

## A Collabora Overview

Easy to deploy & manage document collaboration

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"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





**Built with awesome LibreOffice Technology** 

YOU editing.

ANNE editing.

Rich, FOSS, secure, interoperable, collaborative documents, THOMAS editing...

on-premise ...

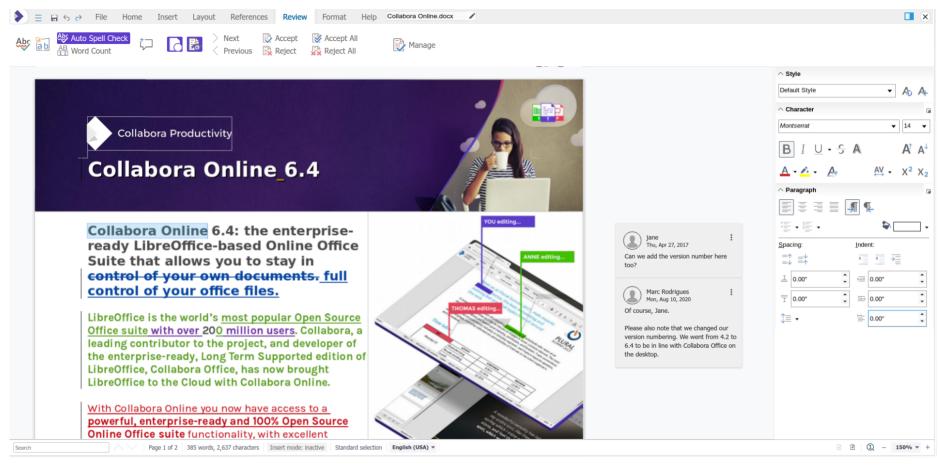
#### Let me show you some pixels:





