)
 - Handle empty time values (Martin Polden)
 - Calculate missing MD5s (Oliver Heyme)
 - Docs, fixes and tests for MD5 calculation (Nick Craig-Wood)
 - Add optional MimeTyper interface. (Sebastian Bunger)
 - Implement optional About interface (for `df` support). (Sebastian Bunger)
- Mega
 - Wait for events instead of arbitrary sleeping (Nick Craig-Wood)
 - Add `--mega-hard-delete` flag (Nick Craig-Wood)
 - Fix failed logins with upper case chars in email (Nick Craig-Wood)
- Onedrive
 - Shared folder support (Yoni Jah)
 - Implement DirMove (Cnly)
 - Fix rmdir sometimes deleting directories with contents (Nick Craig-Wood)
- Pcloud
 - Delete half uploaded files on upload error (Nick Craig-Wood)
- Qingstor
 - Remove leading / from paths (Nick Craig-Wood)
- S3
 - Fix index out of range error with `--fast-list` (Nick Craig-Wood)
 - Add `--s3-force-path-style` (Nick Craig-Wood)
 - Add support for KMS Key ID (bsteiss)
 - Remove leading / from paths (Nick Craig-Wood)
- Swift
 - Add `storage_policy` (Ruben Vandamme)
 - Make it so just `storage_url` or `auth_token` can be overridden (Nick Craig-Wood)
 - Fix server-side copy bug for unusual file names (Nick Craig-Wood)
 - Remove leading / from paths (Nick Craig-Wood)
- WebDAV
 - Ensure we call MKCOL with a URL with a trailing / for QNAP interop (Nick Craig-Wood)
 - If root ends with / then don't check if it is a file (Nick Craig-Wood)

- Don't accept redirects when reading metadata (Nick Craig-Wood)
- Add bearer token (Macaroon) support for dCache (Nick Craig-Wood)
- Document dCache and Macaroons (Onno Zweers)
- Sharepoint recursion with different depth (Henning)
- Attempt to remove failed uploads (Nick Craig-Wood)
- Yandex
 - Fix listing/deleting files in the root (Nick Craig-Wood)

v1.42 - 2018-06-16

- New backends
 - OpenDrive (Oliver Heyme, Jakub Karlicek, ncw)
- New commands
 - deletefile command (Filip Bartodziej)
- New Features
 - copy, move: Copy single files directly, don't use `--files-from` work-around
 - this makes them much more efficient
 - Implement `--max-transfer` flag to quit transferring at a limit
 - make exit code 8 for `--max-transfer` exceeded
 - copy: copy empty source directories to destination (Ishuah Kariuki)
 - check: Add `--one-way` flag (Kasper Byrdal Nielsen)
 - Add siginfo handler for macOS for ctrl-T stats (kubatasiemski)
 - rc
 - add core/gc to run a garbage collection on demand
 - enable go profiling by default on the `--rc` port
 - return error from remote on failure
 - lsf
 - Add `--absolute` flag to add a leading / onto path names
 - Add `--csv` flag for compliant CSV output
 - Add 'm' format specifier to show the MimeType
 - Implement 'i' format for showing object ID
 - lsjson
 - Add MimeType to the output
 - Add ID field to output to show Object ID
 - Add `--retries-sleep` flag (Benjamin Joseph Dag)
 - Oauth tidy up web page and error handling (Henning Surmeier)
- Bug Fixes
 - Password prompt output with `--log-file` fixed for unix (Filip Bartodziej)

- Calculate ModifyWindow each time on the fly to fix various problems (Stefan Breunig)
- Mount
 - Only print "File.rename error" if there actually is an error (Stefan Breunig)
 - Delay rename if file has open writers instead of failing outright (Stefan Breunig)
 - Ensure atexit gets run on interrupt
 - macOS enhancements
 - Make `--noappledouble` `--noapplexattr`
 - Add `--volname` flag and remove special chars from it
 - Make Get/List/Set/Remove xattr return ENOSYS for efficiency
 - Make `--daemon` work for macOS without CGO
- VFS
 - Add `--vfs-read-chunk-size` and `--vfs-read-chunk-size-limit` (Fabian Möller)
 - Fix ChangeNotify for new or changed folders (Fabian Möller)
- Local
 - Fix symlink/junction point directory handling under Windows
 - **NB** you will need to add `-L` to your command line to copy files with reparse points
- Cache
 - Add non cached dirs on notifications (Remus Bunduc)
 - Allow root to be expired from rc (Remus Bunduc)
 - Clean remaining empty folders from temp upload path (Remus Bunduc)
 - Cache lists using batch writes (Remus Bunduc)
 - Use secure websockets for HTTPS Plex addresses (John Clayton)
 - Reconnect plex websocket on failures (Remus Bunduc)
 - Fix panic when running without plex configs (Remus Bunduc)
 - Fix root folder caching (Remus Bunduc)
- Crypt
 - Check the encrypted hash of files when uploading for extra data security
- Dropbox
 - Make Dropbox for business folders accessible using an initial `/` in the path
- Google Cloud Storage
 - Low level retry all operations if necessary
- Google Drive
 - Add `--drive-acknowledge-abuse` to download flagged files
 - Add `--drive-alternate-export` to fix large doc export
 - Don't attempt to choose Team Drives when using rclone config create

- Fix change list polling with team drives
- Fix ChangeNotify for folders (Fabian Möller)
- Fix about (and df on a mount) for team drives
- Onedrive
 - Errorhandler for onedrive for business requests (Henning Surmeier)
- S3
 - Adjust upload concurrency with `--s3-upload-concurrency` (themylogin)
 - Fix `--s3-chunk-size` which was always using the minimum
- SFTP
 - Add `--ssh-path-override` flag (Piotr Oleszczyk)
 - Fix slow downloads for long latency connections
- Webdav
 - Add workarounds for biz.mail.ru
 - Ignore Reason-Phrase in status line to fix 4shared (Rodrigo)
 - Better error message generation

v1.41 - 2018-04-28

- New backends
 - Mega support added
 - Webdav now supports SharePoint cookie authentication (hensur)
- New commands
 - link: create public link to files and folders (Stefan Breunig)
 - about: gets quota info from a remote (a-roussos, ncw)
 - hashsum: a generic tool for any hash to produce md5sum like output
- New Features
 - lsd: Add -R flag and fix and update docs for all ls commands
 - ncd: added a "refresh" key - CTRL-L (Keith Goldfarb)
 - serve restic: Add append-only mode (Steve Kriss)
 - serve restic: Disallow overwriting files in append-only mode (Alexander Neumann)
 - serve restic: Print actual listener address (Matt Holt)
 - size: Add --json flag (Matthew Holt)
 - sync: implement --ignore-errors (Mateusz Pabian)
 - dedupe: Add dedupe largest functionality (Richard Yang)
 - fs: Extend SizeSuffix to include TB and PB for rclone about
 - fs: add --dump goroutines and --dump openfiles for debugging
 - rc: implement core/memstats to print internal memory usage info
 - rc: new call rc/pid (Michael P. Dubner)

