

# Roadmap of OpenOffice.org

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*A Guide to OpenOffice.org*

*through*

*December, 2001*

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# OpenOffice.org

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## 1.1 Highlights

### 1.1.1 System integration

- In the interest of having OpenOffice.org become a well integrated citizen on all supported Oss, the integrated desktop has been removed. Furthermore, the Beamer, Explorer, E-Mail client, News client and Scheduler have also been removed. OpenOffice.org word processing/WEB cannot create frame sets anymore. All OpenOffice.org documents will be able to be sent as e-mail right from the "File - Send" menu.
- New Address Book handling: New dialog under File/Templates/Address Book Source will offer a user interface for Address Book field assignment. Thus the old StarOffice address books as well as internal system address books will be able to be seamlessly integrated into OpenOffice.org.
- File Dialog has changed: File navigation has been simplified. Menus and window frame buttons now appear in the same order found in other industry standard interfaces.

### 1.1.2 XML File Format

XML has been adopted as the new native file format, replacing the old binary file format. The new XML based format provides an open standard for office documents and represents a complete specification encompassing all OpenOffice.org documents.

The XML filters of the different OpenOffice.org modules store packages instead of plain XML files. A package is simply a compressed file (zip, tar). The plain XML file is contained within the "Content" entry of the package.

To reflect the new XML format, the file name extensions have been changed:

word processing	sxw
word processing Master Document	sxg
spreadsheets	sxc
draw	sxd
presentations (packed)	sxi (sxp)
math	sxm (fully compliant with mml standards)

Documents created in StarOffice 5.2 or earlier versions will continue to be supported. They will be able to be loaded and saved either in the new XML based format or in the old binary format.

### **1.1.3 New Document Converter**

A new Document Converter is available that allows for conversion of both Microsoft and binary StarOffice documents to the new XML format of OpenOffice.org. Therefore, the Import Wizard has been completely revised. Furthermore, the user interface has been redesigned to reflect standard wizard format. The Document Converter also incorporates an option to trace the conversion actions by writing to a log file. This log file will be written to the `openoffice60/user/work` directory.

### **1.1.4 New WebDAV Support**

With OpenOffice.org it will be possible to access resources using the WebDAV protocol, the IETF standard for collaborative authoring on the Web. WebDAV (Web-based Distributed Authoring and Versioning) is a set of extensions to the HTTP protocol which facilitate collaborative editing and file management between users located remotely on the Internet. This enables users to collaborate over the Web in the same way as they might over a corporate intranet.

### **1.1.5 New Unicode Support**

OpenOffice.org will support the Unicode Character standard which covers the principal written languages of the world. Thus, the creation of documents containing characters from different scripts, e.g. Western and Cyrillic, is no longer problematic. In earlier versions, only the character set of the system could be used.

The dialog for inserting special characters will handle the complete Unicode character set and will be extended to show some information about Unicode's sub-ranges.

### **1.1.6 New Features for Asian Languages**

To support Japanese, Chinese traditional, Chinese simplified and Korean text input, the following changes were made:

#### **1.1.6.a Vertical writing within Text Boxes and Callouts**

#### **1.1.6.b New Character Attributes**

- Ability to define different text fonts for Western and Asian languages including separate language settings. This will allow the user to define specific fonts for each language region according to the font's attributes.
- New font effect "Emphasis Mark" with four different markups and text positioning. The Emphasis Mark is a very common way for Asian layout to stress text.
- Asian Layout tab page with "Double Line in one line" text formatting including free choice for enclosing characters (e.g. brackets). Very common for inserting prolonged Latin based text within Asian character based documents.

#### **1.1.6.c New Text Properties for Asian Layout**

A new sub menu has been added to the Format menu for assigning the text cases Upper, Lower, Full Width, Half Width. Further case options refer to the Japanese languages Hiragana and Katagana.

#### **1.1.6.d Ruby Text**

Ruby text (explanatory text above the original text) will be able to be inserted. Ruby text is needed in most East Asian languages to add more information to written text, e.g. if a very rare Japanese word is written, Ruby is used for explanation and/or correct pronunciation. The Ruby Text window is designed as a floating window so that the user does not have to close the window to apply changes made to the text. It also works with multiple selected text and has an automatic detection feature to help the user find the right Ruby expression more easily.

#### 1.1.6.e Vertical Character Position

Text will be able to be rotated by 90 or 270 degrees to specify the writing direction from bottom to top or from top to bottom. The new options will be found under Format - Character - Position - Rotation/Scaling. The rotated text will be able to be scaled to a percentage of its original value or to fit the height of the current line.

#### 1.1.6.f Vertical Text Alignment

Once characters are rotated by a number of degrees (see 1.1.6.e) the paragraph will be able to be formatted to “Automatic”, “Baseline”, “Middle”, “Bottom” or “Top”. Thus the vertical text will be able to be aligned similarly to the ways horizontal text is aligned (“Centered”, “Left”, “Right”, etc.).

#### 1.1.6.g Combine Characters

A new field type will be available that will allow for the definition of up to 6 characters that are handled as 1 normal character. This function will be found under Insert - Fields - Other - Functions and will be called Combine Character.

#### 1.1.6.h International Numbering Styles

For CJK new numbering styles will be introduced.

#### 1.1.6.i New Find & Replace features for Asian languages “sounds like (Japanese)”.

This dialogue enables the user to differentiate in between different syllables, Katakana and Hiragana while also ignoring special characters.

#### 1.1.6.j New Pages under Tools - Options - Asian Typography

Default settings for all Asian documents will be able to be defined here for Japanese Find and Asian Layout.

#### 1.1.6.k Special Font Size Naming conventions

Chinese customarily use a larger font size measured in point special pre-defined named sets. These will also be available within the font size dialog box once Chinese is the referring language.

#### 1.1.6.l New Impress AutoLayouts for Vertical Text (CJK)

Four new AutoLayouts containing vertical text have been introduced to presentations.

### **1.1.7 New International Number Formats**

The dialog for assigning number formats has been completely revised to support international formats for date, time and currencies:

#### 1.1.7.a New Languages

To specify a number format for a specific locale, the user will be able to choose between more than 90 languages.

#### 1.1.7.b New Date Formats

Three different calendars will be supported to specify the date in specific formats: In addition to the Gregorian calendar, the Japanese Gengou and the Korean ROC calendar will also be able to be used. To support multiple calendars, new format code keywords for date and date/time formats will be available.

#### 1.1.7.c New Currency Formats

There may be different currencies defined for one locale. These will be offered automatically when choosing a specific language in the dialog (previously these were defined manually).

### **1.1.8 New Options Dialog**

#### 1.1.8.a New Page for Languages

- See New Page Options - General - Languages

#### 1.1.8.b New Filter Options for OLE Objects

New filter options for the import and export of MS Office documents will be available under Tools - Options - Filter Settings. Here the user will be able to specify whether MS Office OLE objects (WinWord, Excel, PowerPoint, MathType) should be converted into OpenOffice.org objects (word processing, spreadsheets, presentations, math) or vice versa. This is especially useful in on those platforms that lack an MS OLE Server (or an OpenOffice.org OLE Server respectively), such as UNIX.

