

# Open-Xchange Engage Product Guide Version 1.1.0

January 2020

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# 1. Introduction

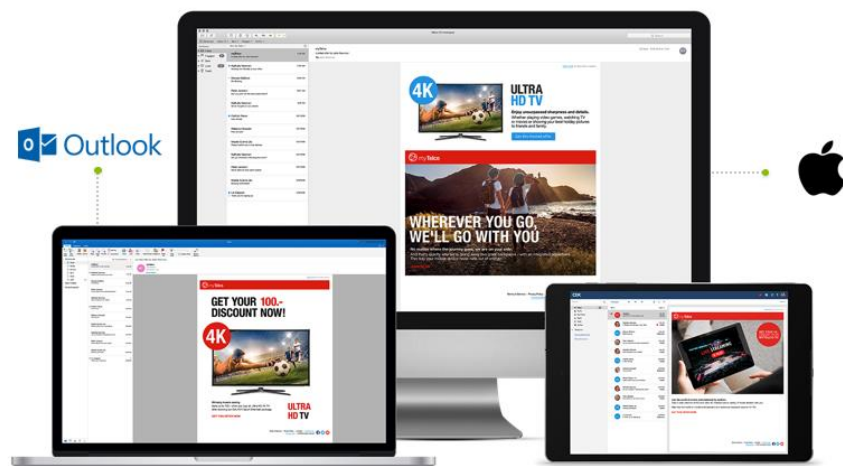
## 1.1. Intention of this Document

The purpose of this document is to inform Open-Xchange customers and partners about the key features that are available with OX Engage.

**Note:** OX Engage is only available for OX Dovecot Pro as part of OX Monetization that helps you leverage your communications strategy and grow your business by maintaining meaningful conversations with your customers. Please contact our Open-Xchange Sales for further information.

## 1.2. OX Engage in a Nutshell

OX Engage is a unique real-time email marketing platform: a patented solution that lets you place emails in your users' inboxes on all devices, desktop clients or mobile apps. Based on OX Dovecot Pro<sup>1</sup>, it injects mails on an Internet Message Access Protocol (IMAP) level and therefore is completely device- and software-independent. An advanced campaign management tool can be used to manage, configure and split emails. This injection technology lets you monetize all your users regardless of the email client, app or device they are using at the moment.



<sup>1</sup> "OX Dovecot Pro" is not a part of OX Engage and needs to be obtained separately.

The following key features make OX Engage stand out:

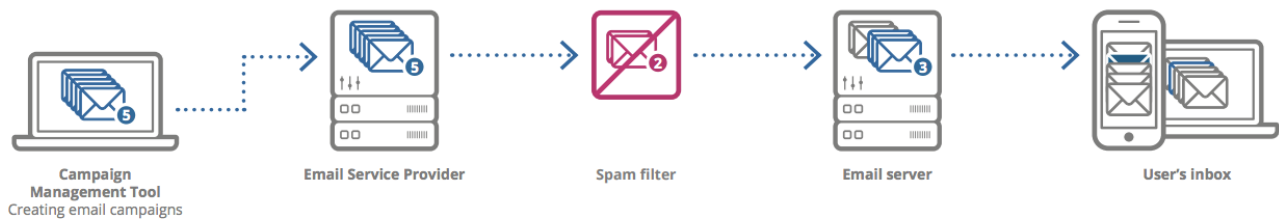
- Patented technology (US 9531785 B1)
  - Only available from Open-Xchange
  - User interface (UI) independent – works on all devices, desktop clients or mobile apps based on OX Dovecot Pro
- Injection of emails directly into the first position of the inbox (based on the most common sort criteria, which is "newest email first")
  - Bypasses any spam filters
  - Reliable delivery of email campaigns
  - Real-Time Marketing – optimal visibility of email campaigns
  - Better opening rate (depending on content created by the customer)
  - Higher potential for successful campaigns
- Campaigns have individual configurable time frames during which they are considered relevant and are subject to injections
  - Campaigns have a start and end time
    - Time-agnostic targeting (used by traditional email marketing) is therefore irrelevant
  - Never injects/displays out-of-date campaigns
  - Save money as you only pay for injected emails
- Integrated Campaign Management Platform (CMP) OX Engage can be used to manage OX Engage as well as other Email Service Provider (ESP)/Simple Mail Transfer Protocol (SMTP)/Mail Transfer Agent (MTA) campaigns for non-provisioned users
  - One central campaign management platform
  - Very sophisticated ESP Aggregator for managing all campaigns
  - Measure and monitor success through sophisticated analytics

