

Fedora 25 announcement, news and known issues

The disadvantage of the free Fedora Linux distribution is its short lifecycle. When we adopted this version, we knew we might have to upgrade all computers approximately once a year, which is actually a small price to pay for a free and up-to-date operating system. The advantage of this disadvantage is of course, that our software collection is always very up-to-date.



And now (December 2016) it is about time to start upgrading again. Actually, we have already started on student pcs and a few others, and over the next month or so we will upgrade as many of the systems as possible. We have spent quite some time to streamline the upgrade process, so on most reasonably fast pcs an upgrade will take approximately 3 hours. Therefore we think it is most efficient that we just execute the upgrades whenever a computer seems to be unused for part of the day, without wasting too much time on planning. Experience has shown that most plans fall apart due to changes in schedule anyway. However, if you know you desperately need your computer due to an upcoming deadline or so, please let us know. Otherwise, just log out whenever you don't need your computer for a while, and chances are, we will at some point detect this and perform the upgrade.

General information

- Fedora 25 release notes [html version, pdf and versions in various other languages available from the menu]http://docs.fedoraproject.org/en-US/Fedora/25/html/Release_Notes/
- Common Bugs and Known Issues https://fedoraproject.org/wiki/Common_F25_bugs

Local links:

- [Linux desktop environments](#)
- [Fedora compatibility settings](#)
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New in F25, or in our Fedora setup:

- The KDE desktop in its latest version, calls itself P_Lasma so that is what you will have to select from the menu on the login screen if you want this desktop.
- Gnome 3.22 (see below for details)

- The current version has Google Drive integration in the file manager, and various online calendars can be integrated in the desktop calendar utility.
- More integration is possible by means of various Gnome shell extensions that you can load for yourself from <https://extensions.gnome.org/>
- Python is now available in version 2.7 and 3.5. If you had private packages or virtualenv installed for python 3.4, you may have to reinstall those for 3.5. Your python 2.7 packages should remain operational.
 - All python programs in the desktop and system utilities, are now using python 3.5. Command python will continue to invoke python2 so all your own scripts should not be affected. Command python3 will now invoke version 3.5 in stead of 3.4, so some differences may be present.
 - When available, we have installed both the python 2.7 and the python 3.5 version of a package
 - Numpy is now using the OpenBLAS libraries on all systems, in stead of ATLAS. This eliminates a difference between Fedora and RedHat Enterprise (on the compute nodes), and OpenBLAS seems more capable of using the proper number of CPU cores, eg the full capacity of a machine, or just the subset allocated to your job, without the need to have separate versions for separate systems.

In case you need to restrict the number of CPU cores on which your job runs (eg on the para cluster, or when you want multiple jobs not interfering with eachother), set environment variable OPENBLAS_NUM_THREADS to the maximum number.
 - ~~iPython 5.1 works ok with python 2.7; there are still some issues to get ipython 5 to work with python 3.5 at this point. BUG.~~
 - iPython has been upgraded to version 5.1.0
- TeX Live has been upgraded to version 2016, and will be installed with all available extras, so no need to ask us for specific packages any more, it should all be there already.
- X2GO, a free extended VNC interface, now replaces NoMachine NX, since the free version of that software stopped working some time last year. X2GO also includes X2GODESKTOPSHARING, to take over your default desktop from another system.

X2GO clients for Windows, MacOS X and Linux can be downloaded at <http://x2go.org/>.
As an added bonus, it offers disk sharing, client side printing, and audio forwarding.
NoMachine NX will no longer be installed or supported.
- New applications (new in Fedora 23 or newly added in our standard installation):
- ...
- Significant updates:
 - Skype is now installed by default (and upgraded to 4.3). The SkypeWeb chat plugin for pidgin is also installed by default. It is also possible to integrate Skype with the Gnome desktop through <https://extensions.gnome.org/extension/696/skype-integration/>, a Gnome shell extension that users can easily install on their own account.
 - The beta version of Adobe Flash 24 is now installed, in stead of the very ancient 11.x version (previously the last supported Linux version, but Adobe seems to want to support Linux again, at last)
 - Many other packages available on demand.
 - Fine-tuning of nvidia graphics drivers, depending on the hardware. Nvidia has split their drivers in a couple of “generations” and a system should get a driver from the right generation to work right. Unfortunately, the oldest computers in our institute don't work very well with even their intended driver. On these systems, please refrain from using the Gnome or Cinnamon desktops, or ask us to install the nouveau driver, which cannot do accelerated 3D graphics, but works fine otherwise (and who wants to do accelerated 3D on 7 year old hardware anyway?)
 - Nvidia CUDA version 8.0, on systems that can make use of this.

