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✓ *basic computer*   ✓ *product knowledge*   000

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018	x		EDM	05/20/2004	07/02/2004
019					
020					

sniglett

The File System

✔️ *basic computer*

Snapshot

Everything on the hard drive of your computer is a **file**. Every **document**, piece of **artwork**, **spreadsheet**, **music**, **video** . . . *everything*.

> **"If you can idnetify and understand the main types of files, then everything else about computers will seem easier."**

Details

There are only 4 types of files:

1) programs
2) data
3) folders (directories)
4) shortcuts

programs	**data**	**folders**	**shortcuts**
Program files do all the work on a computer. They **run** or **execute**. **Word**, **Excel**, **Acrobat** and **PageMaker** are all **program files**.	**Data files** contain the **stuff** that other programs create or use. **Database** files, Word **documents**, **spreadsheets** and **pictures** are all examples of **data files**.	**Folders** (or **Directories**) are special files who's job is to **store other files**. Folders may contain any of the 4 file types **including other folders**.	**Shortcuts** just **point** to other files. When you open a shortcut, you're really opening the file that the **shortcut points to**.

FILE NAMING

Files have to have a **first name** and usually have a **last name**. The last name (separated by a dot or period), generally tells us what **kind of file** and, sometimes, what other file it **belongs to**. In order to see all the file's last names, the **VIEW** in **Windows Explorer** has to be set correctly.

Summary

Everything on the hard drive of your computer is a **file**. *Everything*. And there's only 4 types of files to remember.

```
filename:      001_FileSystem.pdf
released:      10/17/2002        by: S. Nason
revised:       05/20/2004        by: S. Nason
```

Device & Pathnames

✓ *basic computer*

002

Snapshot

Once we understand that everything on a computer is a **file**, the next step is to understand how to get to those files. How to talk about **where they are** and how to manage the **drives** and **folders** that contain our files.

Details

DEVICE NAMES

The **Operating System** assigns a letter to a **physical** (or logical) storage **device** - it names it so that it has a way of referring to it. The colon after the letter tells the **OS** that it's a device name and not a file name.

> **"A:"** is a **device** name
> *verses* **"A"** which is a valid **file** name

DIRECTORY STRUCTURE (THE COMPLETE FILE NAME)

Within the directory structure on any drive, files have a **complete path name** - or a unique way of finding them. This complete path name always begins with the drive letter, followed by a backslash character.

The **first backslash** character in a path name refers to the **root** of the drive. "**C:**" means "**in the root of the C drive**". From there we add one or more **folders** separated by **backslashes**, ending with the **file name** we're referring to:

> **C:**

C:\My Documents\Letters\My Letter.doc

"**C:**"	- the **root** of the **C** drive
"**My Documents**"	- a **folder** off of the **root** of **C** drive
"****"	- **separator** (end of folder name)
"**Letters**"	- a **folder** inside of the **My Documents**
"**My Letter.doc**"	- a Word **document** inside of the **Letters** folder

Change the letter **C** of the path name to **D**, and now you're referring to a **completely different** file name.

(PHYSICAL & LOGICAL)

Physical storage devices are the actual **pieces of hardware** attached to your computer:

- **hard** drive
- floppy **diskette** drive
- **CD** rom drive
- **Zip** drive
- **tape** drive

A logical device name is a **map** or a **pointer** to, either a **physical device**, or a **portion** of a physical device. For example, **A:** refers to a physical floppy **diskette drive** while **D:** may refer to the second **partition** on a single **physical hard drive.**

Drive letters **A:** and **B:** are reserved by the **OS** for floppy **diskette drives. C:** is reserved for the **first hard drive** on the system. All of the other letters may be assigned to other **physical** or **logical** devices (*hard drive partitions, network drives, etc*)

Summary

The **complete path name** to a file uniquely identifies it to the **OS** and gives us a **road map** on how to retrieve that file. This **Directory Structure** is the key to understanding where our files are and how to get them back.

