LINUX CUPS DRIVER
User Guide

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KONICA MINOLTA

Giving Shape to Ideas

Linux CUPS Driver

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Conventions used in this document

In this document several conventions for source code, filenames, application names, commands and user input are used:

```
Source code is printed like this. Default terms in source code examples, which has to be
adapted by users, are printed the same but in brackets, like [this]
```

Filenames and folder names are printed like this.

Commands are printed like this.
Commands that have to be executed as root are preceded by a '**#**' character.
Commands that can be executed as user are preceded by a '**$**' character.

Application names are printed like this.

In this Document the word 'driver' is used as a summarizing term for PPD files, a set of a PPD file and a filter or other driver related files. It is used whenever the exact type of driver does not matter.

Description

This document describes the features, requirements and restriction of the Konica Minolta drivers for use. It also contains the installation instructions.
The KONICA MINOLTA BEU CUPS Driver that comes with this package will provide security related features like Secure Print, Authentication, etc…
The driver consists of PPD files for each product and a Perl based filter. The PPDs will use custom input fields to allow the user to enter username, password, etc. as free text.
The PPD files are designed as Multilanguage versions. The language will follow the "locale settings" of the system or application. If the language is not included in the PPD, English will be used as default.
List of supported languages can be found at the end of this document. (Supported Languages)

Print dialog with custom inputs:

Features

- Secure Print
- BoxPrint
- ID&Print
- SafeQ (support for using different user name)
- Authentication
- PSES Authentication
- AccountTrack
- CopySecurity
- Date/Time Stamp
- Page Number Stamp
- page logging in CUPS
- Printer driver user data encryption

Requirements

- Common Unix Printing System (CUPS) version 1.3 or higher
- Perl Interpreter (in most Linux distributions already installed by default)

Restrictions

Custom input fields are not supported by all applications. Most GTK Applications can handle it, whereas for example OpenOffice/LibreOffice has its own printer settings dialog which does not support custom inputs.
A workaround for these cases is described later in this document.

(Latest version of Libre Office [4.3.3 or newer] also supports "custom input fields" and is not affected.)

Installation

Restart the CUPS server

During the installation it will be necessary to restart the CUPS server.
(root privileges are needed here)

Restart the CUPS server with the command:
 # /etc/init.d/cups restart
or
 # /etc/init.d/cupsys restart
or
 # service cups restart
or
 # /etc/rc.d/rc.cups restart

This command might vary depending on the Linux distribution used.

Automatic Installation

This Konica Minolta driver package for CUPS contains an install script for automatic installation. This script will install all needed files, PPD files and the filter, to the designated CUPS folders and applies the required permissions.
To use the install script and the filter a working Perl interpreter has to be installed.
The interpreter binaries are considered to be installed as */usr/bin/perl*. This is the default location on most systems. If it is installed in another location on your system, please adapt the first line of the install script to fit your needs.

If available on the system, the install script will use "Whiptail" or "Dialog" for a more user-friendly dialog based input.
During the installation, the script automatically tries to detect the PPD and Filter file installation folders, based on CUPS environment, CUPS configuration files and some default locations and may ask for the CUPS configuration files, DataDir and/or ServerBin locations.

1. Extract the driver package
   To extract the driver package, open a terminal such as **xterm** or the **KDE terminal**.
   Extract the package with the command:
   $ tar -xvzf [package.tgz]

2. Run installation script (root privileges are needed here)
   Inside the new directory execute the command:
   # ./install.pl

3. Restart the CUPS server
   See "Restart the CUPS server"

4. Driver installation finished
   The driver installation is finished. Printers can now be installed using the
   CUPS web interface or any CUPS printer administration tool.

Dialog / Whiptail
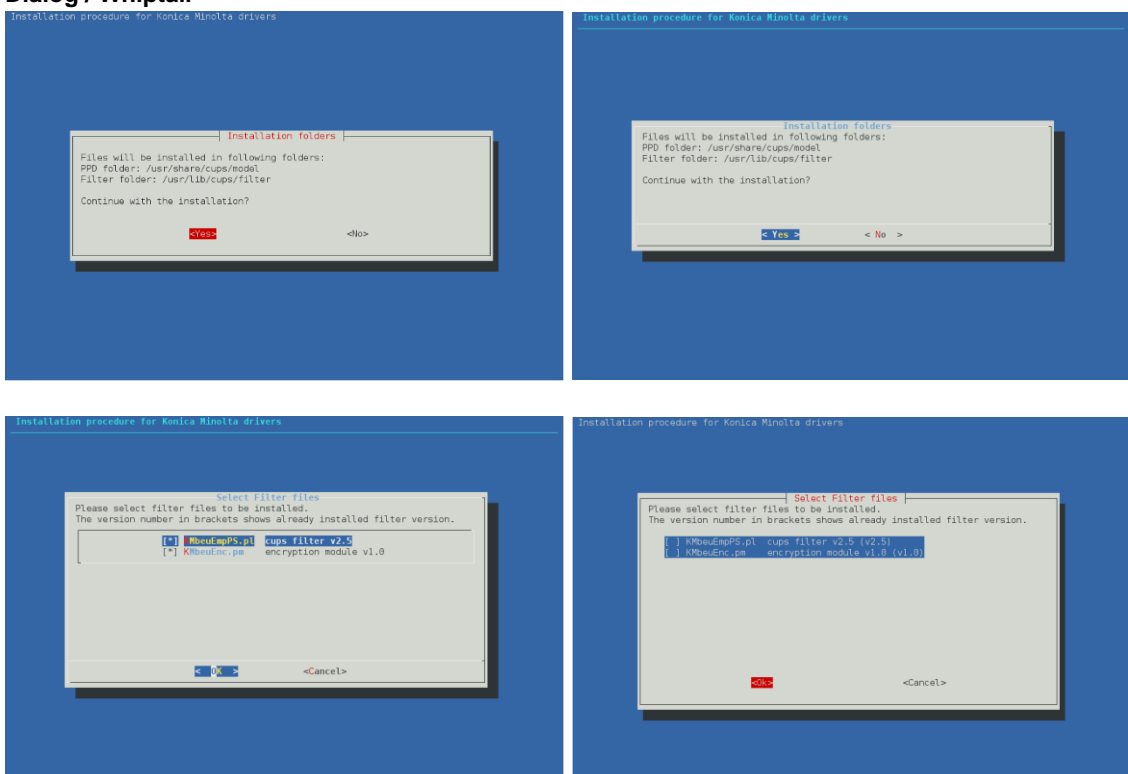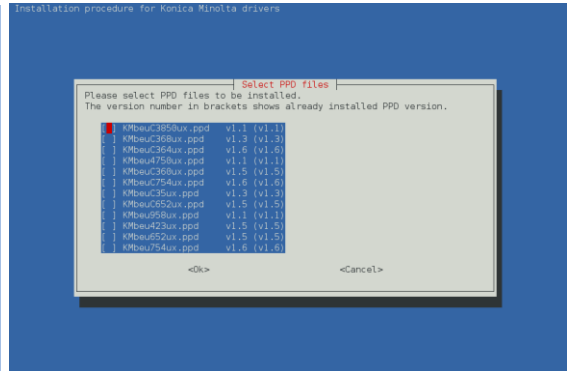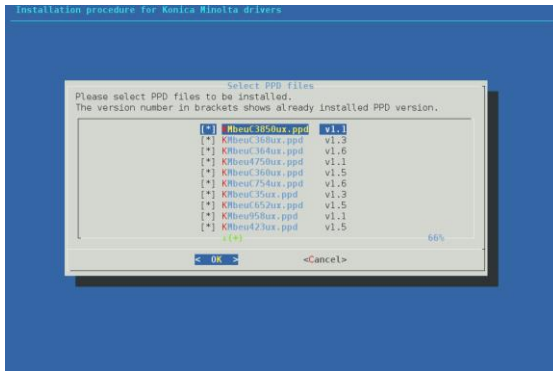
While Dialog is scrollable, in Whiptail more PPDs will be shown on next page.