- Compile
 - Drop support for go1.6
- Release
 - Fix `make tarball` (Chih-Hsuan Yen)
- Bug Fixes
 - filter: fix `--min-age` and `--max-age` together check
 - fs: limit `MaxIdleConns` and `MaxIdleConnsPerHost` in transport
 - lsd,lsf: make sure all times we output are in local time
 - rc: fix setting `bwlimit` to unlimited
 - rc: take note of the `--rc-addr` flag too as per the docs
- Mount
 - Use `About` to return the correct disk total/used/free (e.g. in `df`)
 - Set `--attr-timeout default` to `1s` - fixes:
 - rclone using too much memory
 - rclone not serving files to samba
 - excessive time listing directories
 - Fix `df -i` (upstream fix)
- VFS
 - Filter files `.` and `..` from directory listing
 - Only make the VFS cache if `--vfs-cache-mode > Off`
- Local
 - Add `--local-no-check-updated` to disable updated file checks
 - Retry remove on Windows sharing violation error
- Cache
 - Flush the memory cache after close
 - Purge file data on notification
 - Always forget parent dir for notifications
 - Integrate with Plex websocket
 - Add rc cache/stats (seuffert)
 - Add info log on notification
- Box
 - Fix failure reading large directories - parse file/directory size as float
- Dropbox
 - Fix crypt+obfuscate on dropbox
 - Fix repeatedly uploading the same files
- FTP
 - Work around strange response from box FTP server
 - More workarounds for FTP servers to fix `mkParentDir` error

- Fix no error on listing nonexistent directory
- Google Cloud Storage
 - Add `service_account_credentials` (Matt Holt)
 - Detect bucket presence by listing it - minimises permissions needed
 - Ignore zero length directory markers
- Google Drive
 - Add `service_account_credentials` (Matt Holt)
 - Fix directory move leaving a hardlinked directory behind
 - Return proper google errors when Opening files
 - When initialized with a filepath, optional features used incorrect root path (Stefan Breunig)
- HTTP
 - Fix sync for servers which don't return Content-Length in HEAD
- Onedrive
 - Add QuickXorHash support for OneDrive for business
 - Fix socket leak in multipart session upload
- S3
 - Look in S3 named profile files for credentials
 - Add `--s3-disable-checksum` to disable checksum uploading (Chris Redekop)
 - Hierarchical configuration support (Giri Badanahatti)
 - Add in config for all the supported S3 providers
 - Add One Zone Infrequent Access storage class (Craig Rachel)
 - Add `--use-server-modtime` support (Peter Baumgartner)
 - Add `--s3-chunk-size` option to control multipart uploads
 - Ignore zero length directory markers
- SFTP
 - Update docs to match code, fix typos and clarify `disable_hashcheck` prompt (Michael G. Noll)
 - Update docs with Synology quirks
 - Fail soft with a debug on hash failure
- Swift
 - Add `--use-server-modtime` support (Peter Baumgartner)
- Webdav
 - Support SharePoint cookie authentication (hensur)
 - Strip leading and trailing / off root

v1.40 - 2018-03-19

- New backends
 - Alias backend to create aliases for existing remote names (Fabian Möller)
- New commands
 - `lsf`: list for parsing purposes (Jakub Tasiemski)
 - by default this is a simple non recursive list of files and directories
 - it can be configured to add more info in an easy to parse way
 - `serve restic`: for serving a remote as a Restic REST endpoint
 - This enables restic to use any backends that rclone can access
 - Thanks Alexander Neumann for help, patches and review
 - `rc`: enable the remote control of a running rclone
 - The running rclone must be started with `--rc` and related flags.
 - Currently there is support for `bwlimit`, and flushing for mount and cache.
- New Features
 - `--max-delete` flag to add a delete threshold (Bjørn Erik Pedersen)
 - All backends now support RangeOption for ranged Open
 - `cat`: Use RangeOption for limited fetches to make more efficient
 - `cryptcheck`: make reading of nonce more efficient with RangeOption
 - `serve http/webdav/restic`
 - support SSL/TLS
 - add `--user` `--pass` and `--htpasswd` for authentication
 - `copy / move`: detect file size change during copy/move and abort transfer (ishuah)
 - `cryptdecode`: added option to return encrypted file names. (ishuah)
 - `lsjson`: add `--encrypted` to show encrypted name (Jakub Tasiemski)
 - Add `--stats-file-name-length` to specify the printed file name length for stats (Will Gunn)
- Compile
 - Code base was shuffled and factored
 - backends moved into a backend directory
 - large packages split up
 - See the CONTRIBUTING.md doc for info as to what lives where now
 - Update to using go1.10 as the default go version
 - Implement daily [full integration tests](#)
- Release
 - Include a source tarball and sign it and the binaries
 - Sign the git tags as part of the release process
 - Add .deb and .rpm packages as part of the build
 - Make a beta release for all branches on the main repo (but not pull requests)
- Bug Fixes

- config: fixes errors on nonexistent config by loading config file only on first access
- config: retry saving the config after failure (Mateusz)
- sync: when using `--backup-dir` don't delete files if we can't set their modtime
 - this fixes odd behaviour with Dropbox and `--backup-dir`
- fshttp: fix idle timeouts for HTTP connections
- `serve http`: fix serving files with `:` in - fixes
- Fix `--exclude-if-present` to ignore directories which it doesn't have permission for (Iakov Davydov)
- Make accounting work properly with crypt and b2
- remove `--no-traverse` flag because it is obsolete
- Mount
 - Add `--attr-timeout` flag to control attribute caching in kernel
 - this now defaults to 0 which is correct but less efficient
 - see [the mount docs](#) for more info
 - Add `--daemon` flag to allow mount to run in the background (ishuah)
 - Fix: Return ENOSYS rather than EIO on attempted link
 - This fixes FileZilla accessing an rclone mount served over sftp.
 - Fix setting modtime twice
 - Mount tests now run on CI for Linux (mount & cmount)/Mac/Windows
 - Many bugs fixed in the VFS layer - see below
- VFS
 - Many fixes for `--vfs-cache-mode` writes and above
 - Update cached copy if we know it has changed (fixes stale data)
 - Clean path names before using them in the cache
 - Disable cache cleaner if `--vfs-cache-poll-interval=0`
 - Fill and clean the cache immediately on startup
 - Fix Windows opening every file when it stats the file
 - Fix applying modtime for an open Write Handle
 - Fix creation of files when truncating
 - Write 0 bytes when flushing unwritten handles to avoid race conditions in FUSE
 - Downgrade "poll-interval is not supported" message to Info
 - Make OpenFile and friends return EINVAL if O_RDONLY and O_TRUNC
- Local
 - Downgrade "invalid cross-device link: trying copy" to debug
 - Make DirMove return fs.ErrorCantDirMove to allow fallback to Copy for cross device
 - Fix race conditions updating the hashes
- Cache

