



## **Release Notes for Release 7.8.0**

October 19, 2015

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## 1 Shipped Product and Version

Open-Xchange Middleware 7.8.0-rev6

Open-Xchange App Suite frontend 7.8.0-rev6

Open-Xchange OX6 frontend 6.22.10-rev6

Open-Xchange USM 7.8.0-rev6

Open-Xchange EAS 7.8.0-rev6

Open-Xchange OXUpdater 7.8.0-rev6

Open-Xchange EmiG 7.8.0-rev6

Open-Xchange Drive Restricted 7.8.0-rev6

Open-Xchange Documents 7.8.0-rev6

Open-Xchange Documents Frontend 7.8.0-rev6

Open-Xchange Documents Communication 7.8.0-rev6

Open-Xchange Calcengine 7.8.0-rev6 (1.4.933)

Open-Xchange Readerengine 7.8.0-rev6 (4.2.9.49)

Open-Xchange Documentconverter 7.8.0-rev6

Open-Xchange Documentconverter API 7.8.0-rev6

Open-Xchange Drive Help 1.4.0

Open-Xchange OXtender for Microsoft Outlook 7.2.17

Open-Xchange Updater 6.18.29

Open-Xchange Notifier 1.0.6

Open-Xchange Drive for Windows 1.6.4

Find more information about product versions and releases at [http://oxpedia.org/wiki/index.php?title=AppSuite:Versioning\\_and\\_Numbering](http://oxpedia.org/wiki/index.php?title=AppSuite:Versioning_and_Numbering)

## 2 General information

The main focus for this release is an improved web frontend design and usability enhancements for all applications. With OX App Suite v7.8.0 and OX Documents v7.8.0, Open-Xchange has made significant improvements to the overall design concept, improving navigation and helping users maximize the benefits of the App Suite interface.

### **Sharing, Guest mode and Publication Concept**

OX App Suite v7.8.0 introduces a new way to collaborate and share content with both internal and external users. This new feature replaces and greatly improves on the previous publication & subscription mechanism. OX App Suite users can now work together with external users with a new guest mode. This gives external users access to a limited OX App Suite user interface in order to

work/collaborate on content such as folders, files (read & write), contacts (read), task (read) and appointments (read).

### **OX Drive - New Look & Feel**

The OX Drive web frontend has also been enhanced. A new content viewer, with enhanced functionality, is now available. This includes folder navigation with breadcrumb and many other enhancements.

### **OX Calendar - New Design-Level**

OX Calendar has benefitted from many new design and usability updates. The design changes have made the calendar much more readable and easier to use. In addition OX App Suite v7.8.0 introduces multiple Time Zone support and the ability to Colorize appointments, folders and whole calendars.

### **OX Mail - Improved usability for all Situations**

OX Mail has also benefitted from many new updates including a new compose dialog. This new dialog, among other features, provides users with the ability to move recipients between the To and Cc fields using drag and drop.

### **Upsell, Metrics and Platform Support**

In addition to the new, end-user oriented, UI features this version of OX App Suite also comes with many new technical and customer focused enhancements. This includes the next level of upsell, metrics and official support for the latest platforms.

### **OX Text - Headers and Footers**

Headers and footers are often used in longer documents to keep them organized and make them easier to read. With this release of OX Text it is now possible to edit or create headers and footers.

### **OX Spreadsheet - Function Wizard and Conditional Formatting**

With this version OX Spreadsheet now provides some new usability features like a function wizard or conditional formatting.

### **Present Online**

OX Documents introduces a new way to work with existing PowerPoint presentations.

A more detailed overview of all the improvements to OX App Suite, Open-Xchange Server 6 back-end and OX Documents can be found at: <https://www.open-xchange.com/en/ox-app-suite-7-8>.

## **Announcements**

### **Server OS support**

Open-Xchange will discontinue support for Debian Squeeze (Debian 6) with the release of OX App Suite v7.8.0. We encourage administrators to update to the latest operating system version of Debian. For details of all supported platforms and databases please refer to the requirements page at: [http://oxpedia.org/wiki/index.php?title=AppSuite:OX\\_System\\_Requirements#Server\\_Platforms](http://oxpedia.org/wiki/index.php?title=AppSuite:OX_System_Requirements#Server_Platforms)

### **Mobile platform support**

Open-Xchange discontinues support for Apple iOS 7 with the release of OX App Suite, v7.8.0. Open-Xchange will now support Apple iOS 9 with this release.

### **Discontinuation of "Random Token" login**

Open-Xchange will discontinue support for the Random Token login method (sometimes also called Easy Login). Specifically, this means that the `login?action=redirect` (see [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#Redirect](http://oxpedia.org/wiki/index.php?title=HTTP_API#Redirect)) will be removed. Furthermore the `com.openexchange.ajax.login.randomToken` setting will be removed from the `login.properties` file, and the `login?action=login` call will never contain the `random` token. We strongly encourage users of the Random Token login method to change their custom login implementations and use one of the supported

methods (see here): [http://oxpedia.org/wiki/index.php?title>Login\\_variations](http://oxpedia.org/wiki/index.php?title>Login_variations)

### Java 1.6 discontinuation

We discontinue the Java 1.6 support. This means our middleware no longer launches with Java 1.6 and the update fails in case Java 1.6 has been used as default. Prior to updating, Java 1.7 or newer has to be defined as installed and set as default. There are no problems expected for new installations as Java 1.7 or a newer version is installed by OX as dependency.

### New password hashes for "oxadminmaster"

The "oxadminmaster" password safe format has been improved and now uses "bcrypt" as hash. That means, the "generatempasswd" command might have to be executed again after an update and the "oxadminmaster" password has to be entered. Otherwise the OX Middleware might not launch.

### Changes to App Suite UI theme creation

Themes are now generated at the initial OX middleware (re-)launch and not after the installation of each relevant ui package. This distinctly saves times when installing or updating UI packages, but increases the initial launch time of the middleware. The process should not be canceled in any case even if it lasts longer than 60 seconds.

### Permission changes for database access

The permissions concept of the database access has been optimized to use permissions as economically as possible and to not grant permissions unnecessarily. This implicates that "stored procedures" can no longer be created, changed or executed. There might be old stored procedures that can be removed manually. See: [http://oxpedia.org/wiki/index.php?title=AppSuite:Drop\\_Stored\\_Procedures](http://oxpedia.org/wiki/index.php?title=AppSuite:Drop_Stored_Procedures)

### Social network integration

Regarding the integration between OX App Suite and social networks like LinkedIn, Facebook and T-Online, we would like to notify you of some API changes which affect this integration. See here for more details: [http://oxpedia.org/wiki/index.php?title=AppSuite:Versioning\\_and\\_Numbering#Please\\_Note\\_-\\_Additional\\_Information](http://oxpedia.org/wiki/index.php?title=AppSuite:Versioning_and_Numbering#Please_Note_-_Additional_Information)

### Rollback process

For use in exceptional circumstances Open-Xchange provides rollback archives with repositories of previous component releases. We will keep up to ten previous component revisions in a separate folder structure for licensed customers:

<https://<CUSTOMERID>:<PASSWORD>@software.open-xchange.com/components/<COMPONENT>/archive/>

Important: please do not include and use these rollback archive repositories without consulting the Open-Xchange Support department for advice first.

## 3 Vulnerabilities fixed with this Release

This section provides a summary of security related bugfixes that have been applied subsequently to shipping Release 7.6.2. Solutions for vulnerabilities have been provided for the existing code-base via Patch Releases.

### 39485 CVE-2015-5375

CVSSv2: 5.7

## 4 Bugs fixed with this Release

This section provides a summary of bugfixes and changes that have been applied subsequently to shipping Release 7.6.2. Some of the announced bugfixes may have already been fixed at the

existing code-base via Patch Releases.

**21064 S/MIME signed messages cannot be displayed**

Content of signed mails was not displayed correctly at the frontend, this has been solved by handling such encapsulated messages.

**29269 Diverging task reminder time for USM clients**

Task reminders were shown differently for USM clients, for example ActiveSync devices, and the frontend. This has been solved by allowing actual times at the task data format, not just dates. In addition, timezone offsets for clients are considered when modifying such reminders.

**34548 Huge data sets for USM "invalidateObjects" lead to exception**

In certain cases the "invalidateObjects" sent by Outlook clients could contain more than 2500 object IDs, which is the internal limit for JSONObjects. This has been solved by sending a JSONArray instead and changing the API accordingly.

**34721 Problems with update-tasks while upgrading**

When using a old Hazelcast library within a cluster environment, update tasks could fail due to library incompatibility that leads to defunct cache invalidation between old and updated hosts. This has been solved introducing a helper library to handle migrations in such cases.

**34843 Automatic Reply functionality does not work for iOS devices**

Due to incomplete implementation of a EAS command, the "Automatic Reply" option for mail on iOS8 and newer was disabled. This has been solved by adding the missing implementation.

**34888 Error when running update tasks for task values**

Certain very high values for tasks, for example "costs", could lead to failing database update tasks when converting the relevant database field. This has been solved by truncating such fields to 12 digits plus 2 scale digits.

**34889 Attachment icons missing for mail "list" view**

Attachment icons were not shown correctly in list view of certain configurations, however those were shown when viewing the mail in detail. This was caused by inconsistent API return values and has been solved by signalling proper information.

**34893 "Complete" tasks were not synced to iOS**

Tasks which have been flagged as "complete" at a ActiveSync device were not correctly synchronized to the OX middleware. This has been solved by correctly mapping all fields, percentages and possible values for the "complete" attribute.

**35195 ActiveSync does not use default sender address**

When defining aliases, it's possible to specify a default sender address, which may differ from the primary mail address. This change was not detected by USM and sending mail via that interface used old settings. This has been addressed by monitoring changes to the user object and executing changes at the USM stack accordingly.

**35342 Temporary mail folders can be modified**

When creating new mail folders with OX6, a temporary folder gets created and renamed afterwards. On large mailboxes that operation could take a while but users were already able to modify the folder again. This led to concurrency issues and has been solved by disabling such operations on folders which are not yet persistently stored.

**35575 Missing subject when sending reminder mails for appointments**

A functionality is offered to send mail related to a appointment to all participants. This is typically used to remind people about the appointment or spread related information. We're now adding a reasonable subject to such mails to make using that feature even comfortable.

**35581 Unintended line break for mail cancellation in french**

When using french canadian language settings, the dialog to confirm cancellation of mail compose did contain a unintended line break. This has been solved by adjusting the dialogs size to the actual text rather than using a fixed size.

**35584 Translation glitch when deleting tasks**

When deleting multiple tasks, a wrong plural form for tasks was used. This has been fixed.

**35587 Task import shows description related to calendar items**

When importing tasks from a ical file, the related import dialog shows a description to ignore conflicts with calendar items. This has been solved by removing the related functionality for task imports since it does not make sense there, functionality wise.

**35925 Compatibility issues with UWA widgets**

Widgets provided by Netvibes were not working anymore with OX6 UI. This has been partly solved by updating the related JS library and parameters.

**35955 Unexpected annotations at portal items with IE**

When using IE and adding a mail with long subject to the portal page, it's title was truncated but the related trailing dots were displayed over the close icon. This has been fixed by correctly positioning the related element.

**35957 Incorrect plural form for hours**

Calendar settings contained a incorrect plural for for "hour" when defining the default reminder time. This has been solved by adjusting the translation.

**35960 Missing sanity check for timed vacation notices**

It was possible to create vacation notices where the start date was later than the end date. This has been solved by automatically shifting the end date when adjusting the start date. The availability of this feature depends on the SIEVE backends capabilities.

**35969 Portal tiles show cut-off widget content**

The calculation for text content of portal tiles was off by a few pixels, leading to half-shown lines of mailbox contents, rss feeds or mails. This has been solved by fixing the box height calculation.

**35971 OAuth popups were not closed when cancelling**

When adding a external data source via OAuth, for example LinkedIn, the related authentication popup was not correctly closed and a workflow related error message was shown. This has been solved.

**36038 Portal tile for appointments does not select the week**

When accessing the calendar via a appointment at the portal tile and having a different week selected before, the UI did not shift the view to the correct week. This has been solved by no longer handling those links as external "deep-links" and also scrolling the selected appointment into view.

**36074 Incorrect error when failing to import ical files**

In case all appointments within a ical file failed to import, a specific error message is shown now.

**36811 Width of mail list panel is not maintained**

When adjusting the size of the mail panel and logging out, that information has not been stored and gets reset to defaults at the next login. This has been solved by persistently storing and applying the width of the mail panel.

**36881 Incorrect display of certain HTML mails**

Specific HTML mails with padding and style attributes within nested tables were not displayed correctly. This has been fixed by considering those attributes within tables.

**37002 Repeated confirmation requests for "done" tasks**

When setting a task to "done", the confirmation status of participants was reset. This led to unexpected notifications and requests to confirm or decline a "done" task. While this is indeed a valid modification, there is no need to re-confirm. This has been solved by not removing participants status when updating tasks.

**37051 Kanji gets parsed to "mailto:" links**

In case asian languages were used and contain characters before a mail address without adding a separator, those characters are getting parsed as part of the mail address. This has been solved by restricting the whitelist of allowed characters for mail local parts.

**37113 "Multiple" requests not working**

In some cases a race-condition at App Suite UI was triggered that led to dropped "multiple" requests and failing related functionality or issues like a ever-active "reload" icon. This has been addressed by making sure the related request gets marked as "not pending" before calling any handlers related to it.

**37140 Adding a folder subscription for Google Calendar fails**

In case the user already linked a Google account via OAuth, adding subsequent calendar folder subscriptions at OX6 UI fails. This has been solved by making the related workflow aware that a valid account may already exist.

**37169 Appointments from public folders are not printed**

When printing a appointment list while having "Show all appointments" active did just print appointments from personal folders. This has been fixed by also considering virtual/public folders for printing.

**37228 Conflicting changes for tasks in Outlook**

When changing the priority of a task in Outlook and via another client, the conflict could not be resolved. This was caused by incompatible data types at different APIs and has been solved by restoring a more compatible format.

**37249 Unable to modify images at mail signatures**

When modifying mail signatures, adding or changing images could lead to an error message when saving the signature. This has been solved by making the "snippets" handling more robust.

**37263 Language switch when accepting/declining appointments in shared folders**

In case a user creates a appointment within a shared folder of another user, subsequent accept/decline messages were sent in english as a fallback. This has been handled by correctly using the internal organizers locale for such scenarios.

**37274 Sharing mailboxes to groups does not work**

It was possible to assign IMAP ACL permissions to groups that were not mapped to ACLs. To a user it appeared that the folder is indeed shared to a group. This has been solved by signalling errors in case such a scenario happens.

**37296 Error related to upload quota not translated**

In case a user did hit the upload quota per file, the resulting error message at OX6 UI was not translated correctly. This has been solved by adding a proper translation.

**37372 Incorrectly named YML file created on update**

When updating a file called "as-config-defaults.yml" was created by accident. We're using the correct file extension now.

**37428 Errors for external were shown at main UI**

In case a error occurred when fetching data for a widget, the corresponding error message was triggered at the widget and the parent App Suite UI. This has been changed in a way that the error is conserved within the widget but not shown globally.



**37438 Inconsistent storage locations for found contacts**

When searching for contacts, their storage location was shown inconsistently via the "breadcrumb" path. This has been solved by adjusting the navigation behaviour in search mode.

**37482 Unable to move mail folders below "My folders"**

The virtual folder "My folders" has been introduced to separate standard folders and custom folders. It's now possible to move folders to "My folders" which moves it to the same level as standard folders or below Inbox, depending on the backends configuration.

**37504 Newly created folders don't allow to export its contents**

When creating a new calendar folder, the "Export" option is unavailable until a reload or relogin. This has been solved by updating the foldercache for new folders.

