Statement of Volatility

Xerox CiPress Production Inkjet System

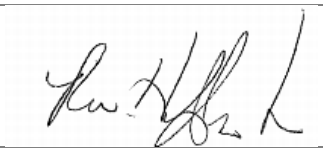
Version 2.0

Statement of Volatility
Xerox CiPress Production Inkjet System

This evaluation and summary was completed by:

Signature	
Printed Name	Dale Platteter
Job Title	Production Software Manager and Control System Architect
Job Function	Control System Architect
Preparation Date	5-27-2014

This evaluation and summary was reviewed and approved by:

Signature	
Printed Name	Ralph H. Stoos Jr.
Job Title	Technical Program Manager – Product Security Office
Job Function	Senior Security Specialist
Preparation Date	5-27-2014

Notice

This document describes the locations, capacities and contents of volatile and non-volatile memory devices within the CiPress Production Inkjet System.

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Statement of Volatility
Xerox CiPress Production Inkjet System

Introduction

The Xerox CiPress Production Inkjet System is used to perform the following tasks:

High Speed Production Color Printing

The CiPress Production Inkjet System consists of the following modules:

Print Engine

Print Station Interface Platform

Xerox FreeFlow® Print Server

Feeder Modules

Finishing Modules

These modules provide the basic configuration. Depending on what is purchased, the number and types of feeders and finishers can change.

This document describes the amounts and types of memory contained in the device in an easy to read tabular format. To allow security issues to be addressed as needed, specific commentary has been included about job data and where Personally Identifiable Information (PII) can be found in the system.

The information contained in this document has been verified at the time the product is released for sale. Manufacturing process changes may require that memory amounts are increased but, the purpose or contents of the memory should not change.

General Memory Information

Volatile Memory

All volatile memory listed is cleared after power is removed (decay occurs generally within 20 seconds at room temperature).

All volatile memory listed is required for normal system operation and during service and diagnostic procedures.

Removal of any volatile memory will void the warranty.

Non-Volatile Memory

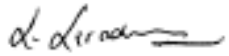
All non-volatile memory listed is required for normal system operation and during service and diagnostic procedures.

Removal of any non-volatile memory will void the warranty.

None of the non-volatile memory in the system can be accessed by accidental keystrokes.

Xerox FreeFlow® Print Server (Digital Front End) System Descriptions

The following section was completed by:

Signature	
Printed Name	Sivakumar Subramanian
Job Title	Manager
Job Function	FFPS Hardware Development
Preparation Date	5-27-2014

The data tables below detail the information regarding the volatile and non-volatile memory contained in the Xerox FreeFlow Print Server used on the CiPress Production Inkjet System based on Oracle X3-2.

The Free Flow Print Server Digital Front End is a PC-type motherboard. It is equipped with a BIOS, main RAM and video memory.

Volatile Memory Descriptions

Type (SRAM, DRAM, etc.)	Size	User Modifiable (Y/N)	Function or Use	Process to Clear:
Main Server				
DDR3 DRAM	16GB	N	System OS RAM to contain executable code. No job data stored here persistently.	Reboot or power down system.
DRAM	20MB	N	CPU cache	Reboot or power down system
SRAM	32KB	N	Processor internal cache	No write protection; To clear, remove power from the board.
SRAM	56 Bytes	N	Real Time Clock	No write protection; To clear, remove power from the board and coin cell from holder.

RIP Server (Simplex – 3 servers, Duplex – 6 servers)

Note: Below gives memory details for one server and same will be applicable for all servers

DDR3 DRAM	32GB Each	N	System OS RAM to contain executable code. No job data stored here persistently.	Reboot or power down system
DRAM	20MB Each	N	CPU cache	Reboot or power down system
SRAM	32KB Each	N	Processor internal cache	No write protection ; To clear, remove power from the board.
SRAM	56 Bytes Each	N	Real Time Clock	No write protection; To clear, remove power from the board and coin cell from holder.

