Collabora Productivity

LibreOffice: SharePoint integration. A year of progress

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Using LibreOffice in existing Enterprise environment

Collabora Productivity Ltd.

- Provides consultancy and L3 support for Enterprise LibreOffice
- Takes customers' existing infrastructural challenges seriously when integrating LibreOffice into existing environments
  - CMS
  - Third-party content generators
  - Co-existing office suites interoperation (in the enterprise and outside)
- The end goal is to make customer's experience as smooth as possible when moving to LibreOffice

Using LibreOffice in existing Enterprise environment

Users interactions with software also need attention

- Established practices, habits
  - Allow users to concentrate on work, not on software differences
  - Keeping them might require changes in LibreOffice
  - Breaking them requires training
  - Pros and contras must be considered taking into account the whole LibreOffice ecosystem

Using LibreOffice in SharePoint Server environment

One of widely used web-based collaborative platforms

- Allows using different connection mechanisms
- LibreOffice is able to work with most popular of them since day one (inherited from OpenOffice.org)
  - CMIS
  - WebDAV
- Still, some issues needed love
  - Bugs
  - Integrating with browser-based UI
  - Unsupported features

A shortest part:
CMIS improvements

Fixing issues makes a difference

Some changes to CMIS integration code

- Found and fixed an infinite recursion happening with some SharePoint roots
- Fixed the SharePoint 2013 connection type in Add Service dialog, allowing to use newer SharePoint's CMIS implementation, without falling back to 2010 (limited) version's implementation

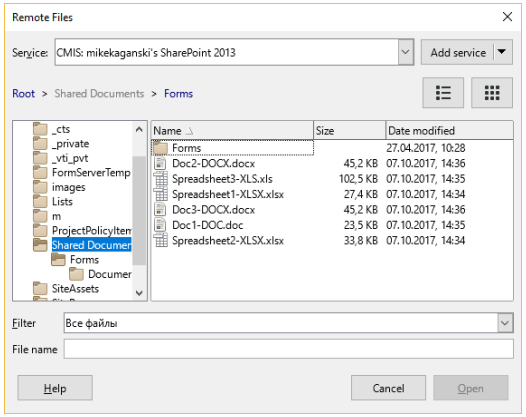
Some pending CMIS tasks

- View and switch between document versions inside editor

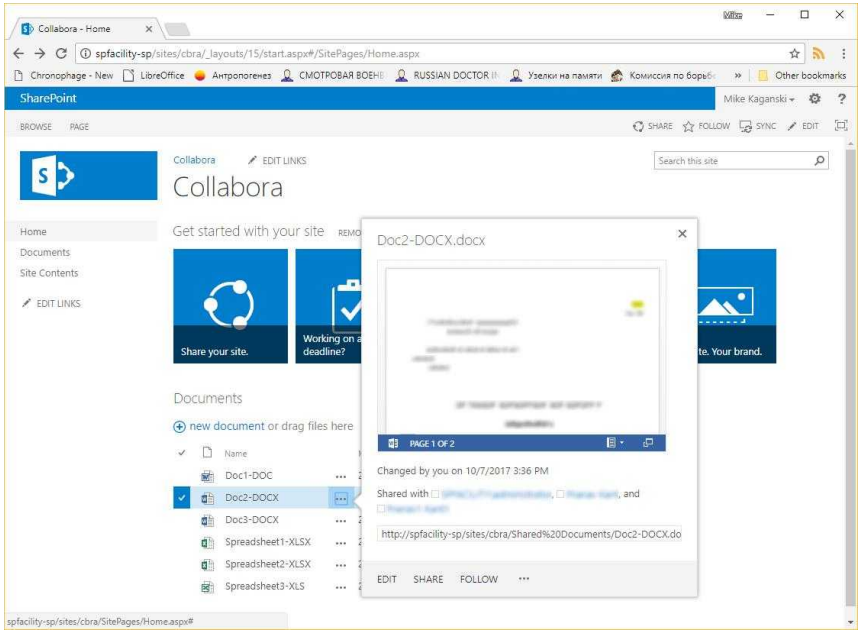
Is CMIS a best way to work with SharePoint from users' PoV?

Differences in documents browsing experience

- Using CMIS integration in LibreOffice requires using LibreOffice's **Remote Files** dialog
- Users are accustomed to use SharePoint Web UI to navigate through directories



VS.



