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Guidance

Using Open Document Formats (ODF) in your organisation

This guidance is an introduction to the Open Document Format (ODF) standard and how you can select ODF-compliant solutions.

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The ODF standard works on most operating systems for desktops, laptops, mobile phones and tablets. The Open Standards Board (<https://www.gov.uk/government/groups/open-standards-board>) has selected the ODF 1.2 (<https://www.gov.uk/government/publications/open-standards-for-government/sharing-or-collaborating-with-government-documents>) standard for use across government. The government chose ODF 1.2 because it:

- is an open standard that allows suppliers to create interoperable office productivity solutions
- allows stricter security checks to help prevent common cyber-attack scenarios
- can lower IT costs as ODF is either low cost or free to use
- allows the government and citizens, businesses and other organisations to share documents
- allows government staff to share and edit documents
- is compatible with a wide range of software including assistive technology
- can add digital signatures (http://docs.oasis-open.org/office/v1.2/os/OpenDocument-v1.2-os-part1.html#_RefHeading__1415062_253892949) to a document
- has a powerful generic metadata (http://docs.oasis-open.org/office/v1.2/os/OpenDocument-v1.2-os-part1.html#_RefHeading__1415064_253892949) system

Selecting your ODF-compliant solution

Consider user needs when selecting your ODF-compliant solution. You should:

- use the user research guidance in the 'Service manual' (<https://www.gov.uk/service-manual/user-research>)
- plan your user research so you have enough time and the right participants
- use a variety of research techniques
- consider which ODF solution will help simplify your business processes

Your chosen ODF solution must also be accessible. Follow the standard EN 301 549 (<http://mandate376.standards.eu/standard>) when buying accessible products and services.

You can find more information about accessibility practices in the service manual (<https://www.gov.uk/service-manual/helping-people-to-use-your-service>) or from the World Wide Web Consortium (<https://www.w3.org/WAI/>) (W3C).

ODF compatible software

There are several software tools compatible with the ODF standard. This is not a full list of ODF-compatible software tools and there are other options available.

Mac operating system

The following ODF tools work on the Mac operating system:

- LibreOffice (<https://www.libreoffice.org/>) - This application is available with a Welsh user interface and a Welsh dictionary to allow spell-checking when working in the language. Mae rhyngwyneb Cymraeg ar gael ar gyfer y cymhwysiad hwn yn ogystal â geiriadur Cymraeg er mwyn i chi allu gwirio'r sillafu wrth weithio yn yr iaith.
- Collabora Office (<https://www.collaboraoffice.com/>)
- Collabora Online (<https://www.collaboraoffice.com/collabora-online/>)
- Microsoft Office for Mac (<https://products.office.com/en-ie/mac>)
- Microsoft online service (<https://support.office.com/en-us/article/why-does-the-microsoft-online-service-need-to-convert-some-office-files-ef8ff042-c40c-4d9f-9d11-0d21f88e4179?ui=en-US&rs=en-US&ad=US>)

Windows operating system

The following ODF tools work on the Windows operating system:

- LibreOffice (<https://www.libreoffice.org/>) - This application is available with a Welsh user interface and a Welsh dictionary to allow spell-checking when working in the language. Mae rhyngwyneb Cymraeg ar gael ar gyfer y cymhwysiad hwn yn ogystal â geiriadur Cymraeg er mwyn i chi allu gwirio'r sillafu wrth weithio yn yr iaith.
- Collabora Office (<https://www.collaboraoffice.com/>)
- Collabora Online (<https://www.collaboraoffice.com/collabora-online/>)
- Microsoft Office (<https://products.office.com/en-IE/compare-all-microsoft-office-products?activetab=tab%3Abusiness&icid=TopNavSoftwareOffice&tab=1>) - This application is available with a Welsh user interface and a Welsh dictionary to allow spell-checking when working in the language. Mae rhyngwyneb Cymraeg ar gael ar gyfer y cymhwysiad hwn yn ogystal â geiriadur Cymraeg er mwyn i chi allu gwirio'r sillafu wrth weithio yn yr iaith.

