



WinIPDS Administration Guide

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1 About this Guide

This guide has for purpose to cover the following:

- The WinIPDS installation process.
- Different ways to manage the program in a Windows environment
- Elaboration of challenges related to IPDS printers versus Windows drivers.
- A supplement to the Online Help, FAQs and other guides found on the WinIPDS product portal http://www.intermate.com/WinIPDS_support.

2 About WinIPDS

Intermate's WinIPDS is a software-based print server, powered by IPDS Ultra technology.

When you print from the host, it will send the job to the PC's IP address or host name and a Service Port. WinIPDS converts and redirects the print stream from itself to Windows driver through the GDI (Graphical Device Interface).

Once the print stream is redirected, the Windows driver will format the print to the output device. This means that IPDS printing is possible on any output device that has image printing capabilities. This includes physical devices such as laser printers and thermo transfer printers as well as electronic output such as PDF and TIFF image.

WinIPDS installs as a Windows Service. You configure and monitor the print server and the IPDS Services through a web-browser-based Administration GUI. Performance is dependent on the PC's capabilities, and the efficiency of the driver in conjunction with the output device.

The software can be downloaded free for trial purposes. In Demo mode all output includes a banner and only one input/output session is supported. IPDS Color printing (graphics and full images printing) is support in Demo mode. To enable production printing without the banner, a license key can be purchased online at the Intermate web site at: <http://www.intermate.com/ipdssoftware>

For full specifications, including the supported IPDS Print Platforms, please refer to the product data sheet, and to detailed specifications of bar codes, fonts, and code pages, all available via the product support portal at http://www.intermate.com/WinIPDS_support

This product replaces the Intermate IPDS Client 2005. You can upgrade directly from IPDS Client 2005 to WinIPDS.

3 Before you start the installation

3.1 Software and hardware requirements

This program should be installed on a PC that can function as a server in your network environment.

Usually this means that the PC should have a fixed IP address. Alternative: Your network administrator may allow or even require registration of the PC by hostname.

Windows XP or Windows 2000. Processor minimum 1GHz - for example Pentium III. Performance is dependent on the PC's capabilities

The program installs as a Windows Service. Administrator rights are required to run the install program and to manage the Windows Service (start, restart, stop).

If a personal PC firewall is used on the host computer (for example the firewall in Windows XP SP2), you need to manually open the port for the Administration GUI selected in the installation process, and also for the ports used to print IPDS to.

The WEB GUI used for PMG administration (configuration, monitoring) uses frames. JavaScript must be enabled on the browser. The install program allows you to select the browser to use from those installed on the computer.

The program itself takes up 10 Mbyte of disk space, but can consume significantly more for IPDS fonts and other resources downloaded from the host. Calculate very roughly with an average of 50 KB per captured non-DBCS font set and 55 MB per DBCS font set. The sizes of other cached resources (container objects) vary depending on the resource type.

3.2 Optional GateManager pre-requisites.

The WinIPDS can optionally be remotely managed over the Internet by the GateManager. <http://www.gatemanager.dk/>.

You must have an account on a GateManager server in order to do this

You also need the following information from your network or solution administrator

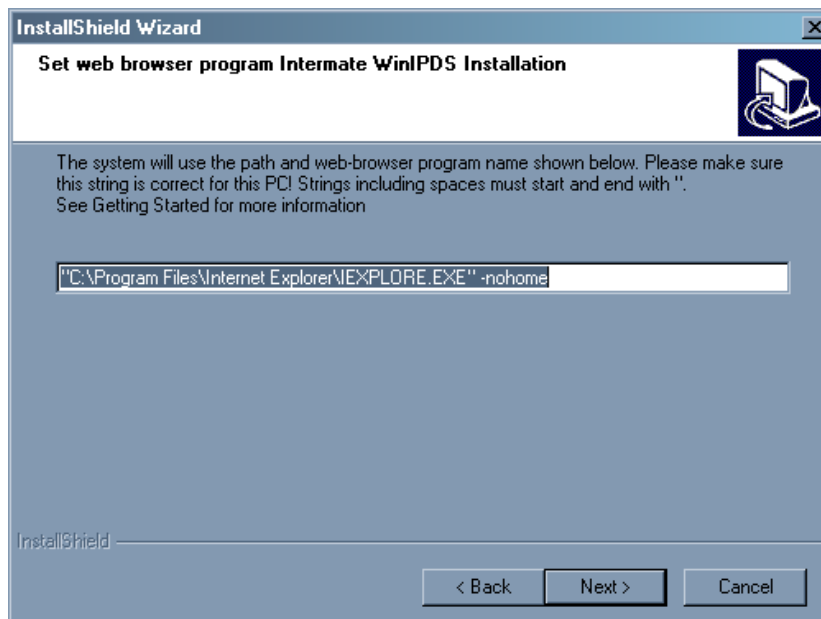
- IP address or DNS Name for the "Primary" GateManager Proxy
- Preferred Protocol if different from the default (HTTPS/TLS (port 443))
- Web-proxy settings if relevant
- GM Domain Token

4 Installing the WinIPDS

The install file is called something like G52-30b1-016.exe. G52 is the program module code. 30 stand for release 3.0. b1 gives additional information used by Intermate. 015 is the build number for the product.

Double-click the file to start installing and follow the instructions. The installation program includes instructions, but her are some items you might want extra information about:

1. The screen with the destination location will suggest **C:\Program Files\Intermate\WinIPDS**, unless you are upgrading from the IPDS Client 2005. In that case the installation will suggest **C:\Program Files\Intermate\IPDS Client 2005**. Do not change this, as it will ensure that your old shortcuts and configurations will still work.
2. The installation program will try to detect the PC's default browser. If it cannot, it will always suggest the following:

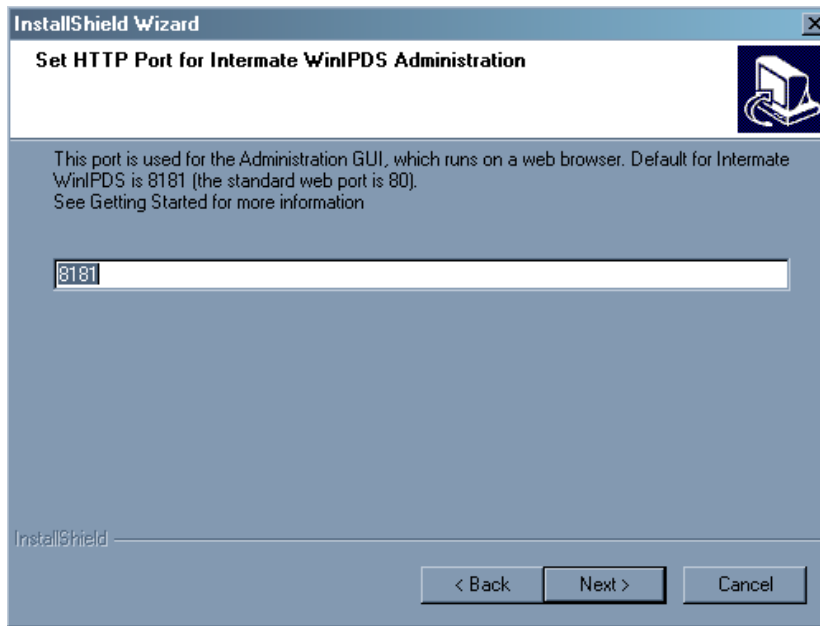


you can overwrite this choice. For example if you want to use Firefox instead, type in:

"C:\Program Files\Mozilla Firefox\firefox.exe"

The quote marks are necessary if there are any spaces in the path name. In these examples, there is a space between Program and Files - and another space within each of the program folder names.

3. Set the port to be used for the Administration GUI. The install program will propose port 8181. Do not change this unless you know that UDP or TCP port 8181 is used for other purposes on the PC where you will be running this product.



