

Open-Xchange Documents

Minor Release v7.10.1

Feature Overview

V1.0

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1 OX Documents v7.10.1

1.1 Intention of this Document

This document provides an overview of the new web frontend features, backend improvements and other changes coming with this minor release of OX Documents, v7.10.1.

The purpose of this document is to inform Open-Xchange customers and partners about the major changes that have been made in this release.

1.2 Key Benefits of OX Documents v7.10.1

Open-Xchange is pleased to announce the release of OX Documents v7.10.1., which introduces the following enhancements:

- **Faster previewing of documents**
Text documents, spreadsheets and presentations with embedded metafiles, such as drawings, charts or OLE-objects, can now be previewed much faster. This significantly improves the user experience of OX Documents.
- **Web optimized PDF**
The OX Document Converter now creates “linearized” PDF and allows a streaming-like behavior to view documents one page at a time without downloading the entire PDF first. This provides users with an immediate preview of the selected file.
- **Zooming improvements**
Images in the OX Documents Viewer can now be zoomed in and zoomed out via double click and tap. In addition there are now zoom buttons for images and a new option to start a slideshow for images.

2 OX Documents Viewer

2.1 In General

Viewing of documents is a key feature in OX App Suite and possible wherever documents are used, i.e. in OX Drive, in email attachments or in appointments or tasks.

The OX Documents Viewer relies on LibreOffice technology, which is used to convert (“OX Documents Converter”) office documents into PDF. The PDF is then displayed in the OX Documents Viewer. The PDF conversion of the OX Document Converter is critical for the user experience of the OX Documents Viewer. The following factors affect the viewing experience:

- **Time to convert a document to PDF**
The faster a PDF can be created, the less time the user has to wait to view the PDF
- **Size of the PDF**
Smaller PDFs take less time to be displayed
- **Structure of the PDF**
Linearized PDFs can be loaded and displayed in chunks
- **Reliability of the conversion process**
Documents can be very complex and might lead to conversion errors in the OX Document Converter

OX Documents Viewer 7.10.1 comes with Improvements in all of the above aspects.

2.2 PDF Conversion Performance

Embedded Metafiles

An analysis of documents with embedded objects, such as drawings, charts or OLE-objects, showed that these documents needed a relatively long conversion time. The reason for this is that embedded metafiles were converted to very large bitmap representations.

The PDF export filter now converts embedded metafiles directly to PDF without having to create a bitmap representation. PDF conversion of documents with embedded metafiles is now up to 10 times faster.

Pre-rendering

To improve the perceived preview loading speed OX Documents now pre-renders all documents in a folder as soon as the user enters that folder. If the user then selects a document for preview, the document should already be converted to PDF and can be immediately loaded from the cache. This makes the viewing experience significantly faster.

2.3 PDF Size

Patterns

Testing has shown that documents containing pattern-filled-objects convert into very large PDFs. The reason for this is that the patterns are exported as single images for each part of the object's pattern. For documents with many pattern-filled-objects a few hundred thousand images can be created.

These duplicated resources are now eliminated in the PDF conversion, now only one image resource is exported to PDF. This reduces the size of a PDF, for such a document, significantly, i.e. from 176 MB down to 3,6 MB.

JPEG Quality

Images in PDF documents are now set from 90% to 75% quality, which reduces the PDF size up to 60%. A new configuration property allows the admin to change this value as desired.

2.4 Linearized PDF

A "linearized" file (or "web optimized PDF") is a special format of PDF that makes viewing faster. A linearized multipage PDF file contains information that allows for it to be downloaded one page at a time. If a PDF file is not linearized, and chunked transfer encoding is disabled, the entire PDF file must be downloaded before it can be viewed.

The PDF export filter used in the OX Documents Converter now creates linearized PDF files that allows a "streaming"-like behavior. For large PDF files

the time to display the first page went down from up to 45 seconds to a few milliseconds.

2.5 Reliability of Document Conversion

The OX Document Converter now only uses a single conversion instance, for converting office documents to PDF, up to 50 times. After 50 conversions a new instance is created. Intensive testing has shown that, in some limited number of cases, a document conversion fails with an instance that is already used for other conversions, although the documents can be successfully converted with a new instance. In order to resolve this, if a conversion was to fail, the conversion will be attempted again but with a newly generated conversion instance.

Alternatively it is possible to use one conversion instance for one conversion. For this scenario an Instance Pool is available which creates new instances in advance. Note: This feature is still experimental as it requires increased demand on the server and could slow down the overall conversion performance.