- Emacs 25
- Wayland: the official Fedora release notes have a lot of information about Wayland, a replacement for the X11 graphics system. We don't use Wayland at this time, since it doesn't yet support many features that are needed in our type of work. So you can ignore all that is written about Wayland.
- Removed obsolete packages:
 - NoMachine NX has become non-functional some time during the Fedora 23 lifetime, and its new versions aren't free. Please consider switching to X2GO (see above).

Known issues in Fedora 25

- Gnome and Plasma (KDE) have become too demanding for our oldest computers. Gnome Classic usually works.
- VNC issues: Desktop environments that require hardware acceleration (3D desktop effects) are too heavy to be used inside a virtual desktop (VNC, X2GO). See [VNC desktop issues](#) for details and workarounds.
- ~~iPython 5.1 is not yet working with python 3.5, so if you need ipython 5, use python 2.7. And if you need to use ipython in python 3.5, it is version 3.2 for the time being.~~ (solved 2016-12-08)
- On the other hand, iPython notebooks only run with python 3 at the moment. Although jupyter-2 works fine, it will load a python 3 kernel for the notebook.
- If you have your own python modules (eg a virtualenv, or local installs in own directories), these may have to be reinstalled for the new python versions.
- Python's matplotlib has a couple of issues:
 - Start by clearing its font cache, usually located in `$HOME/.cache/matplotlib` and see if that makes the difference
 - When using TeX fonts in matplotlib, saving the plot as pdf or ps will fail on most computers. Reason as yet unknown. Workarounds: save as something else, e.g. PNG, and convert the plot to the required type later. Or avoid the TeX fonts for the moment.
- When selecting a desktop from the login screen, the GNOME desktop is listed multiple times. Choosing any one of them should work.

Some general observations and tips

- Gnome 3. Gnome 3 is a completely different desktop design, which makes the desktop look and behave a bit like a Tablet PC. Some people may like it, but if you don't, "Mate" is available as an alternative, to give you the experience of good old Gnome 2, or "Cinnamon", for a more desktop-like version of the new Gnome, or try "Gnome Classic".
[More on Gnome 3](#)
- Gnome applications: in every new release, more Gnome applications are rewritten in the style of the Gnome 3 desktop. This means: a separate application menu, displayed Mac-style in the top bar on the Gnome desktop, or under the application icon in other desktops, the most important actions displayed as buttons, and everything else in a menu at the top right in the application window.
See [desktop applications](#) for a table listing alternatives, in case you cannot get used to the new look.
- Cinnamon desktop tweaks: In general, Cinnamon looks like ordinary desktops, but it is Gnome 3 at the core. But there are separate tools for Cinnamon, eg, if you want to modify the programs that start in each session, use cinnamon-session-properties for that (also available from the settings overview).

[More on Cinnamon](#) or see the list of available [desktop applications](#)

- The KDE desktop in its latest version, calls itself Plasma so that is what you will have to select from the menu on the login screen if you want this desktop.
- Programs that start with each session: A lot of programs are started by default in each desktop session. many of them are unnecessary; some of them are annoying or can cause problems. users can disable everything they don't need.

[More on session tweaking](#)

- The command `pmount` can be used to mount removable media (cdrom,dvd,usb-disks) from the commandline. E.g.: `pmount /dev/cdrom` mounts the cd/dvd as `/media/cdrom`.
- Emacs. Stating with Emacs version 24, the program contains quite a number of changes. For the most part: it tries to work nicer with current desktop systems, since the way people expect an X application to behave, have changed a lot over the years. Best to enable the KDE or Gnome clipboard manager, and enjoy the new feature of emacs and of your desktop the way they were programmed to be.

But emacs being emacs, all of this behaviour can be configured and fine-tuned. Read the news, available from the help menu (C-h n).

If you really, really, really want the old selection, cut and paste behaviour back, add this in your `.emacs`:

```
(setq select-active-regions nil)
(setq mouse-drag-copy-region t)
(setq x-select-enable-primary t)
(setq x-select-enable-clipboard nil)
(global-set-key [mouse-2] 'mouse-yank-at-click)
```

- Intel compilers: The Intel compilers (ifort,icc) are not enabled by default. The latest freely available version is 10.1, which can be loaded using `module load intel`. However, for most code, the GNU compilers are better than these slightly older Intel compiler versions. (if you read that the Intel compiler has speed benefits, this probably refers to the very expensive current version, which we cannot install on a system-wide basis, or you are reading an obsolete webpage; the GNU compilers have gained significant speed of the last couple of years). If you really need the current Intel compilers, find funding, and be prepared to have a license locked to a single computer.

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