What's new in KDE SC 4.4

FOUR-IN-HAND

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Version 4.4 sees the KDE Software Compilation reach a status on par with the user friendliness and stability of good old KDE 3.5. On top of this, many features are new. **BY MARCEL HILZINGER**

If you have not looked at an open source operating system for a year, you probably won't recognize anything. Projects disappear and new ones take their place; a tool or library that is today's buzz can be obsolete tomorrow. KDE users experienced this situation when the desktop warped from version 3.x to 4.x. Early 4.x releases showed promise, but none could achieve the stability and versatility of the late 3.x series. The recent KDE Software Compilation (SC) 4.4 "Caikaku" release sends KDE4 to a new level of maturity that finally achieves the functionality of KDE 3.5. KDE SC 4.4 also comes with a number of exciting new features.

Looking Around

The new KDE SC 4.4 contains a large number of bug fixes, minor improvements, and a handful of new programs [2]. Bloggers will appreciate the Blogilo blogger client (formerly known as Bilbo; Figure 1). The fully automated Blogilo supports WordPress and Blogspot, along with several other blog systems. An off-line feature allows users to compose postings at any time.

The KDE-Edu educational set includes two new programs: Cantor and Rocs. The Cantor math tool (Figure 2) lets you compose math worksheets. By default, Cantor relies on the internal KAlgebra back end, although it supports the free Maxima [3] and Sage [4] educational systems. You can use Cantor to compose simple sums and equations, as well as more complex functions and animated graphs. Rocs refers to itself as a "Graph Theory Viewer Tool." The application lets users draw simple charts and control them by means of a JavaScript-style programming language (QtScript).

KDE SC 4.4 also has a new goodie for gaming fans: Palapeli. The virtual puzzle bench lets you create your own puzzles, giving you a free choice of the number of parts (Figure 3). Palapeli automatically remembers your progress in completing the puzzles. You can thus work on multiple puzzles, or new puzzle designs, concurrently.

New System Components

KDE always had an address book, but the tool that comes with KDE SC 4.4 is practically a new program. Its author is KDE PIM developer Tobias König, who is
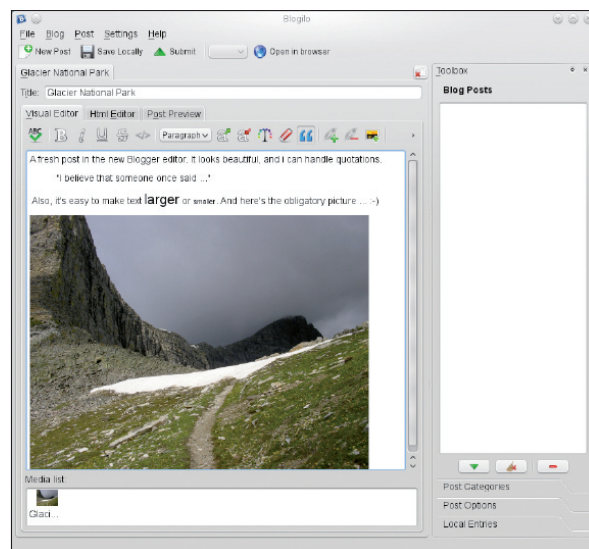

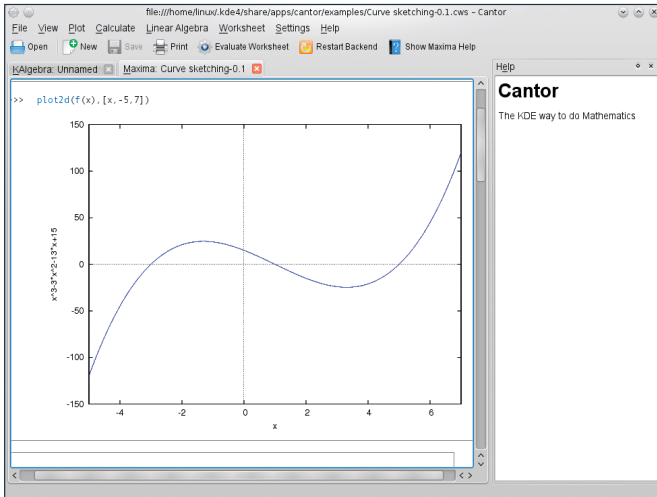**Figure 1: The Blogilo blogger software is one of the new entries in KDE SC 4.4.**