#### 1.1.8.c New Entry Locale Setting

The tab page has a new entry called "Locale setting" that contains the locale of the current office installation. This locale determines language dependent settings like number formatting, currency and measurement units.

#### 1.1.8.d Toggle Switch for CJK Support

The dialog "Tools - Options - Language Settings - Languages" will contain a check box to enable/disable support for Asian languages.

This setting controls the availability of the following dialogs and dialog elements:

- Format - Character - Asian layout
- Format - Character - Font - Asian text font
- Format - Character - Font effects - Emphasis mark
- Format - Paragraph - Asian typography
- Format - Ruby
- Format - Change case - Half + Full width + Hiragana + Katagana
- Tools - Options - Language settings - Japanese find
- Edit - Search & Replace - Japanese find
- Tools - Options - Language settings - Asian typography

### **1.1.9 New Layout**

All tab pages are undergoing a visual and contextual redesign.

The group boxes in Tab pages will be replaced by more modern vertical separators.

Some controls and settings will be renamed and/or moved to more sensible locations to increase ease of use.

### **1.1.10 New Gallery**

The Gallery will be completely revised. It is accessible via the menu command under Tools - Gallery or just by clicking on the Gallery icon in the function bar.

### **1.1.11 New Dialog For "New from Template"**

The new dialog "New from Template" will be divided into three parts.

The left pane will display an icon list with the subcategories "New Document", "Template", "My Documents" and "Samples."

By activating one of these entries, the file view in the middle pane will show the content of the activated folder.

Opening a file from within this pane will display a preview of the content of the file in the right pane.

Double-clicking on the file or using the "Open" button will open the selected document within the application.

### ***1.1.12 Enhanced Euro Converter***

The Euro converter will read and convert spreadsheets and word processing text documents.

## **1.2 New Filters for the Formula Editor**

### ***1.2.1 New MathType Filter***

Formulas embedded in a document will be converted from and to MathType when importing to or exporting from an MS Office file format.

### ***1.2.2 New MathML Filter***

A new import and export filter will be available for MathML files based on the the standardized W3 XML file format for equation exchange.

## **1.3 Other Noteworthy Enhancements**

### ***1.3.1 Form Controls***

Radio buttons will have an additional event "When initiating" allowing the user to bind actions to the control on initiation.

### ***1.3.2 New Dialog Sizes***

The size of standard dialogs will be increased. Tab pages will be resized and partially restructured. The former tab page size of 260 x 135 AppFont Units (1/8 of the height of the font used inside dialogs) has increased to 260 x 185 AppFont Units.

### ***1.3.3 Dialogs as System Windows***

Dialogs will be handled as system windows. As a result they will be able to be moved outside of the task window.

### ***1.3.4 Page Preview***

Page preview for text documents and spreadsheets will be opened within the original document window instead of in a new window. This function will be activated and deactivated by using the menu command File - Page Preview.

### ***1.3.5 Passwords as Encrypted Hash Values***

Passwords for sections in text documents as well as all passwords in the spreadsheet application will be stored in an encrypted hash value. These XML passwords will not export to other (older) formats. However, when loading a document from an earlier version, the password will be encrypted and will remain functional.

### ***1.3.6 Charts***

The insertion of stand-alone charts will no longer be supported. However, old files (\*.sds) will still be able to be loaded. It will also be possible to insert a stand-alone chart as an OLE object.

### 1.3.6.a Editing Chart Data

For changing chart data in a chart whose data comes from outside the container (such as a spreadsheet), the Data dialog will be able to be called via the Chart Data menu item. This item will be moved from the View menu to the Edit menu. Furthermore the dialog will be accessible from all context menus.

### 1.3.7 Images

The features of the former Image module will be integrated into the different application modules of OpenOffice.org. This transmission will have an effect on the user interface namely in that the Image interfaces and libraries will not be available anymore.

When loading older office documents containing Image OLE objects, a graphic object will be created instead of the OLE object. The graphic will be extracted based on the data included in the corresponding Image OLE storage.

#### 1.3.7.a Graphic Filters

The filter functionality of the former Image module will be available for graphics in text documents, presentations and drawings. For this, the Filter tool for a selected graphic in the Graphic object bar will be extended. New Option dialogs will be designed to adjust the corresponding parameters for the selected effect. As an additional feature, a preview window will be available in every dialog.

Tiling will not be available as a single filter anymore. Instead, a check box will be available in the Options dialog which will allow the user to choose whether edges should be enhanced (old Mosaic functionality) or not (old Tiling functionality).

### 1.3.8 Version Info for DLLs under Windows

Version information will be available for the OpenOffice.org DLLs under Windows. They will be displayed by the Version tab of the Properties dialog of a DLL.

### 1.3.9 Exchanged OpenOffice.org API

The new Application Programming Interface (API), that was introduced in StarOffice 5.2, now wholly replaces the former programming interface. Note, that macros based on the old interface will not be supported anymore.

### 1.3.10 Advanced Font Effects

The behavior of word-wise underlining/strikethrough (Format - Character - Font Effects) will be improved. Previously, this function's effects were only seen on alphanumeric characters (e.g. e-mail, 100,00 DM). Now every character will be affected by this, excepting spaces (e.g. e-mail, 100,00 DM).

### 1.3.11 Advanced HTML Export

It will be possible to define the text encoding for the HTML export. Therefore a new list box Character Set will be added to the HTML export options. This will enable the user to generate export files encoded with Unicode (UTF-8), for example.

### 1.3.12 New Configuration Files

Configuration data, formerly mainly stored in \*.ini-files, will be saved as XML data. The data has been restructured to store the configuration settings for different program packages or modules in appropriate XML files. The program will install the files under share\config\registry while special user data will be stored under user\config\registry.

Other files containing the data for hatching (\*.soh), dashes (\*.sod), line ends (\*.soe), color palettes (\*.soc), gradients (\*.sog), and bitmaps (\*.sob) will be stored in XML, too. However, these files will maintain the old file extensions to support former versions. This is also true

for AutoFormat data for tables (\*.fmt), AutoText modules (\*.bau) and AutoCorrect lists (\*.dat). Furthermore those files will now be Unicode compliant and will be able to store, for example, Chinese or Japanese names.

### ***1.3.13 New Handling of Printers and Fonts under UNIX***

Under Solaris and Linux a completely new solution for printing and font rendering will be introduced which will lay to rest the technical limitations of the old implementation. It will enable the user to print and display every TrueType font and see a quality of text display on the screen which is comparable to Windows. For rendering the fonts FreeType will be used.

The major advantages of the new solution will be:

- TrueType support
- Support of Chinese, Japanese and Korean languages
- Smaller and faster PostScript output

To make the PostScript output smaller and more effective, font substitution will be used. If this feature is active, the advised fonts will be replaced by printer built-in fonts (providing that these fonts contain the same characters). Where the built-in fonts lack the necessary characters, OpenOffice.org will fallback on the original font from which the missing characters will be downloaded.

