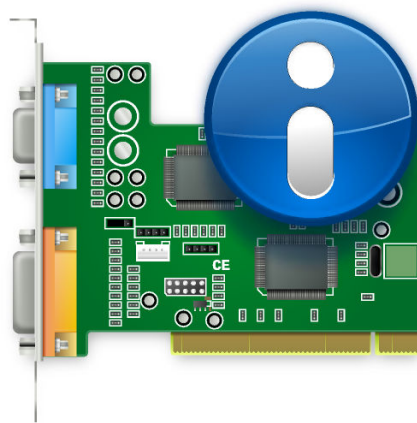


# The KInfoCenter

Michael McBride



## The KInfoCenter

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## **Abstract**

This documentation describes Plasma's information center.

## Chapter 1

# The KInfoCenter

The KInfoCenter provides you with a centralized and convenient overview of your system and desktop environment.

The information center is made up of multiple modules. Each module is a separate application, but the information center organizes all of these programs into a convenient location.

This next section details the use of the information center itself. For information on individual modules, please see [Default KInfo Center Modules](#).

### 1.1 Starting the KInfoCenter

The KInfoCenter can be started in three ways:

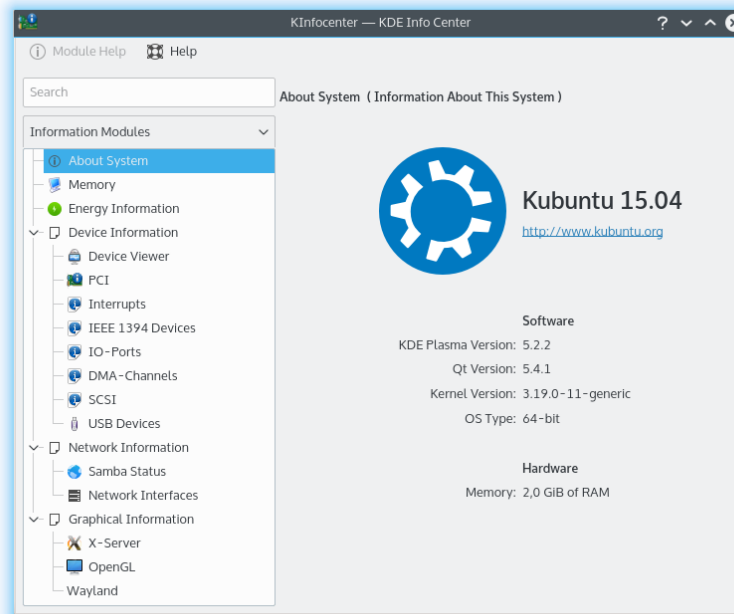
1. By selecting **Applications** → **System** → **Info Center** from the application launcher in the panel.
2. By pressing **Alt+F2** or **Alt+Space**. This will bring up KRunner. Type **kinfocenter**, and press **Enter**.
3. You can type **kinfocenter &** at any command prompt.

All three of these methods are equivalent, and produce the same result.

### 1.2 The KInfoCenter Screen

When you start the information center, you are presented with a window, which can be divided into three functional parts.

## The KInfoCenter



Across the top is a toolbar. The toolbar will provide you with quick access to most of KInfoCenter's features like get help on the current module and a help menu.

Along the left hand side, is a column with a filter field at the top. This is a where you choose which module to investigate. To navigate through the various KCM's and pressing **Enter** will select the module. The module will now appear of the main panel of the KInfoCenter window. Some items within the tree view are categories, you can left click or again press **Enter** to expand and collapsed these items. This will show the modules under the category. You can right click on the module listing to show the following options:

- **Collapse All Categories:** Collapses the tree to show only top level modules and categories.
- **Expand All Categories:** Expands the tree to show modules.
- **Clear Search:** This will clear any filter you have applied on the module listing via the search box

The main panel shows you the system information about the selected module.

### 1.3 The KInfoCenter Toolbar

This next section gives you a brief description of what each toolbar item does.

