

README.TXT

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

as of June 16, 2015

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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

- o Support for new operating systems
- o Support for HDD/SSD temperature monitoring
- o Improved SMART error logging for SAS and SATA devices
- o Basecode logs and Flash Backup Module hard error logs included in support archive
- o Enhanced maxView SMTP mail client to comply with highly secured SMTP servers (Gmail, Yahoo, etc)
- o Open Pegasus 2.13 (maxView CIM Server) upgrade
- o Re-design of maxView schedule dialog with advanced Primefaces calendar component
- o Multi-level authentication and access privileges in maxView (Administrator/Standard user)
- o Installer change: install GUI, Agent and CIM Server as separate components (saves 500MB RAM space, typical)
  - o Global Init/Uninit Physical Devices wizard
  - o Global Delete Logical Devices wizard
  - o Misc UI enhancements:
    - Logical drive property tab shows initialization method

- Physical device temperature added to physical drive information
- Logical device long running task navigation from tree node to Tab to Task dialog
- o ARCCONF changes:
  - New commands: backupunit, driverupdate, setcustommode, setconnectormode
  - Enhanced commands: identify command supports blink LED start/stop
- o Bugfixes

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## 2. Software Versions and Documentation

### 2.1 Utility Software

- o Adaptec maxView Storage Manager Version 1.08
- o Adaptec ARCCONF Command Line Interface Utility Version 1.08

### 2.2 Documentation

PDF Format (English/Japanese):

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

HTML and Text Format:

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

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## 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 R2, 64-bit
- o Windows Server 2008, 32-bit and 64-bit
- o Windows Server 2008 R2, 64-bit
- o Windows SBS 2011, 64-bit
- o Windows 7, 32-bit and 64-bit
- o Windows 8, Windows 8.1, 32-bit and 64-bit

Linux:

- o Red Hat Enterprise Linux 7.1, 64-bit
- o Red Hat Enterprise Linux 6.6, 5.11, 32-bit and 64-bit
- o SuSE Linux Enterprise Server 12, 64 bit
- o SuSE Linux Enterprise Server 11, 10\*, 32-bit and 64-bit
- o Debian Linux 7.8, 32-bit and 64-bit
- o Ubuntu Linux 14.10, 14.04.1, 12.04.3, 32-bit and 64-bit
- o Fedora Linux 21, 32-bit and 64-bit
- o CentOS 7.1, 64 bit
- o CentOS 6.6, 5.11, 32-bit and 64-bit

\*See Section 3.6 for SLES 10 setup issues

Virtual OS Environments:

- o VMware ESXi 6.0, VMware ESXi 5.5
- o Citrix XenServer 6.5 (32-bit GOS only)

Solaris:

- o Solaris 10 U11
- o Solaris 11.2

### 3.3 General Setup Notes

- o maxView Storage Manager supports Adaptec Series 8, Adaptec Series 7, and Adaptec Series 6 controllers. It is not backward compatible with older Adaptec controller models.
- o maxView Storage Manager is not supported on FreeBSD. Use

ARCCONF to create and manage arrays.

- o 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 4.12 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 SLES Setup

- o Due to a JRE conflict, maxView Storage Manager is not supported on SLES 10 SP2/SP3 (x32, x64), and SLES 10 SP4 (x32).

WORKAROUND: Install SLES 10 SP4 64-bit then replace the 64-bit JRE with a 32-bit JRE. Alternatively, use ARCCONF for storage management on SLES 10 systems.

- o To avoid a problem with launching maxView Storage Manager on SLES 11 x64 systems with DHCP enabled, ensure that the /etc/hosts file maps the server IP address to a valid host name; it is not sufficient to map the IP address to 'localhost'.

### 3.7 Ubuntu Setup

- o To avoid a maxView Login failure on Ubuntu systems, you must ensure that the root user account is enabled. (It is disabled, by default, on Ubuntu 14.04 and later because no password is set.)

For example: `sudo bash; sudo passwd root`

- o When upgrading maxView Storage Manager on an existing Ubuntu Linux x64 installation, you must enable the upgrade switch before installing the maxView .deb package:

```
export maxView_Upgrade=true
dpkg -i StorMan-*.deb
```

To uninstall maxView after the upgrade:

```
export maxView_Upgrade=false
dpkg -r storman
```

### 3.8 Bootable USB Image Security Warnings

When running maxView Storage Manager from the bootable USB image, you may be prompted with one or more with security warnings before maxView launches. In each case, acknowledge the warning and continue.

### 3.9 RAW Device Setup

On Adaptec Series 7 and Adaptec Series 8 controllers, a RAW Pass Through device is analogous to a JBOD, supported by Adaptec Series 6 controllers and older. Any drive without Adaptec RAID metadata is exposed to the OS as a RAW Pass Through device. To remove the Adaptec metadata and convert the drive to a RAW device, use the Uninitialize command in maxView Storage Manager; any existing data on the drive is destroyed. (You can also run `uninit` from the BIOS or ARCCONF.) For more information about working with RAW devices, see 'controller modes' in the CLI User's Guide, and BIOS 'general settings' in the RAID Controller Installation and User's Guide.

