Contents

1 Glossary

Technologies

Akonadi

The data storage access mechanism for all PIM (Personal Information Manager) data in KDE SC 4. One single storage and retrieval system allows efficiency and extensibility not possible under KDE 3, where each PIM component had its own system. Note that use of Akonadi does not change data storage formats (vcard, iCalendar, mbox, maildir etc.) - it just provides a new way of accessing and updating the data.</p><p> The main reasons for design and development of Akonadi are of technical nature, e.g. having a unique way to access PIM-data (contacts, calendars, emails..) from different applications (e.g. KMail, KWord etc.), thus eliminating the need to write similar code here and there.</p><p> Another goal is to de-couple GUI applications like KMail from the direct access to external resources like mail-servers - which was a major reason for bug-reports/wishes with regard to performance/responsiveness in the past.</p><p> More info:</p><p> Akonadi for KDE's PIM</p><p> Wikipedia: Akonadi</p><p> Techbase - Akonadi See Also "GUI". See Also "KDE".

Applications

Applications are based on the core libraries projects by the KDE community, currently KDE Frameworks and previously KDE Platform.</p><p> More info:</p><p> KDE Branding See Also "Plasma". See Also "Frameworks". See Also "Platform".

ARts

The sound framework in KDE 2 and 3. Its single-tasking nature caused problems when two sources of sound were encountered. In the Plasma desktop it is replaced by Phonon.</p><p> More info:</p><p> Wikipedia: ARts See Also "KDE". See Also "Phonon". See Also "Plasma".

D-Bus

D-Bus or Desktop Bus is an inter-service messaging system. Developed by Red Hat®, it was heavily influenced by KDE 3 DCOP, which it supersedes. Most POSIX operating systems support D-Bus, and a port for Windows exists. It is used by Qt 4 and GNOME.</p><p> More info:</p><p> FreeDesktop.org: What is D-Bus?</p><p> Wikipedia: D-Bus See Also "DCOP". See Also "GNOME". See Also "KDE". See Also "Qt™".

DCOP

DCOP, which stands for Desktop COmmunication Protocol, is a light-weight interprocess and software componentry communication system used in KDE 3. Replaced with D-Bus in KDE SC 4.</p><p> More info:</p><p> Wikipedia: DCOP See Also "D-Bus". See Also "KDE".

Flake

Flake is a programming library to be used in KOffice/Calligra. Functionally, it provides Shapes to display content and Tools to manipulate content. Shapes can be zoomed or rotated and can be grouped to work as a single Shape, around which text flow is possible.</p><p> More info:</p><p> KDE Community Wiki: Flake See Also "KDE". See Also "KParts".

Frameworks

KDE Frameworks 5 is the next generation of KDE libraries, modularized and optimized for easy integration in Qt™ applications. The Frameworks offer a wide variety of commonly

needed functionality in mature, peer reviewed and well tested libraries with friendly licensing terms. There are over 70 different Frameworks providing solutions including hardware integration, file format support, additional widgets, plotting functions, spell checking and more. Many of the Frameworks are cross platform and have minimal or no extra dependencies making them easy to build and add to any Qt™ application.</p><p> More info:</p><p> KDE Community Wiki: Frameworks See Also "KDE". See Also "Plasma". See Also "Applications". See Also "Platform".

Get Hot New Stuff

Get Hot New Stuff (GHNS) is an open standard that makes it easy for users to download and install various extensions for their applications. Our implementation of GHNS is used by Plasma (for example to get new desktop themes), and by many applications and widgets. See Also "KDE". See Also "Plasma".

GHNS

GHNS is the acronym of Get Hot New Stuff. See Also "Get Hot New Stuff".

IO Worker

IO Workers enable KDE applications to access remote resources as easily as local resources (making them "network transparent"). Remote resources (e.g. files) might be stored on SMB shares or similar. See Also "SMB". See Also "KDE".

KHTML

KHTML is the HTML rendering engine for the KDE Plasma desktop, as used by the Konqueror browser. It also provides a KPart that enables all KDE applications to display web content. A new introduction, Qt™ WebKit is also for Plasma and other application development. See Also "KDE". See Also "Konqueror". See Also "KParts". See Also "Plasma". See Also "WebKit".

KIO

The KDE Input/Output system which makes use of so-called "IO Workers". See Also "IO Worker". See Also "KDE".

Kiosk

Kiosk is a framework for restricting user capabilities on a KDE platform system, ideal for use in locked-down environments such as Internet cafés. It is present in KDE 3 and KDE 4, but the administration tool, Kiosktool is KDE 3 only. It can be used to configure KDE 4 applications, or kiosk configurations can be maintained by editing config files manually. See Also "KDE".

KParts

KParts is an embedding technology which allows KDE applications to embed other KDE applications. For example, the text view used by Konqueror is a KPart. See Also "Konqueror".

KSycoca

KSycoca (KDE System Co< Cache) is a configuration cache which, for example, guarantees fast access to the menu entries. See Also "KBuildSycoca".