Shell

Manual Installation

The files provided with the CUPS driver package can also be installed manually.
It is not enough to install only the PPD files, also installation of the filter is necessary to use the KM specific functions of the driver.

A. Install the PPD file

Installation of the PPD file is working correspondent to any other PPD file.

1. Extract the driver package
    To extract the driver package open a terminal, such as **xterm** or the **KDE terminal**.
    Extract the package with the command:
    `$ tar -xvzf [package.tgz]`

2. Copy the PPD files to the CUPS PPD directory
    The default folder on most Linux distributions is
    /usr/share/cups/model
    In some distributions following folders may be used
    /usr/share/ppd/custom
    or
    /usr/share/foomatic/db/source/PPD/Custom/

    Otherwise the path can be found in CUPS configuration file */etc/cups/cups-files.conf* or */etc/cups/cupsd.conf*
    The `DataDir` directive will point to a location, where to find a sub folder for the model files.

    After copying make sure the permissions of the files are set to 644.

B. Install the filter

Root privileges are required to copy the filter files (*KMbeuEmpPS.pl* and *KMbeuEnc.pm*).
The default folder on most Linux distributions is */usr/lib/cups/filter*.

Otherwise the path can be found in CUPS configuration file */etc/cups/cups-files.conf* or */etc/cups/cupsd.conf*
The `ServerBin` directive will point to a location, where to find a sub folder for the filter files.

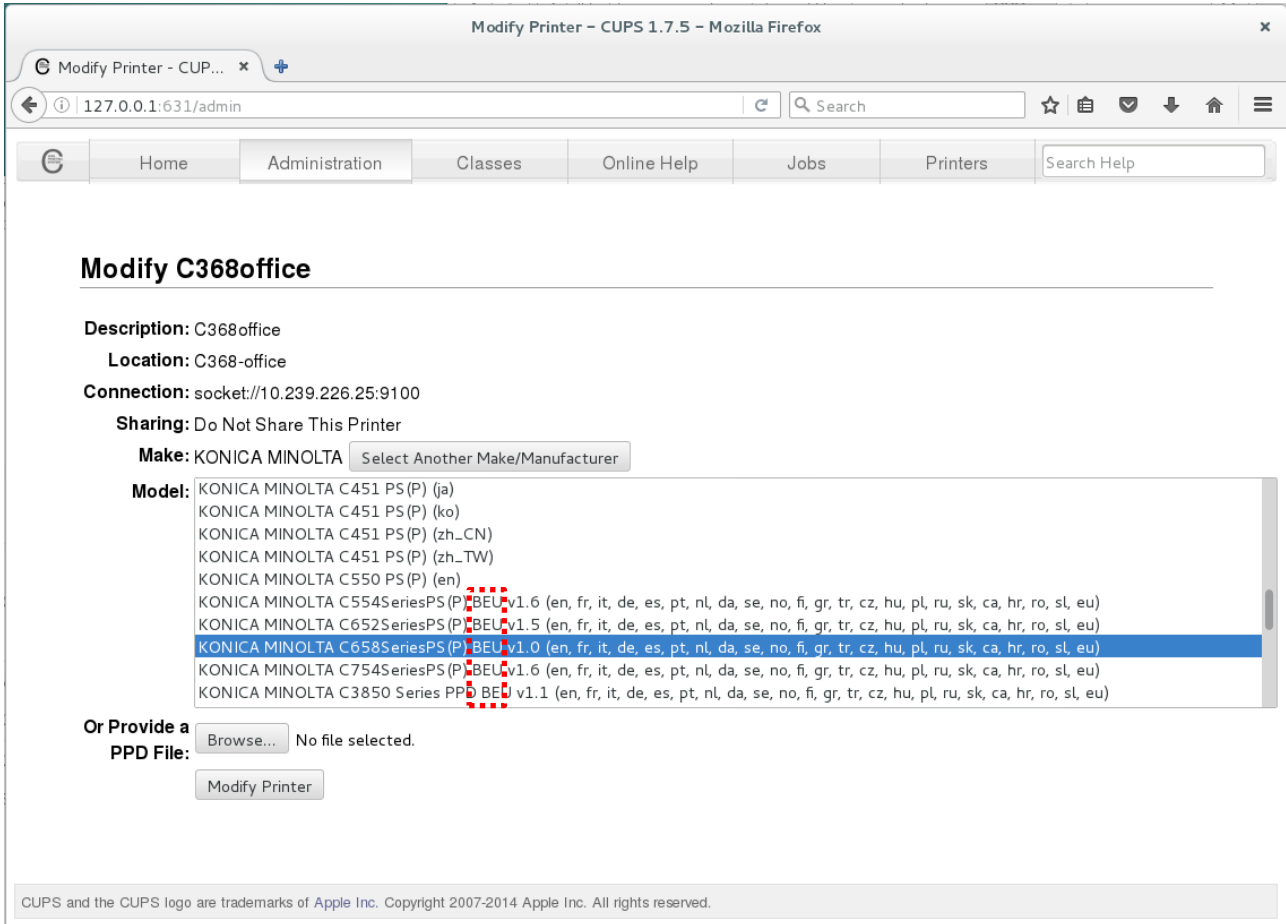After copying make sure the permissions of the files are set to 755.

C. Restart CUPS

See "Restart the CUPS server"

The driver installation is finished. Printers can now be installed using the
CUPS web interface or any CUPS printer administration tool.

