Intel® RAID Controller SASWT4I
Quick Start User's Guide

This guide contains step-by-step instructions for installing Microsoft Windows Server 2008* / Microsoft Windows Server 2003* / Microsoft Windows 2000* Advanced Server, or Linux on a single RAID volume using available disks. If you plan to use a different operating system, need a more advanced RAID configuration, or need safety and regulatory information, see the Hardware and Software Guides. You can find these guides on the Resource CD accompanying the Intel® RAID Controller SASWT4I. These guides and other supporting documents (including a list of supported server boards) are also located on the web at: http://support.intel.com/support/motherboards/server.

If you are not familiar with ESD (Electrostatic Discharge) procedures used during system integration, see your Hardware Guide for complete ESD procedures. For more details on Intel® storage controllers, see: http://www.intel.com/go/serverbuilder.
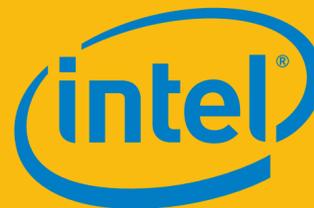
What you will need

- SAS or SATA cables
- SAS / SATA hard disk drives
- Intel® RAID Controller SASWT4I
- Server board with a x4 or x8 PCI Express* slot
- Intel® RAID Controller SASWT4I Resource CD
- Operating system installation media: Microsoft Windows Server 2008*, Microsoft Windows Server 2003*, Microsoft Windows 2000* Advanced Server, Red Hat* Linux, SUSE* Linux Enterprise Server

Important Information

SAS and SATA Cables are not included with this product.

You can find the Hardware and Software Guides on the Resource CD that accompanied the Intel® RAID Controller SASWT4I.

These guides and other supporting documents (including a list of supported server boards) are located on the web at: http://support.intel.com/support/motherboards/server.

Building Value With Intel
Server Products, Programs and Support

Get the high-value server solutions you need by taking advantage of the outstanding value Intel provides to system integrators:

- High-quality server building blocks
- Extensive breadth of server building blocks
- Solutions and tools to enable e-Business
- Intel® Server Management
- Comprehensive training services
- Worldwide 24x7 technical support (AT&T Country Code + 866-655-6565)
- World-class service, including a three-year limited warranty and Advanced Warranty Replacement

For more information on the added-value server offerings from Intel, visit the Intel® ServerBuilder website at: http://www.intel.com/go/serverbuilder.

Intel® ServerBuilder is your one-stop shop for information about all of Intel's Server Building Blocks such as:

- Product information, including product briefs and technical product specifications
- Sales tools, such as videos and presentations
- Training information, such as the Intel® Online Learning Center
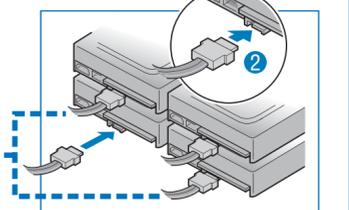- Support Information and much more

1 Install the Intel® RAID Controller SASWT4I

1 Power down the system, disconnect power cord(s), and remove the system cover.

2 Install the Intel® RAID Controller SASWT4I into an available x4 or x8 PCI Express* slot.

Note: See your server board and chassis documentation for add-in card installation procedure(s).

PCI Express*
x4 Slot (3.3V)

2 Attach SAS / SATA Cables

To attach a cable that connects to a backplane board, see your server board and chassis documentation.

See the "Intel® RAID Controller SASWT4I Diagram" on side 2 of this Quick Start User's Guide for SAS / SATA connector locations.

1 Connect one end of the SAS / SATA cable to connector J7 (port 0), J6 (port 1), J5 (port 2), or J2 (port 3) on the Intel® RAID Controller SASWT4I.
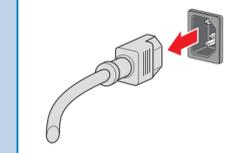
Note: The cable locks into the sata ports on the Intel® RAID Controller SASWT4I. If you later need to remove the cable, press down firmly on the metal spring to disengage the two hooks that hold the end of the cable in place. While holding the tab down, pull the cable end from the onboard connector. Pulling on the cable or the cable connector without disengaging the hooks will damage the cable and / or the connector on the disk controller.
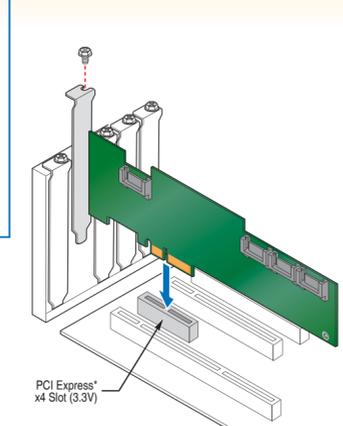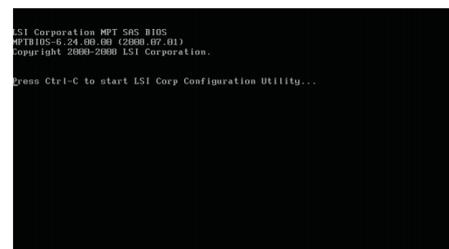
Port 3
Port 2

2 Connect the other end(s) of the SAS / SATA cable(s) to the SAS / SATA drives or to SAS / SATA connectors on an expander or non-expander-based drive bay(s) or backplane(s).
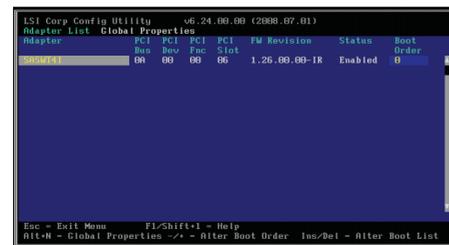
Port 0
Port 1

3 Use the LSI MPT SAS BIOS Configuration Utility* to Create a RAID Virtual Drive

Note: As necessary, see "Choosing the Right RAID Level" on side 2 of this Quick Start User's Guide for a brief description of RAID levels.

