

Open-Xchange Engage Product Guide Version 1.0.1

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1. OX Engage – Introduction

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 a SMTP server or protocol. Information that is stored in these IMAP objects can include advertising, promotions, service alerts or any other conceivable content of a regular email.

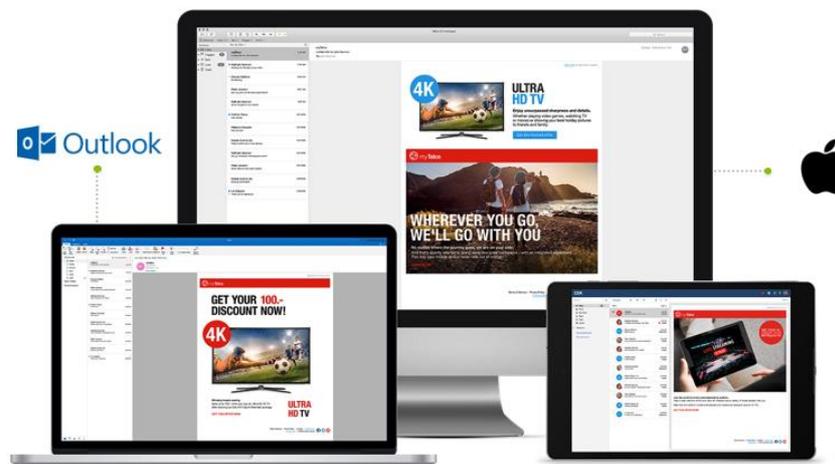
Upon user login, any active campaigns for that user are requested by OX Dovecot Pro and the IMAP server will ad-hoc inject IMAP objects into the customer's inbox.

In cases where 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.

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 configurable object- and/or user profiles and other targeting parameters.

1.1. Product Description

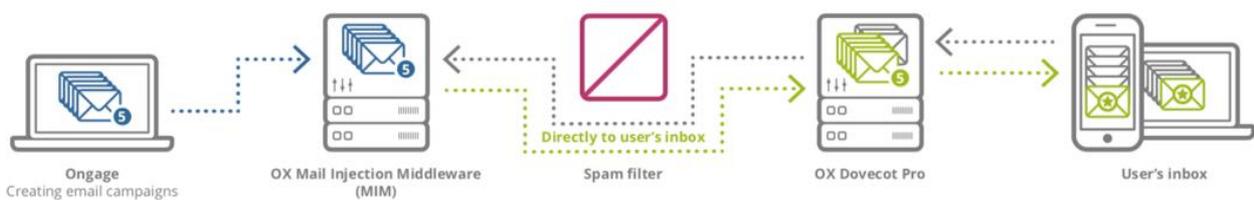
OX Engage enables the injection of messages into user's inbox, in any email client using the IMAP protocol, such as OX App Suite Mail, mobile native mail clients or other clients such as Microsoft Outlook.



Campaigns are managed in the Campaign Management Platform (CMP). Once the campaign has been scheduled, the CMP interacts with the Mail Injection Middleware (MIM), 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.

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 compatible bucket. The successful export is followed by a push event to MIM, which then pulls the data and stores it locally in Cassandra for fast lookups and retrieval. 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.

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.



OX Engage is available either on-premise in a data centre or hosted by the Company via OX Managed (former known as OX as a Service). 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) which maps OX Managed user ID to the email addresses used by the customer.

1.2. Feature Summary

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 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 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 CPM tool Ongage can be used to manage OX Engage as well as other ESP/SMTP/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. OX Engage – Components

Four distinct components interact to create the OX Engage functionality:

- Campaign Management Platform (CMP)
where campaigns get created and scheduled.
- Mail Injection Middleware (MIM)
which decouples the OX Dovecot Pro IMAP server from the CMP.
- OX Dovecot Pro IMAP Server
which fetches campaign templates and any user-specific variables provided by the customer and injects messages into the users IMAP stream.
- Monetization Database (MDB) for OX Managed customer
as additional database to support OX Managed in order to map user ID to email address.