This feature will be accessible via a new page called Font Substitution in the configuration dialog of the Administration tool "spadmin". When a new printer is added, font substitution will be enabled by default and the substitution table will already contain defaults to map the fonts of OpenOffice.org.

### ***1.3.14 Support of PDF Conversion under UNIX***

A PDF conversion printer will be supported under the UNIX platforms. As with Windows, a printer will be able to be configured to convert the PostScript output of an OpenOffice.org document into a PDF document automatically. For this, the administration tool "spadmin" will be used. If a new printer is added here, a Connect dialog will be opened in which the user can configure the command line that should be executed to process the output. If Ghostscript or Distiller is installed, pre-configured command lines will be available.

### ***1.3.15 SPAdmin Updated***

SPAdmin will undergo a major refit. The main dialogue will be simplified:

The connect dialogue will become another tab page beneath "Properties..." The driver management will move so that a driver is actually selected and a new "Add printer..." button will be added that will start a wizard for new printer creation.

### ***1.3.16 Enhanced Font Handling (e.g. AntiAliasing) under Unix OS***

To enhance the text display quality on Unix platforms the font handling will be completely reworked. New features will be:

- Fonts will be able to be displayed antialiased
- TrueType collection fonts (\*.ttc)
- Rotated text and Kerning will work
- Embedded bitmaps will work
- Vertical glyph substitution will work
- Text will be able to be stretched (e.g. in Draw)



An essential requirement for the feature above will be font in Type 1 or TrueType format and in a readable format for the office suite. Antialiasing will work on all 24 or 32bit true color modi or on 8bit grayscale visuals. A render extension on the display will be supported but not required.

### ***1.3.17 New Printing Solution under Unix OS***

The printing output under Solaris and Linux will undergo amajor rework.

Highlights will be:

- Support of TrueType fonts and TTC-Fonts
- CJK capability (e.g. vertical text output)
- A PDF printer will be able to be installed if GhostScript or Adobe Distiller is available for direct PDF generation.
- Printing directly to all available printer queues without installing specific printers
- Kerning will be supported
- Font substitution for standard PostScript fonts will available and configurable

# Text Documents

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## 2.1 Highlights

### *2.1.1 New Features for the Support of Asian Languages*

#### 2.1.1.a Ruby Text

Ruby text (explanatory text above the original text) will be able to be inserted. Ruby text is needed in most East Asian languages to add more information about written text, e.g. if a very rare Japanese word is written, Ruby is used for further explanation and/or correct pronunciation. The Ruby Text window will be designed as a floating window thus the user will not have to close the window to apply changes made to the text. It will also work with multiple selected text and will have an automatic detection feature to help users find the right Ruby expression more easily.

#### 2.1.1.b New Text Properties for Asian Layout

A new sub menu will be added to the Format menu for assigning the text cases Upper, Lower, Full Width, and Half Width. Further case options will refer to the Japanese languages Hiragana and Katagana.

#### 2.1.1.c Combine Characters

A new field type will be available that will allow for the definition of up to 6 characters that are handled as 1 normal character. This will be found under Insert - Fields - Other - Functions and will be called Combine Character.

#### 2.1.1.d Vertical Character Position

Text will be able to be rotated by 90 or 270 degrees to specify the writing direction from bottom to top or from top to bottom. The new options will be found under Format - Character - Position - Rotation/Scaling. The rotated text will be scalable to a percentage of its original value or to fit the height of the current line.

#### 2.1.1.e Vertical Text Alignment

Once characters are rotated by a certain number of degrees (see 2.1.1.d) the paragraph will be able to be formatted to "Automatic", "Baseline", "Middle", "Bottom" or "Top". Thus vertical text will be able to be aligned similarly to the ways horizontal text is aligned ("Centered", "Left", "Right", etc.)

#### 2.1.1.f International Numbering Styles

For CJK new numbering styles will be introduced.

#### 2.1.1.g Advanced Encoded Textfilter

The Encoded Textfilter will be upgraded and expanded to new Chinese, Korean and Japanese character sets. Furthermore a new Unicode set will be included which will enable the creation of Unicode text files containing 16 instead of 8 bit characters.

For more features, see [New Features for Asian Languages](#)

### **2.1.2 New Graphic Features**

For graphics inserted in a text document some new features will be offered that formerly were only available in drawing and image mode. They will be reachable via the new Graphics Object bar:

#### **2.1.2.a Graphic Attributes**

Graphic attributes, that are well-known from StarOffice Draw will also be available in OpenOffice.org word processing. When a graphic is selected, the Object bar will offer settings for the following attributes:

- graphics mode (default, grayscale, white/black and watermark)
- alpha channels for the colors red, green and blue
- brightness
- contrast
- gamma value
- transparency
- mirror (flip vertical, horizontal)

The functionality of the different attributes will be the same as in Draw.

The frame attributes such as adjustment, anchor changes, borders, etc. will be moved to the Frame Object bar, which will be able to be reached with the little arrow button on the right side. Here it will also be possible to specify a background color for a graphic. This will be particularly useful for cropped graphics or where a border with some distance is applied.

#### **2.1.2.b Graphic Filters**

The Graphics Object bar will also contain a new icon for converting a bitmap. The different filters offered here (Invert, Smooth, Sharpen, etc.) will be adapted from the former StarOffice Image module and integrated into OpenOffice.org word processing.

## **2.2 Other Noteworthy Enhancements**

### **2.2.1 Password Protection of Change Track Function**

The status switch for the Change Track function will be able to be protected with a password. Thus change tracking on sensitive data/spreadsheets will be able to be locked to on.

### **2.2.2 New AutoFormat Options**

To offer the possibility to apply styles or numberings via AutoCorrect without deleting existing tabs and blanks, two new options will be available under "Tools - AutoCorrect/AutoFormat - Options". With these the user will be able to specify whether blanks and tabs should be deleted at the beginning or at the end of a paragraph or a line, respectively. These options will only take effect where a paragraph is changed by AutoCorrect while typing, e.g. if a style is applied automatically (check box Apply Styles active) or the automatic numbering is active (check box Apply Numbering...).

### **2.2.3 Extended Line Numbering**

The dialog for line numbering will have a new option to restart the numbering at each new page.

### ***2.2.4 New Character Attribute “Font Autocolor”***

Once this new feature is set, the font color will be adjusted to the default font color of the operating system. Furthermore, changing the background to a dark color will automatically change the font to white.

### ***2.2.5 New Character Attribute “Relief”***

The character attribute “Relief” with the sub-functions “Embossed” and “Engraved” will be implemented. These features will also work with MS Word import and export.

### ***2.2.6 New Underlining Color Setting***

“Underlining” as well as “Strikethrough” will now be able to have independent color settings. E.g. one will be able to have black text with red underlining.

This feature will also apply to OpenOffice.org's MS Word 97/2000 import and export filters.

