
README.TXT

Adaptec maxView Storage Manager
Adaptec Command Line Interface Utility (ARCCONF)

as of May 2, 2013

Please review this file for important information about issues and errata that were discovered after completion of the standard product documentation. In the case of conflict between various parts of the documentation set, this file contains the most current information.

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1. New Features in this Release

- Silent Installation

Support for silent installation on Windows, RHEL, CentOS, and SLES. Silent installation uses command line parameters to install the software without messages or user interaction. See Section 3.8 for OS-specific instructions.

- Background controller rescan

Controller rescan runs in the background, asynchronously, in ARCCONF and maxView Storage Manager. When rescan is started, a message is displayed stating that the process is running in the

background and may take 10 minutes to complete. Another message is displayed if a rescan is started while one is already in progress. When the rescan is finished, maxView Storage Manager displays a rescan complete event. Rescan status can also be obtained with ARCCONF getstatus.

- Force offline

Forces a physical drive offline. The drive enters the Failed state, and all data on the drive is lost. Available in the Physical Disk group on the maxView ribbon.

- AFM-700 supercapacitor lifetime estimation monitoring

Enhanced supercapacitor health monitoring from the ARCCONF command line (ARCCONF getconfig), including charge level, max voltage, and estimated life. The AFM-700 serial number is also displayed.

- Bugfixes

2. Software Versions and Documentation

2.1 Utility Software

- Adaptec maxView Storage Manager Version 1.02
- Adaptec ARCCONF Command Line Interface Utility Version 1.02

2.2 Documentation on this DVD

PDF Format (English/Japanese):

- maxView Storage Manager User's Guide
- Adaptec RAID Controller Command Line Utility User's Guide

HTML and Text Format:

- maxView Storage Manager Online Help
- maxView Storage Manager README.TXT file

3. Installation and Setup

3.1 Installation Instructions

The Adaptec SAS RAID Controllers Installation and User's Guide contains complete installation information for the controllers and drivers. The Adaptec RAID Controllers Command Line Utility User's Guide contains complete installation information for ARCCONF. The maxView Storage Manager User's Guide contains complete installation information for the maxView Storage Manager software.

3.2 Supported Operating Systems

Microsoft Windows:

- o Windows Server 2012, 2008, 32-bit and 64-bit
- o Windows Server 2008 R2, 64-bit
- o Windows Storage Server 2008 R2 (all versions)
- o Windows SBS 2011 (all versions)
- o Windows 7, Windows 8, 32-bit and 64-bit

Linux:

- o Red Hat Enterprise Linux 6.3, 5.9, IA-32 and x64
- o SuSE Linux Enterprise Server 11, 10, IA-32 and x64
- o Debian Linux 6.0, IA-32 and x64
- o Ubuntu Linux 12.04, 11.04, 10.04, IA-32 and x64
- o Fedora Linux 18, 17, IA-32 and x64

- o CentOS 6.3, 5.9

Virtual OS Environments:

- o VMware ESX 4.1
- o VMware ESXi 5.1
- o Citrix XenServer 6.1

Solaris:

- o Solaris 10 U9
- o Solaris 11 Express

3.3 General Setup Notes

- In this release, maxView Storage Manager supports Adaptec Series 7 and Adaptec Series 6 controllers only. It is not backwards compatible with older Adaptec controller models.
- maxView Storage Manager is not supported on FreeBSD. Use ARCCONF to create and manage arrays.
- maxView Storage Manager and legacy Adaptec Storage Manager (ASM) cannot coexist on the same system.

3.4 Remote Access

maxView Storage Manager requires the following range of ports to be open for remote access:

- o 34570-34580 (TCP)
- o 34570 (UDP)
- o 34577-34580 (UDP)

See also Section 4.11 for OS-specific issues and workarounds.

3.5 Windows 8 Setup

To log in and use maxView Storage Manager on a Windows 8 system, you must create a local user account; you cannot use your MS Live account. To create a local user account:

1. Log into your MS Live account.
2. Select Settings->Change PC Settings->Users->Switch to Local user.
3. Provide account details.
4. Start maxView Storage Manager and log in with your local user account credentials.

3.6 Linux Setup

To ensure that the maxView Storage Manager CIM Server initializes and starts correctly on systems with SELINUX enabled, enter the following commands, as root:

```
# cd /usr/StorMan/pegasus/bin
# chcon -t textrel_shlib_t /usr/StorMan/pegasus/lib/libpegcommon.so.1
(or chcon -t textrel_shlib_t /usr/StorMan/pegasus/lib/lib* if any other binary
relocation failed)
```

3.7 Silent Installation

Use the following procedures to perform a silent install of maxView Storage Manager and ARCCONF from the command line. A silent installation completes the installation without messages or user interaction.