Using LibreOffice with SharePoint native Web UI

WebDAV and WebUI: having some comfort

Web-based platform mandates integration with Web-based UI

- Users navigate their documents kept on SharePoint using browser, and perform many operations with them there, including opening for viewing/editing using WebDAV
- So we had to find a way to click a document in browser and open it in LibreOffice
- Solution: OpenDocuments ActiveX control
  - https://msdn.microsoft.com/en-us/library/ms454230
- Solution: Office URI Schemes
  - https://msdn.microsoft.com/en-us/library/dn906146

Office URI Schemes

A Microsoft® extension

ms-word:ofe|u|http://www.domain.org/TextDocument.docx

- **ms-word** is the name of one of the schemes (others are ms-excel, ms-powerpoint, etc.)
- **ofe** (command name) tells that the document must be Opened For Editing. There are also **ofv** (open for viewing), **nft** (new from template)
- **u** is the command argument descriptor, tells that an URI follows
- and then the argument: WebDAV URI itself goes

Office URI Schemes

How to support them?

- Implement code that translates the URI parts to LibreOffice usual command line switches – done in tdf#100837
  - Also introduce a special scheme: **vnd.libreoffice.command**
- Register LibreOffice as handler for the URI schemes
  - Done for Windows in the same issue
    - Always for vnd.libreoffice.command
    - When handling of MS formats is selected – for MS own schemes
  - TODO: registering on other platforms

Office URI Schemes

What is required on the client's side?

- On Windows - nothing apart from installing LibreOffice
  - If, during installation, user decided to use LibreOffice to open MS formats, the corresponding MS Office URI Schemes are registered with LibreOffice as handler, and any link on SharePoint site with that scheme will be automatically open with LibreOffice.
  - Otherwise, only URIs using special **vnd.libreoffice.command** scheme will be opened with LibreOffice.
    - None by default – server-side configuration necessary

SharePoint's DOCICON.xml

The central server-side configuration for handling different file types

- We need its **<ByExtension>** element's subelements

<Mapping Key="odt" Value="icodt.png" EditText="LibreOffice" OpenControl="LOSPSupport.OpenDocuments" OpenApp="vnd.libreoffice.command"/>

- **Key** is the document's extension
- **EditText** is required to allow editing these files
- **OpenControl** is name of ActiveX control – for IE only
- **OpenApp** is the name of Office URI scheme

WebDAV/WebUI: what is left to do?

Some topics for a future:

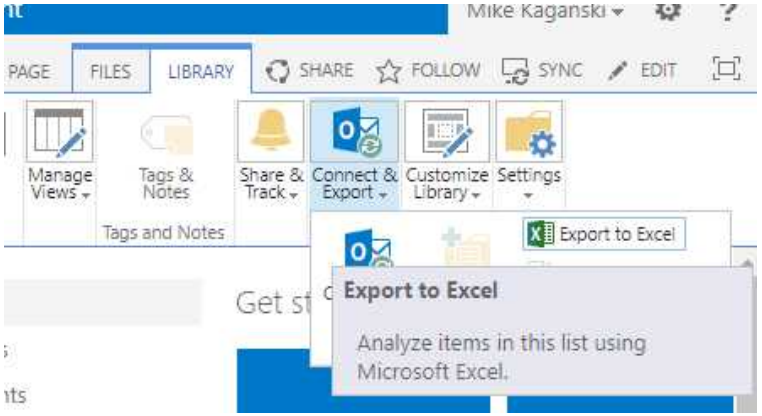
- Support WebDAV's **V**ersioning part. We currently don't support checking in/out using WebDAV; don't allow to see, open, compare and switch versions of a document...
- Support Office URI's **nft**'s default save directory parameter
- For some reason, opening files from SharePoint's WebView (Excel WebApp) doesn't work as expected: it looks like it uses some other association mechanism

A quest: investigating SharePoint Lists

SharePoint Lists

Built-in feature ("Export to Excel" in Library controls)

- Opens all items in current library in a spreadsheet application (Excel by default)
- Naturally, Calc should handle them



R1C1 | Name

Formula Bar

	1	2	3	4	5
1	Name	Modified	Modified By	Item Type	Path
2	Doc1-DOC.doc	07.10.2017 15:35	Mike Kaganski	Item	sites/cbra/Shared Documents
3	Doc2-DOCX.docx	07.10.2017 15:36	Mike Kaganski	Item	sites/cbra/Shared Documents
4	Doc3-DOCX.docx	07.10.2017 15:36	Mike Kaganski	Item	sites/cbra/Shared Documents
5	Spreadsheet1-XLSX.xlsx	07.10.2017 15:34	Mike Kaganski	Item	sites/cbra/Shared Documents
6	Spreadsheet2-XLSX.xlsx	07.10.2017 15:34	Mike Kaganski	Item	sites/cbra/Shared Documents
7	Spreadsheet3-XLS.xls	07.10.2017 15:35	Mike Kaganski	Item	sites/cbra/Shared Documents

SharePoint Lists: how they work

1) Download an .IQY file
   - A small text file with simple syntax: http://support.microsoft.com/kb/157482
   - Its purpose is to redirect to an URI specified in it
     - Basically a kind of Web link
2) Open it with associated application
3) Application does the magic…
   - … opening the URI specified in .IQY?
4) Profit!

