



Release Notes for Dovecot Pro

Minor Release 2.3.3

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1. Shipped Products and Versions

Dovecot Pro 2.3.3

Including Object Storage, Full Text Search, and Pigeonhole Sieve Plug-ins

2. Release Highlights

This release focuses on continued hardening of the 2.3.x branch and incrementally adding improvements to the logging/metrics system.

- Logging: add log filters
- Quota-clone now updates asynchronously
- OX Push Notification driver now supports TLS
- Fix: Prevent obox HTTP requests from hanging indefinitely
- Created package for Amazon Linux 2.

3. Upgrade Instructions

- It is recommended to upgrade the OX Push Notification driver to use TLS connections (change http to https in URL parameter):

```
plugin {
  push_notification_driver = ox:url=https://login:pass@localhost:8009/preliminary/http-notify/v1/notify
  user_from_metadata
}
```

See: https://wiki2.dovecot.org/Plugins/PushNotification#OX_driver

[See DOV-2285 change below for further information.]

- It is recommended to upgrade the Cassandra cpp-driver package to version 2.9.0. This package is found in the Dovecot Pro repository (for some platforms, this package appears in the 3rd party repository).

[See DOV-2427 change below for further information.]

- Settings added:
 - `log_debug=<filter>` [See DOV-1662]
 - `log_core_filter=<filter>` [See DOV-2126]

4. Known Issues

- Not all Dovecot 2.2.x logging has been converted to Dovecot 2.3.x events, so newer logging/metrics configuration will not work on these older log entries.
- Due to on-going changes in Dovecot logging & statistics, event warnings may occur in the logs. [DOP-660]
 - Example: "Warning: Event 0x564bde864a00 leaked" may appear in logs.
 - Known situations where these warnings are emitted include Dovecot restarts, typos in Dovecot configuration, and external services (auth or dict) failing to respond.

- The warnings may repeat, sometimes at a fixed time (e.g. 30 minutes) after the related error (e.g. auth error).
 - These warnings do not affect system performance, and no action is required to address them.
 - These spurious warnings will be resolved in a future release of Dovecot.
- Assert crash may occur on an interrupted APPEND when using Maildir + zlib plugin. [DOP-652]
- `login_proxy_max_disconnect_delay` will cause a panic when using a non-default setting (e.g. imap-login: Panic: io_add(0x1) called twice fd=17, callback=0x7fb039a122f0 -> 0x7fb039a0c8b0). Workaround: remove the setting from Dovecot config or set to the default value (default = 0). [DOV-2670]
- In some cases, the output from doveadm log errors does not contain user/session information. The log files are unaffected by this. [DOV-2676]
- HTTP storage connection problems can lead to the IMAP process exiting. [DOP-672]

5. Detailed Changes

5.1. Dovecot Pro Core

- **IMPROVEMENT DOV-1662:** Added `log_debug=<filter>` setting. It can be used to specify which debug logging events are wanted to be logged. Eventually it will deprecate `mail_debug` and `auth_debug` settings, but for now not all of the code has been converted to the new logging method. See the documentation in `example-config/conf.d/10-logging.conf`.
- **IMPROVEMENT DOV-1886:** Write to `quota-clone dict` asynchronously.
- **IMPROVEMENT DOV-2126:** Log levels can now be accessed as `log/stats` categories. The categories are called: `debug`, `info`, `warning`, `error`, `fatal` and `panic`.
- **IMPROVEMENT DOV-2126:** Added `log_core_filter=<log filter>` setting to core dump on matching events. For example `log_core_filter=category:error` will core dump on any error message that is logged. See `example-config/conf.d/10-logging.conf` for more details how the filters are configured.
- **IMPROVEMENT DOV-2153:** Add `doveadm stats dump -f <fields>` parameter.
- **IMPROVEMENT DOV-2153:** Add `stddev`, `variance`, and `%percentile` as possible fields in `doveadm stats dump`.
 - Any percentile can be used, for example `%99`, `%99.9` or `%99.95`.
- **IMPROVEMENT DOV-2285:** Add TLS support to OX Push Notification driver.
- **IMPROVEMENT DOV-2427:** Update `cassandra cpp-driver` to version 2.9.0.
- **IMPROVEMENT DOV-2429:** Create packages for Amazon Linux 2.
- **IMPROVEMENT DOV-2457:** `ssl_dh` configuration option is no longer required if no non-ecc DH key exchange is done. If such key exchange happens, error is logged and the connection fails. This helps deployments since generating secure DH parameters is a very time and entropy consuming task.
- **ISSUE DOV-654:** If `managesieve` fails to open INBOX while saving a Sieve script, it crashes with: `Panic: file metacache-client-pool.c: line 64 (metacache_client_pool_deinit): assertion failed: (cp->refcount == 0)`.
- **ISSUE DOV-766:** Director might update a host's up/down state before previous update finishes, and in some rare situations it might end up in a loop of two directors constantly overwriting each other's changes.
- **ISSUE DOV-1006:** Quota with `noenforcing` option will not update its status during save.
- **ISSUE DOV-1347:** Some searches in virtual folders caused 100% CPU usage for many seconds. This happened especially when "NOT" was used in the search query.