If in doubt, you can open a command prompt and type:

```
netstat -a -n
```

Look at all the TCP ports where the State is "Listening". If you find that port 8181 is used, enter a different, unused port

4. The last screen will allow you to choose that the Administration GUI will open automatically in a web browser when the installation finishes. Select the **Quick Setup** from the administration menu. This will guide you through the basic configuration needed to get the product configured to print IPDS.

5 Ways to Access the WinIPDS Administration GUI

After installation, where you can start the GUI from the final installation screen, there are several ways to attach to the Admin GUI:

5.1 Local access

If you are logged on to the computer where the WinIPDS is running, double click on the short cut to the Administration GUI. The short cut is found in your programs folder under “Intermate → WinIPDS” (If you are upgrading an IPDS Client 2005, under Intermate → IPDS Client 2005)

OR: open the browser. Type `http://` and the loop-back address - typically 127.0.0.1 – followed by a colon and the port number in the address field. For example `http://127.0.0.1:8181`

5.2 Remote access

You start the WinIPDS Administration GUI from another PC, by opening a web browser and type in the address of the PC running the WinIPDS, for example: `http://10.100.68.42:8181`. Note that the PC running the WinIPDS may have port 8181 blocked for external access in a Personal Firewall, and you may have to log in locally to unblock.

5.3 Remote access via GateManager

The Gatemanager access is established from the WinIPDS application to the Gatemanager server, and therefore the connection is established inside-out of the personal firewall on the PC, and any other firewall between the PC and the Internet.

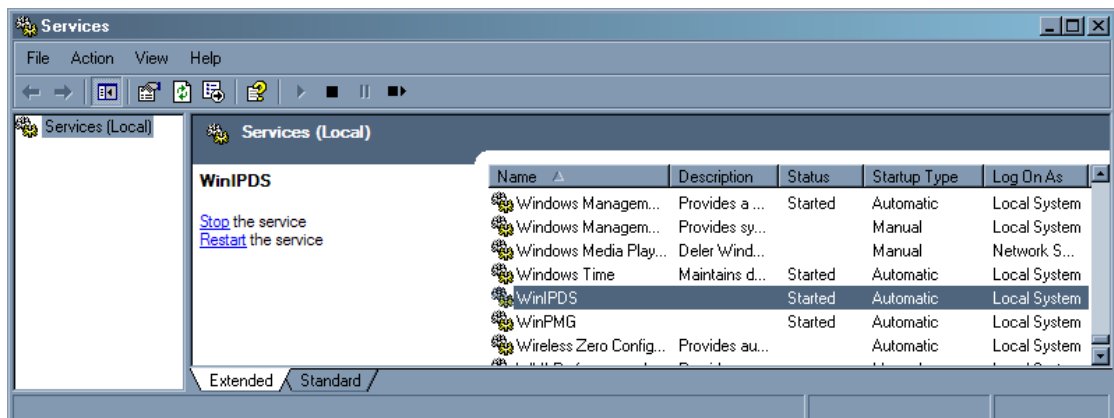
Once the WinIPDS is enrolled in a GateManager, remote access to the Administration GUI of the WinIPDS can be done via the GateManager Console using "Go To Appliance". This access is encapsulated inside the connection already established from the WinIPDS to the Gatemanager, and therefore no ports needs to be unblocked on the PC running the WinIPDS.

6 Managing the WinIPDS Windows Service

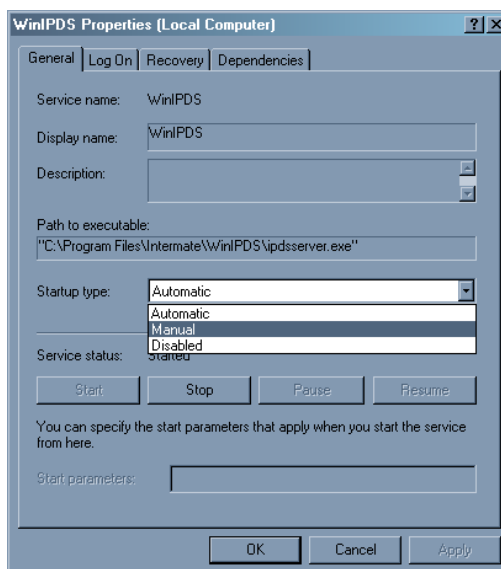
When you install the program, the Windows Service WinIPDS is automatically started, and the “Startup type” is “Automatic”. This means that the Windows Service starts every time you start the PC.

Restarting a Windows Service affects the WinIPDS in the same way that rebooting an IPDS printer does.

If you want to change the Startup type, enter the Windows Services menu (From the Start Menu select: Settings → Control Panel → Administrative Tools → Services).



Right click the WinIPDS Service and choose Properties



If you do not want the WinIPDS Windows Service to start automatically every time the PC is started, change the Startup type from Automatic to Manual. From that point on, you must use Computer Management every time you want to Start the Windows Service.

6.1 Running the WinIPDS Windows Service in “Windows Service User Mode”

By default, the IPDS software runs as a Windows Service in “Local mode”. Since the WinIPDS is supposed to run without a user logged in, actions requiring a user login are blocked. Detection of network printers is one such action - and another is working with a file dialog, for example to give a name to the output file.

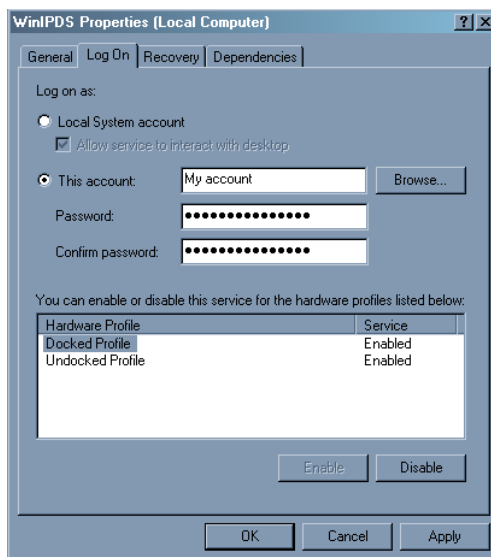
Associating the Windows Service with a local User account will make network printers for that account available to the WinIPDS, as well as file dialogues will appear when the use is logged in. Another alternative is to run the WinIPDS in Console Mode (described in another appendix)

Important Notes about running the WinIPDS in Windows Service “User mode” :

- If the password for the User account to which the WinIPDS is associated with changes, the WinIPDS Windows Service will stop working. There will be no warnings or notifications.

To change the WinIPDS Windows Service to run in User mode:

1. Enter the Windows Services menu (From the Start Menu select: Settings → Control Panel → Administrative Tools → Services).
2. Right-click the Windows service called WinIPDS, and select Properties.
3. Select the Log On tab.
4. Select Local System Account and Allow service to interact with desktop. This will ensure that pop-up dialogues will appear when e.g. printing from WinIPDS to a Windows driver that pop-up a dialog (e.g. print to file, or print to PDF)
5. To also have Network drives appear in WinIPDS, you must associate an account with the Windows service. Enter the account whose associated Network printers should be detected, and enter the password that account normally uses to log into Windows.



6.2 Running the WinIPDS in “Application Console Mode”

By default, the IPDS software runs as a Windows Service in “Local mode”. Since the WinIPDS is supposed to run without a user logged in, actions requiring a user login are blocked. Detection of network printers is one such action - and another is working with a file dialog, for example to give a name to the output file.