A sample IQY file (as per documentation)

```
WEB
1
http://www.weylandyutani.com/cgi-bin/client.exe?quote=wyut
```

An IQY file for a SharePoint List

```
WEB
1
https://sharepoint2013/sites/cbra/_vti_bin/owssvr.dll?XMLDATA=1&List={B0E86D73-5AA6-443F-9AFC-
C73C615544EA}&View={A0D4BAEF-BC41-46F1-B6BE-F8F0E6189D79}&RowLimit=0&RootFolder=%2fsites%2fcbra%2fShared
%20Documents

Selection={B0E86D73-5AA6-443F-9AFC-C73C615544EA}-{A0D4BAEF-BC41-46F1-B6BE-F8F0E6189D79}
EditWebPage=
Formatting=None
PreFormattedTextToColumns=True
ConsecutiveDelimitersAsOne=True
SingleBlockTextImport=False
DisableDateRecognition=False
DisableRedirections=False
SharePointApplication=https://sharepoint2013/sites/cbra/_vti_bin
SharePointListView={A0D4BAEF-BC41-46F1-B6BE-F8F0E6189D79}
SharePointListName={B0E86D73-5AA6-443F-9AFC-C73C615544EA}
RootFolder=/sites/cbra/Shared Documents
```

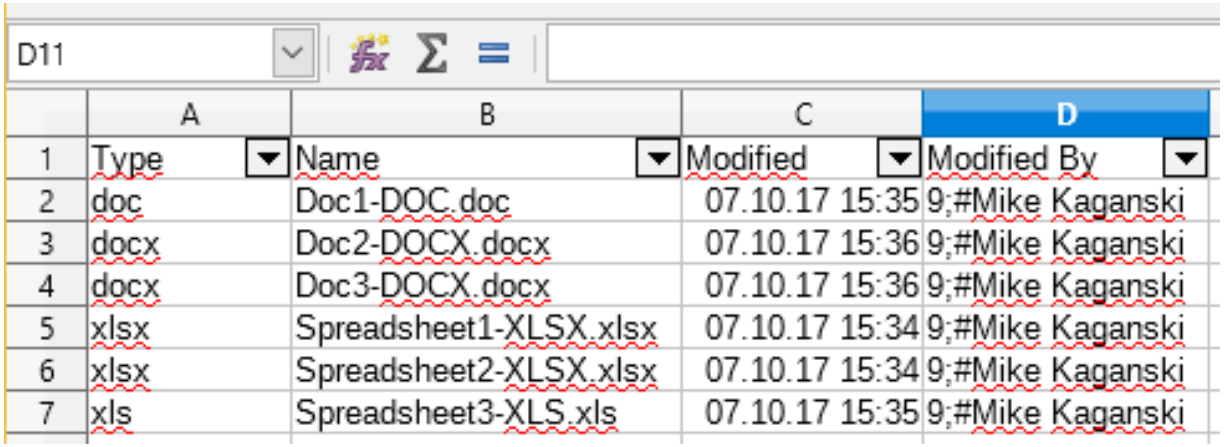
SharePoint Lists: what's behind IQY?

ADO Rowset

- An XML file
- https://msdn.microsoft.com/en-us/library/cc313112

A new import filter implemented to read the format

- Using XSLT



So, what's left with SharePoint Lists?

Well, sometimes they just don't open.

- An "Access denied" error may be encountered in some cases
- Excel opens these cases normally
  - Looks like Excel falls back to some other API to access the lists
  - So the IQY URI points to a resource that current user has no access to, but some workaround request may return the closed data… oh my.

Also, we could improve by parsing the extra undocumented lines in IQY, and using it to format the data nicely

More bug fixing that counts

We had fixed a number of generic bugs (unrelated to SharePoint) in our WebDAV code, helping our colleagues (Giuseppe Castagno).

And other improvements

Naturally, trying to integrate LibreOffice to an environment full of documents created and edited with another suite, exposes issues with non-native format support

- In the passed year, we have made multiple format compatibility improvements that arose from this

Conclusion

The past year of LibreOffice development saw a number of improvements in integration with SharePoint environment

- We have advanced in direction of providing smooth and pleasant user experience
- We took care of bugs and interoperability issues
- We work hard to keep the whole picture in sight, to gradually improve in all aspects

We are sure that these improvements will help users to be more productive, and allow for wider recognition of LibreOffice among enterprise customers.

Collabora Productivity

Thank you!

... goes from Mike Kaganski

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