- Add support for polling - cache will update when remote changes on supported backends
- Reduce log level for Plex api
- Fix dir cache issue
- Implement `--cache-db-wait-time` flag
- Improve efficiency with RangeOption and RangeSeek
- Fix dirmove with temp fs enabled
- Notify vfs when using temp fs
- Offline uploading
- Remote control support for path flushing
- Amazon cloud drive
 - Rclone no longer has any working keys - disable integration tests
 - Implement DirChangeNotify to notify cache/vfs/mount of changes
- Azureblob
 - Don't check for bucket/container presence if listing was OK
 - this makes rclone do one less request per invocation
 - Improve accounting for chunked uploads
- Backblaze B2
 - Don't check for bucket/container presence if listing was OK
 - this makes rclone do one less request per invocation
- Box
 - Improve accounting for chunked uploads
- Dropbox
 - Fix custom oauth client parameters
- Google Cloud Storage
 - Don't check for bucket/container presence if listing was OK
 - this makes rclone do one less request per invocation
- Google Drive
 - Migrate to api v3 (Fabian Möller)
 - Add scope configuration and root folder selection
 - Add `--drive-impersonate` for service accounts
 - thanks to everyone who tested, explored and contributed docs
 - Add `--drive-use-created-date` to use created date as modified date (nbuchanan)
 - Request the export formats only when required
 - This makes rclone quicker when there are no google docs
 - Fix finding paths with latin1 chars (a workaround for a drive bug)
 - Fix copying of a single Google doc file

- Fix `--drive-auth-owner-only` to look in all directories
- HTTP
 - Fix handling of directories with & in
- Onedrive
 - Removed upload cutoff and always do session uploads
 - this stops the creation of multiple versions on business onedrive
 - Overwrite object size value with real size when reading file. (Victor)
 - this fixes oddities when onedrive misreports the size of images
- Pcloud
 - Remove unused chunked upload flag and code
- Qingstor
 - Don't check for bucket/container presence if listing was OK
 - this makes rclone do one less request per invocation
- S3
 - Support hashes for multipart files (Chris Redekop)
 - Initial support for IBM COS (S3) (Giri Badanahatti)
 - Update docs to discourage use of v2 auth with CEPH and others
 - Don't check for bucket/container presence if listing was OK
 - this makes rclone do one less request per invocation
 - Fix server-side copy and set modtime on files with + in
- SFTP
 - Add option to disable remote hash check command execution (Jon Fautley)
 - Add `--sftp-ask-password` flag to prompt for password when needed (Leo R. Lundgren)
 - Add `set_modtime` configuration option
 - Fix following of symlinks
 - Fix reading config file outside of Fs setup
 - Fix reading \$USER in username fallback not \$HOME
 - Fix running under crontab - Use correct OS way of reading username
- Swift
 - Fix refresh of authentication token
 - in v1.39 a bug was introduced which ignored new tokens - this fixes it
 - Fix extra HEAD transaction when uploading a new file
 - Don't check for bucket/container presence if listing was OK
 - this makes rclone do one less request per invocation
- Webdav
 - Add new time formats to support mydrive.ch and others

v1.39 - 2017-12-23

- New backends
 - WebDAV
 - tested with nextcloud, owncloud, put.io and others!
 - Pcloud
 - cache - wraps a cache around other backends (Remus Bunduc)
 - useful in combination with mount
 - NB this feature is in beta so use with care
- New commands
 - serve command with subcommands:
 - serve webdav: this implements a webdav server for any rclone remote.
 - serve http: command to serve a remote over HTTP
 - config: add sub commands for full config file management
 - create/delete/dump/edit/file/password/providers/show/update
 - touch: to create or update the timestamp of a file (Jakub Tasiemski)
- New Features
 - curl install for rclone (Filip Bartodziej)
 - --stats now shows percentage, size, rate and ETA in condensed form (Ishuah Kariuki)
 - --exclude-if-present to exclude a directory if a file is present (Iakov Davydov)
 - rmdirs: add --leave-root flag (lewapm)
 - move: add --delete-empty-src-dirs flag to remove dirs after move (Ishuah Kariuki)
 - Add --dump flag, introduce --dump requests, responses and remove --dump-auth, -dump-filters
 - Obscure X-Auth-Token: from headers when dumping too
 - Document and implement exit codes for different failure modes (Ishuah Kariuki)
- Compile
- Bug Fixes
 - Retry lots more different types of errors to make multipart transfers more reliable
 - Save the config before asking for a token, fixes disappearing oauth config
 - Warn the user if --include and --exclude are used together (Ernest Borowski)
 - Fix duplicate files (e.g. on Google drive) causing spurious copies
 - Allow trailing and leading whitespace for passwords (Jason Rose)
 - ncd: fix crashes on empty directories
 - rcat: fix goroutine leak
 - moveto/copyto: Fix to allow copying to the same name
- Mount

- --vfs-cache mode to make writes into mounts more reliable.
 - this requires caching files on the disk (see --cache-dir)
 - As this is a new feature, use with care
- Use sdnotify to signal systemd the mount is ready (Fabian Möller)
- Check if directory is not empty before mounting (Ernest Borowski)
- Local
 - Add error message for cross file system moves
 - Fix equality check for times
- Dropbox
 - Rework multipart upload
 - buffer the chunks when uploading large files so they can be retried
 - change default chunk size to 48MB now we are buffering them in memory
 - retry every error after the first chunk is done successfully
 - Fix error when renaming directories
- Swift
 - Fix crash on bad authentication
- Google Drive
 - Add service account support (Tim Cooijmans)
- S3
 - Make it work properly with Digital Ocean Spaces (Andrew Starr-Bochicchio)
 - Fix crash if a bad listing is received
 - Add support for ECS task IAM roles (David Minor)
- Backblaze B2
 - Fix multipart upload retries
 - Fix --hard-delete to make it work 100% of the time
- Swift
 - Allow authentication with storage URL and auth key (Giovanni Pizzi)
 - Add new fields for swift configuration to support IBM Bluemix Swift (Pierre Carlson)
 - Add OS_TENANT_ID and OS_USER_ID to config
 - Allow configs with user id instead of user name
 - Check if swift segments container exists before creating (John Leach)
 - Fix memory leak in swift transfers (upstream fix)
- SFTP
 - Add option to enable the use of aes128-cbc cipher (Jon Fautley)
- Amazon cloud drive
 - Fix download of large files failing with "Only one auth mechanism allowed"
- crypt
 - Option to encrypt directory names or leave them intact