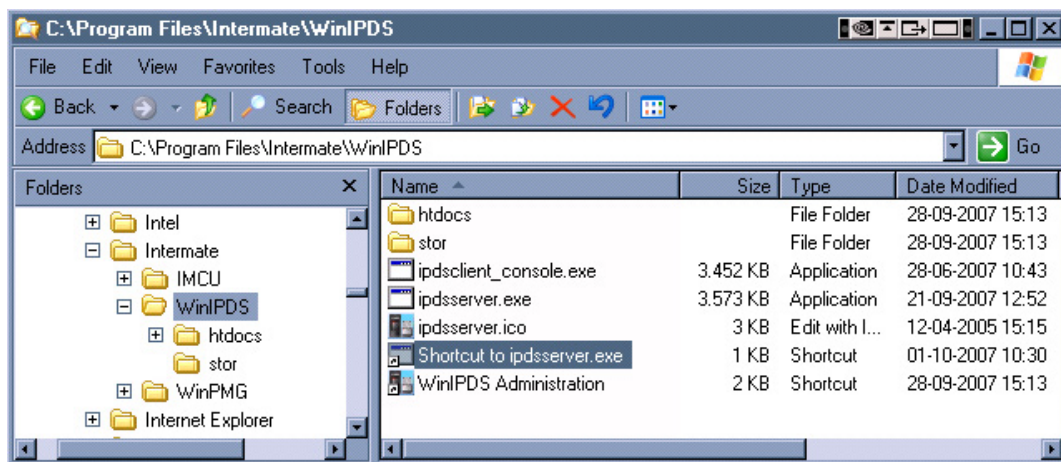
Running the WinIPDS as an application in Console Mode will make network printers for that Windows account available to the WinIPDS, as well as file dialogues will appear when the user is logged in. Another alternative is to run the WinIPDS in Windows Service “User mode”.

Important Notes about running the WinIPDS in console mode

- To use the WinIPDS in application console mode you must log in to the account for the user whose Startup folder includes the shortcut. I.e. if the PC auto-starts after a power failure, the WinIPDS application will not start until the user has logged in.
- The ipdsserver.exe application can only be stopped from the Processes folder in the Windows Task Manager.

To change the WinIPDS installation to run in Console Mode do the following:

1. The software must first be installed in the usual way.
2. Stop the Windows service and configure it to start manually.
3. Enter the program folder where the ipdsserver.exe is located: (usually C:\Program Files\Intermate\WinIPDS)
4. Right-click on ipdsserver.exe, and create a shortcut.



5. Right-click the Shortcut and modify the Target properties to append the “-application” parameter:

“C:\Program Files\Intermate\WinIPDS\ipdsserver.exe” -application

Make sure that there is a space between the closing quote mark and -application. The

"application" argument will start the WinIPDS as a console application.

6. Now copy or move the shortcut to the Startup folder for the user account to which the startup of the WinIPDS should be associated. The Startup folder is usually found here:

C:\Program Files\Documents and Settings\\Start Menu

7 Managing Printer Drivers

7.1 Nice to know about Windows Printer drivers in relation to WinIPDS

After installation, the first time you select Configuration → Printer Drivers in the WinIPDS Administration GUI, the list will be blank. Click the “Update” button. The WinIPDS will detect all Windows drivers that are installed as “local” printers on the PC.

Windows Network Printers will not be detected as default. To enable that you will need to run the WinIPDS in either “application Console mode”, or in “Windows service User mode” (see specific section about that)

In order to coordinate changes in Windows drivers with WinIPDS configurations, you should also click on Update any time a new Windows driver has been added to or modified on the PC running the WinIPDS.

Nothing you configure in the WinIPDS will affect the Windows driver’s configuration.

Unfortunately there are not standardized terms for trays, paper sizes and paper types. It has different meaning on IBM host systems, and even among different printer manufacturer’s Windows drivers. The following is a comparison based on the terms used by HP:

WinIPDS	HP Windows Driver
Detected Tray	Type (The could best be described as the media or form type, such as Plain or Transparency)
Paper Type	Size (such as Letter, A4 etc.)
IPDS Tray # (The IPDS Tray # is reported to the host as “Media Source” in combination with the size)	Tray

The WinIPDS detects and uses information from the Windows driver. However, once you have Saved an “Input Tray” page, the Windows’ driver’s choice of Paper Type setting for a given tray will be ignored and overwritten by the WinIPDS.

Paper sizes for individual trays set in the Windows driver will not be reflected in the WinIPDS. The Windows GDI driver system simply does not provide that information. WinIPDS can only detect the default Paper Type for the driver, and that will usually be generic for all trays. Therefore the driver in WinIPDS will usually have the same Paper Type for all trays. If you save a choice of your own, the settings in the Windows printer driver will not over-write your settings in the future. Your choice will be used to inform the paper dimensions for that Tray back to the IPDS host, and to inform the Windows driver what paper type to use when printing.

A Windows driver may have disabled a tray without this being visible in the WinIPDS GUI. Remembering to “Update” the main page for Printer Drivers after any changes to the Windows drivers can prevent most problems, but Windows has been known to do unpredictable things. A Windows printer driver may also add a new Paper Type (e.g. as result of reconfiguring the printer or updating the printer firmware). Performing an Update should add this new Paper Type to the driver inside WinIPDS, as well as any new paper sizes. In some cases this may not work as expected, and you may have to delete the driver inside WinIPDS (press the Delete button next to the detected driver) and perform an Update to re-detect it with fresh settings. Note that this action will delete any configuration settings you may have made in

WinIPDS on that driver (IPDS Tray # associations, offsets, custom paper etc.). Also you should check that the IPDS Service using that driver still refer to it after the Update.

In some drivers, Offset X and Offset Y may not work in duplex.

If you delete or rename a Windows driver used by an IPDS Service while it has an active host session underway, the print will fail. There will be no error reported to the host, but there will be an error message in the WinIPDS Error Log.

If you delete or rename a Windows driver without also actively performing an Update on the WinIPDS Printer Drivers main page, and then try to print on a service targeting that driver, the print will fail. There will be no error reported to the host, but there will be an error message in the WinIPDS Error Log.

You can prevent most printing problems by using the following procedures:

	Before change	After change	
Procedure→ Windows driver change↓	Stop IPDS Service (Actions: Halt/Start Service)	Update "Configuration: Printer Drivers" (main page)	Check/adjust Tray and Paper Type settings on "Configuration: Printer Drivers > Input Trays"
Add		✓	✓
Modify	✓	✓	✓
Delete	✓	✓	

7.2 Relations between WinIPDS and the Windows driver resolutions

Under the "Miscellaneous" setup for a driver you can configure resolutions.

"Any" means that the exact resolution used by the job gets used in the output. This is the ideal setting, and it is provided as default, but it is not supported in all printers. You may have to experiment.

Some printers - for example many thermo transfer printers - have a Maximum Resolution in dpi (usually shown in Properties for the Windows driver under the "General" tab). If the target printer for the Printer Driver you are configuring is limited in this way, and the maximum is one of the four values provided under "Select", set a mark in the appropriate checkbox. If not, choose "User-Defined" (and then enter values for DPI x and DPI y). If you use "Select", besides marking the maximum resolution, you can mark lower resolutions.

If the job uses resources with a resolution other than the one(s) marked, the WinIPDS will re-scale output to the closest of the marked resolutions or to the highest possible of the marked resolutions. This depends on the type of fonts and graphics found in the output.

8 IPDS printing in relation to personal firewalls and ports

8.1 IPDS Services

IPDS Services should not be confused with the Windows service. The WinIPDS Windows Service is the application itself, and could be compared to an IPDS Printer being powered on. The IPDS Service is identified by a port number that it establishes to listen on incoming connections. I.e. when an IPDS Service is activated a listen socket is established on the Windows PC.

There are two aspects to consider:

- That the port does not conflict with a port used by another application.
- That the port is not blocked by a personal firewall.

