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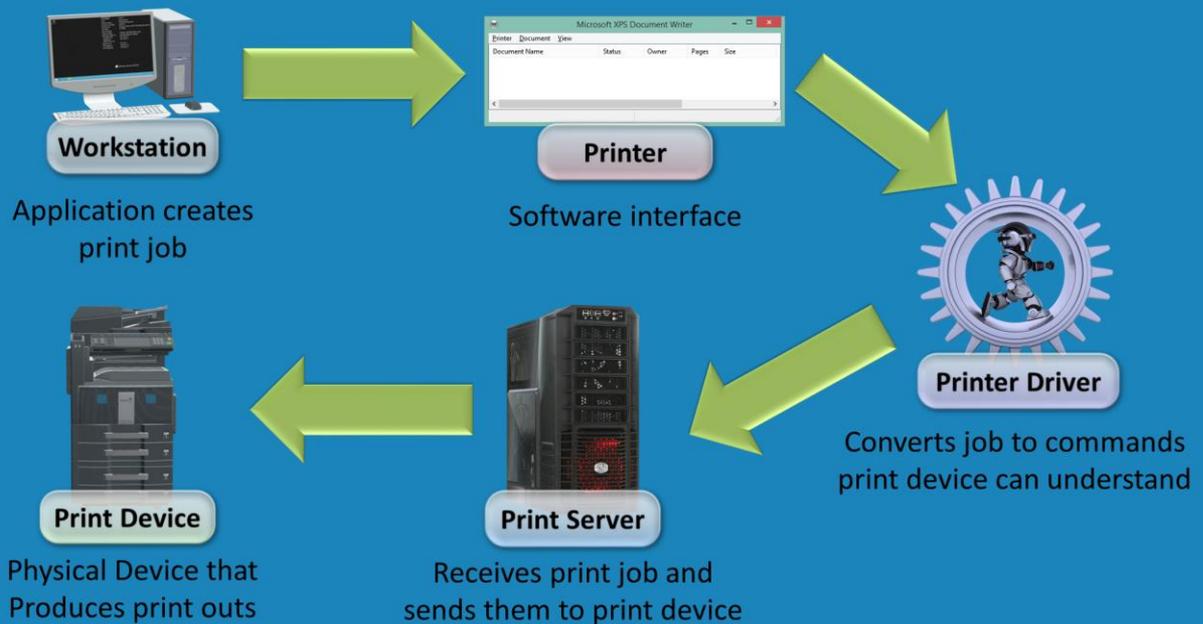


Windows Printing Introduction

For the free video please see
<http://itfreetraining.com/server#/printing-intro>

In this video, we will discuss and review the basics of Windows Printing. Understanding Windows Printing and how it works will greatly assist in deploying and supporting Windows Printing in your company.

Printing Terms



To start, we will discuss the terminology that Windows uses for printing. First, you have your workstation. On the workstation, an application creates a print job. This print job is transferred to what Microsoft refers to as a printer. This is not a hardware device like a physical printer (we'll get to more on that in a moment), but it is more like a software interface that controls the printing process. This "printer" is responsible for transferring the job to the physical printer, but before this happens the job must be converted to a language that the printer can understand. To do this, the printer driver is used. Next, you have the print server. This server is responsible for receiving print jobs and sending them to the print device. The print server can be installed locally or attached to the network. Lastly, there is the physical print device itself. This is the physical device that produces the print out. You can see there are a few different parts that make up printing in Windows. The most common mistake is to mix up the print device, which is the physical printer, with the software interface "printer". It may seem strange at first, but keep in mind that printers like PDF printers output to a file rather than a physical printer. For this reason, you can see why not all printers can be considered physical printers and why Microsoft makes a point to say "print device" to make it clear when a physical printer is being talked about. Windows also supports printing locally and across the network. Let's have a closer look at how the printer driver operates.