Add printer to CUPS

After the driver has been installed and CUPS has been restarted, a printer can be added to the system. The correct PPD files of this driver package can be identified by the "BEU" in the model name.

Modify Printer – CUPS 1.7.5 – Mozilla Firefox   ✕

Modify Printer - CUP... ✕ ✚

127.0.0.1:631/admin

Home   Administration   Classes   Online Help   Jobs   Printers   Search Help

Modify C368office

Description: C368office

Location: C368-office

Connection: socket://10.239.226.25:9100

Sharing: Do Not Share This Printer

Make: KONICA MINOLTA   [Select Another Make/Manufacturer]

Model:
KONICA MINOLTA C451 PS(P) (ja)
KONICA MINOLTA C451 PS(P) (ko)
KONICA MINOLTA C451 PS(P) (zh_CN)
KONICA MINOLTA C451 PS(P) (zh_TW)
KONICA MINOLTA C550 PS(P) (en)
KONICA MINOLTA C554SeriesPS(P) BEU v1.6 (en, fr, it, de, es, pt, nl, da, se, no, fi, gr, tr, cz, hu, pl, ru, sk, ca, hr, ro, sl, eu)
KONICA MINOLTA C652SeriesPS(P) BEU v1.5 (en, fr, it, de, es, pt, nl, da, se, no, fi, gr, tr, cz, hu, pl, ru, sk, ca, hr, ro, sl, eu)
KONICA MINOLTA C658SeriesPS(P) BEU v1.0 (en, fr, it, de, es, pt, nl, da, se, no, fi, gr, tr, cz, hu, pl, ru, sk, ca, hr, ro, sl, eu)
KONICA MINOLTA C754SeriesPS(P) BEU v1.6 (en, fr, it, de, es, pt, nl, da, se, no, fi, gr, tr, cz, hu, pl, ru, sk, ca, hr, ro, sl, eu)
KONICA MINOLTA C3850 Series PPD BEU v1.1 (en, fr, it, de, es, pt, nl, da, se, no, fi, gr, tr, cz, hu, pl, ru, sk, ca, hr, ro, sl, eu)

Or Provide a PPD File: [Browse...] No file selected.

[Modify Printer]

Updating previously installed driver package

Updating the previously installed drivers requires following steps:

1. "Automatic Installation" or "Manual Installation" procedure above (confirm the overwriting of existing files)

2. Restart CUPS if not already done (see "Restart the CUPS server")

3. Update already installed printers if necessary, to use a new installed PPD.
   (e.g. using CUPS web interface >> Administration >> Modify Printer)

Un-installing driver package

To remove the driver package from the system, perform following steps:

1. Delete installed printers which using the driver package.
   (e.g. using CUPS web interface >> Administration >> Delete Printer)

2. Delete the PPD files from the CUPS PPD directory
   The default folder on most Linux distributions is */usr/share/cups/model*
   The PDDs from the driver package are named "*KMbeu ... ux.ppd*" or "*beu ... ux.ppd*"

3. Delete the filter file from the CUPS filter directory
   (root privileges are needed)
   The default folder on most Linux distributions is */usr/lib/cups/filter*.
   The filter file from the driver package is named "*KMbeuEmpPS.pl*"

1. Restart CUPS
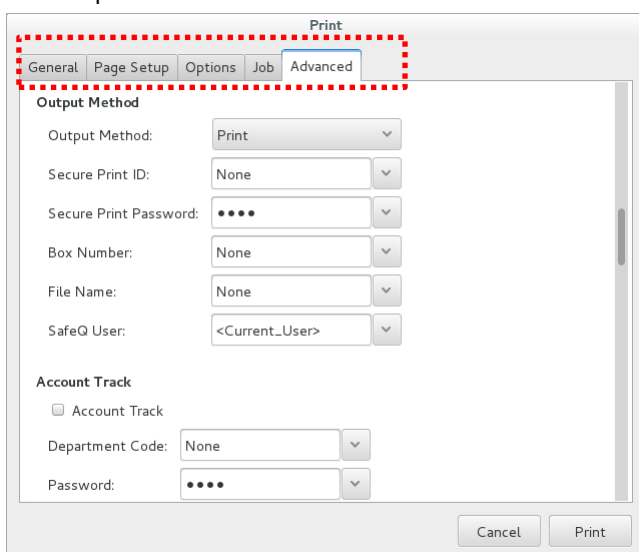   See "Restart the CUPS server"

Function Description

Default settings may be configured from the CUPS web interface.
(Administration >> Manage Printers; select print queue; Administration >> Set default options.)
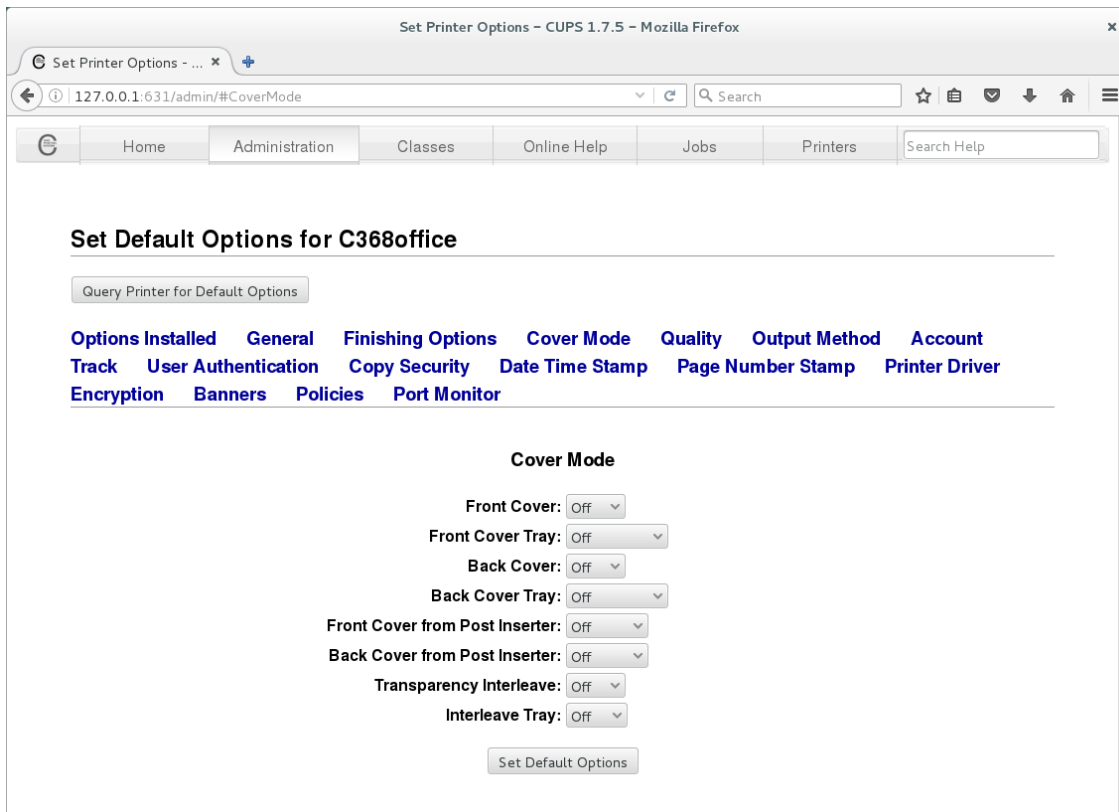
Printer specific features can be found within the advanced tab of the print dialog.