Linux operating system

The following ODF tools work on the Linux operating system:

- AbiWord (<https://www.abisource.com/>)
- Gnumeric (<http://www.gnumeric.org/>)
- LibreOffice (<https://www.libreoffice.org/>) - This application is available with a Welsh user interface and a Welsh dictionary to allow spell-checking when working in the language. Mae rhyngwyneb Cymraeg ar gael ar gyfer y cymhwysiad hwn yn ogystal â geiriadur Cymraeg er mwyn i chi allu gwirio'r sillafu wrth weithio yn yr iaith.
- Collabora Office (<https://www.collaboraoffice.com/>)
- Collabora Online (<https://www.collaboraoffice.com/collabora-online/>)

Android operating system

The following ODF tools work on the Android operating system:

- AndrOpen Office (<https://play.google.com/store/apps/details?id=com.andropenoffice>)
- Google Docs (<https://play.google.com/store/apps/details?id=com.google.android.apps.docs.editors.docs>)
- Google Sheets (<https://play.google.com/store/apps/details?id=com.google.android.apps.docs.editors.sheets>)
- Google Slides (<https://play.google.com/store/apps/details?id=com.google.android.apps.docs.editors.slides>)
- Microsoft Word (<https://play.google.com/store/apps/details?id=com.microsoft.office.word>)
- Microsoft Excel (<https://play.google.com/store/apps/details?id=com.microsoft.office.excel>)
- Microsoft PowerPoint (<https://play.google.com/store/apps/details?id=com.microsoft.office.powerpoint>)
- Mobisystems OfficeSuite (<https://play.google.com/store/apps/details?id=com.mobisystems.office>)

iOS operating system

The following ODF tools work on the iOS operating system:

- Microsoft Word (<https://itunes.apple.com/gb/app/microsoft-word/id586447913?mt=8>)
- Microsoft Excel (<https://itunes.apple.com/gb/app/microsoft-excel/id586683407?mt=8>)
- Microsoft PowerPoint (<https://itunes.apple.com/gb/app/microsoft-powerpoint/id586449534?mt=8>)
- Google Docs (<https://itunes.apple.com/gb/app/google-docs/id842842640?mt=8>)
- Google Sheets (<https://itunes.apple.com/us/app/google-sheets/id842849113?mt=8>)
- Google Slides (<https://itunes.apple.com/gb/app/google-slides/id879478102?mt=8>)
- OfficeSuite - Office Editor (<https://itunes.apple.com/us/app/officesuite-office-editor/id924005506?mt=8>)

Web and cloud-based productivity software

The following ODF tools are web and cloud-based:

- Collabora Office (<https://www.collaboraoffice.com/>)
- EtherCalc (<https://ethercalc.org/>)
- G Suite (<https://gsuite.google.com/>)
- OX Documents (<https://www.open-xchange.com/portfolio/ox-documents/>)
- Wodo.TextEditor (https://github.com/kogmbh/Wodo.TextEditor_release)

Other tools, add-ons and services

Other tools that support ODF 1.2 include:

- web viewers, such as ViewerJS (<http://viewerjs.org/>), that let you make ODF documents accessible on your website
- metadata removal software, such as Datadistiller (<http://www.digitalconfidence.com/DataDistiller-Metadata-Removal-Engine.html>) and MetaClean (<https://www.adarsus.com/en/metaclean.html>)
- the Google search engine that can run searches for other ODF file extensions such as OpenDocument Text (.odt) Sheet (.ods) or Presentation (.odp) and their content

Supplier hosting for ODF services

There are some ODF solutions available 'as-a-remote-service' only. These include:

- Google Docs (<https://www.google.co.uk/docs/about/>)
- Microsoft Office Online (<https://products.office.com/en-US/office-online/>)
- Zoho Office (<https://www.zoho.com/docs/office-suite.html>)

Suppliers can provide supported solutions or cloud providers can host the solutions. Consider security and privacy for the organisation and for external users.

Buying ODF-compliant solutions

Make sure your chosen solution complies with the ODF standard, whether it is proprietary or free open source. When you are buying an application, product or service that uses editable documents, make sure that you:

- include ODF compliance in your tender statement
- specify ODF compliance in your technical requirements
- have an app, product or service that is compatible with the full document lifecycle from creating to archiving
- have an app, product or service that allows for cross-platform working
- have no dependencies on other file formats that would restrict how you use ODF

You should make sure view-only documents, such as PDF/A, follow the open standards for viewing government documents (<https://www.gov.uk/government/publications/open-standards-for-government/viewing-government-documents>).

The commercial function might not consider free software, with no service or support contracts, to be a procurement. Normal procurement rules might apply (<https://www.gov.uk/guidance/public-sector-procurement-policy#procurement-policies-for-technology>) if you need to add extra services or support to the licence.