#### 1.3.1 Module Help button

This button opens khelpcenter with the current help page for the information module.

#### 1.3.2 Help Menu button

KInfoCenter has the common KDE **Help** menu items, for more information read the section about the [Help Menu](#) of the KDE Fundamentals.

## 1.4 Exiting The Information Center

You can exit the info center one of two ways:

- Type **Ctrl+Q** on the keyboard.
- Click on the **Close** button on the frame surrounding the info center.



## Chapter 2

# The Default KInfoCenter Modules

### 2.1 About System Module

This page shows a brief summary about your system, i.e. your distribution, **KDE Plasma Version**, **KDE Frameworks Version**, **Qt Version**, **Kernel Version** and **OS Type**; and in the hardware section information about **Processors** and **Memory**.

Use the information on this page if you ask for help in support channels or report a bug at [KDE's bugtracker](#).

### 2.2 Memory Information Module

This module displays the current memory usage. It is updated constantly, and can be very useful for pinpointing bottlenecks when certain applications are executed.

#### 2.2.1 Memory Types

The first thing you must understand, is there are two types of 'memory', available to the operating system and the programs that run within it.

The first type, is called physical memory. This is the memory located within the memory chips, within your computer. This is the RAM (for Random Access Memory) you bought when you purchased your computer.

The second type of memory, is called virtual or swap memory. This block of memory, is actually space on the hard drive. The operating system reserves a space on the hard drive for 'swap space'. The operating system can use this virtual memory (or swap space), if it runs out of physical memory. The reason this is called 'swap' memory, is the operating system takes some data that it doesn't think you will want for a while, and saves that to disk in this reserved space. The operating system then loads the new data you need right now. It has 'swapped' the not needed data, for the data you need right now. Virtual or swap memory is not as fast as physical memory, so operating systems try to keep data (especially often used data), in the physical memory.

The total memory, is the combined total of physical memory and virtual memory.

#### 2.2.2 Memory Information Module

This window is divided into a top and bottom section

The top section shows you the total physical memory, total free physical memory, shared memory, and buffered memory.

All four values are represented as the total number of bytes, and as the number of megabytes (1 megabyte = slightly more than 1,000,000 bytes)

The bottom section shows you three graphs:

- **Total Memory** (this is the combination of physical and virtual memory).
- **Physical Memory**
- Virtual memory, or **Swap Space**.

The grey areas are free, and the blue and green areas are used.

**TIP**

The exact values of each type of memory are not critical, and they change regularly. When you evaluate this page, look at trends.

Does your computer have plenty of free space (grey areas)? If not, you can increase the swap size or increase the physical memory.

Also, if your computer seems sluggish: is your physical memory full, and does the hard drive always seem to be running? This suggests that you do not have enough physical memory, and your computer is relying on the slower virtual memory for commonly used data. Increasing your physical memory will improve the responsiveness of your computer.

## 2.3 Energy Information Module

This provides information about CPU wakeups, battery percentage and consumption over a user defined history and detailed information about the battery.

## 2.4 File Indexer Monitor Module

This Module shows the state of the file indexer. If the indexer is not running you can start it and then suspend or resume the indexing.

## 2.5 Device Information Module

Device Information is a device viewer module. It shows all relevant devices that are present within your PC. It has three sections, a device viewer, a information panel and a UDI listing for the currently selected device.

### 2.5.1 Device Viewer

The device viewer displays all the current devices detected on your PC in a tree. The main topics at the beginning of the tree are the device categories, left click on a collapsed category to expand it and vice versa to collapse it. To display information about a device, left click on the device in the viewer, the information will display on the right side information panel. You can right click on the device viewer to show the following options:

- **Collapse All:** Collapses the tree to show only the main categories.

## The KInfoCenter

- **Expand All:** Expands the tree to show all the children devices.
- **Show All Devices:** Show all the categories no matter if devices are present in those categories
- **Show Relevant Devices:** Only show categories that have devices present.