### 3.10 maxView Plugin for VMware vSphere Web Client

The maxView Plugin for VMware vSphere Web Client is supported on VMware 5.5 and 6.0.

### 3.11 Uninstallation Issues

- o When uninstalling maxView Storage Manager on Fedora Linux, the OS displays a series of warning messages about missing files. These messages can be ignored; the uninstallation completes successfully.

WORKAROUND: To avoid the warnings, uninstall maxView with `./StorMan-1.06-21032.i386.bin --remove` rather than `rpm -e StorMan`.

- o When using the 'Modify' option to uninstall maxView Storage Manager on Windows, the 'Adaptec' folder is not removed from the file system.

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## 4. Known Limitations

### 4.1 Login Issues on Windows Domain Server

If the maxView login account doesn't have local administrative rights, login will fail with an error message: 'Invalid Username or Password'. On domain servers running later versions of Microsoft Windows Server, where no local administrator exists or can be created, maxView login is not possible. Use ARCCONF to create and manage arrays.

### 4.2 Hot Spare Issues

- o After using a global hot spare to rebuild a redundant logical drive, maxView Storage Manager displays an erroneous event message: "Deleted dedicated hot spare drive for logical device". In fact, the message should read "Logical device X is no longer protected by hot spare drive Y".

o maxView Storage Manager allows you to un-assign a global hot spare drive while copyback is in progress. This procedure is not recommended.

### 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

- o 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.

- o On CentOS 5.9 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 Non-RAID Mode Controllers

maxView Storage Manager can "see" RAID controllers operating in HBA mode, Auto-Volume mode, and Simple Volume mode (Adaptec Series 7 and Adaptec Series 8 controllers only). However, to change the controller mode, you must use ARCCONF or the BIOS.

### 4.7 RAID-Level Migrations

- o 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

- o When migrating a Simple Volume to RAID 1, maxView Storage Manager reports the logical drive state as Impacted (rather than Reconfiguring); this is normal.
- o 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 drives with maxCache enabled. ARCCONF terminates the task.

- o 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.

#### 4.8 maxCache Device Migration

Only one maxCache Device is supported per controller. Moving the maxCache Device (all underlying SSDs) from one controller to another (assuming both controllers support maxCache) is supported only if (1) the new controller does not have a maxCache Device or any other maxCache Device with a conflicting device number and (2) only after a clean shutdown on the old controller.

#### 4.9 ARCCONF maxCache Device Size Issue

ARCCONF supports >2TB maxCache Devices if you create the device with the 'max' parameter. However, the functional limit for the maxCache Device is 2TB, which is also the limit in maxView Storage Manager.

#### 4.10 Browser Issues

- o To run maxView Storage Manager on the supported browsers, Javascript must be enabled.
- o Due to a certificate bug in Firefox 31.x, maxView login may fail on RHEL systems with a "Secure Connection" error. (Firefox 31.1 is the default browser on RHEL 6.6; on RHEL 7.1, it is 31.4.)

WORKAROUND: Upgrade to Firefox 36.

- o With the default Security setting in Microsoft Internet Explorer 10 and 11, you may be unable to login to maxView Storage Manager or experience certain GUI display issues in the maxView online Help system.

WORKAROUND: Change the default Security setting from High (or Medium-High) to Medium. Alternative: add the GUI IP address to the trusted sites list.

- o With Google Chrome, the scrollbar resets itself to the top after selecting a drive in the Logical Drive wizard. To select another drive, you must scroll back down to the drive location.
- o 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.
- o We do not recommend using multiple browsers simultaneously on the same maxView instance. Doing so may cause display issues or freezes; to restore maxView, refresh the display by pressing F5.

#### 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:

- o Ensure that the DNS server information is properly configured

RHEL/Linux:

- o Set server.properties file permissions to at least read-only at all levels
  1. Stop all 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
- o Check/update these network settings:
  1. Disable SELinux
  2. Disable firewall.
  3. Disable the ipv6 in the system, if ipconfig 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

- o Power management is not supported on FreeBSD.
- o Capturing support logs from maxView or ARCCONF will spin up drives when power management is active. This behavior is by design.
- o For logical drives comprised of SSDs only, the Power Tab in maxView Storage Manager is disabled.
- o The Logical Drive Creation wizard does not save the power management settings after the logical drive is created. It is always disabled.

WORKAROUND: Enable power management for the logical drive from the Set Properties window.

#### 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:

- o 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
- o maxView Storage Manager:
  - Assumes 2 legs for RAID 50/RAID 60 (non-selectable)
  - RAID 50 2-32 drives/leg (64 total)
  - RAID 60 2-16 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

#### 4.17 Locate Logical Drive Blink LED

In maxView Storage Manager, Locate Logical Drive continues to blink the LED for a pulled physical drive in the array after the locate action is stopped. (For unpulled drives, the blinking stops.) This issue is not seen with ARCCONF.