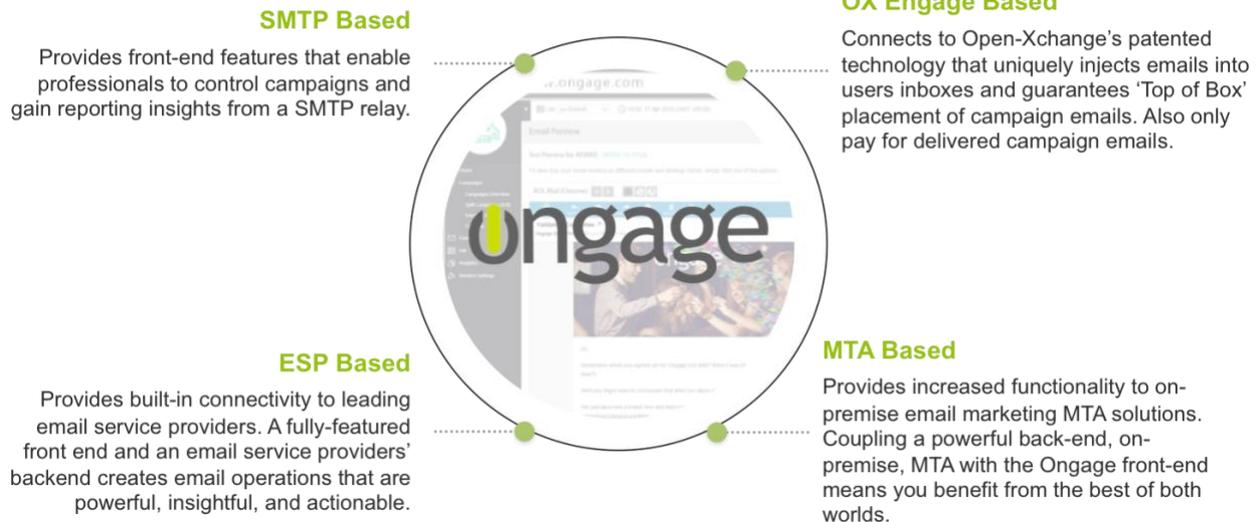
2.1. Integrated Campaign Management Platform

Injected messages are virtual mailbox entries that can be controlled by an external campaign management system.

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

The CMP requires user profiles with hashed email addresses to be uploaded. Representatives of the customer whose users are targeted would typically do this. If no additional information of the user, other than email address, is provided (such as name, gender, age, geo-location, etc.) the platform will start with zero knowledge.

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



2.2. OX 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 Casandra database system, which allows for high scalability, availability and performance.

2.3. 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 cancelled, etc.).