Platform

Previously the base of libraries and services needed to run KDE applications. It is used by core and third-party developers to create KDE software. Especially when including development frameworks and tools it may be referred to as KDE Development Platform. KDE Platform is built on a number of Pillars, for example Akonadi, Solid, Phonon. See Also "KDE". See Also "Plasma". See Also "Applications". See Also "Frameworks". See Also "Akonadi". See Also "Solid". See Also "Phonon".

Phonon

A cross-platform multimedia API, interfacing with existing frameworks, such as gstreamer and xine engines. KDE 2 and 3 depended on aRts for sound. Phonon replaces it.</p><p> More info:</p><p> Wikipedia: Phonon (software)</p><p> Phonon website See Also "aRts". See Also "KDE".

Solid

Solid provides a single API for hardware management. Hardware is grouped into 'domains'. Since the backends for Solid are pluggable, Solid helps application developers write less code, and have it platform independent.</p><p> More info:</p><p> Discover Solid See Also "KDE".

Threadweaver

This thread programming library spreads work among multiple-core processors where available, prioritizing them before queuing them for execution. ThreadWeaver provides a high-level job interface for multithreaded programming.</p><p> More info:</p><p> API Documentation – ThreadWeaver See Also "KDE".

WebKit

HTML rendering engine, originating from a fork of KHTML. Adopted by Apple™ and developed for Safari™. Webkit brings the whole functionality back to KDE SC 4, where it is available through Qt™.</p><p> More info:</p><p> WebKit home page</p><p> Wikipedia: WebKit See Also "KDE". See Also "KHTML".

X.Org

Antialiasing

If mentioned in context with KDE, anti-aliasing often means the smoothing of the fonts visible on the screen. Qt™ version 3.3 or higher used together with X.Org server makes this possible under KDE as well. See Also "KDE". See Also "Qt™".

X-Server

The X-Server represents a basic layer upon which the various GUIs like KDE are built. It manages the basic mouse and keyboard input (from the local host as well as from remote hosts) and provides elementary graphic routines to draw rectangles and other primitives. See Also "KDE". See Also "GUI".

Applications

Dolphin

The default file manager in KDE Applications. It has a side panel (Places), but navigation is mainly by the 'breadcrumb' trail above the main window. Split windows are possible, and views can be applied to individual windows. Mounting and unmounting USB devices can be done in the side panel. Other directories can be added to the Places panel. A Tree view is also possible.</p><p> More info:</p><p> Dolphin</p><p> Wikipedia: Dolphin</p><p> Userbase: File Management Tutorial See Also "KDE". See Also "Konqueror".

KBuildSycoca

KBuildSycoca4 is a command line program and regenerates the so-called KSycoca. This is useful, for example, if some or all modules in System Settings are missing. See Also "KSycoca". See Also "System Settings".

KInfoCenter

Kinfocenter originated as part of Kcontrol standing alone from KDE 3.1. In KDE SC 4 it was replaced by modules configured in System Settings, notably Solid, and is being reintroduced as an application in Plasma.</p><p> More info:</p><p> KInfoCenter</p><p> Wikipedia: KInfoCenter See Also "KDE". See Also "Solid". See Also "System Settings".

Konqueror

Konqueror is a web browser, picture viewer, file manager and more, and a core part of the KDE project. You can find more information about Konqueror at www.konqueror.org. See Also "KDE".

KRunner

The mini-command-line that is accessed from the Classic menu, the keyboard shortcut **Alt**+**F2**, or a right-click on the desktop. In KDE SC 4 a partial name will display all possible matches.</p><p> More info:</p><p> UserBase: KRunner Usage See Also "KDE". See Also "Plasma".

KWin

KWin is the window manager. This is where window decorations can be changed and themes applied. KDE SC 4 extends KWin to provide support for 3D Compositing effects on the desktop.</p><p> More info:</p><p> UserBase: KWin See Also "KDE". See Also "X-Server".

Mini-CLI

Mini Command L Interface. Synonym to KRunner. See Also "KRunner".

Pager

A pager is a small program or panel applet which shows the position of windows on your desktop and usually if you have several Virtual Desktops gives an overview over all. See Also "KDE". See Also "Application Starter". See Also "Kicker". See Also "Panel". See Also "Plasma". See Also "Virtual Desktops".

System Settings

This is the project and filename of the KDE control center. System Settings allows you to customize virtually every configuration option of KDE. See Also "KDE". See Also "KInfo-Center".

Desktop Terminology

Activities

Activities are sets of Plasma widgets that have their own wallpaper</p><p> A bit like Virtual Desktops, but not quite. For example you have a "work activity" with commit rss feeds, a note with your TODO, a Folder View with your work related files, and a subtle wallpaper.</p><p> Next to it, you have your freetime activity, with previews of family photos and dogs, rss feeds from your favorite blogs, a Folder View showing your movie collection, a twitter applet and of course that Iron Maiden wallpaper you have been loving since the early 80s.</p><p> At 17:00 hours sharp you switch from the work activity to your freetime activity.</p><p> More info:</p><p> Plasma FAQ See Also "KDE". See Also "Virtual Desktops".