Typically the default port 5001 is not used. You can verify which ports are used by entering the following command in a command prompt:

```
netstat -a -n
```

As for personal firewalls the IPDS Port 5001 will probably be blocked as default. Refer to the Quick Setup guide available through the Administration GUI, for a description on how to open for the printing ports on Windows XP built-in firewall. For other firewalls you should investigate the procedures for your product

8.2 IPDS Capture

The IPDS Capture program used for capturing IPDS data for analysis by technical support is using port 5560. If you are running the IPDS Capture program on the same PC as the WinIPDS, you will probably not have to change the personal firewall settings. If you are making the IPDS Capture to another PC in the network, you must unblock port 5560 on the PC where the IPDS Capture program is run.

You may still want to check on the PC running the IPDS Capture program, that the port is available by running the following command in a command prompt:

```
netstat -a -n
```

The port for the IPDS Capture program is fixed, so if there is a conflict, you will need to identify the application or windows service that has is using this port, and close it.

9 Appendix A: Documentation overview

Installed with the program:

- Quick Setup explains the minimum steps to get the WinIPDS ready for IPDS printing.
- Online help serves as an extensive options reference manual.

Available on the Product Support Portal http://www.intermate.com/winipds_support

- Admin Guide (this guide) supplements the Quick Guide and Online Help with additional information on administration of the product.
- Release notes (txt file) explains about changes, bug fixes and known limitations of your current version.
- Host Setup Guides, detailed specifications on how to configure your AFP/IPDS hosts to print to the WinIPDS.
- Various Descriptions of supported bar codes, fonts, object containers and code pages - plus information on managing TrueType fonts.
- IPDS “Page” concepts and terms as implemented in the WinIPDS. This goes in depth with the challenges related to margins, VPA settings and page rotation.
- Support Diagnostics Tools. IPDS Capture and Replay programs
- Questions and Answers (FAQs)

10 Appendix B: If you forget your password

If you forget your password, follow these steps to reset it to admin:

1. Close the WinIPDS Windows service.
2. Using the Windows explorer, go to the folder "C:\Program Files\Intermate\WinIPDS\stor"
3. Delete the file PlatformConfig.
4. Start the Windows service again.
5. Now you can log in using the default password admin.
6. The following additional items will also be reset to default, so you must configure them again:
7. Configuration: Identification. Device Name, Device Location, Administrator Contact, Organization.
8. Status: Overall Status: Settings for Enable Autorefresh, Refresh interval, "Suppress status"
9. Actions: Enter License Key: You must re-enter your License Key if you already have one.

11 Appendix C: Copying a configuration from one PC to another

You can manually copy a WinIPDS configuration from one PC to another.

1. It is advisable that the PC you want to copy to have the same WinIPDS release level as the PC you are copying from. So upgrade each PC's WinIPDS to the latest version or at least the same level before continuing.
2. Ensure that the Windows Printer Driver(s) you want to use have exactly the same name on the second PC as they have on the first. To obtain the exact same behaviour of the driver the configuration of the driver itself must be identical (e.g. if you have configured the driver to use a specific finishing option such as hole-punch, this must be configured on the second PC also. Windows provides no standardized way of transferring settings of one driver to another in Windows).
3. Copy the files IpdsConfig and TargetOption in the folder "C:\Program Files\Intermate\WinIPDS\stor"
4. Login to the WinIPDS administration GUI on the second PC.
5. Select Configuration: Printer Drivers on the menu.
6. Click "Update".
7. Select Configuration: IPDS Services on the menu.
8. You should see all of the Windows Drivers in the Output Driver pull-down list. Define at least one IPDS Service for each Driver you want to use.

If you have two WinIPDS installations, you can open both and easily compare configurations. Use the shortcut on your own PC to your own WinIPDS; open a second browser and type in the IP address - for example <http://192.168.2.209.42:8181>.

12 Appendix D: IPDS Position Check

The Position Check is part of IPDS control architecture. It validates if the print element will exceed the Valid Printable Area (The common denominator between the Printable Area and the print element). If a positional check discovers a discrepancy, a number of mechanisms for adjusting the print element positioning, while printing, are available. The WinIPDS gives you 5 different possibilities to overcome VPA exceptions, without having to re-master the document. In the menu Configuration > IPDS Services > Emulator Setup: Valid Printable Area (VPA) you can choose between: Border, Move, Edge, Fit and Move Alternate. Only minor discrepancies can be adjusted, if you have a discrepancy of e.g. 1 inch, you have to re-master the document. Positional checks will generate VPA Exceptions if discrepancies are found. This exception can usually be seen in the print operator log – depending on the host setup. The WinIPDS will use these VPA Exceptions to prevent printing or, if VPA Exceptions are suppressed (Configuration > IPDS Services > Emulator Setup: Reporting Suppression) to perform Clipping of the Logical Page.

If you experience a VPA exception and you are not sure what provoked it, try to suppress VPA exceptions in Configuration > Services > Emulator Setup: Reporting Suppression and print the page again. The printout will now be processed and excess print elements will be clipped. The output result may give you a hint of what may have caused the VPA Exception. Note that if the discrepancy is large or the print element is small, it can fall outside the paper and can thus not visually be discovered. Likewise can a print element of just a few dots (PEL) be hard to discover visually.

12.1 VPA exception mechanism

1. The host sends a page, that, when processed by the IPDS printer, exceeds the valid page area.
2. The Printer sends a VPA exception to the host.
3. The host can choose to override the VPA and continue printing.
4. The printer must then process the element according to IPDS specifications. E.g. a barcode must be removed entirely, since missing bars may result in wrong readings, while text will be truncated and images will be clipped.

12.2 AFP Terms Explained.

Physical Page Size:

Physical Page is the area of the media (paper) that can be addressed. The property of the Physical page is determined by the physical media (paper, microfiche, etc.). The dimensions of the physical page, aka. 'Media Presentation Space', is the part of the media that can be used for presentation. E.g. the two side 'ribbons' of fanfold paper are not part of the Physical page, as they cannot be used for presentation. A cut sheet paper can use all of its area for presentation purposes. The Physical Page Size is determined by the characteristics of the Paper Type in Configuration: Printer Drivers > Input Trays > Paper Type Specifications, where Extent X (E_x) and Extent Y (E_y) refers to the width and height of the Physical page, given in 1/7200 inch units.

Printable Area PA:

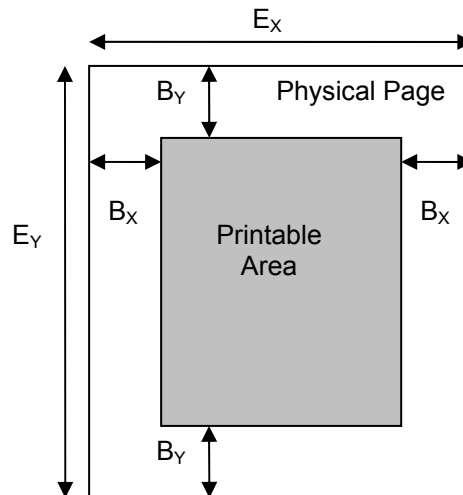
The printable area is the part of the physical page that the printer can address. It is defined in the printer and is reported to the host along with the Physical page size. The Printable Area is

determined by the characteristics of the Paper Type in Configuration: Printer Drivers > Input Trays > Paper Type Specifications, where Border X (BX) and Border Y (BY) refers to the restrains in width and height in relation to the Physical Page Size, given in 1/7200 inch units.

Thus the width of the Printable Area is $(E_x - 2 * B_x)$ and the height is $(E_y - 2 * B_y)$.

E_x = Extent in X direction B_x = Border in X direction

E_y = Extent in Y direction B_y = Border in Y direction



Logical Page:

The logical page is the Print Image, or the area that the host application has used for printable elements. The logical page is thus determined by the host application (e.g. defined in a Printer File). This may often be defined as an arbitrary area, which the programmer has chosen to work on as a desktop area.