### ***2.2.7 Negative Indents for Paragraphs and Tables***

It will be possible to set negative (left or right) indents to paragraphs and tables. For paragraphs this will be achievable via Format - Paragraph - Indents&Spacing or simply by using the ruler. In former versions the first line indent was only allowed to be negative when there was a positive left indent with a greater value. (Thus it was not possible to align headlines left from the page margin, for example.) This restriction will not exist anymore. The first line indent will be able to be specified independently from the left indent of a paragraph. This gives the user more freedom for the layout of a document.

For tables, it will also be possible to set an alignment from the left with negative spacing values in the Table Format dialog. Thus table alignment will not be restricted to page margins.

### ***2.2.8 Advanced Behavior of URL Attributes***

When changing a hyperlink in a document (without AutoCorrect), the corresponding URL attribute will adapt the new settings automatically, if it is a valid URL. If, for example, an e-mail address or an http-link is changed in the document, the program will change the corresponding mailto-address or the URL target, as well. In former versions this had to be changed manually.

### ***2.2.9 Changed Cursor in Overwrite Mode***

Overwrite mode will have a new cursor display. Thereby a selected character will be overwritten next.

### ***2.2.10 Unrestricted Border Distances***

The border distance of table cells and paragraphs (Format - Table/Paragraphs - Borders) will be able to be set to zero. In former versions there was a minimal distance restriction.

### ***2.2.11 Saving Custom Label Formats***

The user will be able to define and save custom label formats. The current label settings will be saved under "File - New - Label - Format". When saving a label format, it will be possible to define a new brand and/or label type.

### ***2.2.12 Advanced Hyphenation Rules***

Under Tools - Options - General - Writing Aids it will be possible to define the minimal word length for hyphenation.

### **2.2.13 Additional Settings on Paste Button**

The Paste button within the function bar will include a contextual menu, activated by a long single mouse click.

This new menu will enable the user to choose between additional paste formats such as Unformatted Text, Bitmap, etc. The dialog will contain the same selection that is available through “Edit – Paste Special.”

### **2.2.14 Additional Settings on Undo and Redo Buttons**

The Redo and Undo buttons within the function bar will include contextual menus, activated by a long single mouse click.

The new menus will enable the user to undo and redo the last action. Additionally, users will be able to choose from a list of undo and redo steps that are available.

### **2.2.15 Separate Passwords for Text Sections**

Instead of offering one password for section protection, users will be able to select unique passwords to protect individual sections.

This setting will reside in the “Insert – Section” and “Format – Section” dialogs.

### **2.2.16 Advanced MS Office Filter**

#### **2.2.16.a Form Controls**

The MS filter will support form elements. The import and export filter for MS Office 97/2000 will support the conversion of MS Office controls to OpenOffice.org word processing control shapes and vice versa.

#### **2.2.16.b Frames**

The import and export filter will support the new anchor and alignment settings for frames of MS Word 2000. The different settings will cover horizontal alignment, vertical alignment and anchor definitions of frames.

#### **2.2.16.c Negative Indents**

Negative indents for paragraphs and tables will also be supported by the import and export filter.

#### **2.2.16.d Asian Typography**

The feature “Double Line in one line” will be importable from and exportable to MS Word.

#### **2.2.16.e Character Embossed and Engraved**

The features “Character Embossed” and “Character Engraved” will be supported by the import and export filter.

#### **2.2.16.f Underlining and Strikethrough Color**

Colors for underlining and strikethrough differing from the font color will be supported by the import and export filter.

#### **2.2.16.g Enabling Paragraph Summation**

The feature “Enabling Paragraph Summation” will boost the compatibility of PowerPoint paragraphs by adjusting the summation of the lower and upper paragraph spacing accordingly.

#### **2.2.16.h Flyframes inside Frames**

Flyframes inside other ones, e.g. insert graphic and insert caption do not retain layout when exported to MS applications.

To remedy this, the parent frame will be exported as a table. This will also provide a work around for the insert caption feature and illustration index. A floating graphic and its caption will not be included in a caption index (this is a known flaw in MS Word). Exporting the floating frame as a table will cause the illustration index in MS Word to be able to recognize the caption.

#### 2.2.16.i Compatible Tab Stop Behavior

When choosing centered or right alignment, the whole line (including tab stops) will be moved to the center or right, ignoring any default or manually defined tab positions. One will be able to switch between old tab stop behavior and the compatible behavior from the "Tools - Options - Text Document - General - Compatibility" tab page.



# Spreadsheets

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## 3.1 Highlights

### 3.1.1 New Functions

#### 3.1.1.a ROMAN

A value between 0 and 3999 will be able to be converted to a Roman style by using the function =ROMAN(value; mode). Mode will be an optional parameter to specify the accuracy of the Roman value. Some examples:

ROMAN(999; 0) and ROMAN(999) return CMXCIX

ROMAN(999; 1) will return LMVLIV

ROMAN(999; 2) will return XMIX

ROMAN(999; 3) will return VMIV

ROMAN(999; 4) will return IM

#### 3.1.1.b ARABIC

To convert Roman numerals into a Arabic numbers (between 0 and 3999) the new function =ARABIC(text) will be able to be used.

#### 3.1.1.c MIRR

The function MIRR will calculate the modified internal rate of return for a series of cash flows with interest rates for investments and reinvestments. The function format will be =MIRR(values; rate\_investment; rate\_reinvestment).

#### 3.1.1.d CELL

If information about content, formatting, or location of a specific cell is needed, the function CELL will be able to be used: =CELL(info\_type; reference). The type of information that should be returned will be specified with the first parameter, the second will be optional and will determine the cell or cell range to be examined.

#### 3.1.1.e ISPMT

The new function ISPMT will calculate the interest of a credit or investment with constant redemption rates: =ISPMT(rate; amortization\_periods; total\_periods; investment).

### 3.1.2 Analysis Addin

This will provide an equivalent to the Excel Addin 'Analysis' to improve the compatibility descriptions of the functions.

New formulas in detail will be:

#### 3.1.2.a ACCRINT

Will return the accrued interest for a security paying periodic interest.



### 3.1.2.b ACCRINTM

Will return the accrued interest for a security paying interest at maturity.

### 3.1.2.c AMORDEGRC

Will return the prorated linear depreciation of an asset for each accounting period.

### 3.1.2.d AMORLINC

Will return the prorated linear depreciation of an asset for each accounting period.

### 3.1.2.e BESSELI

Will return the modified Bessel function  $I_n(x)$ .

### 3.1.2.f BESSELJ

Will return the Bessel function  $J_n(x)$ .

### 3.1.2.g BESSELK

Will return the Bessel function  $K_n(x)$ .

### 3.1.2.h BESSELY

Will return the Bessel function  $Y_n(x)$ .

### 3.1.2.i BIN2DEC

Will convert a binary number to decimal.

### 3.1.2.j BIN2HEX

Will convert a binary number to hexadecimal.

### 3.1.2.k BIN2OCT

Will convert a binary number to octal.

### 3.1.2.l COMPLEX

Will convert real and imaginary coefficients into a complex number.

### 3.1.2.m CONVERT\_ADD

Will convert a number from one measurement system to another.