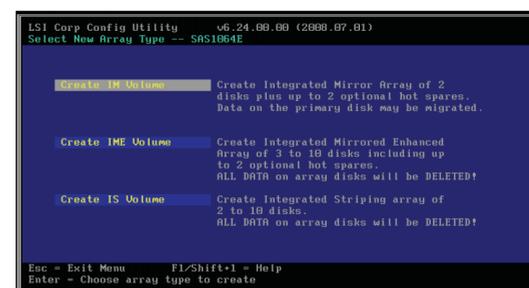1 Power on the system and press <Ctrl> + <C> when the screen below is displayed.

```
LSI Corporation MPT SAS BIOS
MPTBIOS-6.24.00.00 (2008.07.01)
Copyright 2000-2008 LSI Corporation.

Press Ctrl-C to start LSI Corp Configuration Utility...
```

2 In the Adapter List Global Properties window select SASWT4I in the Adapter column and press <Enter>.

```
LSI Corp Config Utility      v6.24.00.00 (2008.07.01)
Adapter List  Global Properties
Adapter         PCI  PCI  PCI  FW Revision    Status   Boot
                Bus  Dev  Fnc  Slot                    Order
SASWT4I         0A   00   00   06   1.26.00.00-IR  Enabled  0

Esc = Exit Menu      F1/Shift+1 = Help
Alt+N = Global Properties  -/+ = Alter Boot Order  Ins/Del = Alter Boot List
```

3 Highlight RAID Properties and press <Enter>.

```
LSI Corp Config Utility      v6.24.00.00 (2008.07.01)
Adapter Properties -- SAS1064E

     Adapter                SASWT4I
     PCI Slot               06
     PCI Address(Bus/Dev)   0A:00
     MPT Firmware Revision  1.26.00.00-IR
     SAS Address            50063B0:000C9B64
     NVDATA Version         2D.00
     Status                 Enabled
     Boot Order             0
     Boot Support           [Enabled BIOS & OS]

     RAID Properties

     SAS Topology

     Advanced Adapter Properties

Esc = Exit Menu      F1/Shift+1 = Help
Enter = Select Item  -/+/Enter = Change Item
```

4 On the Select New Array Type screen, select the appropriate configuration, for example Create IM Volume, and press <Enter>.

```
LSI Corp Config Utility      v6.24.00.00 (2008.07.01)
Select New Array Type -- SAS1064E

     Create IM Volume     Create Integrated Mirror Array of 2
                          disks plus up to 2 optional hot spares.
                          Data on the primary disk may be migrated.

     Create IME Volume    Create Integrated Mirrored Enhanced
                          Array of 3 to 10 disks including up
                          to 2 optional hot spares.
                          ALL DATA on array disks will be DELETED!

     Create IS Volume     Create Integrated Striping array of
                          2 to 10 disks.
                          ALL DATA on array disks will be DELETED!

Esc = Exit Menu      F1/Shift+1 = Help
Enter = Choose array type to create
```

5 In the RAID Disk column highlight No and press <Space>.

```
LSI Corp Config Utility      v6.24.00.00 (2008.07.01)
Create New Array -- SAS1064E
   Array Type:              IM
   Array Size(MB):          -------

Slot  Device Identifier              RAID  Hot  Drive      Pred  Size
Num                                  Disk  Spr  Status     Fail  (MB)
  0   ATA   ST300011AS      D        [No]  [No] ---------  ---   76319
  1   ATA   ST300011AS      D        [No]  [No] ---------  ---   76319

Esc = Exit Menu      F1/Shift+1 = Help
Space/+/- = Select disk for array or hot spare    C = Create array
```

6 Press <M> to keep existing data, or press <D> to overwrite existing data.

```
LSI Corp Config Utility      v6.24.00.00 (2008.07.01)
Create New Array -- SAS1064E

   M  - Keep existing data, migrate to an IM array.
        Synchronization of disk will occur.

   D  - Overwrite existing data, create a new IM array
        ALL DATA on ALL disks in the array will be DELETED!!
        No Synchronization performed.

Esc = Exit Menu      F1/Shift+1 = Help
Space/+/- = Select disk for array or hot spare    C = Create array
```

7 In the RAID Disk column highlight No and press <Space>.

```
LSI Corp Config Utility      v6.24.00.00 (2008.07.01)
Create New Array -- SAS1064E
   Array Type:              IM
   Array Size(MB):          -------

Slot  Device Identifier              RAID  Hot  Drive      Pred  Size
Num                                  Disk  Spr  Status     Fail  (MB)
  0   ATA   ST300011AS      D        [Yes] [No] Primary    ---   76319
  1   ATA   ST300011AS      D        [No]  [No] ---------  ---   76319

Esc = Exit Menu      F1/Shift+1 = Help
Space/+/- = Select disk for array or hot spare    C = Create array
```

8 When the RAID Disk status is listed as shown below, press <C> to create an array.

```
LSI Corp Config Utility      v6.24.00.00 (2008.07.01)
Create New Array -- SAS1064E
   Array Type:              IM
   Array Size(MB):          75340

Slot  Device Identifier              RAID  Hot  Drive      Pred  Size
Num                                  Disk  Spr  Status     Fail  (MB)
  0   ATA   ST300011AS      D        [Yes] [No] Primary    ---   76319
  1   ATA   ST300011AS      D        [Yes] [No] Secondary  ---   76319

Esc = Exit Menu      F1/Shift+1 = Help
Space/+/- = Select disk for array or hot spare    C = Create array
```