README.TXT

Adaptec Storage Manager (ASM)
as of March 29, 2011

Please review this file for important information about issues
and erratas 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.

The following information is available in this file:

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1. Software Versions and Documentation

   1.1. Adaptec Storage Manager Version 7.0

   1.2. Documentation on this DVD

        PDF format*:

        - Adaptec Storage Manager User's Guide for Direct Attached Storage
        - Adaptec RAID Controller Command Line Utility User's Guide

        *Requires Adobe Acrobat Reader 4.0 or later

        HTML and text format:

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

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2. Installation and Setup Notes

   - The Adaptec RAID Controllers Installation and User's Guide
      contains complete installation information for direct attached
      RAID controllers and drivers. The Adaptec Storage Manager User's
      Guide contains complete instructions for all utilities and
      Adaptec Storage Manager software for direct attached storage.

   2.1 Supported Operating Systems

      - Microsoft Windows*:

        o Windows Server 2008, 32-bit and 64-bit

        o Windows Server 2008 R2, 64-bit
        o Windows Server 2003, 32-bit and 64-bit
        o Windows Server 2003 R2, 32-bit and 64-bit
        o Windows XP Professional (32-bit, 64-bit)
        o Windows Vista, 32-bit and 64-bit
        o Windows 7, 32-bit and 64-bit

    *Out-of-box and current service pack

    - Linux:

        o Red Hat Enterprise Linux 5.5, 6.0, IA-32 and x64
        o SuSE Linux Enterprise Server 10, 11, IA-32 and x64
        o Fedora Linux 11, 12, IA-32 and x64
        o VMware ESXi Server 4.1, VMware vSphere (ESX) 4.1

    - UnixWare:

        o SCO UnixWare 7.1.4

    - OpenServer:

        o SCO OpenServer 6.0

    - Solaris:

        o Solaris 10

    - FreeBSD:

        o FreeBSD 7.3, 8.x

2.2 Minimum System Requirements

    o Intel Pentium Compatible 1.2 GHz processor
    o 512 MB RAM
    o 135 MB hard disk drive space
    o Greater than 256 color video mode

2.3 General Setup Notes

- You can configure Adaptec Storage Manager settings on other
  servers exactly as they are configured on one server. To
  replicate the Adaptec Storage Manager Enterprise view tree
  and notification list, do the following:

    1. Install Adaptec Storage Manager on one server.

    2. Start Adaptec Storage Manager. Using the 'Add remote system'
        action, define the servers for your tree.

    3. Open the Notification Manager. Using the 'Add system'
        action, define the notification list.

    4. Exit Adaptec Storage Manager.

    5. Copy the following files onto a diskette from the directory
        where the Adaptec Storage Manager is installed:

        RaidMSys.ser --> to replicate the tree
        RaidNLst.ser --> to replicate the notification list
        RaidSMTP.ser --> to replicate the SMTP e-mail notification list
        RaidJob.ser --> to replicate the jobs in the Task Scheduler

    6. Install Adaptec Storage Manager on the other servers.

    7. Copy the files from the diskette into the directory where
        Adaptec Storage Manager is installed on the other servers.

2.4 Linux Setup Notes

- Because the RPM for Red Hat Enterprise Linux 5 is unsigned, the
  installer reports that the package is "Unsigned, Malicious Software".
  Ignore the message and continue the installation.

- To run Adaptec Storage Manager under Red Hat Enterprise Linux for
  x64, the Standard installation with "Compatibility Arch Support"
  is required.

- To install Adaptec Storage Manager on Red Hat Enterprise Linux,
  you must install two packages from the Red Hat installation CD:

    o compat-libstdc++-7.3-2.96.122.i386.rpm
    o compat-libstdc++-devel-7.3-2.96.122.i386.rpm

    NOTE: The version string in the file name may be different
           than above. Be sure to check the version string on the
           Red Hat CD.

    For example, type:

    rpm --install /mnt/compat-libstdc++-7.3-2.96.122.i386.rpm

    where mnt is the mount point of the CD-ROM drive.

- To install Adaptec Storage Manager on Red Hat Enterprise Linux 4,
  you must install the following package from the Red Hat
  installation CD:

    o xorg-x11-deprecated-libs-6.8.1-23.i386.rpm

    NOTE: The version string in the file name may be different
           than above. Be sure to check the version string on
           the Red Hat CD.