## 2. Product Description

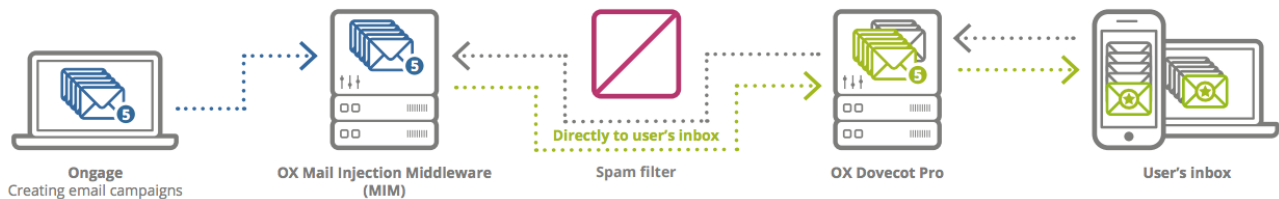
OX Engage is an Open-Xchange patented technology that enables the injection of messages into the email stream of any user using the Internet Message Access Protocol (IMAP) [Patent "Ad hoc injection of IMAP objects" (US 9531785 B1) see United States Patent or Google Patents].

These IMAP objects may appear in the inbox of a user on any IMAP capable device and may feel like an email to the user, although the IMAP objects were never sent over an SMTP.

### Traditional email marketing



### Email marketing with OX Engage



Upon user login, any IMAP objects (campaigns) for that user are requested by OX Dovecot Pro and the IMAP server will ad-hoc inject IMAP objects into the user's inbox. OX Engage enables the injection of the campaign in any email client using the IMAP protocol, such as OX App Suite Mail, mobile native mail clients or other clients such as Microsoft Outlook.

The rules that define the objects to be injected, the respective time schedule and target audience, as well as the position of the message in the user's inbox, are dependent on the configurable object- and/or user profiles and other targeting parameters.

In cases where the customer has requested the email position to be fixed to the top of the user's inbox, emails will be reinjected until opened in specific time intervals.

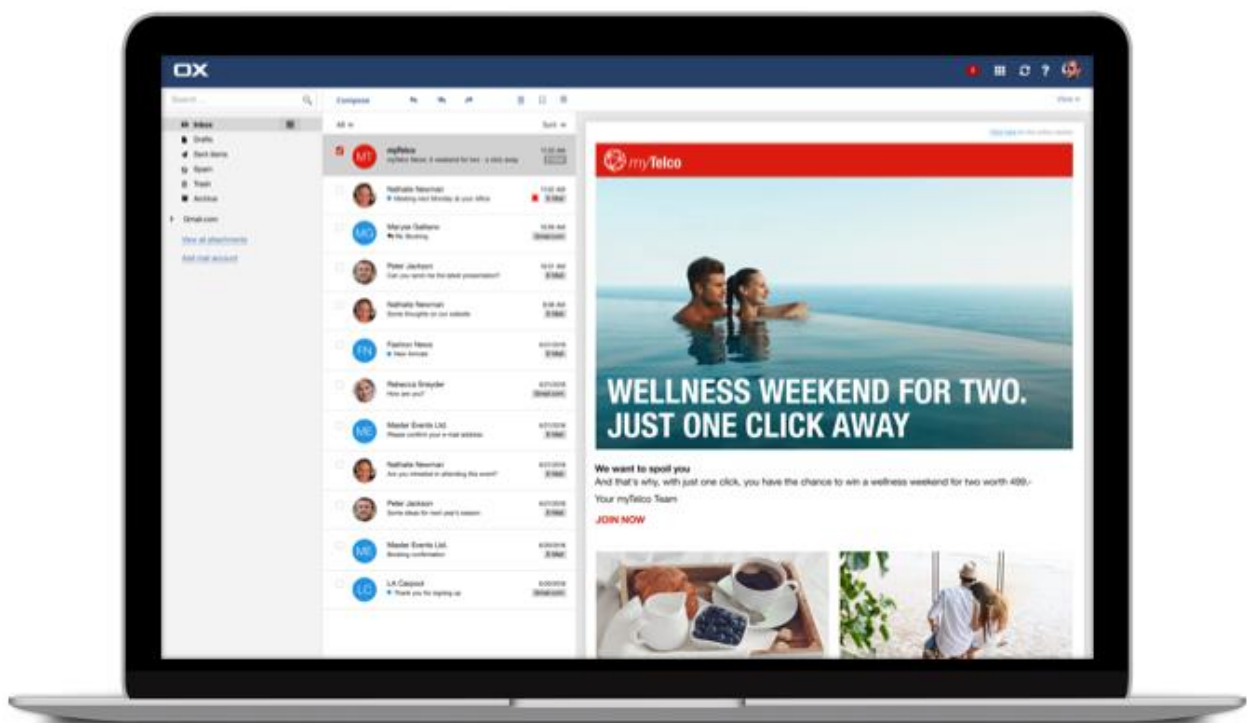
These campaigns (emails) can include advertising, promotions, service alerts or any other conceivable content of a regular email.