Breeze

Breeze is the default theme for Plasma. The new theme is a high-contrast, flat theme for the workspace. It is available in light and dark variants. Simpler and more monochromatic graphics assets and typography-centered layouts offer a clean and visually clear user experience. See Also "KDE". See Also "KSVG". See Also "Plasma". See Also "Oxygen".

Containment

A Containment is a top level grouping of widgets. Each Containment manages the layout and configuration data of its set of widgets independently from other Containments.</p><p> The end result is that you can group widgets within a Containment according to the significance to your working pattern, rather than by directory grouping.</p><p> More info:</p><p> Plasma FAQ See Also "KDE". See Also "Widget".

Drag and Drop

This concept tries to replace many actions like copying files from one place to another by a certain mouse movement, e.g. clicking on an icon in a Konqueror window, moving the mouse to another window while keeping the mouse button pressed, and releasing the mouse button ("dropping" the object) copies files. See Also "Konqueror".

GNOME

GNU Network Object Model Environment, one of the leading UNIX® GUIs. See Also "GUI".

GUI

Abbreviation for Graphical U Interface. Every desktop environment (like KDE) is a GUI. Most GUIs feature mouse support and/or windows to manage the programs. See Also "KDE".

Home Directory

That's the place in system, where all your files are kept. You can write your files outside of this folder, but all applications are configured to propose this folder as place to write your files to. And this is easier, when you are keeping your things here.</p><p> More info:</p><p> Wikipedia: Home Directory See Also "Dolphin".

KDE

KDE is more than just software. It is a community made up of programmers, translators, contributors, artists, writers, distributors, and users from all over the world. Our international technology team is committed to creating the best free software for the desktop. And not only contributors, but users and fans of KDE software can be found throughout the entire globe, giving help to other users, spreading the news, or just simply enjoying the experience. You can find more detailed information at www.kde.org.</p><p> The name changed its meaning over time. You can discover more about its history over the KDE history webpage.

See Also "GUI".

Kicker

In KDE 3, the relocatable bar, usually at the bottom of the screen (sometimes called the Panel), on which application launchers, the Pager, and buttons for running applications reside. See Also "Panel". See Also "Plasma".

Application Starter

In Plasma an application launcher in which apps are sorted by functional group. 'Favorites' replaces the 'Most used applications' in Classic Menu, and applications can be added to it.

Right-click also offers the possibility of adding applications to the desktop or panel. Rapid access to a less-used application can be by the search box. Alternatives like the classic Application Menu with cascading popup menus and the Application Dashboard, a fullscreen launcher are available. Plasma can be used with more than one launcher, should that be required.</p><p>

See Also "KDE". See Also "Pager". See Also "Panel". See Also "Plasma".

Oxygen

Oxygen was the default theme of KDE SC 4. Designed to bring 'a breath of fresh air' to the desktop by removing the simplistic, cartoonish icons, and replacing them with a clean theme and photo-realistic icons. Oxygen uses a desaturated palette to avoid the icons becoming a distraction and uses detailed scalable graphics (SVG).</p><p> More info:</p><p> Wikipedia: Oxygen Project See Also "KDE". See Also "KSVG". See Also "Plasma". See Also "Breeze".

Panel

Refers to the panel which often resides at the bottom of the screen. See Also "KDE". See Also "Kicker". See Also "Application Starter". See Also "Plasma".

Plasma

Plasma replaces KDesktop, Kicker and the SuperKaramba widget engine. The applets are called Widgets, and range from informational widgets to mini-apps such as a calculator or dictionary.</p><p> More info:</p><p> Wikipedia: KDE Plasma 5</p><p> Plasma Workspaces</p><p> Plasma See Also "KDE". See Also "Kicker". See Also "Widget".

Ripping

The process of reading audio and video data from a CD-ROM drive or DVD and storing it on the hard disk.

Virtual Desktops

A popular concept of UNIX® based window managers is the one of virtual desktops. This means you have not only one screen where you can place your windows on but several. When you switch to a different desktop (usually with a pager) you will only see the windows which you started on your new desktop or moved to it. A window can also be made "sticky" which means it appears on all virtual desktops.</p><p> More info:</p><p> Plasma FAQ See Also "KDE". See Also "Application Starter". See Also "Pager".

KDE Development

Qt™

The GUI of KDE is built on top of the Qt™ toolkit, which provides many graphical elements (so-called "Widgets") which are used to construct the desktop. You can find more information about Qt™ at <a href= "https://www.qt.io/developers/" target="_top">https://www.qt.io/developers/</... See Also "KDE". See Also "GUI". See Also "Widget".

