Release Notes for Dovecot Pro Patch release 2.2.27.2

1. Shipped Products and Versions

Dovecot Pro 2.2.27.2

Including; Object Storage Plug-In and Full Text Search

2. Important Changes and Bugs fixed since previous Public Release

IMPORTANT: See 2.2. Object Storage Plug-in for changes that must be made to configuration in obox/Cassandra installations.

2.1.   Dovecot Pro Core

- **CHANGE:** lib-storage: Make dovecot.list.index's filename configurable.
    - o This is useful when there are multiple namespaces pointing to the same mail root directory. For example mdbox with lazy-expunge:
      namespace {
          prefix = Expunged/
          location = mdbox:~/mdbox:MAILBOXDIR=expunged:LISTINDEX=expunged.list.index
          ..
      }

- **CHANGE:** cassandra: Support configuring heartbeat_interval and idle_timeout

- **CHANGE:** Newly created folders' dovecot.index.cache decisions should be copied from INBOX
    - o lib-storage: Copy cache decisions from inbox on create
    - o Otherwise the decisions are definitely wrong, since they are nonexistent. Copying from INBOX would make sense.

- **CHANGE:** lib-http: Wait before retrying after disconnection
    - o lib-http: client: Treat connections that get disconnected prematurely as connection failures
    - o This means that the backoff time is increased when this happens.

- A premature disconnection happens when the connection is disconnected before any data is received from the server.

- **CHANGE:** Add size.virtual to dovecot.index when folder vsizes are accessed (e.g. quota=count. This is mainly a workaround to avoid slow quota recalculation performance when message sizes get lost from dovecot.index.cache due to corruption or some other reason.
  - lib-storage: Clear virtual size from index if size is corrupted

- **CHANGE:** director: "doveadm director move" to same host now refreshes user's timeout
  - This allows keeping user constantly in the same backend by just periodically moving the user there.

- **CHANGE:** dict-sql: Support merging multiple dict_set()s into a single UPDATE query.
  - This allows quota_clone to work with Cassandra

- **FIX:** lib-http: client: Fixed handling of errors occurring for unsubmitted requests during http_client_request_send_payload().
  - When http_client_request_send_payload() is executed for the first time, the request is submitted. Errors occurring during submission don't trigger a callback immediately. Instead, these are queued in the client and will trigger a callback when an ioloop is run with the client. However, in http_client_request_send_payload() the ioloop is never executed when the request fails that way, meaning that the callback was never called. Since for example SOLR assumes the callback is always called for an error in http_client_request_send_payload(), this causes all kinds of problems.
  - Fixed by manually handling the delayed request errors in http_client_request_send_payload() explicitly.

- **FIX:** dict-sql: Fix iterator to not fail
  - When iterating a prefix without exact key flag, do not fail when no more maps are matched if at least one map has already matched.
  - Fixes: Error: dict_iterate_deinit failed: sql dict iterate failed for ...: Invalid/unmapped path

- **FIX:** imapc: Fix infinite reconnect loop to remote server that is down
  - This happened only in some situations. Usually there would have been some command in the queue, which would cause the reconnect-check to fail.

- **FIX:** imapc: Don't retry a failed reconnection before 10 secs have passed
  - This mainly avoids a lot of unnecessary connect attempts within a short time period, for example if the caller attempts to perform some work for all the folders.

- **FIX:** imapc: Log server disconnection error only once.

- **FIX:** lib-program-client: Do not call program_client_fail twice
  - Fixes crash in program-client caused by use of freed memory.

- **FIX:** lib-program-client: Fix crash after disconnecting client.

- **FIX:** director: Fix assert-crash when flush script takes too long
  - Fixes: Panic: file director.c: line 966 (director_user_move_timeout): assertion failed: (user->kill_ctx->kill_state != USER_KILL_STATE_FLUSHING)

- **FIX:** fts-solr: Escape {} chars when sending queries

- **BUG 50815:** push notification crashes when opening INBOX
  - **FIX:** push-notification-driver: check for failed mailbox_sync()

- **BUG 50813:** Panic: file ../../../src/lib/array.h: line 219 (array_idx_i): assertion failed: (idx * array->element_size < array->buffer->used)
  - **FIX:** lib-storage: Prevent recursion in header parsing
    - If header parsing error occurs and error handling tries to get fields, such as Message-ID, it will cause crash. This fixes problem by preventing reading from non-cached headers while they are being parsed.