### 3.1.2.n COUPDAYBS

Will return the number of days from the beginning of the coupon period to the settlement date.

### 3.1.2.o COUPDAYS

Will return the number of days in the coupon period that contains the settlement date.

### 3.1.2.p COUPDAYSNC

Will return the number of days from the settlement date to the next coupon date.

### 3.1.2.q COUPNCD

Will return the next coupon date after the settlement date.

### 3.1.2.r COUPNUM

Will return the number of coupons payable between the settlement date and maturity date.

### 3.1.2.s COUPPCD

Will return the previous coupon date before the settlement date.

### 3.1.2.t CUMIPMT\_ADD

Will return the cumulative interest paid between two periods.

### 3.1.2.u CUMPRINC\_ADD

Will return the cumulative principal paid a loan between two periods.

### 3.1.2.v DEC2BIN

Will convert a decimal number to binary.

### 3.1.2.w DEC2HEX

Will convert a decimal number to hexadecimal.

### 3.1.2.x DEC2OCT

Will convert a decimal number to octal.

### 3.1.2.y DELTA

Will test whether two numbers are equal.

### 3.1.2.z DISC

Will return the discount rate for a security

### 3.1.2.aa DOLLARDE

Will convert a dollar amount, expressed as a fraction, into a dollar amount, expressed as a decimal number

### 3.1.2.bb DOLLARFR

Will convert a dollar amount, expressed as a decimal number, into a dollar amount, expressed as a fraction

### 3.1.2.cc DURATION\_ADD

Will return the annual duration of a security with periodic interest payments.

### 3.1.2.dd EDATE

Will return the serial number of the date that is the indicated number of months before or after the start date.

### 3.1.2.ee EFFECT\_ADD

Will return the effective annual interest rate.

### 3.1.2.ff EOMONTH

Will return the serial number of the last day of the month before or after a specified number of months.

### 3.1.2.gg ERF

Will return the error function.

### 3.1.2.hh ERFC

Will return the complementary error function.

### 3.1.2.ii FACTDOUBLE

Will return the double factorial of a number.

### 3.1.2.jj FVSCHEDULE

Will return the future value of an initial principal after applying a series of compound interest rates.

3.1.2.kk GCD\_ADD

Will return the greatest common divisor.

3.1.2.ll GESTEP

Will test whether a number is greater than a threshold value.

3.1.2.mm HEX2BIN

Will convert a hexadecimal number to binary.

3.1.2.nn HEX2DEC

Will convert a hexadecimal number to decimal.

3.1.2.oo HEX2OCT

Will convert a hexadecimal number to octal.

3.1.2.pp IMABS

Will return the absolute value (modulus) of a complex number.

3.1.2.qq IMAGINARY

Will return the imaginary coefficient of a complex number.

3.1.2.rr IMARGUMENT

Will return the argument  $q$ , an angle expressed in radians.

3.1.2.ss IMCONJUGATE

Will return the complex conjugate of a complex number.

3.1.2.tt IMCOS

Will return the cosine of a complex number.

3.1.2.uu IMDIV

Will return the quotient of two complex numbers.

3.1.2.vv IMEXP

Will return the exponent of a complex number.

3.1.2.ww IMLN

Will return the natural logarithm of a complex number.

3.1.2.xx IMLOG10

Will return the base-10 logarithm of a complex number.

3.1.2.yy IMLOG2

Will return the base-2 logarithm of a complex number.

3.1.2.zz IMPOWER

Will return a complex number raised by a real number.

3.1.2.aaa IMPRODUCT

Will return the product of complex numbers

3.1.2.bbb IMREAL

Will return the real coefficient of a complex number.

3.1.2.ccc IMSIN

Will return the sine of a complex number.

### 3.1.2.ddd IMSQRT

Will return the square root of a complex number.

### 3.1.2.eee IMSUB

Will return the difference of two complex numbers.

### 3.1.2.fff IMSUM

Will return the sum of complex numbers.

### 3.1.2.ggg INTRATE

Will return the interest rate for a fully invested security.

### 3.1.2.hhh ISEVEN\_ADD

Will return true if the number is even.

### 3.1.2.iii ISODD\_ADD

Will return true if the number is odd.

### 3.1.2.jjj LCM\_ADD

Will return the least common multiple.

### 3.1.2.kkk MDURATION

Returns the Macauley modified duration for a security with an assumed par.

### 3.1.2.lll MROUND

Will return a number rounded to the desired multiple.

### 3.1.2.mmm MULTINOMIAL

Will return the multi-nominal of a set of numbers.

### 3.1.2.nnn NETWORKDAYS

Will return the number of whole workdays between two dates.

### 3.1.2.ooo NOMINAL\_ADD

Will return the annual nominal interest rate

### 3.1.2.ppp OCT2BIN

Will convert an octal number to binary.

### 3.1.2.qqq OCT2DEC

Will convert an octal number to decimal.

### 3.1.2.rrr OCT2HEX

Will convert an octal number to hexadecimal.

### 3.1.2.sss ODDFPRICE

Will return the price of \$100 face value of a security with an odd last period.

### 3.1.2.ttt ODDFYIELD

Will return the yield of a security with an odd first period.

### 3.1.2.uuu ODDLPRICE

Will return the price of \$100 face value of a security with an odd last period.

### 3.1.2.vvv ODDLYIELD

Will return the yield of a security with an odd first period.

3.1.2.www PRICE

Will return the price per \$100 face value of a security that pays periodic interest.

3.1.2.xxx PRICEDISC

Will return the price per \$100 face value of a discounted security.

3.1.2.yyy PRICEMAT

Will return the price per \$100 face value of a security that pays interest at maturity.

3.1.2.zzz QUOTIENT

Will return the integer portion of a division.

3.1.2.aaaa RANDBETWEEN

Will return a random integer number between the numbers you specify.

3.1.2.bbbb RECEIVED

Will return the prorated linear depreciation of an asset for each accounting period.

3.1.2.cccc SERIESSUM

Will return the sum of a power series based on the formula.

3.1.2.dddd SQRTPI

Will return the square root of ( number \* pi ).

3.1.2.eeee TBILLEQ

Will return the bond-equivalent yield for a treasury bill.

3.1.2.ffff TBILLPRICE

Will return the price of \$100 face value for a treasury bill.

3.1.2.gggg TBILLYIELD

Will return the yield for a treasury bill.

3.1.2.hhhh WEEKNUM\_ADD

Will return the week number in year.

3.1.2.iiii WORKDAY

Will return the serial number of the date before or after a specified number of workdays.

3.1.2.jjjj XIRR

Will return the yield for a treasury bill

3.1.2.kkkk XNPV

Will return the net present value for a schedule of cash flows.

3.1.2.llll YEARFRAC

Will return the year fraction representing the number of whole days between start\_date and end\_date.

3.1.2.mmmm YIELD

Will return the yield on a security that pays periodic interest.

3.1.2.nnnn YIELDDISC

Will return the annual yield for a discounted security (e.g. treasury bill).