**37613 Data loss for vCard imports**

Importing vCards could lead to loss of data in case the vCard did contain attributes that were not supported by OX App Suite. This has been solved by introducing a new functionality for conserving arbitrary data for clients that are capable to use it.

**37641 Errors when migrating databases from 6.22**

When updating OX middleware all the way from 6.22 to 7.6, certain update tasks failed due to invalid entries that prevent adding primary keys. This has been solved by adding a tasks that drops invalid, orphaned and duplicate data prior to executing such changes.

**37680 Catalan translation does not work**

Using the community-driven catalan (ca\_ES) translation for App Suite UI was not possible. This has been solved by integrating it to our translation process.

**37799 Missing sanity check for external users and groups for folder permissions**

Adding external users and non-existing groups was possible for folder permissions. The related check was not working as expected and has been corrected to avoid storing such information.

**37889 Configuration files not marked as such**

Some configuration files were not marked as such within OX packages, which led to constant overwrites on updates. This has been solved by defining those files as configuration files.

**37906 Missing error when assigning duplicate First/Lastname**

Whenever a user modifies its contact data, first and lastname are used to generate the display-name attribute, which has to be unique. This condition was caught but not reported to the user, therefor such changes appeared to be valid. This has been solved by adding the appropriate error message.

**37978 "FLD-0008" error when logging in**

Certain environments suffered from a defect that led to partial data corruption on reminders. As a follow-up, requests for reminders failed where reminders were lacking a folder reference. This has been solved by cleaning up such orphaned data.

**38021 Participant notification mails for task use wrong timezone**

When adding delegates to a task and the server is located in negative UTC timezones, the representation of dates was incorrect in that mail. This has been solved by considering user specific timezones for those notifications.

**38068 Incorrect message header folding for long values**

When replying to a message that contains a long header, for example "Reference", that header does not get properly folded. This has been solved by folding the "Reference" header at linear whitespaces, which avoids lines that exceed after 76 characters.

**38097 Subscriptions for MSN failing when logging in with RFC6530 mail addresses**

When using internationalized mail addresses in accordance to RFC6530, login to services like MSN via oAuth failed. We added a workaround for this but did not yet add support for those encodings since most SMTP backends do not yet implement SMTPUTF8, which is required to handle such addresses.

**38147 EmiG verification does not appear when using aliases to send mail**

If one of users aliases gets passed to the action=sender action, the alias does not get orderly resolved to the primary account. Therefor subsequential checks failed. This has been solved by also checking users aliases when sending mail.

**38239 Contacts missing from Birthday widget**

In case you got 30 or more contacts that have birthdays within the next 30 days, a limitation kicks in which randomly removes entries to maintain the limit of 30. This has been changed in a way that the most recent birtdays are shown but those birthdays in the future may get removed from the list if they exceed the limit.

**38247 Re-enabled mailto handler in Firefox**

Since the Firefox project fixed a bug that led to annoying behaviour while asking if OX shall be the default mail client, that functionality has been re-enabled for Firefox.

**38380 Processing of HTTP requests stopped on malformed cookies**

When sending malformed cookies to the HTTP interface of OX App Suite, a error gets returned and subsequent processing of those requests gets dropped. We've enhanced Project Grizzly in a way that it is more resilient against such malformed data and continues to process the request.

**38404 Inconsistent update of participant confirmation**

Recurring appointments were suffering from inconsistent confirmation handling for participants. This could be experienced when performing multiple modifications to a recurring appointment on both single appointment and series level. We've harmonized the handling, which should avoid most unintended changes/notifications.

**38451 High log traffic for failing IMAP commands**

In case a specific IMAP command continuously fails to execute, lots of log entries have been written. To keep logs readable until the backend issue gets resolved, this log output has been reduced by dropping the related stack trace.

**38502 Unclean shutdown of config cascade on syntax errors**

In case of syntax errors at referenced YAML files, parts of the config cascade service did not shut down up properly. This has been solved by orderly shutting down the bundle if startup fails.

**38565 Navigating with page-up/down opens a mail**

When navigating the mail list via page-up and page-down, the currently selected mail is opened. For accessibility reasons we want to use those keys to scroll through the list so we restored that behaviour.

**38587 "Completed" information removed when changing task**

When changing a task the "completed" attribute, containing a date, gets removed. This has been solved by avoiding overwrites to this attribute when changing a task.

**38616 Solving several NPE**

A bunch of NullPointerExceptions has been detected in production environments, which could potentially affect functionality. Those have been analyzed and avoided.

**38847 Unable to edit dates in tasks**

When using Chrome on Android it was not possible to set a date for a task when creating the second task. This has been solved by working on copies of the date information to avoid overwriting defaults on subsequent uses.

**38882 Inconsistency of CLTs CSV import for users and contexts**

When creating contexts or users based on CSV data, not all parameters could be used that are available as parameters for the CLT in non-CSV mode. This has been solved by adding consistent parameters to CSV mode.

**38916 Removal of unsupported mobile devices**

Documentation links for unsupported mobile clients, such as Blackberry or S60, have been removed at the OX6 wizard via configuration switches.

**38936 Incorrect sorting of distribution lists**

With a legacy versions, distribution lists contained a surname attribute. That attribute is used for sorting but cannot be modified via current generation clients like App Suite. Those clients use the displayname attribute instead and we no prefer that attribute for sorting.

**38948 PGP signature not available at mail in "Sent" folder**

When signing a mail using OX Guard and PGP, that signature is applied correctly but the copy which gets placed to the "Sent" folder does not contain the signature. This has been solved by copying the signed version of the mail to that folder.

**39063 Wrong filename used when storing document from mail**

When editing a OX Text document based on a E-Mail, the resulting file is stored with appended "(1)". This has been solved by using the expected filename without any appendix in case it's available.

**39484 Unexpected move of "Archive" folder**

Once a user opts to archive mails, a corresponding standard folder gets created. This got added below the "My folders" hierarchy and moved to the standard folders section afterwards. This has been changed so that the folder is available as standard folder right away.

**39535 No error message if quota has expired**

When exceeding the mail quota, for example when copying mail, the corresponding error message got swallowed. Instead the "success" message overwrites the error. This has been changed so the error message is shown correctly.

**39730 Unified Mail options available while feature is not**

Even though the Unified Mail feature is not available because the related packages are not installed, App Suite UI offered corresponding features to the user. This has been fixed by introducing several new capabilities that signal availability for the feature.

**39826 Missing translation for "mandatory wizard"**

Translation for the introductory wizard of App Suite was incompletely applied in some cases. Even though we see the default implementation as a sample which needs to be customized, those quirks have been solved.

**39854 Custom headers removed by HTTP implementation**

Certain headers might get added in customer environments, for example via Apaches mod\_id. Those were removed when calling the "reset" method. As a result certain functionality, such as OAuth integration failed. This has been resolved by maintaining those custom headers for that call.

**40024 French translation exceeds button size**

When using french translation on OX6 UI, the label for the "load external resources" button did exceed the buttons size. This has been fixed by adjusting the button size to the text length.

**40040 Unhandled SQL exceptions for huge signatures**

OX6 UI stores mail signatures as self-defined JSON blob. Using large signatures could exceed size limitations and trigger truncation errors. Those were not caught and handled before so they appear as generic SQL exception. Now they're handled and reported as usable error.

**40189 Some links in HTML mails cannot be triggered**

Due to HTML sanitization hyperlink information was filtered from some HTML E-Mail unintentionally. A few newsletters were affected by this. The issue has been solved by adjusting the HTML cleaner process.

**40471 vCard interface returns latin1 encoded data**

When getting a single contact via the CardDAV interface, it gets encoded using the JVMs default charset (usually latin1). Using this charset leads to issues with contact data that would require UTF8 or subsets that there not mapped by ISO-8859-1. We're now enforcing UTF8 when writing out CardDAV responses.

**40626 IMAP credentials are used to validate SMTP settings**

When adding a external mail account with OX6, credentials for IMAP access are used to verify SMTP access in case it requires authentication. If IMAP and SMTP credentials are not the same, this behaviour leads to false-negatives in terms of account validation. This has been solved by using a SMTP specific auth parameters that got introduced with recent middleware versions.

**40841 JMX authentication is not working for some CLTs**

JMX authentication restricts administrative access and allows CLTs to provide credentials for that interface. Some command-line tools did not provide JMX parameters but used the interface. This inconsistency has been solved and all JMX dependent tools are now able to work with authentication.

**40850 Changes to recurring appointments not synced to Windows Phone**

Changes to recurring appointments with exceptions were not correctly synchronized to Windows Phone. This was caused by using ActiveSync 2.5 protocol fragments for exceptions, rather than a more recent protocol version.

**40928 Ambiguous nameing of "Envelope-To" condition**

App Suite offered a SIEVE filter condition called "Envelope" which actually refers to the "Envelope-To" condition. The naming has been adjusted to be more concrete on which condition is meant.

**41004 Puny-decoding failed for certain mails**

Specific mails contain a malformed puny-encoding that lets the decode routine fail. As a result the content of the mail folder was not listed. This has been solved by catching the related exception and return the malformed address rather than trying to parse it.

**41435 Twitter bundle searches for non-existing property**

When starting OX App Suite middleware, the Twitter OAuth integration looks for deprecated API parameters at configuration files. This has been solved by checking the correct parameters instead.

**40033 Cache deletion does not work as expected**

Set correct return value for added cache entries to avoid immediate `cacheEntry#clear` after adding (code line missing in refactoring action).

**39057 Discard while importing, part of the text is not removed**

Cancel the pasting process (internal and external clipboard) now restores the old document state.

**39063 text: wrong filename displayed**

Signal proper file name when putting a mail attachment into file storage

**39315 Push F5 accidentally will put document into read only mode in case of 1 document**

We introduce a new heuristic, if the same user (user-id) opens the document the latest user always gets the edit rights regardless of the state of the current edit user.

**39296 delete for an empty (unedited) document in ox documents works wrong with the new trashfolder**

delete functions for empty documents use now a `hardDelete`, and remove the file for ever

**39295 not supported multi selection was offers in ox documents**

now the multi selection is not allowed

**39035 wrong settings displayed after calling oxdocument settings and reload**

a wrong important dom-element is reused for all submenus, an breaks the repaint, added a new visible check before repaint

**39726 OX Documents setting panel shows Text in English when using other language**

The file office-web/ui/io.ox/apps/office/settings/register.js imports the wrong gettext module.

**39731 Personal template folder is inactive**

OX Documents setting panel shows Text in English when using other language;some keys for setting and language have changed in the incorrect way, using now the correct keys

**39721 Save As button is greyed for Text and Drive**

added an additional state button check, because drive could not handle this check

**39079 page number field in document view to small**

The page input field is now enlarged and it should have enough space for showing at least 4 page digits, and no ellipsis shortenings (1..) are applied.

**37555 Can't close modified document**

same bugfix as 39318 now for the version 7.8

**39318 TypeError: attributes is null**

closing spreadsheet cause aTypeError: attributes is null; closing spreahsheet calls the objects in a wrong order, corrected the order

**39723 Icon while save as template shows exclamation**

Now we have a green check mark

**39920 Document converting cause a lot of artefacts**

Solution description: Apache Commons Fileupload documentation recommends to use a new style API (FileItermiterator et al.) for new implementations. The fix solution was to replace the old API with the new one within the documentconverter code.

**39283 Documents created from templates are not saved in Drive**

Use (possible overridden) default folders from config tree in folder service

**39061 Unresponsive script when marking 150k text and selecting a grouped style**

This is fixed (for most cases) by asynchronous generation and applying of operations, also for the local client

**39071 toolbar tab changes after disable/enable toolbar**

When hiding the tool pane, the active tab will be cached. When showing the tool pane, the cached tab will be reactivated.

**39102 Documents can not be renamed**

The new implementation enables a way to rename the document within the editor. Due to technical reasons we are forced to save/reload the document after the rename process. Checked in on the office-backend via branch "rename".

**39395 Opening CSV-files in Spreadsheet must not be possible**

For the old viewer, we needed the csv entry only for viewing. This side effects was not expected.Now We dont need that entry anymore

**39080 document view: possible to enter higher page number than existing**

if a user typed a higher page number than the actual number of pages: user will be sent to the last page of the document, if a user gave invalid input like e.g. '12BB': the viewer will stay on the current page and corrects the input field by itself, As for now we decided not to additionally show any error notifications.

**40631 spell check not working for words ending with dot**

Keep ending dots when passing words to the spell checker. The spellchecker algorithm knows how to deal with them. Just make sure to not draw the red line also under the dot in case of an error (which then is the word before).

**36757 calcengine worker refuses to start on (some) systems with OpenJDK**

The command 'ulimit' is no longer used with the start script. Every calcengine worker process measure its actual used memory by its own and shutdown in case the limit is reached. It's up to the outside environment (e.g. an Appsuite Backend process) to start the worker new if needed.

**39345 Push F5 accidentally - closes all non active documents**

added missing features (because it worked as designed), we use a special storage for reload-only (no cookies or localStorage) and in this situation the realtime-id get compared. and if it is the same user, the new id becomes the writer.

**39065 not possible to save template in new template folder**

user can save it in all predefined template-folders. this means his template folders and the folders of the context-admin if user has write-rights.

**35597 High CPU-load at "org.apache.batik.bridge.BridgeException: null:-1"**

Starting with the already available 7.6.1 release of the Appsuite, the resource consuming Batik framework is not used at all anymore within the documentconverter implementation to create images from SVG files. Beside this, main focus was on boosting the performance by enhancing the used PDFTOOL and by optimizing the internal code paths and caching strategies for this release.

**34617 Personal data cannot be changed by editing my contact data**

Wrong write permission has been signaled to client, so the option to change personal data was wrongly displayed. This was fixed and no option "My Contact Data" is displayed if you have no permissions.

**34961 Contacts do not synchronize on a HTC with Android 4.4.3**

HTC does not take care of the limit for collection lists returned by the server. If a HTC User started a manual resync while the initial sync wasn't finished or if he has a lot of contacts it was possible, that no contact is synced. Now we implemented a new limit to avoid these problems.

**35638 "Reject with reason" available to users even if backend is not capable**

Even unsupported actions could be selected by the user. A check for supported actions was implemented. Now only these are displayed to the user.

**36110 Unreliable push notifications with iOS devices**

Recent iOS releases have introduced a heuristic fault detection for ActiveSync connections. When repeatedly getting information about updates which do not result in new or updated objects to be synced, the device requests updates less frequently to conserve energy. After several hours of inactivity, this can lead to a significant delay in synchronisation updates, resulting in deferred sync of mail, appointments, tasks and contact data even though push updates are enabled. This has been solved by enhancing the default response code of folder updates for clients "ping" requests.

**36269 OX6 Setup-Assistant lacks support for Google and Xing OAuth**

Subscriptions for Google and Xing have been ported to a OAuth based mechanism. This change has now been adopted to OX6 UI to allow to trigger the required actions instead of using the previous implementation.

**36718 Large files get corrupted when sending them with Outlook**

In certain cases USM removed temporary data unrelated to the specific API call, which potentially led to corrupted E-Mail attachments since they are stored as temporary data during upload. This has been solved by limiting cleanup of temporary data to the corresponding command. We have not been able to reproduce the issue in a lab environment, therefore this fix needs verification at the customers environment.

**36779 Incorrect dutch translations**

Some dutch translations regarding E-Mail (compose, archive) have been corrected.

**36808 Appointments not completely synchronized**

In command moveltems objects should be moved that have been deleted on the OX server. This is not signaled to the client via status code 19 (The object doesnt exist in the source). The corresponding ox server error codes for the missing objects (OX-0001,CON-0125) have not been handled. Solution: Special Handling of additional ox server error codes in command moveltems. Implementation of these error codes as a configurable property com.openexchange.usm.ox.missing object error codes in usm.properties.