## 2.1. Campaigns Overview

OX Engage can be used for internal and external email marketing campaigns. Please find the selected examples below.

### 2.1.1. Standard Newsletter

This is an example of an **internal campaign** wherein the customer chooses to send its regular weekly/monthly user communications via OX Engage, in order to reach better delivery and visibility.

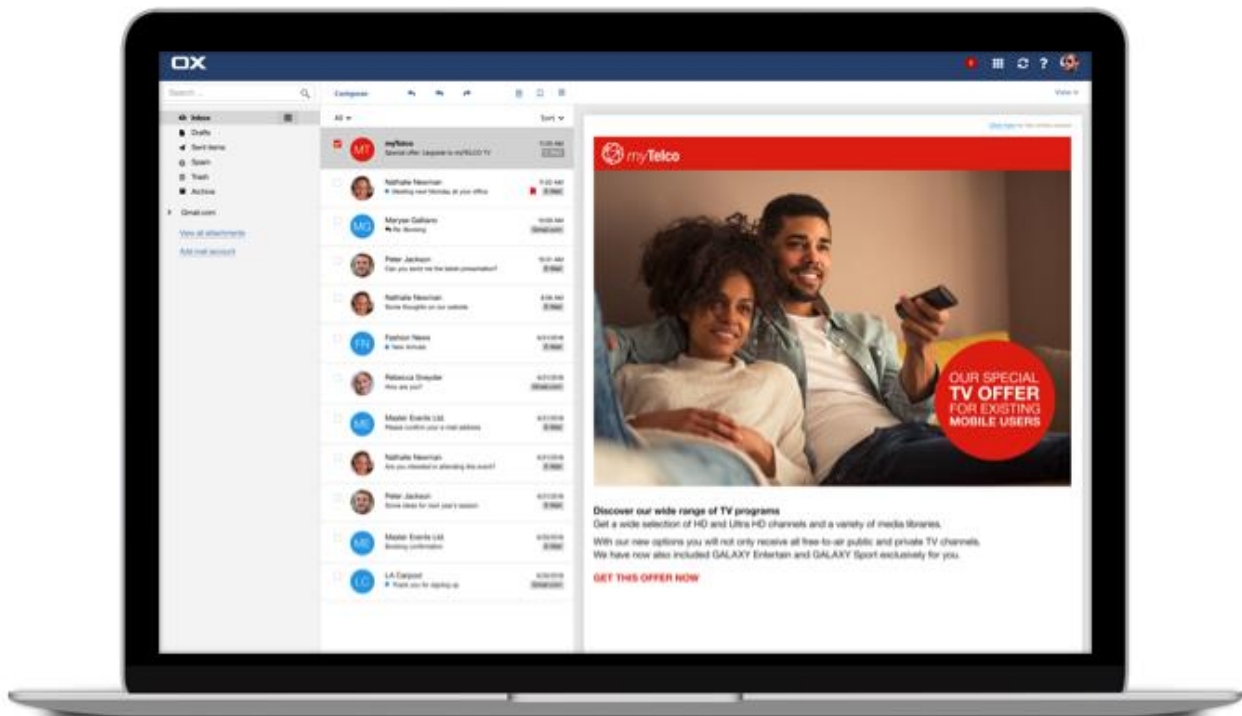


## 2.1.2. Cross- and Upsell

This is an example of an **internal campaign** wherein the customer targets its mobile users with a TV upsell offer. The scenario is as follows:

- The customer creates mobile user segments in the OX Engage interface.
- The customer creates a TV Upsell campaign for this segment.