Video Server (Simplex – 3 servers, Duplex – 6 servers) Note: Below gives memory details for one server and same will be applicable for all servers				
DDR3 DRAM	32GB Each	N	System OS RAM to contain executable code. No job data stored here persistently.	Reboot or power down system
DRAM	20MB Each	N	CPU cache	Reboot or power down system
SRAM	32KB Each	N	Processor internal cache	No write protection ; To clear, remove power from the board.
SRAM	56 Bytes Each	N	Real Time Clock	No write protection; To clear, remove power from the board and coin cell from holder.

InfiniBand Switch				
SDRAM	512MB	N	CPU Memory	Power Off

Cisco Switch				
DRAM	64MB	N	CPU Memory	Power Off

Non-Volatile Memory Descriptions

Type (Flash, EEPROM, etc.)	Size	User Modifiable (Y/N)	Function or Use	Process to Clear:
Main Server				
Flash	128Mb	N	Service processor bios	No write protection; Pushbutton switch (SW2401) on board to clear.
Flash	512MB	N	Service processor program code	No write protection; Cannot be Cleared by customer.
SEEPROM	8KB	N	Field Replaceable Unit information and Configuration data	Write protection under software Control. Cannot be cleared by customer
ROM	64KB	N	Patsburg PCI Express bridge, internal code storage	No write protection; Cannot be Cleared by customer.
Flash	8KB	N	Power and Hotplug control CPLD	No write protection; Cannot be Cleared by customer.
SEEPROM	2MB	N	PCIE Switch configuration ROM	No write protection; Cannot be Cleared by customer.
SEEPROM	256 Bytes	N	DDR3 DIMM, can contain DIMM fault info	Partial write protection under software control. Cannot be cleared by customer.
Backplane Flash	8KB	N	CPLD Firmware	Cannot be Cleared by customer.
Power supply SEEPROM	8KB	N	PSU DRU ID	Write protection under software control. Cannot be cleared by customer
Power supply Flash and SRAM	128KB and 4KB	N	Secondary side micro-controller	Cannot be Cleared by customer.

RIP Server (Simplex – 3 servers, Duplex – 6 servers)

Note: Below gives memory details for one server and same will be applicable for all servers

Flash	128Mb Each	N	Service processor bios	No write protection; Pushbutton switch (SW2401) on board to clear.
Flash	512MB Each	N	Service processor program code	No write protection; Cannot be Cleared by customer.
SEEPROM	8KB Each	N	Field Replaceable Unit information and Configuration data	Write protection under software Control. Cannot be cleared by customer
ROM	64KB Each	N	Patsburg PCI Express bridge, internal code storage	No write protection; Cannot be Cleared by customer.
Flash	8KB Each	N	Power and Hotplug control CPLD	No write protection; Cannot be Cleared by customer.
SEEPROM	2MB Each	N	PCIE Switch configuration ROM	No write protection; Cannot be Cleared by customer.
SEEPROM	256Bytes Each	N	DDR3 DIMM, can contain DIMM fault info	Partial write protection under software control. Cannot be cleared by customer.
Backplane Flash	8KB Each	N	CPLD Firmware	Cannot be Cleared by customer.
Power supply SEEPROM	8KB Each	N	PSU DRU ID	Write protection under software control. Cannot be cleared by customer
Power supply Flash and SRAM	128KB and 4KB Each	N	Secondary side micro-controller	Cannot be cleared by customer.

Video Server (Simplex - 3 servers, Duplex - 6 servers)

Note: Below gives memory details for one server and same will be applicable for all servers