- **BUG 50376:** Dovecot Director Error - state may now be inconsistent
  - **FIX:** director: Make sure USER-KILLED isn't sent before USER-MOVE
    - If USER-MOVE was for a user that didn't exist, killing sent USER-KILLED immediately before the forwarding USER-MOVE. This caused the move to get stuck, giving errors like:
      - director: Error: Finishing user 3224731354 move timed out, its state may now be inconsistent (state=waiting-for-everyone)
  - **FIX:** director: Fix USER-MOVE getting stuck if a director already uses the correct host

- **BUG 50886:** Dovecot proxy does not understand response from auth policy server (wforce)
  - **FIX:** auth-policy: Allow unsupported attributes in response

- **BUG 49157:** autoexpunge for subfolders works too early
  - **FIX:** autoexpunge: Consider last_rename_stamp on expunge
    - When expunging by saved date, see if last_rename_stamp is more recent than saved date, and use that instead.
    - This prevents mails getting deleted on a folder that was just renamed, the user probably expects autoexpunge to consider these emails as fresh.

- **BUG 50862:** program-client crashes on certain errors
  - **FIX:** lib-program-client: Do not call program_client_fail twice
    Fixes crash in program-client caused by use of freed memory.

- **BUG 51041:** doveadm-server leaks file descriptors with service_count>1
  - **FIX:** Outgoing dsync TCP connections leaked socket
  - **FIX:** stats plugin: Fix /proc/self/io fd leak on plugin deinit

- **BUG 51209**: Panic: file fts-icu.c: line 152 (fts_icu_lcase): assertion failed: (err != U_BUFFER_OVERFLOW_ERROR)
  - **FIX**: lib-fts: Fix assert-crash in fts_icu_lcase()

- **BUG 50134**: Dovemon does not work with POP3 master authentication
  - **FIX:** fix pop3 sasl auth callback bug

- **BUG 50955**: dsync fails to recover from disconnect during header stream download
  - **FIX:** imapc: Fix re-sending retryable commands after reconnect

- **BUG 48419:** Panic: file http-server-connection.c: line 1081
  - **FIX:** lib-http: server: Fix premature connection destroy in http_server_connection_output().

- **BUG 51314:** Panic: file strfuncs.c: line 356
  - **FIX:** addressbook test: Fixed handling of grouped or invalid addresses in headers.

- **BUG 51308:** mail-storage.c: line 1903 (mailbox_transaction_begin): assertion failed
  - **FIX:** push-notification-driver: open mailbox before transaction_begin

- **BUG 51310:** Panic: mailbox name not returned
  - o **FIX:** imap: Fix panic on FETCH X-MAILBOX in virtual mailbox when mail is expunged

2.2. Object Storage Plug-in

IMPORTANT: In obox/Cassandra installations dovecot-dict-sql.conf.ext requires changes for one line or the startup will fail:

```
# for lookups
map {
  pattern = shared/dictrevmap/$object_id
  table = user_mailbox_objects
  value_field = u,g,n
  #value_type = hexblob ### Replace this line with:
  value_type = string,hexblob,hexblob

  fields {
    i = ${hexblob:object_id}
  }
}
```

These following changes aren't required, but they'll improve timestamp handling for Cassandra DELETEs. The value_field and value_type should be changed in two other maps also to return writetime:

```
map {
  pattern = shared/dictdiffmap/$user/idx/$host
  table = user_index_diff_objects
  #value_field = m ### Replace this line with:
  value_field = m,writetime(m)
  value_type = string,string ### Add this line
  …

map {
  pattern = shared/dictdiffmap/$user/mailboxes/$mailbox_guid/idx/$host
  table = user_mailbox_index_diff_objects
  #value_field = m ### Replace this line with:
  value_field = m,writetime(m)
  value_type = string,string ### Add this line
  …
```

- **CHANGE:** Add support for Smartcache

- **CHANGE:** fs-s3: Add support for Amazon Web Services v4 signatures

- **CHANGE:** Support storing multiple namespace root indexes into the same root index bundle.