Valid Printable Area (VPA):

The Valid Printable Area is the common denominator, between the Printable Area and the Logical Page.

VPA exception:

An exception (code) sent by the printer to the host, if a print element exceeds the VPA

VPA exception suppression:

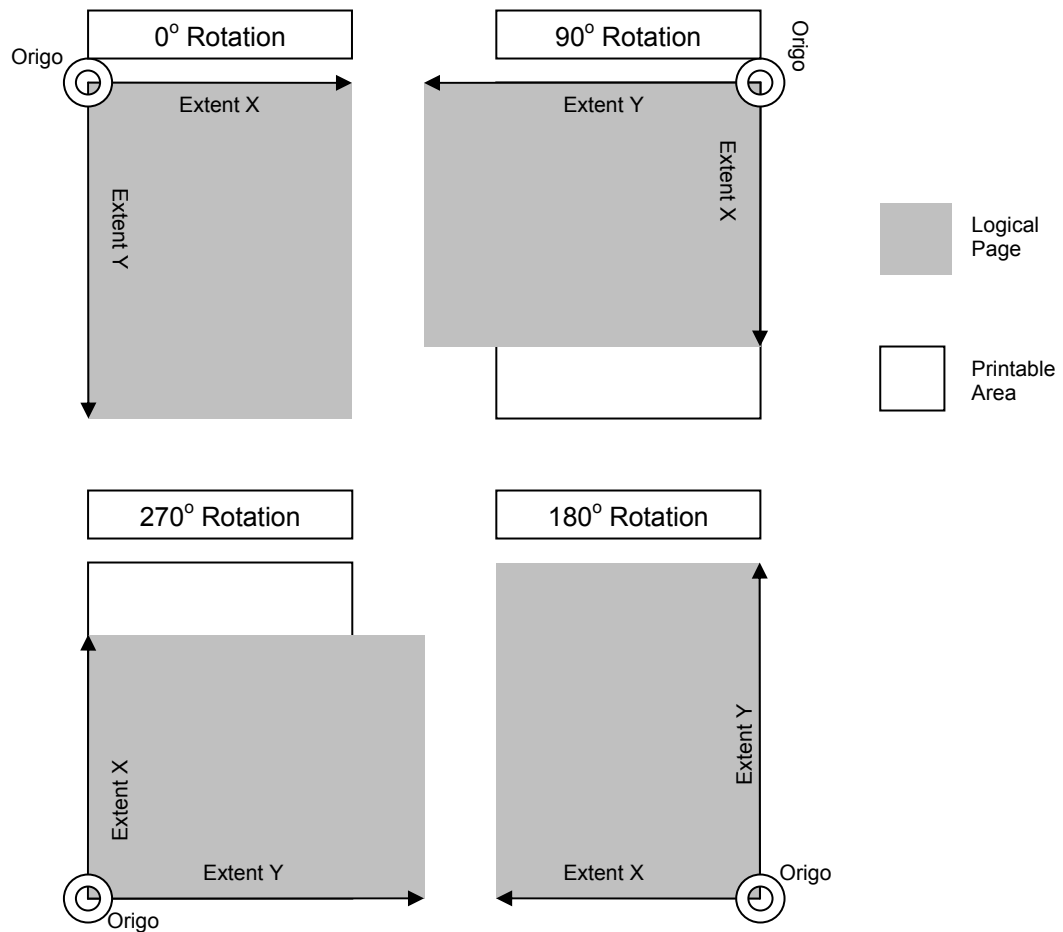
An option in the printer to suppress reporting of printing outside the VPA, that typically results in clipping or removal of the print element exceeding the page.

Offset:

A proprietary adjustment of all printed elements, used for supporting legacy printers and applications. The offset has no effect on any of the above, but resembles moving the tractor feeder in a fanfold printer.

Origo:

Origo is a reference point on the Physical Page, where the Extent X and Extent Y starts, usually it is identical to the upper left corner of the Physical Page, but the Physical Page can be rotated. E.g. a 90 degree rotation clockwise will move the Origo to the upper right corner, with Extent X downwards and Extent Y leftwards.

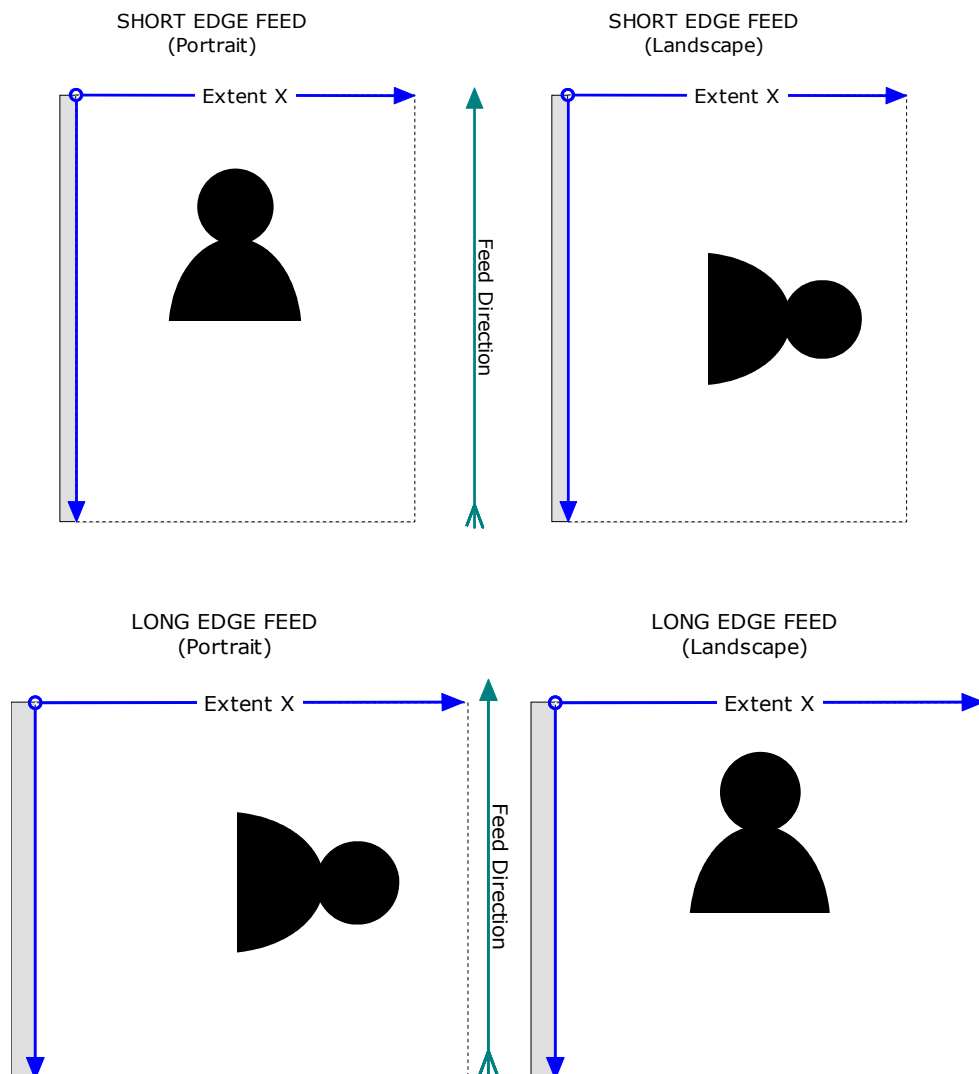


Long vs. Short edge Feed

If paper is fed with its Long Edge first, it is called Long Edge Feed (LEF). If the paper is fed with its Short Edge first, it is called Short Edge Feed (SEF).