Windows Silent Installation:

- Normal Installation:

```
setup_asm_x64.exe /s /v"/qb USERNAME=<username> PASSWORD=<password>
```

```
CONFIRMPASSWORD=<password> /lv* c:\pmc.log"
```

- Install to Specific Location:

```
setup_asm_x64.exe /s /v"/qb USERNAME=<username> PASSWORD=<password>
CONFIRMPASSWORD=<password> INSTALLDIR=\"C:\Program Files\Adaptec\Adaptec Storage
Manager\""
```

NOTE: For INSTALLDIR, the installation path must be enclosed in escaped quotes.

- Install Specific Feature:

```
setup_asm_x64.exe /s /v"/qb ADDLOCAL=ALL|CLITools|Console USERNAME=<username>
PASSWORD=<password> CONFIRMPASSWORD=<password> /lv* c:\pmc.log"
```

NOTE: For ADDLOCAL, use commas to separate multiple values.

RHEL, CentOS, SLES Silent Installation:

NOTE: Silent installation on Debian and Ubuntu is not supported.

- Normal Installation:

```
./StorMan-<version>.i386.bin --silent <username> <password>
```

- Upgrade:

```
./StorMan-<version>.i386.bin --upgrade
```

- Removal:

```
./StorMan-<version>.i386.bin --removal
```

Alternative: rpm -e StorMan

4. Known Limitations

4.1 Hot Spares

After using a hot spare to successfully rebuild a redundant logical drive, maxView Storage Manager will continue to report the drive as a global hot spare. To remove the hot spare designation, delete it in maxView Storage Manager.

4.2 Event Messages

maxView Storage Manager displays incomplete event messages for logical drive members that are hot unplugged from an enclosure. The event messages do not include the enclosure number or serial number.

4.3 Dual-Controller Systems

In dual-controller systems, the controller order in maxView Storage Manager and the BIOS differs. Example: with an Adaptec 72405 and 7805 installed, the BIOS reports the 72405 as controller 1 and the 7805 as controller 2; in the GUI, the controller order is reversed.

4.4 Email Notifications

- On Linux systems, we recommend adding the SMTP host name to the /etc/hosts file. Doing so ensures that email notifications will succeed if you specify the email server in maxView Storage Manager by host name. Otherwise, email notifications (including test messages) may fail if the DNS is unable to resolve the host name.
WORKAROUND: specify the email server in maxView Storage Manager by IP address.

- On CentOS 5.8 x64, email notifications may not be sent for logical drive creations, degraded logical drives, or logical drives that are rebuilding or fully rebuilt.

4.5 SGPIO Enclosures

In this release, maxView Storage Manager does not show connector information for SGPIO enclosures.

4.6 Uninitializing Physical Devices

To uninitialize a physical drive, use ARCCONF or the BIOS. maxView Storage Manager does not support the uninitialize action in this release.

4.7 Non-RAID Mode Controllers

maxView Storage Manager can "see" RAID controllers operating in HBA mode or Auto-Volume mode (Adaptec Series 7 controllers only). However, to change the controller mode, you must use ARCCONF or the BIOS.

4.8 RAID-Level Migrations

- The following RAID-level migrations (RLM) are supported in this release:

- RAID 0 to RAID 5
- RAID 0 to RAID 10
- RAID 5 to RAID 6
- RAID 6 to RAID 5
- RAID 10 to RAID 5
- RAID 5 to RAID 10
- RAID 1 to RAID 5
- SIMPLE VOLUME to RAID 1
- RAID 1 to SIMPLE VOLUME

- A RAID 5 to RAID 6 RLM with >2TB logical drives is not supported in this release.
 - RLM from a 4-drive RAID 6 to a 3-drive RAID 5 is not supported in this release. (The RLM fails with an "insufficient number of drives" error.)
 - We do not recommend performing a RAID-level migration or Online Capacity Expansion (OCE) on a logical drive with maxCache SSD caching enabled.
- NOTE: maxView Storage Manager grays out the options for logical devices with maxCache enabled. ARCCONF terminates the task.
- Always allow a RAID-level migration to complete before creating a support archive file. Otherwise, the support archive will include incorrect partition information. Once the migration is complete, the partition information will be reported correctly.