**36849 Not possible to change email name without multiple account permissions**

Validation for multiple-account was triggered even when the capability "multiple-account-permission" was not set. For that, user were not able to change the email name. This bugfix introduced to only validate "multiple-account-permission" if it is set for this user, so user are able to change the name again.

**36924 Duplicate contacts imported**

When importing contact information (e.g. from Yahoo), the mobile number has not been considered as a similarity between two contacts. Therefore merging such contacts failed and they have been imported as duplicates. Now this attribute is considered to avoid such duplicates.

**36941 Halo view empty without GAB permissions**

Without Global Addressbook permissions the detailed Halo-view was empty, even if the contact was saved in an other contact folder. A wrong require check was fixed and the detailview is also displayed without GAB permissions.

**36962 Inefficient handling of "streaming" for USM clients**

Chunk-wise download of E-Mail attachments has been implemented to allow more robust and efficient synchronization of USM clients (e.g. Outlook). This implementation had a flaw which led to subsequently requesting the full attachment from backends (e.g. IMAP) for each chunk. This has been solved by requesting the full attachment once on the server side and create chunks based on this. This fix will significantly lower the backend load for IMAP components.

**36969 Not possible to add a logger for a dedicated context or session using logconf**

Some servlets were lacking session information. Since this session information is required to create certain log filters (e.g. for mailfilters or USM), those loggers were not working correctly. This has been solved by adding the required session information to those servlets.

**36985 Virtual/all folder can not be found on mailserver**

Possibly existing IMAP folder were not contained in LIST/LSUB commands. This has been solved by rechecking folder existence via explicit EXAMINE.

**37102 User is unable to import or add email signatures**

Special "FLS-0017" error code was not appropriately handled by file-backed snippet management. Solution: Improved handling for special "FLS-0017" error code.

**37112 Changing certain appointment series via CalDAV leads to data loss**

When using Mozilla Thunderbird with Lightning to modify single appointments of a appointment series in a public calendar folder, the modified appointment gets removed instead of changed. This has been solved by loading all required metadata prior to performing changes to the appointment.

**37172 Importing ownCloud vCards cause lost of phone numbers**

If the type parameters are missing there was no fallback to the default "voice" as mentioned in RFC6350. This has been solved by assuming type "voice" in VCard import if type parameters are missing and tag types "home", "work" or "other" are set.

**37176 Excessive remote event generation leads to service unavailability**

Remote invalidation of "last-login", "JSlobs" and "capabilities" has triggered a excessive and unnecessary amount of events. Depending on the system load, this could lead to system unavailability. Load tests indicate that this change introduces a significant reduction of invalidation events.

**37229 ReferenceError when loading upsell plugins**

Certain configurations led to frontend issues when invoking the "upsell-multiple-gui" addon. Ultimately, this leads to customers not being able to use the OX6 frontend. This has been solved.

**37237 Error message while creating social accounts**

No meaningful error message was displayed after creating a new social account without entering a name. This was fixed by returning regular JSON instead of a HTML page. Now a meaningful message is displayed.

**37253 No folders shown below "My Folders"**

In "altnamespace" IMAP configurations, folders below "My folders" were not visible anymore, due to a side-effect of a previous bugfix regarding virtual folder updates. This has been solved and extensively tested with various IMAP backends and configurations.

**37347 Drive folder tree not usable on 10 displays with 1024x600 resolution**

Wrong device statement did hide the "View" option. This has been fixed by removing wrong device directive in toolbar to show "View" option in toolbar again.

**37357 "Refresh" indicator permanently active**

The upper right refresh indicator for AppSuite was constantly active when getting into a race-condition where one request dropped callbacks of another, identical request. This has been solved by unmarking a request as pending before calling any handlers.

**37362 Newly added mail accounts not instantly visible**

After adding external mail accounts, the folder tree has not been automatically updated. This has been solved by making the tree aware of account removal or creation.

**37363 Synchronizing EAS with Windows Phone stops with "86000106" error**

When using Windows Phone 8.1 and Exchange ActiveSync, some devices trigger a "86000106" error message. We assume that this behaviour was caused by a Windows Phone specific sync command that uses a partial wait. In case a empty response was sent for that request, the EAS client threw an error. We now return a new synchronization ID for that request to avoid such behaviour. While we could not reproduce this exact error and also could not get specific information about the clients handling of certain responses, theres a very high probability that this modification solves the issue.

**37364 Context menu blocked after renaming a folder**

After renaming a folder, the context menu did not get triggered anymore when clicking that folder. This was caused by a missing update of folder IDs after a rename and has been fixed by using the new ID at the context menu as well.

**37368 Tasks cannot be loaded if title is empty**

With App Suite it is not allowed to create a task without a title. But it was possible to create a task with an old UI or an other client. This was adjusted an we are now also displaying tasks without title.

**37369 "Hide advanced filters" link shown while no filters are active**

In some rare cases, the "Hide advanced filters" option was shown at the search dialog while no filters were set. Triggering this required subsequent searches to be executed at different apps. The



issue has been solved by correctly resetting advanced filters when switching apps.

### **37373 Subscriptions of mail accounts not displayed in settings area**

Sometimes the foldertree for subscriptions in settings were not displayed. This fix enforce loading the root folder, so the subscription foldertree is displayed every time.

### **37376 Long participant names can cause issues with appointment popups**

In case a user with a very long name is added to an appointment, the appointment details popup at the portal page shows it overlapping with the confirmation indicator. This has been solved by adjusting CSS code.

### **37378 Wrong contact data shown after creating distribution list**

After creating a new distribution list the last folder was selected without any contact was marked. Now switching folder to the folder where the distribution list was created.

### **37399 Checkboxes not active for Tasks and Address book**

After using the view - checkboxes switch the editable state was not always set correctly. Now the editable state is set correctly.

### **37408 Rename a folder leads to an error in subfolder**

After renaming a parent folder an error was displayed if you navigate to a subfolder. The folder-model, of the renamed folder, was using an old collection of subfolders with wrong ids. Now the folder gets a new collection with correct ids, so subfolders can be used again and no error occur.

### **37445 Incorrect mouse symbol for mail and calendar**

Incorrect mouse pointers were used for calendar and mail "View" drop-downs. This has been fixed by adding missing href attribute.

### **37469 First/last name of external contact not resolved in some cases**

Appointments and "Send mail to all participants" did not resolve the first and last name of external contacts. This was caused by incorrect CSS rules that got removed.

### **37471 Dropdown list disappear when searching in IE11**

When using IE11 the dropdown list for search items disappeared in a unexpected way. This has been solved by disabling certain handlers when the dropdown is open.

### **37483 UI gets stuck with certain IMAP folder operations**

After moving a subfolder from Inbox to "My folders" and creating a new subfolder under "My folders", folder creation popup does not close anymore. This was fixed by skipping nulled options, so this operation is available again.

### **37501 Provisioning fails when using automatic UID transformation**

Provisioning was failing for accounts with capital letters via SOAP in POA. Context where context admin account contains capital letters were not able to create new user. With this fix provisioning is case sensitiv if AUTO\_TO\_LOWER\_CASE\_UID is set to true.

### **37505 Shared folder symbol displayed after error message**

After sharing a folder to a webmail user an error occurred and behind the foldername the cloud symbol was wrongly displayed. Because sharing a folder to a webmail user is not possible, the cloud symbol is no longer displayed after this error occurred.

### **37537 NPE while searching "mail text"**

javax.mail.Folder was changed in a way that its constructor calls methods on a passed parameter since version 1.5.2. The inheriting class com.openexchange.mail.mime.FullnameFolder always passed null as parameter and caused the NPE. This has been fixed by removing com.openexchange.mail.mime.Ful and introducing a proper abstraction without inheritance.

**37577 HTTP/0.9 400 Bad Request**

By default Apache and Grizzly are configured to limit http headers to 8192 bytes, Apache exposes this as config value though. After increasing the Apache limitation requests with headers larger than 8192 bytes would still fail as they caused an `IllegalStateException` in Grizzly. Now the maximum http header size is configurable.

**37585 Missing warning by trying to save unfinished mail filter configuration**

It was possible to create incomplete mailfilter rules that apply to all mails. Now the save button is disabled as long as an incomplete filter is found.

**37616 HTML-signature mask errors**

When creating a HTML signature in Firefox, some CSS misinterpretation led to errors when drawing the dialog. This has been solved by using more compatible CSS.

**37624 HTML-Signature shows hint only in English language**

Inline documentation for HTML signatures was not properly translated. Those hints have now been translated.

**37669 Appointments duplicated in Android calendar**

It was possible to have one appointment with other participants twice in your own android calendar, this was caused sending a "add" command instead of a "change" command. This has been fixed by improving the handling to handle all change appointment cases.

**37738 Mail view cannot be changed back once set to "list"**

When choosing the "compact" mail view style and switching to "list", there was no way of switching back again. This has been fixed by changing the right view.

**37790 Delete email address with backspace key not working in calendar**

After typing first letters of email address and choosing an address with your keyboard in the dropdown list, it was impossible to delete entered characters with backspace. After missing keyhandler for backspace was added, it is possible to use the backspace key again.

**37809 "Unexpected error" is displayed after a mail is marked as spam**

When marking a mail as spam the log shows "Unexpected error: null" regarding spam handling. This was fixed by adding null guards to only apply spam logic to non-null references.

**37815 Misalignment of user names in accepted appointment**

Missing CSS code led to the displacement, so if a user changed his status and added a comment, the other user was set in one line with the last line of the comment. With implementing new CSS Code the view changed back to the old view, now both users are displayed in the same line.

**37891 Cannot edit social accounts on IE 11**

User was not able to edit existing social account with Internet Explorer 11. This was fixed by completely searching account array, to be able to edit social accounts again.

**37907 Changing the password incorrectly fails**

When changing the password, it was possible that a correctly entered password got detected as invalid. This was caused by concurrent calls to the password change service. This has been fixed by calling this service once and avoid race conditions.

**37938 Primary mail address already exists in this context**

Implemented an enhanced error message for the error "Primary mail address already exists in this context" for further investigations.

**37971 Details of private appointment shown in list view**

If a user has shared his calendar with another user, the other user can see some details of a private appointment when list view is enabled. The data still arrives on the client but the "details" section is no longer shown for other users' private appointments.

**38004 Flag popup opens in invisible area**

Flag popup in conversation view, for emails in the lower range, was not completely visible. This has been fixed by using an overlay for the dropdown to be always in the visible area.

**38030 Sent folder in Outlook not always synchronized**

If you are in the sent folder in Outlook with Oxtender2 and write a new email it will not be displayed until the user switch the folder. This was fixed by sending appropriate event for standard sent folder when appending sent message. Now the sent emails are displayed after next sync cycle is completed.

**38067 IMAP folders with special names can not be renamed**

A folder with special names starting or ending with: ""[]{}=()" cannot be renamed. Now no new folders can be created with those special characters and old existing imap folders can be renamed.

**38118 LDAP-Sync does not work for every event**

Newly introduced failure cache remembered a failed authentication. This was fixed by disabling failure cache in IMAP authentication bundle.

**38187 Privilege to share folders not honored within the Drive module**

Internally, infostore folders are of type "public", which was not considered when determining if a user is allowed to add permissions to a folder based on the underlying user configuration. This has been fixed by also consider infostore folders when checking if a folder can be shared.

**38201 Unable to edit existing HTML signatures**

After updating to 7.6.2 some users were not able to change old html signatures with inline images. Fixed by parsing HTML content for possible referenced/inlined images.

**38202 Clicking on scrollbar selects first message automatically**

When clicking on scrollbar of the message list, the first message in list was automatically selected and loaded in preview. This has been fixed by checking the mousedown status to prevent selecting when scrolling with the mouse.

**38204 Temporary files were not unlinked**

The USM routine for temporary file creation didnt close the file descriptor. Therefore every uploaded file was marked as deleted but still existed on the file system until the open xchange service was stopped or restarted. Those unlinked temporary files could lead to storage exhaustion in a short time. The routine as been corrected to close the file descriptor after creating temporary files and they will be deleted after they are not required anymore.

**38207 Resending messages in Outlook failed with some IMAP servers**

If a message has been re-sent via Outlook, it was possible that this mail was silently deleted because it used the same ID as the previous one. This happened if the IMAP server has duplicatesuppression configuration option active. To prevent those duplicate IDs, the new parameter new=true is used when sending mail.

**38230 SpamExperts integration does not support IMAPS**

SSL and TLS has been enabled for the SpamExperts integration to support secure transports.

**38235 Incorrect error message thrown when importing an already existing appointment**

Importing an already existing appointment leads to the wrong displayed error: "There was no appointment data to import". Now we are displaying the right error message: "Cannot insert appointment (APPOINTMENT NAME). An appointment with the unique identifier (UID) already exists."

**38260 Searching for entries from distribution lists does not show any results**

If a distribution list had mail addresses which do not exist in any of the contact folders, the distribution list was not displayed as a search result, when searching for any of those new addresses. This has been fixed by including distribution list entries when searching in contact module.

**38264 Users secondary mail addresses cannot be added to appointments**

In case a user or contact has more than a primary mail address set, those secondary addresses could not be used to add the user to a appointment. This has been solved by considering not only primary addresses for the participants list.

**38266 Guard gets rate-limited**

In case a lot of users are working with OX Guard, the services access to the REST API could get rate-limited by the OX middleware. This has been solved by adding a host/IP based whitelist parameter that can be configured to match OX Guard machines.

**38327 Attachments can not be saved within Drive Folder**

When storing a mail attachment into Drive App the size as signaled by mail server was passed to store operation. Unfortunately, the size as given by mail server is not exact leading to errors when actually storing/uploading the attachment. This has been fixed by labeling unknown size when storing a mail attachment in Drive App to have the storage determine the real size.

**38358 Google Maps link somehow leads to wrong search**

The Google Maps link from a contact with address information had no commas. This was fixed by inserting commas at the right position.

**38359 Archive folder does not appear immediately after first archiving action**

When there is no Archive folder yet and the first time the Archiving option is used there is visual feedback that it was performed but the folder only appeared in the foldertree after a refresh. With this fix, the foldertree is visible after the archiving is performed.

**38364 Vacation Notice shown even if extension is disabled on SIEVE server**

Vacation Notice was shown in the settings area even if the "vacation" SIEVE extension is disabled on Dovecot. A check for supported actions and the mailfilter capability was implemented to avoid this issue.

**38365 Mails can not be sent if display name contains a quote**

Displayname with only one escape-char were ignored in personal part of an E-Mail address and this user can not send an email. Now with this fix the display names is not escaped client-side and mail can be send with escape sequences in display name.

**38368 Action button vanishes from mobile view**

Action button in address book vanished after clicking edit and marking at least one contact. Two toolbars were drawn and resulting in conflicts. This has been fixed by showing only the correct toolbar.

**38374 Guided tour is started automatically on mobile view**

In case the guided tour is configured to start automatically the first time it also starts in the mobile view. This has been fixed and guided tour does not start longer automatically.

**38381 Selecting fr\_CA as user language still show english menu items in TinyMCE**

The HTML mailcompose dialog offered english as menu language. Now canadian french is displayed correctly after switching to fr\_CA.

**38411 Mail folder list scrolls down**

If an user had a lot of folders under inbox (not My folders), it was scroll down to the last entry after re-login. To make sure the current node appears in the viewport, the scrollIntoView was adjusted.

**38469 Solved SQL Deadlocks**

Updates of config-tree settings were performed concurrently leading to excessive row locking in MySQL Galera setup. This has been fixed by executing update of config-tree settings sequentially one-by-one in a separate thread (from thread pool) to avoid excessive concurrent row locking leading to MySQL deadlocks.

**38476 Mails can not be deleted via EAS/OLOX**

SPECIAL-USE marked entries were not check if existent. This has been fixed by also checking existence of SPECIAL-USE entries.