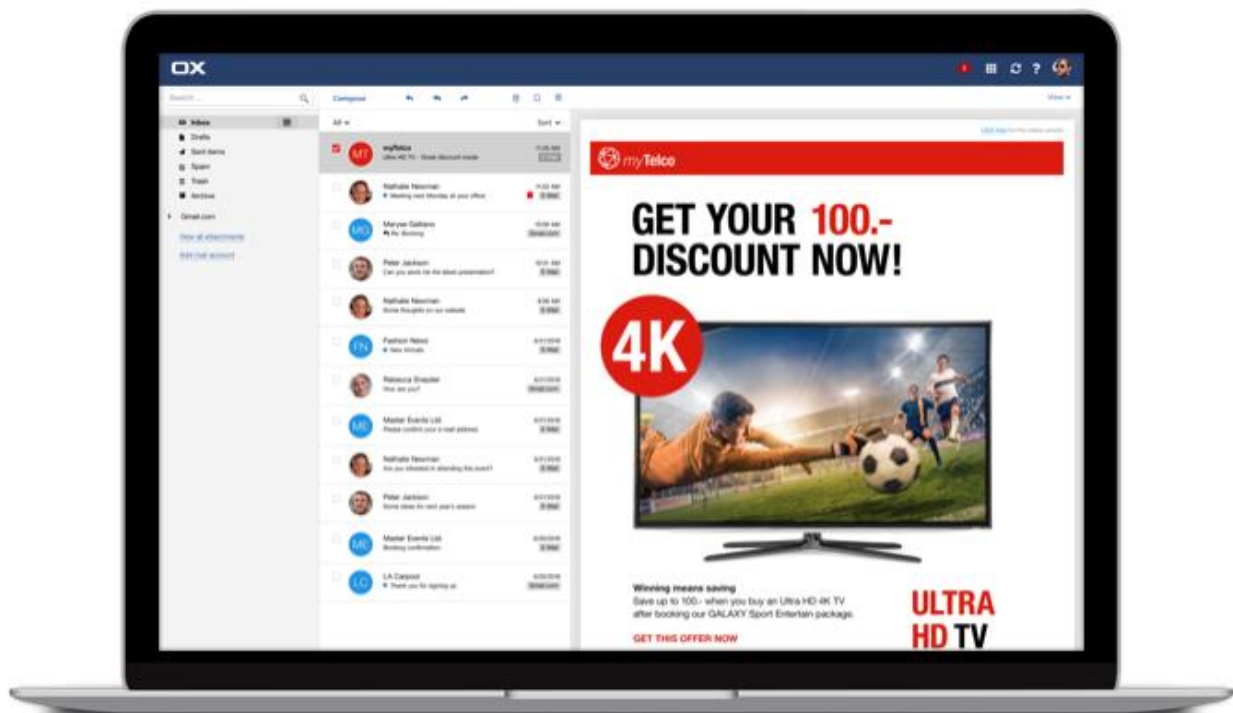
Cross-sell and cross-device campaigns are also possible with the same scenario.



### 2.1.3. Retargeting

This is an example of an **internal campaign** wherein the customer retargets its user with an enhanced offer. The scenario is as follows:

- The customer sends an offer for a 4K TV.
- The user opens the email and possibly clicks one of the links.
- OX Engage follows up with a more targeted email campaign sent to the user.

