A Collabora Overview
Easy to deploy & manage document collaboration

By Michael Meeks

“Stand at the crossroads and look; ask for the ancient paths, ask where the good way is, and walk in it, and you will find rest for your souls...” - Jeremiah 6:16
Collabora Online

Built with awesome LibreOffice Technology

Rich, FOSS, secure, interoperable, collaborative documents, on-premise ...

Let me show you some pixels:
Collabora Online 6.4: the enterprise-ready LibreOffice-based Online Office Suite that allows you to stay in control of your own documents, full control of your office files.

LibreOffice is the world’s most popular Open Source Office suite with over 200 million users. Collabora, a leading contributor to the project, and developer of the enterprise-ready, Long Term Supported edition of LibreOffice, Collabora Office, has now brought LibreOffice to the Cloud with Collabora Online.

With Collabora Online you now have access to a powerful, enterprise-ready and 100% Open Source Online Office suite functionality, with excellent
What is Collabora Online?

Documents + Spreadsheets + Slides

- Viewing and Collaborative editing

Excellent interoperability with Microsoft formats

- DOCX, DOC, RTF, XLSX, XLS, PPTX, PPT

Many other import filters / Viewing for

- PDF, Visio, Publisher ...

Powerful WYSIWYG rendering

On-premise Integration with your EFSS.

Architecture – a bet on CPU threads & network ...
iOS tablets
Rich ChromeBook support
Powerful document editing
Collabora Online vision – focused on it:

- Full feature
- Open Source
- Browser based document editing.

Interoperability

- Is key to unlocking your documents → free choice of platform
  - Executives want iPads & Macs, Students get ChromeBooks, Researchers love the Linux Desktop, others get Windows.
MS Office Online ties you to Windows
MS Word: eg. Rich Fields

Lots of legacy forms to fill out in DOC / DOCX format:

- tab through editable fields; skip protected sections
**Writer: Rich Fields support ...**

Fill out your DOC / DOCX forms

- tab through editable fields; skip protected sections
Built on LibreOffice Technology

- 200+ million LibreOffice user-base
- ~1000 people helping to develop LibreOffice
  - 100 localization teams
- Product developed in public: outer-source

Berlin: Federal Ministry of Economics and Technology

City of Rome: Capitol Hill
Performance Wins
Performance breakdown

Coolwsd / core work

- Major improvements in raw data-transfer
  - download, print, presentation

Faster rendering

- Font caching, image scaling
- Faster opening times of document types
- Faster invalidation, scaling to more concurrent users in one document.

Asynchronous (auto) save

- Don’t pause while the EFSS backend / WOPI-like transaction completes.

Solves autosave ‘stalls’ while typing.
Performance: typing fast ...

- Customer: “we tested it with eight people doing random typing”
- Profiled this use-case; it is/was slow
  - The mis-spelling squiggly-line (cf. wrong language setting?) ...
    - an unfeasible amount of CPU ~90% of rendering time
    - A most beautiful sub-divided, AA b-spline but ... ~2 pixels high mostly

- Mashing the keyboard a pathological case: we’re still working on improving
  - Test your speed here

- Consider Calc with lots of mis-spelling

- Sdf sadf kjh lksdhfk ashdfklkjashdkll
  slkdflkasdh fkjsjd fh;ksah dfk kwe iuh ks.dnf;yi o;wae ,n sadlkjfh

![Graph showing performance comparison]

- ~10x as bad as reality
Profiling: Javascript was slow: surprise

JS in the browser mostly our bottleneck

- batch-processing of websockets: much faster
  - Don’t render one frame per message
- group table handle / cursor movement / DOM re-building $\rightarrow$ 15x faster
- Reduce GC pressure on image handling
- Kick-out a poorly optimized node module or two.