**38496 No visible selection when clicking on a folder in the move mail dialog**

Marking an email folder had no visible feedback in the mail move dialog. With the delivered fix the marked folder is visible as "marked" folder.

**38498 "Select all" option in Mail behaves different**

The "select all" option was different for mail and address book, mails are selected including doing a focus, the other App Suite applications selecting without a focus. Now all applications selecting without a focus.

**38501 Reply gets disabled after replying to a mail**

In certain customer environments, "Reply" and "Reply all" options got disabled after replying once. This kept users from replying multiple times in a row. This has been solved by doing less strict checks on custom mail backend capabilities. We were not able to reproduce the original issue nor validate the fix internally.

**38537 Different scaling for contact pictures for edit and view mode of contact**

After saving a large contact picture, the picture scaling was wrong in edit mode. Now displaying the same scaled pictures for edit and view mode. But first time the image is added, the scaling is still different.

**38553 Default folder icons for external accounts are not correctly displayed**

When using a RFC6154 capable IMAP implementation, default folders for "Sent", "Spam" etc. are signalled. When adding external mail accounts, the proper mapping was introduced after a re-login but not at the instant when adding the mail account. This has been solved by handling "special use" flags when initially adding a mail account.

**38600 NPE when searching drive**

Faulty check if a file storage implementation supports the SEARCH\_BY\_TERM capability led to a NullPointerException. We now properly check if non-infostore file storage supports the SEARCH\_BY\_TERM capability.

**38601 Recurring date at tasks displayed as "unknown"**

After editing an existing recurring appointment it was possible, that detail view shows: "This task recurs Monthly on the unknown day". This happend, because old values were not correctly deleted. Now this values are correctly deleted and this issue is gone.

**38603 Unable to send Mails when individual recipients are rejected**

Sending mails to more than one recipients in case one recipient get rejected was not possible. Added option "com.openexchange.smtp.sendPartial" to file "smtp.properties" to allow partial send in case one or more (but not all) recipients are considered to be invalid on message transport. Default value is "false".

**38604 Subscription of T-Online address-book not working**

Configuration file for T-Online address book was outdated, so the subscription does not work. This has been fixed by aligning the configuration file to current T-Online page layout for contact subscription.

**38605 Timeouts when creating users in a large context**

Timeouts when checking the uniqueness of a display name for a large context. This was fixed by introducing separate method to OXUserInterface to retrieve only users display names.

**38619 Recipients do not show up**

In certain customer environments, the mail backend does not provide a full set of to/cc/bcc infor-

mation. In such cases and when using threaded mail view, mail recipients were not shown. This has been solved by adding a optional workaround. We were not able to reproduce the original issue nor validate the fix internally.

**38620 Xing and MS Live subscription options displayed if disabled**

In case OAuth based subscription services like Xing or Microsoft were disabled via their respective configuration file, the corresponding options to subscribe the service was not removed. This has been solved by removing those entries as soon as the corresponding authentication implementation is disabled.

**38638 EAS requests increased and Blackberry devices stopped syncing**

Total number of EAS requests increased dramatically by using a Blackberry. Blackberry devices ignore the already introduced collection limit. This has been fixed by recognizing Blackberry devices and allow any number of collections. Now EAS requests from Blackberry are reduced.

**38755 Resolving performance issues when sorting**

Sorting mails by read/unread led to an performance issue at a sepecific scenario. This has been solved by optimizing the sort behaviour.

**38797 Orphaned temporary files**

In certain cases temporary files, for example of mail attachments or converted documents, are not orderly removed. This has been solved by enhancing and introducing clean-up mechanisms that check for orphaned files and also take the "last accessed" timestamp into consideration. Temporary files which are not accessed during the last 30 minutes get evicted.

**38822 Member in distribution list only displayed by email not name**

Data of distribution list members is loaded dynamically from referenced contacts. In case a referenced contacts has no display name, this was also applied for the distribution list member. This has been fixed by do not overwriting displayname of distribution list member if not set in referenced contact.

**38854 Distribution lists with a blank space are not shown in recipients lists when composing mail**

Distribution lists with a blank space in name were not displayed in compose mail with autocomplete. This was fixed by adding missing filter function in local contact search API, now distribution lists are displayed with autocomplete.

**38864 Save button of mail filter rules becomes unexpected grayed-out**

An incorrect detection of invalid filters led to this error. The incorrect detection has been fixed and now the save button is no longer grayed out.

**38886 Edit link displayed with no edit permissions in appointment**

If an user create an appointment (not as owner of the folder) he cant edit or delete it. This was caused by a wrong permissions check in edit draw function. This was solved by a new permission check.

**38890 touch-appsuite.sh needs to handle external timestamp argument**

Frontend cluster setup and UI custom plugins needs to ensure that timestamps set by CLT touch-appsuite.sh are the same on all nodes. This ensure that no mistaken browser cache invalidation takes place by loadbalancing and prevent on wasting resources.

**39069 Heavy database load when triggering contact autocomplete**

Using multiple tokens when searching for contacts triggers a huge search query. This leads to unnecessary database load when performing unusual search requests. To avoid high system load and evade harmful behaviour, the amount of valid tokens has been limited to 5.

**39283 Documents created from templates are not saved in Drive**

Documents created from templates are not saved in "Drive" if "Drive" is configured with Smartdrive.

Use (possible overridden) default folders from config tree in folder service.

#### **39287 Wrong picture size when composing mail**

A incorrect, fixed, picture size was used when adding inline images. This was fixed by changing picture size to keep original size but at most the width of the editor.

#### **39394 Folder names get re-set in Outlook when moving mail**

When moving mail to a mail folder in Outlook and changing the folders name afterwards, the folder name gets reset to its original value. This was caused by synchronization conflicts regarding the amount of mail at this folder. Since this information is not required, they have been removed from the synchronization system to avoid conflicts.

#### **39451 Terminated IMAP connects are re-used by OX**

When a IMAP server terminates a IMAP connection which is used by OX, in rare cases OX tried to re-use that connection. This behaviour led to error messages at OX and IMAP side since the related connection is already closed. This has been solved by orderly invalidating and removing cached instances of IMAP connection objects.

#### **39712 Address is collected multiple times when sending mail**

If user has enabled "Automatically collect contacts in the folder "Collected addresses" while sending" the recipient Address is saved to folder "Collected addresses" everytime a mail is send. The underscore "\_" character was erroneously escaped when preparing the search term for an EQUALS SQL query. Solution: Verify whether the search term contains any regex wildcard characters ("\*", "?") and if so escape the wildcards in the term and perform a LIKE query, otherwise perform an EQUALS query with the unescaped term and address is not added to folder if entry with same mail address already exists.

#### **39713 Attachments of draft get duplicated on each auto save iteration**

If an user creates a new mail with an attachment saves it to drafts, closes the windows and edit the draft mail later again. Attachments get duplicated everytime the drafts auto save is executed. This has been solved, attachments did not get duplicated by auto saving mails to draft.

#### **39761 Fetching mail from Zimbra backend does not work**

When accessing a mailbox provided via IMAP by Zimbra, the IMAP SORT RETURN PARTIAL command returned an error and accessing mail was not possible. This was caused by not properly checking the CONTEXT=SEARCH and CONTEXT=SORT capabilities prior to executing this command. OX now checks those IMAP capabilities and use SORT requests accordingly. This bugfix could not be re-tested internally and needs to be checked against the specific environment.

#### **39974 HTTP500 response when triggering reload of AppSuite with IE10**

SAML related server responses did not contain the "Pragma no-cache" headers. This made IE10 re-using outdated authentication data when reloading the browser. This has been fixed by adding the corresponding HTTP headers to SAML responses.

#### **40235 Excessive memory consumption on certain IMAP backends**

Some IMAP implementations violate IMAP specification by sending BYE responses with a untagged response line. This led to excessive memory usage since the OX middleware implementation kept waiting for response data. This has been solved by limiting the corresponding operation and avoid unnecessary resource usage.

#### **40362 Inline images missing on certain EAS clients**

Some ActiveSync clients, like the native LG client, depend on a specific order of collectionId and serverId when requesting additional content in case a content size limitation is in place. In case of inline images in mails, such images were not loaded when requesting more message data. This has been solved by using a more compatible order at the response.

#### **40592 Contact lists jumps unexpectedly**

When selecting a contact via checkboxes while having another contact selected which resides out-

side the current viewport, the viewport jumps to show the previously selected contact. This has been solved by putting the viewport to the closest selected contact instead of the one that got selected first.

#### **40653 NPE while handling references mail parts**

In rare cases a null dereference was triggered when handling references of a mail which is currently processed. This has been solved by handling null values and adding debug log to get more information about the root cause. We were not able to reproduce the original issue nor validate the fix internally.

#### **40775 Wrong user name capitalization**

Possibly wrong user name capitalization was used to look-up existing users. We're now also looking up lower-case user names to check if a user exists.

#### **40929 Mail autoconfig fails for IDN domains**

Autoconfig for email fails with vowel mutation in domain name. This has been fixed by leaving domain as ASCII instead of converting to unicode before processing.

#### **41018 Unable to change external accounts password manually**

External account credentials get encrypted using a users login password. If that password changes, a recovery workflow is started to re-encrypt existing passwords that are still encrypted with old credentials. In case the user has no knowledge about the previous credentials, it should be possible to re-set each external accounts password to make them work again. This was not possible due to a incorrect validation call, which was triggered even if just the password has been changed. We're now skipping this call in case only the accounts password has been re-entered to avoid situations where users need to remove and add accounts anew.

## **5 Changes relevant for Administrators**

### **5.1 Changes of Configuration Files**

#### **Change #2230 Introduced `noreply.properties`**

Introduced `noreply.properties` to `open-xchange-smtp` package for the special "no-reply" SMTP account used for system-initiated messages. That configuration file specifies the following properties:

- `com.openexchange.noreply.address` Specifies the E-Mail address for the no-reply account that is used as "From" header (Default: empty)
- `com.openexchange.noreply.login` Specifies the login for the no-reply account (Default: empty)
- `com.openexchange.noreply.password` Specifies the password for the no-reply account (Default: empty)
- `com.openexchange.noreply.server` Specifies the SMTP server address for the no-reply account (Default: empty)
- `com.openexchange.noreply.port` Specifies the SMTP server port for the no-reply account (Default: 25)
- `com.openexchange.noreply.secureMode` Specifies the secure mode for the no-reply account. Supported values are either `SSL`, `TLS` or `plain` (Default: `plain`)

#### **Change #2285 Support more secure hashing algorithms for `mpasswd`**

The `oxadminmaster` password is using `crypt()`'s DES hashing method. That means that the original password cannot be longer than 8 characters by design. This also implicates that whatever an admin is choosing as a password will be truncated internally and automatically to 8 characters. We



enhanced the `generatepasswd` CLT with a new flag, which can be used to choose the desired hashing algorithm. When not choosing a algorithm, it defaults to `bcrypt`. The syntax of the `passwd` file has been updated to specify the algorithm. OX supports `crypt` (the standard UNIX `crypt` using the DES hashing algorithm), `SHA-1` and `bcrypt`.

#### **Change #2289 Removed configurations parameters and files related to AJP**

Removed bundles `com.openexchange.ajp` and package `open-xchange-ajp`. With that change, existing `ajp.properties` will have no impact any more and should be removed. Additionally the property `com.openexchange.http.grizzly.hasAJPEnabled` has been removed from `grizzly.properties`.

#### **Change #2349 ConfigTree to jslob mapping for new default folders**

New default folders for pictures, documents, templates, music and videos have been added to OX Drive. Therefor mappings have been added to `paths.perfMap`.

#### **Change #2366 Introduced share.properties**

A new configuration file named `share.properties` has been introduced which contains settings related to Sharing.

#### **Change #2382 New configuration option for master account override**

With the new configuration option `MASTER_ACCOUNT_OVERRIDE` at `AdminDaemon.properties` it is possible to enable the `oxadminmaster` accounts (or the `subadmin` accounts when using the reseller bundle) to do operations inside context. In other words it allows to act on behalf of the context admin. When using the reseller bundle, `subadmins` allowed to act on behalf of context admins, must own either the context directly or must be a `superadmin` of the `subadmin` owning a context.

#### **Change #2410 Consistent naming of OAuth related properties**

Consolidated `OAuthServiceMetaData` in order to create a uniform inheritance hierarchy, remove duplicate code and provide a consistent property naming structure. Therefor, parameters within `linkedinoauth.properties`, `twitteroauth.properties` and `facebookoauth.properties` have been changed to match the new naming schema `com.openexchange.oauth.<service>.apiKey/Secret`.

#### **Change #2429 Added property to define the OX Guard end-point**

Added property `com.openexchange.guard.endpoint` (Default: `empty`) to `guard.properties` to define the OX Guard end-point in order to invoke call-backs on provisioning events (e.g. when users get created).

#### **Change #2441 Corrected comments for "maximum upload size" parameters**

Comments at `infostore.properties` and `attachment.properties` have been updated to reflect the current implementation.

#### **Change #2456 Added option to enable/disable invalidate events for non-global folders**

Added option `com.openexchange.caching.jcs.remoteInvalidationForPersonalFolders` (Default: `false`) to file `cache.properties` to enable/disable invalidate events for non-global folders. That option specifies if changes to personal folders (personal in terms of non-global e.g. folders kept in database) are supposed to be propagated to remote nodes. This option is only useful for installations that do offer collaboration features or do not support session stickyness. For instance users are able to share mail folders or might be load-balanced to other nodes while active in a single session.

#### **Change #2464 Added property to define the "shutdown-on-out-of-memory" behavior**

Added property `com.openexchange.hazelcast.shutdownOnOutOfMemory` (Default: `false`) to `haszelcast.properties` to define the "shutdown-on-out-of-memory" behavior of Hazelcast.

#### **Change #2470 Added option to enable or disable usage of OXMF publications**

Added option `com.openexchange.publish.createModifyEnabled` to `publications.properties` (Default: `false`). Added option `com.openexchange.subscribe.microformats.createModifyEnabled` to `microformatSubscription.properties` (Default: `false`).

**Change #2472 Removed inappropriate naming from mpasswd**

Removed inappropriate naming "Blowfish" for the "bcrypt" hashing algorithm from the mpasswd file.

**Change #2483 Added configuration option for external Sharepoint converters**

Being able to use SharePoint as external tool for some document to PDF conversions, it was necessary to add an additional queue for such kind of jobs to the code. The number of threads, that will be used to convert documents via the SharePoint server in parallel can be configured via the documentconverter.properties parameter com.openexchange.documentconverter.jobSharePointProcessorCount (Default: 3).

**Change #2487 New options to exclude certain clients from EAS**

Certain clients, such as Windows Mail, can cause high load on EAS. We now provide com.openexchange.usm.eas.exclude.userAgent, com.openexchange.usm.eas.exclude.deviceID and com.openexchange.usm.eas.exclude.deviceType at eas.properties to exclude such clients from EAS access if necessary.

**Change #2492 Made maximum http header size configurable**

Special setups involving Kerberos or SAML might hit the default HTTP header limitation of 8192 bytes so Grizzly has to be made configurable to be able to adapt to such environments. The parameter com.openexchange.http.grizzly.maxHttpRequestSize (Default: 8192) has been added to grizzly.properties.

**Change #2518 New default configuration element for notification mails**

Customers might want to change the style of sent notification mails based on brands. Thus we made this aspect configurable via our as-config mechanism. Currently this approach affects Sharing notification mails and OAuth provider notification mails. Those settings can be modified at as-config-defaults.yml.

**Change #2523 Passwordchange URL for UCS authentication**

A new configuration option com.openexchange.authentication.ucs.passwordChangeURL has been added to authplugin.properties, which gets shipped by the open-xchange-authentication-ucs bundle in order to allow to specify a URL where the user is redirected in case the password has expired.