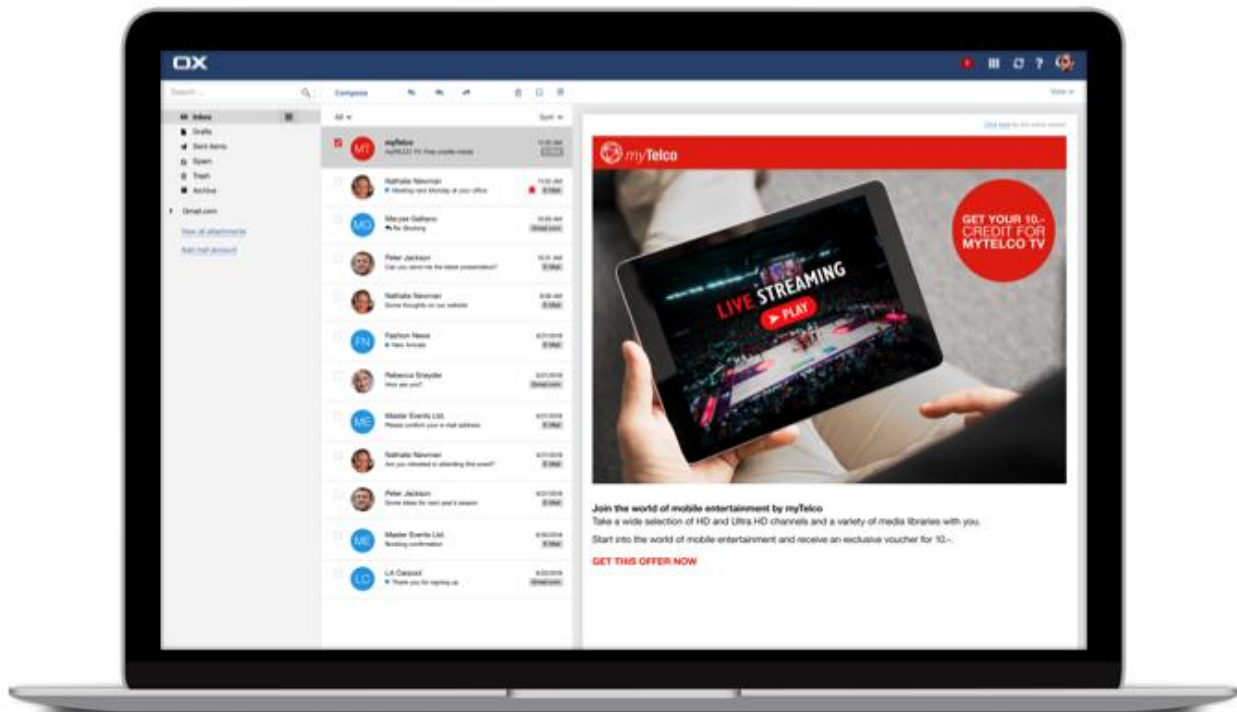




## 2.1.4. Dormant User Reactivation

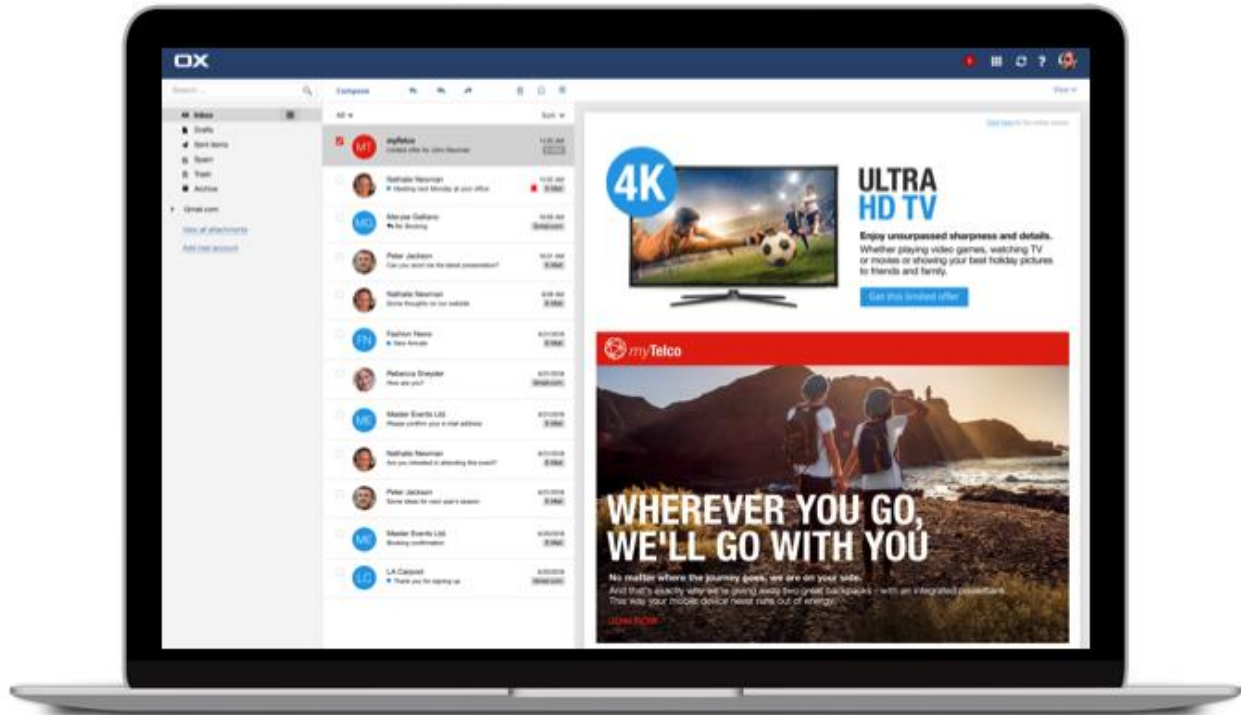
This is an example of an **internal campaign** wherein the customer targets dormant users using OX Engage. The scenario is as follows:

- The customer creates one dormant user campaign.
- The campaign is scheduled to last 3-12 months.
- When any of the users within this list, log in during this time period, the campaign is injected into their inbox.