The default display is to collapse all while showing only relevant devices. Please note that the devices shown in the device listing are not all devices within your PC, they are just devices that have been detected via the Solid.

The device viewer can show the following devices:

- **Processors:** These are your computers CPUs ( Central Processing Units ).
- **Storage Drives:** Devices that are used to store your PCs files and data.
- **Network Interfaces:** Devices that allow you to connect to a network or to another PC.
- **Audio Interfaces:** Devices that allow your PC to play Sound. They are split into 2 categories, ALSA and OSS sound architectures.
- **Video Devices:** Devices that allow you to stream live video.
- **Serial Devices:** Devices that are connected to your serial port in your PC.
- **Smart Card Devices:** Devices that are smart card readers.
- **Digital Video Broadcasting Devices:** Devices that use the open standards for digital television.
- **Device Buttons:** These are buttons that are present on your PC or external devices.
- **Batteries:** These are battery devices that are plugged into your laptop.
- **AC Adapters:** These devices will be present when you plug in your AC Adapter.
- **Multimedia Players:** Devices that play media files, like a music player.
- **Camera Devices:** These are digital camera that are connected to your PC.

### NOTE

Video devices do not include your video card adapter

### 2.5.1.1 Information Panel

The information panel is where device information is shown when you select a device. The first two information topics are always:

- **Product:** The name of the device.
- **Vendor:** The vendors name of the device.

The following information topics are dependent on the device chosen. They are labeled with easy to understand names. The information labels have the ability to be selected and copied from.

### NOTE

Processor 'Max Speed' and 'Supported Instruction sets' topics are usual not set by solid.

### NOTE

Top categories in the device listing do not show any information.

### 2.5.1.2 UDI Information

The bottom information panel shows the current selected devices UDI. This is the unique device identifier.

All labels have the ability to be selected and copied from.

## 2.5.2 Interrupt Request (IRQ) Information Module

This page displays information about the Interrupt Request Lines in use, and the devices that use them.

An IRQ is a hardware line used in a PC by (ISA bus) devices like keyboards, modems, sound cards, etc., to send interrupt signals to the processor to tell it that the device is ready to send or accept data. Unfortunately, there are only sixteen IRQ's (0-15) available in the i386 (PC) architecture for sharing among the various ISA devices.

Many hardware problems are the result of IRQ conflicts, when two devices try to use the same IRQ, or software is misconfigured to use a different IRQ from the one a device is actually configured for.

#### NOTE

The exact information displayed is system-dependent. On some systems, IRQ information cannot be displayed yet.

On Linux<sup>®</sup>, this information is read from `/proc/interrupts`, which is only available if the `/proc` pseudo-filesystem is compiled into the kernel.

The first column, is the IRQ number. The second column, is the number of interrupts that have been received since the last reboot. The third column shows the type of interrupt. The fourth, identifies the device assigned to that interrupt.

The user cannot modify any settings on this page.

## 2.5.3 DMA Channel Information Module

This page displays information about the DMA (Direct Memory Access) Channels. A DMA channel is a direct connection that allows devices to transfer data to and from memory without going through the processor. Typically, i386-architecture systems (PC's) have eight DMA channels (0-7).

#### NOTE

The exact information displayed is system-dependent. On some systems, DMA Channel information cannot be displayed yet.

On Linux<sup>®</sup>, this information is read from `/proc/dma`, which is only available if the `/proc` pseudo-filesystem is compiled into the kernel.

A list of all currently-registered (ISA bus) DMA channels that are in use is shown. The first column shows the DMA channel, and the second column shows the device which uses that channel.

Unused DMA channels are not listed.

The user cannot modify any settings on this page.

## 2.5.4 IEEE 1394 Device Information Module

The IEEE 1394 interface, also known as FireWire™, is a serial bus interface standard for high-speed communications and isochronous real-time data transfer.

The list in this module displays all devices attached to IEEE 1394 bus and allows you to reset the bus by clicking the **Generate 1394 Bus Reset** button.