**Change #2530 Support for an optional HTTP proxy when accessing ISPDB URLs**

Added support for an optional HTTP proxy when accessing ISPDB URLs. Therefore, autoconfig.properties has been enhanced by the following options:

- com.openexchange.mail.autoconfig.ispdb.proxy (Default: empty)
- com.openexchange.mail.autoconfig.ispdb.proxy.login (Default: empty)
- com.openexchange.mail.autoconfig.ispdb.proxy.password (Default: empty)

**Change #2532 Improved description for Google OAuth redirect property**

Improved description for property com.openexchange.oauth.google.redirectUrl at googleoauth.properties.

**Change #2535 Introduced module-access-combination for OX Drive "stand-alone" mode**

The file ModuleAccessDefinitions.properties has been enhanced by the entry drive=globaladdressbookdisabled, infostore, deniedportal, which restricts access to the "Drive" app.

**Change #2541 Changed default for Hazelcast timeout**

The previous default value for com.openexchange.hazelcast.maxOperationTimeout was too strict and could cause problems on nodes with unsynchronized system clocks. Please always use ntpd when running a cluster to avoid clock skews. The default value for com.openexchange.hazelcast.maxOperationTimeout at hazelcast.properties has been changed from 5000 (5 seconds) to 30000 (30 seconds).

**Change #2546 Added new configuration options for mail push to OX Mail app**

Added new configuration options to setup mail push for OX Mail App by introducing `mobilepushevent.properties`. This file allows to configure GCM (Google Cloud Messaging) and APNS (Apple Push Notification Service) parameters.

Introduced property `com.openexchange.mobilepush.events.gcm.enabled` (Default: `false`) to enable or disable mobile push event notifications to clients using the Google Cloud Messaging (GCM) service. This requires a valid configuration for the GCM API key.

Added property `com.openexchange.mobilepush.events.gcm.key` to specify the API key of the server application. Required if `com.openexchange.mobilenotifier.events.gcm.enabled` is set to `true`.

Added an option to enable or disable push event notifications to clients using the Apple Push Notification service (APNS) for iOS devices via property `com.openexchange.mobilepush.events.apn.ios.enabled` (Default: `false`). This requires a valid configuration for the APNS certificate and keys.

Property `com.openexchange.mobilepush.events.apn.ios.keystore` specifies the path to the local key-store file (PKCS #12) containing the APNS certificate and keys for the iOS application, e.g. `/opt/open-xchange/etc/mobilepush-apns.p12`. Required if `com.openexchange.mobilepush.events.apn.ios.enabled` is `true`.

Property `com.openexchange.mobilepush.events.apn.ios.password` to specify the password used when creating the referenced key-store containing the certificate of the iOS application. Note that blank or null passwords are in violation of the PKCS #12 specifications. Required if `com.openexchange.mobilepush.events.apn.ios.enabled` is `true`.

Property `com.openexchange.mobilepush.events.apn.ios.production` (Default: `true`) to indicate which APNS service is used when sending push notifications to iOS devices. A value of `true` will use the production service, a value of `false` the sandbox service.

Added property `com.openexchange.mobilepush.events.apn.ios.feedbackQueryInterval` to configure the interval between queries to the APN feedback service for the subscribed iOS devices. The value can be defined using units of measurement: "D" (=days), "W" (=weeks) and "H" (=hours). Defaults to "1D" (one day). Leaving this parameter empty disables the feedback queries on this node. Since each received feedback is processed cluster-wide, only one node in the cluster should be enabled here. Values less than 1m will be ignored.

Property `com.openexchange.push.allowPermanentPush` (Default: `true`) to enable/disable permanent push. Set to `true` if (and only if) such a push service is running, which supports spawning permanent push listeners as this setting is used to perform the balancing of permanent push listeners among available cluster members. Meaning, it marks a cluster member to be capable for permanent push. Push services that support permanent push listeners currently known: `open-xchange-push-imapidle` and `open-xchange-push-mailnotify`.

Property `com.openexchange.push.credstorage.enabled` (Default: `false`) to specify whether credential storage is enabled. The credential storage is used to store user credentials in setups that do not support a master authentication to the mail storage.

Property `com.openexchange.push.credstorage.passcrypt` (Default: `empty`) to specify the key with which to encrypt/decrypt the password held in credential storage (provided that `com.openexchange.push.credstorage.enabled` is set to `true`). Must not be changed once set/used and needs to be the same value on all nodes in a cluster.

Property `com.openexchange.push.credstorage.rdb` (Default: `false`) to specify whether database-backed credential storage is enabled. (provided that `com.openexchange.push.credstorage.enabled` is set to `true`). If set to `false` the credentials are stored in memory utilizing Hazelcast.

Added new configuration file `hazelcast/credentials.properties` defining the configuration for the `credentials` Hazelcast map.

**Change #2548 Made "missing object" error codes configurable in USM**

Some additional OX Server error codes have to be handled by USM when trying to move items. Therefore a new property `com.openexchange.usm.ox.missing_object_error_codes` (Default: `MSG-0032, OX-0001, CON-0125, TSK-0019`) has been added to `usm.properties`.

**Change #2549 Added `open-xchange-mailapp` to default IP white-list**

Added `open-xchange-mailapp` as default to `com.openexchange.IPCheckWhitelist` property to `server.properties` in order to let the OX Mail App bypass IP check by default.

**Change #2553 Allowing option to continue mail transfer for partly invalid recipients**

Added option `com.openexchange.smtp.sendPartial` (Default: `false`) to file `smtp.properties` to allow partial mail send in case one or more (but not all) recipients are considered to be invalid on message transport.

**Change #2557 Updated T-Online subscribe parameters**

Aligned `t-online.yml` configuration file to current T-Online page layout for contact subscriptions.

**Change #2568 New vCard related properties at `contact.properties`**

To control some aspects of vCard import, new configuration parameters are introduced to `contact.properties`. Those are `com.openexchange.contact.storeVCards` (Default: `true`) and `com.openexchange.contact.maxVCardSize` (Default: 4194304).

**Change #2570 Ignore larger sync contact window sizes from clients**

The `com.openexchange.usm.eas.sync.max_contact.window_size` (Default: 250) option has been added to the `eas.properties` configuration file to specify a maximum synchronization window size.

**Change #2572 Option to control permanent IMAP IDLE listeners**

Added option `com.openexchange.push.imapidle.supportsPermanentListeners` (Default: `false`) to file `push_imapidle.properties` to control whether IMAP IDLE based mail push implementation is supposed to also support permanent listeners.

**Change #2575 Added capability for OX Mail app**

Added capability for OX Mail app to control which users may access App Suite through OX Mail app. The `FilePermissions.properties` has been enhanced by property `com.openexchange.capability.mobile_mail_app` (Default: `false`). This means that per default nobody may access App Suite through OX Mail app. Apart from this global permission, users can be selectively enabled through capabilities and `config-cascade` functions.

**Change #2576 Added appropriate index to Hazelcast map**

Added appropriate index to Hazelcast map through adding the parameter `com.openexchange.hazelcast.configuration.map.indexes.attributes` (Default: `altId` to file `sessions.properties`).

**Change #2577 Configurable look-up mechanism for standard mail resolver**

Introduced `mailresolver.properties` file currently holding boolean setting `com.openexchange.mailmapping.lookUpByDomain` (Default: `false`). Setting this option to `{true|true|true|}` means that the domain part of a mail address (the part after the "@" sign) is used to find a matching context by checking the login mappings. That mechanism does only work if the OX setup strictly defines a dedicated and unique domain per context. Otherwise that look-up mechanism will lead to wrong results. Having a value of `false` means that the mail address is going to be looked-up on a per database schema basis. For each known schema a query is performed to check whether there is such an internal user.

Moreover introduced the file `external-domains.properties` which provides a list of domains that are supposed to be considered external, meaning no domain look-up takes place and directly signaled as a mail address of a non-internal user.

**Change #2581 Added new request signature algorithms for certain AWS regions**

The Amazon S3 filestore implementation has been enhanced by a property `com.openexchange.filestore.s3.[filestoreID].signerOverride` (Default: `S3SignerType`) to support AWS regions that rely on new signature algorithms. Additionally, the comments for property `com.openexchange.filestore.s3.[filestoreID].region` have been adjusted to include the newly supported regions.

**Change #2610 New option to disable renaming at OX Documents**

A new configuration property `io.ox/office//module/renamedisabled` (Default: `false`) at `office.properties` enables customers to enable/disable the "Document Name" edit field in OX Documents. This ensures that in environments, which don't support transparent changes of the file name, don't break an active RT connection.

**Change #2615 Added configuration file for the "snippets" functionality**

Introduced `snippets.properties` file for snippet module, which providing the property `com.openexchange.snippet.rdb.supportsAttachments` (Default: `false`).

**Change #2652 Added scaling properties at `contact.properties`**

Several properties have been added to `contact.properties` to define how contact images are being scaled. Those are `com.openexchange.contact.image.scaleImages` (Default: `true`), `com.openexchange.contact.image.maxWidth` (Default: 250), `com.openexchange.contact.image.maxHeight` (Default: 250), `com.openexchange.contact.image.scaleType` (Default: 2).

**Change #2662 Added property to specify the amount of pre-generated previews**

Added property `com.openexchange.file.storage.numberOfPregeneratedPreviews` to file `filestorage.properties` (Default: 20) to specify the number of files for which a preview image is supposed to be pre-generated.

**Change #2665 Parameter to disable the calendar mail notification pool**

Added the configuration parameter `com.openexchange.calendar.notify.poolenabled` (Default: `true`) to `notification.properties`. When set to `false`, notification pooling is disabled, which means mails with regards to appointment changes are sent instantly instead of being accumulated over a period of time. Beware, this may generate a lot of notification mails.

**Change #2670 Removed T-Online crawler remnants**

T-Online switched from a crawler-friendly web content to a single-page JavaScript application, which is no more accessible and parseable using a crawler-based approach. The `t-online.de.yml` file and the `com.openexchange.subscribe.crawler.t-online.de` property at `crawler.properties` has been removed.

**Change #2672 Parameters to specify backend shutdown behavior**

Added an orderly shut-down to the OX middleware which waits for each running request to terminate prior to performing any shut-down operations. This behavior can be disabled via the new property `com.openexchange.connector.shutdownFast` (Default: `false`) or influenced how long to await the orderly shutdown through `com.openexchange.connector.awaitShutDownSeconds` (Default: 90) at `server.properties`.

**Change #2677 Parameter to define the maximum amount of presentation participants**

A new property `com.openexchange.presenter.maxParticipants` (Default: 100) has been added to `documentconverter.properties`. This allows to set the maximum number of participants for a presentation. Users who wants to join the presentation, if the maximum is reached, will receive an error message. Handle the value with care as a big number of participants raises the network transfer between backend nodes.

**Change #2759 Changed defaults for Web UI settings to App Suite UI**

Since AppSuite UI is the default for new installations, the defaults for properties `com.openexchange.UIWebPath` (Default: `/appsuite/`) at `server.properties` and `com.openexchange.ajax.login.http-auth.client` (Default: `open-xchange-appsuite`) at `login.properties` have been adjusted.

**Change #2751 New capabilities for OX Documents Presenter**

Two new capability items have been introduced in order to configure the OX Presenter application. The general OX Presenter permission `com.openexchange.capability.presenter` allows a special user/group of users to start local presentations and to join remote presentations. The `com.openexchange.capability.remote_presenter` capability additionally allows a special user/group of users to start remote presentations.

**Change #2699 Added an option to allow changing the quota for a user that has not yet an individual file storage set**

Added the option `ALLOW_CHANGING_QUOTA_IF_NO_FILESTORE_SET` (Default: `false`) to `AdminUser.properties` to allow changing the quota for a user that has not yet an individual file storage set. If set to `true` and the user has not yet an individual file storage set, an appropriate file storage gets assigned to the user. This implicitly includes to move the user's files from context file storage to that newly assigned file storage, which might be a long operation.

**Change #2698 Introduced a property to whitelisting specific IP ranges from send rate limiting**

Introduced property `com.openexchange.mail.rateLimitDisabledRange` (Default: `empty`) to file `mail.properties` to specify such IP ranges for which the send rate limit shall not be applied. This is useful to whitelist dedicated OX Guard machines.

**Change #2673 The SAML core implementation was extended by an optional auto-login mechanism**

A new property `com.openexchange.saml.enableAutoLogin` (Default: `false`) was added to `saml.properties`.

**Change #2667 Introduced a load balancing and fail-over mechanism for scalability file storage**

It should be possible to specify multiple `sproxyd` endpoints to enable load balancing and fail-over. Until now only a single endpoint could be specified. A list of endpoint hosts can now be specified at `filestore-sproxyd.properties`. The former setting `c.o.filestore.sproxyd.[filestoreID].baseUrl` has been removed. Additionally some more settings have been introduced that allow to customize some HTTP connection parameters. A detailed description of all properties can be found at `filestore-sproxyd.properties`.

**Change #2565 Added option to specify HTTP endpoint for OX Guard**

Added option `com.openexchange.guard.endpoint` (Default: `empty`) to `guard.properties` to specify the HTTP endpoint for OX Guard. This is required to enable certain features like message signing.

**Change #2758 Changed property description for JMX authentication**

Changed property description for `JMXPassword` in `management.properties` to properly hint to Perl packaging changes coming with Debian Wheezy and Ubuntu 12.04. Moreover added an alternative recommendation for creating a SHA hash using Ruby.

**Change #2761 Switching default SIEVE port to 4190**

TCP Port 4190 is the new one used with most recent Linux and IMAP implementations. Port 2000 is the deprecated port number for SIEVE, now assigned to some Cisco SCCP protocol by the IANA. Packaging has not been changed since customers most likely already configured the correct port according to their setup. Therefore the new configuration is used on clean installations.

**Change #2595 New configuration file: globaldb.yml**

Global databases are defined in the configuration file `globaldb.yml`. It mainly serves the purpose to map registered global databases to context groups. Further details are available at <http://oxpedia.org/wiki/index.php?title=AppSuite:CrossContextDatabase>.

**Change #2618 New parameter `guestLogoutLocation` in `as-config-default.yml`**

New parameter `guestLogoutLocation` defines a location where guest users are redirected to after logging out. The file `as-config-defaults.yml` is not marked as configuration file. The file states in its header that `as-config.yml` needs to be used to override values. So packaging does not need to change anything here during the upgrade process.

**Change #2630 Sharing capabilities added to `permissions.properties`**

The sharing capabilities `com.openexchange.capability.share_links` (Default: `true`) and `com.openexchange.capability.invite_guests` (Default: `true`) and have been added to `permissions.properties`.

**Change #2631 Sharing files or folders only possible if sharing capabilities are set**

Sharing files or folders is only possible if sharing capabilities `com.openexchange.capability.share_links` and `com.openexchange.capability.invite_guests` are set at `permissions.properties`.

**Change #2721 New options for the LDAP hostname service**

The LDAP hostname service is extended with options to provide an additional hostname for guest users. The LDAP attribute providing the guest hostname may now be configured with the property `com.openexchange.hostname.ldap.guest_result_attribute`, which is added to the configuration file `ldaphostname.properties.in` as follows: `com.openexchange.hostname.ldap.guest_result_attribute = oxGuestDomain`. Further details about the guest hostname are available at [https://oxpedia.org/wiki/index.php?title=AppSuite:Sharing\\_and\\_Guest\\_Mode#Guest\\_Hostname](https://oxpedia.org/wiki/index.php?title=AppSuite:Sharing_and_Guest_Mode#Guest_Hostname).