Computer Math

Snapshot

Part of being able to talk intelligently about computers involves an understanding of the **numbering system** and **terminology** used. When somebody refers to a file as so many **"K"** it's important to know what that means and how in relates to different **storage** and transmission media.

Details

THE TERMS

kilo	– 10^3 one thousand	
mega	– 10^6 one million	
giga	– 10^9 one billion	
byte	– one character (one letter, number, etc)	
hertz	– one cycle per second (or one instruction per second)	
kilo-byte	– 1,000 bytes	
mega-hertz	– 1,000,000 cycles (instructions) per second	

A LITTLE MATH

Media storage capacity is measured in bytes. A 3 ½ inch floppy diskette can store **1.44 megabytes** (**MB**) of information. One megabyte equals one thousand kilobytes (**1,000 KB**). So our floppy diskette can hold (add six decimal places) **1,440,000** characters of information. Or, to say it another way: **1,440 KB**.
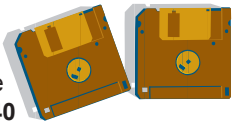
Lets say that a typical **Word** document takes up **80 kilobytes** (**80,000** characters) of space. How many documents of this size with fit on our **1.44 MB** floppy disk?

1,440,000 / 80,000 = 18 documents

So, if you have more than 18 documents of this size that you need to copy to a floppy diskette . . . well, you get the picture.

Hard drives are rated in **giga-bytes** (nine decimal places - **1,000,000,000**). A gigabyte is one thousand megabytes (**1,000 MB**). Typical hard drives range in size from around **10 GB** to over **100 GB**.

How many of our **80 KB** documents will fit on a **10 GB** hard drive?

10,000,000,000 / 80,000 = 125,000 documents

Summary

Everything on a computer hard drive is a **file** and every file has a **specific size**. It's essential to be able to understand and talk about **file sizes** in relationship to the hard drive, floppy diskette or other storage media.

KB, **MB**, **GB** all refer to a *number of bytes* (or characters) and are the fundamental building blocks of your computer vocabulary.

```
filename:      003_ComputerMath.pdf
released:      10/23/2002          by: S. Nason
revised:       10/23/2002          by: S. Nason
```

Scan To File

Snapshot

Real simple definition of **"Scan To FIle"**:

"Turning a hard copy document into a computer file."

By itself, this definition doesn't really do anything for us (or for our customers). So what if we have a computer file? Then what? Which leads us to the first **"Scan To File"** rule:

RULE #1: SCAN TO FILE IS APPLICATION DRIVEN.

Details

PULL vs PUSH SCANNING

When you open up an application like **Adobe Acrobat** and use it to initiate a scan, you're doing a **"PULL"** scan. You're actually pulling the document from the scanner into the application. A pull scan is initiated at the computer - *not at the scanner*.

A **"PUSH"** scan, on the other hand, is initiated at the device (in our case, a MFP) and is not dependent on a specific application to do its work. A push scan is **more convenient** because the whole process is accomplished at the copier - without needing to go back to your computer to complete.

TWAIN SCANNING

TWAIN is a type of *Scanner Driver*. If an application (like **Adobe Acrobat**) supports **TWAIN,** then it will work with any scanner that has a **TWAIN DRIVER**.

Some scanning programs support only **ISIS Drivers**. **TWAIN** scanners *will not work* with these programs.

TWAIN scanning is a **PULL** scan.