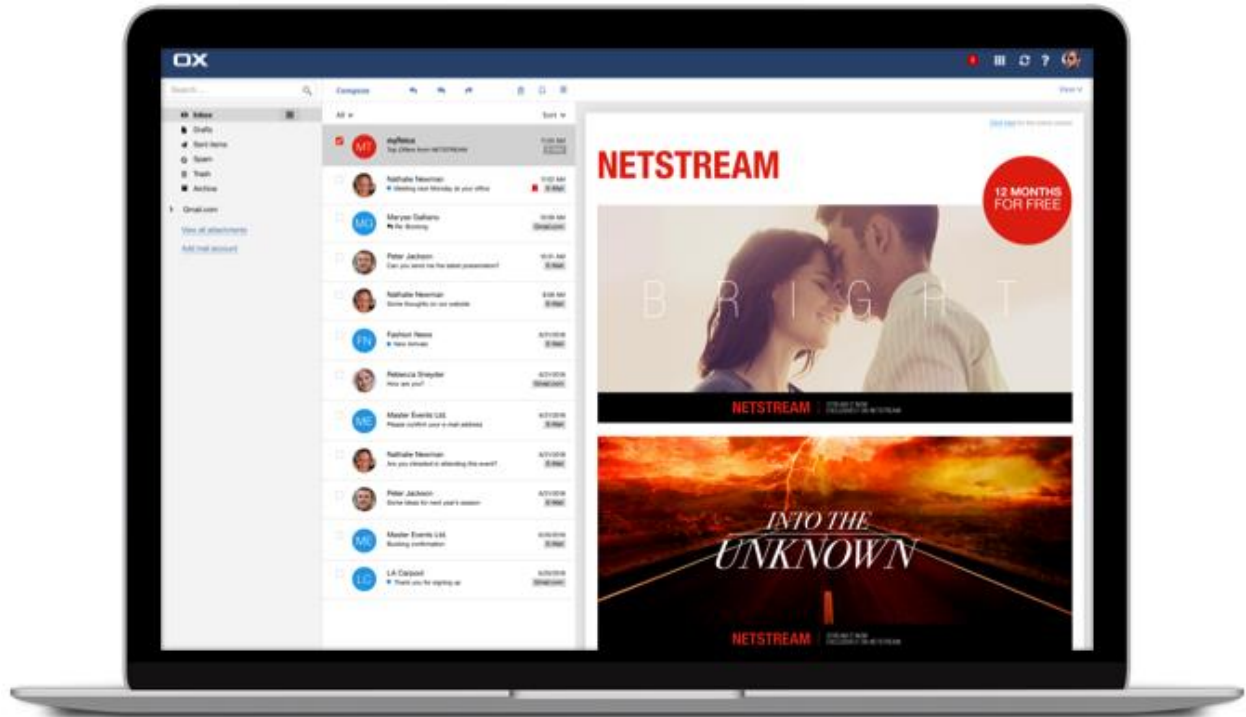
### 2.1.5. Third-Party Ad Slot

This is an example of an **internal campaign** wherein the agency also places a banner advertising third-party content.



## 2.1.6. Third-Party Campaign

This is an example of an **external campaign** operated by an agency wherein they recommend the products or services of a third-party to the customer's user base.



### 3. Components

OX Engage is available either on-premise in your data center or hosted by Open-Xchange with OX Managed. OX Managed is a turnkey solution providing a highly scalable, fully managed and hosted delivery platform for OX App Suite. In order to work in an OX Managed environment, OX Engage comes with an additional database called the Monetization Database (MDB).

Dependent on the type of deployment, up to four distinct components interact in order to provide OX Engages' functionality:

- Integrated Campaign Management Platform  
to create and schedule campaigns through a user interface (UI)
- Mail Injection Middleware (MIM)  
to decouple the OX Dovecot Pro IMAP server from the CMP
- OX Dovecot Pro IMAP Server  
to fetch campaign templates and any user-specific variables provided by the customer and injects messages into the users IMAP stream
- OX Monetization Database (for OX Managed customer only)  
as an additional database to support OX Managed in order to map user ID to the email address

Campaigns are managed in the integrated Campaign Management Platform. Once the campaign has been scheduled, the CMP interacts with the Mail Injection Middleware, which downloads and stores the campaigns and all related user data in order to transfer the content to the OX Dovecot Pro server when the user is active.

In other words, when a new campaign is scheduled in the CMP, the corresponding mail template and per-user data are exported and stored in an Amazon S3<sup>2</sup> compatible bucket. The successful export is followed by a push event to MIM, which then pulls the data and stores it locally in Cassandra<sup>3</sup> for fast lookups and retrieval.

<sup>2</sup> The "Amazon S3" bucket is not a part of OX Engage and needs to be obtained separately.

