VDP

GRAPHIC COMMUNICATIONS TECHNOLOGY

VariableDataPrinting

Data

Marketing

Printing

What is VDP?

Variable Data Printing (VDP) is simply the ability to change elements or data from one page of a printed job to the next.

One of the simplest examples of VDP is called direct mail, which is a process of quickly placing the names and addresses of recipients on a mailed parcel. The names and addresses of the recipient changes from parcel to parcel, therefore being variable data. Since the 1980's when direct mail was first being used, variable data printing has exploded in potential and value to many business owners.

The main goal in Variable Data Printing is to effectively and efficiently communicate with a large audience on an individual and personal basis.

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Understanding Variable Data Printing

Variable Data Printing can be classified into two main categories

- Transactional Printing
- Personalized Marketing

Transactional printing includes printed items such as billing statements, and invoices that may look the same, but contains completely different content from one account holder to the next. For example, credit card companies use transactional variable data printing to send millions of unique invoice statements every month to every single customer quickly and efficiently. Without VDP, this process would be extremely time consuming and costly.

Because of the ability to personalize and customize a message to a specific market or even an individual, many companies and businesses can increase sales and revenue by using VDP in their marketing campaign.

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Variable Data Workflow

There are 3 main components to consider when creating a variable data printing workflow.

- Data
- Hardware/Software
- Digital Press

Data is the foundation of a variable data workflow because it determines the target market plus the content and message being delivered. Data allows you to customize and personalize each printed item.

Hardware and software components are essential in creating the items that will be printed and used for marketing. Hardware such as AFI Fiery servers store information and data, while the software allows you to use and manipulate the data. The software needed to create VDP jobs include design layout programs such as Adobe InDesign, and software such as mail merge to place variable data information onto each item to be printed.

The final component in a VDP workflow is a digital press such as the HP Indigo, Xerox iGen, or the Kodak Nexpress. These digital presses produce short run jobs without the use of a printing plate or a master copy to produce images.

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The Importance of Data

The most important element in a variable data marketing campaign is the actual data itself. Without data, a VDP campaign would fail since it controls not only the target recipient but the actual content itself. Accurate data is what drives the placement of personalized items, messages, images, and other variable components.

Essential data encompasses more than just names and addresses. It includes information such as gender, specific interests, regional location, and annual income. As long as the information is accurate, any data is valuable data because it allows for the company to personalize the printed job even further and increase the likelihood of a response.

Inaccurate data can derail any marketing campaign. Minute errors such as the wrong zip code, apartment or suite number, and even spelling mistakes can cause the recipient the throw the item away. Information should not be assumed either, such as gender. If a male customer named Jackie is sent clothing advertisement addressed to Ms. Jackie, the effectiveness of the ad is lost.

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Collecting Data

Data information is constantly being collected in day-to-day tasks such as buying groceries, going shopping, and surfing the internet. Grocery stores offer discounted prices for using their reward cards while they track and record the item their customers purchase. Credit card companies keep track of past purchases not only for billing reasons, but also to log where customers spend most of their money. Websites log data by asking visitors to sign up for newsletters or participating in one of their partner's surveys or questionnaires. If no previous information or past record histories are available, there are data solution companies such as Martin Worldwide and USA Data, Inc that have extensive databases that are available to rent or purchase.

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Managing a Database

Once information is collected and stored, it becomes a company's database. A database file is made up of tables, records, and fields and software such as Microsoft Excel allows a user to sort through the database and index the file through fields easily. A database should be properly maintained and updated constantly because the VDP software will take the variable information directly from the database. There are a few basic processes to maintaining a database.

- *Cleansing* is the process of removing duplicate information, bad records, or errant characters or incomplete records, which can be done manually or through specialized software.
- *Parsing* is another process that helps to separate or take apart data such as separating first and last names into separate fields.
- *Mining* is a process to analyze the data and extract target lists such as customers that live in certain zip codes or those who enjoy basketball. This allows a business to target specifically whom their VDP job will be sent to.
- *Modeling* is a process of using the current data attributes to help build profiles that will be added as more data is collected.
- *Merge/Purge* is the process that cleans a database using software to analyze all the data and look for duplicates and remove them from the file.

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Using the Data Efficiently

The best data is accurate and correct data, as long as it is correct. The reason for collecting as much accurate data as possible is to target a more specific market so a company knows whom they are sending their mailer to and why. It isn't how much data is used in each variable piece, but how well it is used to market and personalize.