Git

Git is a free and open source, distributed version control system designed to handle everything from small to very large projects with speed and efficiency.</p><p> Every Git clone is a full-fledged repository with complete history and full revision tracking capabilities, not dependent on network access or a central server. Branching and merging are fast and easy to do.</p><p> Git is used for version control of files, much like tools such as Mercurial,

Bazaar, Subversion, CVS, Perforce, and Visual SourceSafe.</p><p> It was decided that Git will be the main version control system of KDE, replacement of SVN. It has been already used for some KDE projects like Konversation and Amarok.</p><p> More info:</p><p> Git Homepage See Also "KDE". See Also "SVN".

i18n

Abbreviation for "internationalization". KDE supports many different languages, and several i18n techniques make it easy to translate the GUI as well as the accompanying documents of KDE into all these languages. More information about the i18n process is available at l10n.kde.org. See Also "KDE". See Also "GUI". See Also "l10n".

Kross

Kross is a scripting framework, enabling support for multiple scripting languages. A plugin system allows for the support of further languages in the future. See Also "KDE".

KDOM

A KPart module making KHTML DOM (Document Object Model) rendering capabilities available to all applications. KSVG2 is built on KDOM for KDE SC 4. See Also "KDE". See Also "KHTML". See Also "KParts". See Also "KSVG".

KJS

KDE platform's JavaScript engine. See Also "KDE". See Also "KParts". See Also "Plasma".

KSVG

KSVG enables support for scalable vector graphics in a KHTML browser. KSVG2 extends this for KDE SC 4. See Also "KDE". See Also "KHTML". See Also "KParts".

l10n

Abbreviation for "localization", the process of adapting a program to the local environment. This includes e.g. the currency used for monetary values or the time format and translating text.</p><p> More info:</p><p> l10n.kde.org See Also "i18n".

Widget

In general Widgets are graphical elements like scrollbars, buttons or input fields which are used to construct the GUI.</p><p> In Plasma Widgets are the main components and take on a variety of functions, ranging from displaying the desktop and associated wallpaper, showing the laptop's battery level, displaying the plugged in devices, and drawing the taskbar: basically, they are small applications that live on the desktop. Additionally, widgets can be grouped together in "Containers", like the panel and even the desktop itself.

See Also "Plasma". See Also "Containment". See Also "KDE". See Also "GUI".

SVN

Abbreviation for Subversion, a version control system. The SVN is a very elegant way of managing file versions that allow more than one developer to easily work on the same project. You can find a description of how to get the latest (developer) version of the KDE sources via anonymous SVN on <a href="http://developer.kde.org/source/anonsvn.html" target="_top">http://developer.kde.org/source/anons More about SVN is available at <a href="http://subversion.tigris.org/" target="_top">http://subversion.tigris.or See Also "Git".

XMLGUI

A programmers' framework for designing the user interface. It is extensively used by KParts.</p><p> More info:</p><p> Wikipedia: XMLGUI</p><p> Wikipedia: Qt Style Sheets See Also "GUI". See Also "Kparts". See Also "Qt™".

Miscellaneous

RFC

Request For Comment. A common way to publish new protocol ideas or procedures for evaluation of the Internet community. Though RFCs are not mandatory, many applications try to adhere to them, once they have been approved by the community.</p><p> More information about RFCs can be found at the RFC Homepage.

Various protocols

SMB

Server Message Block. A network protocol used in Microsoft® Windows® networks to access the file systems of other computers. See Also "IO Worker".

IRC

Internet Relay Chat. A protocol defined in RFC 1459, which handles the specification to enable real-time text chat. See Also "RFC".

Host

This can either be a name from your `/etc/hosts` file (`mycomputer`), an Internet name (`www.kde.org`) or an IP-Address (`192.168.0.10`).

Printing

ACLs

Abbreviation for Access Control Lists; ACLs are used to check for the access by a given (authenticated) user. A first rough support for ACLs for printing is available from CUPS; this will be refined in future versions. See Also "Authentication".

AppSocket Protocol

AppSocket is a protocol for the transfer of print data, also frequently called "Direct TCP/IP Printing". Hewlett-Packard® have taken AppSocket, added a few minor extensions around it and been very successful in renaming and marketing it under the brand "HP® JetDirect"... See Also "HP® JetDirect Protocol". See Also "Direct TCP/IP Printing".

Authentication

Proving the identity of a certain person (maybe via username/password or by means of a certificate) is often called authentication. Once you are authenticated, you may or may not get access to a requested resource, possibly based on ACLs. See Also "ACLs".

Bi-directional communication

In the context of printing, a server or a host may receive additional information sent back from the printer (status messages etc.), either upon a query or unrequested. AppSocket (= HP® JetDirect), CUPS and IPP support bi-directional communication, LPR/LPD and BSD-style printing do not... See Also "AppSocket Protocol". See Also "CUPS". See Also "Direct TCP/IP Printing". See Also "HP® JetDirect". See Also "IPP". See Also "LPR/LPD".