Canon SCANNING or Ricoh SCANNING

Canon SCANNING	Ricoh SCANNING
TWAIN All 4 digit **imageRUNNERS** support **TWAIN** scanning with a print board. **[PULL]**	**TWAIN** All models that support scanning ship with a TWAIN driver.
MAILBOX All 4 digit models support scanning to the **MAILBOX**. **NOT A STRONG FEATURE** - most useful for storing documents like a fax cover sheets. *__[PUSH]__	**DOCUMENT SERVER** 1035,45,60,75,1224,32,2022,27,35, 45,35e,45e,2090,2105,2232,2238
SHARED FOLDER **eCopy** and **Canon "i" Series**. **[PUSH]**	**SHARED FOLDER** All except 1015,18 w/Scan Router. SMB w/2022,27,2035e,45e, 2232,38
SCAN TO EMAIL **eCopy** (Exchange & Lotus Notes), **Canon "i" Series** (Internet Mail). **[PUSH]**	**SCAN TO EMAIL** 1060,75,1224,32,2015,2018,2022, 27,2034,45,35e,45e,2090,2105, 2232,38
SCAN TO FTP Scan to **File Transfer Protocol** (**Canon "i" Series** only) - gives the ability to scan files directly to an FTP server. Great for cross platform sending (i.e. Windows to UNIX) **[PUSH]**	**SCAN TO FTP** 2022,27, 2035e,45e, 2232,38

📁 FILE TYPES

TIFF
Not really a standard (too many standards in one). Grayscale, Color, B & W, compression types, etc. **BE CAREFUL WITH THIS ONE**.

MTIFF
Same as **TIFF** but is **Multi-Page** file type.

PDF
Portable Document Format. Designed by **Adobe Systems**. One of the de facto standards for delivery of documents over the internet. PDF files lock down formatting so the document views and prints as intended.

OCR = Optical Character Recognition
(*a limited solution for a narrow range of documents*)

Summary

Scan To File means a lot of different things to a lot of different people. When a customer says "*Does your equipment Scan To File?*", they're really saying "*We have a specific business related problem.*".

Don't just try to guess what it is . . . find out.

```
filename:      004_ScanToFile.pdf
released:      06/10/2002         by: S. Nason
revised:       05/28/2004         by: S. Nason
```

Westbrook

✓ *product knowledge*

006

Snapshot

Westbrook Technologies is a company that develops **document management** software. Their two main products are **FileMagic** (low end, >25 users) and **Fortis** (high end, enterprise, up to 8,000 users). **Westbrook** is the solution when we start talking about organization of a large volume of paper or **electronic documents**, **web delivery**, **Electronic Reports Management** or process **workflow**.

Details

Business desicions are made daily based on information from a wide range of sources. Misinformation, wrong, late or inaccurate information can all result in poor business desicions being made.

You're making business decisions every day...

Post It notes

- SCAN TO FILE vs
    - TRUE DOCUMENT MANAGEMENT

- manual filing   - index fields
- manual retrieval   - complex queries

A Coopers & Lybrand study shows that the average office:

- Makes 19 copies of each document.
- Spends $20 on labor for filing each document.
- Spends $120 searching for every mis-filed document.
- Loses 1 out of 20 office documents.
- Spends $250 on document re-creation.

-Inc. Magazine

costs

Copies   Labor   Misplace   Mis-file   Re-create

BASIC COMPONENTS OF ANY DOCUMENT MANAGEMENT SYSTEM

Scan

- The **Scan Station**: Manages the capture, storage, indexing, retrieval and flow of documents.

Edit

- The **Edit Station**: Enables the storage, indexing, editing, retrieval and flow of documents.

View

- The **View Station**: Allows users to retrieve and view documents.

POWERFULL backside database connectivity

Microsoft
ORACLE
Informix
centura software

Summary

Document management solutions allow us to sell a wider range of equipment to our customers and to keep margins high by selling "*bundled*" solutions rather than individual "*boxes*". **Fortis** & **FileMagic** are our key products for this type of solution. With components such as *web delivery*, *ERM* and automated *workflow*, **Fortis** is a **high-end** solution that provides a great building block for a wide variety of document management needs.