- **CHANGE:** Cassandra deletes should include timestamp to make sure DELETEs aren't ignored due to system clock differences between backends, which could cause "Object exists in dict, but not in storage".
  - o fs-dictmap: Add delete-timestamp parameter. This allows increasing Cassandra's DELETE timestamp. For example:

    obox_fs = ...:delete-timestamp=+10s

Sets the timestamp 10 seconds into future for deletes that are supposed to always delete the existing data (everything except rows in diff table).

- o Deleting and updating rows in diff table uses the existing row's timestamp for the DELETE queries. This guarantees that if two backends modify the same user at the same time, the other backend can't delete a row that was UPDATEd by the other one simultaneously. This feature is enabled by adding the writetime(m) variables to the dictdiffmaps (see the configuration changes in the beginning of this chapter).

- **CHANGE:** doveadm director flushall : ability to flush only important changes
  - o Flush only important changes with -i parameter

- **FIX**: doveadm metacache flush: Fix -p parameter to work

- **FIX**: fs-sproxyd: Looking up object size may have returned it as 0.
  - o This could have caused FTS to make bad merging decisions.

- **FIX:** fs-dictmap: Checking whether index self/diff bundle was created by local server didn't work properly when hostname contained characters that needed to be escaped, such as '-' or '.'.
  - o When writing a base bundle, the diff bundle row was deleted from Cassandra, while it should have only been updated to empty value. This caused an unnecessary tombstone.
  - o Base bundles weren't deleted as quickly as they could have been.

- **FIX:** fs-dictmap: Fix deleting a folder when it has multiple rows in Cassandra's index diff-table

- **BUG 48042:** Panic: file fs-dictmap.c: line 1032 (fs_dictmap_file_deinit): assertion failed: (file->dict_commit_state != FS_DICTMAP_DICT_COMMIT_STATE_RUNNING)
  - o Fix assert-crash in index rebuild when GUID lookup fails.

- **BUG 50409:** Moving accounts around seems to result in objects in cassandra but not in scality ("Object exists in dict, but not in storage" errors)
  - o **FIX:** dict-client: When failing to resend commands after reconnect, their success is uncertain

- **BUG 50841:** user_mailbox_index_diff_objects rows are deleted unsafely
  - o **FIX:** fs-dictmap: Make sure each folder always has a row in diff table.
    - ▪ If FS_METACACHE_BUNDLE_HOSTNAME is set, check whether there's a row for the hostname in the diff table. If not, write an empty value to it. This is done before writing the base bundle, so it guarantees that there's always a row in diff table.
    - ▪ This is required, because it's only possible to get the list of folders from the diff table.

- **BUG 50925:** Panic: file metacache-get.c: line 1843 (metacache_box_get): assertion failed:(merge_callback != NULL)
  - o **FIX:** lib-metacache: Moved merge_callback to metacache_user_init()

- **BUG 51302**: Cached message size smaller/larger than expected
  - o **FIX:** obox: Update dest_mail also when copying with OID
    - ▪ This caused index_copy_cache_fields() to work on the previous dest_mail, which caused mismatches between cached data and real data.
    - ▪ This was triggered only by dsync-merges when it changed UIDs for more than one email.
    - ▪

- **BUG 51256**: Cassandra never adds LIMIT to queries
    - **FIX**: "LIMIT n" wasn't being added to Cassandra queries

- **BUG 51292**: buckets.cache has empty guids
    - **FIX:** fs-dictmap: Don't add empty-guid entries to buckets.cache when listing mailboxes

2.3.   Full Text Search Plug-in

- **CHANGE**: fs-fts-cache: Add username metadata to files uploaded to storage.
    - fs-sproxyd: Use a new number for FTS objects in object IDs (02 -> 03) to make it easier to find which objects have the username metadata and which don't.

- **CHANGE**: lib-fts-index: Include filename when logging read() errors

- **BUG 50903:** Search doesn't return results when the search query contains "and" word
    - **FIX:** Fix search query generation when tokens are filtered out
        - For example with English stopwords when searching "foo and bar" it should be equivalent to "foo bar", since "and" is filtered out.

3. Tests

The Dovecot QA team has successfully verified all bug fixes that could be reproduced within a lab environment.

To avoid side effects, the shipped packages have gone through automated regression test on both, a Continuous Integration System and a dedicated server setup for system and integration testing.

All changes have been checked for potential side-effects and effect on behavior. Unless explicitly stated within this document, we do not expect any side-effects.