- Implement DirChangeNotify (Fabian Möller)
- onedrive
 - Add option to choose resourceURL during setup of OneDrive Business account if more than one is available for user

v1.38 - 2017-09-30

- New backends
 - Azure Blob Storage (thanks Andrei Dragomir)
 - Box
 - Onedrive for Business (thanks Oliver Heyme)
 - QingStor from QingCloud (thanks wuyu)
- New commands
 - `rcat` - read from standard input and stream upload
 - `tree` - shows a nicely formatted recursive listing
 - `cryptdecode` - decode encrypted file names (thanks ishuah)
 - `config show` - print the config file
 - `config file` - print the config file location
- New Features
 - Empty directories are deleted on `sync`
 - `dedupe` - implement merging of duplicate directories
 - `check` and `cryptcheck` made more consistent and use less memory
 - `cleanup` for remaining remotes (thanks ishuah)
 - `--immutable` for ensuring that files don't change (thanks Jacob McNamee)
 - `--user-agent` option (thanks Alex McGrath Kraak)
 - `--disable` flag to disable optional features
 - `--bind` flag for choosing the local addr on outgoing connections
 - Support for zsh auto-completion (thanks bpicode)
 - Stop normalizing file names but do a normalized compare in `sync`
- Compile
 - Update to using go1.9 as the default go version
 - Remove snapd build due to maintenance problems
- Bug Fixes
 - Improve retrieable error detection which makes multipart uploads better
 - Make `check` obey `--ignore-size`
 - Fix bwlimit toggle in conjunction with schedules (thanks cbruegg)
 - `config` ensures newly written config is on the same mount
- Local

- Revert to copy when moving file across file system boundaries
- `--skip-links` to suppress symlink warnings (thanks Zhiming Wang)
- Mount
 - Reuse `rcat` internals to support uploads from all remotes
- Dropbox
 - Fix "entry doesn't belong in directory" error
 - Stop using deprecated API methods
- Swift
 - Fix server-side copy to empty container with `--fast-list`
- Google Drive
 - Change the default for `--drive-use-trash` to `true`
- S3
 - Set session token when using STS (thanks Girish Ramakrishnan)
 - Glacier docs and error messages (thanks Jan Varho)
 - Read 1000 (not 1024) items in dir listings to fix Wasabi
- Backblaze B2
 - Fix SHA1 mismatch when downloading files with no SHA1
 - Calculate missing hashes on the fly instead of spooling
 - `--b2-hard-delete` to permanently delete (not hide) files (thanks John Papandriopoulos)
- Hubic
 - Fix creating containers - no longer have to use the `default` container
- Swift
 - Optionally configure from a standard set of OpenStack environment vars
 - Add `endpoint_type` config
- Google Cloud Storage
 - Fix bucket creation to work with limited permission users
- SFTP
 - Implement connection pooling for multiple ssh connections
 - Limit new connections per second
 - Add support for MD5 and SHA1 hashes where available (thanks Christian Brüggemann)
- HTTP
 - Fix URL encoding issues
 - Fix directories with `:` in
 - Fix panic with URL encoded content

v1.37 - 2017-07-22

- New backends
 - FTP - thanks to Antonio Messina
 - HTTP - thanks to Vasiliy Tolstov
- New commands
 - rclone ncd - for exploring a remote with a text based user interface.
 - rclone lsjson - for listing with a machine-readable output
 - rclone dbhashsum - to show Dropbox style hashes of files (local or Dropbox)
- New Features
 - Implement --fast-list flag
 - This allows remotes to list recursively if they can
 - This uses less transactions (important if you pay for them)
 - This may or may not be quicker
 - This will use more memory as it has to hold the listing in memory
 - --old-sync-method deprecated - the remaining uses are covered by --fast-list
 - This involved a major re-write of all the listing code
 - Add --tpslimit and --tpslimit-burst to limit transactions per second
 - this is useful in conjunction with `rclone mount` to limit external apps
 - Add --stats-log-level so can see --stats without -v
 - Print password prompts to stderr - Hraban Luyat
 - Warn about duplicate files when syncing
 - Oauth improvements
 - allow auth_url and token_url to be set in the config file
 - Print redirection URI if using own credentials.
 - Don't Mkdir at the start of sync to save transactions
- Compile
 - Update build to go1.8.3
 - Require go1.6 for building rclone
 - Compile 386 builds with "GO386=387" for maximum compatibility
- Bug Fixes
 - Fix menu selection when no remotes
 - Config saving reworked to not kill the file if disk gets full
 - Don't delete remote if name does not change while renaming
 - moveto, copyto: report transfers and checks as per move and copy
- Local
 - Add --local-no-unicode-normalization flag - Bob Potter
- Mount
 - Now supported on Windows using cgofuse and WinFsp - thanks to Bill Zissimopoulos for much help

- Compare checksums on upload/download via FUSE
- Unmount when program ends with SIGINT (Ctrl+C) or SIGTERM - Jérôme Vizcaino
- On read only open of file, make open pending until first read
- Make --read-only reject modify operations
- Implement ModTime via FUSE for remotes that support it
- Allow modTime to be changed even before all writers are closed
- Fix panic on renames
- Fix hang on errored upload
- Crypt
 - Report the name:root as specified by the user
 - Add an "obfuscate" option for filename encryption - Stephen Harris
- Amazon Drive
 - Fix initialization order for token renewer
 - Remove revoked credentials, allow oauth proxy config and update docs
- B2
 - Reduce minimum chunk size to 5MB
- Drive
 - Add team drive support
 - Reduce bandwidth by adding fields for partial responses - Martin Kristensen
 - Implement --drive-shared-with-me flag to view shared with me files - Danny Tsai
 - Add --drive-trashed-only to read only the files in the trash
 - Remove obsolete --drive-full-list
 - Add missing seek to start on retries of chunked uploads
 - Fix stats accounting for upload
 - Convert / in names to a unicode equivalent (✓)
 - Poll for Google Drive changes when mounted
- OneDrive
 - Fix the uploading of files with spaces
 - Fix initialization order for token renewer
 - Display speeds accurately when uploading - Yoni Jah
 - Swap to using `http://localhost:53682/` as redirect URL - Michael Ledin
 - Retry on token expired error, reset upload body on retry - Yoni Jah
- Google Cloud Storage
 - Add ability to specify location and storage class via config and command line - thanks gdm85
 - Create container if necessary on server-side copy
 - Increase directory listing chunk to 1000 to increase performance
 - Obtain a refresh token for GCS - Steven Lu