Open Database
Database
Accounting
ACME Company
Fortis Power Tools, Inc.
Medical Records
Real Estate
Resumes
Username: SYSADM
Password: ******
OK   Cancel   Help

Open DB

www.westbrooktech.com

TR Micropress

✓ *product knowledge*

Snapshot

The **TR Micropress** is at the top of the food chain in our print controller tool-box. It has the ability to control up to **12 print engines** and can manage **print queues**, **workflow**, **document archive** and **make-ready**. The **Micropress** is the all-in-one control center for **POD** applications and **CRD**s.

Details

Industry Standard Harlequin RIP
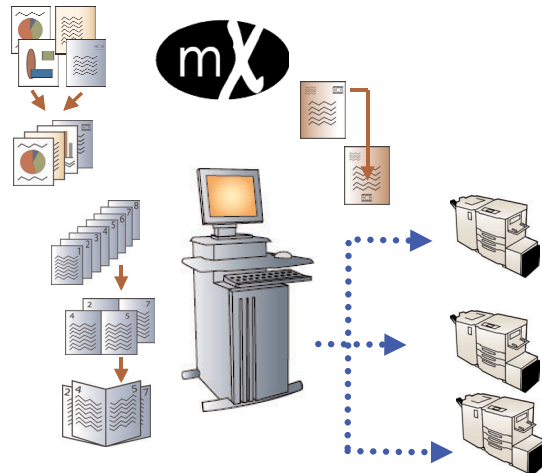
Robust Make-Ready Capabilities

page insertion and rearrange
imposition
raster editing
headers & footers
page numbering
tab & pad creation

Advanced Job Management

queue management
job redirect
job splitting
B&W and color splitting
load balancing (clustering)
job accounting

Sophisticated Color Management

color curves
color management
ICC profiles

✓ **Clustering of up to 12 devices**
✓ **Full make-ready support**
✓ **Fault tolerant system**
✓ **Customizable workflow**

Summary

The **TR Micropress** is a **print controller** that can manage output to **12 devices**. It has the ability to **save** and **manipulate** documents, manage complex **color workflows** and **split jobs** for faster printing. The **Micropress** is a powerful tool for **POD** applications and integrates well with other networked office solutions.

www.trsystems.com

```
filename:     007_TRMicropress.pdf
released:     10/23/2002          by: S. Nason
revised:      10/23/2002          by: S. Nason
```

PCL vs Postscript

Snapshot

PAGE DESCRIPTION LANGUAGE

A **PDL** or **Page Description Language** is actually a programming language designed with the specific purpose of describing how a page of formated text and graphics will be recreated on an *output device*. **PCL** and **Postcript** are both considered Page Description Languages.

Details

Postscript

In the early 80s, John Warnock and Charles Geschke left **Xerox** and started a company called **Adobe Systems**. The basis for this new company was a page descrition language they had started work on while at Xerox.

The **Postscipt** language was designed specifically to take the WYSIWYG documents from a computer screen and reproduce them on a printer. From the beginning, Postscript was geared toward complex graphics and forms.

In 1990, Adobe upgraded the Postscript language to **Level 2**. This added some new capabilites and the ability to satisfy high quality color work. **Postscript 3** (not Level 3) is the most current release.

Postscript was designed to be a *device independent* page description language.

SO WHICH IS BETTER?

Since **Postscript** was the first (and now the oldest) PDL designed specifically for **complex graphic** applications, it is still considered the leader in this area. High end *desktop publishing*, *color* and *professional graphics* are all considered Postcript environments.

PCL has generally been considered the standard for "**office**" documents. Although PCL 5 & 6 are capable of doing some pretty complex documents, remember that PCL was (and is) still a *device dependent* language whereas Postscript is *device independent*.

PCL

Page Command Language was developed by **HP** in the early 80s to control the output formatting of *their* print devices. **PCL 1** & **2** were used for dot matrix and ink jet printers. **PCL 3** was used on the first **HP Laserjet** printer in 1984.

PCL 1 & 2 had no support for graphics and were intended to provide simple text formatting only (spacing and font changes).

With the introduction of **PCL 5** in 1990, PCL took a big step toward providing the robust graphic and formatting capabilities that had been designed into Postscript from day one. **PCL 6** is the most current.