<sup>3</sup> Cassandra is a distributed database for managing large amounts of structured data across many commodity servers, while providing highly available service and no single point of failure. "Cassandra" is not a part of OX Engage and needs to be obtained separately.

On user login, any active campaigns for that user are requested by OX Dovecot Pro from MIM. This lookup happens asynchronously so as not to block the login procedure. If not cached locally yet, OX Dovecot Pro also requests the mail templates from MIM.

### **3.1. Integrated Campaign Management Platform**

OX Engage comes with an integrated CMP called Ongage. The platform is hosted and operated by entities outside the Company's organization and can be used to create email templates, manage campaigns (create & schedule) and define target segments.

Moreover, inside Ongage a complete analytics section with all needed reports is available, from a snapshot, aggregate, transactional and event analytics towards matrix as well as contact activity report. For more information about the reporting features please see Ongage webpage (<https://ongage.atlassian.net/wiki/spaces/HELP/pages/1179659/Analytics>).

In addition to the regular analytics provided, Ongage also provides the following OX Engage specific reporting capabilities:

- Email injection counting  
This parameter reports successfully injected emails (also called 'Inboxed'.)
- Email read count  
This parameter reports if an injected email has been read.

These Key Performance Indicators (KPI's) are designed to give OX Engage customers advanced insights regarding the success of their email campaigns as well as new analytic abilities.

For more information about the general CMP features please see the Ongage webpage (<https://www.ongage.com/features/>). For a better operational approach see their Help (<https://ongage.atlassian.net/wiki/spaces/HELP/overview>).

#### **3.1.1. POP3 Support**

From v1.1.0 onwards, OX Engage is able to support POP3 email users, using other ESP services but all described key features for IMAP Injection (mentioned above) are not available here. Therefore, the customer must anticipate the following limitations:

- Emails will be sent at a scheduled date using a previously configured ESP.
- Users' email addresses have to be provided.

- Email campaigns arriving at the users' mailbox may be filtered through spam filters or a user's custom filter rules.
- No fixed/defined positioning in the users' inbox.
- Emails may be visible to users even if the campaigns are not active anymore.
- IMAP Injection campaigns and POP3 campaigns are separate campaigns.
- No injection counting will be enabled for POP3 users' campaigns (regular pricing of ESP takes place).
- Opens and clicks are provided by Ongage's "click"-pixel tracking.

In order to target POP3 users separately from IMAP users, customers must first be able to distinguish between these users

OX Managed Ops team is able to differentiate between IMAP and POP3 users. On-premise customers should also be able to do this during user profile export from their CRM customer or Ops team has to flag each account accordingly: IMAP or POP3.

The added column "imap" indicates a user profile using IMAP or POP3 by having its value set to "true" or "false". To enable the usage of POP3 email addresses in Ongage the email addresses have to be provided as clear text due to the processing by a common ESP.

During segmentation in Ongage two segments need to be created:

1. filtering by the attribute "imap = true" plus all other relevant attributes
2. filtering by the attribute "imap = false" plus all other relevant attributes

For "IMAP-Segments" OX Engage works as known after this point, creating campaigns, transferring them to OX Engage, injecting them in OX Dovecot Pro, etc.

For POP3 campaigns, an existing IMAP campaign might be duplicated, or a new campaign has to be created. Customers should choose "POP3-Segment" as a target. Furthermore, since email injection is not enabled for POP3 users, an ESP service like MailGun, for instance, should be selected to carry out this email campaign. At the scheduled time the campaign will be sent via the configured ESP.

### **3.2. Mail Injection Middleware**

The MIM is a stateless server application that offers a REST API for interaction with OX Dovecot Pro and/or other services. Its main task is to respond to OX Dovecot Pro requests for active campaigns for a user during IMAP login.

The CMP pushes campaign data and related user data to the MIM. Campaign data consists of mail templates, campaign parameters (start/end date, template, display position, etc.) and per-user placeholder values. Mail templates and parameters are identified by the unique campaign ID, while placeholder values per campaign are referenced by user hash.

The MIM processes and stores these data entries on-site for fast on-demand lookups. It is based on the Cassandra database system, which allows for high scalability, availability and performance.

### **3.3. OX Dovecot Pro**

OX Engage uses two components on the OX Dovecot Pro backend servers: an injection plugin loaded into the IMAP process and an ephemeral worker process. The worker process makes the asynchronous calls to MIM. This integration identifies when a user has logged in or activated his email account, and consequently initiates the injection of the email message into the targeted user's inbox.

When OX Dovecot Pro asks the MIM for campaigns for a user identified by the user hash, a fast index lookup will return all potential campaigns. Those are then checked for validity (is the present time between the start/end dates, has campaign not been canceled, etc.). The request is made with a hash constructed out of the user database attributes. The hash matches the user hash with which the user is identified at the CMP and the MIM.