Flash	128Mb Each	N	Service processor BIOS	No write protection; Pushbutton switch (SW2401) on board to clear.
Flash	512MB Each	N	Service processor program code	No write protection; Cannot be Cleared by customer.
SEEPROM	8KB Each	N	Field Replaceable Unit information and Configuration data	Write protection under software Control. Cannot be cleared by customer
ROM	64KB Each	N	Patsburg PCI Express bridge, internal code storage	No write protection; Cannot be Cleared by customer.
Flash	8KB Each	N	Power and Hotplug control CPLD	No write protection; Cannot be Cleared by customer.
SEEPROM	2MB Each	N	PCIE Switch configuration ROM	No write protection; Cannot be Cleared by customer.
SEEPROM	256Bytes Each	N	DDR3 DIMM, can contain DIMM fault info	Partial write protection under software control. Cannot be cleared by customer.
Backplane Flash	8KB Each	N	CPLD Firmware	Cannot be Cleared by customer.
Power supply SEEPROM	8KB Each	N	PSU DRU ID	Write protection under software control. Cannot be cleared by customer
Power supply Flash and SRAM	128KB and 4KB Each	N	Secondary side micro-controller	Cannot be Cleared by customer.

InfiniBand Switch

Flash	512MB	N	Flash disk	No or format the disk
SEEPROM	8KB	N	FRUID	No/FW Commands
Flash	2MB	N	I4 FW	No/FW Commands

Cisco Switch

NVRAM	64Kb	Y	Startup configuration	Through Commands

CIP System Module

Non-Volatile Memory Descriptions				
Type (Flash, EEPROM, etc)	**Size**	**User Modifiable (Y / N)**	**Function or Use**	**Process to Clear**
Boot Flash	256MB	N	System Firmware	Not possible. System not functional if corrupted/removed.
SEEPROM	2KB	N	Configuration data/calibration data	Not possible. System not functional if corrupted/removed.

Volatile Memory Descriptions				
Type (SRAM, DRAM etc)	**Size**	**User Modifiable (Y / N)**	**Function or Use**	**Process to Clear**
DDR3 DRAM	8GB	N	System Software executable code, No Job data stored here	Reboot or Power down the system

Xerox FreeFlow® Print Server (Digital Front End) System Descriptions (continued)

The data tables below detail the information regarding the storage devices contained in the FreeFlow® Print Server.

Hard Disk Descriptions

Complete this table if the device has media storage capability

Drive / Partition (System, Image)	Removable (Y / N)	Size	User Modifiable (Y / N)	Function	Process to Clear
Main Server					
System Disk	Y	300GB	N with normal operation	Operating System, Fonts, configuration file storage	Diagnostic Procedure
Image Disk	Y	300GB	N with normal operation	Job Images	Diagnostic Procedure
RIP Server (Simplex -3servers, Duplex -6servers) Note: Below gives Hard disk details for one server and same will be applicable for all servers					
System Disk	Y	300GB	N with normal operation	Operating System, Fonts, configuration file storage	Diagnostic Procedure
System Disk	Y	300GB	N with normal operation	Ripping process	Diagnostic Procedure
System Disk	Y	300GB	N with normal operation	Ripping process	Diagnostic Procedure
System Disk	Y	300GB	N with normal operation	Ripping process	Diagnostic Procedure
System Disk	Y	300GB	N with normal operation	Ripping process	Diagnostic Procedure
System Disk	Y	300GB	N with normal operation	Ripping process	Diagnostic Procedure
Video Server (Simplex – 3 servers, Duplex – 6 servers) Note: Below gives Hard disk details for one server and same will be applicable for all servers					
System Disk	Y	300GB	N with normal operation	Operating System, Fonts, configuration file storage	Diagnostic Procedure

Additional Information:

The System Disks contain the Solaris Operating System and store executable, fonts, and settings files. During normal operation, job files remain stored on the disk until completed or removed. Under typical system usage job images may also be stored temporarily on the System disk in the Solaris-managed "swap partition". Images are stored in a proprietary encoded format and fragments of the job data are stored at random locations in the swap partition. Reverse engineering of the swap partition area would be needed to retrieve the encoded image which would then need to be decoded for viewing.

The Image Disks store images in a proprietary encoded format in non-contiguous blocks. User data and image data may be completely erased if optional Disk Overwrite kit is installed and enabled. These disks are cleared using a three-pass algorithm which conforms to U.S. Department of Defense Directive 5200.28-M.

NOTE: For even greater security, Xerox provides a "Removable Hard Drive" (RHD) option so that disk drives may be removed from the system and physically secured elsewhere.