Interactivity / client-side rendering

- Client-side Calc grid rendering
- Client-side writer page rendering

Work continues here ...
New features to 21.11
RTL support: Arabic, Hebrew, ...
eg. PPTX interoperability wins

Headers / footers and various fields round-tripping nicely
Improved PPTX Import

- Images cropped into shapes
- Grey-scaled cropped images
- Mirrored cropped images
Realistic, interoperable shadow effects

Original “classic” shadow

Shadow with blur effect
Glow & Soft Edge Effects on Shapes

Original shape

Glow & Soft Edge effect applied
Shape text rendering wins

eg. multi-column text layout in impress

btLr text frame supporti

An introduction to multi-column text boxes in Impress,

Draw, and elsewhere :-)

Bottom-to-top, left-to-right text (vertical)
Gutter Margins – book / thesis binding

1. Define the size of the gutter margin

2. Choose the position of the gutter margin

3. A preview of the gutter margin's size and position is rendered in the dialog
UX: JS sidebar ...

Javascript widgets rendering in the browser:

- Much easier to theme
- Crisp text, editing.
- Working, but needs polish
- Quicker to update
Bringing Draw to Online: Fontwork
Bringing Draw to Online: Connectors ...

Shapes, Glue points, Connectors
Precisely anchor & reflow your boat (and other) images
http://sdk.collaboraonline.com – opened up our docs
Lots of other new pieces

PDF scrolling
- Continuous scroll, instead of ‘slide pages’ for PDF reading:

Style Previews
- A simple way for people to style their documents from the Notebookbar:
Integration improvements
Nextcloud Office

Integrated, matching themed graphical goodness & innovation ...

- thanks to Jan, Julius, Szymon, Andreas, Pedro, Kendy ...
ownCloud Web & OCIS ...

Native integration into ownCloud Web

Diagram integration ...
Easy to deploy
High availability – clustered COOL

On the server

- High availability
- Server balancing
- Management (eg. Kubernetes)

Users

HA balancer of choice: HAproxy, nginx, F5, ...

Existing Load balancing

Load balancing document editing

https:

EFSS WOPI-like

Collabora Online Worker Nodes
Incremental upgrade-ability ...

Simple: foreach (node)
- Remove one from the load balancer
- Either:
  - Wait for documents to expire
  - Or shut it down to evict users
    - Saving document state
    - Which is re-loaded on another node
- Upgrade node and re-insert into balancer pool

eg. SURF Drive - Dutch Academic network
- 59 institutes, 66,000 users – and 99.996% availability.
Demand scaling / Kubernetes ...

Example 1&1 (cf. COOL-days talk)

- Kubernetes
  - Dynamic load scaling / balancing
- Office Viewer:
  - 100+ instances of COOL
  - 600k conversions / 24hrs
- Office Online Editor
  - 100+ instances of COOL
  - 35,000 edited docs / 24hrs
- 1&1 → huge European hoster: mail.com, gmx.de, web.de etc.
- IONOS / STRATO → also a partner.
Distinctives

Things you don’t get elsewhere
Digital Sovereignty: avoid the data-trap

don’t let your document data out of your site [sic]

- Document data is held in your server room
  - GDPR / jurisdictional compliance par excellence.
- Not sent to every single device to be controlled by the browser + JS + local debugger.
- C’bra sends pixels to clients.
Simple: setup, pricing, support

“Are you sure you only need a load-balancer for HA?”

“Nothing to ask, followed the docs, easy to setup, if only all my problems were that easy”

As many servers & connections & VMs as you need

Dynamically scale your workloads with Kubernetes

Beware of the Window + Tabpocalypse: pay just once per user ...
COOL Days 2021 ... our first conference

**Developers Day**

Cool Days
Collabora Online

Hard-core community & technical content

**Business Day**

Cool Days
Collabora Online

Latest business insights, case-studies & updates
Conclusions
Collabora Online – best of breed

- Free your documents and yourself
- Easy to setup, maintain & scale
- Secure architecture – easy to comply
- Rapid development & improvement
- Full feature Office + excellent interoperability
- Built by a large community on LibreOffice Technology
- Sensible support & development model
Oh, that my words were recorded, that they were written on a scroll, that they were inscribed with an iron tool on lead, or engraved in rock for ever! I know that my Redeemer lives, and that in the end he will stand upon the earth. And though this body has been destroyed yet in my flesh I will see God, I myself will see him, with my own eyes - I and not another. How my heart yearns within me. - Job 19: 23-27