The meaning of the columns in this list:

- **Name:** port or node name, the number can change with each bus reset
- **GUID:** the 64 bit GUID of the node
- **Local:** checked if the node is an IEEE 1394 port of your computer
- **IRM:** checked if the node is isochronous resource manager capable
- **CRM:** checked if the node is cycle master capable
- **ISO:** checked if the node supports isochronous transfers
- **BM:** checked if the node is bus manager capable
- **PM:** checked if the node is power management capable
- **Acc:** the cycle clock accuracy of the node, valid from 0 to 100
- **Speed:** the speed of the node
- **Vendor:** the vendor of the device

## 2.5.5 USB Controller/USB Devices Information Module

This module allows you to see the devices attached to your USB bus(es).

This module is for information only, you cannot edit any information you see here.

## 2.5.6 Input/Output Port Information Module

This page displays information about the I/O ports.

I/O Ports are memory addresses used by the processor for direct communication with a device that has sent an interrupt signal to the processor.

The exchange of commands or data between the processor and the device takes place through the I/O port address of the device, which is a hexadecimal number. No two devices can share the same I/O port. Many devices use multiple I/O port addresses, which are expressed as a range of hexadecimal numbers.

### NOTE

The exact information displayed is system-dependent. On some systems, I/O port information can not yet be displayed.

On Linux®, this information is read from `/proc/ioports` which is only available if the `/proc` pseudo-filesystem is compiled into the kernel. A list of all currently-registered I/O port regions that are in use is shown.

The first column is the I/O port (or the range of I/O ports), the second column identifies the device that uses these I/O ports.

The user cannot modify any settings on this page.

## 2.5.7 PCI-bus/Installed PCI Cards Information Module

This page displays information about the PCI-bus and installed PCI cards, and other devices that use the Peripheral Component Interconnect (PCI) bus.

### NOTE

The exact information displayed is system-dependent. On some systems, PCI-information can not yet be displayed.

On Linux<sup>®</sup>, this information is read from `/proc/pci` which is only available if the `/proc` pseudo-file system is compiled into the kernel. A listing of all PCI devices found during kernel initialization, and their configuration, is shown.

Each entry begins with a bus, device and function number.

The user cannot modify any settings on this page.

## 2.6 Network Information Module

### 2.6.1 Network Interfaces Information Module

This page displays information about the network interfaces installed in your computer.

### NOTE

The exact information displayed is system-dependent. On some systems, this information can not yet be displayed.

The user cannot modify any settings on this page.

### 2.6.2 Samba Status Information Module

The Samba and NFS Status Monitor is a front end to the programs `smbstatus` and `showmount`. `Smbstatus` reports on current Samba connections, and is part of the suite of Samba tools, which implements the SMB (Server Message Block) protocol, also called the NetBIOS or LanManager protocol.

This protocol can be used to provide printer sharing or drive sharing services on a network including machines running the various flavors of Microsoft<sup>®</sup> Windows<sup>®</sup>.

`showmount` is part of the NFS software package. NFS stands for Network File System and is the traditional UNIX<sup>®</sup> way to share folders over the network. In this case the output of `showmount -a localhost` is parsed. On some systems `showmount` is in `/usr/sbin`, check if you have `showmount` in your `PATH`.

#### 2.6.2.1 Exports

On this page you can see a big list which shows the currently active connections to Samba shares and NFS exports of your machine. The first column shows you whether the resource is a Samba (SMB) share or a NFS export. The second column contains the name of the share, the third the name of the remote host, which accesses this share. The remaining columns have only a meaning for Samba-shares.

The fourth column contains the User ID of the user, who accesses this share. Note that this does not have to be equal to the UNIX<sup>®</sup> user ID of this user. The same applies for the next column, which displays the group ID of the user.

Each connection to one of your shares is handled by a single process (**smbd**), the next column shows the process ID (pid) of this **smbd**. If you kill this process the connected user will be disconnected. If the remote user works from Windows<sup>®</sup>, as soon as this process is killed a new one will be created, so he will almost not notice it.