When a company starts a marketing campaign, they decide the purpose for their campaign and also establish their target market. If a sporting goods company wants to increase sales during the baseball season, they will more than likely send baseball catalogs to those who enjoy baseball rather than those who enjoy golf. It is more efficient to send advertisements to consumers who are more likely to buy than to send "junk mail" to every household.

To learn more about how data is used, refer to Marketing

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Security Overview

Security
Security with any information should always be handled with care. Because the VDP system uses personal information to relate to their clients, it is important to control who has access to this data. The last thing any company wants is to be responsible for its client's personal information getting into the wrong hands. According to governmentsecurity.org, a security structure can help any organization set up and manage an organization and their client's information and investments.

Security Structure
"Without a proper structure you begin to get chaos when it comes to such an important topic as security" (governmentsecurity.org). A security structure can help in the locating and managing of any weak points in the security of one's investments. By having this structure, people will know who is responsible for what and what to do to strengthen any weakness. A security structure can have many different aspects and can vary in many ways depending on the organization. The main purpose of the structure is to address any gray areas that may be left unprotected.

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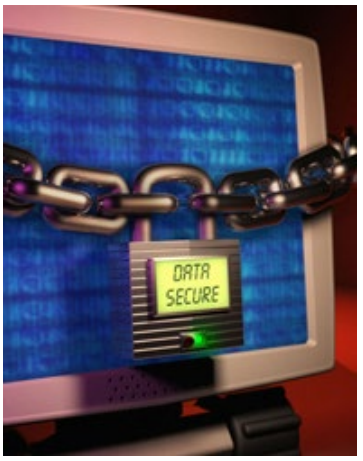
Database Security

External Sources



There are many ways to secure an organization's database. They come in many forms ranging from connecting with a simple name and password to using a unique access card that is actually plugged into the computer. There are some simple ways to use the network to your advantage when you are trying to secure your information. One of the ways you can easily protect your database is by simply hiding it from the public. By doing this only people who know how to connect to the database will have access to the information. Another easy way to protect your database is to only allow certain IP's to connect to your sever. By using these two easy methods you can dramatically decrease the amount of risk of your database from outside sources.

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Transfer Security

Transfer Security
Communication is the key when transferring information to and from the VDP system itself. Both the company sending the files and the printing company need to communicate and have compatible software and protocols in place before the transfer is attempted. Unlike a normal print job, VDP has the ability to include personal information, which should be protected as much as possible. The best way to transfer sensitive information is to encrypt it and to use protected methods of transferring the information. A common way to transfer information is by use of a file transfer protocol or (FTP). The problem with transferring information by FTP is that the information is not secure. But there is a solution to this problem, encrypt the information prior to transfer or use a more advanced transfer method which includes encryption.

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Organizational Security

Within the Organization
There are many ways to secure information within an organization. Limiting the access of information to employees can reduce a company's amount of risk from danger within. By limiting the amount of people who can access personal information and monitoring those who access this information, a company can greatly reduce the amount of risk from within the company. There are many other ways to reduce the amount of risk from within and it can range from a simple login to limiting the amount of information any one employee can have access too.

Security within the VDP System
Once you get the information into the VDP system, there are a few things you can do to protect the data. Information that is sent to the VDP system can actually be encrypted until it needs to be printed. There are also many programs that you can purchase that will encrypt each data entry. By using these programs you can allow certain information to be viewed and anything that you wish to be hidden will be encrypted until print. This gives the printer some leeway if there needs to be any changes without giving away any confidential information.

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The 1:1 Market

Businesses are always looking for new and innovative ways to increase their sales, boost revenue, and establish better relations with their current customers. Companies would rather send consumers advertisements or mailers to those who are interested in its contents rather than those who will just throw it away. Companies starting to find the solution to this problem of "junk mail" through the increase in digital technology and direct marketing.

Direct marketing is defined as any direct communication to a consumer or business recipient that is intended to generate a response in the form of an order, a request for further information, and/or a visit to a store of other place of business for purchase of a specific products or services. Instead of producing and sending 10,000 copies of a printed job that communicates only a single message to each recipient, using variable data can create 10,000 different prints that communicate a specific message to every recipient.

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Personalizing:Successful Marketing

Statistics have shown significant increases in business who use a Variable Data Workflow as opposed to not having one.