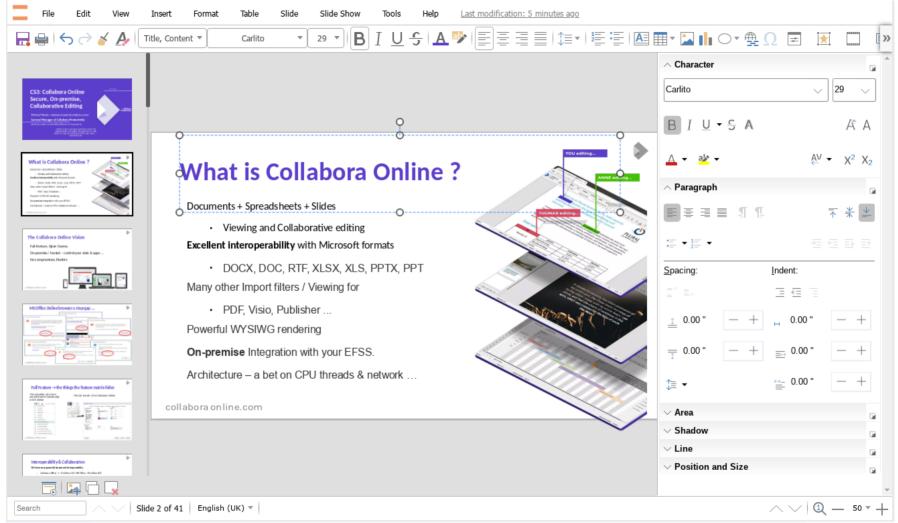






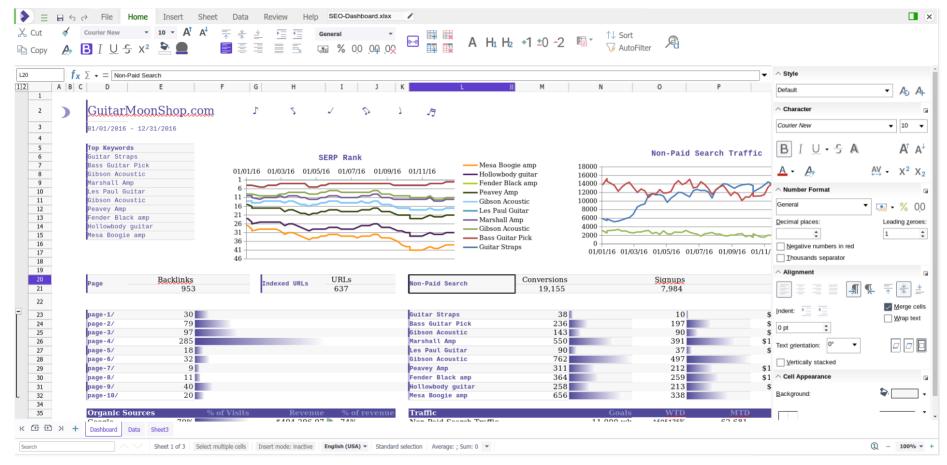






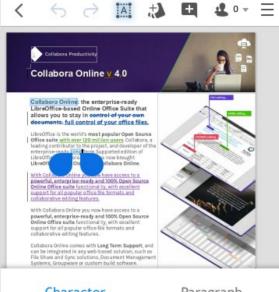






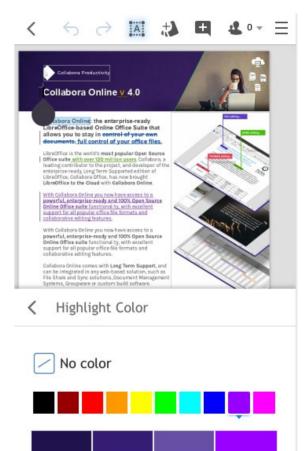






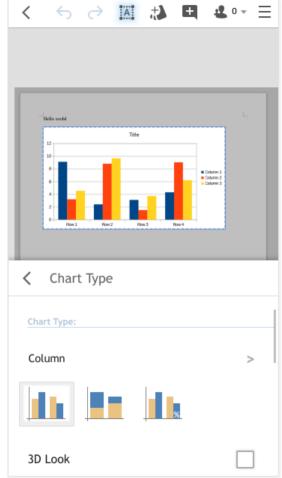


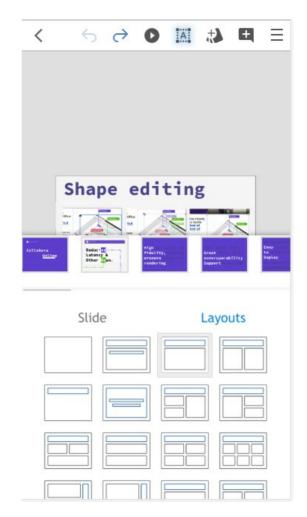


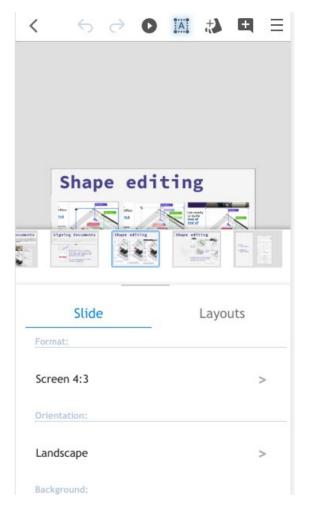






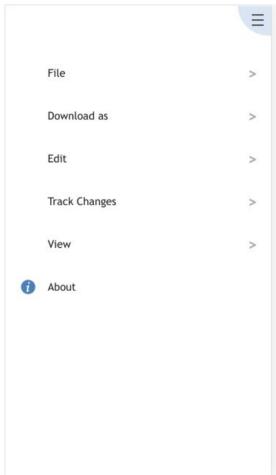


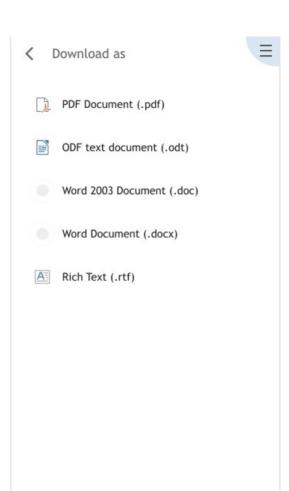


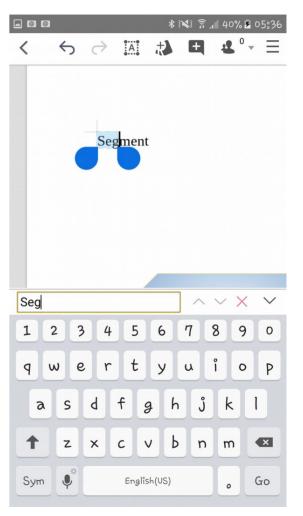








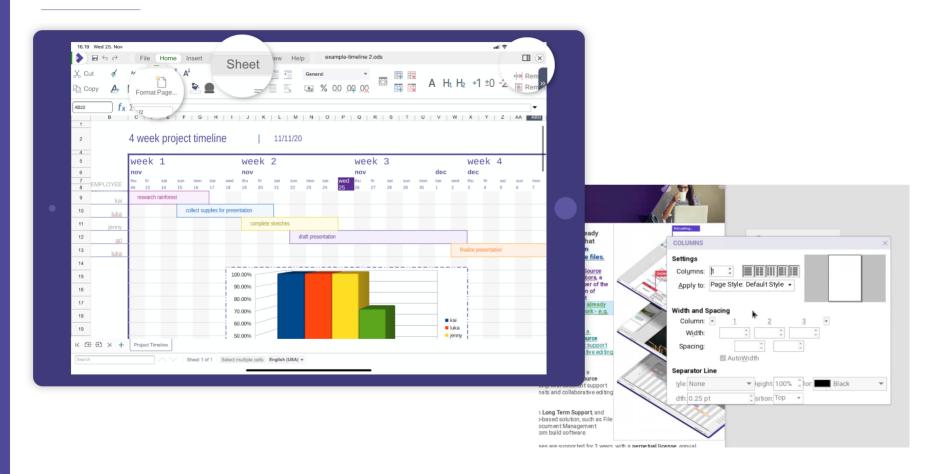








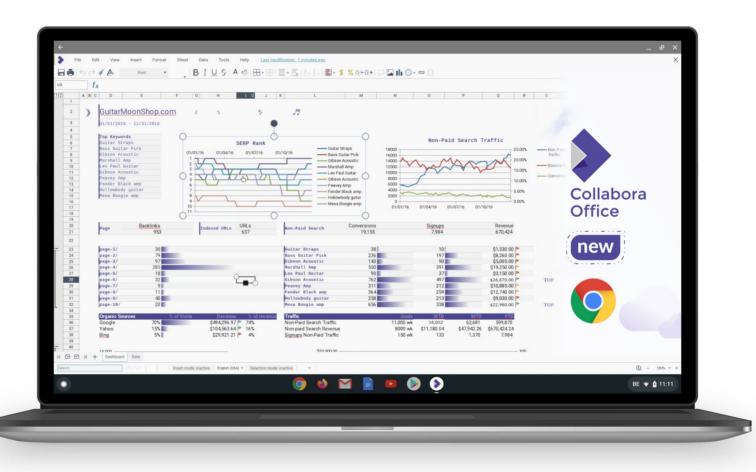
### iOS tablets







### Rich ChromeBook support





# Powerful document editing



### Power & Interoperability are key

#### Collabora Online vision - focused on it:

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