The last column shows how many files this user has currently open. Here you see only, how many files he has *open* just now, you don't see how many he copied or formerly opened etc.

### 2.6.2.2 Imports

Here you see which Samba- and NFS-shares from other hosts are mounted on your local system. The first column shows whether it is a Samba- or NFS-share, the second column displays the name of the share, and the third shows where it is mounted.

The mounted NFS-shares you should see on Linux<sup>®</sup> (this has been tested), and it should also work on Solaris<sup>™</sup> (this has not been tested).

### 2.6.2.3 Log

This page presents the contents of your local samba log file in a nice way. If you open this page, the list will be empty. You have to press the **Update** button, then the samba log file will be read and the results displayed. Check whether the samba log file on your system is really at the location as specified in the input line. If it is somewhere else or if it has another name, correct it. After changing the file name you have to press **Update** again.

Samba logs its actions according to the log level (see `smb.conf`). If `loglevel = 1`, samba logs only when somebody connects to your machine and when this connection is closed again. If `log level = 2`, it logs also if somebody opens a file and if he closes the file again. If the log level is higher than 2, yet more stuff is logged.

If you are interested in who accesses your machine, and which files are accessed, you should set the log level to 2 and regularly create a new samba log file (e.g. set up a **cron** task which once a week moves your current samba log file into another folder or something like that). Otherwise your samba log file may become very big.

With the four checkboxes below the big list you can decide, which events are displayed in the list. You have to press **Update** to see the results. If the log level of your samba is too low, you won't see everything.

By clicking on the header of one column you can sort the list by this column.

### 2.6.2.4 Statistics

On this page you can filter the contents of the third page for certain contents.

Let's say the **Event** field (not the one in the list) is set to **Connection**, **Service/File** is set to **\***, **Host/User** is set to **\***, **Show expanded service info** is disabled and **Show expanded host info** is disabled.

If you press **Update** now, you will see how often a connection was opened to share **\*** (i.e. to any share) from host **\*** (i.e. from any host). Now enable **Show expanded host info** and press **Update** again. Now you will see for every host which matches the wildcard **\***, how many connections were opened by him.

Now press **Clear Results**.

Now set the **Event** field to File Access and enable **Show expanded service info** and press **Update** again.

Now you will see how often every single file was accessed. If you enable **Show expanded host info** too, you will see how often every single user opened each file.

In the input lines **Service/File** and **Host/User** you can use the wildcards \* and ? in the same way you use them at the command line. Regular expressions are not recognized.

By clicking on the header of a column you can sort the list by this column. This way you can check out which file was opened most often, or which user opened the most files or whatever.

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## 2.7 Graphical Information Module

When you open the modules in this section, you are presented with some information. The left hand side of the window is organized into a tree. Some of the elements have a plus sign in front of the label. Clicking this sign opens a 'submenu' related to the label. Clicking on a minus sign in front of a label hides the submenu.

The right hand side of the window contains the individual values for each of the parameters on the left.

The information presented will vary depending on your setup.

#### NOTE

Some setups may not be able to determine some or all of the parameters.

You can not change any values from this module. It is for information only.

### 2.7.1 Wayland Information Module

This screen is useful for getting specific information about your [Wayland Compositor](#).



### **2.7.2 X Server Information Module**

This screen is useful for getting specific information about your X Server and the current session of X.

### **2.7.3 OpenGL Information Module**

This page displays information about installed OpenGL implementation. OpenGL (for “Open Graphics Library”) is a cross-platform, hardware independent interface for 3D graphics.

GLX is the binding for OpenGL to X Window system.

DRI (Direct Rendering Infrastructure) provides hardware acceleration for OpenGL. You must have a videocard with 3D accelerator and properly installed driver for this.

Read more at the official OpenGL site [OpenGL](#)

## Chapter 3

# Credits and License

KInfoCenter

Program copyright 1997-2001 The KInfoCenter Developers

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