- Yandex
 - Fix the name reported in log messages (was empty)
 - Correct error return for listing empty directory
- Dropbox
 - Rewritten to use the v2 API
 - Now supports ModTime
 - Can only set by uploading the file again
 - If you uploaded with an old rclone, rclone may upload everything again
 - Use `--size-only` or `--checksum` to avoid this
 - Now supports the Dropbox content hashing scheme
 - Now supports low level retries
- S3
 - Work around eventual consistency in bucket creation
 - Create container if necessary on server-side copy
 - Add us-east-2 (Ohio) and eu-west-2 (London) S3 regions - Zahiari Ahmed
- Swift, Hubic
 - Fix zero length directory markers showing in the subdirectory listing
 - this caused lots of duplicate transfers
 - Fix paged directory listings
 - this caused duplicate directory errors
 - Create container if necessary on server-side copy
 - Increase directory listing chunk to 1000 to increase performance
 - Make sensible error if the user forgets the container
- SFTP
 - Add support for using ssh key files
 - Fix under Windows
 - Fix ssh agent on Windows
 - Adapt to latest version of library - Igor Kharin

v1.36 - 2017-03-18

- New Features
 - SFTP remote (Jack Schmidt)
 - Re-implement sync routine to work a directory at a time reducing memory usage
 - Logging revamped to be more inline with rsync - now much quieter
 - -v only shows transfers
 - -vv is for full debug
 - --syslog to log to syslog on capable platforms

- Implement --backup-dir and --suffix
- Implement --track-renames (initial implementation by Bjørn Erik Pedersen)
- Add time-based bandwidth limits (Lukas Loesche)
- rclone cryptcheck: checks integrity of crypt remotes
- Allow all config file variables and options to be set from environment variables
- Add --buffer-size parameter to control buffer size for copy
- Make --delete-after the default
- Add --ignore-checksum flag (fixed by Hisham Zarka)
- rclone check: Add --download flag to check all the data, not just hashes
- rclone cat: add --head, --tail, --offset, --count and --discard
- rclone config: when choosing from a list, allow the value to be entered too
- rclone config: allow rename and copy of remotes
- rclone obscure: for generating encrypted passwords for rclone's config (T.C. Ferguson)
- Comply with XDG Base Directory specification (Dario Giovannetti)
 - this moves the default location of the config file in a backwards compatible way
- Release changes
 - Ubuntu snap support (Dedsec1)
 - Compile with go 1.8
 - MIPS/Linux big and little endian support
- Bug Fixes
 - Fix copyto copying things to the wrong place if the destination dir didn't exist
 - Fix parsing of remotes in moveto and copyto
 - Fix --delete-before deleting files on copy
 - Fix --files-from with an empty file copying everything
 - Fix sync: don't update mod times if --dry-run set
 - Fix MimeType propagation
 - Fix filters to add ** rules to directory rules
- Local
 - Implement -L, --copy-links flag to allow rclone to follow symlinks
 - Open files in write only mode so rclone can write to an rclone mount
 - Fix unnormalised unicode causing problems reading directories
 - Fix interaction between -x flag and --max-depth
- Mount
 - Implement proper directory handling (mkdir, rmdir, renaming)
 - Make include and exclude filters apply to mount
 - Implement read and write async buffers - control with --buffer-size

- Fix fsync on for directories
- Fix retry on network failure when reading off crypt
- Crypt
 - Add --crypt-show-mapping to show encrypted file mapping
 - Fix crypt writer getting stuck in a loop
 - **IMPORTANT** this bug had the potential to cause data corruption when
 - reading data from a network based remote and
 - writing to a crypt on Google Drive
 - Use the cryptcheck command to validate your data if you are concerned
 - If syncing two crypt remotes, sync the unencrypted remote
- Amazon Drive
 - Fix panics on Move (rename)
 - Fix panic on token expiry
- B2
 - Fix inconsistent listings and rclone check
 - Fix uploading empty files with go1.8
 - Constrain memory usage when doing multipart uploads
 - Fix upload url not being refreshed properly
- Drive
 - Fix Rmdir on directories with trashed files
 - Fix "Ignoring unknown object" when downloading
 - Add --drive-list-chunk
 - Add --drive-skip-gdocs (Károly Oláh)
- OneDrive
 - Implement Move
 - Fix Copy
 - Fix overwrite detection in Copy
 - Fix waitForJob to parse errors correctly
 - Use token renewer to stop auth errors on long uploads
 - Fix uploading empty files with go1.8
- Google Cloud Storage
 - Fix depth 1 directory listings
- Yandex
 - Fix single level directory listing
- Dropbox
 - Normalise the case for single level directory listings
 - Fix depth 1 listing
- S3

- Added ca-central-1 region (Jon Yergatian)

v1.35 - 2017-01-02

- New Features
 - moveto and copyto commands for choosing a destination name on copy/move
 - rmdirs command to recursively delete empty directories
 - Allow repeated --include/--exclude/--filter options
 - Only show transfer stats on commands which transfer stuff
 - show stats on any command using the `--stats` flag
 - Allow overlapping directories in move when server-side dir move is supported
 - Add --stats-unit option - thanks Scott McGillivray
- Bug Fixes
 - Fix the config file being overwritten when two rclone instances are running
 - Make rclone lsd obey the filters properly
 - Fix compilation on mips
 - Fix not transferring files that don't differ in size
 - Fix panic on nil retry/fatal error
- Mount
 - Retry reads on error - should help with reliability a lot
 - Report the modification times for directories from the remote
 - Add bandwidth accounting and limiting (fixes --bwlimit)
 - If --stats provided will show stats and which files are transferring
 - Support R/W files if truncate is set.
 - Implement statfs interface so df works
 - Note that write is now supported on Amazon Drive
 - Report number of blocks in a file - thanks Stefan Breunig
- Crypt
 - Prevent the user pointing crypt at itself
 - Fix failed to authenticate decrypted block errors
 - these will now return the underlying unexpected EOF instead
- Amazon Drive
 - Add support for server-side move and directory move - thanks Stefan Breunig
 - Fix nil pointer deref on size attribute
- B2
 - Use new prefix and delimiter parameters in directory listings
 - This makes --max-depth 1 dir listings as used in mount much faster
 - Reauth the account while doing uploads too - should help with token expiry