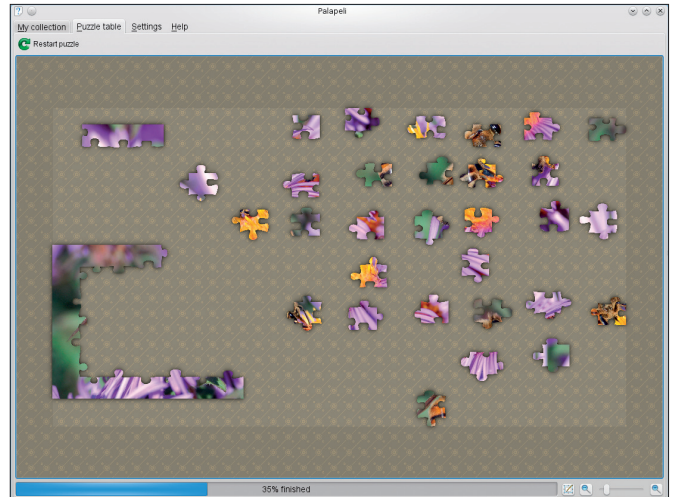Figure 2: New KDE SC has the Cantor software on board for math fans.

Figure 3: The KDE puzzle program Palapeli promises hours of fun.

also a regular contributor to KMail. The complete rewrite was necessary because the new address book no longer stores its information in the standard vCard format, which was the case with its predecessor. The new version uses KDE's own, database-style Akonadi framework.

From a visual point of view, the new KDE address book impresses with a three-panel window view that provides an overview of local and remote address repositories on the left, address book entries in the center, and details of individual contacts on the right. Like previous versions, the new KDE address book can handle records in the vCard, CSV, and LDIF formats. Additionally, it supports direct import from an LDAP server or a GMX file. The developers have also completely reworked, or rewritten, the KAuth authentication framework [5].

KRunner on Top

The fastest way to launch a program is to press Alt + F2 and enter the program name in the dialog that appears. When you press this keyboard shortcut, you are launching the KDE quick starter, KRunner. In Version 4.4, the developers moved the KDE quick starter to the top edge of the screen, where it drops down when you press Alt + F2 and then folds back up when you are done.

To change this setting, you can click the wrench icon on the left. If you prefer to have the KDE quick starter back at the center of your screen, just go to the *User interface* tab and select the *Free floating window* option. Also, you can reintroduce the *Task oriented* view style that first appeared in KDE 4.1 to view the list of available programs side by side as icons rather than as a drop-down list. Clicking *Preview* helps you select your preferred view and function mode.

Managing Widgets

One of the KDE4 desktop's special features is its use of widgets, or plasmoids. These miniature programs can be placed

Why the SC?

Around the end of 2009, the KDE community decided that the term "KDE" should apply to the community itself, instead of being reserved for a single app within the growing collection of software tools. So, they chose the term "KDE Software Compilation" (or KDE SC) for the KDE desktop [1].

Figure 4: The new widget dialog was born at the Google Summer of Code.
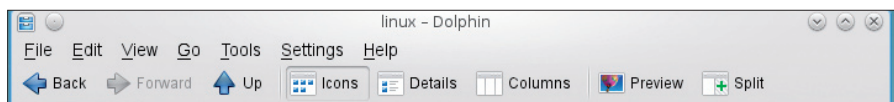

Figure 5: Minor reworking: the default window decorations "Oxygen."

on the desktop or in a taskbar. Special *Activities* – task-oriented groups of plasmoids that act as virtual desktops for specific tasks – let you create a Mac OS X–style dashboard. The KDE developers also gleaned from Mac OS X when creating the new tool to add or remove plasmoids. When you right-click an empty space on the desktop and select *Add Widgets*, KDE SC 4.4 no longer shows a dialog at the center of the KDE window, but instead displays a bar of widgets at the bottom of the screen (Figure 4).

By default, the *All Widgets* tab is enabled. To view the current crop of active widgets, simply click *Running*. Active plasmoids are also identified by a blue check mark. The left and right angle brackets scroll through a list of various categories. The quickest approach to finding a widget is via the search box, assuming you know the widget's name.

The changes are not just restricted to visuals: In the new KDE4 version, all applets are network-capable. For example, you can export the CPU display for computer A to the Plasma desktop on computer B or, in the near future, to a mobile device like the Nokia N800 or some other smartphone.

Window Behavior

The designers modified the window decorations for the Oxygen theme in KDE

SC 4.4. The decorations look lighter than their counterparts in previous versions of KDE. Additionally, the buttons no longer look recessed, jut slightly out of their frames (Figure 5). The window header is at the center of the title bar by default.