### 3.1.2.0000 YIELDMAT

Will return the annual yield of a security that pays interest at maturity.

### **3.1.3 New WebQueries Dialog**

Data from external sources (aka linked areas or WebQueries) will be able to be inserted by selecting "External Data Source" from the "Insert" menu in addition to the alternative way of using the Navigator.

The dialog will call for the selection of a file (by entering an URL or using the file dialog), and selection of one or more named ranges within the specified file. If the source is an HTML file loaded with the new WebQuery HTML filter, the names represent the tables in the HTML file. In addition, an interval for automatic refresh of the link will be able to be specified.

To change the settings for a linked area, the "Modify" button of the "Edit Links" dialog will be used.

### **3.1.4 New Printing Options**

The print dialog for spreadsheet documents will have an "Options" button, similar to that found in Writer.

There will be two options:

- Suppress output of empty pages:  
If this option is active, pages that do not contain cell contents or drawing objects will not be printed. Furthermore page numbers will be ignored. Cell attributes (such as borders or background color) are an exception to this rule and will not count as content.
- Print only selected sheets:  
If this option is active, choosing "All" in the print dialog will print only the selected sheets. Similarly, only a specified range of pages will be counted within the selected sheets.

The options dialog (Tools/Options) has a new page "Print" in the Spreadsheet section, where the defaults for these two print options will be able to be set.

## **3.2 Other Noteworthy Enhancements**

### **3.2.1 Password Protection of Change Track Function**

The status switch for Change Track function will be able to be protected with a password. Thus change tracking on sensitive data/spreadsheets will be able to be locked in the 'on' position.

### **3.2.2 Enlarged Matrix Arrays**

The number of elements, that will be able to be used in a matrix array, has been increased. In former versions this number was limited to 16384 elements per matrix, the new limit is 512k elements. This is particularly useful for scientific calculations.

### **3.2.3 Enlarged String Length**

The maximum string length for formulas has been increased from 255 bytes to 64kB. This will be particularly useful for concatenating strings where the sum of all lengths is greater than 255 characters. However, a literal string entered directly as a formula (= "hello world") will still be limited to 255 characters (including the quotes).

Positive side effects of this change will be faster calculation and a smaller memory footprint, especially for strings. This is due, in part, to the fact that single cell references will be redesigned to require 14 fewer bytes of memory than previously.

### ***3.2.4 Advanced Multiple Operation***

The Multiple Operation has been extended to formulas containing references to other formulas. Thus a multiple operation (available under the Data menu > Multiple Operations) is no longer restricted to acting only upon the formula selected in the dialog. Instead, cell addresses that are indirectly referred to will be replaced in every formula encountered during a Multiple Operation calculation.

### ***3.2.5 Improved Change Tracking for Matrices***

Change tracking for matrices will be improved: Rejecting (or accepting if there were any subsequent content changes) an insertion of a matrix formula will be possible.

### ***3.2.6 Improved ASCII Import***

When importing a text file into a spreadsheet, English date formats will be recognized in addition to those of the system language, even when they contain English month names. This will allow for the importation of formats like 12-Mar-01 correctly, independent of the system language.

### ***3.2.7 Advanced Text Filter***

16-bit Unicode text files will be able to be imported and exported by using the text filter "Text - txt - csv."

### ***3.2.8 Additional Settings on Paste Button***

The Paste button within the function bar will include a contextual menu, activated by a long single mouse click.

This new menu will enable the user to choose between additional paste formats such as Unformatted Text, Bitmap, etc. The dialog will contain the same selection that is available through "Edit - Paste Special."

### ***3.2.9 Additional Settings on Undo and Redo Buttons***

The Redo and Undo buttons within the function bar will include contextual menus, activated by a long single mouse click.

The new menus will enable the user to undo and redo the last action. Additionally, users will be able to choose from a list of undo and redo steps that are available.

### ***3.2.10 Use of Printer Metrics for Text Formatting***

A new option will be introduced on the general spreadsheet options page. It will switch the use of printer metrics for text formatting of cells on the screen (WYSIWYG). The option will be a global setting and will not be saved with individual documents.

### ***3.2.11 Automatic Hyphenation within Cells***

Automatic hyphenation will be available for text in cells and drawing objects in a spreadsheet.

The "Alignment" page of the cell attributes will have a new checkbox to activate hyphenation. It will be enabled only if line breaks or block alignment is selected.

### ***3.2.12 New API Services and Interfaces***

Along with the completely new design of the OpenOffice.org API are some new features that will be available for spreadsheets. These are introduced here, in brief. For further details please see the API project and its documentation.

### 3.2.12.a Service for Function Access

A new service (`com.sun.star.sheet.FunctionAccess`) will be implemented which will allow external programs to call OpenOffice.org's spreadsheet functions to obtain the results.

### 3.2.12.b Interface for Cell Ranges

A new interface (`com.sun.star.sheet.XCellRangeData`) will allow users to read and write data (text or numbers) from a cell range with one single call.

### 3.2.12.c Interface for Range Selection on the View

A new interface for the view (`com.sun.star.sheet.XRangeSelection`) will allow the selection of cell ranges from a dialog.

## **3.2.13 Advanced MS Office Filter**

### 3.2.13.a Highly Improved Import and Export of MS Excel Charts

Many more chart properties will be supported by the MS Office filter when importing/exporting spreadsheets from MS Excel. These will include:

- Content of charts (properties of series, title, primary and secondary axes, gridlines, legend, data labels, and format as well as properties of different chart types)
- Format of 2-D and 3-D charts (properties of mode, custom style, custom color, custom weight, column shape and data of different chart elements)
- Settings for X-, Y-, and Z-axes and gridlines

### 3.2.13.b Sheet and Document Settings

The following settings will be importable and exportable to MS applications:

- Number of the visible sheet
- Grid on/off
- Grid color
- Show formulas on/off
- Show column & row headings on/off
- Show zero values on/off
- Show outline symbols on/off
- Sheet selected/not selected
- First visible column/row
- Horizontal/vertical position of a window split
- Horizontal/vertical position of frozen panes
- First visible column/row in the splits
- Cursor position

### 3.2.13.c Further Improvements

Further improvements to the import/export filter for MS Excel 97/2000 will be made to the following features:

- Pivot tables (export)
- AutoFilters and Advanced Filters (import/export)
- scenarios (export)
- references to external tables or table ranges (export)
- merged cells (export)



- groups (import/export)
- print ranges and titles (export)
- styles (import/export)
- recorded changes (import/export)
- hyperlinks (import/export)
- page breaks (export)
- several spreadsheets functions (export)
- cell text rotation (import/export)
- invisible flags (export)
- cell protection flags (export)
- matrix formulas (export)
- shared formulas (export)
- background graphics (export)
- multiple operations (import/export)

# Presentations and Drawings

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## 4.1 Highlights

### *4.1.1 Improved Performance*

An optimized implementation for drawing object attributes will result in a significant increase in performance, especially when interacting in groups or object-filled pages (large selections).