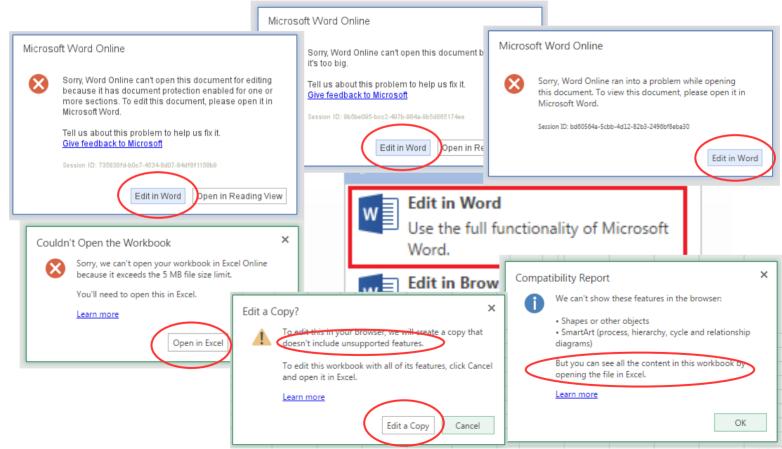
#### Interoperability

- 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



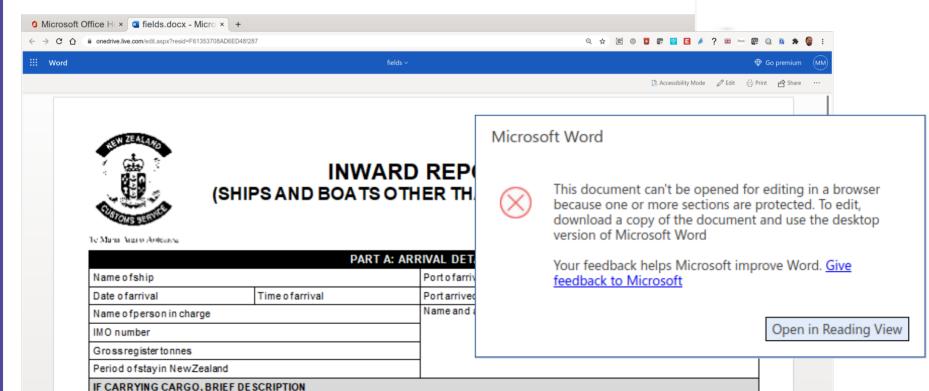




## MS Word: eg. Rich Fields

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

tab through editable fields; skip protected sections





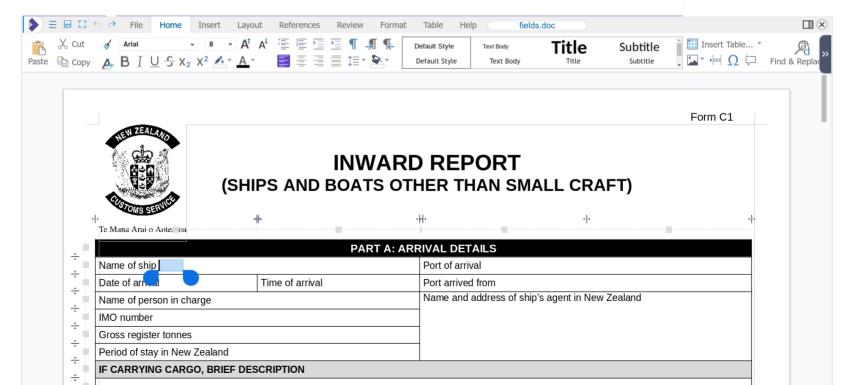


### Writer: Rich Fields support ...

# persor

#### Fill out your DOC / DOCX forms

tab through editable fields; skip protected sections



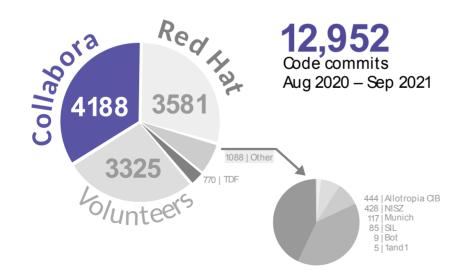




## **Built on LibreOffice Technology**



- 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 datatransfer
  - 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.