Not all of the listed functions are available for all printer models.
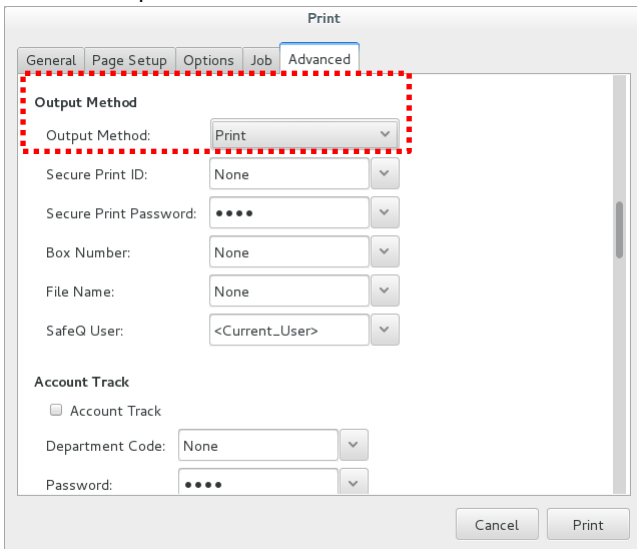
Output Method

Print

Standard print function.

Required settings:
Output Method
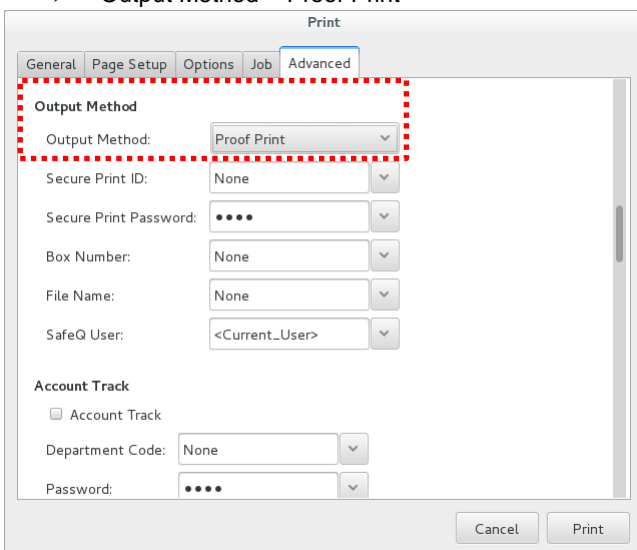➢ Output Method = Print

Proof Print

Select to stop the printer after one copy of the document is printed. If the copy was printed as desired, all copies can be printed from the printer's control panel. Select this option to prevent misprints when printing a large number of copies.

Required settings:
Output Method
➢ Output Method = Proof Print

Secure Print

This feature allows a user sending a print job with the ability to hold the job in the memory of the system until the user releases the job by entering a unique secure PIN/password at the control panel of the MFP.

Required settings:
Output Method
  ➢ Output Method = Secure Print
  ➢ Secure Print ID   [text of 1 to 16 characters]
  ➢ Secure Print Password   [text of 1 to 8 characters]

ID & Print

In case the machine is set up with user authentication (server or MFP-based) secure printing can be used via the "touch & print" or "ID & print" feature. Instead of an additional secure print ID and password, the user authentication data will be used to identify a stored secure print job, and will release the job after authentication at the device.

Required settings:
Output Method
  ➢ Output Method = ID & Print
User Authentication (see User Authentication)

If ID & Print is selected and authentication is disabled, the job will be sent as "Public" user.

Safe in User Box / Save in Box and Print

Save in User Box
> Select to save the print job on the hard disk of the printer.

Save in User Box/Print
> Select to save the print job on the hard disk of the printer at the same time that it is printed.

Required Setting
Output Method
> ➢ Output Method = "Safe in User Box" or "Safe in Box and Print"
> ➢ Box Number   [any number from 1 to 999999999]
> ➢ File Name   [text of 1 to 30 characters]

Account Track

Required settings
Account Track
> ➢ Account Track = enable (tick checkbox)
> ➢ DepartmentCode: [text of 1 to 16 characters]
> ➢ AccountPassword: [text of 1 to 16 characters]

User Authentication

If user authentication is enabled on MFP, the function can be restricted to allow only authenticated users to print. For this the print job requires authentication information.

Required settings
User Authentication
  ➢ User Authentication = "MFP" or "External Server" or "MFP + External Server" (depends on MFP configuration)
  ➢ Authentication Server (when "External Server" is used, select number corresponding to the authentication server configured in MFP)
  ➢ Username
  ➢ Password

Copy Security

Prints in the document a pattern that prevents improper copying.
The following items can be selected according to usage.

Copy Protect

Prints the copy security pattern combined in the document so that it is not conspicuous (in the background). The text appears embossed when the document is improperly copied.

Stamp Repeat

Prints the copy security pattern combined in the document as a text pattern that can already be identified.

Copy Guard

Prints the copy guard pattern combined in the document.
In the device, which supports this function, when copying the printed document, copy is interrupted when the pattern being combined is read.

Password Copy

Prints the password copy pattern in the document.
If it is going to copy the printed document (with the device which supports this function) the combined pattern will be read and password input will be required.
Copy operation can be performed by entering the set password at the time of printing.

Characters: Combines the selected text into the document. The text registered on the printer are indicated with "*".
If information for text registered on the printer cannot be retrieved, these options appear as "Machine-Setting 1".

Date/Time: Combines the selected date into the document.

Serial Number: Combines into the document the serial number programmed on the printer.

Distribution Control Number: Combines the specified distribution control number into the document.
        Distribution Control Start Number: Specify the number for the first of the distribution control numbers

Job Number: Combines into the document the job number managed by the printer.

Pattern Angle: Specify the angle of the text.

Pattern Text Size: Specify the size of the text.

Pattern Color: Select the color of the copy security pattern.