BSD-style Printing

Generic term for different variants of the traditional UNIX® printing method. Its first version appeared in the early 70s on BSD UNIX® and was formally described in RFC 1179 only as late as 1990.</p><p> At the time when BSD "remote" printing was first designed, printers were serially or otherwise directly connected devices to a host (with the Internet hardly consisting of more than 100 nodes!); printers used hole-punched, continuous paper, fed through by a tractor mechanism, with simple rows of ASCII text mechanically hammered on to the medium, drawn from a cardboard box beneath the table. It came out like a zig-zag folded paper "snake". Remote printing consisted of a neighboring host in the next room sending a file asking for printout.</p><p> How technology has changed! Printers generally use cut-sheet media, they have built-in intelligence to compute the raster images of pages after pages that are sent to them using one of the powerful page description languages (PDL). Many are network nodes in their own right, with CPU, RAM, a hard disk and their own Operation System, and are hooked to a net with potentially millions of users...</p><p> It is a vast proof of the flexible UNIX® concept for doing things, that it made "Line Printing" reliably work even under these modern conditions. But time has finally come now to go for something new -- the IPP.

See Also "IPP". See Also "CUPS". See Also "LPR/LPD printing".

CUPS

Abbreviation for Common U Printing System; CUPS is the most modern UNIX® and Linux printing system, also providing cross-platform print services to Microsoft® Windows® and Apple Mac® OS clients. Based on IPP, it does away with all the pitfalls of old-style BSD printing, providing authentication, encryption and ACLs, plus many more features. At the same time it is backward-compatible enough to serve all legacy clients that are not yet up to IPP, via LPR/LPD (BSD-style).</p><p> CUPS is able to control any PostScript® printer by utilizing the vendor-supplied PPD (PostScript Printer Description file), targeted originally for Microsoft® Windows NT printing only. KDE Printing is most powerful if based on CUPS.</p><p> More info:</p><p> CUPS Homepage See Also "ACLs". See Also "Authentication". See Also "BSD-style printing". See Also "IPP". See Also "LPR/LPD". See Also "PPD".

CUPS -FAQ

CUPS-FAQ is a valuable resource to answer many questions that anyone new to CUPS printing might have at first.

Daemon

Abbreviation for Disk a execution monitor Daemons are present on all UNIX® systems to perform tasks independent of user intervention. Readers more familiar with Microsoft® Windows® might want to compare daemons and the tasks they are responsible with "services".</p><p> One example of a daemon present on most legacy UNIX® systems is the LPD (Line Printer Daemon); CUPS is widely seen as the successor to LPD in the UNIX® world and it also operates through a daemon. See Also "SPOOLing".

Database, Linuxprinting.org

Already years ago, when Linux printing was still really difficult (only command line printing was known to most Linux users, no device specific print options were available for doing the jobs), Grant Taylor, author of the "Linux Printing HOWTO", collected most of the available information about printers, drivers and filters in his database.</p><p> With the emerging CUPS concept, extending the use of PPDs even to non-PostScript printers, he realized the potential of this database: if one puts the different datablobs (with content that could be described along the lines "Which device prints with which Ghostscript or

other filter?″, ″How well?″, and ″What command line switches are available?″) into PPD-compatible files, he could have all the power of CUPS on top of the traditional printer ″drivers″.</p><p> This has now developed into a broader concept, known as ″Foomatic″. Foomatic extends the capabilities of spoolers other than CUPS (LPR/LPD, LPRng, PDQ, PPR) to a certain degree (″stealing″ some concepts from CUPS). The Linuxprinting Database is not a Linux-only stop -- people running other UNIX® based OSes (like *BSD or Mac® OS X) will also find valuable information and software there.

See Also ″Foomatic″. See Also ″Linuxprinting database″.

Direct TCP/IP Printing

This is a method that often uses TCP/IP port 9100 to connect to the printer. It works with many modern network printers and has a few advantages over LPR/LPD, as it is faster and provides some ″backchannel feedback data″ from the printer to the host sending the job. See Also ″AppSocket Protocol″. See Also ″HP® JetDirect Protocol″.

Drivers, Printer Drivers

The term ″printer drivers″, used in the same sense as on the Microsoft® Windows® platform, is not entirely applicable to a Linux or UNIX® platform. A ″driver″ functionality is supplied on UNIX® by different modular components working together. At the core of the printer drivers are ″filters″. Filters convert print files from a given input format to another format that is acceptable to the target printer. In many cases filters may be connected to a whole filter ″chain″, where only the result of the last conversion is sent to the printer. The actual transfer of the print data to the device is performed by a ″backend″.

See Also ″Filter″. See Also ″PPDs″.

Encryption

Encryption of confidential data is an all-important issue if you transfer it over the Internet or even within intranets.</p><p> Printing via traditional protocols is not encrypted at all -- it is very easy to tap and eavesdrop e.g. into PostScript® or PCL data transferred over the wire.</p><p> Therefore, in the design of IPP, provision was made for the easy plugin of encryption mechanisms (which can be provided by the same means as the encryption standards for HTTP traffic: SSL and TLS). See Also ″Authentication″. See Also ″CUPS″. See Also ″IPP″. See Also ″SSL″. See Also ″TLS″.

Epson

Epson inkjets are among the best supported models by Free software drivers, as the company was not necessarily as secretive about their devices and handed technical specification documents to developers. The excellent print quality achieved by Gimp-Print on the Stylus series of printers can be attributed to this openness.

