

OFFICE MIGRATION: PRINTING AND EMAIL

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Is your home or work office still stuck on Windows? Move it to Linux and save time and money.

WHY DO THIS?

- Free yourself from Microsoft's licensing costs
- Avoid the UI nightmare that is Windows 8
- Get better performance and security

SOHOs (small office/home offices) and SMEs (small/medium enterprises) are in a bit of a bind at the moment. Large numbers of organisations still run Windows XP – so they need to consider their options now that Microsoft has ended support for that OS. Doing nothing and continuing to use XP is an option, but it gets riskier as time goes on. Upgrading to Windows 8 or converting to Apple is going to be expensive, but there is a third way: Linux and open source software.

Now, chances are that you already run Linux on your home desktop and maybe a few servers, so you're aware that it's a very capable OS. But we also know that many Linux dabblers find it tough to move their home or work office away from Windows. In this tutorial we'll make the transition easier – and if you're forced to use Windows at work but would love to move over to Linux, show this guide to your boss!

Before we dive in, however, let's consider the main benefits of making the switch:

- **Licensing** Here you have direct and indirect costs. With Windows you have to spend money on the operating system and office suite, and then add-ons for security. Bigger organisations even have costly licensing departments and servers, so there's an indirect cost – manpower.

- **Support** There are many more support options in the open source world. Paid support is available with the bigger distributions, and the support forums can resolve issues in a time frame so fast that would make commercial help desk staff quake in their boots.
- **Ideology** An increasing number of individuals and organisations are embracing not just the commercial practicality of Linux, but also the underlying spirit of community and co-operation.

Assess your needs

Once you or your organisation has decided to explore the Linux alternative, the first step is to assess the application requirements in detail, which will save a lot of wasted time and re-work later on. There are alternatives for almost everything in the FOSS world, but you may need to keep bespoke applications and run them using the Wine compatibility layer.

Converting an office to Linux is a mammoth job, so here we're going to focus on two of the most common tasks: printing and email. These are good places to start in a transition, so we'll show you that it's not so difficult with the right approach. And if you'd like us to cover other aspects of office migration, drop us a line and we'll expand this into a longer series of tutorials.

1 PRINTING

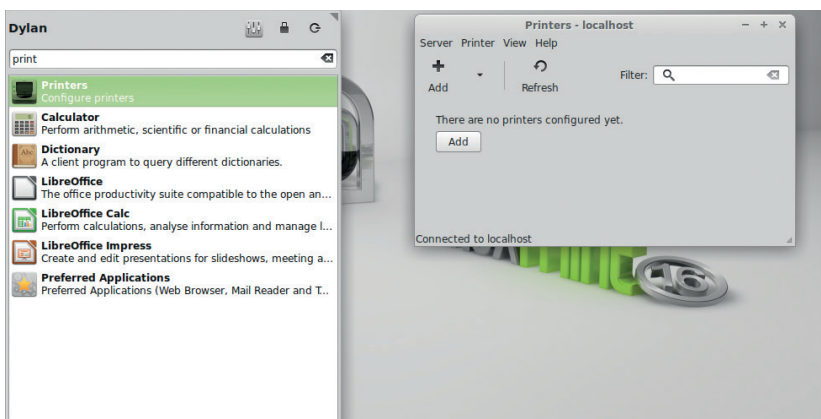
With Linux Mint, setting up a printer is straightforward thanks to a GUI tool accessible from the Start menu.

The previous generation of printers attached to PCs (as opposed to departmental networked laser printers) were strictly Windows printers, with an awful lot of the computing power done on the PC instead of the printer itself. Attaching these devices directly to

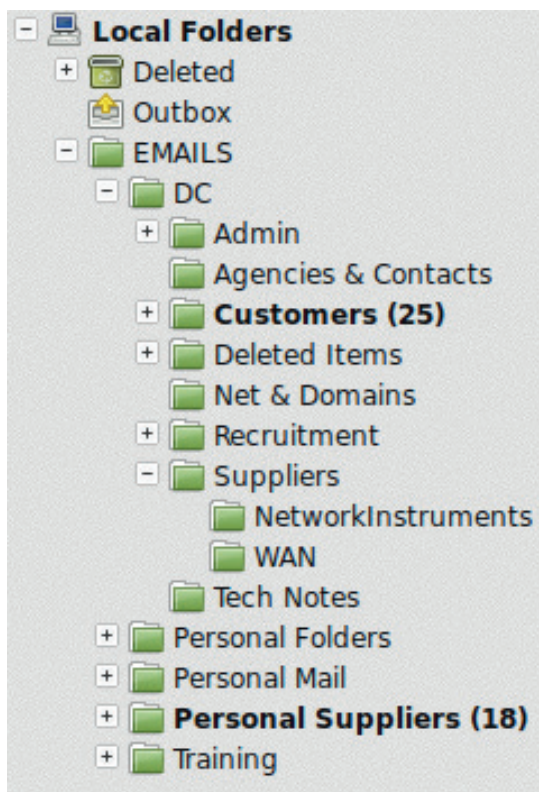
your Linux PC or even a Raspberry Pi print server is entirely possible, but this is the realm of die-hard tinkerers, as some features may not work properly, like notifications of paper jams and low ink levels. However, most of the current generation of printers are natively network-orientated with built-in print servers.

