

LINUX VOICE

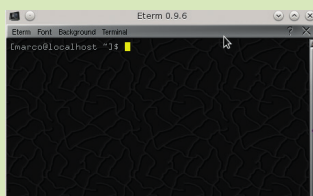
TERMINAL  
EMULATORS

# GROUP TEST

Marco Fioretti opened more shells than you want to know to help you discover what terminal emulator is right for you.

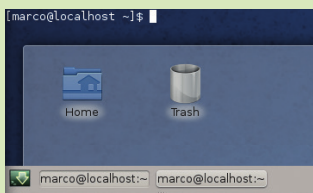
## On Test

### Eterm



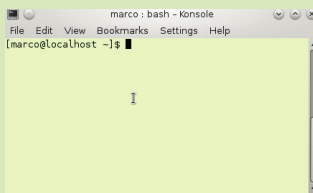
**URL** [www.eterm.org](http://www.eterm.org)  
**Version** 0.9.6  
**Licence** BSD  
*The original emulator of the Enlightenment window manager: is it still up to the task?*

### Guake



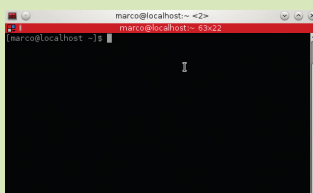
**URL** [www.guake.org](http://www.guake.org)  
**Version** 0.4.4  
**Licence** GPLv2+  
*An "on-demand" emulator that hides in your system dock and only opens when called.*

### Konsole



**URL** <http://konsole.kde.org>  
**Version** 4.12.4  
**Licence** GPLv2 and GFDL  
*The official terminal emulator for the KDE desktop environment.*

### Terminator



**URL** <http://gnometerminator.blogspot.com/p/introduction.html>  
**Version** 0.97  
**Licence** GPLv2  
*Ascetic power.*

### Terminology



**URL** [www.enlightenment.org](http://www.enlightenment.org)  
**Version** 0.4.0  
**Licence** BSD  
*Made for Enlightenment, it conceals a hidden trove of features.*

## Terminal emulators

Relics of a long-gone era, or effective tools?

**T**erminal emulators are rectangles on a screen that let users communicate with the local computer, or a remote one, much like in a generic chat session: you type some commands as text, and the computer answers by displaying other text, or launching another program. All GNU/Linux distributions include, or let you install very easily, a range of terminal emulators.

Such interfaces can, however, look boring or intimidating, especially for people who always used touchscreen or mouse-based computing environments. Do they still make sense in 2014?

The answer of this Group Test is a resounding yes. It does make sense to know terminal emulators, and the available choices in this field, for a very simple reason: mouse or touchscreen interfaces are gratifying and easy to learn

because they are like baby gestures: whatever you want, be it a document on your drive or a movie from the internet, you point your finger at it, just like you did to get toys when you were a toddler.

The obvious problem is that gesture-based interaction is the most effective way to go in many cases (think drawing software) but not in all ones. The reason is that you can only "work" with what was already visible on screen. Learning to talk is a daunting, apparently pointless task for babies, but there is a reason why all those who can, eventually do it: it's the only way to explain exactly what you want, or to provide a complex description of a problem. Terminal emulators provide access to the same communication system used among grownup humans: speech. That's why we're delighted to present you with five great choices.