Below is shown the relations between Short- and Long Edge Feed and the more generic term: Portrait and Landscape. In IPDS, only Portrait is used, because the image relates only to the logic page. The logical page can then be rotated a given amount of degrees – e.g. 90.

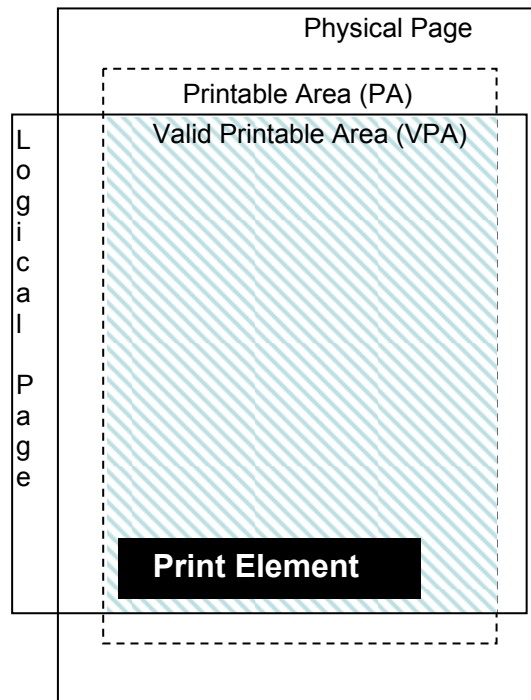
The physical page – the paper – can then be fed short- or long edge. What we see is the intersection between the logic- and the physical page.



12.3 VPA Setting Border (Whole Page)

This setting is the default setting. It is also referred to as the **4028** or **Whole Page** setting. If the Print- Element exceeds the Valid Printable Area, a VPA Exception is reported to the host. The Logical Page is aligned according to the Physical Page. Elements outside the Printable Area are clipped.

Note that the Border Setting will adhere to the border values specified in the WINIPDS Paper Definitions. Thus adjusting these, will adjust the Printable Area. Note that adjusting the Border values will take effect on both margins. That is both Right and Left or Top and Bottom margin will be adjusted symmetrically

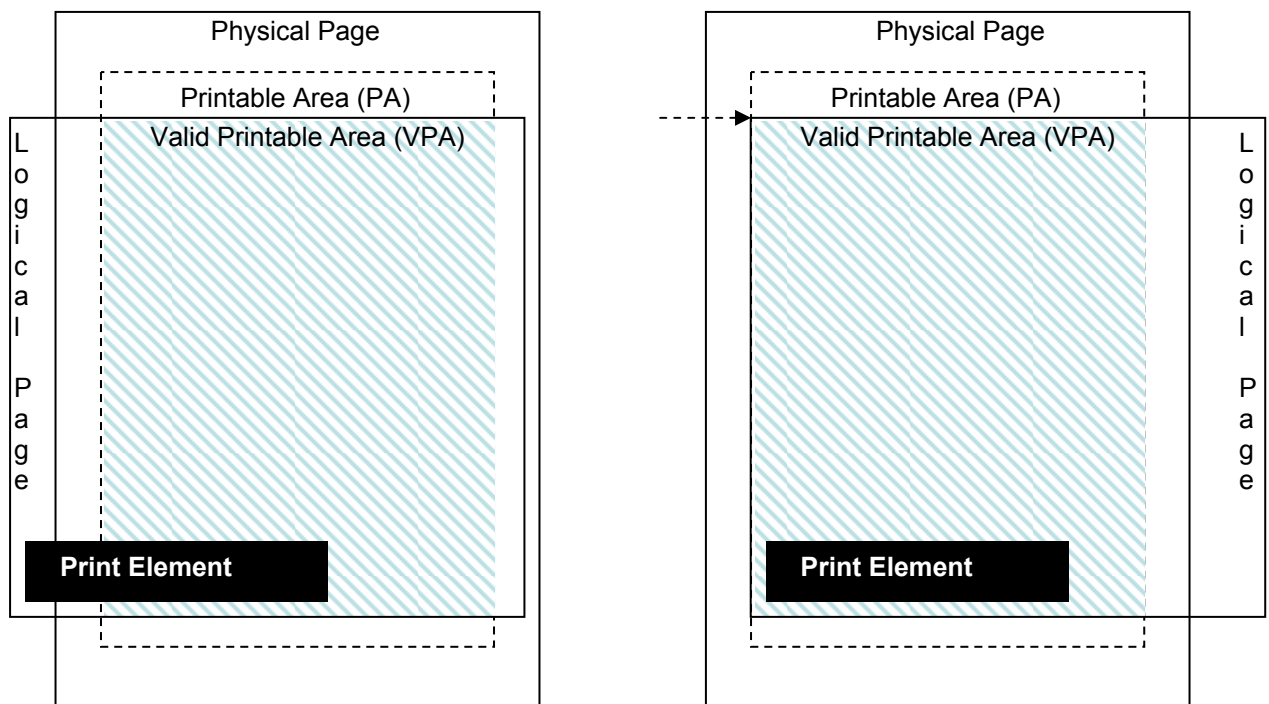


VPA = 4028/Whole Page
Print element is within VPA
No exception is generated.

12.4 VPA Setting Move (Print Page, Trim)

This setting is also referred to as the **Print Page** or **Trim** setting. If one or more VPA exceptions are generated, this setting moves the Logical Page in regard to the Printable Area. This is done by aligning the Logical Page to the top- and/or left edge of the Printable Area in a manner that moves the left and/or topmost print element(s) within the Printable Area. If this results in print elements exceeding the right and/or bottom edge of the Printable Area, they are clipped and VPA Exceptions are reported to the host.

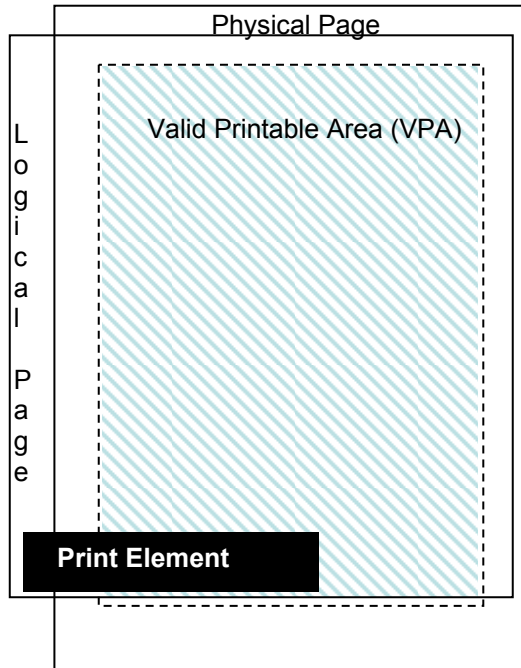
Example 1



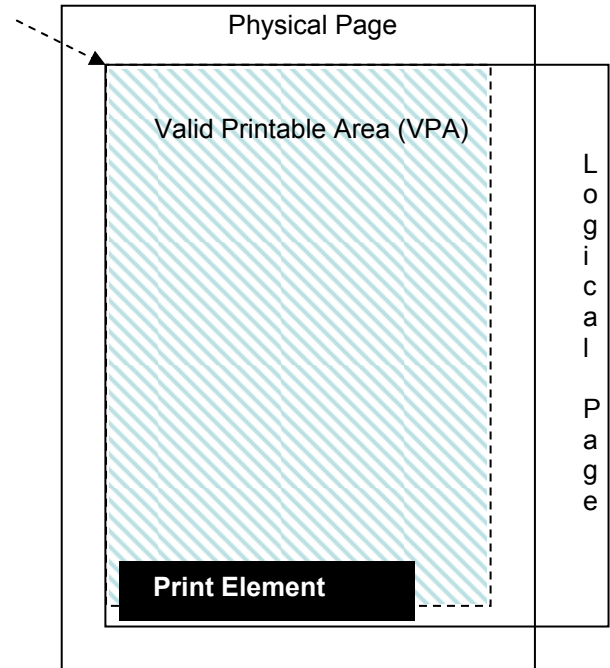
VPA = 4028/Whole Page
VPA exception is generated