PCL was designed as a Command Languarge to control features of *specific output devices* (i.e. HP).

ANY OTHER PDLs?

PCL and **Postscript** are by far the most common **PDL**s encountered in the office environment. There are other specialized PDLs that exist mainly in data center environments.

AFP (Advanced Function Printing)

IDPS (Intelligent Data Print Steam)

Xerox DJDE (metacode)

Although not compatible with each other, all PDLs have the same purpose: to control the formatting of the printed output.

PDF (or **Portable Document Format**) files are really documents that are formatted with a **compressed** version of the **Postscript** language. For that reason, Postscript **RIP**s will almost always print a PDF file faster than a PCL RIP. Why? Because the Postscript RIP can use the most of the Postscript code contained in the document to format the print output whereas the PCL interpreter has to completely reformat the document (or *trasnslate* it from Postscript to PCL).

Macintosh vs PC

Macs have always been **Postscript only** devices. Where PCs will support either device (as long as there's a driver for it), Macs will *only* work with **Postscript** devices.

Summary

PCL and **Postscript** both define how a page is to be formatted on an output device. Each **PDL** or **Page Description Language** has a unique history and there are considerations surrounding the intended environments that will affect their performance and effectivness.

Canon "i" Series

s n i g l e t t

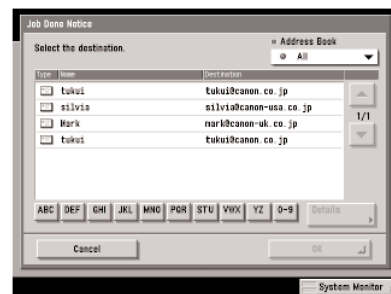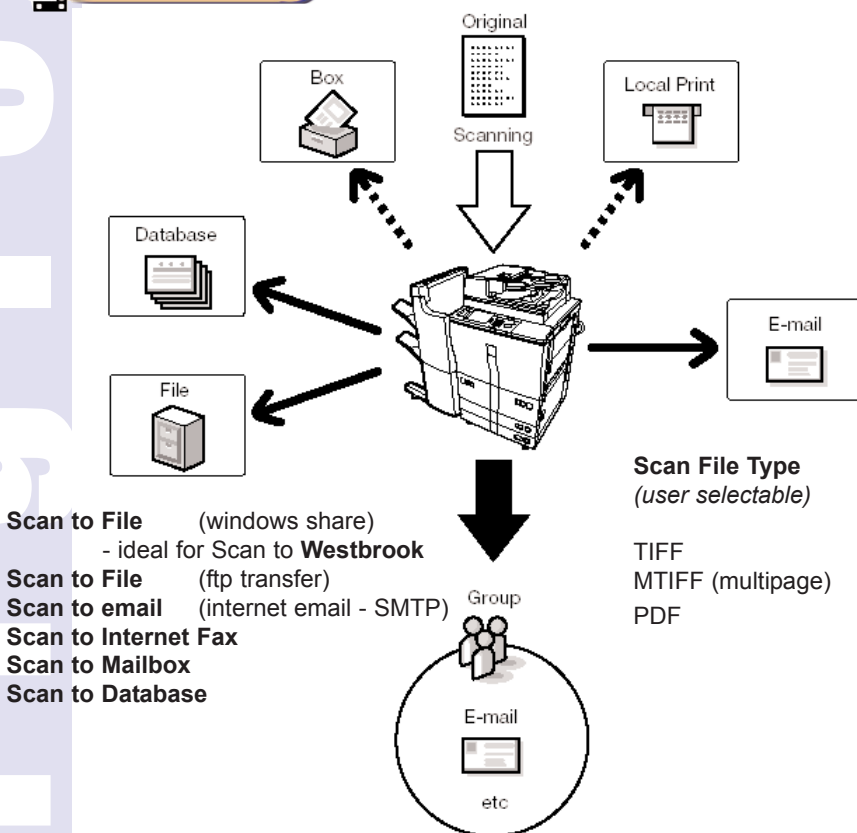## Snapshot

Today, **Multifunction Devices** are capable of scanning, faxing, copying and printing. Although copying and faxing are fairly self explanatory, *printing and scanning may not be*. It's important to understand a device's key features and how those features interact with a customer's environment.