**"Graphical interfaces are easy to learn because they are like baby gestures."**

### THE CRUCIAL CRITERIA

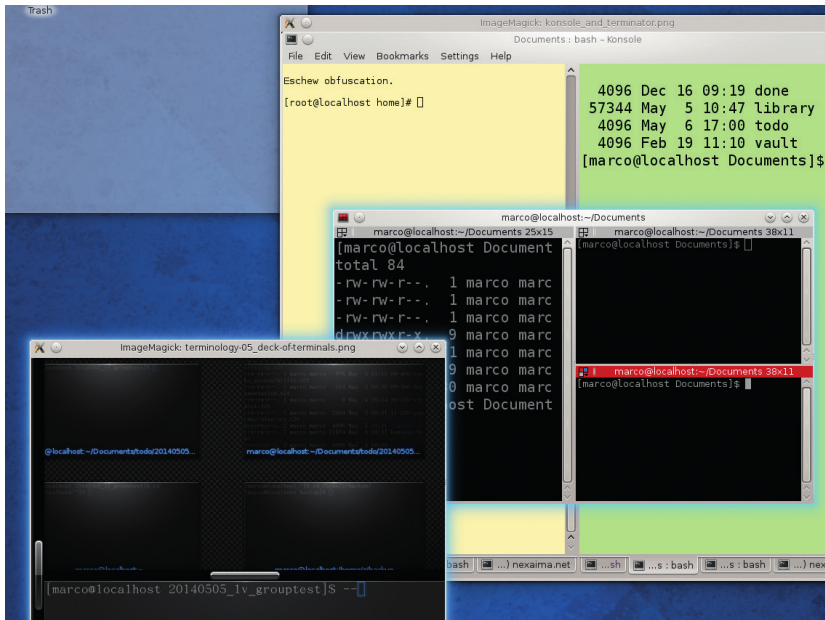
We wanted to show you how many different choices of terminal emulators you have under Linux, including some you may have never discovered otherwise. We also wanted to give you choices as easy as possible to install and try.

Therefore, we looked for emulators that are rich in features and easy to install, normally available as binary packages, but that are not the default ones in the most popular Linux distros.

This, and the fact that we only have space for five products, are the only reasons why we left a good emulator like `Gnome-terminal` out. It's included in the basic versions of (at least) Debian, Ubuntu, Fedora and all their cousins. Besides, it has all the main features discussed in these pages, and is somewhat hidden in one of them. In other words, you really have no excuses to not try it at least once.

# Multitasking

Is it easy to manage many terminals simultaneously?



Konsole, Terminator and Terminology can shuffle terminals in more ways than you'll ever need.

By now, you know that terminal emulators enable interaction with computers more or less like written speech. As it happens in other realms of life, it is often necessary to carry on, or at least keep open, several conversations in parallel. Four of our emulators make it very easy to do so. The exception is Eterm, at least in the version tested on Fedora 20. Guake has tabs, like Konsole, but with fewer settings.

The tabs in Konsole work very much like those of Firefox and other web browsers. You can right-click on the name of each tab to close it, rename it or move it to a separate window. We also like the possibility to automatically assign a different colour to each new tab.

A dedicated panel in the Konsole configuration interface (Settings > Configure > TabBar) lets you hide the Tab Bar, put it on top or bottom of the window and place in it dedicated buttons to add or close tabs. Our preferred function of that panel, however, is the one that sets where all new tabs should appear, that is, at the end of the bar, or next to the currently active tab.

Terminology can split its own window and each sub-window both vertically and horizontally. In addition to that, you can

right-click in any sub-window and select "New", to open a new terminal exactly over the already existing one. Moving from one terminal of the same sub-window to another is easy to do but hard to spot. When you create more terminals in one sub-window, the emulator activates a very small terminal switcher in its upper-right corner: the default colour scheme of Terminator makes it hard to see, but you can just click there to move from terminal to terminal.

Terminator is so flexible from this point of view that if you find yourself using all its functions together... it probably means you're working too much. First, there are both tabs and multiple levels of vertical or horizontal window splitting. Second, there is another feature that is even cooler, even if many people will find no use for it. The coloured rectangle in the left-hand corner of the Terminator status bar opens a menu in which you can define groups of terminals, so that everything you type in one of them is broadcast to all the others.

VERDICT	
Eterm	★★★★★
Guake	★★★★★
Konsole	★★★★★
Terminator	★★★★★
Terminology	★★★★★

# Installation and configuration

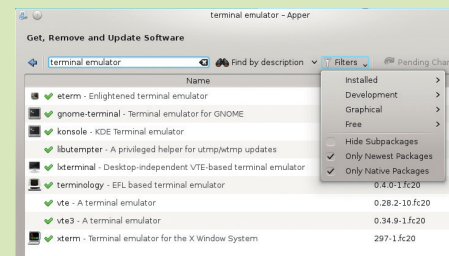
Is it complicated to get these emulators up and running?