## 4.2 Other Noteworthy Enhancements

### *4.2.1 Cropping for Pixel Graphic*

The Graphics Object bar will contain a new control to set the cropping of a selected pixel graphic.

### *4.2.2 Additional Settings on Paste Button*

The Paste button within the function bar will include a contextual menu, activated by a long single mouse click.

This new menu will enable the user to choose between additional paste formats such as Unformatted Text, Bitmap, etc. The dialog will contain the same selection that is available through “Edit – Paste Special.”

### *4.2.3 Additional Setting on Undo and Redo Buttons*

The Redo and Undo buttons within the function bar will include contextual menus, activated by a long single mouse click.

The new menus will enable the user to undo and redo the last action. Additionally, users will be able to choose from a list of undo and redo steps that are available.

### *1. Improved Import of MS PowerPoint Presentations*

When importing presentations from MS PowerPoint, the document will display using the last view (Slide, Outline, Notes, Handout or Master view). Previously, MS PowerPoint documents loaded always displaying in Slide View.

Furthermore, compatibility with MS PowerPoint will be improved on imported paragraphs. The import filter will account for the difference in the space calculation between paragraphs in OpenOffice.org and MS PowerPoint

### *4.2.5 Improved Export of Hatches*

Drawing objects with a hatching will be able to be exported into MS Word, Excel or PowerPoint. The export filter will convert the vector oriented hatches (not supported by MS Office) into bitmaps.

#### ***4.2.6 Command Line Options for Impress Player***

The following command line options for the Impress Player will be implemented:

- [A|a]:  
Enable/disable automatic slide transition
- [L|l]:  
Enable/disable presentation looping
- [F|f]:  
Enable/disable full screen presentation window
- K:  
Enable kiosk mode, which will include -A, -L and -F, as well as forcing the presentation window into the foreground.

#### ***4.2.7 Cache Buffering Setting for Graphics***

It will be possible to set an upper limit (in KB) for the graphics cache (Total cache size) as well as an upper limit for one single graphic object to be cached. If the size of one object exceeds this predefined size, the graphics output will not be cached, which means, that the graphic will be directly rendered on the screen every time a paint request occurs.

#### ***4.2.8 Extended UI for Printing Options***

Printing graphics containing transparencies will have additional print options:

- Reduced Transparency  
This will allow the user to treat all transparent objects as non-transparent. Additionally, the option 'Automatic' will reduce the transparency only if the covered area of replacement is more than 1/4 of the whole page. The option 'No transparency' will always reduce transparency completely.
- Reduced gradients  
The number of gradient steps will be decreased to the real number set when the gradient was defined.
- Reduced bitmaps  
Choosing to print/render bitmaps at maximum resolution (in dpi) will result in all transparencies being printed as well.
- Convert colors to grayscale  
If this box is checked, output will be rendered in grayscale.

#### ***4.2.9 All MS PowerPoint AutoShapes will be importable***

All available AutoShapes from within MS Office will be importable and exportable.

#### ***4.2.10 Enhanced EPS export filter***

The eps export filter will provide text export as glyph outlines. This setting will be the default. Thus it will be possible to export text containing CJK fonts (or other double byte characters).

#### ***4.2.11 New Impress AutoLayouts for Vertical Text (CJK)***

Four new AutoLayouts containing vertical text will be introduced to presentations.

# Database Access

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## 5.1 Highlights

### 5.1.1 New Database Source Concept

Instead of creating and maintaining a proprietary database format (aka StarDataBase .sdb), OpenOffice.org will work with external data sources.

OpenOffice.org will be able to connect and administer a wide variety of data sources and provide data access to all OpenOffice.org components.

### 5.1.2 New Data Source Administration Dialog

A new menu item "Tools – Data sources" will be available making it possible to administer office-wide registered data sources within a new dialog. Here the user will be able to connect to data sources and/or access registered ones. All connected data sources will be displayed in a list box and, for each entry, the properties of the connection will be specified.

The dialog will be similar to the Properties dialog of a database from StarOffice 5.2. However, it will contain a new page, 'Queries' from which it will be possible to open the query design to define new queries or edit existing ones.

Specifying a data source will become easier, as protocol schemes for defining the data source URL (e.g. "sdbc:dbase:" for the dBase format) which are necessary to determine which database driver should be used to build the connection, will be hard-coded in the edit field. If the user selects a data source type, the corresponding protocol scheme will be entered by the program automatically in the URL edit field.

In addition, above the tree list within the table view there will be a toolbox with the following items:

- New table  
Opens the table design, creating a new table for the data source
- Edit table  
Opens the currently selected table for changing its design, i.e. changing the table structure (available only if exactly one table is selected).
- Drop table  
Drops the currently selected tables. Available if all selected entries in the list are tables (i.e. no catalogs, no schemas, nothing in the "all tables" root entry).

### 5.1.3 New Data Source Browser

The data view of the current database, accessible via View - Current Database or F4, will be extended to include a tree view displaying the available tables and queries of the connected data sources. The user will be able to switch between the different data sources by simply selecting an entry. When switching to another table, the data will be loaded in the table grid. This way the user will be able to interactively browse any tables of an arbitrary registered data source.

The context menu of the table view will offer some commands which will depend on the current selection, for example for editing, copying, deleting database objects or creating new tables or queries in the design mode. The tree view will be able to be faded in and out by pressing a button in the toolbox of the data source browser. Extensions of this will include icons for

- switching to edit mode
- saving the current record
- undoing the current record's changes
- cut/copy/paste

#### **5.1.4 New Database Driver**

A new database driver will support access to the operating system's address book, as can be found in MS Outlook Express, MS Outlook, Mozilla and LDAP compatible address books.

The driver will be called "Addressbook". The browse button will allow the user to select between different address books (if applicable). If an LDAP address book is chosen, a new detailed page will be available for specific data insertaion such as password check (if required) and more.

#### **5.1.5 Spreadsheets as Data Sources**

In the Data Source Administration dialog it will also be possible to specify a spreadsheet document as data source type. If "spreadsheet" is selected in the dialog, a spreadsheet file will be able to be chosen as data source. This will work not only for OpenOffice.org spreadsheets but MS Excel spreadsheets as well. Each (non-empty and non-hidden) sheet with column headers will be used as database table. The access will be read-only.

It will also be possible to use a database range within a spreadsheet document as a database table. Database ranges must not contain column headers. They will be generated automatically, if necessary.

## **5.2 Other Noteworthy Enhancements**

### **5.2.1 AutoPilot for Importing Databases**

An AutoPilot for importing \*.sdb-files from StarOffice 5.2 or previous versions will be available under File - AutoPilot - StarOffice 5.2 Database Import. Since the method for accessing data sources has been changed radically, this migration path is provided.

#### **5.2.1.a New model of accessing data**

Queries, forms and reports, that have been created with StarOffice used to be saved in \*.sdb-files. Data access information will not be stored in these files anymore. Instead, the information about the data sources will be stored in the configuration (DataAccess.xml), which is also valid for queries. Form documents will not be stored in a \*.sdb-file anymore. They will be handled just as normal documents, stored in the file system.