- To install Adaptec Storage Manager on Red Hat Enterprise Linux 5,
  you must install one of these packages from the Red Hat
  installation CD:

    o libXp-1.0.0-8.i386.rpm   (32-Bit)
    o libXp-1.0.0-8.x86.rpm   (64-Bit)

- To install Adaptec Storage Manager on Novell Linux Desktop 9
  Service Pack 1 for 64-bit systems, you must install two
  packages from the Novell Linux installation CD:

    - liblcms-devel-1.12-55.2.x86_64.rpm
    - compat-32bit-9-200502081830.x86_64.rpm

    NOTE: The version string in the file name may be different
           than above. Be sure to check the version string on the
           Novell Linux CD.

- To enable ASM's hard drive firmware update feature on RHEL 64-bit
  systems, you must ensure that the "sg" module is loaded in the kernel.
  To load the module manually (if it is not loaded already), use the
  command "modprobe sg".

    2.5 VMware Setup Notes

- On VMware ESX Server, the Adaptec Storage Manager Agent cannot
  be monitored from a guest operating system.

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3. Adaptec Storage Manager General Cautions and Notes

    3.1 General Cautions

- This release supports a maximum of 8 concurrent online capacity
  expansion (OCE) tasks in the RAID array migration wizard.

- While building or clearing a logical drive, do not remove and
  re-insert any drive from that logical drive. Doing so may cause
  unpredictable results.

- Do not move disks comprising a logical drive from one controller
  to another while the power is on. Doing so could cause the loss of
  the logical drive configuration or data, or both. Instead, power
  off both affected controllers, move the drives, and then restart.

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

    3.2 General Notes

- Adaptec Storage Manager requires the following range of ports

       to be open for remote access: 34570-34580 (TCP), 34570 (UDP),
       34577-34580 (UDP).

   - Adaptec Storage Manager generates log files automatically to
     assist in tracking system activity.   The log files are
     created in the directory where Adaptec Storage Manager is
     installed.

       o RaidEvt.log - Contains the information reported in
                         Adaptec Storage Manager event viewer for all
                         local and remote systems.

       o RaidEvtA.log - Contains the information reported in
                         Adaptec Storage Manager event viewer for the
                         local system.

       o RaidNot.log - Contains the information reported in the
                         Notification Manager event viewer.

       o RaidErr.log - Contains Java messages generated by
                         Adaptec Storage Manager.

       o RaidErrA.log - Contains Java messages generated by the
                         Adaptec Storage Manager agent.

     Information written to these files is appended to the existing
     files to maintain a history. However, when an error log file
     reaches a size of 5 Mbytes, it is copied to a new file with
     the extension .1 and the original (that is, the .LOG file) is
     deleted and recreated. For other log files, a .1 file is created
     when the .LOG file reaches a size of 1 Mbyte. If a .1 file already
     exists, the existing .1 file is destroyed.

   - In the Event viewer, Adaptec Storage Manager reports both the
     initial build task for a logical drive and a subsequent Verify/Fix
     as a "Build/Verify" task.

   - When displaying information about a physical device, the device,
     vendor and model information may be displayed incorrectly.

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

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4. Operating System-Specific Issues and Notes

    4.1 Windows - All

   - The Java Virtual Machine has a problem with the 256-color
     palette. (The Adaptec Storage Manager display may be distorted
     or hard to read.) Set the Display Properties Settings to a
     color mode with greater than 256 colors.

   - When you shut down Windows, you might see the message
     "unexpected shutdown". Windows displays this message if the
     Adaptec Storage Manager Agent fails to exit within 3 seconds.
     It has no effect on file I/O or other system operations and can
     be ignored.

    4.2 Windows 64-Bit

   - RAID controllers do not produce an audible alarm on the following
     64-bit Windows operating systems:

       o Windows Server 2003 x64 Edition (all versions)

    4.3 Windows Vista Business and Ultimate (64-bit versions)

   - Flashing a RAID controller on Windows Vista 64-bit systems
     is not supported in this release of Adaptec Storage Manager.

       NOTE: Although you can start the image update wizard with
               Adaptec Storage Manager on a Windows Vista 64-bit
               system, the wizard does not run to completion.

    4.4 Linux

- When you delete a logical drive, the operating system can no longer
  see the last logical drive. WORKAROUND: To allow Linux to see the
  last logical drive, restart your system.

- The controller does not support attached CD drives during OS
  installation.

- On certain versions of Linux, you may see messages concerning font
  conversion errors. Font configuration under X-Windows is a known
  JVM problem. It does not affect the proper operation of the
  Adaptec Storage Manager software. To suppress these messages,
  add the following line to your .Xdefaults file:

  stringConversionWarnings: False

4.5 FreeBSD

- Due to an issue with the Java JDialog Swing class, the 'Close'
  button may not appear in Adaptec Storage Manager windows or dialog
  boxes under FreeBSD.