Choose a platform

Your choice of integration platform depends on your users' needs. You can choose from web-based or office applications. If you choose a web-based solution you will not need to install or update the software on your user devices. Also, the software is:

- less complex
- available for use on devices other than desktops
- less prone to user error

You might prefer office applications if you need access to rich text editing, making charts or adding corporate branding. You can use dedicated software components to integrate these capabilities. For example:

- APIs by Aspose (<http://www.aspose.com/>)
- desktop, server and server-side web applications

Migrating to ODF-compliant solutions

When moving to ODF, you should:

- make an inventory of all your software applications and how you can integrate them with ODF
- check you can continue to share documents with people in other organisations
- make sure your users know about the move to ODF, its benefits and how to use your chosen ODF document software
- test your chosen software's compliance with the ODF standard - one option is the free online validator (<https://odfvalidator.org/>) sponsored by the OpenDoc Society (<http://www.opendocsociety.org/>)

Securing your ODF-compliant solution

Risks to document security include:

- unauthorised interception of an emailed document
- unauthorised access to a document on a computer or network
- compromises to content integrity

You can minimise risks to your document's security with an ODF by:

- following National Cyber Security Centre (NCSC) guidance (<https://www.ncsc.gov.uk/guidance>)
- avoiding macros as they are often used in common cyber-attacks
- using macro alternatives such as security vetted add-ons or extensions and disabling the option to create new macros
- using document encryption and digital signatures to help restrict access to the document
- using protection locks to help stop accidental editing of content (only provides a low level of security)

Integrating your ODF-compliant solution

Use enterprise tools to help integrate your ODF-compliant solution. You can use enterprise tools for:

- pre-processing, for example creating a template letter using information from a case management system
- Post-processing, for example adding an electronic signature or annotating the document

Automate tasks and processes

ODF can make it easier and cheaper to automate tasks and processes. You should avoid using macros as they can cause security and interoperability issues.

ODF allows you to assemble documents and automate:

- different stages in a process

- repetitive tasks
- reports or presentations from business data

Records and documents management

You should save and maintain databases as authoritative sources rather than document collections. You should keep these databases:

- structured
- intact
- accessible
- automated

Use metadata to record a document's history

Record changes to documents to provide quality assurance for your data. For ODF, you can use metadata to keep track of changes throughout the documents' lifecycle.

When attaching metadata you should:

- specify the document template so updates are easier when you replace a template
- make it clear where automated software modifies parts of a document
- set the meta:generator tag, or other relevant meta-tags, to the version of the software you're using
- set version control by default
- add a digital signature to a document if you need to maintain the integrity of the information
- place scripting or placeholder instructions in a logical place, such as inside user variables or script tags

Variable data printing

Variable data printing involves printing large numbers of documents. To do variable data printing you will need to convert your ODF documents to PPML (Personalised Print Markup Language) (<http://www.standards.podi.org/ppml/ppml-overview.html>). PPML is a standard for high performance printing of large volumes of documents.

Setting up your ODF-compliant solution

ODF may not be the default format when saving a document for the software you are using. You might have to use the 'save as', 'download as' or 'export' function when saving a document.

Creating ODF templates and styles

Organisations use many templates, most of which derive from a smaller set of root templates. When you need to change the root templates, you will also need to change the derivations.

When creating new ODF templates make sure that:

- they have no technical issues
- they work with the most common applications
- you adopt a proper naming and versioning scheme for your templates
- you include common fonts and sizes in the template

- you embed all the fonts that might not be available on every platform
- the templates are suitable for users of assistive technology
- use a validator to make sure template documents conform to the ODF specification

If you have to convert legacy templates you should:

- check every step in the process
- make sure the manifest is complete
- make sure you define all reference styles

ODF template documents have the following file extensions:

- .ott (texts)
- .ots (spreadsheets)
- .otp (presentations)
- .otf (formulas)
- .otg (graphics)
- .otc (charts)
- .oti (images)
- .oth (HTML output)

Styles are formatting properties you can apply to all, or a part of, specific document elements. Use styles to specify formats such as typeface, font size margins, backgrounds and specific languages.

Do not manually change the font type, font colour, background or letter spacing in template or document generation software. You must use styles and headings to prevent assistive technology, search engines and PDF generators losing information.

Create and apply styles to documents so you can:

- maintain a consistent corporate identity in documents
- maintain a document's structure
- create documents that are accessible to people using assistive technology
- automate the process of converting documents to other types of content, for example, audio content
- help people focus on creating good content rather than managing style and formatting

Make sure your extensions, plugins and custom solutions meet the ODF standard

You can use extensions, plugins or add-ons to increase the functions of your chosen office productivity tools. You should be aware of any impact these additions have on how software conforms to the ODF standard. There are 2 classes of conforming documents:

- conforming documents
- extended conforming documents

You should produce conforming documents where possible. Using extended conforming documents may cause interoperability problems and make documents more complex.