Pattern Density / Contrast: Specify the color and density of the copy security pattern.

Pattern Overwrite: Select whether the copy security pattern is combined in the background or foreground of the document.

Background Pattern: Select the copy security pattern from the background patterns registered with the printer.

Pattern Emboss: Select whether the text pattern appears embossed or as an outline when the document is improperly copied.

Print

| General | Page Setup | Options | Job | Advanced |

Copy Security

☐ Copy Security

Copy Security Mode: [Copy Protect ▾]

Password Copy - Password: [●●●●●● ▾]

Characters: [Invalid Copy ▾]

Date and Time: [None ▾]

Date Format: ['12/8/23 ▾]

Time Format: [1 23PM ▾]

☐ Serial Number

☐ Distribution Control Number

DCN Start Number: [1 ▾]

☐ Job Number

[Cancel] [Print]

Print

| General | Page Setup | Options | Job | Advanced |

☐ Distribution Control Number

DCN Start Number: [1 ▾]

☐ Job Number

Pattern Angle: [0 degrees ▾]

Pattern Text Size: [Standard ▾]

Pattern Color: [Black ▾]

Pattern Density: [0 ▾]

Pattern Contrast: [0 ▾]

Pattern Overwrite: [Front (Overwrite) ▾]
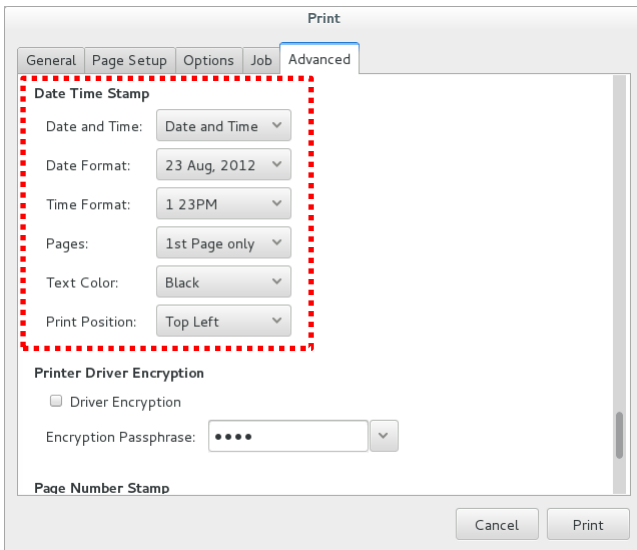
Background Pattern: [<Machine Setting 1> ▾]

Pattern Emboss: [Emboss Text ▾]
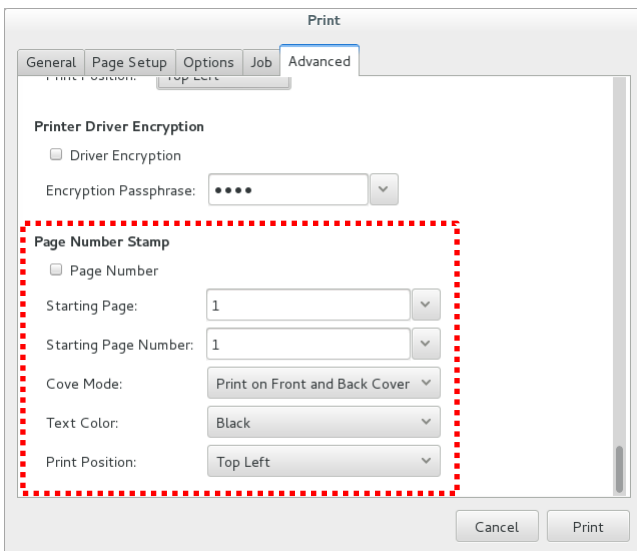
[Cancel] [Print]

Date Time Stamp

Prints the date and time in the document.

Page Number Stamp

Prints the page number in the document.

Printer Driver Encryption

With the Linux driver, password data for Authentication, Account Track and Secure Print will be embedded in the print data as clear text. The default encryption passphrase is not published, so we cannot use it for the Linux driver.
With the printer driver encryption function, the passwords will be encrypted using a custom passphrase to generate the encryption key.
As of today, only the A3 devices support the use of a custom passphrase.

For devices that support printer driver encryption, the function can be enabled in print dialog or set within the default options. The passphrase must be 20 characters in length.

Required settings:
Printer Driver Encryption
➢   Driver Encryption = enable (tick checkbox)
➢   Encryption Passphrase   [text of 20 characters]
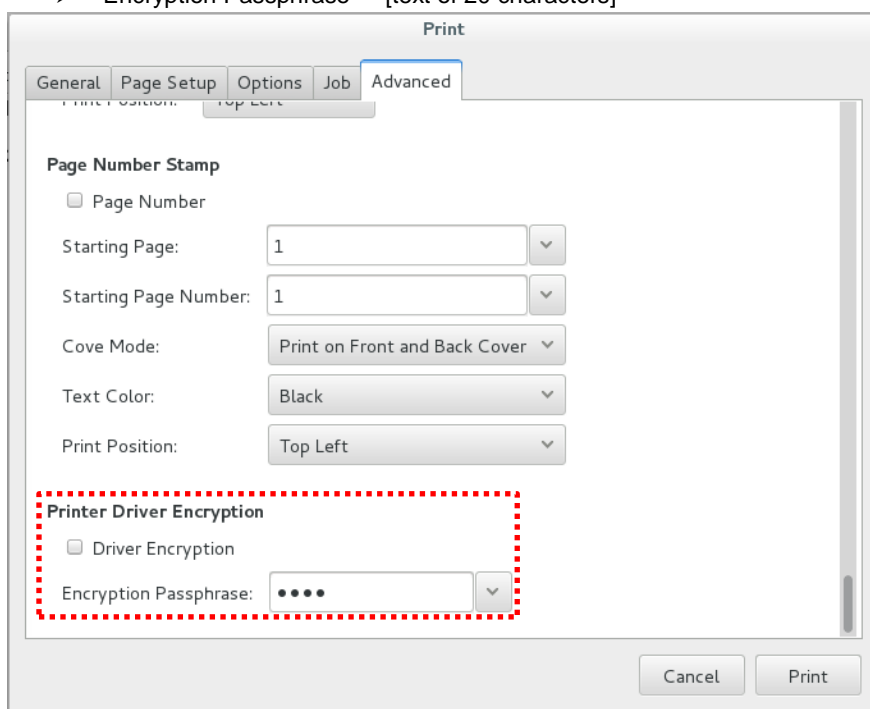
Note: When using the settings file as described in workaround 1, the same passphrase will be applied to all printers which support driver encryption.