The Aurorae window decoration engine (Figure 6) adds more variety. Aurorae was originally contributed by the KDE community and has now officially made the grade in KDE SC 4.4. You can enable the engine in the system settings by opening *Applications | Configure Desktop*. Under *Look & Feel*, choose *Appearance | Windows* and click *Aurorae Decoration Theme Engine* in the *Window Decoration* tab. Pressing *Get New Themes* tells it to pick up more themes.

Besides these purely visual changes, the KDE SC 4.4 developers also introduced a new feature: Windows can now be grouped arbitrarily, adding tabbed browsing appeal (Figure 7). If you frequently use the file manager in combination with an editor, you can add Dolphin to the editor window by right-clicking the title bar and selecting *Move window to group*. This new feature only works with the default Oxygen theme, however, and not with Aurorae.

Device Monitoring

When you slot a DVD into a drive on KDE SC 4, or plug in a USB memory de-

vice, the KDE device manager pops up in the system tray area of the KDE kicker. Although it looks very much the same, the developers have introduced a huge number of changes to the device manager in Version 4.4.

When you mouse over a disk or CD/DVD icon, the device manager displays an additional information bar showing you how many actions are predefined for the device (more details of this later on). Clicking the plug icon on the far right mounts the medium without performing any other actions (Figure 8). This two-click trick takes less than a second – a considerable time savings compared with giving a *mount* command at the console.

If you already know what you intend to do with the removable medium (e.g., importing photos, playing music, loading a CD, etc.), you can click the entry to display the individual actions. In contrast to previous KDE versions, this step doesn't display a separate dialog; rather, the whole procedure is handled by an applet with a couple of mouse clicks, thus considerably accelerating the action.

When you mouse over mounted devices, you can see how much free space is left on the medium (Figure 9). This information is also available in a similar form, but without tangible details, in the Dolphin file manager.

Customized Actions

Although KDE SC 4.4 has a couple of fairly usable items in the list of actions,
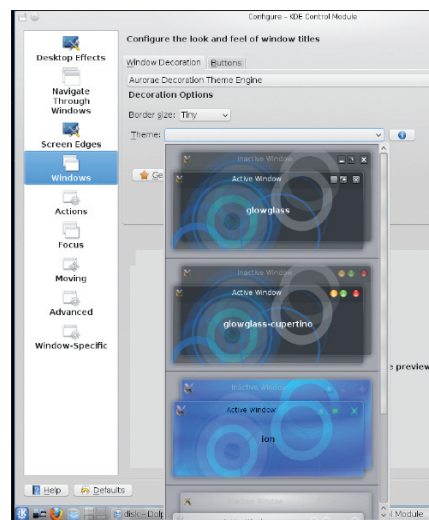

Figure 6: Aurorae offers numerous community themes for more diversity in window decorations.
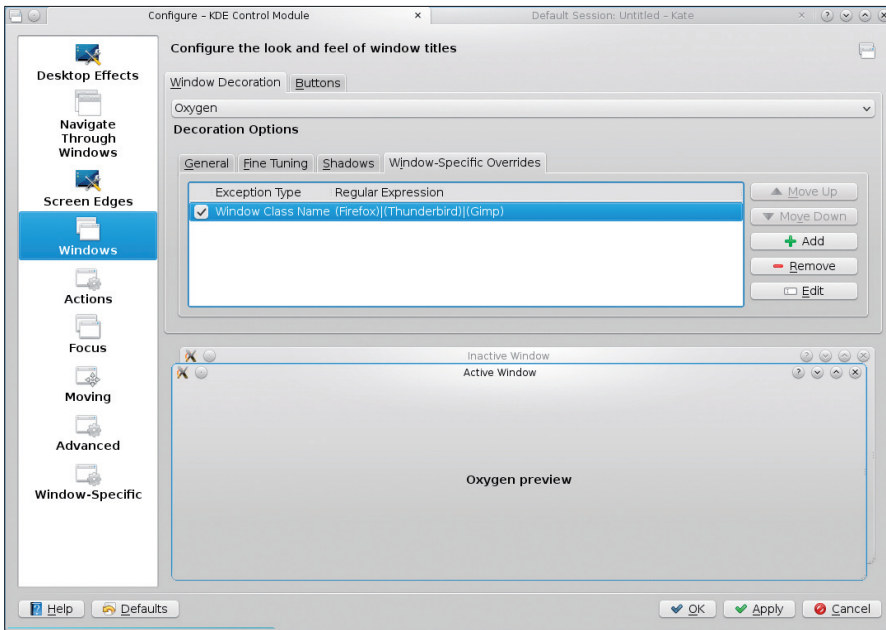
Figure 7: Besides system settings, this window also includes the KDE editor, Kate.