**Change #2723 New options for the Parallels hostname service**

The Parallels hostname service has been extended with options to provide an additional hostname for guest users. The guest hostname may be supplied per context as additional fragment in the login mapping marked with the "BRANDING—" prefix. As a fallback, a property named `com.openexchange.custom.parallels.branding.guestfallbackhost` is considered, too. Further details about the guest hostname are available at [https://oxpedia.org/wiki/index.php?title=AppSuite:Sharing\\_and\\_Guest\\_Mode#Guest\\_Hostname](https://oxpedia.org/wiki/index.php?title=AppSuite:Sharing_and_Guest_Mode#Guest_Hostname).

**Change #2724 New options for the Config-Cascade hostname service**

The Config-Cascade hostname service has been extended with options to provide an additional hostname for guest users. The guest hostname may be supplied via the property `com.openexchange.guestHostname` in the config cascade now once the config-cascade hostname service is running. Further details about the guest hostname are available at [https://oxpedia.org/wiki/index.php?title=AppSuite:Sharing\\_and\\_Guest\\_Mode#Guest\\_Hostname](https://oxpedia.org/wiki/index.php?title=AppSuite:Sharing_and_Guest_Mode#Guest_Hostname).

**Change #2772 New property to define Exception arguments in JSON responses**

The property `com.openexchange.ajax.response.includeArguments` (Default: `false`) can be used to include OXException arguments within the JSON response.

## 5.2 Changes of Database Schema

**Change #2189 Added new tables to store individual file permissions in database**

Added new tables `object_permission` and `del_object_permission` to store individual file permissions in database. This has been implemented by the `com.openexchange.groupware.update.tasks.objectpermission.ObjectPermissionCreateTableTask` update task.

**Change #2225 Introduced index to user table for fast look-up of guests for a certain context/tenant**

Database table `user` is extended by index for columns `cid` and `guestCreatedBy` allowing a fast look-up of guests for a certain context. This has been implemented by the `com.openexchange.groupware.update.tasks.AddGuestCreatedByIndexForUserTable` update task.

**Change #2281 Enhanced user and del\_user tables by file storage columns**

Enhanced `user` and `del_user` tables by the following columns: `filestore_id`, `filestore_owner`, `filestore_name`, `filestore_login`, `filestore_passwd`, `quota_max`. This has been implemented by the `com.openexchange.filestore.impl.groupware.AddFilestoreOwnerColumnToUserTable` and `com.openexchange.filestore.impl.groupware.AddFilestoreColumnsToUserTable` update tasks.

**Change #2282 Extended filestore\_usage table by the column user**

Extended `filestore_usage` table by the column `user` and changed its `PRIMARY_KEY` to be the `{cid, user}` tuple. This has been implemented by the `com.openexchange.filestore.impl.groupware.AddUserColumnToFilestoreUsageTable` update task.

**Change #2362 New column guestCreatedBy in tables user and del\_user**

The column `guestCreatedBy` has been added to the tables `user` and `del_user`. It contains the

identifier of the user who has added the guest user to a share. Regular users will always have the default value 0 in that column. This has been implemented by the `com.openexchange.groupware.update.tasks.AddGuestCreatedByIndexForUserTable` update task.

#### **Change #2363 Add permissions to system- and root-folders for the virtual guest group**

In order to prepare the folder tree for guest users with limited access rights, some permissions need to be applied for the virtual guest group. Those permissions have been added for the virtual guest group (ID 2147483647) for each context. New contexts are created with those permissions by default, for existing contexts an appropriate database update task is triggered. This has been implemented by the `com.openexchange.groupware.update.tasks.FolderPermissionAddGuestGroup` update task.

#### **Change #2365 "Shares" need to be stored in the database to resolve links to folders**

The `share` table has been added to the database. The table is created once a user logs in while the bundle `com.openexchange.share.storage` is running. This has been implemented by the `com.openexchange.share.storage.internal.ShareCreateTableTask` update task.

#### **Change #2388 New GlobalDB tables `guest` and `guest2context`**

Those tables handle guest information across contexts. Guests might have users in different contexts. To handle information (like the password) only once per guest (and not per context) we need to store the guests and the available mappings within the new tables `guest` and `guest2context` of the GlobalDB. This has been implemented by the `7.8.0:guest:create` and `7.8.0:guest2context:create` update tasks.

#### **Change #2468 Added a new table to store the user aliases**

A database update task will be executed which creates the new `user_alias` table, furthermore the aliases from the `user_attribute` table will be inserted in the `user_alias` table. For compatibility reason the aliases are not deleted in the `user_attribute` table and new aliases will be stored there as well. This has been implemented by the `com.openexchange.groupware.update.tasks.MigrateAliasUpdateTask` update task.

#### **Change #2489 Adjust permissions for folder 10 ("Userstore" / "Shared files")**

Single file shares (based on object permissions) will appear in folder 10 for clients, therefore, the folder permissions need to be adjusted. In order to indicate readable content inside the "Userstore" folder of the "Drive" module (identifier 10, alternative name "Shared files"), the permissions for all entities (i.e. the groups "all users" and "all guests") are adjusted to have the permission "read all objects" (4). This has been implemented by the `com.openexchange.groupware.update.tasks.FolderPermissionReadAllForUserInfostore` update task.

#### **Change #2519 Dropping unused stored procedures**

A removal of stored procedures was done because they are not used anymore. We can now reduce the grants for the openexchange MySQL user by dropping `CREATE ROUTINE`, `ALTER ROUTINE` and `EXECUTE` permissions. This has been implemented by the `com.openexchange.groupware.update.tasks.DropStoredProceduresUpdateTask` update task.

#### **Change #2543 Added new tables for OX Mail push registration**

Tables `mobileEventSubscriptions`, `registeredPush` and `credentials` have been added to manage subscriptions from OX Mail app users and to control mail push to devices. This has been implemented by the `com.openexchange.mobilepush.events.storage.rdb.MobilePushSubscriptionsCreateTableTask` update task.

#### **Change #2547 Enhanced ConfigDB by a table to store contexts with at least one registered permanent push listener**

Enhanced `configdb` by the `context2push_registration` table to store those contexts with at least one registered permanent push listener. This has been implemented by the `7.6.2:context2push_registration` update task.



**Change #2590 Add new column vCardId to contacts tables**

Update task `com.openexchange.groupware.update.tasks.ContactAddVCardIdTask.ContactAddVCardIdTask()` will add a new column `vCardId` (`VARCHAR(256)` collate `utf8_unicode_ci` default `NULL`) to the `prg_contacts` table. Update task `com.openexchange.groupware.update.tasks.ContactAddVCardIdToDelTask.ContactAddVCardIdToDelTask()` will add related column to the `del_contacts` table.

**Change #2628 Introduced UNIQUE KEY on name column of the context table**

Introduced `UNIQUE KEY` on `name` column of the `context` table held in `configdb.sql` file and removed superfluous pre-checks, but act according to old behavior on constraint violation. This has been implemented by the `7.8.0:context:addcontextnameunique` update task.

**Change #2633 Update task RemoveFacebookAccountsTask to remove Facebook accounts**

Support for Facebook account integration has been removed. The update task `com.openexchange.groupware.update.tasks.RemoveFacebookAccountsTask` removes all existing Facebook `oAuth` and `Messaging` account entries from the database. Please read the announcement for details: <https://forum.open-xchange.com/showthread.php?9403>.

**Change #2714 Updated primary key for snippetAttachment and new table**

In order to support storing snippet attachment in database the `PRIMARY KEY` definition for the `snippetAttachment` table needs to be fixed along-side with adding a new `snippetAttachmentBinary` table. The `PRIMARY KEY` definition for `snippetAttachment` table is changed to consist of the columns `cid`, `user`, `id`, and `referenceId` to support having multiple attachments per snippet. For storing binary attachment data in database, the table `snippetAttachmentBinary` is added to database schema layout. This is executed at the `com.openexchange.snippet.rdb.groupware.RdbSnippetAttachmentBinaryCreateTableTask` and `com.openexchange.snippet.rdb.groupware.RdbSnippetFixAttachmentPrimaryKey` task.

**Change #2695 Reexecute an already existing update task**

The corresponding `CreateTableTask` did not match the database layout after executing `MakeUUIDPrimaryForDListTables`. This has led to inconsistent database layouts and solved by executing `MakeUUIDPrimaryForDListTablesV2`.

**Change #2696 Drop redundant indices**

Drop redundant indices from tables `mailSync`, `indexedFolders`, `oAuthAccessor` and `oAuth2Accessor`. This is executed at the `com.openexchange.groupware.update.tasks.DropRedundantIndicesUpdateTask` task.

**Change #2773 Removed presenceSubscriptions table**

Removed unused presence functionality from real-time framework, therefor removing related database tables. This is executed at the `com.openexchange.realtime.presence.subscribe.database.RemoveRealtimePresenceTableTask` task.

**Change #2715 New column guestCreatedBy in user table**

Guest users need to be decorated with the identifier of the user who initially created them. Therefor the columns `guestCreatedBy` get added to `user` and `del_user` tables. This is executed at the `com.openexchange.groupware.update.tasks.UserAddGuestCreatedByTask` task.

**Change #2697 Introduce a cross-context database**

For storing data across context boundaries, a so called "global" database has been introduced. For example, such shared data could be information about guest users or data for registered `OAuth` applications. Once set up as described at <http://oxpedia.org/wiki/index.php?title=AppSuite:CrossContextDatabase>, new global databases are prepared during an automatic bootstrapping process that applies some initial liquibase changesets with the following identifiers:

- `7.8.0:replicationMonitor:create`
- `7.8.0:guest:create`
- `7.8.0:guest2context:create`

- 7.8.0:oauth\_client:create
- 7.8.0:oauth\_client\_uri:create
- 7.8.0-milestone

### 5.3 Changes of Command Line Tools

#### Change #2300 Added support for guest users to listuser CLT

Support for guest users at the listuser CLT:

- New option `--includeguests` to add guest users to listing
- New option `--excludeusers` to exclude usual users from listing

#### Change #2371 Added command-line tools to manage file storage data associated with a users

With this release, support for dedicated file storages on a per-user basis has been implemented. Thus an administrator is able to distinguish between context- and user-related data on a storage basis, for example to assign a faster storage to user-related documents held in Drive application. Moreover by assigning a dedicated file storage to a user, the quota is also accounted per user allowing to sell/account storage space. Therefore a series of command line tools has been implemented:

- CLT to move a user's files from one storage to another: `moveuserfilestore`
- CLT to move a user's files to the storage of specified master: `moveuserfilestore2master`
- CLT to move a user's files from a master account to his own storage: `movemasterfilestore2user`
- CLT to move a user's files from his own to a context storage: `moveuserfilestore2context`
- CLT to moves a user's files from a context to his own storage: `movecontextfilestore2user`

#### Change #2500 Restrict output of `showruntimestats -clusterstats` to only include node-local statistics

The output of `showruntimestats -clusterstats` resp. `showruntimestats -c` has been stripped and no longer lists those values for distributed data that need to be evaluated in a cluster-wide operation. More precisely, for each MBean representing a distributed data structure, only those attributes whose name starts with "local" are included. As a consequence, the monitoring graph for the distributed session storage now only covers locally owned or backed up items from now on. The total size would then be the sum of those values from all nodes in the cluster. The legacy as well as the jolokia version of the munin script `ox_sessionstorage` is adjusted accordingly.

#### Change #2503 Added `responsetimeout` option to all available command-line

Added the `responsetimeout` option to all available command-line tools for supporting to possibly impose a timeout on waiting for the results of remote invocations to the middleware. This prevents from waiting forever when executing a command line invocation directed to a server instance that is currently overloaded/stalled and therefore cannot serve the remote method invocation in time.

#### Change #2544 Command-line tool to list currently active push users on this node

Introduced command-line tool `listpushusers` to list currently active push users on this node.

#### Change #2574 Rename of CLT `configdbmigrations`

The command-line tool `configdbmigrations` has been renamed to `dbmigrations` since it is also responsible to migrate other types of databases. Furthermore, a new mandatory parameter has been introduced to specify the schema name.

**Change #2586 Added a method to change the personal part of a user's E-Mail address**

A possibility is needed to change the personal part of a user's E-Mail address, which is exposed through mail account settings. This has been implemented by extending the `changeuser` CLT with the `--personal` parameter.

**Change #2589 Extended the command-line tool for user existence check method to also accept a display name**

The command-line tool `existsuser` has been enhanced by the options `-d/--displayname` to allow fast lookup of display-names.

**Change #2591 Adapt `checkconsistency` to solve inconsistency for vCard handling**

To deal with inconsistency between filestorage and database (in case of using provided `RdbContactStorage`) the `checkconsistency` command-line tool has got a new policy for the `repair` command: `missing_file_for_vcard`. By calling `missing_file_for_vcard` followed by `delete`, all references within the database to not existing files will be removed. Existing files that are not referenced from the database can still be removed by using `missing_entry_for_file delete` or added for admin review by using `missing_entry_for_file create_admin_infoitem`.

**Change #2625 New parameter `-o` for report CLT**

To get some more valuable data about the usage of the application the default report style is changed to the `appsuite` format. To be able to get, print, save and send the report in the previous format the parameter `-o` has been introduced. Please read this article for more information: <http://oxpedia.org/wiki/index.php?title=OXReportClient>.

**Change #2647 Enhanced the `createcontext` command-line tool by optional arguments**

The `createcontext` command-line tool now accepts two new parameters: `--schema` and `--schema-strategy` which are mutually exclusive. These arguments reflect the three ways how a schema for a new context is determined:

- `automatic`, which represents the standard behaviour where a schema gets created/selected on-demand
- `in-memory`, to pre-fill a in-memory cache that can be used to determine the next suitable existing schema
- `schema name`, to pre-provide a specific schema for that context

. The `--schema` argument specifies the name of the database schema that is supposed to be selected for the new context. While `--schema-strategy` accepts the values `automatic` (default) or `in-memory`.

**Change #2619 `report` CLT uses new `appsuite` style as default**

The report client now sends usage information in "appsuite" style to Open-Xchange which is the preferred style. You do not have to change anything. The new `appsuite` style will be used for your already existing parameters. As this might lead to increased load on the nodes there is a fallback parameter to the old report that might get used in case of issues: `-o, --run-and-deliver-old-report`. Please read this article for more information: <http://oxpedia.org/wiki/index.php?title=OXReportClient>

**Change #2718 Added quota information to `listuser` output**

Quota information (`max-quota` and `used-quota`) has been added to the `listuser` output. For regular output the columns "qmax" and "qused" were added. Also, the CSV output contains now the values for `MaxQuota` and `UsedQuota`.

**Change #2722 Added helpful command-line tools for mobile push**

Command-line tools `listregisteredpushusers` and `deleteregisteredpushuser` have been added to output and remove registered push users.

**Change #2730 Provided command-line tool to list quotas set in database**

The `listquota` command-line tool has been added to provide information about configured quotas.

## 5.4 Changes of Behaviour

### Change #2291 Discontinued support for AJP

Because of discontinued support for AJP, related packages are not available anymore. Open-Xchange already provides a new HTTP connector, which is based on the Grizzly project. Download and configuration instructions are available at <http://oxpedia.org/wiki/index.php?title=AppSuite:Grizzly>.

### Change #2360 Creation of default media folders for Drive file storage

During creation of the default Drive folders of a user, new folders for default media types (Documents, Templates, Music, Videos, Pictures) are created below the user's personal Drive folder. The folders are created physically with their default (english) name, and get localized automatically when being accessed by the "folder" module of the HTTP API. The creation of an (physically) equally named folder on the same level is rejected. For existing users, the folders are created dynamically upon first access. In case they have existing folders at the designated paths, they get promoted to be the corresponding default folder automatically, otherwise, new folders are created.

### Change #2369 Rename trash folder for the default Drive filestorage account

The display name of the trash folder in the default Drive filestorage account has been changed from "Deleted files" to "Trash".