If you're responsible for developing an extension, plugin or add-on, consider using existing libraries that work with ODF (<http://opendocumentformat.org/developers/>).

Image or graphic plugins

Your image or graphic plugins must always use the universal mechanism for inserting a draw area within the document (http://docs.oasis-open.org/office/v1.2/os/OpenDocument-v1.2-os-part1.html#element-draw_image). This will make sure that the content is viewable by any application that conforms with the ODF standard.

You should provide:

- a vector version (using the web standard SVG) for sharp images and accessibility
- a bitmap version (using the web standard PNG) as baseline
- your custom file format (encoded as base64)

Make sure images are accessible (<https://www.gov.uk/guidance/how-to-publish-on-gov-uk/images-and-videos>) by adding information such as a summary description. If the plugin has a user interface, make sure that is accessible as well.

If you use a commercial plugin, ask your supplier to make sure it's accessible. If you use an open source plugin without full accessibility features, contribute any that you develop or commission back to the project.

ODF spreadsheets and formulas

ODF 1.2 includes OpenFormula (<https://www.oasis-open.org/committees/download.php/16826/openformula-spec-20060221.html>), a standardised set of formulas that are usually in every compliant application.

You can install OpenFormula at 4 different levels:

- minimum - provides the minimal capabilities of regular spreadsheet functions
- minimum desktop - provides the minimal capabilities expected from typical desktop spreadsheets.
- basic - provides all the capabilities necessary for typical desktop spreadsheet use
- full - provides the basic level plus features for advanced users

The most common levels are 'minimum' and 'minimum desktop'. These provide all the functionality most users need.

'Basic' and 'full' implementations allow some backwards compliance with older application-specific issues. It's better to convert the formulas in your spreadsheets so they do not depend on backward compliance features.

Problems converting to ODF 1.2 usually occur when you do not map historical product features. You may also lose some functions when you convert from Microsoft Excel to ODF. Microsoft provides a list of the differences between ODF and Excel (<https://support.office.com/en-us/article/differences-between-the-opendocument-spreadsheet-ods-format-and-the-excel-for-windows-xlsx-format-3db958c8-e0ac-49a5-9965-2c2f8afbd960>).

If you experience problems converting you can:

- test a more recent software version to see if the issue no longer exists
- check if there are plugins or add-ins that might solve the problem
- ask your supplier why it does not work and ask when they will restore the function
- consider getting support to improve the product or build a plugin or add-on
- select a different desktop publishing tool that does meet your needs

Support and training for ODF users

There are 3 main user groups for ODF, each with different needs for support and training:

- users of office productivity tools
- technology teams who need to migrate from tools based on proprietary formats
- developers who are integrating or extending software based on ODF

ODF compatible tools are like most office applications so you are unlikely to need to provide extensive training.

If you're going to upgrade or replace your tools, check how much your users know about the new tools with user research. When you know how much training your users need you can provide:

- online, self-supported study
- using material from commercial publishers
- using open content you can customise, rewrite and republish
- support from super users - a network of experts
- training provided by a third party

Some suppliers provide open source ODF solutions with support and training. You can choose to employ your own developers or trainers for long-term development or training needs.

When developing a solution using open source for the first time you can:

- ask peers for advice and guidance
- search for advanced users who can help
- join up with other organisations to combine funding and share expertise
- ask community experts for advice
- speak to OpenUK (<https://openuk.uk/>) for help finding specialist ODF trainers
- refer to Openforum Europe (<http://www.openforumeurope.org/>) who maintains an open source library
- contact the OpenDoc Society who offers tools such as Officeshots (<http://www.officeshots.org/>) and organises the ODF Plugfest events (<http://plugfest.opendocumentformat.org/>)

Get involved in the development of the standard

If you'd like to make a suggestion or ask a question about the ODF standard you can:

- contact members of, or join, the OASIS ODF Technical Committee (https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=office)
- Use the public OASIS contact form (<https://www.oasis-open.org/contact/?path=/index.php>)
- contact your national representative on the international standards board (ISO/IEC JTC1 SC34) (<https://www.iso.org/committee/45374.html>)

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39 days to go

Check you're ready for 2021

(<https://www.gov.uk/transition>)

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