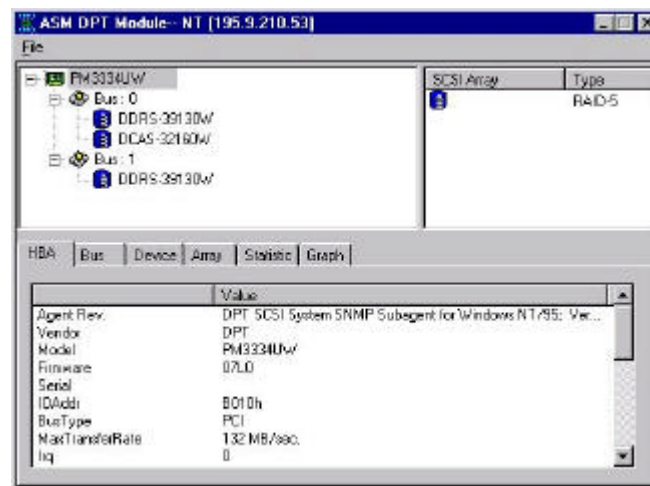


ASM Pro DPT RAID Utility

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The basic idea behind Redundant Array of Inexpensive Disk (RAID) was to combine multiple small, inexpensive disk drives into an array of disk drives which yields performance exceeding that of a Single Large Expensive Drive (SLED). This array of drives appears to the computer as a single logical storage unit or drive. This utility monitors the DPT RAID Controller information and functions. The sections below give a brief description of the utility.

DPT RAID Controller Monitor Window



This window is used to monitor the DPT RAID Controller information. The upper left window displays the hierarchical view of the controller structure, and the upper right window shows is the logical drive information.

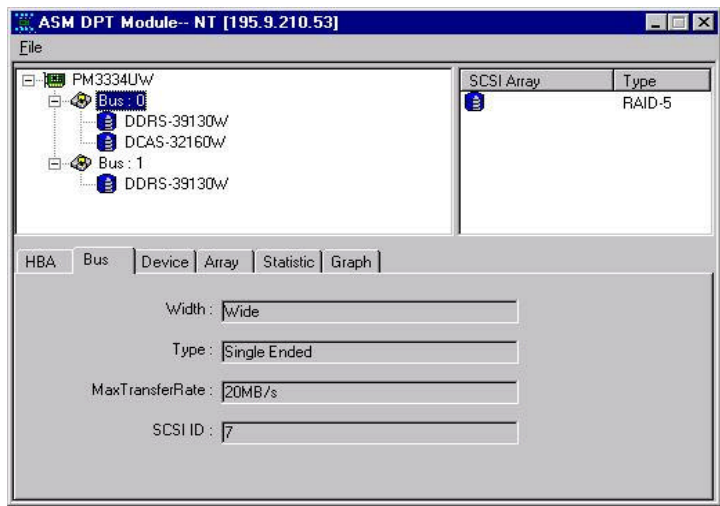
HBA Tab

This Window is used to monitor the DPT RAID Controller Information. Under this tabs the displayed information is as shown below:

Terms	Description
Agent Revision	DPT SCSI system SNMP agent revision information
Vendor	The name of the vendor of the HBA
Model	The Host Bus Adapter(HBA) controller model description
Firmware	The Host Bus Adapter(HBA) controller firmware version.
Serial Number	The Host Bus Adapter(HBA) controller serial number
IO Address	The Host Bus Adapter(HBA) controller I/O Address (normally displayed in hex.) It is a 16-bit value for ISA and EISA, and 32-bit value for PCI
Bus Type	The host bus type of the computer system to which this HBA attaches
Max Transfer Rate	The host bus maximum possible transfer rate in MB/s
Irq	The Host Bus Adapter(HBA) controller interrupt level
Irq Type	The Host Bus Adapter(HBA) controller interrupt type
Dma	The Host Bus Adapter(HBA) controller DMA channel. Only applicable in case of an ISA HBA
Raid Module	The Host Bus Adapter(HBA) Disk Array Module. With addition of DM4000 Disk Array Module and a caching module, HBAs can configure hard drives into RAID-0, RAID-1 and RAID-5 arrays, providing disk-fault tolerance and throughput many times that of non-arrayed disk drives

Terms	Description
Cache Module	The Host Bus Adapter(HBA) Caching Module
Audio	Setting the value of this object to on will cause audible alarm to start beeping. Setting the value of this object to off will cause audible alarm to stop beeping
Up Time	Time elapsed (in hundreths of a second) since the Host Bus Adapter(HBA)'s was last booted
ECC Enabled	Shows if ECC is enabled on the HBA. This object is settable to allow enabling and disabling of ECC
Max ReadAhead Rate	Max percentage of read-ahead pages brought into the HBA cache
Max DirtyPages Rate	Max percentage of dirty pages in the HBA cache
Write Back Delay	Write-back delay in milli-seconds
Temperature	Temperature as seen on the HBA
Voltage	Voltage as seen on the HBA
Bad Memory Address	The value of this object is the last faulty HBA RAM address as determined by ECC algorithm used by the HBA