4.9 Display and Refresh Issues

- When using maxView Storage Manager and the CLI concurrently, configuration changes may not appear in the maxView Storage Manager GUI until you refresh the display by pressing F5.
- Configuration changes may not appear in the GUI immediately.

4.10 Browser Issues

- With Microsoft Internet Explorer 10, the maxView help system may not display the "toc" (navigation) pane or properly resolve links with the default Security setting.

Workaround: Change the Security setting in Internet Options

from High to Medium. Alternative: add the GUI IP address to the trusted sites list.

- With Microsoft Internet Explorer 10, the controller firmware update wizard does not show the f/w update file name when the upload completes. To refresh the display, click Next then Back.
- With Microsoft Internet Explorer 8.0.7601, maxView Storage Manager displays two 'Unassign Spare' icons on the ribbon, in the Physical Disk group; one on the first row, the other on the second. Only the one on the first row is enabled.
- With Apple Safari, the controller firmware update wizard supports loading only one f/w update file at a time. Trying to load multiple files fails with an "invalid size" error.

4.11 Remote System Access on Linux and Windows

To avoid remote system access failures from Linux and Windows clients running maxView Storage Manager, check and update one or all of the following system and network settings:

Windows:

- Turn off all the firewalls (Domain, Private and Public)
- Ensure that the DNS server information is properly configured

RHEL/Linux:

- Set server.properties file permissions to at least read-only at all levels
 1. Stop all your maxView services.
 2. Set the Permissions of server.properties file to read and write or read-only at all levels (Owner, Group and Others). Apply and close.
 3. Restart all services in the given order - cim, agent, tomcat
 4. Now try to remote login to this system from any other system
- Check/update these network settings:
 1. Disable SELinux
 2. Disable firewall.
 3. Disable the ipv6 in the system, if ifconfig shows both ipv4 and ipv6 address.
 4. Remove the virtual bridge virbr0, if present
 5. Enter local ip address in 'localip' parameter in server.properties file

4.12 Power Management Issues

- Power management is not supported under FreeBSD.
- In maxView Storage Manager, the power management setting in the Logical Drive Creation wizard is not saved after the logical drive is created. It is always disabled.
WORKAROUND: enable power management for the logical drive with the Set Properties operation.

4.13 RAID 50/RAID 60, Max Drives

The maximum number of drives in a RAID 50 or RAID 60 differ between maxView Storage Manager, ARCCONF, and the BIOS:

- BIOS and ARCCONF: 128 drives max
 - RAID 50 - From 2-16 legs with 3-32 drives/leg
 - RAID 60 - From 2-16 legs with 4-16 drives/leg
- maxView Storage Manager:
Assumes 2 legs for RAID 50/RAID 60 (non-selectable)
RAID 50 3-32 drives/leg (64 total)
RAID 60 4-16 drives/leg (32 total)

4.14 RAID 10 Segment Order

maxView Storage Manager and the Ctrl-A BIOS report the wrong segment order for RAID 10s, regardless of the order in which the drives are selected.

Example 1: Create RAID 10 with 2 SDDs and 2 HDDs in maxView Storage Manager:

(1a) ARCCONF and maxView Storage Manager see the following RAID segment order:

```
Device 2 (S1)
Device 1 (H2)
Device 3 (S2)
Device 0 (H1)
```

(1b) the BIOS/CTRL-A sees the following RAID segment order:

```
Device 2 (S1)
Device 1 (H2)
Device 0 (H1)
Device 3 (S2)
```

(1c) the correct and expected RAID segment order is:

```
Device 2 (S1)
Device 0 (H1)
Device 3 (S2)
Device 1 (H2)
```

Example 2: Create RAID-10 with 2 SDDs and 2 HDDs with ARCCONF:

(2a) the BIOS/CTRL-A sees the following RAID segment order:

```
Device 0 (H1)
Device 2 (S1)
Device 1 (H2)
Device 3 (S2)
```

(2b) ARCCONF and maxView Storage Manager see the correct RAID segment order:

```
Device 2 (S1)
Device 0 (H1)
Device 3 (S2)
Device 1 (H2)
```

4.15 RAID 10 Rebuild Order

With a degraded RAID 10 logical drive, the drive is rebuilt one leg at a time, not in parallel.