- 36% increase in direct mail and marketing response rates
- 25% increase in the average order value
- 34% improvement of response time
- 48% increase in overall revenue
- 32% increase in profit

The increase in numbers and profits is due to an increase in consumer response to the increase levels of personalization and customization. For a clothing company, they could send mens' clothing advertisements to men and a completely different catalog for women.

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Building a Successful Campaign

When planning a VDP solution, a company must decide what kind of response they would like to generate with their direct marketing. Establishing the purpose of the mailer also helps to determine the desired target market. During the planning phase, the focus is on the most effective audience selection, personalization, and response strategy. Planning helps to define the goals of the campaign and understand the use of each data driven variable. A data driven variable may include items such and gender for the salutation, street address, or a specific image to be placed on the item.

<<first_name>> <<last_name>>
<<address_one>>, <<address_two>>
<<city>>, <<state>> <<zip>>

During the design phase, all the components that are going to be used need to be gathered and collected. There are a few items to keep in mind when designing the layout. Postal requirements should be considered when designing the template such as the placement of the address information and postage as well as the actual size of the document. The document should be large enough to fit all the components desired, but small enough so that unnecessary costs are not incurred when the item is actually mailed.

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Layout and Data Merge

The next step would be to start designing the template of the VDP job using document layout software. A template is a designed page layout that includes all of the jobs elements such as pictures, type, and any other visual elements needed to communicate the message. Elements can be either static, which means they will not change from page to page such as the name and logo of the pet shop, or variable, which includes the recipients name and mailing address and other information or elements that will vary from customer to customer. Adobe InDesign and QuarkXpress are two examples of layout software. The requirement of the VDP job determines the sophistication of the software needed. When all the elements are in their desired places on the layout, the variable data needs to be merged into the layout using connecting software. Some software applications have built in connecting applications such as Data Merge for Adobe InDesign. A connector application helps to define the rules for each piece of variable data and allows the data to be smoothly integrated into the job.

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Defining Rules

<<first_name>> <<last_name>>
<<address_one>>, <<address_two>>
<<city>>, <<state>> <<zip>>

Karl Kidd
123 Abcdef Rd., Suite 2
Anywhere, ME 05009

Defining the rules of the variable job ensures the variable elements will be placed in its respective location on the template. Rules aid in making sure all the printed copies look uniform and everything is in the right place and the appropriate content is included. If a salutation is included in the design, then a defined rule for gender will place “Mr.” if the recipient is a male and “Ms.” or “Mrs.” if the recipient is a single or married female respectively. With a pet shop sending coupons to its customers, then a rule is needed to ensure that dog food or toy coupons are sent to canine owners while feline owners receive coupons for cat products, assuming that the coupons have already been created using editing software such as Adobe Photoshop. Rules allow the application software to produce different versions for each customer on its own from the template.

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Designing for Success

Before the job is finalized and printed, tracking methods should be designed into each job to further refine the database, because the data is the core of any VDP product. There are a few different ways to record the response other than experiencing an increase in sales or frequently seeing a coupon being used. Using VDP and digital technology is more costly than traditional static printing, so it is recommended to measure the effect of personalization in a direct mail campaign. One method of tracking the success of the campaign is through the internet. By placing a personalized webpage URL in a copy, marketers encourage the respondent to log onto the website to view products, sign up for sweepstakes, or gather more information. Before any of the recipients can access the personalized web page, they may be asked to fill out a short survey which provides additional information such as demographics and product preferences that can be appended to the current database.

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Tracking Methods

Another tracking method is the use of the barcode system. In the case of a pet store, the coupons could include a printed barcode for each coupon which allows the business to track the exact effectiveness of the outgoing campaign. A barcode generation software can be used to produce individual and unique barcodes for each item printed. When the recipient goes to the store and uses the coupon they received, when the barcode is scanned, it can be linked back to whomever that particular barcode was assigned to when the rules were being created. The data collected is valuable in many different ways because it can be compared to other information such as seeing if the customer is a first time customer or if he/she is a frequent buyer. The information obtained from the respondents can help to create more efficient and effective VDP campaigns in the future.

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Software

How can one decide which software and hardware combination to purchase for the job at hand? Well it depends on the complexity of the job or jobs one is going to be producing. There is no standard hardware software combination for VDP as there is for computers. There was an attempt by a company by the name of PODi to create a standard software for VDP purposes called PPML. The acronym PPML stands for Personalized Print Markup Language. Today PPML is used as a base software with the combination of other software to create the desired printed material.