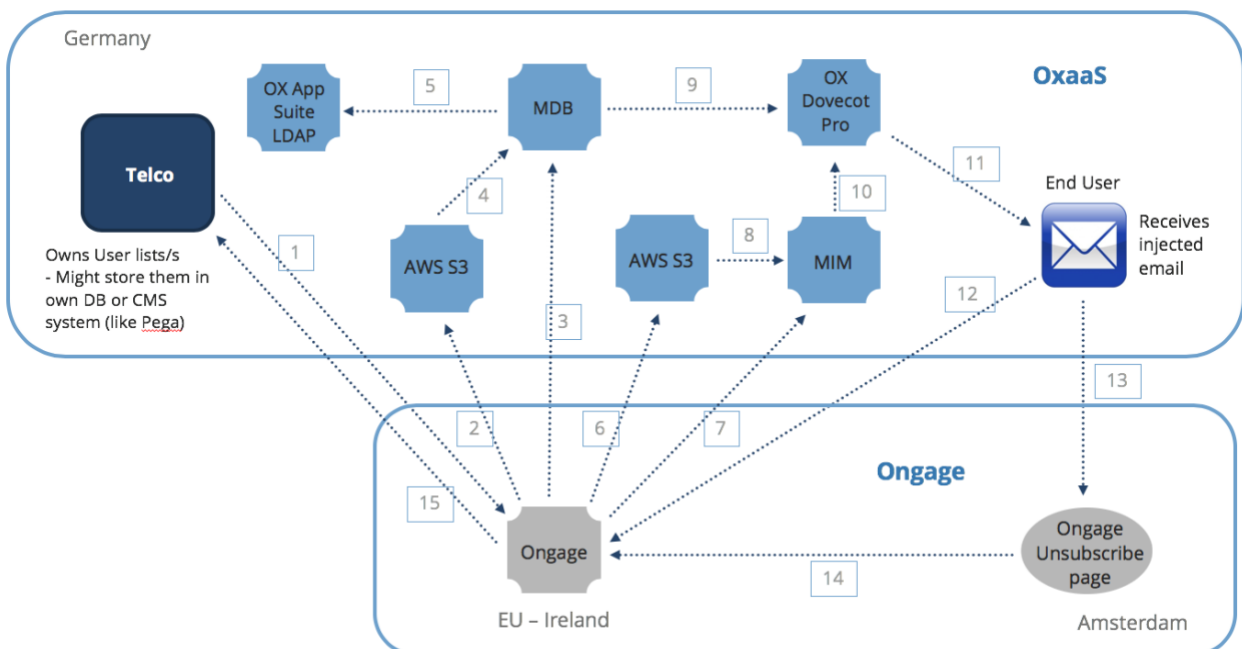
### 3.4. OX Monetization Database

The Monetization Database is a supporting component for OX Engage for OX Managed-like deployments.

When in use by OX Engage, it works like an intelligent data-matching table resolving the customer CRM-internal user-identifier to the OX Managed internal ID in order to resolve the end users' email address and displayname.

During the import of end user data from Ongage, MDB uses the deployment platforms LDAP as a data source. Using the LDAP, MDB resolves the users' email address and OX Managed internal ID.

Please find below an example of the data flow:



1. Customer uploads hashed email addresses, sharedID and displayname together with any profile related information needed to segment and target users in campaigns. The base user identifier being transferred to Ongage is the hashed email address.
2. User profile data is imported from the Amazon AWS S3 bucket into the MDB.
3. Ongage triggers user profile import to MDB.
4. User profile data is imported from the Amazon AWS S3 bucket.
5. OX App Suite LDAP is used to resolve hashed email address to clear email address and sharedID to OX Managed internal identifier.



6. Campaign data, placeholders, and email templates are exported to the Amazon AWS S3 bucket.
7. Ongage triggers the import of campaign data, placeholder and email templates into MIM.
8. Campaign data, placeholders and email template are imported from Amazon AWS S3 bucket into the MIM.
9. The MDB provides the OX Dovecot Pro mail server with displayname and email address.
10. The MIM provides the OX Dovecot Pro mail server with active campaign data per user, placeholders and templates.
11. The OX Dovecot Pro mail server initiates the email campaign injection when it identifies that the end user has logged in.
12. All end user actions (opens, clicks) are reported back to Ongage.
13. User unsubscribes.
14. User un-subscription is sent back to Ongage.
15. All info can be exported back to the Telco's CMS system at any given time.