Escape Sequences

The first ever printers printed ASCII data only. To initiate a new line, or eject a page, they included special command sequences, often carrying a leading [ESC]-character. HP® evolved this concept through its series of PCL language editions until today, having now developed a full-blown Page Description Language (PDL) from these humble beginnings.

See Also ″PCL″. See Also ″PDL″.

ESC/P

Abbreviation for Epson S Codes for Printers Besides PostScript® and PCL, Epson's ESC/P printer language is one of the best known. See Also ″PCL″. See Also ″PostScript®″. See Also ″hpgl″.

Filter

Filters, in general, are programs that take some input data, work on it and pass it on as their output data. Filters may or may not change the data.</p><p> Filters in the context

of printing, are programs that convert a given file (destined for printing, but not suitable in the format it is presently) into a printable format. Sometimes whole "filter chains" have to be constructed to achieve the goal, piping the output of one filter as the input to the next.

See Also "Ghostscript". See Also "RIP".

Foomatic

Foomatic started out as the wrapper name for a set of different tools available from <a href="https://wiki.linuxfoundation.org/openprinting/database/foomatic" target="_top">Linuxprinting.org</a These tools aimed to make the usage of traditional Ghostscript and other print filters easier for users and extend the filters' capabilities by adding more command line switches or explain the driver's execution data.</p><p> More recently, Foomatic gravitated towards becoming a "meta-spooling" system, that allows configuration of the underlying print subsystem through a unified set of commands (however, this is much more complicated than KDE printing GUI interface, which performs a similar task with regards to different print subsystems).

Ghostscript

Ghostscript is a an interpreter for the PostScript® language and for PDF or Raster Image Processor (RIP) in software, originally developed by L. Peter Deutsch. There is always a GPL version of Ghostscript available for free usage and distribution. Ghostscript is widely used inside the Linux and UNIX® world for transforming PostScript® into raster data suitable for sending to non-PostScript® devices. More info: Ghostscript Homepage See Also "PostScript®". See Also "RIP".

Gimp-Print

Contrary to its name, Gimp-Print is no longer just the plugin to be used for printing from the popular Gimp program -- its codebase can also serve to be compiled into...</p><p> ...a set of PPDs and associated filters that integrate seamlessly into CUPS, supporting around 130 different printer models, providing photographic output quality in many cases;</p><p> ...a Ghostscript filter that can be used with any other program that needs a software-RIP;</p><p> ...a library that can be used by other software applications in need of rasterization functions. See Also "Lexmark Drivers". See Also "RIP". See Also "Ghostscript".

HP®

Abbreviation for Hewlett-Packard one of the first companies to distribute their own Linux printer drivers. -- More recently, the Company has released their "HPIJS" package of drivers, including source code and a Free license. This is the first printer manufacturer to do so. HPIJS supports most current models of HP Ink- and DeskJets.

HP®/GL

Abbreviation for HP® G</ Language; a HP® printer language mainly used for plotters; many CAD (Computer Aided Design) software programs output HP®/GL files for printing. See Also "ESC/P". See Also "PCL". See Also "PostScript®".

HP®JetDirect Protocol

A term branded by HP® to describe their implementation of print data transfer to the printer via an otherwise "AppSocket" or "Direct TCP/IP Printing" named protocol. See Also "AppSocket Protocol". See Also "Direct TCP/IP Printing".

IETF

Abbreviation for Internet E Task Force; an assembly of Internet, software and hardware experts that discuss new networking technologies and very often arrive at conclusions that are regarded by many as standards.

"TCP/IP" is the most famous example.</p><p> IETF standards, as well as drafts, discussions, ideas and useful tutorials, are put in writing in the famous series of "RFCs", which are available to the public and included in most Linux and BSD distributions. See Also "IPP". See Also "PWG". See Also "RFC".

IPP

Abbreviation for Internet P Protocol; defined in a series of RFCs accepted by the IETF with status "proposed standard"; was designed by the PWG. -- IPP is a completely new design for network printing, but it utilizes a very well-known and proven method for the actual data transfer: HTTP 1.1! By not "re-inventing the wheel", and basing itself on an existing and robust Internet standard, IPP is able to relatively easily bolt other HTTP-compatible standard mechanisms into its framework:</p><p> Basic, Digest or Certificate authentication mechanisms</p><p> SSL or TLS for encryption of transferred data</p><p> LDAP for directory services (to publish data on printers, device-options, drivers, costs to the network; or to check for passwords while conducting authentication)

See Also "CUPS". See Also "PWG". See Also "IETF". See Also "RFC". See Also "TLS".

Lexmark

was one of the first companies to distribute their own Linux printer drivers for some of their models. However, those drivers are binary only (no source code available), and therefore cannot be used to integrate into other Free printing software projects.