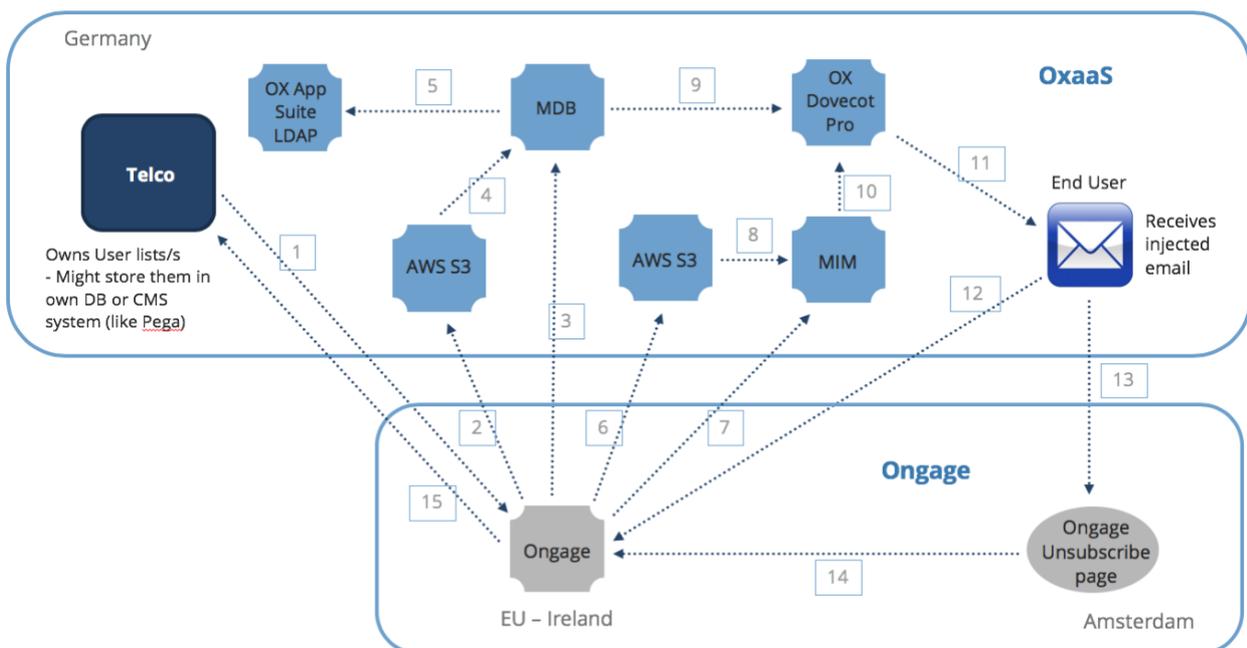
The request is made with a hash constructed out of the user database attributes. The hash matches the user hash with which the user is identified at the CMP and the MIM.

2.4. 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 a 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 template is exported to Amazon AWS S3 bucket.
7. Ongage triggers import of campaign data, placeholder and email templates into MIM.
8. Campaign data, placeholders and email template is 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.

3. OX Engage – Analytics

In addition to the analytics provided by the integrated CMP, Ongage; OX Engage provides the following additional reporting capabilities:

- Email injection counting
This parameter reports successful 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.

TITLE	RELATED LIST FIELD	SHOW SUM IN STATS?	CREATION DATE	ENDPOINT URL	ACTIONS
Read		✓	02 May 19	http://track.develop.intg.ongage.net/?x...	>
Inboxed		✓	21 Feb 19	http://track.develop.intg.ongage.net/?x...	>