Printer Driver

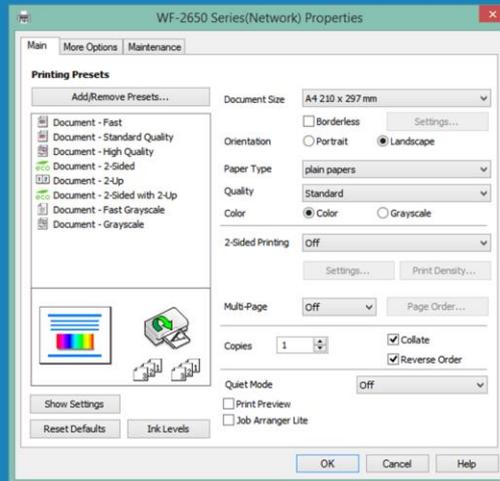
- Native language used by printer
 - Printer Control Language (PCL)
- Generic language
 - E.g. Postscript



Print devices will understand a particular language. Many printer manufacturers have developed their own printer language which will work *only* with those printers. These native languages are referred to in Windows as Printer Control Languages or PCL. If you consider a print job, it is the job of the printer driver to convert the print job into a format that the printer can understand; in this case it is PCL. There are also generic languages that are readily available that may be compatible with your physical printer but this will need to be researched and tested. The most common of these is postscript. If you install a postscript printer driver, the printer driver will convert the print job into postscript. In fact, not all printers support postscript. It tends to be supported on the high end printers rather than the lower end printers. In some cases, it is necessary to install an additional module in the physical printer to support postscript. In most cases the PCL driver should meet all your needs but in some rare cases you may need postscript support.

Printer Features

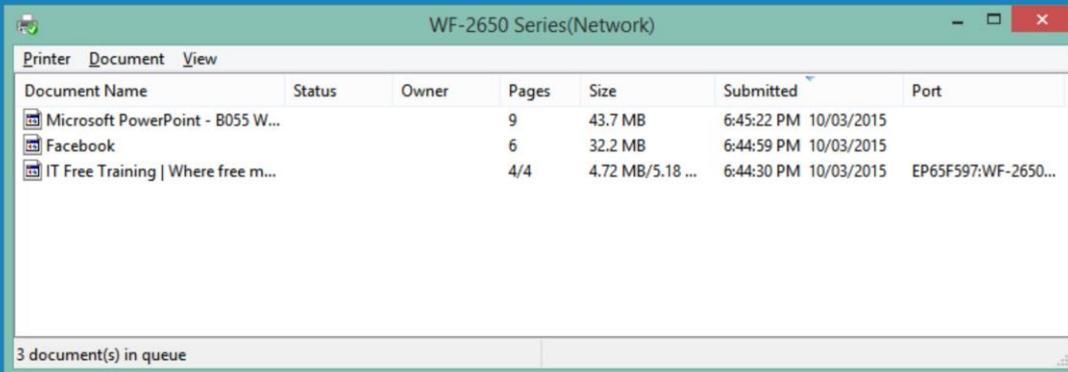
- Controlled by the printer driver
- E.g double sided, grey scale



The printer driver also provides access to features of the printer, for example double sided printing. You can see here a typical example of the properties of a printer. Since every printer is different and has different features, it makes sense to have these features inside the printer driver. One trick that has worked well in the past is to install a black and white printer driver for a color printer. If you can find a printer driver that is compatible and similar feature-wise, this forces the printer to print black and white rather than color when they use that printer. If your management is worried about the usage of color printing and the subsequent costs of that color ink, this would be an excellent solution that would reduce it drastically.

Printer Spooler

- Queue for waiting print jobs
- May be in complete format (PCL, Postscript)
- May be in an interim format requiring more processing
 - Processing can be done on either side



The next part of the printing process that we will look at is the printer spooler. This is where print jobs will queue and wait before being transferred to the print device. In later videos, we will look more into the print spooler. The jobs in the printer spooler may be in complete format like PCL or postscript. They may also be in an interim format that requires additional processing. This processing can generally be configured to be performed on either end depending on the printer. A lot of additional processing is common in the very low cost printers. In order to keep the cost of the printer as low as possible, additional processing is offloaded to the computer instead of being done as normal on the printer. If the printer, we're now talking about the software component 'printer' running on Windows, is installed on a server the processing can be done here. This may add additional load to the server however.

This completes the video on the basics of printing in Windows. We hope you enjoyed the video.