- Drive
 - Make DirMove more efficient and complain about moving the root
 - Create destination directory on Move()

v1.34 - 2016-11-06

- New Features
 - Stop single file and `--files-from` operations iterating through the source bucket.
 - Stop removing failed upload to cloud storage remotes
 - Make ContentType be preserved for cloud to cloud copies
 - Add support to toggle bandwidth limits via SIGUSR2 - thanks Marco Paganini
 - `rclone check` shows count of hashes that couldn't be checked
 - `rclone listremotes` command
 - Support linux/arm64 build - thanks Fredrik Fornwall
 - Remove `Authorization:` lines from `--dump-headers` output
- Bug Fixes
 - Ignore files with control characters in the names
 - Fix `rclone move` command
 - Delete src files which already existed in dst
 - Fix deletion of src file when dst file older
 - Fix `rclone check` on encrypted file systems
 - Make failed uploads not count as "Transferred"
 - Make sure high level retries show with `-q`
 - Use a vendor directory with godep for repeatable builds
- `rclone mount` - FUSE
 - Implement FUSE mount options
 - `--no-modtime`, `--debug-fuse`, `--read-only`, `--allow-non-empty`, `--allow-root`, `--allow-other`
 - `--default-permissions`, `--write-back-cache`, `--max-read-ahead`, `--umask`, `--uid`, `--gid`
 - Add `--dir-cache-time` to control caching of directory entries
 - Implement seek for files opened for read (useful for video players)
 - with `-no-seek` flag to disable
 - Fix crash on 32 bit ARM (alignment of 64 bit counter)
 - ...and many more internal fixes and improvements!
- Crypt
 - Don't show encrypted password in configurator to stop confusion
- Amazon Drive

- New wait for upload option `--acd-upload-wait-per-gb`
 - upload timeouts scale by file size and can be disabled
- Add 502 Bad Gateway to list of errors we retry
- Fix overwriting a file with a zero length file
- Fix ACD file size warning limit - thanks Felix Bünemann
- Local
 - Unix: implement `-x` / `--one-file-system` to stay on a single file system
 - thanks Durval Menezes and Luiz Carlos Rumbelsperger Viana
 - Windows: ignore the symlink bit on files
 - Windows: Ignore directory-based junction points
- B2
 - Make sure each upload has at least one upload slot - fixes strange upload stats
 - Fix uploads when using crypt
 - Fix download of large files (sha1 mismatch)
 - Return error when we try to create a bucket which someone else owns
 - Update B2 docs with Data usage, and Crypt section - thanks Tomasz Mazur
- S3
 - Command line and config file support for
 - Setting/overriding ACL - thanks Radek Šenfeld
 - Setting storage class - thanks Asko Tamm
- Drive
 - Make exponential backoff work exactly as per Google specification
 - add `.epub`, `.odp` and `.tsv` as export formats.
- Swift
 - Don't read metadata for directory marker objects

v1.33 - 2016-08-24

- New Features
 - Implement encryption
 - data encrypted in NACL secretbox format
 - with optional file name encryption
 - New commands
 - `rclone mount` - implements FUSE mounting of remotes (EXPERIMENTAL)
 - works on Linux, FreeBSD and OS X (need testers for the last 2!)
 - `rclone cat` - outputs remote file or files to the terminal
 - `rclone genautocomplete` - command to make a bash completion script for `rclone`

- Editing a remote using `rclone config` now goes through the wizard
- Compile with go 1.7 - this fixes rclone on macOS Sierra and on 386 processors
- Use cobra for sub commands and docs generation
- drive
 - Document how to make your own client_id
- s3
 - User-configurable Amazon S3 ACL (thanks Radek Šenfeld)
- b2
 - Fix stats accounting for upload - no more jumping to 100% done
 - On cleanup delete hide marker if it is the current file
 - New B2 API endpoint (thanks Per Cederberg)
 - Set maximum backoff to 5 Minutes
- onedrive
 - Fix URL escaping in file names - e.g. uploading files with `+` in them.
- amazon cloud drive
 - Fix token expiry during large uploads
 - Work around 408 REQUEST_TIMEOUT and 504 GATEWAY_TIMEOUT errors
- local
 - Fix filenames with invalid UTF-8 not being uploaded
 - Fix problem with some UTF-8 characters on OS X

v1.32 - 2016-07-13

- Backblaze B2
 - Fix upload of files large files not in root

v1.31 - 2016-07-13

- New Features
 - Reduce memory on sync by about 50%
 - Implement `--no-traverse` flag to stop copy traversing the destination remote.
 - This can be used to reduce memory usage down to the smallest possible.
 - Useful to copy a small number of files into a large destination folder.
 - Implement cleanup command for emptying trash / removing old versions of files
 - Currently B2 only
 - Single file handling improved
 - Now copied with `--files-from`
 - Automatically sets `--no-traverse` when copying a single file

- Info on using installing with ansible - thanks Stefan Weichinger
- Implement --no-update-modtime flag to stop rclone fixing the remote modified times.
- Bug Fixes
 - Fix move command - stop it running for overlapping Fses - this was causing data loss.
- Local
 - Fix incomplete hashes - this was causing problems for B2.
- Amazon Drive
 - Rename Amazon Cloud Drive to Amazon Drive - no changes to config file needed.
- Swift
 - Add support for non-default project domain - thanks Antonio Messina.
- S3
 - Add instructions on how to use rclone with minio.
 - Add ap-northeast-2 (Seoul) and ap-south-1 (Mumbai) regions.
 - Skip setting the modified time for objects > 5GB as it isn't possible.
- Backblaze B2
 - Add --b2-versions flag so old versions can be listed and retrieved.
 - Treat 403 errors (e.g. cap exceeded) as fatal.
 - Implement cleanup command for deleting old file versions.
 - Make error handling compliant with B2 integrations notes.
 - Fix handling of token expiry.
 - Implement --b2-test-mode to set `X-Bz-Test-Mode` header.
 - Set cutoff for chunked upload to 200MB as per B2 guidelines.
 - Make upload multi-threaded.
- Dropbox
 - Don't retry 461 errors.

v1.30 - 2016-06-18

- New Features
 - Directory listing code reworked for more features and better error reporting (thanks to Klaus Post for help). This enables
 - Directory include filtering for efficiency
 - --max-depth parameter
 - Better error reporting
 - More to come
 - Retry more errors

- Add `--ignore-size` flag - for uploading images to onedrive
- Log `-v` output to stdout by default
- Display the transfer stats in more human-readable form
- Make 0 size files specifiable with `--max-size 0b`
- Add `b` suffix so we can specify bytes in `--bwlimit`, `--min-size`, etc.
- Use "password:" instead of "password>" prompt - thanks Klaus Post and Leigh Klotz
- Bug Fixes
 - Fix retry doing one too many retries
- Local
 - Fix problems with OS X and UTF-8 characters
- Amazon Drive
 - Check a file exists before uploading to help with 408 Conflict errors
 - Reauth on 401 errors - this has been causing a lot of problems
 - Work around spurious 403 errors
 - Restart directory listings on error
- Google Drive
 - Check a file exists before uploading to help with duplicates
 - Fix retry of multipart uploads
- Backblaze B2
 - Implement large file uploading
- S3
 - Add AES256 server-side encryption for - thanks Justin R. Wilson
- Google Cloud Storage
 - Make sure we don't use conflicting content types on upload
 - Add service account support - thanks Michal Witkowski
- Swift
 - Add auth version parameter
 - Add domain option for openstack (v3 auth) - thanks Fabian Ruff

v1.29 - 2016-04-18

- New Features
 - Implement `-I, --ignore-times` for unconditional upload
 - Improve `dedupe` command
 - Now removes identical copies without asking
 - Now obeys `--dry-run`
 - Implement `--dedupe-mode` for non interactive running