Saving document, please wait...

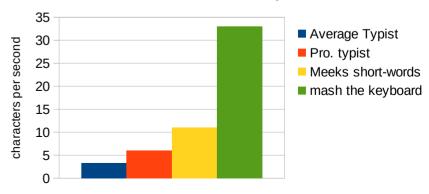


### Performance: typing fast ...

- 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 ashdflkjashdlkf slkdfhkasdh flksjdh f;ksah dflk kwe iuh ks,dnf;yi o;wae ,n sadlkjfh

#### Mashing the keyboard as a test

~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 → 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

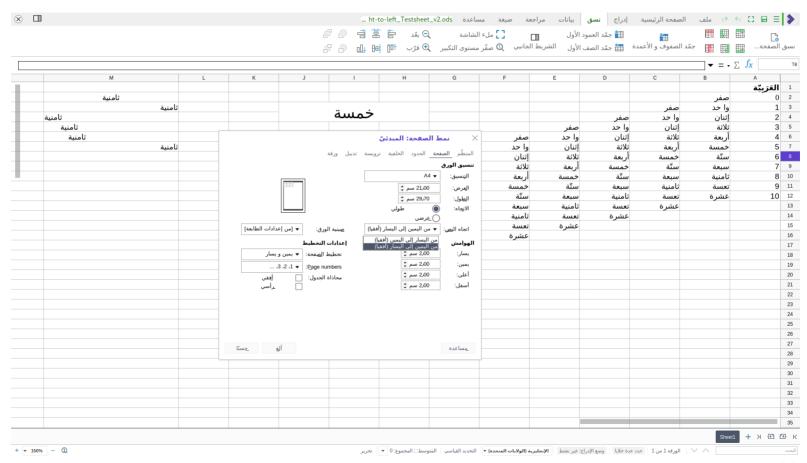


Work continues here ...

# New features to 21.11



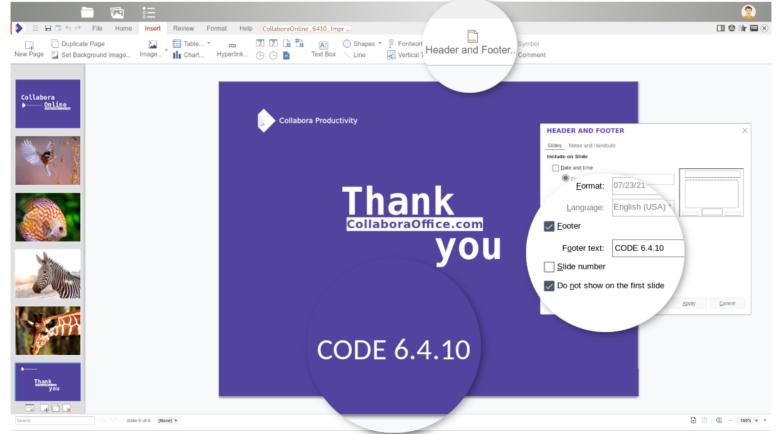
### RTL support: Arabic, Hebrew, ...



