

A Paxar Americas, Inc. White Paper



170 Monarch Lane  
Miamisburg, OH 45342  
800.543.6650  
[www.paxar.com](http://www.paxar.com)

## Monarch® Pathfinder® Ultra® Platinum 6039™ Printer Data Persistence

March 16, 2007

**Monarch®**  
*Products and Services*

## **Contents**

---

<b>Introduction</b>	<b>3</b>
<b>Registry</b>	<b>3</b>
<b>Flash</b>	<b>3</b>
<b>RAM</b>	<b>4</b>
<b>Data Recovery</b>	<b>4</b>
<b>Commands</b>	<b>4</b>

### **Introduction**

This whitepaper discusses how data persistence functions on the Monarch® Pathfinder® Ultra® Platinum™ MO 6039 Printer.

### **Registry**

The Registry is a Windows CE based storage mechanism that has the base values stored in permanent flash, the base settings can be modified and removed temporary but can be restored through actions of the user.

### **Flash**

Data can be stored in the flash of the M6039 through placing the files in the “\Onboard Flash” folder on the unit.

### **RAM**

RAM is considered the most volatile way of storing data in the system.

### **Data Recovery**

A data recovery mechanism is provided in the M6039 as a way to recover any data that has been placed in the Registry or RAM.

### **Commands**

List of Commands.

---

## Monarch® Pathfinder® Ultra® Platinum 6039™ Printer Data

### Introduction:

This whitepaper discusses how data persistence functions on the Monarch® Pathfinder® Ultra® Platinum™ MO 6039 Printer. The focus will be on the internal storage resources. This paper does not address external resources such as Secure Digital (SD) card media or USB flash devices.

The storage on the M6039 can be broken into three categories and will be addressed in that manner. The three categories are Registry, Flash and RAM storage mechanisms.

Data persistence can be interrupted by distinct methods. The first is through a cold reset, which will occur when the internal backup battery is drained or through pressing the cold reset button. The second is the warm reset, which can occur when the user presses the button through the access hole on the door located at the back of the unit or the warm reset is issued programmatically. The next is by direct action from the user, either by a series of keystrokes or updating the device to a new

Windows CE core. Each of the sections below will address these methods and the persistence of data for each type of storage.

### Registry:

The Registry is a Windows CE based storage mechanism that has the base values stored in permanent flash, the base settings can be modified and removed temporarily but can be restored through actions of the user. The Registry allows either permanent or temporary entries that are controlled by the application that adds the entries. The temporary entries are transient values that are used one time for transferring data between applications and have no requirement for persistence. The permanent entries are persistent across cold resets, warm resets and suspend / resume (power button) cycles. Clearing of registry entries will occur on a new Windows CE core load, or by direct actions by the user to clear the entries through a series of keypad keystrokes.

### Flash:

Data can be stored in the flash of the M6039 through placing the files in the “\Onboard Flash” folder on the unit. This memory is persistent across cold resets, warm resets and suspend / resume cycles. The “\Onboard Flash” folder may remain during a Windows CE core load based on if the core size changes. If the core remains the same size, then the “\Onboard Flash” will remain. The “\Onboard Flash” folder may be cleared

through direct actions by the user through a series of keystrokes. The “\Onboard Flash” folder is considered the most reliable persistence storage of the device. The only means to clear it is through user actions.

### **RAM:**

RAM is considered the most volatile way of storing data in the system. Any files placed on the unit in any folder except the “\Onboard Flash” folder is RAM storage. The files stored in RAM will only be persistent across warm resets and suspend / resume cycles. RAM stored files will be cleared through a cold reset, direct actions of the user through a series of keystrokes or loading a new Windows CE core.

### **Data Recovery:**

A data recovery mechanism is provided in the M6039 as a way to recover any data that has been placed in the Registry or RAM. An example of this is an addition to the Windows Startup folder which is placed in RAM.

To facilitate recovery a configurable utility that runs during any system reset is available. This utility is called AutoExecShell and looks for a configuration file that contains a set of commands that will run at a cold reset and a second set of commands that will run during a

warm reset. The configuration file is named AutoExecShell.cfg and can reside one of two places. The primary location is

“\Onboard Flash\AutoExecShell.cfg” that is located on the flash based drive. The commands in that flash based copy can be overridden through a RAM based copy located in the root folder of the unit (“\AutoExecShell.cfg”). The configuration file is not a text-based file and requires a PC based utility, called AESCfg, to create and manage the file. The AutoExecShell.cfg file contains the boot up script used for customizing the personality of the Platinum. The configuration file contains 2 sections one is used when the system is being hard booted and one for when the system is being soft (or warm) booted. Both sections can contain identical scripts and all commands work for either section.

### **Commands:**

**BOOT:** Instructs AutoExecShell to perform a soft (warm) reset (boot) on the Platinum. The only option is to indicate if all registry updates should be lost (return to base registry)

**COPY:** AutoExecShell can be instructed to copy files from one location to another on the unit. This copy supports wildcard characters in the copy source. If \*.\* is specified, then all files will be copied and this function will be recursive through all sub-folders as well. Both

source and destination files/folders must not be relative.

**DELETE:** This command indicates to delete files unprompted. The current AutoExecShell.cfg file can be deleted as well by specifying the file name of "THIS". If \*.\* has been specified in a particular folder, then the delete process will delete all files then do a recursive delete through all sub-folders.

**EXECUTE:** This command instructs AutoExecShell to execute an application. Parameters specify the application exe name, the parameters for the application, the display name, the version of the application for UDI's about box, and also if AutoExecShell should wait for this application to finish before performing the next operation.

**LOAD:** This command instructs AutoExecShell to install a CAB file using the wceload application. All wceload options are available through the AESCfg utility. AutoExecShell will wait for the install to complete before continuing to the next command.

**For more extensive details on Monarch® Pathfinder® Ultra® Platinum 6039™ Printer Data Persistence please contact Paxar's Product Line Manager for Handheld Devices, Don Morrison at 937-865-2966.**