List of companies implementing PPML into their software

Aside from software, there is also hardware that is used to create the VDP material. Depending which way your company goes, hardware can vary. There are three major hardware components needed to produce VDP material. You will need a digital press, a server to store your data, and a RIP (raster image processor).

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Other Considerations

Servers
There are various types of servers for the jobs that you may want to carry out. Servers such as the Fiery EXP4110 help provide a continuous work flow, which is important in the printing world because the less down time the more money the printer makes. Servers can serve as storage space, where data graphics, and designs that are being used, can be kept for other later projects. This cuts down in the money you spend in storing the data, maintaining the data, and employees that keep track of the data.

RIPs
The RIP is unique in that it can be hardware, software or a firmware. Depending which is the best option for your budget and job, RIPs can vary. A RIP produces a bitmap, the bitmap is sent to the output device to be out put. The input data can come in a high description language such as PostScript, Portable Document Format, XPS or another bitmap of higher or lower resolution than the output device. In the latter case, the RIP applies either smoothing or interpolation algorithms to the input bitmap to generate the output bitmap.

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Digital Press

A digital press does not vary much from a conventional press in its mechanisms. The differences are quite minimal but important. Among the digital presses the thing that sets each apart from their competitors is in the inks and the method the ink is transferred onto the substrate.

HP Indigo and the Xerox iGen

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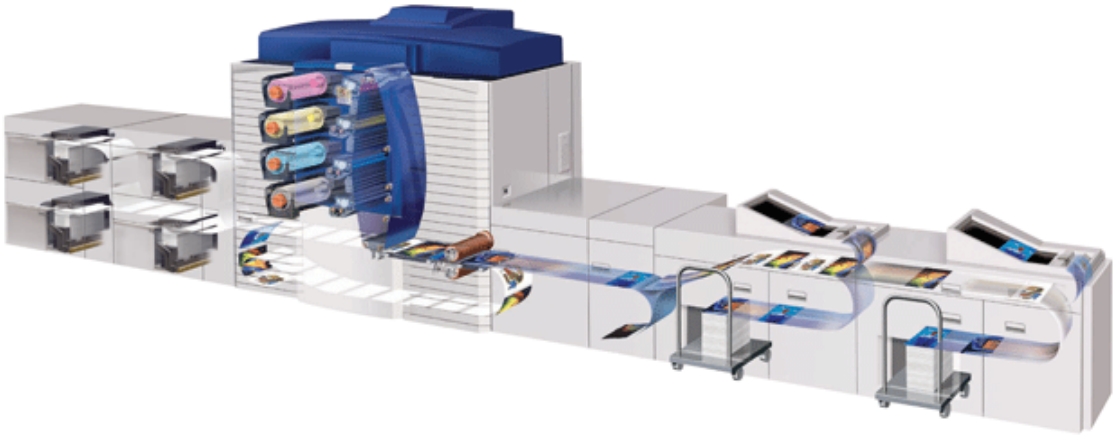
Click on an area of the press to find out more information.



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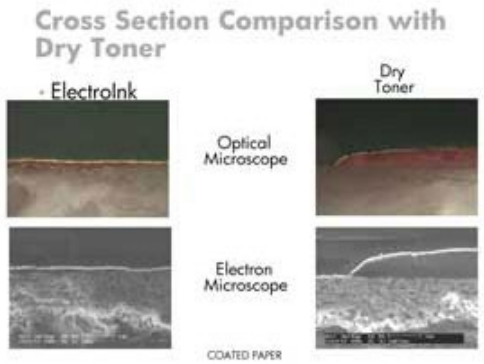
Also the ink that is used in digital presses differs from press to press. For example the Xerox iGen uses dry ink and the HP Indigo 5000 use it own patent ElectroInk.

Here in this image you can see the difference between ElectroInk and dry toner. The difference is on how the different inks cover the substrate to produce an even amount of ink across the substrate.



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CONTACTS

We would like to give a special "THANK YOU" for those who have supported us.

Dan Kroll - Xerox
dan.kroll@xerox.com

Nancy Dempsey - Xerox
Nancy.Dempsey@xerox.com

Seth Stokes - HP
Seth.Stokes@hp.com

Darrell Harris - HP
darrell.harris@hp.com

Tom Dent - Adobe
tdent@adobe.com

Tim Plumer - Adobe
tim_plumer@timplumer.com