Adaptec Host Bus Adapter 1000 Series Release Notes

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Revision History

Issue	Issue Date	Details of Change
5	December 2015	Updated for production release.
4	November 2015	Update for pre-production release.
3	September 2015	Update for pre-production release.
2	August 2015	Update for pre-production release.
1	August 2015	Document created.

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1 About This Release

This document describes the production release package of supported firmware, OS drivers, and host management software files for PMC Adaptec HBA 1000 Series products: 1000-16i, 1000-16e, 1000-8i8e, 1000-8i, 1000-8e.

Note:
All Adaptec products are UL listed and for use only with UL listed ITE.

1.1 Release Identification

The firmware, software and driver versions for this release are shown in Table 1: Release Summary.

Table 1: Release Summary

Package Release Date	December 2015
Firmware/UEFI/BIOS Version	1.02 build 0
PMC Adaptec Controller Configuration Utilities **(ARCCONF Command Line Interface, maxView Storage Manager, maxView vSphere Plugin, Boot USB)**	2.00.00 (21811)
Drivers Package Version	2015/12/01: • B50637 (Windows) • B50639 (Linux) • B50629 (vmWare)

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1.2   Release Components

Download the following firmware, drivers, host management software, and supporting documentation for your HBA 1000 Series product from from the Adaptec Web site at start.adaptec.com.

1.2.1   Firmware and UEFI/HII and Legacy (CTRL-A) BIOS

This release supports version 1.02 build 0 of the HBA 1000 firmware and version 1.2.0.1003 of the Adaptec UEFI/HII and Legacy (CTRL-A) BIOS utilities.

1.2.2   Drivers

Drivers for this release have been tested and certified on the following operating systems. You can load the drivers on out-of-box operating system versions, the latest service pack, or software update. Compatibility issues may be seen with untested OS versions.

Microsoft Windows

- Microsoft® Windows® Server 2012, 2008, SBS 2011 SP2 (32-bit and 64-bit)
- Microsoft® Windows® 10, 8.1, 8, 7 (32-bit and 64-bit)

Linux:

- Red Hat® Enterprise Linux/CentOS 7.1, 7.0 (32-bit and 64-bit)
- Red Hat® Enterprise Linux/CentOS 6.7, 6.6 (32-bit and 64-bit)
- Red Hat® Enterprise Linux/CentOS 5.11, 5.10 (32-bit and 64-bit)
- SuSE Linux Enterprise Server 12 (32-bit and 64-bit)
- SuSE Linux Enterprise Server 11 SP4, SP3 (32-bit and 64-bit)
- Ubuntu Linux 14.04.2, 14.04.1 (32-bit and 64-bit)
- Ubuntu Linux 12.04.5, 12.04.4 (32-bit and 64-bit)

Virtual OS Environments

- VMware ESXi 6.0
- VMware ESXi 5.5, 5.1 U1, 5.1

1.2.3   Host Management Software

This release of the HBA 1000 Series provides PMC Adaptec Controller Configuration Utilities for host management, which include the following:

- PMC Adaptec ARCCONF Command Line Utility
    - Windows (64-bit)
    - Linux (64-bit)
    - VMware EXSi 5.5 and 6.0
- PMC Adaptec maxView Storage Manager
    - Windows (32-bit and 64-bit)
    - Linux (32-bit and 64-bit)
    - VMware EXSi 5.5 and 6.0
- PMC Adaptec maxView vSphere Plugin
    - vCenter 5.5 and 6.0
- Boot USB (offline or pre-boot) for the ARCCONF command line utility and maxView Storage Manager
    - Linux (32-bit and 64-bit)

Refer to the *README: maxView Storage Manager & ARCCONF Command Line Utility* for specific OS support details, installation notes, and known issues.

1.2.4   Supporting Documents

Refer to the Adaptec Web site at start.adaptec.com for the latest product documentation for your HBA 1000 Series product.

PDF

- *Adaptec Host Bus Adapter 1000 Series Installation and User's Guide*, PMC-2152188.
- *Adaptec Host Bus Adapter 1000 Series Command Line Utility User's Guide*, PMC-2152156.
- *maxView Storage Manager User's Guide for PMC Adaptec Smart-Family Controllers*, PMC-2153109.
- *README: maxView Storage Manager & ARCCONF Command Line Utility*, PMC-2153191.
- *Adaptec Host Bus Adapter 1000 Series Release Notes* (This Document), PMC-2152169.

HTML

- *maxView Storage Manager Online Help*

2 What is New?

2.1 Features

Table 2: Feature Summary lists features supported for this release. Features new to this release are designated as "New".

Table 2: Feature Summary

Feature		Supported in this Release	Future Release
Software Features			
Support for up to 256[1] SAS/SATA target devices		X	
Multi-LUN support		X	
SATA NCQ HDD		X	
Storage space support	Expander attach	X	
Persistent binding	SCSI ID of a device/LUN remains the same after reboot *No addition or removal of devices	X	
Hot Plug drive support		X	
Backplane port/box/bay support with no backplane management		X	
SATA drive/SSD support		X	
HDD/SSD Work Load logging			X
SSD Wear Gauge			X
>2TB physical drives		X	
S.M.A.R.T.		X	
SAS Drive/SSD support		X	
SAS expander support	Expose enclosure to host	X	
	SMP pass through to expander	X	
External storage 6G/12G		X	
External Array Connect		X	
Managed Cables		X	
Clustering/HA support for SAS devices (Windows and Linux)		X	
Tape Support			
Internal Tape 3GB SAS LTO3/4 I		X	
Internal Tape 6GB SAS LTO5/6		X	
External Tape 3GB Multi-LUN, Tape Library		X	