- `--dedupe-mode interactive` - interactive the default.
 - `--dedupe-mode skip` - removes identical files then skips anything left.
 - `--dedupe-mode first` - removes identical files then keeps the first one.
 - `--dedupe-mode newest` - removes identical files then keeps the newest one.
 - `--dedupe-mode oldest` - removes identical files then keeps the oldest one.
 - `--dedupe-mode rename` - removes identical files then renames the rest to be different.
- Bug fixes
 - Make rclone check obey the `--size-only` flag.
 - Use "application/octet-stream" if discovered mime type is invalid.
 - Fix missing "quit" option when there are no remotes.
 - Google Drive
 - Increase default chunk size to 8 MB - increases upload speed of big files
 - Speed up directory listings and make more reliable
 - Add missing retries for Move and DirMove - increases reliability
 - Preserve mime type on file update
 - Backblaze B2
 - Enable mod time syncing
 - This means that B2 will now check modification times
 - It will upload new files to update the modification times
 - (there isn't an API to just set the mod time.)
 - If you want the old behaviour use `--size-only`.
 - Update API to new version
 - Fix parsing of mod time when not in metadata
 - Swift/Hubic
 - Don't return an MD5SUM for static large objects
 - S3
 - Fix uploading files bigger than 50GB

v1.28 - 2016-03-01

- New Features
 - Configuration file encryption - thanks Klaus Post
 - Improve `rclone config` adding more help and making it easier to understand
 - Implement `-u / --update` so creation times can be used on all remotes

- Implement `--low-level-retries` flag
- Optionally disable gzip compression on downloads with `--no-gzip-encoding`
- Bug fixes
 - Don't make directories if `--dry-run` set
 - Fix and document the `move` command
 - Fix redirecting stderr on unix-like OSes when using `--log-file`
 - Fix `delete` command to wait until all finished - fixes missing deletes.
- Backblaze B2
 - Use one upload URL per go routine fixes `more than one upload using auth token`
 - Add pacing, retries and reauthentication - fixes token expiry problems
 - Upload without using a temporary file from local (and remotes which support SHA1)
 - Fix reading metadata for all files when it shouldn't have been
- Drive
 - Fix listing drive documents at root
 - Disable copy and move for Google docs
- Swift
 - Fix uploading of chunked files with non ASCII characters
 - Allow setting of `storage_url` in the config - thanks Xavier Lucas
- S3
 - Allow IAM role and credentials from environment variables - thanks Brian Stengaard
 - Allow low privilege users to use S3 (check if directory exists during Mkdir) - thanks Jakub Gedeon
- Amazon Drive
 - Retry on more things to make directory listings more reliable

v1.27 - 2016-01-31

- New Features
 - Easier headless configuration with `rclone authorize`
 - Add support for multiple hash types - we now check SHA1 as well as MD5 hashes.
 - `delete` command which does obey the filters (unlike `purge`)
 - `dedupe` command to deduplicate a remote. Useful with Google Drive.
 - Add `--ignore-existing` flag to skip all files that exist on destination.
 - Add `--delete-before`, `--delete-during`, `--delete-after` flags.
 - Add `--memprofile` flag to debug memory use.
 - Warn the user about files with same name but different case

- Make `--include` rules add their implicit exclude `*` at the end of the filter list
- Deprecate compiling with go1.3
- Amazon Drive
 - Fix download of files > 10 GB
 - Fix directory traversal ("Next token is expired") for large directory listings
 - Remove 409 conflict from error codes we will retry - stops very long pauses
- Backblaze B2
 - SHA1 hashes now checked by rclone core
- Drive
 - Add `--drive-auth-owner-only` to only consider files owned by the user - thanks Björn Harrtell
 - Export Google documents
- Dropbox
 - Make file exclusion error controllable with -q
- Swift
 - Fix upload from unprivileged user.
- S3
 - Fix updating of mod times of files with `+` in.
- Local
 - Add local file system option to disable UNC on Windows.

v1.26 - 2016-01-02

- New Features
 - Yandex storage backend - thank you Dmitry Burdeev ("dibu")
 - Implement Backblaze B2 storage backend
 - Add `--min-age` and `--max-age` flags - thank you Adriano Aurélio Meirelles
 - Make `ls/lsl/md5sum/size/check` obey includes and excludes
- Fixes
 - Fix crash in http logging
 - Upload releases to github too
- Swift
 - Fix sync for chunked files
- OneDrive
 - Re-enable server-side copy
 - Don't mask HTTP error codes with JSON decode error
- S3
 - Fix corrupting Content-Type on mod time update (thanks Joseph Spurrier)

v1.25 - 2015-11-14

- New features
 - Implement Hubic storage system
- Fixes
 - Fix deletion of some excluded files without `--delete-excluded`
 - This could have deleted files unexpectedly on sync
 - Always check first with `--dry-run` !
- Swift
 - Stop SetModTime losing metadata (e.g. X-Object-Manifest)
 - This could have caused data loss for files > 5GB in size
 - Use ContentType from Object to avoid lookups in listings
- OneDrive
 - disable server-side copy as it seems to be broken at Microsoft

v1.24 - 2015-11-07

- New features
 - Add support for Microsoft OneDrive
 - Add `--no-check-certificate` option to disable server certificate verification
 - Add async readahead buffer for faster transfer of big files
- Fixes
 - Allow spaces in remotes and check remote names for validity at creation time
 - Allow '&' and disallow ':' in Windows filenames.
- Swift
 - Ignore directory marker objects where appropriate - allows working with Hubic
 - Don't delete the container if fs wasn't at root
- S3
 - Don't delete the bucket if fs wasn't at root
- Google Cloud Storage
 - Don't delete the bucket if fs wasn't at root

v1.23 - 2015-10-03

- New features
 - Implement `rclone size` for measuring remotes
- Fixes
 - Fix headless config for drive and gcs

- Tell the user they should try again if the webserver method failed
- Improve output of `--dump-headers`
- S3
 - Allow anonymous access to public buckets
- Swift
 - Stop chunked operations logging "Failed to read info: Object Not Found"
 - Use Content-Length on uploads for extra reliability

v1.22 - 2015-09-28

- Implement rsync like include and exclude flags
- swift
 - Support files > 5GB - thanks Sergey Tolmachev

v1.21 - 2015-09-22

- New features
 - Display individual transfer progress
 - Make ls output times in localtime
- Fixes
 - Fix allowing user to override credentials again in Drive, GCS and ACD
- Amazon Drive
 - Implement compliant pacing scheme
- Google Drive
 - Make directory reads concurrent for increased speed.

