IBM 8260 Multiprotocol Intelligent Switching Hub Fault-Tolerant Controller Module Release Note

IBM Corporation • (Part Number 26L0155) • June 1998

This release note applies to the 8260® Fault-Tolerant Controller Module (Feature Code 8000) Version v1.15. This release note consists of the following sections:

- RCTL New Features
- Corrected Problems
- Operating Considerations
- Power Management Issues.

Note: This release note also applies to the Controller software portion of the Advanced DMM/Controller module (Feature Code 1700).

Store this release note in your 8260 Reference Library in the release note section.

RCTL New Features

This section describes new features for RCTL Version v1.15.

- RCTL and ARCTL (Fault-Tolerant Controller Module), Version v1.15, supports Mastership Priority as a purely priority-driven event. Prior to Version v1.15, any 8260 management took precedence. Now all management is elected based only on the Mastership Priority settings. However, when an Advanced DMM (A/DMM) Controller is in the same hub as any management module, the A/DMM always takes precedence (this has always been normal operation).
- RCTL (Fault-Tolerant Controller Module), Version v1.15 provides the following changes to support the A/DMM:
  - RCTL Boot Code Version v1.03 normalizes the power-on arbitration process between an ARCTL and RCTL 8260 controller module. This normalization allows the ARCTL to become the Active Controller when an ARCTL is installed in the left slot and an RCTL is installed in the right slot of the controller bay.
  - The initial power management power budget accounts for the power requirements of the A/DMM.

Corrected Problems

This section describes problems that have been fixed in RCTL and ARCTL operating code software, Version v1.15.

1. Version v1.15 corrects a problem that occurred when a power supply failed or was turned off by the user while the hub was in power non-fault-tolerant mode.

   This problem occurred when two or more power supplies were loaded to near full capacity, ARCTL was Active, and RCTL was in Standby. When one of the power supplies failed or was shut off, the results were as follows:

   - Controller switchover occurred and the new Active controller did not provide any slots with power.
   - The new Standby controller provided power but not to the correct slots.
   - A SHOW POWER ALL showed that slots had insufficient power and the power budget indicated power was available relative to the number of power supplies that were indicated as OK.

   This potential problem is alleviated when both the RCTL and ARCTL are running Version v1.15 operational code.

2. Boot Version v1.04 resolves the following download problem with the ARCTL. In a single ARCTL configuration (no Standby ARCTL or RCTL is present), the download of the ARCTL by a DMM that was located in one of the payload slots resulted in all payload slots becoming power-disabled, thereby halting the ARCTL download. This occurred because the slot that contained the DMM became power-disabled.

   The boot code fix verifies that the ARCTL is not undergoing a commanded download before disabling power to all slots during boot-up initialization. The A/DMM can download the ARCTL because the controller bay slots can never be power-disabled.

Operating Considerations

This section describes operating considerations for the controller modules at Version v1.15.

1. When you use two controllers, both must use Version v1.15 operational code.
2. When you update the Standby and Active controllers, update the Standby controller first.
3. When you download the Active controller and the Active controller is an ARCTL, download Boot code Version v1.04 first before you download Version v1.15 Operational code.
4. When a Standby RCTL is present, make sure it is at revision level Version v1.03 Boot code before you download the ARCTL with Boot code Version v1.04.

Power Management Issues

Consider the following issues when you use the DMM power management feature in Fault-Tolerant Controller software:

1. You will lose configured power management settings for all installed 8260 modules when you perform any of the following actions after you power off the hub:

   - Change the module type in any given slot
   - Remove a module and leave the slot empty
   - Install an 8250 or 8260 module in a previously empty slot.

2. If the hub exceeds its power budget because of newly-inserted 8250 modules, 8260 modules are not powered off automatically. However, the DMM sends a power threshold trap warning of a power utilization problem.

   The hub remains in power deficit until it power cycles, or until you reset the hub. After you reset the hub, installed controller modules use the remaining power not consumed by 8250 modules to power-enable 8260 modules according to their power class settings. 8260 modules are power-enabled only after all 8250 modules have powered on.

3. Double-fault scenarios in a mixed environment (8260 and 8250 modules) may cause all 8260 modules to power off (for example, if a controller module switchover occurs, followed by a power supply failure within 30 seconds of the switchover).

   To recover from a double-fault scenario:

   a. Power off the hub.

   b. Remove any installed 8250/8260 modules.

   At power on, installed controller modules assess the power budget. When the 8260 modules previously powered off are powered on again, power configuration values are configured to factory defaults.

4. When the power required by installed 8250 modules is greater than the capacity of the first power supply you switch on, switch on all installed power supplies at the same time to avoid the possible shutdown of one or more power supplies.

   For example, if you switch on one power supply at a time, the first power supply you switch on may become overloaded and shut down before a second power supply can power on and share the load. If a power supply shuts down due to an overload, wait at least 10 seconds before you attempt to switch on that power supply again.