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This memo documents the data flow operation of Xerox FreeFlow Accxes Wide Format Print/Copy Systems. Specifically it addresses how print and copy image data is stored within the system. Statements herein are valid for Xerox 510/721/8830/8825/8850/8855/6204/6050A Series Print/Copy Systems equipped with the FreeFlow Accxes controller versions 11.0 through 12.8.

A FreeFlow Accxes Wide Format Printer/Copy System consists of:

- A Wide Format Scan System (Copy system only)
- A FreeFlow Accxes Controller (Print and Copy systems)
- A Printer (Print and Copy systems)

Functions performed by a FreeFlow Accxes Wide Format Printer/Copy System consist of:

- **Printing**: Print job is submitted; print output is produced.
- **Copying**: Page(s) scanned; print output is produced.
- **Scanning**: Requires "Scan-To-Net" feature. Page(s) scanned; files stored locally for external retrieval.
- **Stamping**: Print job is submitted; output is optionally applied to subsequent pages.

The Xerox Wide Format engineering team states the following:

1 The only non-volatile image storage in the FreeFlow Accxes Print/Copy System is the single hard drive housed in the FreeFlow Accxes controller. The FreeFlow Accxes drive is an industry-standard 80GB SATA hard drive.

2 The Wide Format Scan System has no non-volatile storage of image data. The scanner buffers are entirely RAM-based and relatively small; they contain a small amount of image data at a time.

3 The listed Print Systems have no non-volatile (hard drive) storage. The print buffers are entirely RAM-based and relatively small; they contain a small amount of image data at a time.

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4   Volatile memory in the Wide Format Scan System, Print Systems, and FreeFlow Accxes are RAM chips. Data stored in RAM is considered to be inaccessible when the unit (Scanner, Printer, FreeFlow Accxes) is powered down.

5   The FreeFlow Accxes controller uses a single hard drive for all non-volatile storage. The hard drive is used for temporary storage of image data. The various forms this image data may take are listed in the table and diagram that follow. A job may have image data in more than one format at a given time.

6   Scan-To-Net images are stored on the Accxes controller until sent (pushed) to or retrieved by an external system via FTP. Pushed Scan-To-Net files are deleted once transfer has occurred. Retrieved Scan-To-Net files are automatically deleted only after a timer (timer is per file, and user configurable from 1-24 hours) expires. Retrieving systems may manually delete files before the timer expires via FTP "delete" command.

7   In no event are multiple hard drives supported by the FreeFlow Accxes controller. If a second drive is installed against Xerox policy, the FreeFlow Accxes controller software will recognize only the original drive; it will not read or write to the added hard drive.

8   As part of the "Immediate Image Overwrite" component of the Disk Overwrite feature, the FreeFlow Accxes controller performs a 3-pass hard drive overwrite as data is read from the disk. This is done real-time and is transparent to system users. The overwrite process is compliant with U.S. Department of Defense Directive 5200.28-M (Section 7, Part 2, paragraph 7-202).

9   The optional "On-Demand Image Overwrite" Accxes feature performs a 3-pass overwrite on all hard drive image storage areas. This is done on system startup, and takes some time to complete. The overwrite process is compliant with U.S. Department of Defense Directive 5200.28-M (Section 7, Part 2, paragraph 7-202).