The custom passphrase must also be enabled within the device. The settings can be found here: Utility >> Administrator Settings >> Security Settings >> Driver Encryption Password Settings
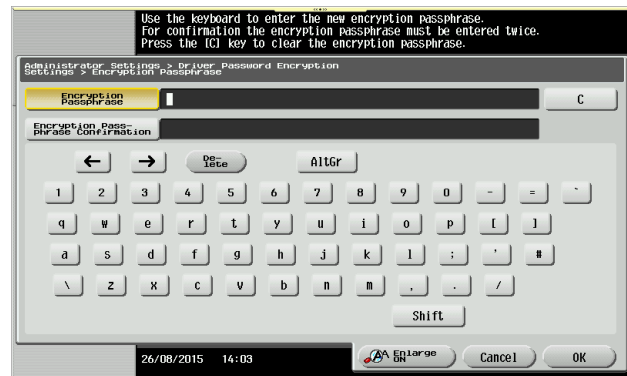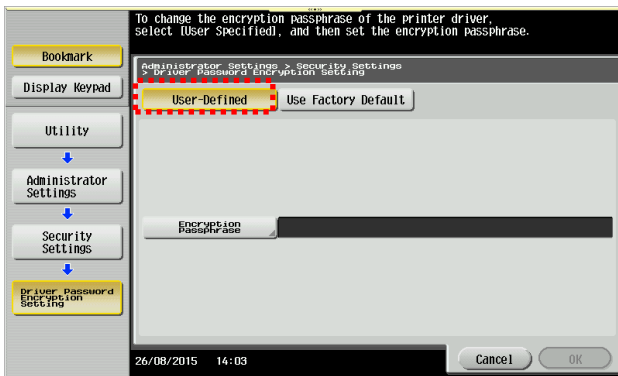
When using the same devices with other OS, also those printer drivers need to be configured to use the custom encryption passphrase. Otherwise printing may fail as these drivers use the "Factory Default" passphrase.
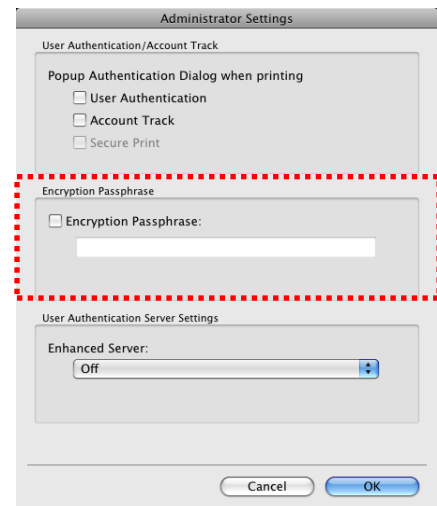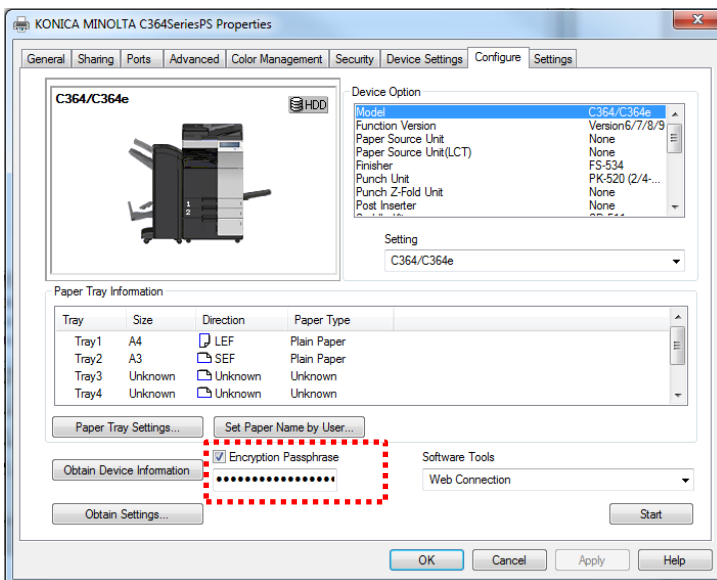
Security Considerations

With the printer driver encryption setting, the passwords used for Authentication, Account Track and Secure Print will be encrypted before they are embedded in the print data. This does not secure the print data itself and it is still be possible to capture and read the print data (e.g. using a network sniffer).
For secure transport, it is recommended to use a secure printing protocol (IPP over SSL) or secure the whole communication with the printer by using IPsec.

Support for other applications

YSoft SafeQ

Printing with SafeQ may require different user name to be send with the print data, other than the Linux systems user name.

Required settings:
Output Method
> ➤ Output Method = SafeQ
> ➤ SafeQ User   [text of 1 to 30 characters]

PSES (Page Scope Enterprise Suite)

PSES requires a different authentication method.

Required settings:
User Authentication

- ➢ User Authentication = PSES
- ➢ User Name
- ➢ Password

✏ Workaround

… for applications that do not support custom input fields in their printer driver dialog.

Workaround 1

The filter contains additional code to read from a settings file named *KMdrv.txt* which is located in the user's home folder.
It is expected that the home folder name matches the username which is transferred to CUPS.
To enable this function the filter (*KMbeuEmpPS.pl*) needs to be modified. Following lines need to be changed and verified:

```
# my $usesettingsfile=1;
# my $homefolderspath="/home";
```

Within the settings file following settings can be defined:
- OutputMethod
- SecurePrintID
- SecurePrintPassword
- BoxNumber
- BoxFileName
- SafeQUser
- AccountTrack
  - DepartmentCode
  - AccountPassword
- Authentication
  - AuthenticationUsername
  - AuthenticationPassword
- Printer Driver Encryption
  - EncryptionPassphrase

The settings file is an ASCII text file, which contains lines for each setting in the format:
```
option=value
```

For example: to enable Secure Print, with Secure Print ID=secid and password=pass the settings file has to contain these lines.
```
OutputMethod=Secure
SecurePrintID=secid
SecurePrintPassword=pass
```

Or alternative the output method can be selected in the print dialog, and then only the SecurePrintID and SecurePrintPassword are required to be defined in the file.

A sample settings file *KMdrv.txt* listing all possible parameters is included in this driver package.

⚠ **Attention!**
If this function is enabled and the settings file exists in the user's home folder, the settings from that file will override the settings made in the printer dialog.
These settings will be applied to all printers that use the filter from this driver package.

After modifying the filter file, it might be necessary to restart the CUPS demon (See "Restart the CUPS server").

Limitations:
Not all Linux distributions or Cups versions allow the filter to access external files. So in some cases the workaround will not work.

This workaround cannot be used with printers shared from another Linux Cups system.