- **ISSUE DOV-1613:** Kerberos authentication against Samba does not work, causes assert-crash.
- **ISSUE DOV-1724:** If UIDVALIDITY changes between dsync runs, dovecot assert-crashes: Panic: doveadm: file dsync-brain-mailbox.c: line 377 (dsync_brain_sync_mailbox_deinit): assertion failed: (brain->failed).
- **ISSUE DOV-1952:** The number of send attempts for an HTTP client request is not always reported correctly in debug log output. Sometimes, it was reported as zero, while it was sent once already.
 - Fix: The debug message now explicitly makes the distinction between request attempts and actual send attempts. The number of request attempts is increased at each request retry in general, while the send attempts are increased each time the request is sent to the server.
- **ISSUE DOV-1954:** LMTP ignores the source_ip proxy field returned from passdb.
 - Fix: Bind to the IP address specified in the source_ip proxy field while making the proxy connection.
- **ISSUE DOV-2014:** doveconf output didn't hide all secrets, particularly ones in passdb and plugin sections.
- **ISSUE DOV-2033:** NUL bytes in mail headers can cause truncated replies when fetched.
- **ISSUE DOV-2178:** The HTTP server component crashes with an assert panic when broken requests are read from the connection: Panic: file http-server-response.c: line 77 (http_server_response_create): assertion failed: (!resp->submitted).
 - Fix: Properly handle broken requests by sending a 400 response and/or closing the connection.
- **ISSUE DOV-2202:** Dovecot strictly enforces IMF (RFC5322) address syntax. However, addresses with local parts that contain consecutive dots, or begin/end with dots are in common use in Japan. This leads to interoperability problems there.
 - Fix: Amend the IMF address parser to allow the Japanese syntax deviations by default.
- **ISSUE DOV-2261:** SSL could be disabled only globally, not inside local or remote blocks.
- **ISSUE DOV-2267:** Index fsck fixed log_file_tail_offset wrongly, causing: Corrupted transaction log file ...: Invalid min_file_offset: ..., min_file_offset (24) < hdr_size (40)
- **ISSUE DOV-2281:** Stats: with no metrics configured, all events were being sent to stats process causing unnecessary CPU usage.

- **ISSUE DOV-2284:** dsync crashes if ACL user identifier is matched and then not matched. Panic: file mailbox-attribute.c: line 362 (mailbox_attribute_get_stream): assertion failed: (value_r->value != NULL || value_r->value_stream != NULL).
- **ISSUE DOV-2298:** IMAP COPY/MOVE command may have crashed if client had just disconnected: Panic: file cmd-copy.c: line 50 (fetch_and_copy): assertion failed: (o_stream_is_corked(client->output)).
- **ISSUE DOV-2325:** Folder size is being tracked even if nothing asks for it. This also resulted in tracking per-mail sizes in index records. It was supposed to be enabled only with "doveadm mailbox status vsize", IMAP "STATUS (X-SIZE)" or using quota.
- **ISSUE DOV-2336:** Reading 0-sized file with maybe-gz (e.g. fts_dovecot_fs=compress:maybe-gz) crashes with: Panic: file istream.c: line 187 (i_stream_read): assertion failed: (stream->eof).
- **ISSUE DOV-2366:** Dovecot does not initialize OpenSSL for partial writes, but still does those.
- **ISSUE DOV-2368:** Mail saving to s3 fs with mail_attachment_detection_options=add-flags-on-save saving fails, because of missing bucket name in http request.
- **ISSUE DOV-2378:** imapc assumes that mail stream has CRFLs, causing truncation in mail stream if a broken remote server sends only LFs or if plugins change the mail stream to contain only LFs.
- **ISSUE DOV-2379:** imapc: Reconnecting to remote server may have crashed with: Panic: io_add(0x2) called twice fd=15, callback=0x7f0c679566e0 -> 0x7f0c6764d310
- **ISSUE DOV-2380:** imapc could assert crash after reconnecting to server with Panic: file imapc-client.c: line 413 (imapc_client_mailbox_reconnect): assertion failed: (!box->reconnecting).
- **ISSUE DOV-2381:** imapc could assert crash after reconnecting to server with Panic: file imapc-sync.c: line 328 (imapc_initial_sync_check): assertion failed: (mail_index_is_expunged(view, lseq) || seq_range_exists(&ctx->mbox->delayed_expunged_uids, luid)).
- **ISSUE DOV-2382:** imapc could assert crash after reconnecting to server with Panic: file mail-index-transaction-update.c: line 337 (mail_index_expunge_last_append): assertion failed: (seq == t->last_new_seq).
- **ISSUE DOV-2383:** Imtp/submission server: Fix potential crash if client disconnects while handling a command. (v2.3-only)
- **ISSUE DOV-2428:** Ida/Imtp may have assert-crashed with some Sieve scripts when mail_attachment_detection_options=add-flags-on-save: Panic: file imap-bodystructure.c: line 116 (part_write_body_multipart): assertion failed: (part->data != NULL).