Due to the criteria with which they were chosen, none of the emulators considered for this Group Test should give you any trouble. Unless you use some little-known distribution, you should easily find binary packages with the software manager of your GNU/Linux system. In any case, here are a pair of issues that are worth mentioning.

The first is that, while emulators are small programs, they may consume much more disk space than you expected, especially if you install them as packages. Konsole, for example, will bring with itself most of KDE, even if you had no plan to ever use any other part of that desktop. Guake and Terminator may do the same with parts of Gnome.

Eterm and Terminology are both products of the Enlightenment window manager community. They have the same "problem" as the other three – their dependency on Enlightenment libraries and other components. However, they will generally consume less memory, and much less space, than their competitors.

A final word of advice: depending on your distro, you may find that some minor feature of an emulator doesn't work as documented (sound effects, background configuration and similar) if you run it under a different window manager or desktop environment than that for which it was primarily designed.



The software managers of all the main Linux distros include all the terminal tested here.

VERDICT	
Eterm	★★★★★
Guake	★★★★★
Konsole	★★★★★
Terminator	★★★★★
Terminology	★★★★★

# Customisation

What makes a good terminal?

**F**or us, a good terminal must have at least these characteristics: configurable keybindings for all the main operations, ways to define custom commands, and support for automation. The latter feature consists of being able to memorise and load, automatically or on user demand, complex combinations of many terminals, each with its own settings.

Konsole and Terminator do practically everything we just mentioned, through assorted plugins and support for user-defined profiles. A profile is a set of configuration parameters for a single terminal, which is given a name (eg "root profile" or "web server profile") so that it can be loaded automatically, when the emulator is launched, or on demand.

The point of profiles is to make your terminal emulator do as much housekeeping as possible for you, by running predefined commands every time you load them. Let's assume that you always need to have three terminals open at all times: one for checking email, one for working remotely on your web server and one to execute all other commands and generic scripts at the prompt. You can define an email profile that, all by itself, before you even see the window, starts the Mutt email client; a web one, which automatically connects via SSH to your server; and a generic profile for everything else. Each profile may also load a completely different configuration.

Konsole and Terminator can also split their window in any combination of sub-windows. Terminator makes it quite easy to save these "layouts", with different profiles for each terminal. All its keybindings can be reconfigured, or individually disabled.

The other emulators have fewer features, but still enough that it is impossible to mention them all. Eterm has search and run boxes, plus many scrolling options. Terminology provides configurable "helpers" – applications to open all kinds of files, showing them inline if possible. Besides tabs, in Guake you can easily set the default interpreter for your terminals to bash, nologin and several versions of Python.

**VERDICT**

- Eterm ★★★★★
- Guake ★★★★★
- Konsole ★★★★★
- Terminator ★★★★★
- Terminology ★★★★★

# General behaviour

Can you live with them day-to-day?

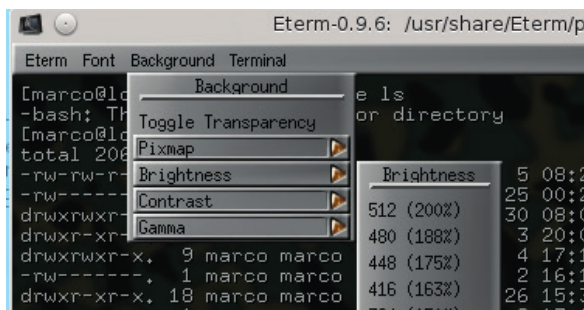
**A** large part of what we think of as the user interface of a terminal emulator is actually the result of its interaction with other, more or less independent programs; specifically the individual commands that we run inside it. No matter how you tweak the emulator itself, you may have to adjust the locale

settings of your distribution, as well as the configuration file of your shell, to make everything look and work just as you like: prompts, history, escape sequences, audio or visual alarm bells are just the main examples of what we mean. Keep this in mind, when thinking to how to use each of these programs.