v1.20 - 2015-09-15

- New features
 - Amazon Drive support
 - Oauth support redone - fix many bugs and improve usability
 - Use "golang.org/x/oauth2" as oauth library of choice
 - Improve oauth usability for smoother initial signup
 - drive, googlecloudstorage: optionally use auto config for the oauth token
 - Implement `--dump-headers` and `--dump-bodies` debug flags
 - Show multiple matched commands if abbreviation too short
 - Implement server-side move where possible
- local

- Always use UNC paths internally on Windows - fixes a lot of bugs
- dropbox
 - force use of our custom transport which makes timeouts work
- Thanks to Klaus Post for lots of help with this release

v1.19 - 2015-08-28

- New features
 - Server side copies for s3/swift/drive/dropbox/gcs
 - Move command - uses server-side copies if it can
 - Implement --retries flag - tries 3 times by default
 - Build for plan9/amd64 and solaris/amd64 too
- Fixes
 - Make a current version download with a fixed URL for scripting
 - Ignore rmdir in limited fs rather than throwing error
- dropbox
 - Increase chunk size to improve upload speeds massively
 - Issue an error message when trying to upload bad file name

v1.18 - 2015-08-17

- drive
 - Add `--drive-use-trash` flag so rclone trashes instead of deletes
 - Add "Forbidden to download" message for files with no downloadURL
- dropbox
 - Remove datastore
 - This was deprecated and it caused a lot of problems
 - Modification times and MD5SUMs no longer stored
 - Fix uploading files > 2GB
- s3
 - use official AWS SDK from github.com/aws/aws-sdk-go
 - **NB** will most likely require you to delete and recreate remote
 - enable multipart upload which enables files > 5GB
 - tested with Ceph / RadosGW / S3 emulation
 - many thanks to Sam Liston and Brian Haymore at the [Utah Center for High Performance Computing](#) for a Ceph test account
- misc
 - Show errors when reading the config file

- Do not print stats in quiet mode - thanks Leonid Shalupov
- Add FAQ
- Fix created directories not obeying umask
- Linux installation instructions - thanks Shimon Doodkin

v1.17 - 2015-06-14

- dropbox: fix case insensitivity issues - thanks Leonid Shalupov

v1.16 - 2015-06-09

- Fix uploading big files which was causing timeouts or panics
- Don't check md5sum after download with --size-only

v1.15 - 2015-06-06

- Add --checksum flag to only discard transfers by MD5SUM - thanks Alex Couper
- Implement --size-only flag to sync on size not checksum & modtime
- Expand docs and remove duplicated information
- Document rclone's limitations with directories
- dropbox: update docs about case insensitivity

v1.14 - 2015-05-21

- local: fix encoding of non utf-8 file names - fixes a duplicate file problem
- drive: docs about rate limiting
- google cloud storage: Fix compile after API change in "google.golang.org/api/storage/v1"

v1.13 - 2015-05-10

- Revise documentation (especially sync)
- Implement --timeout and --conntimeout
- s3: ignore etags from multipart uploads which aren't md5sums

v1.12 - 2015-03-15

- drive: Use chunked upload for files above a certain size
- drive: add --drive-chunk-size and --drive-upload-cutoff parameters
- drive: switch to insert from update when a failed copy deletes the upload

- core: Log duplicate files if they are detected

v1.11 - 2015-03-04

- swift: add region parameter
- drive: fix crash on failed to update remote mtime
- In remote paths, change native directory separators to /
- Add synchronization to ls/lsl/lsd output to stop corruptions
- Ensure all stats/log messages to go stderr
- Add --log-file flag to log everything (including panics) to file
- Make it possible to disable stats printing with --stats=0
- Implement --bwlimit to limit data transfer bandwidth

v1.10 - 2015-02-12

- s3: list an unlimited number of items
- Fix getting stuck in the configurator

v1.09 - 2015-02-07

- windows: Stop drive letters (e.g. C:) getting mixed up with remotes (e.g. drive:)
- local: Fix directory separators on Windows
- drive: fix rate limit exceeded errors

v1.08 - 2015-02-04

- drive: fix subdirectory listing to not list entire drive
- drive: Fix SetModTime
- dropbox: adapt code to recent library changes

v1.07 - 2014-12-23

- google cloud storage: fix memory leak

v1.06 - 2014-12-12

- Fix "Couldn't find home directory" on OSX
- swift: Add tenant parameter
- Use new location of Google API packages

v1.05 - 2014-08-09

- Improved tests and consequently lots of minor fixes
- core: Fix race detected by go race detector
- core: Fixes after running errcheck
- drive: reset root directory on Rmdir and Purge
- fs: Document that Purger returns error on empty directory, test and fix
- google cloud storage: fix ListDir on subdirectory
- google cloud storage: re-read metadata in SetModTime
- s3: make reading metadata more reliable to work around eventual consistency problems
- s3: strip trailing / from ListDir()
- swift: return directories without / in ListDir

v1.04 - 2014-07-21

- google cloud storage: Fix crash on Update

v1.03 - 2014-07-20

- swift, s3, dropbox: fix updated files being marked as corrupted
- Make compile with go 1.1 again

v1.02 - 2014-07-19

- Implement Dropbox remote
- Implement Google Cloud Storage remote
- Verify Md5sums and Sizes after copies
- Remove times from "ls" command - lists sizes only
- Add add "lsl" - lists times and sizes
- Add "md5sum" command

v1.01 - 2014-07-04

- drive: fix transfer of big files using up lots of memory

v1.00 - 2014-07-03

- drive: fix whole second dates

v0.99 - 2014-06-26

- Fix --dry-run not working
- Make compatible with go 1.1

v0.98 - 2014-05-30

- s3: Treat missing Content-Length as 0 for some ceph installations
- rclone-test: add file with a space in

v0.97 - 2014-05-05

- Implement copying of single files
- s3 & swift: support paths inside containers/buckets

v0.96 - 2014-04-24

- drive: Fix multiple files of same name being created
- drive: Use o.Update and fs.Put to optimise transfers
- Add version number, -V and --version

v0.95 - 2014-03-28

- rclone.org: website, docs and graphics
- drive: fix path parsing

v0.94 - 2014-03-27

- Change remote format one last time
- GNU style flags

v0.93 - 2014-03-16

- drive: store token in config file
- cross compile other versions
- set strict permissions on config file

v0.92 - 2014-03-15

- Config fixes and --config option

v0.91 - 2014-03-15

- Make config file

v0.90 - 2013-06-27

- Project named rclone

v0.00 - 2012-11-18

- Project started

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