Media and Storage Descriptions

Type (disk drives, tape drives, CF/SD/XD memory cards, etc.)	Removable (Y / N)	Size	User Modifiable (Y / N)	Function	Process to Clear
DVD/CD Drive (Main Server)	Y	4.7GB	Yes, File storage	Backup Device	Destroy media Overwrite RW media

Additional Information:

Print Jobs can be stored on removable media which can be used to back up or store desired jobs. Once copied to media, that information must be physically secured by the user to prevent data loss.

USB Port(s)

Complete entry for each USB port

Main server -1, RIP server (Simplex - 3, Duplex - 6), Video server (Simplex - 3, Duplex - 6)

Note: Below gives USB port details for one server and same will be applicable for all servers.

USB port and location	Purpose
Front of FreeFlow® Print Server: 2 USB2.0 ports	User stores scanned files of job files on Flash Media. Physical security of this information is the responsibility of the user or operator.
Back of FreeFlow® Print Server: 2 USB2.0 ports	User stores scanned files of job files on Flash Media. Physical security of this information is the responsibility of the user or operator.
Internal of FreeFlow® Print Server: 2 USB2.0 ports	User stores scanned files of job files on Flash Media. Physical security of this information is the responsibility of the user or operator.
Front of Infiniband switch: 1 USB2.0 ports	User stores files on Flash Media. Physical security of this information is the responsibility of the user or operator.
Front of Cisco switch: 1 USB2.0 ports	User stores files on Flash Media. Physical security of this information is the responsibility of the user or operator.

Additional Information:

A number of devices can be connected to USB ports on the FreeFlow Print Server system. Once information has been copied (either as a back-up data set or as a transfer medium), physical security of this information is the responsibility of the user or operator.

Print Engine (Marking Module) Descriptions

This section describes the components that make up the Marking Module of the CiPress Production Inkjet System.

BIP System Signature Block

This evaluation and summary was completed by:

Signature	
Printed Name	Dale Platteter
Job Title	Print Engine Software Manager and Controls Architect
Job Function	Control System Architect
Preparation Date	5-27-2014

The data tables below detail the information regarding the volatile and non-volatile memory contained in the CiPress Production Inkjet System.

The BIP is a custom designed printed wiring board assembly (PWBA) used for video processing. It is equipped with a BIOS, main RAM and Video memory.

Non-Volatile Memory Descriptions

Type (Flash, EEPROM, etc)	Size	User Modifiable (Y / N)	Function or Use	Process to Clear
Boot Flash	256MB	N	System Firmware	Not possible. System not functional if corrupted/removed.
F-RAM	2MB	N	Operational data storage.	Not possible. System not functional if corrupted/removed.
SEEPROM	2KB	N	Configuration data/calibration data	Not possible. System not functional if corrupted/removed.

Volatile Memory Descriptions

Type (SRAM, DRAM etc)	Size	User Modifiable (Y/N)	Function or Use	Process to Clear
DDR3 DRAM	8GB	N	System Software executable code, No Job data stored here	Reboot or Power down the system
DDR3 DRAM	16GB	N	Processing software	Reboot or Power down the system

Print Engine (Marking Module) Descriptions Continued

Print Engine Controller (PEC) Signature Block

This evaluation and summary was completed by:

Signature	
Printed Name	Dale Platteter
Job Title	Print Engine Software Manager and Controls Architect
Job Function	Control System Architect
Preparation Date	5-27-2014

The data tables below detail the information regarding the volatile and non-volatile memory contained in the CiPress Production Inkjet System.

Volatile Memory Description

Type (SRAM, DRAM, etc)	Size	User Modifiable (Y / N)	Function or Use	Process to Clear
SDRAM	4GB	N	Executable code, Printer control data	Power Off System

Additional Information:
All memory listed above contains code for execution and configuration information. No user or job data is stored in these locations.