**Eterm** ★★★★★

Eterm was conceived as the "Enlightened terminal emulator for the X Window System". It seems well suited both for expert users who want a lean and mean terminal, and for beginners looking for something fast, but with an unusual (shall we say "vintage"?) look and feel. Working in Eterm feels like running an Xterm (the main Unix terminal emulator of the 80s)

redesigned for 2014, and we mean this as a compliment. You can customise every detail of how Eterm looks and works, and tune its memory consumption with command line switches. If you have the patience, that is: we hope we're wrong, but the default looks and strain on the eyes of Eterm doesn't seem to encourage newbies, which is a shame.

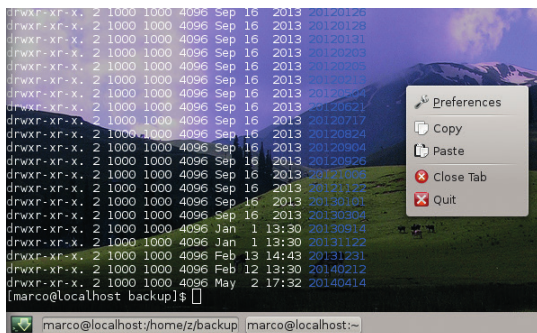


Eterm has a pleasant vintage look, and enough visual parameters to set that it takes time to find the best combination.

**Guake** ★★★★★

The other emulators of this Group Test all aim to make long terminal sessions as efficient and comfortable as possible. Guake, instead, is "a drop-down terminal for Gnome", designed to be invisible, except when you need a prompt quickly, but just for a few minutes. That's probably why you can set the height of the Guake window, but not its width. Once started,

Guake sits in your system dock and appears (or disappears) in a flash whenever you press the F12 key. By default, due to this design choice, Guake is configured to "Stay on Top", but you can disable this behaviour in the General tab of its Properties window. A KDE version of the same emulator is available at <http://yakuake.kde.org>.

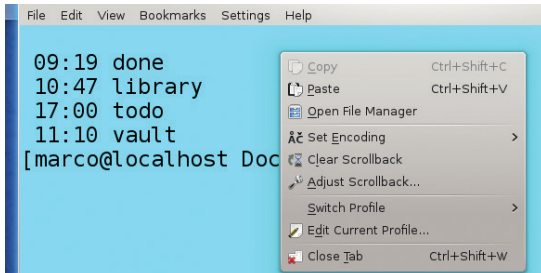


Setting an image background in all the tabs of Guake is a snap. Whether it's worth it is another question...

**Konsole** ★★★★★

It's an obvious thing to say, but we're going to say it anyway: Konsole works and feels just like the rest of KDE. If you have the time and patience to try all its options, and configure them to your taste, you will find yourself with a nice, very powerful and still unobtrusive tool.

However, even if Konsole were the only KDE component you'll ever launch in your computer, it would still work and present itself in the most discreet way possible. Clean menus, bookmarks, readable fonts out of the box... Konsole has many features you will like.

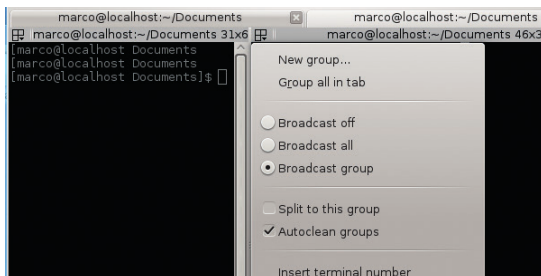


The default looks, fonts and other setting of Konsole may seem dull, but they are well thought-out and don't get in the way.

**Terminator** ★★★★★

The Terminator home page greets visitors with the half pompous, half cryptic slogan "The robot future of terminals". After just a few hours of usage, you see why for yourself. Technically speaking, this program is a tool to host multiple Gnome terminals in one window, as efficiently as possible. The ways in which you can

arrange terminals inside Terminator are the most flexible of the bunch. And if you stop liking a layout, you can just drag and drop each sub-window as you please. The Group Broadcast feature does look a bit like those totally unrealistic Hollywood mockups of computer interfaces, but nobody's forcing you to use it.