VPA option set to "Move/Trim".
Logical Page moved horizontal
Print element is within VPA

Example 2



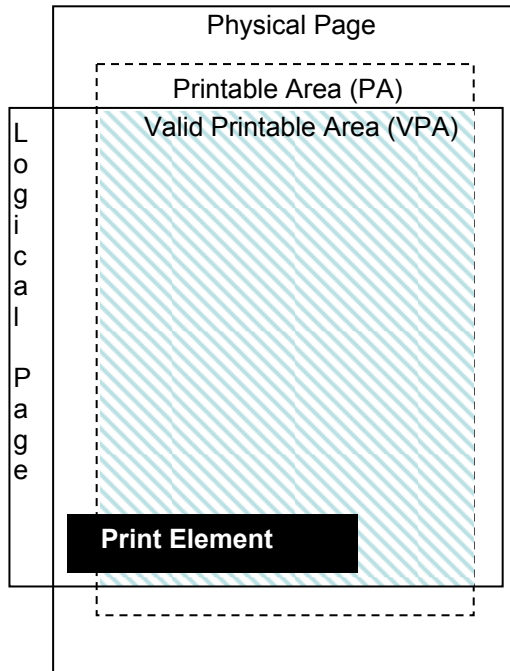
VPA = 4028/Whole Page
VPA exception is generated



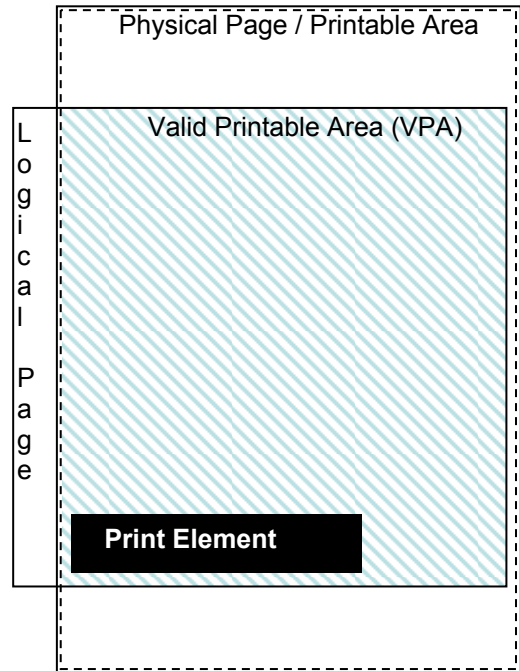
VPA option set to "Move/Trim".
Logical Page moved horizontal and vertical.
Print element is moved outside the VPA and
a VPA Exception is generated

12.5 VPA Setting Edge (Physical Page).

This setting is also referred to as the **Physical Page** setting. If one or more VPA exception is generated, the VPA is extended to cover all of the Physical Page by reporting a border of zero to the host. No VPA Exceptions are reported to the host.



VPA = 4028/Whole Page
VPA exception is generated



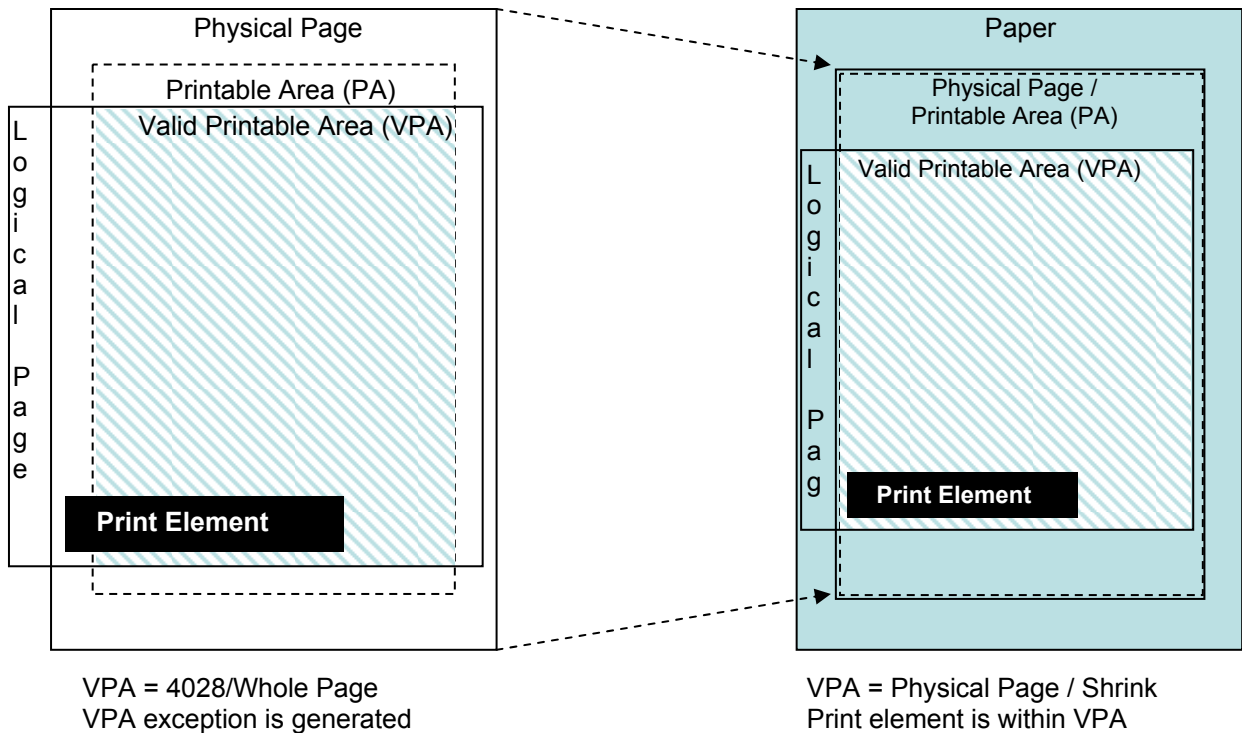
VPA = Physical Page / Shrink
The Printable Area equals the Physical Page, Thus the Valid Printable Area equals the Physical Page and the Print element is within the Valid Printable Area.

NOTE: Requires Edge-to-edge printing capabilities of the printer

12.6 VPA Setting Fit (Full Page, Edge Shrink).

This setting is also referred to as the **Full Page** or **Edge Shrink** setting. If one or more VPA exceptions are generated, the VPA is initially extended to cover all of the Physical Page by reporting a border of zero to the host. Next the New Logical Page is scaled to fit within the Printable Area, considering the Border Values. Finally they are aligned to the Printable Area (as in the MOVE operation).

Note that this setting distorts the height- and width ratio a few percents.



NOTE: Requires Shrinking capabilities of the Backend.
The host still assume page size as for setting "Physical Page"

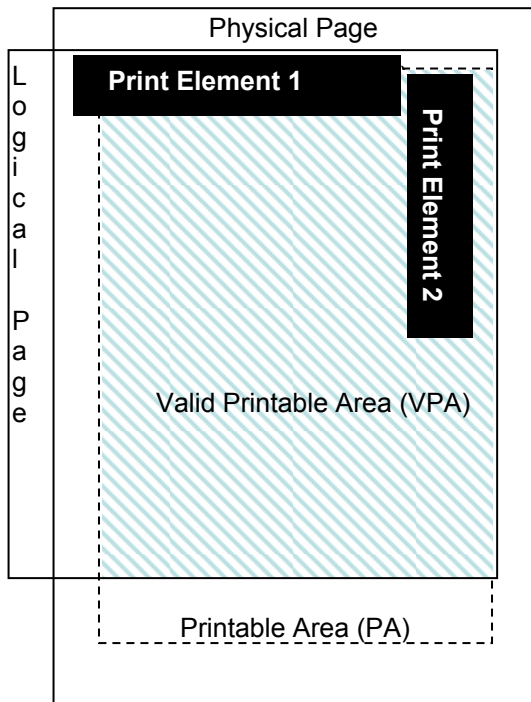
Example:

If Borders X is set to $\frac{1}{2}$ " and the Extent X (the width) is 8", the scale factor is 7:8. That is 2 times borders subtracted from the extent, in relation to the extent.