Non-Volatile Memory Description

Type (Flash, EEPROM, etc)	Size	User Modifiable (Y / N)	Function or Use	Process to Clear
EEPROM	1MB	via Diagnostics	System BIOS	Diagnostic

Additional Information:
All memory listed above contains code for execution and configuration information. No user or job data is stored in these locations.

Hard Drive Information

The data table below details the hard disk information for the CiPress Production Inkjet System PEC.

Hard Disk Description

Complete this table if the device has media storage capability

Drive / Partition (System, Image)	Removable (Y / N)	Size	User Modifiable (Y / N)	Function	Process to Clear
System	N	≥ 500GB	N with normal operation	Operating System, Fonts, configuration file storage	Diagnostic Procedure

Additional Information:
This disk contains the Linux Operating System and stores executables, fonts, and settings files. During normal operation, job files do not remain stored on this disk.

Media and Storage Descriptions

Type (disk drives, tape drives, CF/SD/XD memory cards, etc.)	Removable (Y / N)	Size	User Modifiable (Y / N)	Function	Process to Clear
DVD/CD Drive	Y	4.7GB	Yes, File storage	Backup Device	Destroy media Overwrite RW media

Additional Information:

Print Jobs can be stored on removable media which can be used to back up or store desired jobs. Once copied to media, that information must be physically secured by the user to prevent data loss.

USB Port(s)

Complete entry for each USB port

Note: Below gives USB port details for one server and same will be applicable for all servers

USB port and location	Purpose
Back of PEC: 6 USB2.0 ports	User stores scanned files of job files on Flash Media. Physical security of this information is the responsibility of the user or operator.
Internal to PEC: 2 USB2.0 ports	User stores scanned files of job files on Flash Media. Physical security of this information is the responsibility of the user or operator.
Front of PEC: 2 USB2.0 ports	User stores files on Flash Media. Physical security of this information is the responsibility of the user or operator.

Additional Information:

Print Engine (Marking Module) Descriptions Continued

Xerox Print Interface (XPI) Signature Block

This evaluation and summary was completed by:

Signature	
Printed Name	Dale Platteter
Job Title	Print Engine Software Manager and Controls Architect
Job Function	Control System Architect
Preparation Date	5-27-2014

The data tables below detail the information regarding the volatile and non-volatile memory contained in the CiPress Production Inkjet System.

Volatile Memory Description

Type (SRAM, DRAM, etc)	Size	User Modifiable (Y / N)	Function or Use	Process to Clear
SDRAM	4GB	N	Executable code	Power Off System
SDRAM	2GB	N	Video Memory	Power Off System

Non-Volatile Memory Description

Type (Flash, EEPROM, etc)	Size	User Modifiable (Y / N)	Function or Use	Process to Clear
EEPROM	4MB	N	System BIOS	Diagnostic

Hard Drive Information

The data table below details the hard disk information for the CiPress Production Inkjet System XPI.

Hard Disk Description

Complete this table if the device has media storage capability

Drive / Partition (System, Image)	Removable (Y / N)	Size	User Modifiable (Y / N)	Function	Process to Clear
System	N	≥ 500GB	N with normal operation	Operating System, Fonts, configuration file storage	Diagnostic Procedure

Additional Information:
This disk contains the Linux Operating System and stores executables, fonts, and settings files. During normal operation, job files do not remain stored on this disk.

Media and Storage Descriptions

Type (disk drives, tape drives, CF/SD/XD memory cards, etc.)	Removable (Y / N)	Size	User Modifiable (Y / N)	Function	Process to Clear
DVD/CD Drive	Y	4.7GB	Yes, File storage	Backup Device	Destroy media Overwrite RW media

Additional Information:

Print Jobs can be stored on removable media which can be used to back up or store desired jobs. Once copied to media, that information must be physically secured by the user to prevent data loss.

USB Port(s)

Complete entry for each USB port

Note: Below gives USB port details for one server and same will be applicable for all servers

USB port and location	Purpose
Front of XPI: 6 USB2.0 ports	User stores scanned files of job files on Flash Media. Physical security of this information is the responsibility of the user or operator.
Back of XPI: 2 USB2.0 ports	1 port used for touch screen monitor User stores scanned files of job files on Flash Media. Physical security of this information is the responsibility of the user or operator.
Internal to XPI: 2 USB2.0 ports	User stores scanned files of job files on Flash Media. Physical security of this information is the responsibility of the user or operator.