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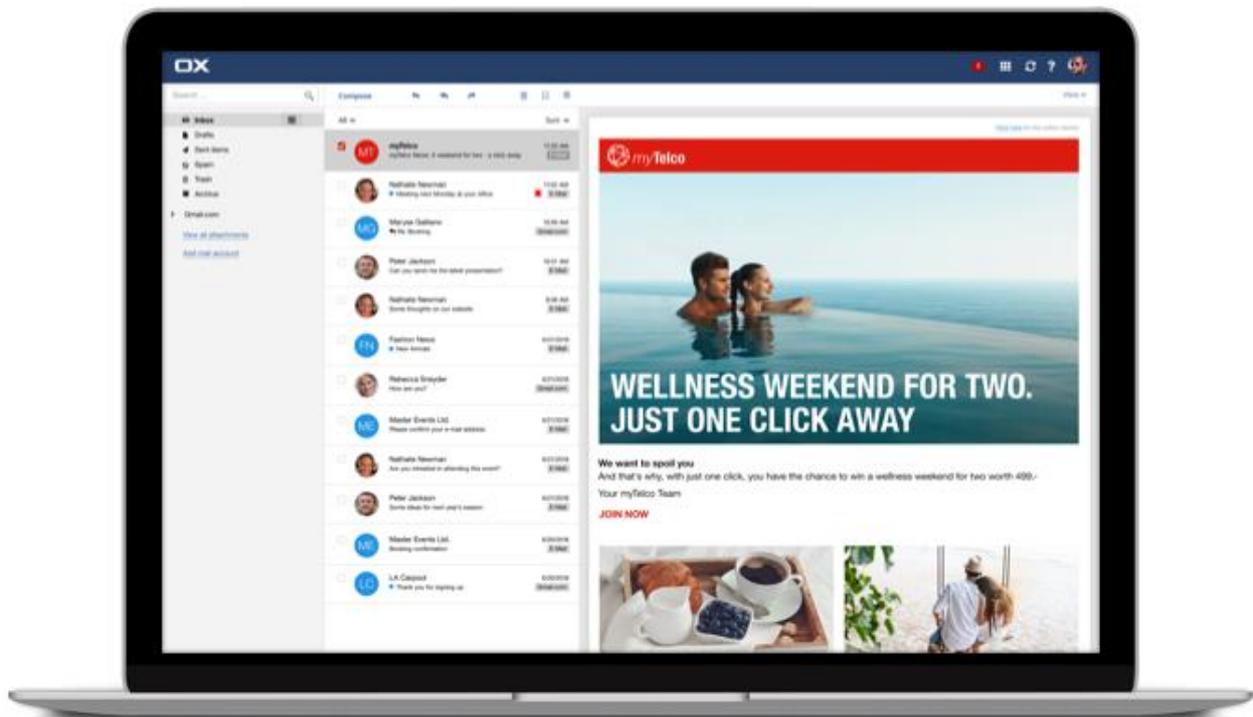
Inside Ongage a complete analytics section with all needed reports is available, from snapshot, aggregate, transactional and event analytics towards matrix as well as contact activity report. For more information about the reporting features please see Ongage webpage (<https://ongage.atlassian.net/wiki/spaces/HELP/pages/1179659/Analytics>).

4. OX Engage – Selected Examples

OX Engage is a patented email injection technology that gives you guaranteed delivery and high visibility for your email campaigns and enhances your monetization strategy using the next generation of Real-Time-Email Marketing. OX Engage can be used for external and internal email marketing campaigns. Please find selected examples below.

4.1. Standard Newsletter

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



4.2. Upsell & Cross-sell

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.

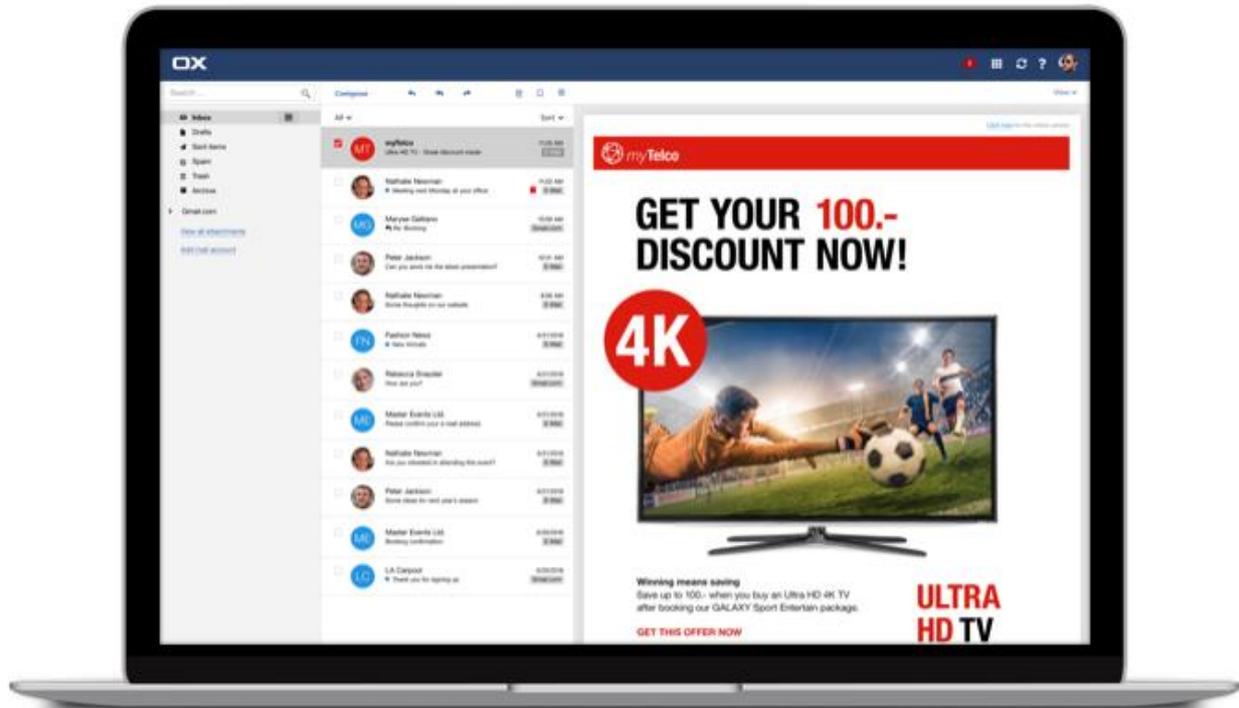
Cross-sell and cross-device conversion campaigns are also possible with the same scenario.