- **ISSUE DOV-2434:** Snippet generation crashed with invalid Content-Type:multipart.
- **ISSUE DOV-2464:** fts-solr: Invalid URL encoding of empty string makes Solr server give '400 Bad Request HTTP' responses for searches such as 'SEARCH FROM ""'.
- **ISSUE DOV-2464:** fts-solr: Plugin crashes when url parameter has empty path like <http://localhost:8080> instead of <http://localhost:8080/>.
- **ISSUE DOV-2464:** fts-solr: It is impossible to specify a value to the default_ns parameter.
- **ISSUE DOV-2466:** Inline script sent as string literal causes problems if the script was in different TCP packet than the command.
- **ISSUE DOV-2540:** Mail deliveries with push_notification plugin configured may have resulted in: Panic: file index-mail-headers.c: line 294 (index_mail_parse_header): assertion failed: (part != NULL)
- **ISSUE DOV-2543:** Log prefix ordering was different in previous v2.3 releases compared to v2.2.
 - Example: "imap(user): Mailbox INBOX: Debug: ..." instead of "imap(user): Debug: Mailbox INBOX: ..."
- **ISSUE DOV-2574:** Director process may hang when multiple director ring or backend changing commands are quickly run in parallel.
- **ISSUE DOV-2591:** Multiple Pigeonhole sieve modules and also other files are in wrong Debian/Ubuntu sub package. This could cause problems when optional managesieved package is not installed on server. Conflict issues when upgrading from vendor dovecot packages to dovecot-ee or dovecot-ce.
 - Fix: Moved following important sieve modules and other files from managesieved package to sieve package.
 - /usr/lib/dovecot/modules/doveadm/lib10_doveadm_sieve_plugin.so
 - /usr/lib/dovecot/modules/lib95_imap_sieve_plugin.so
 - /usr/lib/dovecot/modules/sieve/lib10_sieve_storage_ldap_plugin.so
 - /usr/lib/dovecot/modules/sieve/lib90_sieve_extprograms_plugin.so
 - /usr/lib/dovecot/modules/sieve/lib90_sieve_imap_sieve_plugin.so
- **ISSUE DOV-2612:** Director crashes if doveadm client disconnects early: Panic: file doveadm-connection.c: line 1097 (doveadm_connection_deinit): assertion failed: (conn->to_ring_sync_abort == NULL)
- **ISSUE DOV-2613:** Vendor shipped Dovecot packaging scripts on Debian Stretch masks dovecot.service during uninstall which causes problems when upgrading from dovecot to dovecot-ee.
 - Fix: Unmask/Mask dovecot.service properly during install/remove/purge.
- **ISSUE DOV-2616:** Submission server crashes if starttls is enabled on proxy settings and remote server has more than 7 capabilities listed.

- **ISSUE DOV-2669:** fail-storage did not allocate event field for mailbox, causing segmentation fault in imap process when trying to open shared namespace prefix as mailbox.

5.2. Object Storage Plug-in

- **ISSUE DOV-560:** Retry HTTP 5xx errors on s3-fs.
- **ISSUE DOV-2426:** "doveadm metacache flushall" with -i parameter didn't work correctly when the system had a lot of users with unimportant changes. It was repeatedly looping over the same users with unimportant changes and counting them as flush attempts. This resulted in the command taking a long time and finally failing with: Error: Users keep changing, ... pending changes (... upload attempts, waiting for ... uploads and ... cleans).
- **ISSUE DOV-2538:** HTTP requests may have resulted in process hanging infinitely when the HTTP server was having trouble accepting all connections. (v2.3-only)

5.3. Full Text Search Plug-in

- **ISSUE DOV-2033:** NUL bytes in mail headers can cause truncated replies when fetched, making it possible to fake sender.

5.4. Pigeonhole Sieve Plug-in

- **ISSUE DOV-654:** If managesieve fails to open INBOX while saving a Sieve script, it crashes with: Panic: file metacache-client-pool.c: line 64 (metacache_client_pool_deinit): assertion failed: (cp->refcount == 0)
- **ISSUE DOV-2466:** Inline script sent as string literal causes problems if the script was in different TCP packet than the command.
- **ISSUE DOV-2535:** Specific messages cause an assert panic with actions that compose a reply (e.g. vacation). With input involving empty lines (from the original message), the header folding algorithm (as used for composing the References header for the reply) gets confused, which causes the panic.
 - **FIX:** Make the header folding algorithm robust against input involving empty lines and similar corner cases.

6. Tests

The Dovecot QA team has successfully verified all issue 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.