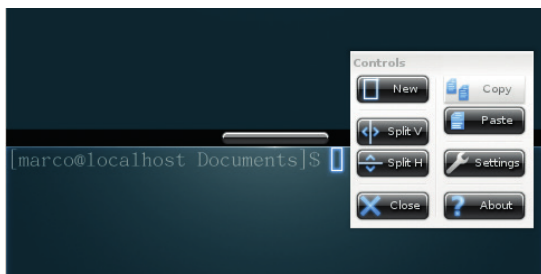
Besides organising terminals in tabs and sub-windows, Terminator makes it easy to control whole groups of them, in broadcast mode.

**Terminology** ★★★★★

Terminology can use video clips as background, has a themable visual bell (the window flash when it wants to tell you something), and it can display some graphics formats inline.

Every minute spent using this terminal reminds you that there is a whole desktop environment pretty different from the

usual ones, but also quite efficient and interesting. Besides looks, you get splittable tabs and selection of rectangular blocks of texts (a godsend for bug reporting and text processing). Email addresses, URLs and file paths are detected automatically, so copying and pasting them anywhere is a snap.



No menus, no buttons, nothing in sight: Terminology couldn't look more spartan, but its snappy control panel is just one click away.

# Flexibility

Bend them to your will!

**T**erminal emulators can do lots of things that you may not expect of them, or be used in environments different from your everyday GNU/Linux distribution. By definition, this is a sector in which one is forced to compare apples with oranges, so please don't take the corresponding rating too seriously.

Eterm is at its best inside the Enlightenment window manager. Its "auto mode", for example, gets the images to use for scrollbars directly from Enlightenment, and lets the Window manager draw them. At the same time, if you compile and install Escreen code yourself (see the Eterm man page for details), Eterm will get something that is trickier to achieve in its competitors: an interface between the emulator itself and the screen program, to manage multiple (local or remote) terminal sessions via Eterm buttons and menus.

Being part of Enlightenment can take Eterm to places that may be much more difficult to reach for the other emulators. Enlightenment is much more popular for embedded Linux applications than the environments for which the other terminals were designed (with the possible exception of Konsole, if used inside Plasma Active systems). Of course, what we just said for Eterm also applies to Terminology, which besides X11 also works in Wayland and in the basic Linux framebuffer. Other features of Terminology that, in certain scenarios, may be useful to both beginners and power users are its ability to display the content of links inline and to smoothly reflow text when the window is resized.

Other users prefer the Konsole functions to print the content of the window as it was before the execution of the last command, or to save it in plain text or HTML format.

Speaking of flexibility, here is one last thing you may like to know: in KDE, and likely in other environments as well, you can tell any independent window to become a tab of another window. This makes it possible to run all your favourite terminals (each with its own tabs, sub-windows, etc) in just one window.

**VERDICT**

Eterm	★★★★★
GuaKe	★★★★★
Konsole	★★★★★
Terminator	★★★★★
Terminology	★★★★★

# Looks

Which of these applications is the tallest man in Liliput?

All the emulators we tested can have graphic, more or less transparent backgrounds. Now, if we didn't think that looks matter, we wouldn't have devoted a big box to them, so do yourself a favour and don't waste much time with fancy backgrounds. Back in the 90s, when KDE and GNOME were born, such backgrounds were cool, maybe even necessary, to prove that Linux was not necessarily dull. Today, they just make text harder to read.

The Eterm defaults are the worst from this point of view. Every new Eterm pops up with a different background image, which often seems chosen just to assault your eyes. Besides, the Eterm menus only give three choices of font size (normal, smaller, bigger) and too many choices for brightness, contrast and gamma. Luckily, you can force Eterm to always look exactly as you want with command line switches.