4.3. Retargeting

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

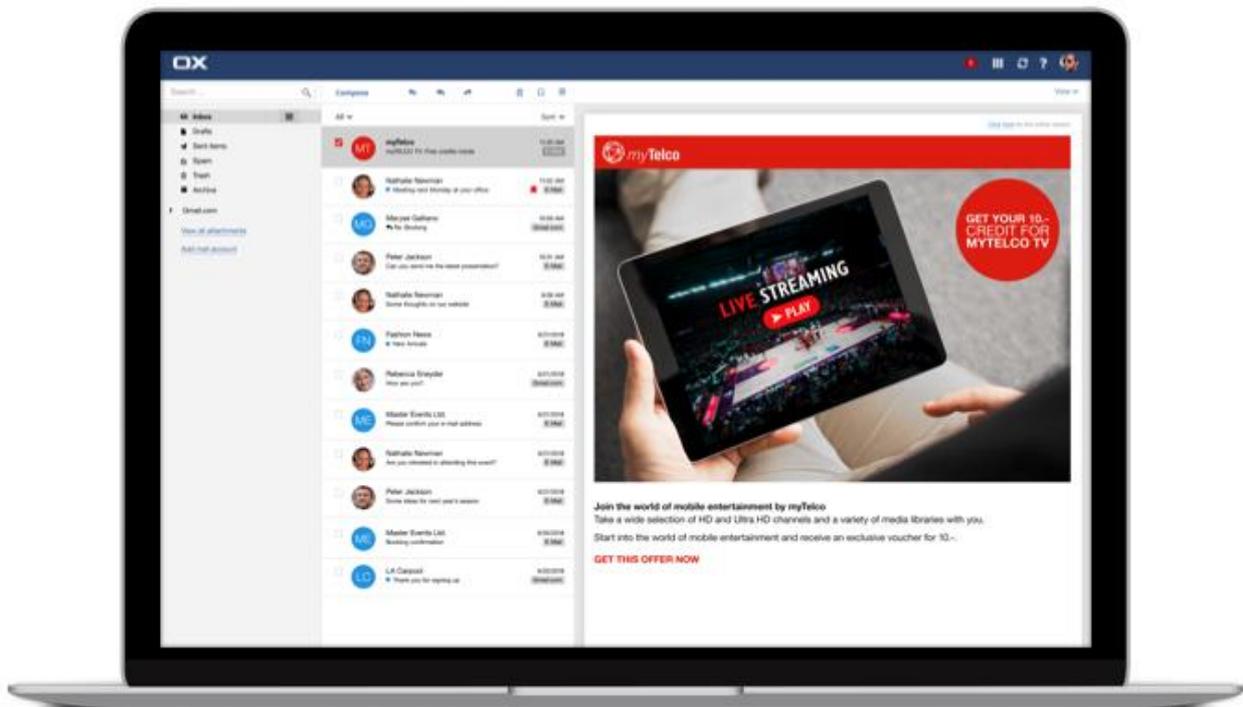
- The customer sends an offer for a 4K TV.
- Customer opens the email and possibly clicks one of the links.
- OX Engage follows up with a more targeted email campaign sent to the user.