Let's have a look at two printers and how they can be installed on a fresh copy of Linux Mint 16, Xfce edition. First is a brand-new HP Office Jet 660 (approx £130 including fax and scanning features) which has been configured using its touchscreen and is on the network ready for action. Secondly we have a legacy Canon PiXMA iP5000 directly attached via USB.

Printing on Linux is usually handled by CUPS (formerly an acronym for the Common Unix Printing System). This is installed by default in Linux Mint, with its daemon running in the background. Configuration is either via the web interface at <http://127.0.0.1:631> or via the GUI application "system-config-printer" (just type "printer" into the search box on the start menu to



Here's the Local Folders file structure after importing the three files and folders.



4 This brings up the “import” pick list, so select “Mail”. Then you have the option of Outlook, Outlook Express or Eudora. It’s wise to make sure that Outlook is not running during this process.

5 Once the import process has been completed you are left with an additional folder in the **Local Folders** section called **Outlook Import** or something similar. On our machine it was named **EMAILS**. If you right click on this folder and select Properties, the location of the files of interest are shown, eg **mailbox:///C:/Documents and Settings/username/Application Data/Thunderbird/Profiles/s3e9cqb.default/Mail/Local Folder/EMAILS**

If you navigate to this location (warning: under Windows XP, Application Data is a hidden folder) you will find the three files we need to copy. **EMAILS** (the files with no extensions in Thunderbird are the MBOX mail files), **EMAILS.msf** (Mail Summary Files) and finally a folder called **EMAILS.sbd**, which is the directory structure of sub folders, each of which contains another MBOX file and msf file. Copy these three files and folders to a USB stick or to a server.

Import mail into Thunderbird on the Linux PC

If your Linux machine does not ship with Thunderbird then it needs to be installed in the manner best suited to your distribution. For Debian and derivatives the command **sudo apt-get install thunderbird** will do the trick.

First, add your account(s) as usual, using IMAP instead of POP if possible to make accessing email via several devices less painful and easier to manage. Next, locate the Local Folders icon on the left-hand panel, right-click on it and select Settings. This will

show you the location of where to copy the three files from our Windows export procedure in step one above, eg **/home/username/.thunderbird/bqq0cpfv.default/Mail/Local Folder**.

So copy them into that location, restart Thunderbird, and you should have your nested folder structure as you had it on Outlook.

Directly importing PST files

If, for what ever reason, you no longer have access to a Windows PC with Outlook running and only have access to the PST files then it is still possible to import them but it requires a bit more work. This process will also work for any other mail program that can read MBOX files, such as Claws.

The Linux email storage medium of choice is MBOX. To convert a PST file to MBOX you'll need a handy CLI tool called **readpst**, which is part of **pst-utils**. It looks like it is not in active development, but it does work and it's the best that we could find.

sudo apt-get install pst-utils

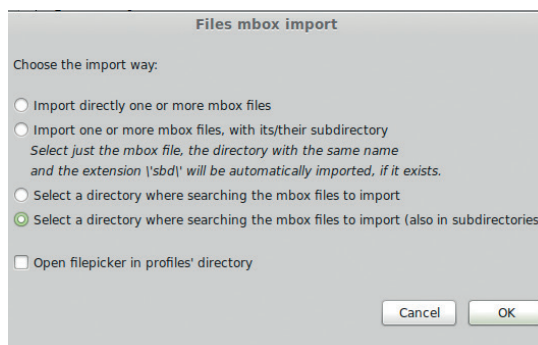
It's quite straightforward to use readpst. It does have a number of switches, but only the **-u** option for use with Thunderbird is selected here:

readpst -u mypst.pst

The output of **readpst** is a nested folder structure where the top level folder is called **mypst** (it takes the name of the **.pst** file) and inside of which is a **.mbox** file that contains all your precious mail. Each subsequent folder and sub-folder is properly named as per the folder structure of the original pst file and also contains a **.mbox** file.

Getting this MBOX file into Thunderbird is not as straightforward as you think, and requires the installation of an add-on by the name of ImportExportTools, also available from Mozilla: **https://addons.mozilla.org/en-US/thunderbird/addon/importexporttools**. The installation instructions on the website are pretty clear and straightforward:

- Download and save the file to your hard disk.
- In Mozilla Thunderbird, open Add-ons from the Tools menu.
- From the Options button next to the add-on search field, select Install Add-on From File and locate the downloaded add-on.



ImportExportTools: selecting the correct option at this stage will save you a lot of time.

Migrating applications

So we've had a good look at printing and email migration – but application incompatibility can also be an issue when moving an office to Linux. There are three main ways to handle this:

- 1 Replace the Windows program with a native Linux one.
- 2 Fool the windows application to run on Linux using an emulator.
- 3 Use virtualisation to run the Windows application in a virtual machine.

Replacing

This is always the best option from a performance perspective, because you run a native program and not through an emulation layer or virtual machine. Microsoft Office is the most obvious starting point, and LibreOffice (www.libreoffice.org) is an excellent replacement. File compatibility improves with each release, and the Draw package now even supports compatibility with Visio files.