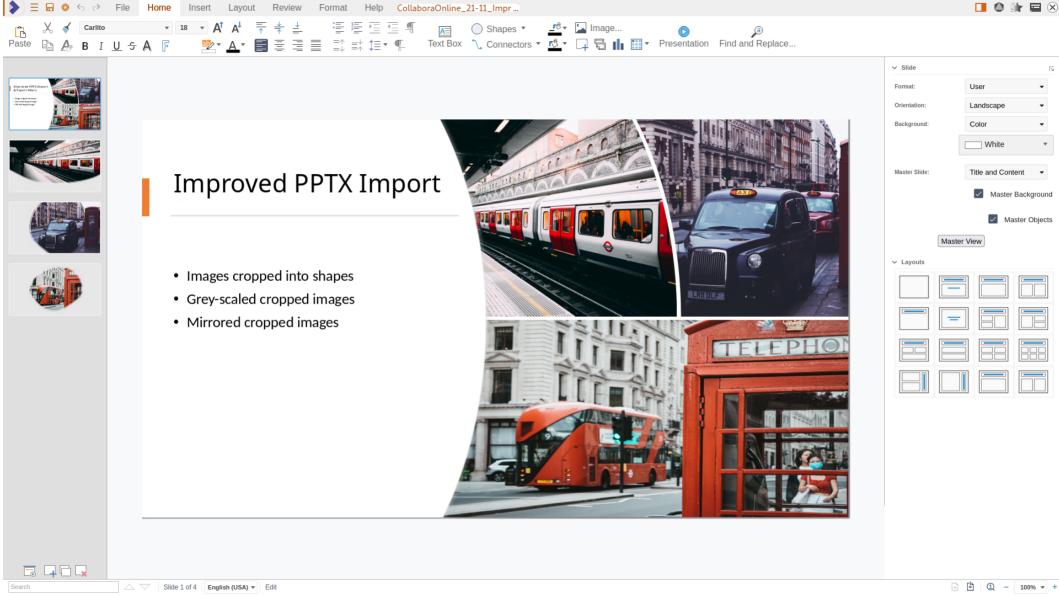


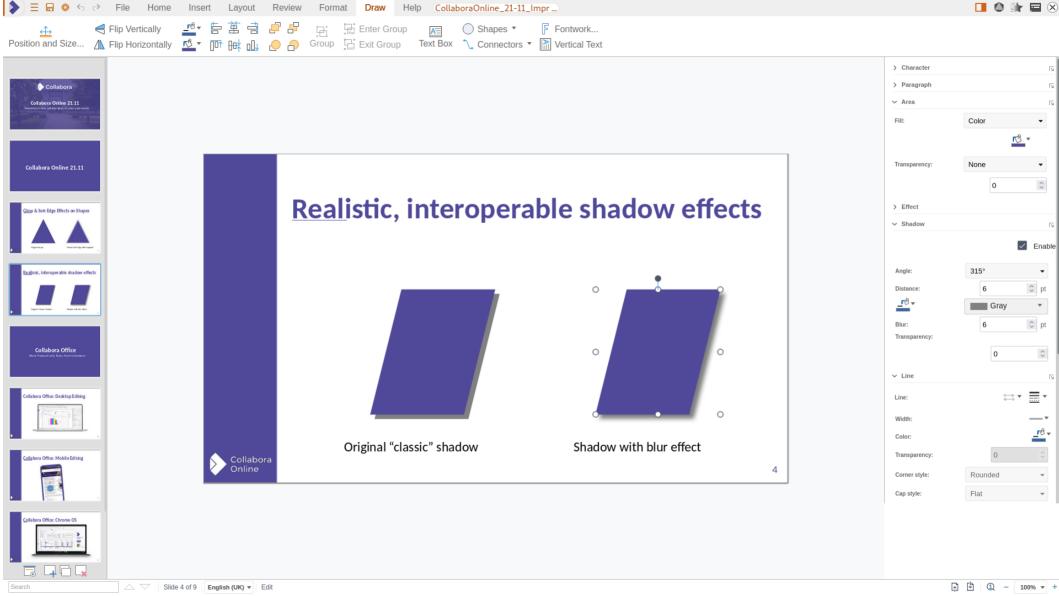
## eg. PPTX interoperability wins

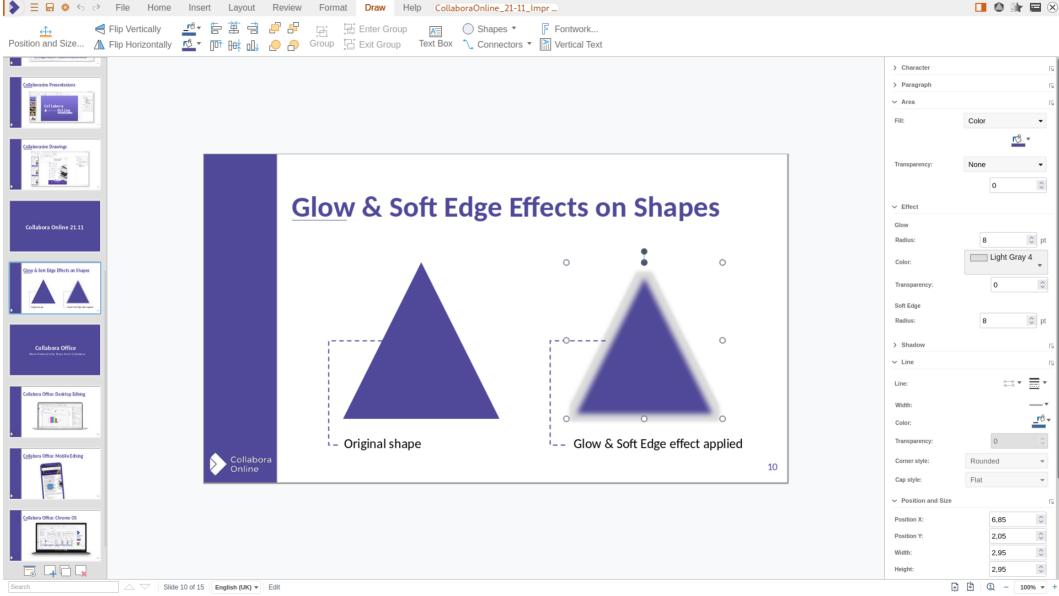
Headers / footers and various fields round- tripping nicely