Workaround 2

Modify the PPD file for each printer and add the required value as additional parameter. Depending on the syntax, the additional parameters will be shown different in the printer dialog.
The PPD files for the installed printers are located by default in the folder */etc/cups/PPD*

```
*KMSecID [SecurePrint ID]/[Displayed Text]: " "
```
This will show the [Displayed Text] in the print dialog, but will use [SecurePrint ID] as value for the filter. This syntax can be used if the real value should be hidden in the print dialog, e.g. for setting passwords in PPD file.

```
*KMSecID [SecurePrint ID]: " "
```
This will use the [SecurePrint ID] for display in the print dialog and as value for the filter. With this syntax, the used value is also the text displayed in the print dialog.

Following sample code shows the additional added parameters (lines in red colour) for individual Secure Print ID and password:

```
*% ===============================
*%  Secure Print ID
*% ===============================
*OpenUI *KMSecID/Secure Print ID: PickOne
*OrderDependency: 10 AnySetup *KMSecID
*DefaultKMSecID: None
*KMSecID None: " "
*KMSecID secid/private: " "
*CloseUI: *KMSecID

*% Custom PostScript KMSecID option
*CustomKMSecID True: " "
*ParamCustomKMSecID Username: 1 string 1 16


*% ===============================
*%  Secure Print password
*% ===============================
*OpenUI *KMSecPass/Secure Print Password: PickOne
*OrderDependency: 10 AnySetup *KMSecPass
*DefaultKMSecPass: None
*KMSecPass None: " "
*KMSecPass pass/private: " "
*CloseUI: *KMSecPass

*% Custom PostScript KMSecPass option
*CustomKMSecPass True: " "
*ParamCustomKMSecPass Password: 1 password 1 8
```

After modifying the PPD, it might be necessary to restart the CUPS demon (See "Restart the CUPS server").

Print dialog from OpenOffice:
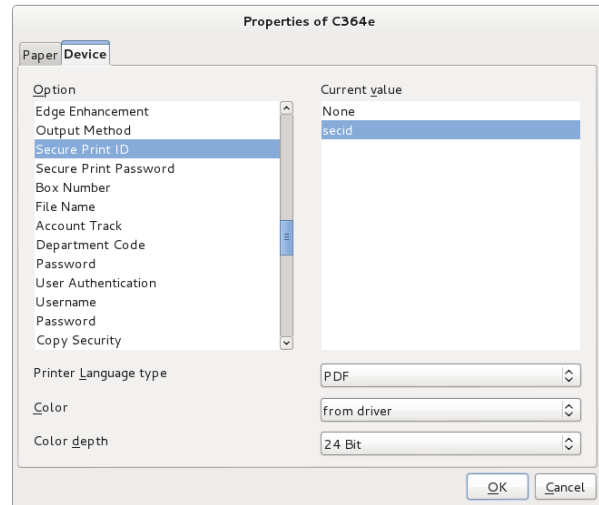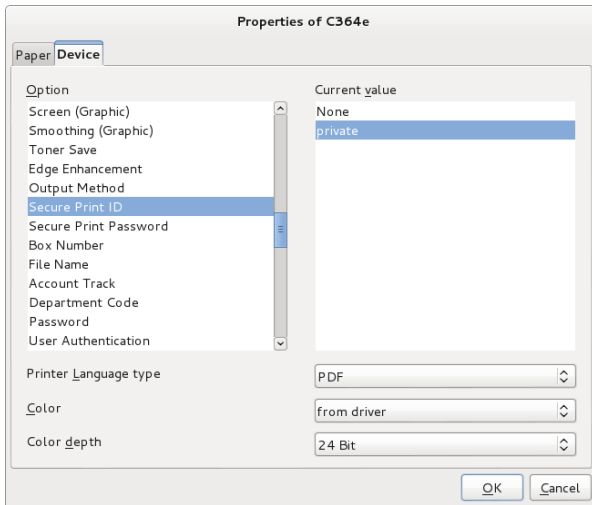
Added parameter:

`*KMSecID secid/private: " "`   `*KMSecID secid: " "`

In both cases "secid" will be the value used as SecurePrint ID, but the displayed text is different.

Comparison Workaround 1 and 2

Workaround 1	Workaround 2
Setting will be applied to printers using this driver	Setting is only available for to modified printer PPD needs to be modified for each printer.
Individual settings for each user.	Changes made in the PPD are available for all users.
Selections in the print dialog have no influence on the settings defined in the setting file.	The customer can select among the different parameters/values defined in the PPD.
Easy to handle, each user can modify the settings file and define its own values.	For normal user it is difficult to make the changes in the PPD, also root credentials are required for the change.
Some Linux distributions or CUPS versions do not support reading from a file. So this workaround cannot be used.	
This workaround only works in local environment not in client-print server environment.	

Supported Products

Konica Minolta:
- KMbeu423ux.ppd   bizhub 423 series   (223/283/423/283)
- KMbeu652ux.ppd   bizhub 652 series   (652/602/552/502)
- KMbeu554eux.ppd   bizhub 554e series   (554e/454e/364e/284e/224e)
- KMbeu754ux.ppd   bizhub 754 series   (754/654/754e/654e)
- KMbeu958ux.ppd   bizhub 958 series   (367/287/227/958/808/758)
- KMbeuC360ux.ppd   bizhub C360 series   (C220/C280/C360)
- KMbeuC652ux.ppd   bizhub C652 series   (C652/C602/C552/C502)
- KMbeuC364ux.ppd   bizhub C364 series   (C224/C284/C364/C224e/C284e/C364e)
- KMbeuC554ux.ppd   bizhub C554 series   (C554/C454/C554e/C454e)
- KMbeuC754ux.ppd   bizhub C754 series   (C754/C654/C754e/C654e)
- KMbeuC658ux.ppd   bizhub C658 series   (C658/C558/C458/C368/C308/C258/C287/C227)
- KMbeuC368ux.ppd   bizhub C368 series   (C368/C308/C258/C287/C227)   *models included in bizhub C368 series
- KMbeuC3850ux.ppd   bizhub C3850 series   (C3350/C3850)
- KMbeu4750ux.ppd   bizhub 4750 series (4050/4750)

- KMbeuC35ux.ppd   bizhub C35 (only with special firmware)