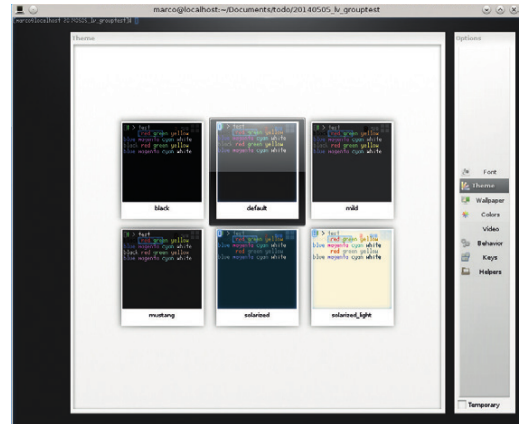
That said, if you do like image backgrounds for text, try the Eterm "viewport" mode: it sets as background,

only for your Eterm instances, an image as big as your desktop, but different from the wallpaper. The result, as the Eterm man page puts it, is "especially keen" if you open several Eterms with the same viewport.

### Why be boring?

The Terminology mantra is "Why Should Terminals be boring?" In our opinion, the configuration panels of Terminology are the best-looking of the group. Setting fonts and font sizes, a critical feature, is easy and fun, even if there are many options. Terminology also has a cursor that flashes along as you type, but it manages to do it without being irritating.

There is not much to say about the other competitors, but don't take that as a critique. The graphical configuration interfaces of Terminator and Konsole seem to us the best compromise between ease of use and number of options. Both emulators let you zoom in or out, that is, set different font size in each tab or sub-window, by just pressing Ctrl+ or Ctrl-. In



Testing fonts, backgrounds and themes in Terminology is so easy and fun that you may forget to do any work.

Terminator, even the thickness of the border between terminals in the same window is configurable.

Guake has all the important visual configuration options, and it offers the ability to make scrolling happen either when text output has filled the screen, or only when you hit some key (which is the default).

VERDICT	
Eterm	★ ★ ★ ★ ★
Guake	★ ★ ★ ★ ★
Konsole	★ ★ ★ ★ ★
Terminator	★ ★ ★ ★ ★
Terminology	★ ★ ★ ★ ★

# Documentation

What should I know, and where can I find it?

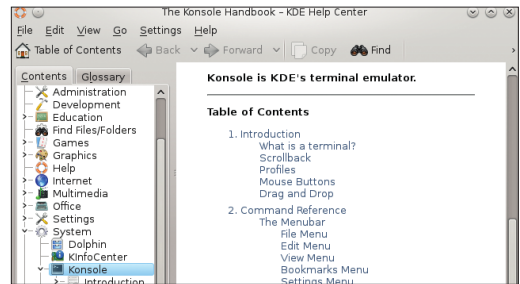
Documentation is a tricky issue, as far as terminal emulators are concerned. That's why it deserves its own section in these pages. The issue we are talking about is related to the very nature of terminal emulators. The right choice of terminal make a big difference in how productive you can be. However, by definition, any program of this kind is just like a connector to the tools that hold the real power: shells and other command interpreters. In other words, how much you can do with an emulator depends first and foremost from how familiar you are with those other programs.

This said, let's look at what the programs of this group test offer when it comes to documentation. Guake seems to have nothing but a very terse

man page. At the opposite end of the scale we have Konsole: in addition to a handy "What's this?" function, one click in its Help menu opens the Konsole section of the KDE handbook. There you'll find almost everything you need to know about this terminal in simple language, including an introduction to how to make scripts interact with Konsole via Dbus.

Terminator only has two man pages: one for the configuration options (**man terminator\_config**) and one for the command line switches. The interface, however, is simple enough that this is seldom a problem.

A click on the question mark in the bar of an Eterm window opens the man page of this terminal, in another Eterm window. Other useful, if not mandatory



The Konsole handbook, reachable through the help menu, is clear and complete.

reading, sources of documentation for Eterm are its FAQ and Technical Reference at [www.eterm.org](http://www.eterm.org). The latter document is the only one that explains how to configure settings such as escape sequences.

VERDICT	
Eterm	★ ★ ★ ★ ★
Guake	★ ★ ★ ★ ★
Konsole	★ ★ ★ ★ ★
Terminator	★ ★ ★ ★ ★
Terminology	★ ★ ★ ★ ★

# OUR VERDICT

## Terminator

If you use the command line just to launch an occasional script a few times a week, practically any terminal emulator would do. As a matter of fact, you should probably attach that script to an icon or menu entry of your desktop, rather than firing up a terminal just to type its name.