- On FreeBSD systems, JBOD disks created with Adaptec Storage Manager
  are not immediately available to the OS. You must reboot the
  system before you can use the JBOD.

4.6 Linux and FreeBSD

- If you cannot connect to a local or remote Adaptec Storage Manager
  installed on a Linux or FreeBSD system, verify that the TCP/IP hosts
  file is configured properly.

    1. Open the /etc/hosts file.

        NOTE: The following is an example:

                127.0.0.1 localhost.localdomain localhost matrix

    2. If the hostname of the system is identified on the line
        with 127.0.0.1, you must create a new host line.

    3. Remove the hostname from the 127.0.0.1 line.

        NOTE: The following is an example:

                127.0.0.1 localhost.localdomain localhost

    4. On a new line, type the IP address of the system.

    5. Using the Tab key, tab to the second column and enter the
        fully qualified hostname.

    6. Using the Tab key, tab to the third column and enter the
        nickname for the system.

        NOTE: The following is an example of a completed line:

                1.1.1.1 matrix.localdomain matrix

                where 1.1.1.1 is the IP address of the server and
                matrix is the hostname of the server.

    7. Restart the server for the changes to take effect.

4.7 VMware

- If you are unable to connect to VMware ESX Server from a
  remote ASM GUI, even though it appears in the Enterprise
  View as a remote system, most likely, some required ports
  are open and others are not. (The ESX server firewall blocks
  most ports, by default.) Check to make sure that all ports
  34570 thru 34581 are opened on the ESX server.

- After making array configuration changes in VMware, you must
  run the "esxcfg-rescan" tool manually at the VMware console
  to notify the operating system of the new target characteristics
  and/or availability. Alternatively, you can rescan from the
  Virtual Infrastructure Client: click on the host in the left
  panel, select the Configuration tab, choose "Storage Adapters",
  then, on the right side of the screen, click "Rescan".

4.8 Unixware and Openserver (SCO)

- Firmware update is not supported from ARCCONF (CLI) for
  SCO operating systems (Unixware, Openserver). To update the
  firmware on these platforms, you must use the BIOS utility or
  Adaptec Storage Manager.

- With SCO operating systems, you must create the '/var/log'
  directory manually to get log files from ARCCONF. If you do not
  create this directory, ARCCONF will issue the error message
  "could not open log file: /var/log/..." whenever it tries
  to create a log file.

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5. RAID Level-Specific Notes

   5.1 RAID 1 and RAID 5 Notes

   - During a logical device migration from RAID 1 or RAID 5 to
     RAID 0, if the original logical drive had a spare drive
     attached, the resulting RAID 0 retains the spare drive.
     Since RAID 0 is not redundant, you can remove the hot spare.

   5.2 RAID 10 Notes

   - You cannot change the priority of a RAID-10 verify. Setting
     the priority at the start of a verify has no effect. The
     priority is still shown as high. Changing the priority of
     a running verify on a RAID-10 changes the displayed priority
     until a rescan is done, then the priority shows as high again.

   - Performing a Verify or Verify/Fix on an RAID 10 displays the
     same message text in the event log: "Build/Verify started on
     second level logical drive of 'LogicalDrive_0.'" You may see the
     message three times for a Verify, but only once for a Verify/Fix.

   - During a migration from a RAID 0 to any redundant logical drive,
     like RAID 5 or 10, Adaptec Storage Manager shows the status as
     "Degraded Reconfiguring" for a moment, then the status changes
     to "Reconfiguring." The "Degraded" status does not appear in
     the event log.

   5.3 RAID x0 Notes

   - To create a RAID x0 with an odd number of drives (15, 25, etc),
     specify an odd number of second-level devices in the Advanced
     settings for the array. For a 25 drive RAID 50, for instance,
     the default is 24 drives.

     NOTE: This differs from the BIOS utility, which creates RAID x0
           arrays with an odd number of drives by default.

   - After building or verifying a leg of a second-level logical drive,
     the status of the second-level logical drive is displayed as a
     "Quick Initialized" drive.

   5.4 JBOD Notes

   - In this release, ASM deletes partitioned JBODs without issuing
     a warning message.

   - When migrating a JBOD to a Simple Volume, the disk must be quiescent
     (no I/O load). Otherwise the migration will fail with an I/O Read
     error.

   5.5 RAID-Level Migration Notes

   - Always allow a RAID-level migration (RLM) to complete before gathering
     support archive information in Support.zip. Otherwise, the Support.zip
     file will include incorrect partition information. Once the RLM is
     complete, the partition information will be reported correctly.