4.16 Verify with Fix

In maxView Storage Manager and ARCCONF, the Verify with Fix operation is NOT available when:

1. The logical drive has a non-redundant RAID level
2. Other tasks are in progress on the logical drive
3. The logical drive is in a non-optimal or impacted state
4. The logical drive is Quick initialized (ARCCONF only)

4.17 Express Configuration Issues

- Express Configuration creates only one Simple Volume for ungrouped drives. Normally, all ungrouped drives become Simple Volumes.
- With one hard drive and 3 SSDs on a single connector, Express Configuration creates a RAID 5 (as expected). However, when the HDD and SSDs are on two different connectors, Express Configuration fails with a 'no records found' error.

4.18 Skip Init Support

The Skip Init build method--which skips the initialization step when building a logical drive--is not supported in this release.

4.19 Logical Drive Wizard

After saving the controller configuration with the Save Configuration option on the Ribbon, the Logical Device Wizard opens with a 'No Records Found' error. WORKAROUND: stop the maxView Storage Manager Agent, then stop the maxView web server. Restart the services in the same order.

4.20 RAW Pass Through Devices and JBODs

On Adaptec Series 7 controllers, a RAW Pass Through device is analogous to a JBOD, supported by Adaptec Series 6 controllers and older. Any drive without Adaptec RAID meta data is exposed to the OS as a RAW Pass Through device.

To expose a drive with Adaptec meta data to the OS, use the ARCCONF UNINIT command with the controller in RAID mode to remove the Adaptec meta data and reserved space. (You can also run uninit from the CTRL-A BIOS.) Once the drive is uninitialized, switch the controller to Auto-Volume mode (in ARCCONF) to convert the RAW device to a simple volume for use in your RAID application. The uninitialized drive is also compatible with any HBA or drive moved from an onboard SATA interface. For more on controller modes, see the CLI User's Guide. See also Section 4.24.

4.21 ATA Secure Erase

In ARCCONF, the ATA Secure Erase operation cannot be aborted. Once started, it continues to completion.

NOTE: ATA Secure Erase is also available in the Ctrl-A BIOS. This feature is not available in maxView Storage Manager, which supports just standard Secure Erase (which writes patterns to the drive).

4.22 ARCCONF Backward Compatibility

ARCCONF is backward compatible with older Adaptec controller models. As a result, the ARCCONF user's guide and online help show command options that are not supported by Adaptec Series 7 controllers. Examples: with Adaptec Series 7, ARCCONF CREATE does not support 16KB and 32KB stripe sizes or RAID 5EE; with ARCCONF SETMAXCACHE, Adaptec Series 7 does not support ADDTOPOOL or REMOVEFROMPOOL.

4.23 Special Characters in Logical Device Names

Special characters are permitted in logical device names in maxView Storage Manager, the BIOS, and ARCCONF. However, with Linux ARCCONF (create, setname), special characters must be "escaped" to ensure proper interpretation. For example:

```
ARCCONF SETNAME 1 LOGICALDRIVE 1 arc_ldrive%\"$!2\&
```

4.24 ARCCONF Documentation Issues

- In the description of the UNINIT command, the CLI User's Guide incorrectly states that an uninitialized drive can be used only in HBA mode. An uninitialized drive can be used in all controller modes, including RAID Mode (default), HBA mode and Auto-Volume mode.
- ARCCONF SAVECONFIG and ARCCONF PLAYCONFIG are supported on Windows systems only.
- Undocumented command: ARCCONF EXPANDERLIST
Usage: EXPANDERLIST <Controller#>

Provides a list of expanders on the controller.

NOTE: This command is not documented in the CLI user's guide.
The online help provides usage information.

4.25 Online Help Issues

- In the maxView Storage Manager online help, some links show the full file path to the topic, rather than the topic title. The link itself is unaffected. See also 'Browser Issues' in Section 4.10.
- When opening the maxView Storage Manager help from a remote Linux system (eg, over a VPN), you may see a 'can't establish connection to server' message and the help window fails to open. WORKAROUND: replace 127.0.0.1:8443 in the URL with <system_ip_address>:8443.

4.26 Uninstallation Issues

- If a previous version of maxView Storage Manager is installed on a system, you must remove it before beginning a new installation. You cannot upgrade an existing installation.
- When using the installer's 'Modify' option to uninstall maxView Storage Manager, the 'Adaptec' folder is not deleted from the file system.
- Uninstall Program, on the Windows Control Panel, incorrectly reports the size of maxView Storage Manager as 611MB if you previously removed individual components (like ARCCONF) with the installer's 'Modify' option.
- After uninstalling maxView from a Linux system, log files in the root directory are not removed.

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