

Hitachi Power Savings Service for Hitachi Adaptable Modular Storage 2000 Family

Hitachi Power Savings Service enables companies to reduce energy consumption, thus significantly decreasing the cost of storing and delivering information.

Energy Consumption Savings

Organizations worldwide are under increasing pressure to hold steady or reduce their power consumption rates. Data centers are enormous consumers of power and have been doubling their power consumption every five years. The energy required to spin disk drives and cool their heat output is one of the largest areas of data center power utilization.

Hitachi Power Savings Service enables companies to decrease their energy consumption, thus significantly reducing the cost of storing and delivering information. This technology from Hitachi allows administrators to spin down the volumes in any selected RAID group when they are not being accessed by a business application. Administrators can quickly spin the RAID group(s) back up again when required. Power Savings Service is particularly appealing to organizations with large amounts of archival data where the data is accessed infrequently or for a limited period of time. It is also very useful for RAID groups assigned for backups or for disk capacity that has been installed but has yet to be allocated. Power Savings Service significantly reduces the number of kWh (kilowatt hours) a storage system consumes and also contributes to reducing

cooling costs within a data center or other environment.

Hitachi Power Savings Service is available with the Hitachi Adaptable Modular Storage 2000 family. The service develops and installs scripts that enable host (application)-based execution of spin up and spin down commands of selected disk drives.

Business Benefits

Reduce Power Utilization Immediately

- Disk drive spin up and spin down cycles are integrated into applications that are scheduled to run infrequently.
- Increase total data storage capacity while lowering power consumption (GB/kWh).
- Power cycles are implemented automatically, with no user intervention required. Spin up and spin down commands come directly from the server where the integrated application resides.
- Disk drives that are spun down in power savings mode consume very little or no power, whatsoever.

Flexible Implementation

- Apply Power Savings to SATA or SAS disk drives. Fibre Channel and iSCSI host interfaces are also supported.

Business Solutions

Hitachi Data Systems and its Hitachi TrueNorth Channel Partners offer industry leading technology to help organizations of all sizes meet their unique requirements for business continuity, regulatory compliance and data recovery. Together, we provide cost effective storage products and solutions that leverage world renowned Hitachi global R&D resources to deliver performance, availability and scalability — supporting business critical applications and strengthening competitive advantage.

Modular Storage for the Midrange Market

- Hitachi Adaptable Modular Storage 2500
- Hitachi Adaptable Modular Storage 2300
- Hitachi Adaptable Modular Storage 2100

- RAID groups in Power Savings mode may span across multiple drive trays.
- Power Savings can be implemented on any of the RAID types supported by the storage system.
- There are no limits on the percentage of drives that can implement Power Savings.

Reliable Data Storage

- Disk drives used in the systems of the Hitachi Adaptable Modular Storage 2000 family are rated for at least 50,000 contact start stop cycles. Power Savings does not harm the disk drives.
- Power Savings disk drives spin up monthly for a six minute health check.

Service Engagement for Easy Implementation of Power Savings

- Hitachi Power Savings Service is implemented by Hitachi Data Systems Global Solution Services or by a Certified Services Partner.
- The service engagement includes the selection of RAID groups for implementing Power Savings and the customization of the scripts that enable spin ups and spin downs.

Ideal Environments for Power Savings

Hitachi Power Savings Service is most appropriate for the following environments:

- Data backup applications
- Data archiving applications
- Excess or unallocated capacity

Power Savings Service Specifications

Supported Storage Systems	Hitachi Adaptable Modular Storage 2500 Hitachi Adaptable Modular Storage 2300 Hitachi Adaptable Modular Storage 2100
Disk Drive Interfaces	SATA and SAS
Host Interfaces	Fibre Channel and iSCSI
RAID Supported	RAID-0*, RAID-1, RAID-1+0, RAID-5, RAID-6
Management Software	Hitachi Storage Navigator Modular v7.0 or higher
Supported Host Operating Systems	IBM® AIX®, HP-UX, Microsoft® Windows® 2000, Windows Server 2003, Sun Solaris, HP Tru64 UNIX, SGI IRIX, Novell NetWare, Linux, HP OpenVMS, VMware, Apple Macintosh OS

*RAID-0 is not supported on SATA disk drives.

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