Generic:
- beu42BW-4ux.ppd   42BW-4 series   (22BW-4/28BW-4/42BW-4/28BW-4)
- beu65BW-3ux.ppd   65BW-3 series   (65BW-3/60BW-3/55BW-3/50BW-3)
- beu55BW-5eux.ppd   55BW-5e series   (55BW-5e/45BW-5e/36BW-5e/28BW-5e/22BW-5e)
- beu75BW-5ux.ppd   75BW-5 series   (75BW-5/65BW-5/75BW-5e/65BW-5e)
- beu95BW-9ux.ppd   95BW-9 series   (36BW-8/28BW-8/22BW-8/95BW-9/80BW-9/75BW-9)
- beu36C-1ux.ppd   36C-1 series   (36C-1/28C-1/22C-1)
- beu36C-6ux.ppd   36C-6 series   (36C-6/36C-6e/28C-6/28C-6e/22C-6/22C-6e)
- beu55C-6ux.ppd   55C-6 series   (55C-6/55C-6e/45C-6/45C-6e)
- beu60C-6ux.ppd   60C-6 series   (60C-6/60C-6e/60C-7/60C-7e)
- beu50C-2ux.ppd   50C-2 series   (50C-2/50C-3/45C-3/45C-4/45C-5)
- beu65C-9ux.ppd   65C-9 series   (65C-9/55C-9/45C-9/36C-9/30C-9/25C-9/28C-8/22C-8)
- beu36C-9ux.ppd   36C-9 series   (36C-9/30C-9/25C-9/28C-8/22C-8)   *models included in65C-9 series
- beuCMF385-1ux.ppd   C MF385-1 Series   (C MF385-1 / C MF335-1)
- beuBWMF475-1ux.ppd   BW MF475-1 Series   (BW MF475-1 / BW MF405-1)

Supported Languages

English [en], French [fr], Italian [it], German [de], Spanish [es], Portuguese [pt], Dutch [nl], Danish [dk], Swedish [se], Norwegian [no], Finnish [fi], Greek [gr], Turkish [tr], Czech [cz], Hungarian [hu], Polish [pl], Russian (Cyrillic) [ru], Slovak [sk], Catalan [ca], Croatian [hr], Romanian [ro], Slovenian [sl], Basque [eu]

Change Log

2016-11-30 driver package v1.12
   - new install script (using Dialog or Whiptail if available)
   - multi language support – now 23 languages
   - added new models:
   - bizhub C658 series   (C658/C558/C458/C368/C308/C258/C287/C227)
   - 65C-9 series   (65C-9/55C-9/45C-9/36C-9/30C-9/25C-9/28C-8/22C-8)

2016-05-30 driver package v1.11
   - added new models:
   - bizhub C368 series   (C368/C308/C258/C287/C227)
   - 36C-9 series   (36C-9/30C-9/25C-9/28C-8/22C-8)

2016-05-17 driver package v1.10
   - added new models:
   - bizhub 958 series   (367/287/227/958/808/758)
   - 95BW-9 series   (36BW-8/28BW-8/22BW-8/95BW-9/80BW-9/75BW-9)

2016-03-23 driver package v1.9
   - bugfix in filter

2016-01-04 driver package v1.8
   - bugfix in filter

2015-09-30 driver package v1.7
   - new function "printer driver encryption"

2015-08-11 driver package v1.6
   - new install script
   - added "External Server Authentication" setting
   - changed default page size to A4
   - added new models:
   - bizhub 367 series   (367/287/227)
   - bizhub C368 series   (C368/C308/C258)
   - bizhub C3850 series   (C3350/C3850)
   - bizhub 4750 series (4050/4750)
   - 36BW-8 series   (36BW-8/28BW-8/22BW-8)
   - 36C-9 series   (36C-9/30C-9/25C-9)
   - C MF385-1 Series   (C MF385-1 / C MF335-1)
   - BW MF475-1 Series   (BW MF475-1 / BW MF405-1)

2014-08-20 driver package v1.5
   - optimized filter: less memory usage
   - additional code for using default settings when printing from non-GUI applications
   - debug information will no longer be written to a separate file, but can be output to the CUPS error log
   - fixed install script

2013-11-13 driver package v1.4
   - added SafeQ support (using different user name)

2013-10-16 driver package v1.3
   - added new models:
   - bizhub 754 series   (754/654/754e/654e)
   - bizhub 554e series   (554e/454e/364e/284e/224e)
   - 75BW-5 series   (75BW-5/65BW-5/75BW-5e/65BW-5e)
   - 55BW-5e series   (55BW-5e/45BW-5e/36BW-5e/28BW-5e/22BW-5e)

2013-08-23 driver package v1.2
   - added PSES Authentication
   - added "e"-models
   - correction of translation strings for Generic
   supported products (Konica Minolta)

- bizhub 423 series   (223/283/423/283)
- bizhub 652 series   (652/602/552/502)
- bizhub 754 series   (754/654)
- bizhub C360 series   (C220/C280/C360)
- bizhub C652 series   (C652/C602/C552/C502)
- bizhub C364 series   (C224/C284/C364/C224e/C284e/C364e)
- bizhub C554 series   (C554/C454/C554e/C454e)
- bizhub C754 series   (C754/C654/C754e/C654e)
- bizhub C35 (only with special firmware)
supported products (Generic)
- 42BW-4 series   (22BW-4/28BW-4/42BW-4/28BW-4)
- 65BW-3 series   (65BW-3/60BW-3/55BW-3/50BW-3)
- 75BW-5 series   (75BW-5/65BW-5)
- 36-C1 series   (36C-1/28C-1/22C-1)
- 36C-6 series   (36C-6/36C-6e/28C-6/28C-6e/22C-6/22C-6e)
- 55C-6 series   (55C-6/55C-6e/45C-6/45C-6e)
- 60C-6 series   (60C-6/60C-6e/60C-7/60C-7e)
- 50C-2 series   (50C-2/50C-3/45C-3/45C-4/45C-5)

2013-03-27 driver package v1.1
  Filter version 1.0.2
  - ID&Print: public user when no authentication is set
  - support for overwrite driver settings using a file in the users home folder
  PPD files
  - multilanguage support (EFIGS)
  supported products (Konica Minolta)
  - bizhub 423 series   (223 / 283 / 423 / 283)
  - bizhub 652 series   (652 / 602 / 552 / 502)
  - bizhub C360 series   (C220 / C280 / C360)
  - bizhub C652 series   (C652 / C602 / C552 / C502)
  - bizhub C364 series   (C224 / C284 / C364)
  - bizhub C754 series   (C754 / C654)
  - bizhub C35 (only with special firmware)
  supported products (Generic)
  - 42BW series
  - 65BW series
  - 36-C1 series
  - 36C-6 series
  - 60C-6 series
  - 50C2 series

2012-09-06 driver package v1.0
  - initial version
  supported features
  - Secure Print
  - BoxPrint
  - Authentication
  - AccountTrack
  - CopySecurity
  - Date/Time Stamp
  - Page Number Stamp
  - page logging (in CUPS)
  supported products
  - bizhub 423 series
  - bizhub C360 series
  - bizhub C364 series
  - bizhub C754 series
  - bizhub C35 (only with special firmware)