4.4. Dormant User Reactivation

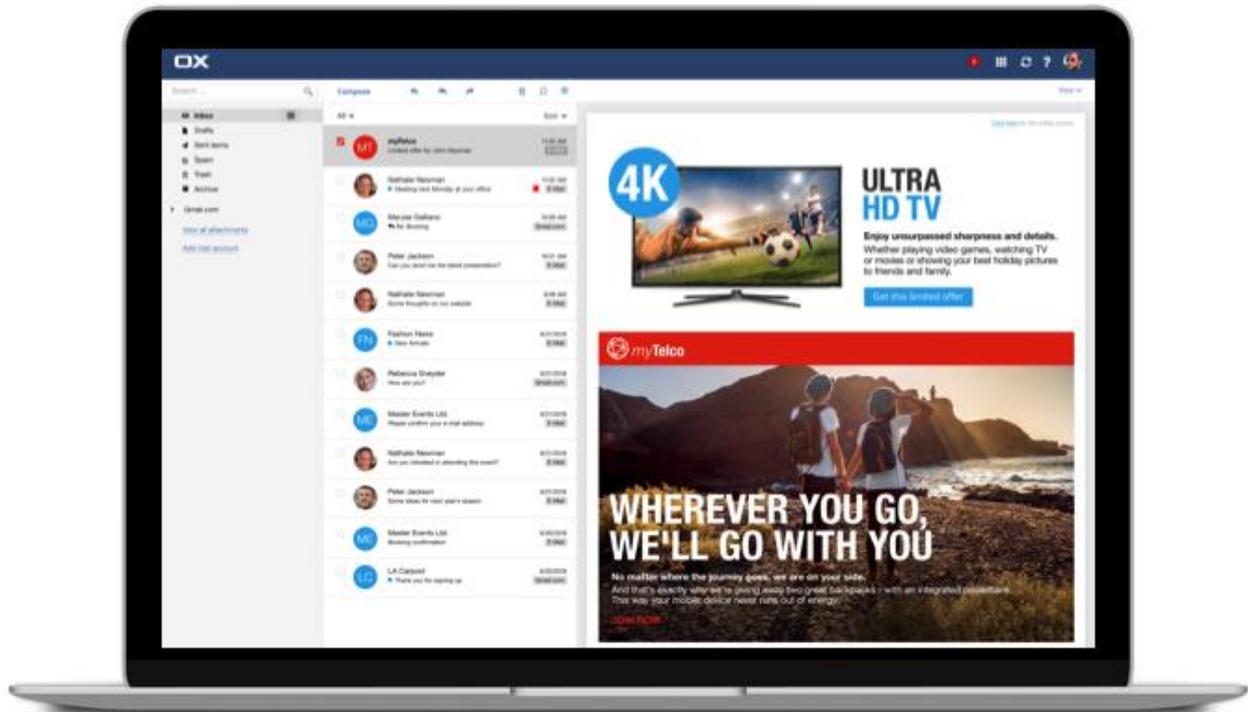
This is an example of an **internal campaign** wherein the customer targets dormant users using OX Engage. The scenario is as follows:

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



4.5. Ad Slot

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



4.6. Third-Party Product / Service

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