Additional Information:

Print Engine (Marking Module) Descriptions Continued

IRCC Module Signature Block

This evaluation and summary was completed by:

Signature	
Printed Name	Dale Platteter
Job Title	Print Engine Software Manager and Controls Architect
Job Function	Control System Architect
Preparation Date	5-27-2014

Volatile Memory Description

Type (SRAM, DRAM, etc)	Size	User Modifiable (Y / N)	Function or Use	Process to Clear
SDRAM	16GB	N	Executable code, Printer control data	Power Off System

Additional Information:
All memory listed above contains code for execution and configuration information. No user or job data is stored in these locations.

Non-Volatile Memory Description

Type (Flash, EEPROM, etc)	Size	User Modifiable (Y / N)	Function or Use	Process to Clear:
EEPROM	1MB	via Diagnostics	BIOS	Diagnostic

Additional Information:
All memory listed above contains code for execution and configuration information. No user or job data is stored in these locations.

Hard Drive Information

The data table below details the hard disk information for the CiPress Production Inkjet System IRCC.

Hard Disk Description

Complete this table if the device has media storage capability

Drive / Partition (System, Image)	Removable (Y / N)	Size	User Modifiable (Y / N)	Function	Process to Clear
System	N	≥ 500GB	N with normal operation	Operating System, Fonts, configuration file storage	Diagnostic Procedure

Additional Information:
This disk contains the Linux Operating System and stores executables, fonts, and settings files. During normal operation, job files do not remain stored on this disk.

Media and Storage Descriptions

Type (disk drives, tape drives, CF/SD/XD memory cards, etc.)	Removable (Y / N)	Size	User Modifiable (Y / N)	Function	Process to Clear
DVD/CD Drive	Y	4.7GB	Yes, File storage	Backup Device	Destroy media Overwrite RW media

Additional Information:

Print Jobs can be stored on removable media which can be used to back up or store desired jobs. Once copied to media, that information must be physically secured by the user to prevent data loss.

USB Port(s)

Complete entry for each USB port

Note: Below gives USB port details for one server and same will be applicable for all servers

USB port and location	Purpose
Back of IRCC: 4 USB2.0 ports	User stores scanned files of job files on Flash Media. Physical security of this information is the responsibility of the user or operator.

Additional Information:

Feeding Module Descriptions

Feeding Module Signature Block

This evaluation and summary was completed by:

Signature	
Printed Name	Dale Platteter
Job Title	Print Engine Software Manager and Controls Architect
Job Function	Control System Architect
Preparation Date	5-27-2014

The text below details the information regarding the volatile and non-volatile memory contained in the CiPress Production Inkjet System supported feeders. This document lists the available options. Depending on the configuration purchased, your system may contain one or more of these devices. **NOTE: None of these devices store any customer job data or customer image data in electronic form.**

CiPress Production Inkjet System Roll Feeder

Third Party Roll Feed Devices

Optional Feeders

These come from various sources but like all other feed devices, no job data is stored in any memory inside the device. Any data is operational data only.

Finishing Module Descriptions

Finishing Module Signature Block

This evaluation and summary was completed by:

Signature	
Printed Name	Dale Platteter
Job Title	Print Engine Software Manager and Controls Architect
Job Function	Control System Architect
Preparation Date	5-27-2014

The text below details the information regarding the volatile and non-volatile memory contained in the CiPress Production Inkjet System supported finishing devices. This document lists the available options. Depending on the configuration purchased, your system may contain one or more of these devices. **NOTE: None of these devices store any customer job data or customer image data in electronic form.**

CiPress Production Inkjet Finishing Options

Third Party Finishing Devices

Optional Finishers

These come from various sources but like all other finisher devices, no job data is stored in any memory inside the device. Any data is operational data only.