10 If Immediate Image Ovewrite is turned on, Accxes "Stamp" print jobs are no longer accepted, as these are designed to remain on the system for long periods of time.
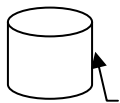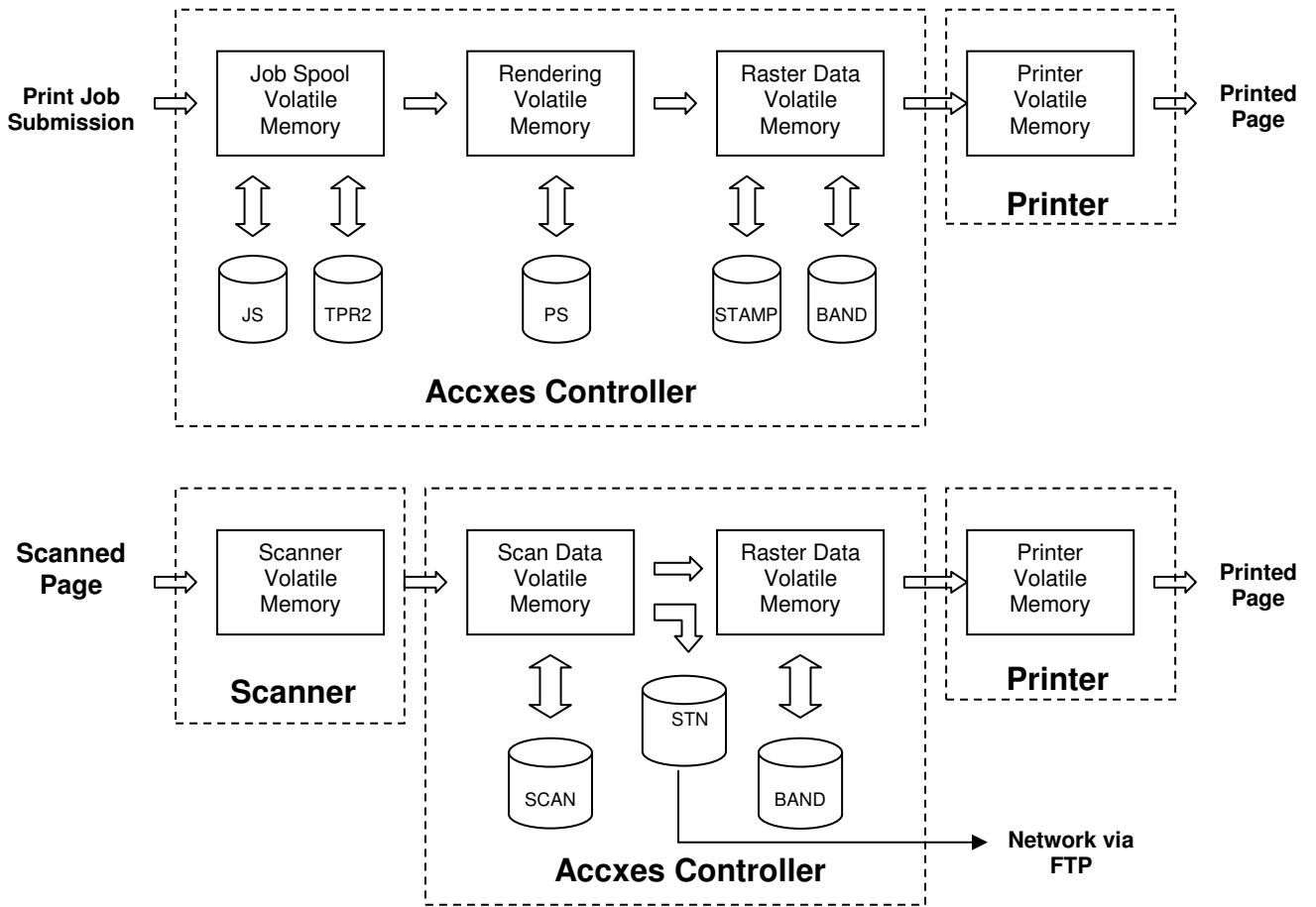
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A block diagram of image data flow through the FreeFlow Accxes subsystems is on the following page. This table shows the non-volatile storage areas used in Print, Copy, Scan, and Stamp operations:

Disk Area	Description	Print	Copy	Scan	Stamp
JS	Job Spooler disk area	Yes	No	No	Yes
PS	PostScript/PDF interpreter disk area. (NOTE: Requires "PostScript/PDF" license)	Yes	No	No	Yes
BAND	Rendered image data storage	Yes	Yes	Yes	Yes
SCAN	Scanner input data storage	No	Yes	Yes	No
STN	Scan-To-Net storage area (NOTE: Requires "Scan-To-Net" License)	No	No	Yes	No
TPR2	Rendered image data storage (NOTE: Requires "AutoCAD", "Other CAD", or "Raster" license)	Yes	No	No	Yes
STAMP	Print jobs designated to be stamps on subsequent printed pages. Stamps are not allowed if "Immediate Image Ovewrite" feature is on.	No	No	No	Yes

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FreeFlow Accxes Print/Copy System
Data Flow Diagram

Print Job Submission →

| Job Spool Volatile Memory | Rendering Volatile Memory | Raster Data Volatile Memory |

JS   TPR2   PS   STAMP   BAND

Accxes Controller

| Printer Volatile Memory |

Printer

→ **Printed Page**

Scanned Page →

| Scanner Volatile Memory |

Scanner

| Scan Data Volatile Memory | Raster Data Volatile Memory |

STN

SCAN   BAND

Accxes Controller

→ **Network via FTP**

| Printer Volatile Memory |

Printer

→ **Printed Page**

Non-Volatile memory. A temporary file or directory on a single hard drive.

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