Microsoft Project is another heavyweight application, both in terms of performance and cost, but there are replacements that claim a very high degree of compatibility. One of the most notable is ProjectLibre (www.projectlibre.org), a highly featureful program that has won several awards.

Sage accounting software for small businesses has a huge market presence (especially in the UK) and if a direct Linux replacement like GnuCash (www.gnucash.org) doesn't fit the requirement, then another option like virtualisation may be required. Photoshop aficionados are well catered for, as one of the most famous open source applications is Gimp (www.gimp.org), but beware – it is just as complex as Photoshop to use. For more casual editing of photos you can do a lot worse than try Pinta (www.pinta-project.com).

Emulating and virtualising

"Run Windows applications on Linux" – that's

the strapline for Wine (www.winehq.org) which considers itself a compatibility layer rather than an emulator. Results may vary, so lots of testing is required, but there are also commercial variants of Wine for additional compatibility. Wine tends to be better with older versions of applications, and the compatibility database at <http://appdb.winehq.org> describes how well certain versions work.

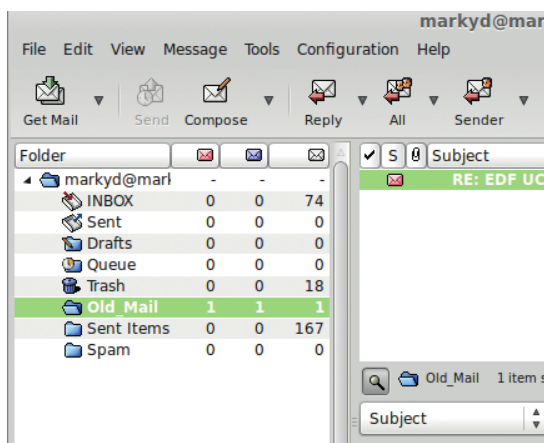
One of the most important tools everyone should get to grips with is virtualisation. Being able to create a virtual machine and run it inside your main operating system is very useful for many reasons: it can be used to test out a variety of Linux distributions before making a commitment, or testing a new build before upgrading the main machines. In a migration, a program like VirtualBox (www.virtualbox.org) can be used to run Windows inside Linux, which is useful if you have one or two Windows programs for which there is simply no free software alternative. See issue 4 for our tutorial.

The new functionality is added under the Menu > Tools drop-down as ImportExportTools (it's even easier to find if you right-click on your Local Folders icon). Choosing the option to "Import mbox file" reveals a pop-up box with a list of options that are not at first obvious, but the option Folder With Subdirectories yields the best results.

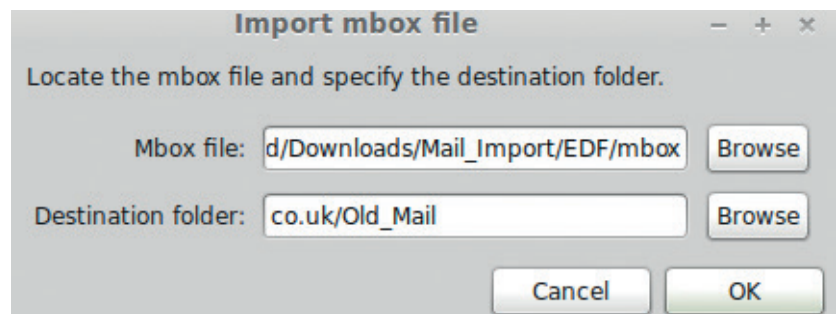
Where this process has problems is that the folder names are not imported or used and the folder structure not kept, which makes for a messy import and a subsequent manual process of renaming folders and nesting them the way you want. For this reason the original method is recommended for migrating from Outlook to Thunderbird. But if you do have .pst files with little or no folder structure then it's perfectly workable.

Claws mail

Claws was the second email client that we tested: it has a reputation of being fast, if a little less fully featured than Thunderbird. It is simple to install and it was no hassle to configure accounts, either as



Claws may be fast and simple but importing nested PST files is very hard work.



POP3 or IMAP. However, the import of a MBOX file is hard work. A separate folder creation/import process is required for each individual MBOX, which could soon drive you batty if you have a complex PST with many nested folders.

Right-click on the main account folder (eg **markyd@**), select Create new folder and name it **Old_Mail**. From the top line select File/Import Mbox File and in the pop-up box fill in the details of the source location of your MBOX file and the folder destination (**Old_Mail** in this case) and once executed the contents of the MBOX are imported into the folder you created.

In summary, moving email over to Linux is a good first step in a transition away from Windows. If you or your employees choose an email client like Thunderbird, the move will be easy because of its familiar user interface. In a larger company, it's important for users to know that they're running a different program (ie they don't just think it's a different Outlook theme), and that some things will work differently. Good luck! 🍀

Select the destination folder to which the contents of the MBOX are to be imported.

"If you or your employees chose an email client like Thunderbird, the move will be easy."

Mark Delahay is an IT consultant who has spent many a year battling to overcome Microsoft's so-called "solutions".