Feature		Supported in this Release	Future Release
External Tape 6GB Multi-LUN, Tape Library		X	
Flashing			
Recovery NOR Flash ROM image		X	
Offline controller firmware flash		X	
Online controller firmware flash with reboot		X	
Offline drive firmware flash		X	
Online drive firmware flash with reboot		X	
Tape drive flashing		X	
Logging			
Device and array error logs		X	
Detailed controller log through serial port		X	
Detailed controller log through log files		X	
BMC Support			
BMC DST mechanism consistent with Series 8		X	
Enclosure Management			
SES-2		X	
SES-3		X	
SGPIO (SFF-8485)		X	
IBPI (SFF-8489)		X	
Management Utilities			
PMC Adaptec uEFI/HII BIOS Configuration Utility	> 2.2TB boot	X	
	Secure boot	X	
	uEFI boot from legacy device	X	
	uEFI boot from raw device (HBA device)	X	
	HII GUI (config support)	X	
PMC Adaptec BIOS Configuration Utility[2]	Legacy BIOS boot from legacy device	X	
	Legacy BIOS boot from raw device (HBA device)	X	
	Legacy configuration at boot (Ctrl-A)	X	
PMC Adaptec Controller Configuration	ARCCONF Command Line Interface (Windows, Linux, VMware)	X	

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Feature		Supported in this Release	Future Release
Utilities	maxView Storage Manager	X	
	Boot USB	X	

Note:

1. 238 SSD/HDDs maximum support and remainder are reserved for expanders and enclosure management.

2. Only UEFI systems can boot from a 4K sector drive. The legacy Ctrl-A controller BIOS displays all 4K and 512 byte drives connected to the controller during POST and there is Ctrl-A support (like Format and Verify) for both 4K & 512 byte drives, but INT 13 support for booting is available for 512 byte drives only.

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2.2   Limitations

2.2.1   Firmware Limitations

2.2.1.1   Limitations for Firmware Release 1.02 Build 0

This release includes the following limitations:

- Chenbro RM43260-6G JBOD and AIC expanders (e.g. AIC XJ3000-4693s) are not supported in this release.
- LED update behavior inconsistent on products based on LSI SAS-2 expanders. Root cause to the expander ignoring valid LED update requests.

2.2.2   BIOS/UEFI Limitations

2.2.2.1   Limitations for UEFI/Legacy BIOS Build 1.2.0.1003

This release includes the following limitations.

- For CTRL-A and UEFI/HII:
    - Bay number-based sorting is not implemented. Drives will be sorted in phy order.
    - Drive identification operations are not supported in HBA mode.

2.2.3   Driver Limitations

2.2.3.1   Windows Driver Limitations

2.2.3.1.1   Limitations for Windows Driver Build B50637

This release includes the following limitations:

- When an OS is installed on drives that cause IO timeouts, the controller may not boot to the OS properly because it is unable to read data from the drives. This can lead to continuous IO retries from the OS that result in a system hang.
  WORKAROUND: Replace the drives with known operational drives.

2.2.3.2   Linux Driver Limitations

2.2.3.2.1   Limitations for Linux Driver Build B50639

This release includes the following limitations:

- The Linux OS may hang during boot if the BIOS for the HBA 1000 Series adapter has been loaded before an Adaptec RAID controller (ARC) adapter (Series 6/7/8) in the same system.
  WORKAROUND: Swap the two controllers on the chassis to load the BIOS for the ARC product before the BIOS for the HBA 1000 Series adapter.
- The Linux OS does not boot if there are two or more ARC products in the system along with the HBA 1000 Series adapter.

2.2.3.3　vmWare Driver Limitations

2.2.3.3.1　Limitations for vmWare Driver Build B50629
This release includes the following limitation:

- ESXi 6 installation fails with a PSOD when the HBA 1000 Series adapter and an Adaptec Series 7 controller are present in the system.
  WORKAROUND: Swap the two controllers on the chassis to load the BIOS for the ARC product before the BIOS for the HBA 1000 Series adapter.

2.2.4　Management Software Limitations

2.2.4.1　Limitations for maxView Storage Manager/ARCCONF Version 2.00.00 (21811)
This release includes the following limitations specific to the HBA 1000 Series adapter:

- SES passthrough commands to expanders are failing.
- The Task ID of a secure erase changes in the maxView Storage Manager or the ARCCONF CLI while the task is in progress. There is no workaround for this because Smart-firmware-based products have no concept of task scheduling or task IDs.

Refer to the *README: maxView Storage Manager & ARCCONF Command Line Utility* for a full list of known issues applicable to PMC Adaptec Smart-Family products using the maxView Storage Manager and ARCCONF utilities.

3   Implementing a Host Application for a Bus Management Controller

As part of the firmware release package, PMC provides PBSI reference code for implementing a host application for a Bus Management Controller (BMC) to access details about this product and devices attached to it.

The reference files include examples of the commands shown in Table 3: PBSI Commands.

Table 3: PBSI Commands

Command	Description
get_adapter_handles	Displays the adapter handles
get_adapter_info	Displays the adapter information
get_version_info	Displays the PBSI and DST version information
get_adap_vital_stats	Displays the vital adapter information
get_gb_info	Displays the green backup unit information
get_topology_info	Displays the adapter topology information

To compile the PBSI application:

1. Get the appropriate I2C libraries.

2. Edit the host_interfacing.c file to use the platform-specific APIs.

3. Edit the makefile to use the appropriate toolchain for compilation.