#### **5.2.1.b Features of the AutoPilot**

The AutoPilot accounts for the differences mentioned above. It will allow the user to:

- select an sdb file
- create a new data source with the settings extracted from the file, so that applications can access the data
- extract the queries from the file and store them in the configuration, either in the data source being created or in another one
- extract all form documents from the database storage file and save them to a directory of the user's choice. All form documents will be saved as Writer documents that contain the necessary data fields to connect to the original database

- the to-be-imported database access refers to a dBase or text-base database the path to the data contains one of the variables
  - \$(USER)
  - \$(USERURL)
  - \$(INST)
  - \$(INSTURL)

Note: Reports will be not extracted.

### **5.2.2 Advanced Table Subscription**

When subscribing database tables in the Data Source Administration dialog, the user will be able to choose, whether only specific tables should be subscribed or whole containers. If a container is subscribed, all of the database tables that will be created later, will be available automatically when reconnecting to the data source.

A container will be just the "All tables" root entry or, if the data source supports this, an entry representing a catalog/schema. Subscribing will be done by simply clicking on the corresponding check box of the table or container entry, respectively. To see the difference displayed, containers which are checked as such (and not because all of their children are checked) will be displayed bold.

#### **5.2.2.a Displaying Version Columns**

A new check box on the tables subscription page will control whether a version of data records should be displayed. This will be able to be used for databases that support version fields. Those fields change their values, if a data record is changed.

### **5.2.3 Advanced Query Design**

In query design mode, new buttons will be available in the Object bar: Save, Save as, Undo and Redo.

### **5.2.4 Improved AutoPilot for Combo and List Boxes**

A new page will be added to the AutoPilot for combo/list boxes. Because forms will no longer be bound to a data source, this page will allow the user to assign a database when inserting a control.

### **5.2.5 Automatic Control Focus**

A new Auto Focus mechanism will be available for form layers of documents. An icon will be offered which will allow the user to set the focus automatically within controls. It will be found in the Form toolbar and will be called "Automatic control focus." It will be used when switching from Design mode to Alive mode.

If the automatic control focus is active, the first control of the first logical form of the document will receive the focus. This will be useful for forms created in an OpenOffice.org document, e.g. a text document, which is used only for data entry.

### **5.2.6 New Form Events**

Two new events will be offered in the form property browser to bind macros:

- before reloading: called before a reload on the form is executed
- unloading: called before the form is unloaded.

Previously, these events could be used only with a scripting language.

### ***5.2.7 New Index Design for Tables***

A new index design for tables will be available. This component will be completely rewritten. A new slot in the toolbox of the table design opens a dialog (instead of the former extra view) which will be able to be used to edit the indexes of the table.

### ***5.2.8 Enhanced Drag and Drop***

In the explorer pane of the data source browser, the user will be able to copy tables and queries between data sources using drag and drop or clipboard. This action will be achievable by dragging or copying an object, table or query, onto/into the object container of a data source.

In addition to copying an object into an container of the same type, the user will also be able to copy a query as a table. In this case, a new table will be created and filled with the data from the query.

Furthermore, RTF and an HTML based tables and queries will be able to be dropped into a text document. The result will be a formatted version of the table's data. This will also work from table to RTF or HTML.

### ***5.2.9 Japanese Search Settings Available Within Database***

The user interface for searching database forms and tables/queries will be extended to include capabilities for Japanese search.

This includes an additional check box for "Match half/full width forms" and a "Sounds like (Japanese)" option.

Both options will be exactly the same as e.g. in the word processor's text search dialog.

### ***5.2.10 Use of Catalog in ODBC File Based Drivers***

It will be possible to avoid using catalogs in file based ODBC data sources. The check box for this will be located on the ODBC page in the data sources dialog. Not using a catalog with file based databases will be the default.

### ***5.2.11 Menus in Design Components***

Menus will be available in the table-, query-, relation design components. The menus will contain basic settings such as Undo and Redo, Cut, Copy and Paste as well as Close, Quit and New.

### ***5.2.12 Documents Associated With Databases***

On the subject of data forms, OpenOffice.org will offer a list of bookmarks administrable through the "Tools - Data Sources" dialog for every data source.

These bookmarks will simply consist of a name and an URL pointing to a document. Thus forms will be easily createable and maintainable. Furthermore, using this method, ordinary text documents will also be able to be associated with databases.

### ***5.2.13 UTF-8 Available in the Data Source Administration Dialog***

UTF-8 will be available as a new character set in the Data Source Administration dialog.

This will not apply for:

- ADO data sources  
(Which do not have a character set selection at all)
- dBase data sources.  
(dBase files saved with UTF-8 encoding would not comply to the dBase standard, thus no external program would be able to read them correctly)

# New Programming Interface (API)

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## 6.1 Highlights

### ***6.1.1 Full C++ and Java Support***

The new OpenOffice.org API will fully support C++ and the Java programming language, thus covering the two most commonly used programming languages.

### ***6.1.2 Language Independent API***

Apart from the "out-of-the-box" support of C, C++ and Java, nearly all other programming languages (including Scripting Languages) will be able to be linked to the OpenOffice.org API. This will be achievable by writing individual language bindings.

Thus, there will be no limit for office automation in heterogeneous environments.

### ***6.1.3 Component Orientation***

While the old API was Object Oriented the new API is fully Component Oriented. This allows the programmer not only to make use of OpenOffice.org objects but also to use three types of OpenOffice.org components:

- Exchange/Extend OpenOffice.org components with your own (where applicable)
- Isolate components and (re-)use them in another application (e.g. using Chart functionality within money calculation software)
- Embed OpenOffice.org: OpenOffice.org will be able to be fully embedded into existing workflow environments.

## 6.2 Other Noteworthy Enhancements

### ***6.2.1 API is Content Oriented***

The new OpenOffice.org API will use content rather than UI for automatization. This will allow the programmer the ability to program processes that are not in focus and to access functions that are not available through OpenOffice.org's UI.

### ***6.2.2 More Power***

The new API incorporates many more features than the old one placing much more power in the hands of developers.

E.g. the integration of the up and coming East-Asian word processor import and export filters will be entirely realized through the new API.



### **6.2.3 Exchanging UI**

With the new API it will be possible to exchange the complete OpenOffice.org UI with another one. This will give developers the ability to create their own UI, e.g. simplified UI for children.

### **6.2.4 Office Development Kit (ODK)**

The ODK ([http://udk.openoffice.org/udk\\_package.html](http://udk.openoffice.org/udk_package.html)) will contain all needed libraries, JAR-Files, etc. to access OpenOffice.org and to write components as well provide developers the ability to use it as a development base.

The ODK sources are readily available on OpenOffice.org (<http://www.OpenOffice.org>) and are easy to build.

### **6.2.5 Reorganization of BASIC Modules**

All BASIC Modules will be reorganized and saved in the new XML based format.

### **6.2.6 Enhanced Dialog Editor (IDE)**

The dialog editor will be rewritten and extended in functionality.