# **Shape text rendering wins**

eg. multi-column text layout in impress

btLr text frame supporti

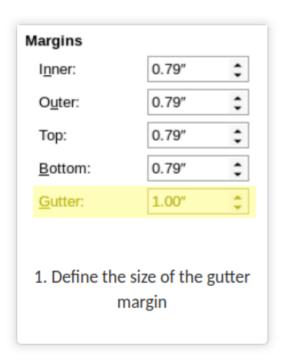
Bottom-to-top, left-to-right text (vertical)

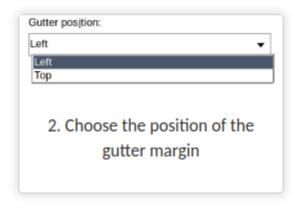


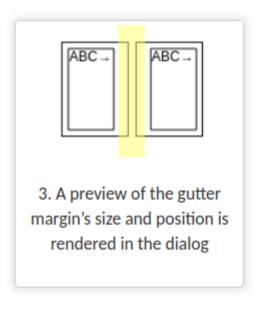




### Gutter Margins - book / thesis binding





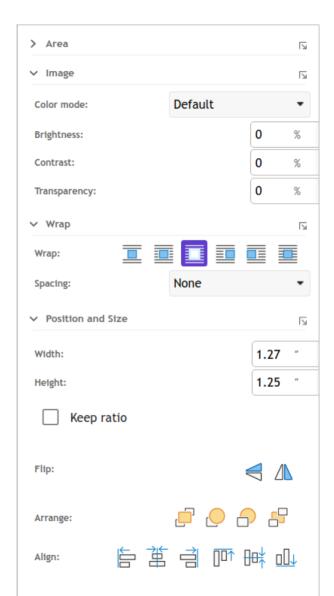




### UX: JS sidebar ...

Javascript widgets rendering in the browser:

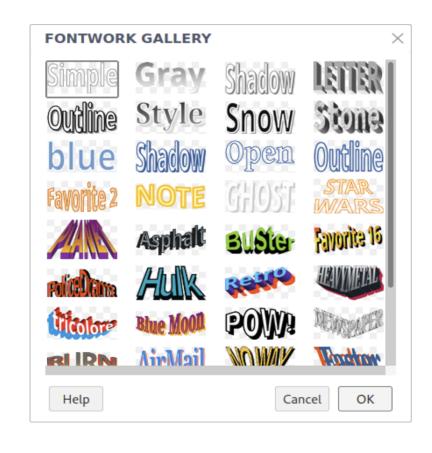
- Much easier to theme
- Crisp text, editing.
- Working, but needs polish
- Quicker to update