In all other cases, which on Linux means “basically always, if you want to fully exploit the power of this operating system” things are much different.

Having several terminals

old computers, where every CPU cycle counts. In all other cases, it has little that you can’t find in the others, in a more usable package.

Terminology is perfect for people who want many terminals but get bored by always looking at the same stuff: its configuration panel makes experimenting with colours, fonts and graphic styles so easy that it may kill your productivity.

Konsole (as you’d expect from a KDE application) demands some work to make it behave just as you’d like, but it is powerful and well


**“Terminator is not a fashion icon, but is good looking, fast, and above all flexible.”**

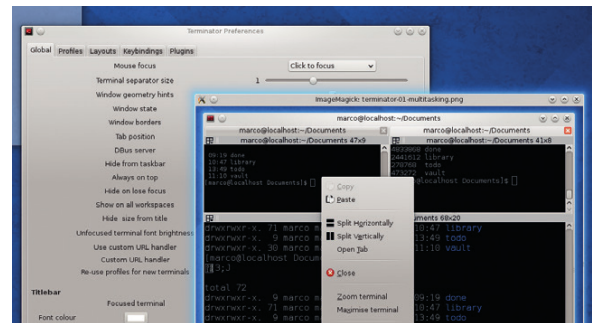
regularly open, each for one different task (eg system monitoring, file searches, web server administration) is not something that only top-notch IT professionals must do – it’s for everyone. That’s where a terminal emulator that can bundle, preconfigure and run all those shells, makes a big difference.

If you are in the “occasional script” category, go for Guake: besides being made to order for that use case, it looks good and still has tabs and other useful features.

Eterm may be the best option when you need lots of terminals on

pre-configured enough that most people will be happy with it by just opening more tabs.

Terminator is not a fashion icon, but is good looking, at least as fast as the others (on medium-powered computers, at least) and, above all, flexible! If the terminal emulator of your dreams, the one that would make you work happy, looks like a patchwork quilt, be assured that Terminator can look like that, with relatively little effort. This, plus custom commands and other things we already mentioned, make of Terminator the winner of this Group Test 



Terminator: easy configuration interface, endless possibilities.

### 1st Terminator

Licence GPLv2 Version 0.97

<http://gnometerminator.blogspot.com/p/introduction.html>

Terminator is fast, full of features, has the most flexible layouts and is easy to configure. It also looks good without any fiddling.

### 2nd Konsole

Licence GPLv2 and GFDL Version 4.12.4

<http://konsole.kde.org/>

The official KDE terminal, perfectly integrated with that desktop, but great even on its own. Not flashy, but solid and complete.

### 3rd Terminology

Licence BSD Version 0.4.0

[www.enlightenment.org](http://www.enlightenment.org)

If you need power, but can’t do without an original look and feel, Terminology makes it easy to get just what you want.

### 4th Eterm

Licence BSD Version 0.9.6

[www.eterm.org](http://www.eterm.org)

Not needed in Enlightenment, now that we have Terminology, but it’s still powerful and fast.

### 5th Guake

Licence GPLv2+ Version 0.4.4

[www.guake.org](http://www.guake.org)

Guake came last simply because it is more specialised than the others, but is a great tool all the same.

## YOU MAY ALSO WISH TO TRY...

The terminals presented here are, in our opinion, among the most interesting ones that are available today on Linux. This doesn’t mean you should ignore the others, of course. Use this Group Test as a guide to how to evaluate them, instead. Among traditional terminals, for example, you may try lightweight apps like `lxterminal` or `wterm`.

There are many more projects that, while not really ready for prime time yet, may make things much more interesting in a few months. Some are terminals that run inside any browser, like `Anyterm`, `AjaxTerm` or `Shell In A Box`. Then there is `TermKit`, which is a desktop application, but running inside the same WebKit rendering engine used by

Google Chrome. Finally, we’re keeping an eye on `Final Term`. This aims to redefine the nature and task of a terminal emulator, with features like smart command completion, and above all semantic text menus, which recognise what the piece of terminal output you have selected is, and only display actions compatible with it. Stay tuned!