Linuxprinting.org

Linuxprinting.org = not just for Linux; all UNIX®-like OS-es, like *BSD and commercial Unices may find useful printing information on this site. This web site is the home for the interesting Foomatic project, that strives to develop the "Meta Print Spool and Driver Configuration Toolset" (being able to configure, through one common interface, different print subsystems and their required drivers) with the ability to transfer all queues, printers and configuration files seamlessly to another spooler without new configuration effort. -- Also, they maintain the Printing Database; a collection of driver and device information that enables everybody to find the most current information about printer models, and also generate online the configuration files for any spooler/driver/device combo known to work with one of the common Linux or UNIX® print subsystems.

See Also "Linuxprinting database".

Linuxprinting.org Database

Database containing printers and drivers that are suitable for them. More info: Linuxprinting.org FAQ See Also "Foomatic".

LPR/LPD printing

LPR == some people translate Line Printing Request, others: Line Print Remote. See Also "BSD-style printing".

MIME -Types

Abbreviation for Multipurpose (or Multi-media) Internet M Extensions; MIME-Types were first used to allow the transport of binary data (like mail attachments containing graphics) over mail connections that were normally only transmitting ASCII characters: the data had to be encoded into an ASCII representation.</p><p> Later this concept was extended to describe a data format in a platform independent, but at the same time non-ambiguous, way. From Windows® everybody knows the .doc extensions for Microsoft® Word files. This is handled ambiguously on the Windows® platform: .doc extensions are also used

for simple text files or for Adobe Framemaker files. And if a real Word file is renamed with a different extension, it can no longer be opened by the program.</p><p> MIME typed files carry a recognition string with them, describing their file format based on main_category/sub_category. Inside IPP, print files are also described using the MIME type scheme. MIME types are registered with the IANA (Internet Assigning Numbers Association) to keep them unambiguous.</p><p> CUPS has some MIME types of its own registered, like application/vnd.cups-raster (for the CUPS-internal raster image format).

See Also "CUPS". See Also "Gimp-Print".

PCL

Abbreviation for Printer CLanguage; developed by HP®. PCL started off in version 1 as a simple command set for ASCII printing; now, in its versions PCL6 and PCL-X, it is capable of printing graphics and color -- but outside the Microsoft® Windows® realm and HP-UX® (HP®'s own brand of UNIX®), it is not commonly used... See Also "ESC/P". See Also "HP®/GL". See Also "PDL". See Also "PostScript®".

PDL

Abbreviation for Page DLanguage; PDLs describe, in an abstract way, the graphical representation of a page. - Before it is actually transferred into toner or ink laid down on to paper, a PDL needs to be "interpreted" first. In UNIX®, the most important PDL is PostScript®.

See Also "ESC/P". See Also "HP®/GL". See Also "PCL". See Also "PostScript®".

Pixel

Abbreviation for Picture El; this term describes the smallest part of a raster picture (either as printed on paper or as displayed on a monitor by cathode rays or LCD elements). As any graphical or image representation on those types of output devices is composed of pixels, the values of "ppi" (pixel per inch) and dpi (dots per inch) are one important parameter for the overall quality and resolution of an image. See Also "Filter". See Also "Ghostscript". See Also "PostScript®". See Also "Raster".

PJL

Abbreviation for Print JLanguage; developed by HP® to control and influence default and per-job settings of a printer. It may not only be used for HP®'s own (PCL-)printers; also many PostScript® and other printers understand PJL commands sent to them inside a print job, or in a separate signal. See Also "PCL".

PostScript®

PostScript® (often shortened to "PS") is the de-facto standard in the UNIX® world for printing files. It was developed by Adobe and licensed to printer manufacturers and software companies.</p><p> As the PostScript® specifications were published by Adobe, there are also "Third Party" implementations of PostScript® generating and PostScript® interpreting software available (one of the best-known in the Free software world being Ghostscript, a powerful PS-interpreter).

See Also "ESC/P". See Also "HP®/GL". See Also "PCL". See Also "PPD".

PPD

Abbreviation for PostScript PDescription; PPDs are ASCII files storing

all information about the special capabilities of a printer, plus definitions of the (PostScript- or PJL-) commands to call on a certain capability (like print duplexing).</p><p> As the explanation of the acronym reveals, PPDs were originally only used for PostScript® printers. CUPS has extended the PPD concept to all types of printers.</p><p> PPDs for PostScript® printers are provided by the printer vendors. They can be used with CUPS and KDE printing subsystem to have access to the full features of any PostScript® printer. The KDE Team recommends using a PPD originally intended for use with Microsoft® Windows NT.</p><p> PPDs for non-PostScript printers need a companion "filter" to process the PostScript® print files into a format digestible for the non-PostScript target device. Those PPD/filter combos are not (yet) available from the vendors. After the initiative by the CUPS developers to utilize PPDs, the Free Software community was creative enough to quickly come up with support for most of the currently used printer models, through PPDs and classical Ghostscript filters. But note: the printout quality varies from "hi-quality photographic output" (using Gimp-Print with most Epson inkjets) to "hardly readable" (using Foomatic-enabled Ghostscript filters for models rated as "paperweight" in the Linuxprinting.org database).