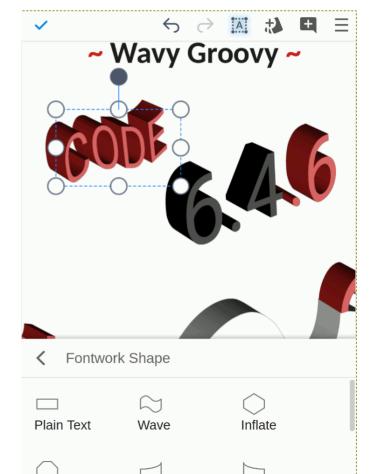






### **Bringing Draw to Online: Fontwork**



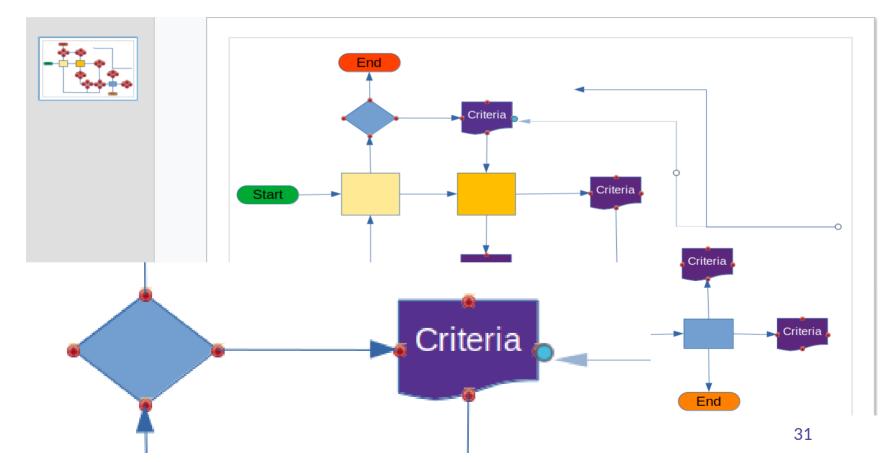






### **Bringing Draw to Online: Connectors ...**

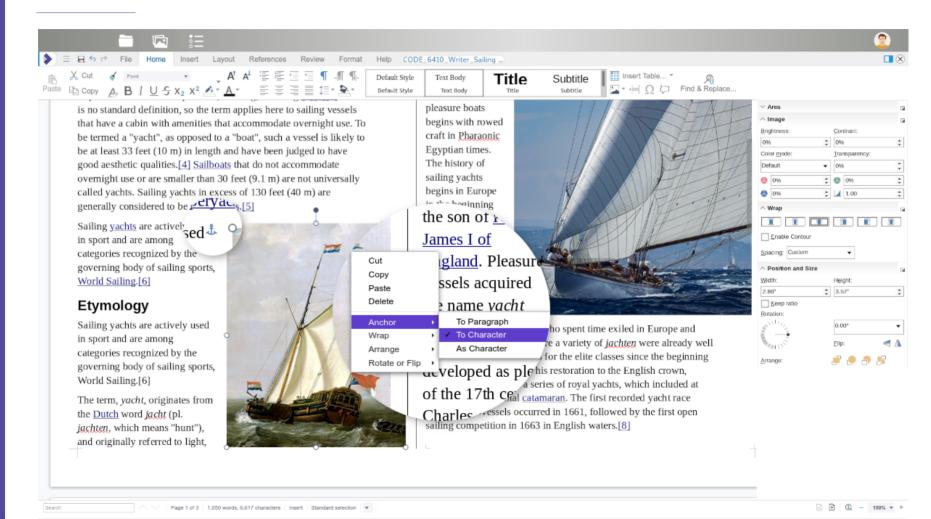
Shapes, Glue points, Connectors







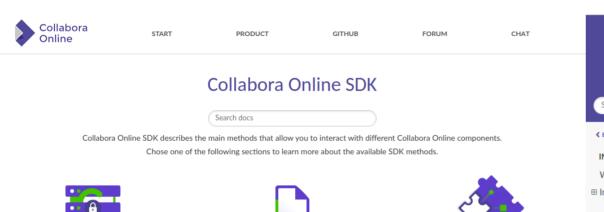
#### Precisely anchor & reflow your boat (and other) images







### http://sdk.collaboraonline.com - opened up our docs





Create integration



Do the documents leave the server?

Install it on-premises

What is CODE? Are there non-development editions too?

Do the programs require an uninterrupted network connection?

Can I host your product on my own environment?

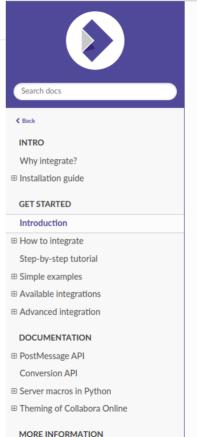
View all FAQ

If you want a high availability setup, not only to provide extra scalability, but also to provide redundancy against faults. Collabora Online has a clean and attractive architecture – which scales with your routing network:

Browse available integrations

· Each document is served by a single node...

Read more >



\* » Introduction

#### Introduction

This document will help you integrating with your existing solut users can edit the documents hosted in the file storage via web

For this to work, you have to setup and connect several parts to

- · Server for hosting Collabora Online
- · Website that presents iframe with the editing capabilities
- Authentication
- · Connection to the file storage

The easiest way to integrate Collabora Online is using the WOF

Collabora Online implements a protocol inspired by the WOPI (Platform Interface) protocol. Using the WOPI vocabulary as we Collabora Online is a WOPI client that can be integrated with a solution: web application and file storage). WOPI is a well documore details please visit the WOPI documentation.



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Built with Sphinx, custom theme based on sphinx rtd by Read the 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:





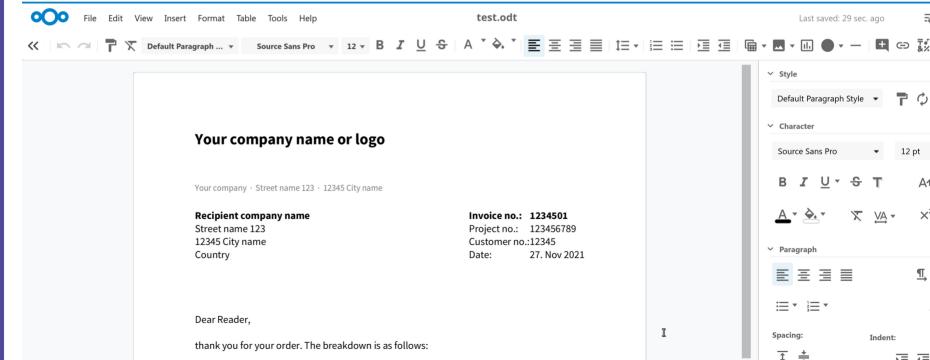
# Integration improvements



### **Nextcloud Office**

#### Integrated, matching themed graphical goodness & innovation ...

• thanks to Jan, Julius, Szymon, Andreas, Pedro, Kendy ...