The **Canon** **imageRUNNER Universal Send** machines (the "i" Series) have a feature set that make them particularly useful as a tool in our "complete solution" arsenal.

Details

Scan to File   (windows share)
      - ideal for Scan to **Westbrook**
Scan to File   (ftp transfer)
Scan to email   (internet email - SMTP)
Scan to Internet Fax
Scan to Mailbox
Scan to Database

Scan File Type
(user selectable)

TIFF
MTIFF (multipage)
PDF

Everything's an Address Book entry

Whether sending to email, fax, or file every possible type of electronic transaction can be programmed into the address book for simple execution.

- Group
- E-mail
- Database
- File
- Local Print
- Mail Box

"find and address the need . . ."

Summary

The **Canon** **imageRUNNER 3300i** and **5000i** provide the ability to interface with a wide variety of electronic workflows. Understanding the customer's environment and needs are equally as important as understanding the equipment and its capabilities.

```
file name:      013_Canon-iSeries.pdf
released:       10/17/2002          by: S. Nason
revised:        10/17/2002          by: S. Nason
```

Professional Services

✓ *basic computer*   ✓ *product knowledge*   015

Snapshot

Our industry is in a constant state of change. The question is no longer whether to sell **analog** or **digital**, it's "***what do you want to accomplish***" with that digital technology. When you can drive a sale toward a **specific business need**, then you can drive it away from a **cost-only-sale**.
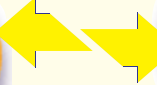
Details

Traditional **price comparison** sale - removes the concept of "*value*" from the sales process: **cheaper wins**.

$500/mo.
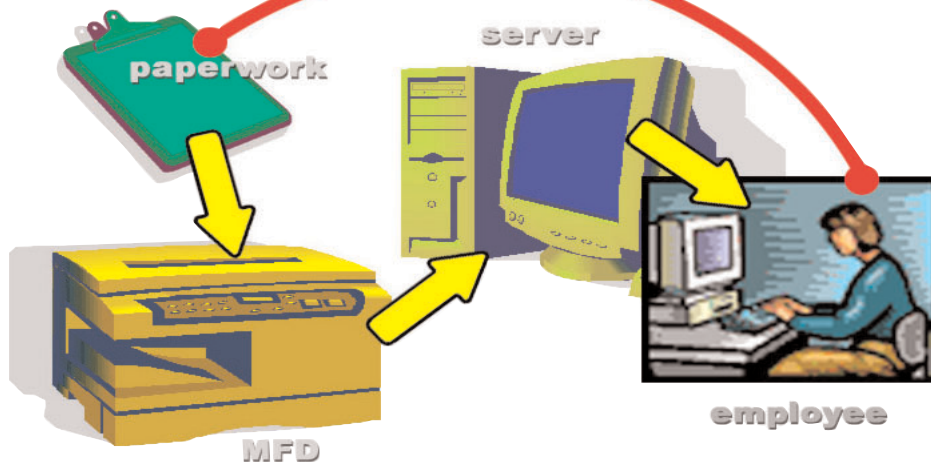- 21 ppm
- duplex
- staple
- 4 drawers

$510/mo.
- 21 ppm
- duplex
- staple
- 4 drawers

*VALUE ADD = MARGIN

real customer need

SOLUTION SELL

paperwork

server

employee

MFD

Summary

Look for the customer's **need** and find the **pain**. What is their **process**? Interface with **IT** early and don't propose "*equipment*". **Professional Services** is all about giving you the resources to keep **margins up**, **profits high** and **commissions huge**.

sniglett