Figure 8: To mount the medium, mouse over and click the icon on the far right.

KDE wouldn't be KDE if you couldn't customize and automate this behavior. To access the settings, you can right-click the *Device Notifier* icon and select the *Device Notifier Settings*. (If you don't have this icon on your kicker panel, right-click on the panel, choose *Panel Options | Add Widgets*, and click on the *Device Notifier* icon.)

The *General* entry lets you specify whether you just want KDE to respond to *Removable devices only*, *Non-removable devices only*, or *All devices*. By default, the device manager will not bother you with the details of internal drives. Additionally, you might not have access to this, depending on your HAL and Udev settings.

The most interesting, and most complicated, Device Notifier setting is *Device Actions*, which lets you specify which actions the device manager should offer. To allow this to happen, you select from a hopelessly complex ruleset that terrifies newcomers and makes even seasoned Linux users break a sweat – partly because of a lack of translations, if you are installing in any language but Eng-

lish, and partly because of the general design. To see this dialog, go to the KDE system settings *Advanced* tab.

KDE includes a dozen or so actions of its own. You can't modify or delete them, and they are part of the KDE Solid (*kcm_solid_actions*) hardware framework. If you want to modify an existing entry, your only option is the command line or an editor. The files are located in the */usr/share/kde4/apps/solid/actions* directory.

To add an action not previously supported by KDE (e.g., to automate backups or format media), select *Add* and then specify the required ruleset. This step involves editing two default entries via the drop-down lists. Don't forget to click *Save parameter changes* when you're done.

Typically, it is easier to copy or move an entry from */usr/share/kde4/apps/solid/actions* to *~/.kde4/share/apps/solid/actions* and then edit the entry. An example of an entry that only applies to
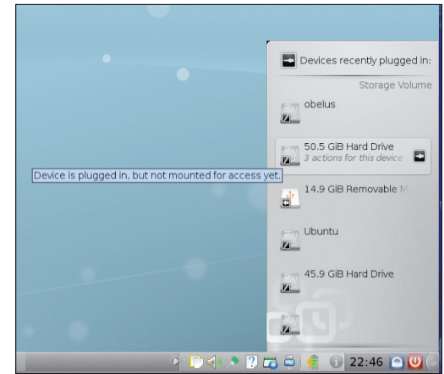

Figure 9: The device manager shows the free/used storage space.

devices labeled *IAUDIO 9* is shown in Listing 1. Then, you can define arbitrary commands or a script in *Exec = .*

For some entries, you will need to know what the Solid framework calls them or how it identifies them. To find this, pop up a terminal and give the *solid-hardware list* command. Make a note of the UDI (unique device identifier) you are looking for and then call *solid-hardware* with the *details* option and this UDI:

```
$ solid-hardware details ⏎
   /org/freedesktop/Hal/⏎
   devices/⏎
   volume_label_IAUDIO_9
```

This command gives you a list of entries you can use for this ruleset, such as *StorageVolume.fsType* or *StorageVolume.size*.

Conclusion

An upgrade to KDE 4.4 is definitely worthwhile. The KDE developers have improved KDE SC 4.4 across the board and simplified the controls as well. ■
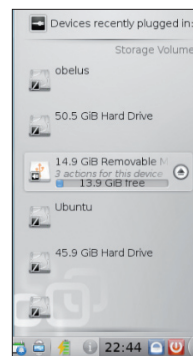
INFO

[1] Repositioning the KDE Brand: *http://dot.kde.org/2009/11/24/repositioning-kde-brand*

[2] Latest applications: *http://www.kde.org/*

[3] Maxima: *http://maxima.sourceforge.net*

[4] Sage: *http://www.sagemath.org*

[5] KAuth: *http://techbase.kde.org/Development/Tutorials#Authorization_and_Privilege_escalation_.28KAuth.29*

Listing 1: Defining a Device Action

```
01 nonumber                        08 Actions=open;
02 [Desktop Action open]           09 Type=Service
03 Exec=my-cool-script             10 X-KDE-Action-Custom=true
04 Icon=akonadi                    11 X-KDE-Solid-Predicate=[IS
05 Name=LinuxCommunity                StorageVolume AND StorageVolume.
06                                    label == 'IAUDIO 9']
07 [Desktop Entry]                 12 X-SuSE-translate=true
```