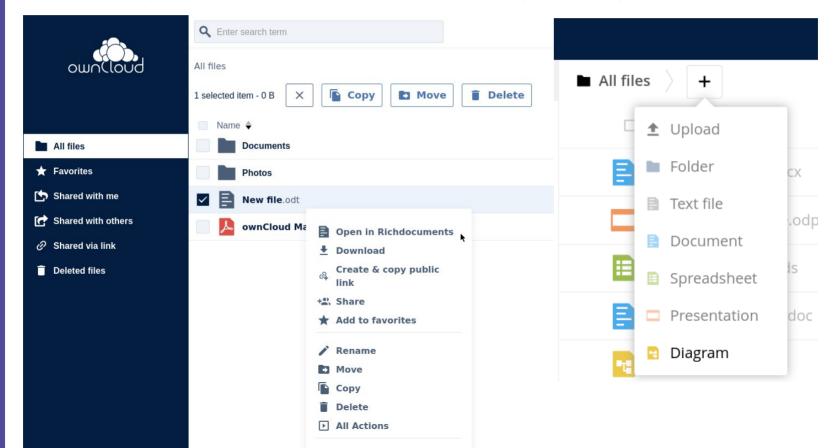




### ownCloud Web & OCIS ...

#### Native integration into ownCloud Web

#### Diagram integration ...

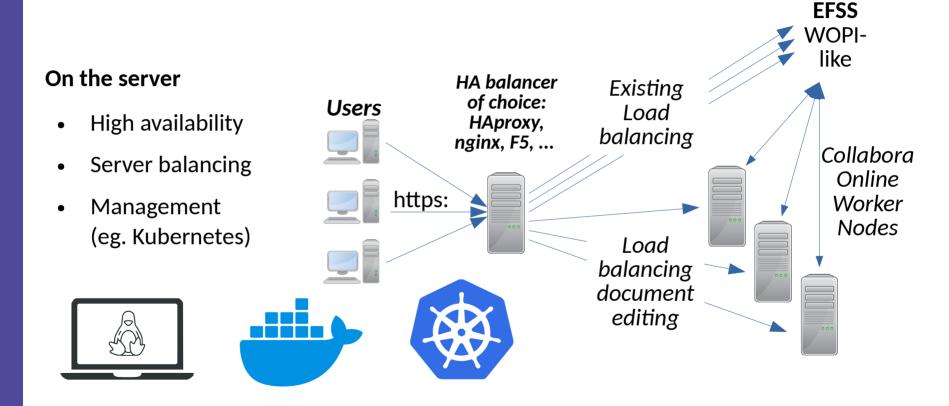




# Easy to deploy



## **High availability - clustered COOL**







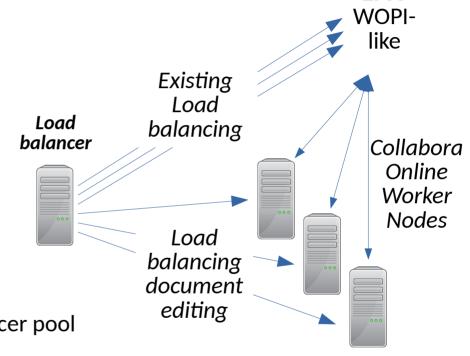
# Incremental upgrade-ability ...

#### 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.





**EFSS** 



## 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.









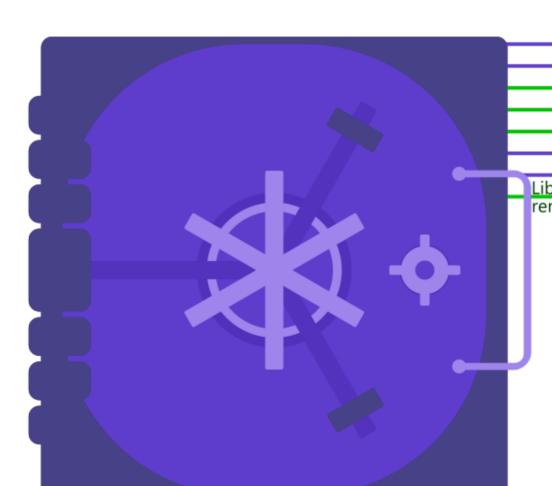


# Distinctives

Things you don't get elsewhere



# Digital Sovereignty: avoid the data-trap don't let your document data out of your site [sic]



on your premise / Private network

Virtual machine / Docker container

Seccomp-bpf ~no sys-calls

Extremely sparse filesystem

Chroot per document

Systematic load crash testing

Industry beating coverity score
LibreOfficeKit
rendering instance

- 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

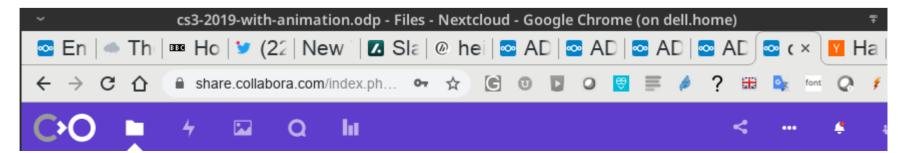
"Are you sure you only need a load-balancer for HA?"

"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



Hard-core community & technical content

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





# Thanks for listening Questions?



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