### Change #2374 QR-code support has been removed

We don't support QR Codes anymore due to lack of usefulness and the limitations they have in general.

### Change #2469 Services availability after Liquibase update tasks have been executed

To guarantee consistent access to e.g. the config db all services (HTTP, RMI, ...) will be available after the Liquibase changesets for database updates have been executed.

### Change #2580 Avoid data loss during CardDAV synchronization

Previously, when a contact was imported from a vCard, the server only stored vCard parameter values that could be mapped to internal OX properties of a contact, and ignored all further unknown or not mappable properties. Especially during CardDAV synchronization, this often led to partial data loss after the client fetched a previously imported vCard again from the server, for example if the client tried to save a third instant messenger property, a geographical location, or the PGP public key of the contact.

To circumvent these kinds of problems, the vCard import- and export-workflow was redesigned, and now allows to store the original vCard as well besides the mappable contact properties. If enabled, the original data as sent by the client is stored automatically in the context filestore, and is considered again during export in a way where any updates to the OX contact are merged back into the original vCard.

Whether original vCards should be stored or not, as well as their maximum allowed size, can be controlled by some new properties in the configuration file `contact.properties`, see Change #2568 for details.

To support the described merging process, the mapping between OX contact attributes and vCard properties has been slightly adjusted to allow a deterministic conversion in both directions. Additionally, all OX contact attributes that are not covered by a well-known vCard property are exported as extended properties, so that all OX properties in an exported vCard are recognized correctly again during import. Details about the mapping rules are documented at: <http://oxpedia.org/wiki/index.php?title=AppSuite:VCardMapping>.

### Change #2622 Removed Facebook support

Support for facebook will be removed due to unreliable and restricted API access. Please read the following announcement for details: <https://forum.open-xchange.com/showthread.php?9403>.

### Change #2641 reloadconfiguration CLT enhanced to reload UI plugins

By using the `reloadconfiguration` command line tool UI-only plugins will be reloaded and should be available without restarting the middleware. In a cluster environment the reload has to be executed on each middleware node. Additionally you have to call `touch-appsuite` on the frontend

node. If you only run a single node setup the latter one is not required. Please have a look at <http://dev.ox.io/> for additional information about custom UI plugins.

#### **Change #2653 Scale contact images to a configurable size**

RdbContactStorage now scale images to a configurable size, if the image is larger than configured and if `com.openexchange.contact.image.scaleImages` is set to `true`. Other relevant properties are: `com.openexchange.contact.image.maxWidth`, `com.openexchange.contact.image.maxHeight`, `com.openexchange.contact.image.scaleType`.

#### **Change #2713 Removed needless custom IDs for actions**

`default` is now used as `default-id`, this simplifies flow control by enable developers to use `baton.preventDefault()`. For some more examples take a look at [http://oxpedia.org/wiki/index.php?title=AppSuite:Extending\\_the\\_UI\\_\(best\\_practices\)](http://oxpedia.org/wiki/index.php?title=AppSuite:Extending_the_UI_(best_practices)).

## **5.5 Changes of Packaging**

#### **Change #2290 Removed bundles/packages for AJP**

Starting with 7.6.0, AJP based communication has not longer been supported. With this release we've removed the corresponding bundle `com.openexchange.ajp` and package `open-xchange-ajp`. Please upgrade to a HTTP based frontend/middleware connector as described at <http://oxpedia.org/wiki/index.php?title=AppSuite:Grizzly>.

#### **Change #2485 Support for SAML authentication**

Middleware extension that provides SAML as authentication mechanism have been introduced via optional packages:

- A virtual package `open-xchange-saml` which depends on two other packages `open-xchange-saml-core` and `open-xchange-saml-backend`
- `open-xchange-saml-core` is provided by Open-Xchange as a binary package and contains a new bundle `com.openexchange.saml`. It provides the general support for SAML authentication.
- `open-xchange-saml-backend` is environment-specific and needs to be provided by the operating party.

To use SAML in production, some configuration and development efforts are needed. An comprehensive integration guide has been provided at [http://oxpedia.org/wiki/index.php?title=AppSuite:SAML\\_SSO\\_Integration](http://oxpedia.org/wiki/index.php?title=AppSuite:SAML_SSO_Integration).

#### **Change #2499 Cleanup ldap authentication bundle settings**

The option `subtreeSearch` has been renamed to `bindOnly` and set to `true` per default because `subtreeSearch` was set to `false` per default. With `subtreeSearch` set to `false`, no search was done at all instead of e.g. a one- or baselevel search, just a ldap bind was done. That's why it is renamed to `bindOnly`.

A new option `ldapScope` has been introduced with default set to `subtree`. This option controls the ldap search in case an ldap bind is not enough (`bindOnly=false`).

#### **Change #2545 Added package `open-xchange-mobile-push`**

Added new package `open-xchange-mobile-push` providing the mail push implementation for the Mail App.

#### **Change #2564 New package `open-xchange-guard-backend`**

New package `open-xchange-guard-backend` to provide the backend components needed for OX Guard.

#### **Change #2608 Removed package `open-xchange-documents-ui-viewer`**

The package `open-xchange-documents-ui-viewer` is now obsolete, because the code is contained at the core product.

**Change #2621 New package** `open-xchange-documentconverter-presenter`

This package represents the backend part of the new OX Presenter application. It handles the real-time communication between OX Presenter client applications.

**Change #2623 Removed Facebook related packages**

Support for facebook has been removed due to unreliable and restricted API access. Please read the following announcement for details: <https://forum.open-xchange.com/showthread.php?9403>.

**Change #2728 Increase minimum required JVM version to 7**

With the version 7.8.0 we depend on a Java 7 compatible JVM configured as the default system JVM. This has to be set up before starting the update process or the update will fail with an error. Furthermore the startup of the server will fail and log the same error to `open-xchange-console.log` if an incompatible JVM is detected during startup.

**Change #2774 Removed unused presence functionality from real-time framework**

Removed unused presence functionality from real-time framework through deleting bundle `com.openexchange.realtime.presence.subscribe`. Hence, that bundle is no more contained at the `open-xchange-realtime-core` package anymore.

**Change #2680 New package** `open-xchange-cluster-upgrade-from-76x`

The Hazelcast library has been upgraded to the next major release. In order to support cache invalidations of disabled contexts during database upgrade tasks, a supplementary package named `open-xchange-cluster-upgrade-from-76x` has been made available. More details can be found at [http://oxpedia.org/wiki/index.php?title=AppSuite:Running\\_a\\_cluster#Upgrades\\_of\\_the\\_Hazelcast\\_library](http://oxpedia.org/wiki/index.php?title=AppSuite:Running_a_cluster#Upgrades_of_the_Hazelcast_library).

## 6 Changes relevant for Developers

### 6.1 Changes of the HTTP API

**Change #2328 Define permissions on object-level to allow sharing single files**

In order to define permissions on object-level, a new property `object_permissions` for objects of type `infoitem` has been introduced. Each time the underlying folder permissions are not sufficient to access an item, those object permissions are taken into account. Object permissions are stored as an array of Object Permission objects as defined below within the detailed `infoitem` data, the column ID is 108. Details about the JSON structure is available at:

- [http://oxpedia.org/index.php?title=HTTP\\_API#DetailedInfoitemData](http://oxpedia.org/index.php?title=HTTP_API#DetailedInfoitemData)
- [http://oxpedia.org/index.php?title=HTTP\\_API#ObjectPermissionObject](http://oxpedia.org/index.php?title=HTTP_API#ObjectPermissionObject)
- [http://oxpedia.org/index.php?title=HTTP\\_API#ObjectPermissionFlags](http://oxpedia.org/index.php?title=HTTP_API#ObjectPermissionFlags)

**Change #2358 New default folder types for media folders in the drive/files module**

In the drive module, there are new default folders for pictures, documents, templates, videos and music. The following folder types are introduced to differentiate between the different types:

- 20 pictures
- 21 documents
- 22 music
- 23 videos
- 24 templates

A folder's type is transmitted with column ID 302 (JSON name: `type`) as part of "Detailed folder data": [http://oxpedia.org/index.php?title=HTTP\\_API#DetailedFolderData](http://oxpedia.org/index.php?title=HTTP_API#DetailedFolderData).

Their module (column 301) is still `infostore`. The corresponding default folder of each type is indicated with the `standard_folder` flag (column 308). The folder type is inherited implicitly for subfolders of the default folders.

The default folders of the user's default file storage account are also available in the config tree at

- `modules/infostore/folder/pictures`
- `modules/infostore/folder/documents`
- `modules/infostore/folder/music`
- `modules/infostore/folder/videos`
- `modules/infostore/folder/templates`

As well as in the `io.ox/files JSlob` at

- `modules/infostore/folder/pictures >io.ox/files//folder/pictures`
- `modules/infostore/folder/documents >io.ox/files//folder/documents`
- `modules/infostore/folder/templates >io.ox/files//folder/templates`
- `modules/infostore/folder/music >io.ox/files//folder/music`
- `modules/infostore/folder/videos >io.ox/files//folder/videos`

#### **Change #2364 New field for user data:** `guest_created_by`

The following property is added to [http://oxpedia.org/index.php?title=HTTP\\_API#DetailedUserData](http://oxpedia.org/index.php?title=HTTP_API#DetailedUserData):

- ID: 616
- Name: `guest_created_by`
- Type: Number
- Value: Contains the ID of the user who has created this guest in case this user represents a guest user. It is 0 for regular users

The property is read-only and can't be removed or set by clients.

#### **Change #2367 Extend folder- and object permissions for addressing external guests**

For sharing files- or folders to external guests, the folder- and object permission objects are extended with additional properties. Those extended properties can be set during creation or update of the parent folder or file. The underlying shares and guest user entities for the referenced recipients are created automatically along with folder/file creation/update. Afterwards, the external recipients appear as regular user entities in the permission arrays in subsequent `get` requests. Please see [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#PermissionObject](http://oxpedia.org/wiki/index.php?title=HTTP_API#PermissionObject) for the new definition of the generic permission object and [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#ObjectPermissionObject](http://oxpedia.org/wiki/index.php?title=HTTP_API#ObjectPermissionObject) for the object permission object.

#### **Change #2368 New Ajax module: share/management**

To work with shares, a new Ajax module has been introduced. The available actions of the module are described at [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#Module\\_.22share.2Fmanagement.22\\_.28preliminary.2C\\_available\\_with\\_v7.8.0.29](http://oxpedia.org/wiki/index.php?title=HTTP_API#Module_.22share.2Fmanagement.22_.28preliminary.2C_available_with_v7.8.0.29).

#### **Change #2380 Cascading permissions at folder tree**

Users are now able to cascade permissions to sub-folders. Thus an extra flag `cascadePermissions` was added to the folder update action. See [https://oxpedia.org/wiki/index.php?title=HTTP\\_](https://oxpedia.org/wiki/index.php?title=HTTP_)

API#Update\_a\_folder for more information.

### Change #2399 New parameter `ignoreWarnings` for move operations of files and folders

Different file storages support different capabilities, which may lead to potential data loss when moving a file or folder from a feature-rich storage into another one with fewer capabilities. Examples of such extended capabilities could be multiple versions of a file, permissions or shares bound to the file/folder, or additional metadata such as notes or categories of files.

By default, such potential data loss will be handled by a 2-step approach. Whenever a file or folder is moved from one storage into another, a check is performed indicating whether the target storage supports all required capabilities in order to store the source data. If everything can be saved without further conflicts, the move operation is actually performed. Otherwise, the move operation is cancelled, and warnings about all detected problems are sent to the client.

The user then has the chance to review the problematic files and/or folders. If the reported problems are acceptable, the client may repeat the request and set the parameter `ignoreWarnings` to `true` in order to force the execution of the move operation, independantly of possible loss of extended data.

The following methods will support an additional boolean parameter named `ignoreWarnings`

- PUT /ajax/infostore?action=update See [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#Update\\_an\\_infoitem\\_via\\_PUT](http://oxpedia.org/wiki/index.php?title=HTTP_API#Update_an_infoitem_via_PUT)
- PUT /ajax/folders?action=update See [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#Update\\_a\\_folder](http://oxpedia.org/wiki/index.php?title=HTTP_API#Update_a_folder)

When performing one of the above requests, the client should also be prepared to handle a special error code that is returned whenever there is potential data loss and the `ignoreWarnings` parameter was not set or set to `false`.

For the update action of the `folders` module, the error code is FLD-1038. For the update method in the `infostore` module, the error code is FILE\_STORAGE-0045. In case of such an error response, the `warnings` array of the JSON object contains detailed information about each detected problem, along with a readable error message that the client should display to the user. Doing so, an additional option should be provided for the user to perform the action anyway, which then would trigger the same request again with `ignoreWarnings` set to `true`.

### Change #2656 New parameter `jsonResponse` for tokenLogin

Previously when calling the action, the backend answers with a HTTP 302 redirect to a location. Instead the client should be able to decide how to deal with the server response. Now the `tokenLogin` action to login will get a new parameter `jsonResponse` with values `true` or `false` (default) that the client can use to signal that the result should be returned as JSON. See [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#Token\\_Login\\_.28since\\_7.0.1.29](http://oxpedia.org/wiki/index.php?title=HTTP_API#Token_Login_.28since_7.0.1.29).

### Change #2657 Requests containing parameter `password` within the URL query string will get rejected

Some requests will get rejected if the query string of the URL does contain the parameter `password`. This change enforces implementors not to pass credentials as parameters of a GET requests. Such requests may get accidentally logged and expose sensitive information. The following requests are affected:

- Login requests
- Password change requests

With setting the parameter `com.openexchange.check.url.params` to `false` you are able to disable this more secure configuration. Since disabling the feature is not recommended the configuration parameter is currently not included in any config file.

### Change #2216 Format change for object identifiers of the default `infostore` account

The identifiers will now be of format "`<some numbers>/<more numbers>`". Object identifiers are already of type `String`, so this change should usually be transparent to clients. However, there may be some clients out there that for example tried to interpret the string of numerical characters as number, so client developers should double-check their implementation for compatibility.



**Change #2613 New column `shareable` in detailed infoitem data**

Clients want to know quickly if an infoitem is shareable or not. Therefore a new (read-only) property named `shareable` of type Boolean with column identifier 109 is introduced for "detailed infoitem data". If `true`, the can be considered as shareable, i.e. the item's object permissions may be adjusted by the user. For further details, please see: [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#DetailedInfoitemData](http://oxpedia.org/wiki/index.php?title=HTTP_API#DetailedInfoitemData).

**Change #2634 New action `shares` in module folder**

This action has been introduced to provide an overview of all folders of a certain modules that are shared to others. For further details, please refer to: [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#Get\\_shared\\_folders\\_.28Since\\_7.8.0.2C\\_Preliminary.29](http://oxpedia.org/wiki/index.php?title=HTTP_API#Get_shared_folders_.28Since_7.8.0.2C_Preliminary.29).

**Change #2635 New action `shares` in module infoitem**

This action has been introduced to provide an overview of all files that are shared to others. For further details, please refer to: [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#Get\\_shared\\_infoitems\\_.28Since\\_7.8.0.2C\\_Preliminary.29](http://oxpedia.org/wiki/index.php?title=HTTP_API#Get_shared_infoitems_.28Since_7.8.0.2C_Preliminary.29).