   - When migrating a RAID 5EE, be careful not to remove and re-insert
     a drive in the array. If you do, the drive will not be included
     when the array is rebuilt. The migration will stop and the drive
     will be reported as Ready (not part of array).

     NOTE: Adaptec does not recommend removing and re-inserting any

drive during a RAID-level migration.

- When migrating a RAID 6 to a RAID 5, the migration will fail if
  the (physical) drive order on the target logical device differs
  from the source; for instance, migrating a four-drive RAID 6 to
  a three-drive RAID 5.

- Migrating a RAID 5 with greater than 2TB capacity to RAID 6 or
  RAID 10 is not supported in this release. Doing so may crash
  the system.

- The following RAID-level migrations and online capacity
  expansions (OCE) are NOT supported:

  o RAID 50 to RAID 5 RLM
  o RAID 60 to RAID 6 RLM
  o RAID 50 to RAID 60 OCE

- During a RAID-level migration, ASM and the BIOS utility show
  different RAID levels while the migration is in progress. ASM shows
  the target RAID level; the BIOS utility shows the current RAID level.

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6. Power Management Issues and Notes

- You must use a compatible combination of Adaptec Storage Manager
  and controller firmware and driver software to use the power
  management feature. All software components must support power
  management. You can download the latest controller firmware
  and drivers from the Adaptec Web site at www.adaptec.com.

- Power management is not supported under FreeBSD.

- Power management settings apply only to logical drives in the
  Optimal state. If you change the power settings on a Failed
  logical drive and then force the drive online, the previous
  settings are reinstated.

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7. "Call Home" Issues and Notes

- At the time of this release, the Adaptec "Call Home" server
  was experiencing problems and may not be available at all times.
  If you receive a warning or error message while trying to send
  information via the Call Home interface in ASM, wait awhile,
  then try again.

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8.   ARCCONF Notes

- With VMware ESX Server 4.1, you cannot delete a logical drive
  with ARCCONF. WORKAROUND: Connect to the VMware machine from a
  remote ASM GUI, then delete the logical drive.

- With Linux kernel versions 2.4 and 2.6, the ARCCONF
  DELETE <logical_drive> command may fail with a Kernel Oops
  error message. Even though the drives are removed from the
  Adaptec Storage Manager GUI, they may not really be deleted.
  Reboot the controller; then, issue the ARCCONF DELETE command
  again.

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9. Other Issues and Notes

- Some older solid state drives do not identify themselves as
  nonSpinning devices. As a result, they appear as SATA drives in
  the ASM Physical Devices View.

- The blink pattern on Adaptec Series 6 controllers differs from
  Series 2 and 5 controllers:

  o When blinking drives in ASM, the red LED goes on and stays solid;
    on Series 2 and 5 controllers, the LED blinks on and off.

  o When failing drives in ASM (by using the 'Set drive state to failed'
    action), the LED remains off; on Series 2 and 5 controllers, the
    LED goes on and remains solid.

- Cache settings for RAID Volumes (Read/Write cache, MaxIQ cache)

have no effect. The cache settings for the underlying logical
devices take priority.

- On rare occasions, ASM will report invalid medium error counts on
  a SATA hard drive or SSD. To correct the problem, use ARCCONF to
  clear the device counts. The command is:

  arcconf getlogs <Controller_ID> DEVICE clear

- Hard Drive Firmware Update Wizard:

  o Firmware upgrade on Western Digital WD5002ABYS-01B1B0 hard drives
    is not supported for packet sizes below 2K (512/1024).

  o After flashing the firmware of a Seagate Barracuda ES ST3750640NS
    hard drive, you MUST cycle the power before ASM will show the new
    image. You can pull out and re-insert the drive; power cycle the
    enclosure; or power cycle the system if the drive is attached directly.

- You can perform a "Secure Erase" on a Solid State Drive (SSD) to
  remove the metadata. However, the drive will move to the Failed
  state when you reboot the system. To use the SSD, reboot to
  the BIOS, then initialize the SSD. After initialization, the SSD
  will return to the Ready state. (A SSD in the Failed state cannot
  be initialized in ASM.)

- The Repair option in the ASM Setup program may fail to fix a
  corrupted installation, depending on which files are affected.
  The repair operation completes successfully, but the software
  remains unfixed.

- Adaptec Storage Manager may fail to exit properly when you create
  64 logical devices in the wizard. The logical devices are still
  created, however.

- The "Clear logs on all controllers" action does not clear events
  in the ASM Event Viewer (GUI). It clears device events, defunct
  drive events, and controller events in the controllers' log files.
  To clear events in the lower pane of the GUI, select Clear
  configuration event viewer from the File menu.