#### 4.18 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. and maxView Storage Manager.

#### 4.19 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 newer Adaptec controllers, like the Adaptec Series 7 and Adaptec Series 8.

Example:

- o With ARCCONF SETMAXCACHE, Adaptec Series 7 and Series 8 controllers do not support ADDTOPPOOL or REMOVEFROMPOOL

#### 4.20 Adaptec Series 6 Controller Issues

The following issues are seen only with Adaptec Series 6 RAID controllers:

- o In maxView Storage Manager, the Preserve Cache option on the Set Properties window is not supported on Series 6 RAID controllers. Attempting to set this option for the Series 6 controller fails.
- o Renaming a RAID volume disables the write-cache (if enabled). You cannot re-enable the write-cache in maxView Storage Manager.

WORKAROUND: Use ARCCONF to enable the write-cache.

- o In a VMware Guest OS under VMware 5.x, maxView Storage Manager and ARCCONF do not detect existing logical drive partitions. As a result, attempting to delete, clear, or erase the logical drive may fail.
- o On Series 6 controllers, maxView Storage Manager deletes

partitioned JBODs without issuing a warning message.

- o Series 6 controllers do not support the ARCCONF GETPERFORM command.

#### 4.21 Simple Volume Support

- o In this release, you can create a maximum of 128 Simple Volumes in maxView Storage Manager, ARCCONF, or the BIOS.
- o When a Simple Volume fails, the status remains unchanged after drive replacement.

WORKAROUND: Manually delete the Simple Volume to remove it.

#### 4.22 Auto-Volume Support

- o Changing a controller into Auto-Volume mode (ARCCONF/BIOS) is not supported if the configuration includes any logical device type other than Simple Volume, including a maxCache Device. The mode switch from RAID mode to Auto-Volume mode is blocked if any other type of logical volume exists (including maxCache). After switching to Auto-Volume mode, you can create and delete Simple Volumes only in maxView Storage Manager and ARCCONF.
- o In Auto-Volume mode, only the first 128 RAW drives are converted to Simple Volumes; the rest of the RAW drives remain unchanged. If you uninitialize a Ready drive while the controller is in Auto-Volume mode, the firmware converts the drive automatically until the Simple Volume count reaches the maximum.

#### 4.23 Hot-Removing Disk Drives on XenServer Guest OS

XenServer does not support "hot-removal" of disk drives from a partitioned logical drive. As a result, if you hot remove a disk from a logical drive, the Guest OS becomes inaccessible because the drive partition remains visible to the OS instead of being cleared.

WORKAROUND: Reboot the XenServer host, detach the failed partition, then restart the VM.

#### 4.24 Updating Hard Disk Firmware on VMware Guest OS

Updating the firmware for a SAS hard disk drive with ARCCONF/maxView can crash (PSOD) the VMware Guest OS. This issue is seen with SAS hard drives only; with SATA drives, the firmware update completes successfully.

#### 4.25 Creating a Support Archive on a Guest OS

To create a support archive on a VMware or XenServer Guest OS, use maxView Storage Manager only. Creating a support archive with ARCCONF is not supported in this release.

#### 4.26 Hot Swap Issues on VMware CentOS Guest OS

Due to a limitation with the VMware CentOS Guest OS network configuration, maxView Storage Manager does not show newly added or removed hot swap drives. (ARCCONF sees the configuration change but maxView does not.)

WORKAROUND: (1) reboot the system or restart maxView services; (2) adjust the network configuration; contact Adaptec Support for more information.

#### 4.27 Enclosure Status Reporting

Enclosure status, in maxView Storage Manager, is event-driven. As a result, enclosures can have a "Degraded" status even if related resources (fan, temperature, power) are performing normally (Optimal status). For instance, the Enclosure status changes to "Degraded" if the system reports an "Enclosure device not responding ..." event, even if other sensor values are normal.

#### 4.28 PHY Status on Enclosure Backplanes

In the Controller Properties window, maxView Storage Manager shows the Connector Info as "unknown" for all PHYs on an enclosure-based backplane (for instance, a backplane attached to connector 1).

#### 4.29 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%\$12\&
```

#### 4.30 Speaker Status on SuperMicro SAS2X28 Enclosures

SuperMicro SAS2X28 enclosures do not propagate the speaker status to maxView Storage Manager. As a result, maxView always displays the speaker status as Off.

#### 4.31 Changing Read and Write Cache Settings for a Logical Drive

maxView Storage Manager does not allow you to change the read-cache and write-cache settings for a logical drive in one step. You must click OK after each change.

#### 4.32 Online Help Issues

When opening the maxView Storage Manager help from a remote Linux system (eg, over a VPN), the help window may fail to open with a 'can't establish connection to server' message.

WORKAROUND: replace 127.0.0.1:8443 in the URL with <system\_ip\_address>:8443

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