**Change #2636 New fields to retrieve extended permissions of files and folders**

Clients would like to have more details about permission entities folders directly. Therefore a new read-only property named `com.openexchange.share.extendedPermissions` has been introduced for "Detailed folder data", with column identifier 3060. It basically contains the same as the regular `permissions` array, yet enhanced by resolved information about the user, group or guest entities as well as additional, sharing-related properties. Similarly, a new read-only property named `com.openexchange.share.extendedObjectPermissions` has been introduced for "Detailed infoitem data", with column identifier 7010. It basically contains the same as the regular `object_permissions` array, yet enhanced by resolved information about the user, group or guest entities as well as additional, sharing-related properties. Further information about the JSON structure is available at:

- [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#ExtendedPermissionObject](http://oxpedia.org/wiki/index.php?title=HTTP_API#ExtendedPermissionObject)
- [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#ExtendedObjectPermissionObject](http://oxpedia.org/wiki/index.php?title=HTTP_API#ExtendedObjectPermissionObject)

**Change #2755 New optional boolean parameter `storeLanguage` for login**

The `language` parameter from login request overwrites user's preferred language setting. If user's preferred language setting should be overwritten, the new `storeLanguage` parameter has to be set to `true`.

**Change #2716 New additional property `com.openexchange.realtime.resourceID` for infoitems**

The realtime component needs a specific resource identifier for addressing infoitems. Therefore "detailed infoitem data" (See: [http://oxpedia.org/wiki/index.php?title=HTTP\\_API#DetailedInfoitemData](http://oxpedia.org/wiki/index.php?title=HTTP_API#DetailedInfoitemData)) has been extended with a new read-only field named `com.openexchange.realtime.resourceID`, column 7020. This field is contributed by the `com.openexchange.realtime.json` package, so only available once the realtime JSON layer is running.

## 6.2 Changes of the Java API

**Change #2278 Extension of TransportProvider interface to provide a no-reply transport**

In some situations it is necessary to send out administrative emails, that are not composed by or in the name of a certain user. Therefore the TransportProvider interface has been extended to obtain a special MailTransport for those purposes. Therefore `com.openexchange.mail.transport.TransportProvider` has been extended by the `createNewNoReplyTransport(int contextId)` method. This method sends out messages via a configured no-reply transport account. The default transport implementation for SMTP has been extended by a proper `com.openexchange.mail.transport.MailTransport` implementation that utilizes the SMTP account and properties configured in `noreply.properties` as outlined in change #2230. The defined properties can be overridden per context via ConfigCascade, e.g. to define separate sender-addresses for different domain names.

**Change #2279 Extension of file storage API to perform administrative tasks**

In some situations it is necessary to perform administrative tasks within the file storage (or "Drive" module). Common for those tasks is, that they don't occur necessarily in the name of certain users and that therefore no session is available. As a result the file storage API/SPI has been extended by additional interfaces/methods. `com.openexchange.file.storage.composition.IDBasedFileAccessFactory` has been extended by the method `IDBasedAdministrativeFileAccess createAccess(int contextId)`. Via this method an instance of `com.openexchange.file.storage.composition.IDBasedAdministrativeFileAccess` can be obtained.

On the SPI layer a new interface `com.openexchange.file.storage.AdministrativeFileStorageService` was introduced, which extends `com.openexchange.file.storage.FileStorageService`. Implementations of `FileStorageService` that want or need to allow administrative operations are encouraged to implement this new interface.

The interface `com.openexchange.file.storage.AdministrativeFileStorageFileAccess` provides the necessary administrative methods `getFileMetadata`, `saveFileMetadata`, `removeDocument` and `removeDocuments`. `com.openexchange.file.storage.infostore.internal.AdministrativeInfostoreFileAccess` can be seen as a reference implementation.

**Change #2330 New property for files object permissions**

The interface `com.openexchange.file.storage.File` is enhanced by the method `getObjectPermissions()`. If object permissions are not supported by the file storage backend, it's safe to always return "null" here. If supported, the capability should be signalled by the file storage via implementing the marker interface `com.openexchange.file.storage.ObjectPermissionAware`.

**Change #2359 New interface `MediaFolderAwareFolderAccess`**

File storage implementations supporting default media folders are able to supply those folders by implementing the new interface `com.openexchange.file.storage.MediaFolderAwareFolderAccess`. Folders returned at the corresponding methods should have the corresponding folder type; the new types are available at:

- `com.openexchange.folderstorage.type.PicturesType`
- `com.openexchange.folderstorage.type.DocumentsType`
- `com.openexchange.folderstorage.type.TemplatesType`
- `com.openexchange.folderstorage.type.MusicType`
- `com.openexchange.folderstorage.type.VideosType`

**Change #2498 New method: `c.o.file.storage.FileStorageFolder.getLocalizedName(Locale)`**

The display name of a file storage folders might vary based on the underlying locale. To differentiate between a folders default/physical name and it's localized representation for display purposes, the `getLocalizedName(Locale locale)` method has been introduced at the interface `com.openexchange.file.storage.FileStorageFolder`. The default implementation in `com.openexchange.file.storage.DefaultFileStorageFolder` just returns null and may be overridden by concrete implementations as needed.

**Change #2517 Remove unused `ServerConfigMatcherService`**

Remove unused Interface `com.openexchange.apps.manifests.ServerConfigMatcherService` during refactoring of `com.openexchange.apps.manifests.json.AllAction`. The `AllAction` was split into two parts:

- A standalone `com.openexchange.serverconfig.ServerConfigService` that can be used by all components
- A slimmed down `AllAction` that uses the `ServerConfigService` to deliver a server config to clients.

**Change #2566 Enables PGP signatures for E-Mails**

Introduced interface `com.openexchange.mail.transport.listener.MailTransportListener` that intercepts outgoing MIME messages and allows an implementor to modify its content accordingly. For OX Guard the appropriate PGP signature gets added.

**Change #2587 New method `supports(...)` for `ContactService` and `ContactStorage`**

`ContactService` has been enhanced by `com.openexchange.contact.ContactService.supports(Session, String, ContactField...)` to retrieve if the underlying storage is able to handle the given `ContactFields`. The default abstract implementation returns `false` for each provided field but you are able to overwrite the method within your custom implementation based on the given contact storage implementation.

**Change #2588 Extended the user existence check method to also accept a display name**

Extended the `com.openexchange.admin.rmi.OXUserInterface.exists()` method to also accept a display name when performing existence check.

**Change #2507 Replacing the framework for the REST DB interface**

The REST API was implemented using custom parser code. This has been replaced by using standard libraries JAX-RS and Jersey. There are no functional changes to be expected, however the syntax may have been changed in details and consumers of this API should check for compatibility issues.

## 6.3 Changes of the SOAP API

**Change #2585 Added a method to change the personal part of a user's E-Mail address in his mail account settings**

Enhanced `OXUserService` web service by method `changeMailAddressPersonal`.

**Change #2646 Enhanced the create method of the context SOAP interface by a new optional parameter**

The `create` method of `OXContextService` has been changed to accept `schema_select_strategy` as parameters. The new type `SchemaSelectStrategy` reflects the three ways how a schema for a new context is determined:

- automatic (old behavior, schema gets created/selected on-demand)
- in-memory (pre-filling an in-memory cache that can be used to determine the next suitable existing schema)
- schema name (the specific schema name is given)

Either `schema_name` is set or `strategy` is set to `automatic` (default) or `in-memory`.

**Change #2731 Provide SOAP interface to list quotas set in database**

Enhanced `OXContextService` SOAP interface by the method `listQuota`.

**Change #2753 Added SOAP interface for push provisioning tools**

Added SOAP interface `PushSoapInterface` for push provisioning tools. This provides the following methods:

- `listPushUsers`
- `listRegisteredPushUsers`
- `unregisterPermanentListenerFor`

### Change #2754 Added moveFilestore...() methods to user SOAP interface

Added several filestore related methods to the OXUserService SOAP interface to enable use of user-specific quotas.

- moveFromContextToUserFilestore
- moveUserFilestore
- moveFromMasterToUserFilestore
- moveFromUserToContextFilestore
- moveFromUserFilestoreToMaster

## 6.4 Changes of the RMI API

### Change #2370 Added methods to the user provisioning API to manage file storages associated with a users

With this release the middleware supports to specify dedicated file storages on a per user basis. Thus an administrator is able to distinguish between context- and user-related data on a storage basis; e.g. assign a faster storage to user-related documents held in Drive application. Moreover by assigning a dedicated file storage to a user, the quota is also accounted per user allowing to sell storage space.

Therefore the user RMI specification defined by `com.openexchange.admin.rmi.dataobjects.User` class has been enhanced by file storage associated attributes:

- `public Integer getFilestoreId()`
- `public void setFilestoreId(Integer filestore_id)`
- `public Integer getFilestoreOwner()`
- `public void setFilestoreOwner(Integer filestore_owner)`
- `public Long getMaxQuota()`
- `public void setMaxQuota(Long maxQuota)`
- `- public Long getUsedQuota()`
- `public void setUsedQuota(Long usedQuota)`
- `public String getFilestore_name()`
- `public void setFilestore_name(String filestore_name)`

In turn the user-related RMI API interface `com.openexchange.admin.rmi.OXUserInterface` now additionally offers the following methods:

- Moves a user's files from one storage to another: `public int moveUserFilestore(Context ctx, User user, Filestore dstFilestore, Credentials credentials)`
- Moves a user's files from his own storage to the storage of specified master: `public int moveFromUserFilestoreToMaster(Context ctx, User user, User masterUser, Credentials credentials)`
- Moves a user's files from a master account to his own storage: `public int moveFromMasterToUserFilestore(Context ctx, User user, User masterUser, Filestore dstFilestore, long maxQuota, Credentials credentials)`
- Moves a user's files from a context to his own storage: `public int moveFromContextToUserFilestore(Context ctx, User user, Filestore dstFilestore, long maxQuota, Credentials credentials)`
- Moves a user's files from his own to a context storage: `public int moveFromUserToContextFilestore(Context ctx, User user, Credentials credentials)`

**Change #2571 Introduced separate method to OXUserInterface to retrieve only users' display names**

Introduced separate method to `OXUserInterface` to retrieve only users' display names. This can be useful when provisioning users in a huge contexts, display names are unique and shall be checked for uniqueness beforehand.

**Change #2584 Added a method to change the personal part of a user's E-Mail address in his mail account settings**

Added a method to change the personal part of a user's E-Mail address in its mail account settings: `com.openexchange.admin.rmi.OXUserInterface.changeMailAddressPersonal()`

**Change #2645 Enhanced `com.openexchange.admin.rmi.OXContextInterface` by a new `create()` method**

Enhanced `com.openexchange.admin.rmi.OXContextInterface` by a new `create()` method accepting `com.openexchange.admin.rmi.dataobjects.SchemaSelectStrategy` as a parameter. That parameter offers three ways how the database schema for the new context is determined:

- 1. automatic (old behavior, schema gets created/selected on-demand)
- 2. in-memory (pre-filling an in-memory cache that can be used to determine the next suitable existing schema)
- 3. schema name (the specific schema name is given)

**Change #2729 Provide provisioning interface to list quotas set in database**

The RMI interface `com.openexchange.admin.rmi.OXContextInterface` has been enhanced by the method `listQuotas(Context, Credentials)`, which lists all available quotas for a specified context currently held in database.

## 6.5 Changes to the Frontend API

**Change #2463 Replace proprietary date lib by moment.js**

To use moment as date-framework in widespread JavaScript projects is common practice. Because of the powerful and easy to use API including an outstanding community support and regularly updates of this open-source project, we decide to replace our own date framework with moment.js. More advantages are the excellent documentation and fully commented source code for easier debugging. It is no longer necessary to require a date module like 'io.ox/core/date'. Moment is defined globally.

**Change #2372 Changed parameters for Contact pictureHalo**

On missing node parameter (optional) an URL was returned that potentially returned a 1x1 picture that indicates 'no valid picture found'. To avoid this common pitfall, the node parameter has become mandatory to handle that scenario within pictureHalo. Mixed up parameter options that contain person data and options will be handled separately now.

Before: `function (/* [node], options */) {`

- Parameter `node` was optional
- Parameter `options` was mandatory and contained data and options

after: `function (node, data, options) {`

- Parameter `node` is mandatory
- Parameter `data` is mandatory
- Parameter `options` is optional

### Change #2752 Removed JSlob setting `io.ox/mail//vcard`

There have been two settings that tried to set if VCards should be attached to a sent emails or not. Until now the UI provides both, the new value for the setting (change by the user) and the other setting with the old value, e. g. `true` and `false` have been received by the server and the latter processed (the old value) got stored. Because of the described behaviour the setting not used by the App Suite UI (`io.ox/mail//vcard`) gets removed so setting to append the VCard to an email should happen by using `io.ox/mail//appendVcard`. Providing `io.ox/mail//vcard` will not have any effect anymore.

### Change #2764 Be robust against missing TO, CC, BCC fields

Some customer MAL implementations are broken and neither provide TO, CC, nor BCC in `mail?action=all`. A client-side workaround takes care of this particular case. This workaround has to be enabled via `io.ox/mail//features/fixtoccbcc=true`.

### Change #2676 Load plugins for the `core` namespace after `gettext` is initialized

Providing custom translations overwriting entries in the catalogue was only possible with core plugins. This prevented core plugins from calling `gettext` function during their definition. As a developer I want more fine-grained control over the process. Therefore an `i18n` namespace is to be introduced which gets loaded before `gettext` is enabled. After that, the core namespace should be loaded. As a result of this change, all plugins that added custom translation would need to be ported to the new `i18n` namespace. On the other hand, the majority of the core plugins do not need to worry about calling `gettext` early any longer. Documentation can be found here: [http://oxpedia.org/wiki/index.php?title=AppSuite:I18n#Custom\\_Translations](http://oxpedia.org/wiki/index.php?title=AppSuite:I18n#Custom_Translations).

## 7 Tests

Not all defects that got resolved could be reproduced within the OX QA lab. Therefore, we advise guided and close monitoring of the reported defect when deploying to a staging or production environment. Defects which have not been fully verified, are marked as such.

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.

## 8 Fixed Bugs

21064, 29269, 34548, 34721, 34843, 34888, 34889, 34893, 35195, 35342, 35575, 35581, 35584, 35587, 35925, 35955, 35957, 35960, 35969, 35971, 36038, 36074, 36811, 36881, 37002, 37051, 37113, 37140, 37169, 37228, 37249, 37263, 37274, 37296, 37372, 37428, 37438, 37482, 37504, 37613, 37641, 37680, 37799, 37889, 37906, 37978, 38021, 38068, 38097, 38147, 38239, 38247, 38380, 38404, 38451, 38502, 38565, 38587, 38616, 38847, 38882, 38916, 38936, 38948, 39063, 39484, 39535, 39730, 39826, 39854, 40024, 40040, 40189, 40471, 40626, 40841, 40850, 40928, 41004, 41435, 40033, 39057, 39063, 39315, 39296, 39295, 39035, 39726, 39731, 39721, 39079, 37555, 39318, 39723, 39920, 39283, 39061, 39071, 39102, 39395, 39080, 40631, 36757, 39345, 39065, 35597, 34617, 34961, 35638, 36110, 36269, 36718, 36779, 36808, 36849, 36924, 36941, 36962, 36969, 36985, 37102, 37112, 37172, 37176, 37229, 37237, 37253, 37347, 37357, 37362, 37363, 37364, 37368, 37369, 37373, 37376, 37378, 37399, 37408, 37445, 37469, 37471, 37483, 37501, 37505, 37537, 37577, 37585, 37616, 37624, 37669, 37738, 37790, 37809, 37815, 37891, 37907, 37938, 37971, 38004, 38030, 38067, 38118, 38187, 38201, 38202, 38204, 38207, 38230, 38235, 38260, 38264, 38266, 38327, 38358, 38359, 38364, 38365, 38368, 38374, 38381, 38411, 38469, 38476, 38496, 38498, 38501, 38537, 38553, 38600, 38601, 38603, 38604, 38605, 38619, 38620, 38638, 38755, 38797, 38822, 38854, 38864, 38886, 38890, 39069, 39283, 39287, 39394, 39451, 39712, 39713, 39761, 39974, 40235, 40362, 40592, 40653, 40775, 40929, 41018,