See Also "CUPS". See Also "Linuxprinting.org". See Also "PostScript®".

printcap

In BSD-style print systems, the "printcap" file holds the configuration information; the printing daemon reads this file to determine which printers are available, what filters are to be user for each, where the spooling folder is located, if there are banner pages to be used, and so on... Some applications also depend on read access to the printcap file, to obtain the names of available printers. See Also "BSD-style printing".

Printer- MIB

Abbreviation for Printer-MInformation Base; the Printer-MIB defines a set of parameters that are to be stored inside the printer for access through the network. This is useful if many (in some cases, literally thousands) network printers are managed centrally with the help of SNMP (Simple Network Management Protocol). See Also "PWG". See Also "SNMP".

PWG

Abbreviation for Printer WGroup; the PWG is a loose grouping of representatives of the printer industry that has, in the past years, developed different standards in relation to network printing. These were later accepted by the IETF as RFC standards, like the "Printer-MIB" and the IPP. See Also "PostScript®". See Also "IPP". See Also "Printer-MIB". See Also "SNMP".

Printer Database

Good database of printer drivers can be found at https://www.openprinting.org/printers. See Also "Linuxprinting Database".

Raster Image

Every picture on a physical medium is composed of a pattern of discrete dots in different colors and (maybe) sizes. This is called a "raster image".</p><p> This is as opposed to a "vector image" where the graphic is described in terms of continuous curves, shades, forms and filled areas, represented by mathematical formula. Vector images normally have a smaller file size and may be scaled in size without any loss of information and quality --- but they cannot be output directly, but always have to be "rendered" or "rasterized" first to the given resolution that the output device is capable of...</p><p> The rasterization is done by a Raster Image Processor (RIP, often the Ghostscript software) or some other filtering instance. See Also "Pixel". See Also "Ghostscript". See Also "PostScript®". See Also "Filter". See Also "RIP".

RIP

Abbreviation for Raster I
Process(or); if used in the context of print-
ing, "RIP" means a hardware or software instance that converts PostScript® (or other print
formats that are represented in one of the non-Raster PDLs) into a raster image format in
such a way that it is acceptable for the "marking engine" of the printer.</p><p> PostScript®
printers contain their own PostScript-RIPs. A RIP may or may not be located inside a
printer.</p><p> For many UNIX® systems, Ghostscript is the package that provides a "RIP
in software", running on the host computer, and pre-digesting the PostScript® or other data
to become ready to be sent to the printing device (hence you may perceive a "grain of truth"
in the slogan "Ghostscript turns your printer into a PostScript® machine", which of course
is not correct in the true sense of the meaning). See Also "Filter". See Also "Ghostscript".
See Also "PostScript®". See Also "PDL". See Also "Raster".

RLPR (Remote LPR)

Abbreviation for Remote L
Printing Request;
this is a BSD-style printing system, that needs no root privileges to be installed, and no
"printcap" to work: all parameters may be specified on the command line.</p><p> RLPR
comes in handy for many laptop users who are working in frequently changing environ-
ments. This is because it may be installed concurrently with every other printing sub
system, and allows a very flexible and quick way to install a printer for direct access via
LPR/LPD.

See Also "printcap".

SNMP

Abbreviation for Simple N
Management Prot
SNMP is widely used to control all types of network node (Hosts, Routers, Switches, Gate-
ways, Printers...) remotely. See Also "PWG". See Also "Printer-MIB".

SSL(3) encryption

Abbreviation for Secure S
Layer; SSL is a proprietary encryption method
for data transfer over HTTP that was developed by Netscape. It is now being replaced by
an IETF standard named TLS.

See Also "TLS".

SPOOL ing

Abbreviation for Synchronous P
Operations On Line; SPOOLing enables printing applications (and
users) to continue their work as the job is being taken care of by a system daemon, which
stores the file at a temporary location until the printer is ready to print. See Also "Daemon".

TLS encryption

Abbreviation for Transport L</
Security; TLS is an encryption standard for
data transferred over HTTP 1.1; it is defined in RFC 2246; although based on the former
SSL development (from Netscape) it is not fully compatible with it.

See Also "SSL(3)".

System V-style printing

This is the second flavor of traditional UNIX® printing (as opposed to BSD-style printing).
It uses a different command set (lp, lpadmin,...) to BSD, but is not fundamentally different
from it. However, the gap between the two is big enough to make the two incompatible,

so that a BSD-client cannot simply print to a System V style print server without additional tweaking... IPP is supposed to resolve this weakness and more.

See Also "BSD-style printing". See Also "IPP".

TurboPrint

Shareware software providing photo quality printing for many inkjet printers. It is useful if you are unable to find a driver for your printer and may be hooked into either a traditional Ghostscript system or a modern CUPS system. See Also "Gimp-Print".

XPP

Abbreviation for X P</spa Panel; XPP was the first Free graphical print command for CUPS, written by Till Kamppeter, and in some ways a model for the ″kprinter″ utility in KDE 3.