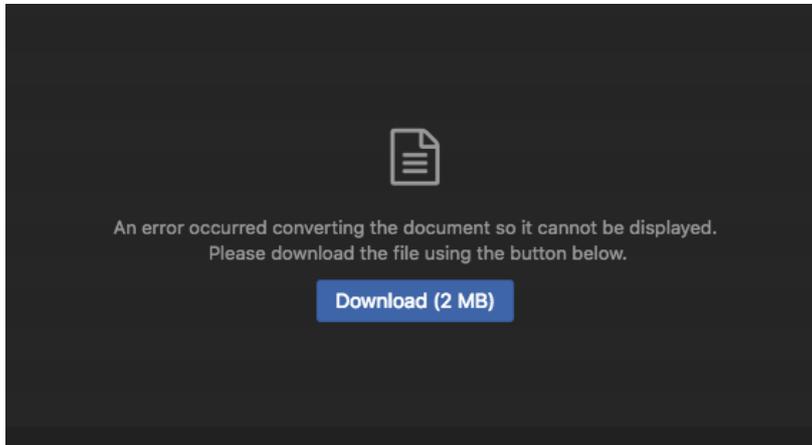
To further improve the stability of the OX Document Converter a number of bug fixes and optimizations have been made.

2.6 Usability Improvements

The following usability improvements have been implemented in the OX Documents Viewer:

2.6.1 Optional Download

Currently a download button is presented to the user when a document preview cannot be displayed:



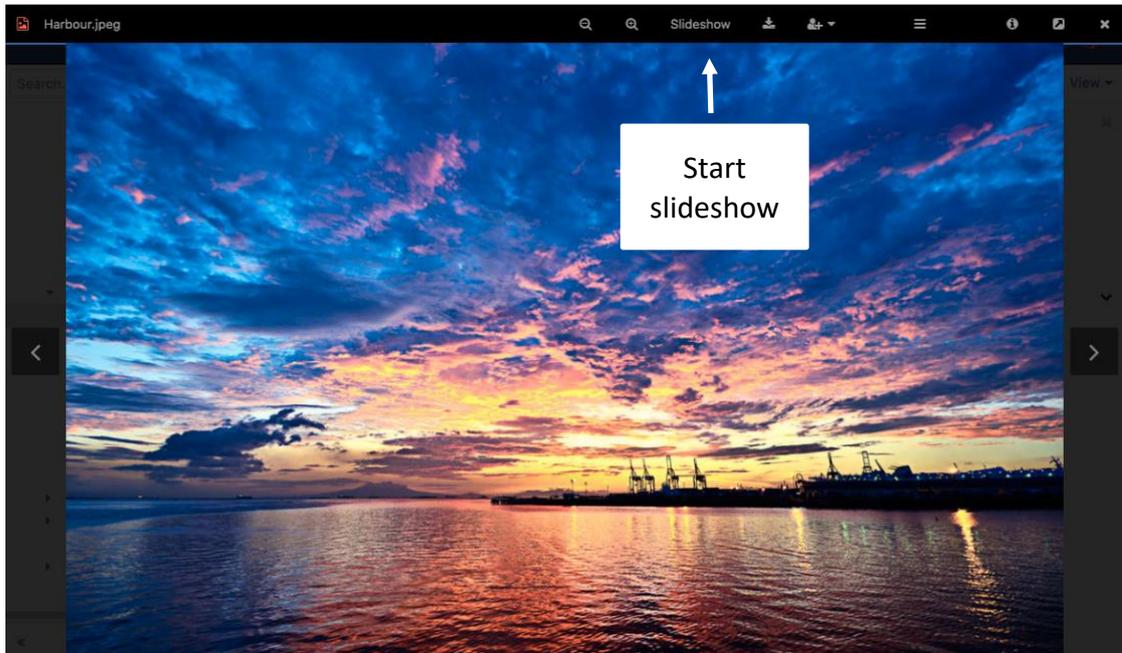
Now, this option to download the file is offered if the preview takes longer than five seconds.

2.6.2 Zoom for Images

OX Documents Viewer now provides a zoom feature for images (zoom ranges from 50% to 400%). Users can click the new zoom in & out buttons in the toolbar, or double click/tap the images to zoom from 100% to 400% in one step. If the zoom level is smaller or larger than 100%, a double click/tap will zoom to 100%. The zoom factor is displayed in the preview. On touch devices pinch-to-zoom is also supported.

2.6.3 New Slideshow Option

The OX Documents Viewer provides the feature to show all images in a folder as an automatic slideshow. The duration per image can be customized. The slideshow can now be started from the toolbar and no longer from an icon in the center of the image.



In a slideshow all toolbars and navigation buttons are faded out after a few seconds. This is so as to not take away attention from the image.

3 Admin Improvements

3.1 OX Document Converter Metrics

The OX Document Converter provides the status and metrics in JSON format. This allows the administrator to easily perform a health check and process the metric data to perform further actions if needed.

3.2 Stateless Document Conversions

OX App Suite now performs all document conversions only via the stateless HTTP API. This simplifies the configuration of the deployments as there is no need for sticky sessions in the load balancer.