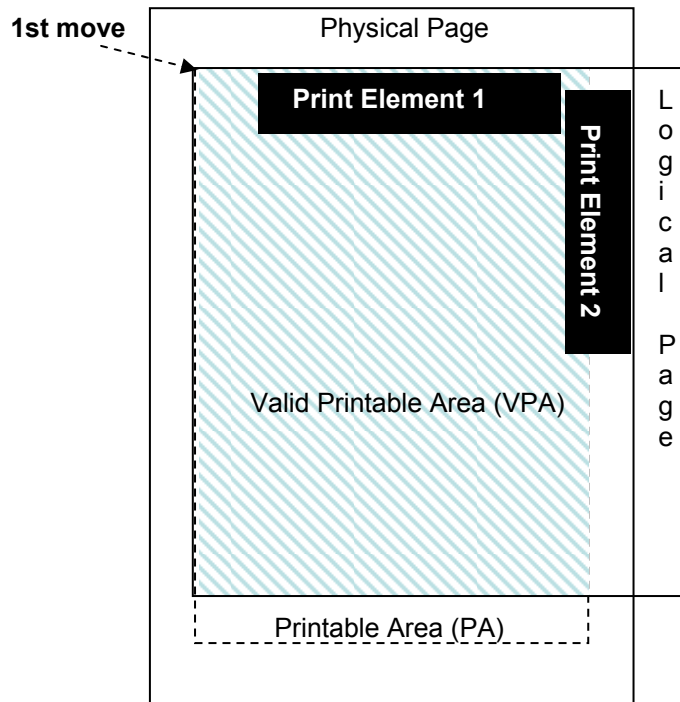
If Borders Y is set to $\frac{1}{4}$ " and the Extent Y (the length) is set to 11", the scale factor is $10\frac{1}{2}:11$.

From this example it can be seen that the scale factor in the x-direction is 87,5% and in the y direction is 95,5%, thus a slight distortion will occur.

12.7 VPA Setting Move Alternate (Print).



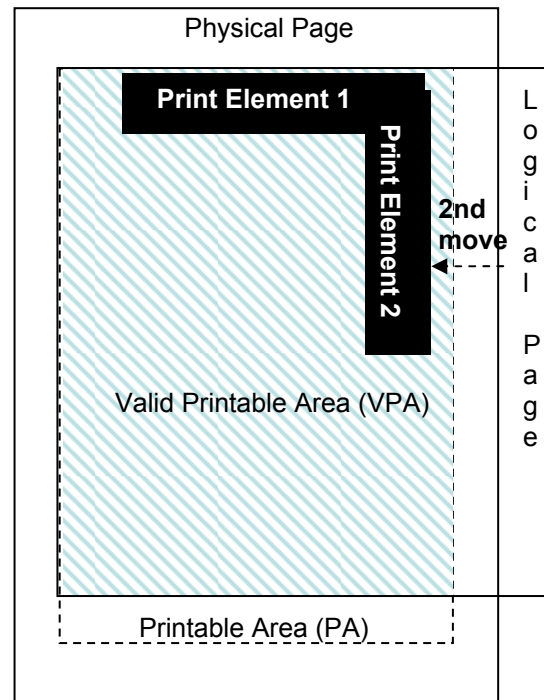
VPA = 4028/Whole Page
VPA exception is generated



VPA option set to "Move Alternate".

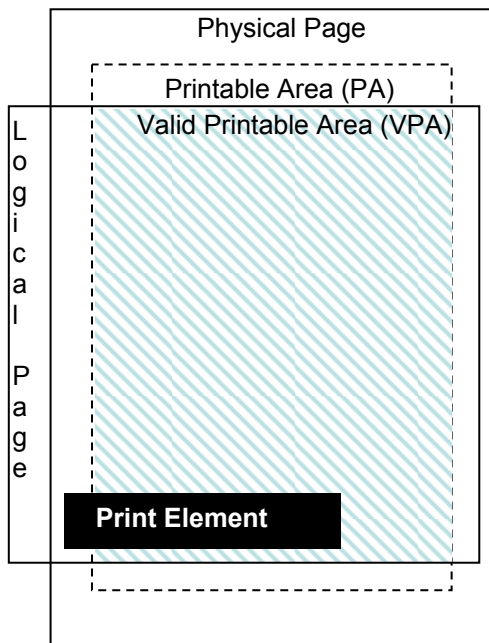
This setting is also referred to as the **Print Setting** in the IBM Infoprint™ 24 series. If one or more VPA exception is generated, this setting - like the move setting - moves the Logical Page to a position where the left- and/or topmost print element(s) are enclosed by the Valid Printable Area. If a new VPA exception occurs and the offending Print Elements relates to the Right- and/or Bottom edge of the Logical Page, the offending print elements are moved Leftwards and/or Upwards to fit inside the VPA.

This setting maintains the Print Elements height- and width ratio, but distorts the Logical Page. This setting is often used in relation to overlays with rotated text, relative to the right and/or bottom edge.

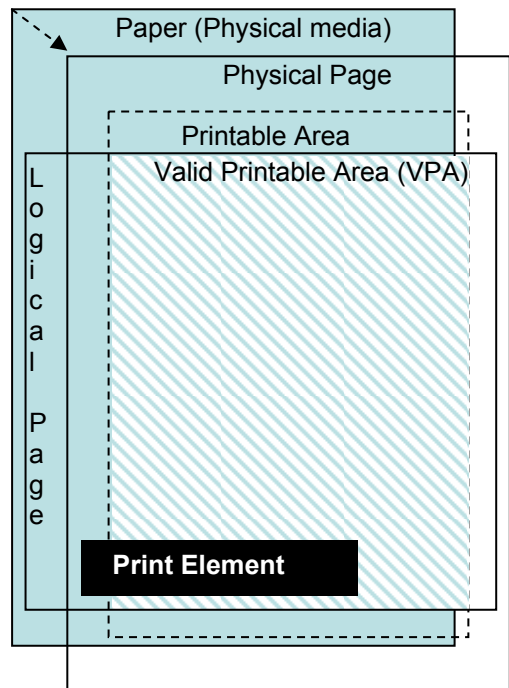


12.8 Tray Offsets will not solve VPA exceptions.

The tray offset is used to move the VPA in relation to the Physical Media (Paper, Microfiche, etc.), and thus has a different usage. Where the above settings manipulated the Logical-, Physical Page and the VPA in relation to each other, this kind of manipulation operates on the Logical-, Physical Page and the VPA – as a whole - in relation to the Physical Media (also called the Sheet), and subsequently cannot be used to avoid a VPA Exception.



VPA = 4028/Whole Page
VPA exception is generated



VPA = 4028/Whole Page
VPA exception is generated

NOTE: Resembles moving the tractor feeder in a fanfold printer

13 Notices

13.1 Publication

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13.2 Acknowledgements

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This product is based in part on the FreeType Software font engine
<http://www.freetype.org/FTL.TXT>

This product is based in part on the work of the Independent JPEG Group.

This product is derived in part from the RSA Data Security, Inc. MD5 Message-Digest Algorithm

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