FIRMWARE TECHNICAL NOTE

SUBJECT: How To Recover From Boot Code Download Failures

1. Introduction

This technical note will describe how to recover from a boot code download failure on an MCE board, or on a Satellite I/O board (PDB, or GENINE). This error condition should normally only happen if the boot code download is interrupted by a PC failure, or possibly by a system power outage.

If the boot code download fails because of a PC failure, (PC crashes, or serial cable comes loose) you can just restart the boot code download. In most cases this will correct the problem and the boot code will be successfully downloaded. Do NOT power down, or reset the board. Just repeat the boot code download procedure. If this continues to fail, use the following recovery procedure.

2. Overview

If a problem occurs while downloading boot code to an MCE or a Satellite I/O board, the boot code may not get entirely written into flash memory. If this happens the board will not be functional. This will be indicated by both the Heartbeat and the Service Leds flashing on and off alternately. If this happens, this indicates that the BBR code is running, and you must use the following procedure to recover from this condition.

3. Recovery Procedure

1.) Obtain the correct recovery code binary file for your board. Use MCEREC.BIN for MCE boards, and use SATREC.BIN for all Satellite I/O boards. Obtain the correct boot code binary file for your board. Use MCEBOOT.BIN for MCE boards, and use SATBOOT.BIN for all Satellite I/O boards. Obtain the CTP Firmware utility program BLOAD.EXE v1.09 or newer. These files can be obtained from the Creo Intranet firmware support web site at http://Intranet/Support/Firmware .

2.) Place all of the above listed files into a single subdirectory on your PC. Open a Dos session (window) on your PC and change to the directory containing the above files.

3.) Connect a serial cable between your PC's COM port (COM1 or COM2) and the Diagnostic serial port on the target board.

4.) Power up the target board. Examine the board's diagnostic leds and ensure that both the Heartbeat and the Service Leds are alternately flashing On and Off. This indicates that the BBR code is running.

5.) Download the Recovery code by using the Bload program with the following syntax: *Bload f=xxxrec.bin i=rec p=1 b=57600*. This assumes you are using the PC's COM1 serial port, use *p=2* for COM2. Substitute *xxxrec.bin* for the correct filename of the recovery code you will be using. MCEREC.BIN for MCE boards, and SATREC.BIN for all Satellite I/O boards. This should proceed to 100% with no errors.

6.) Download the Boot code by using the Bload program with the following syntax: *Bload f=xxxboot.bin i=boot p=1 b=57600*. This assumes you are using the PC's COM1 serial port, use *p*=2 for COM2. Substitute *xxxboot.bin* for the correct filename of the boot code you will be using. MCEBOOT.BIN for MCE boards, and SATBOOT.BIN for all Satellite I/O boards. This should proceed to 100% with no errors.

7.) Power down the target board.

8.) Power up the board and check that either the boot code executes, or the main firmware is executing. If only the boot code is present then the heartbeat led will flash On/Off at .5 second intervals. If the main firmware is present then the heartbeat led will flash On/Off at 1 second intervals. If the main firmware is running, the Interrupt led will also be lit dimly.