Bus Tab

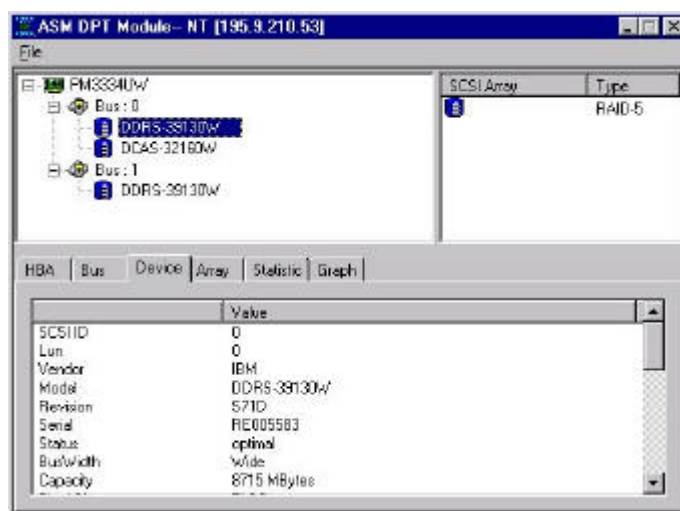


This Window is used to monitor the DPT RAID Controller bus Information. Under this tab the displayed information is as shown below:

Terms	Description
Width	The SCSI Bus width
Type	The SCSI Bus transceiver type
Max Transfer Rate	The SCSI Bus maximum possible transfer rate in MBs/s. Valid values can 4, 5, 8, 10, 20, 40, 100, etc depending on the SCSI technology used
SCSI Id	The SCSI ID of HBA on this SCSI Bus

Device Tab

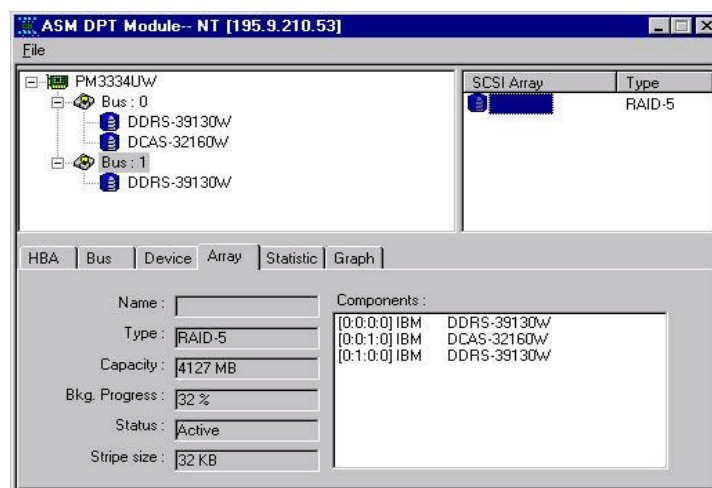
This window is used to monitor the DPT RAID Controller Device information. Under this tab, the displayed information is as shown below:



Terms	Description
SCSI ID	The SCSI Id for the device
Lun	The SCSI logical unit number(Lun) for the device
Vendor	The name of the vendor of the device
Model	The model name of the device
Revision	The device revision level
Serial Number	The device serial number
Status	The administrative state of the device. The following are, all possible read values for this object
Bus Width	The value of this object indicates the data width of the SCSI device
Capacity	The storage capacity of the device in MBytes
Block Size	The device block size in Bytes
Max Transfer Rate	The maximum data transfer rate for the device
Removable	The value of this object indicates if the device is removable or not
ECC Enable	The value of this object indicates if the device

Terms	Description
	has ECC enabled or disabled
SCSI Version	The value of this object indicates the SCSI specification version supported by the device
Soft Reset	The value of this object indicates if the SCSI device is soft reset capable or not
Cmd Queuing	The value of this object indicates if the SCSI device is command queuing capable or not
Linked Cmds	The value of this object indicates if the SCSI device is linked commands capable or not
Synchronous	The value of this object indicates if the SCSI device is synchronous or not
Relative Address	The value of this object indicates if the SCSI device supports relative addressing or not
SMART	The value of this object indicates if the SCSI device supports SMART specifications
SCAM	The value of this object indicates if the SCSI device supports SCAM specifications
Fast20	The value of this object indicates if the SCSI device supports Fast20 specifications
Bad Block Number	The value of this object represents the last bad block encountered on this device. It is needed in the definition of one/more traps. Value 0 means there is no error and note that the first block starts from 1 (not zero)
Bad Block Count	The value of this object represents the count of the bad blocks starting at Bad Block Number encountered last time on this device. It is needed in the definition of one/more traps
Errors Above Threshold	This object indicates if the error count of this devices has reached the threshold or not
Drive Locking On	This object indicates if the drive is locked or not
Last Req Sense Info	The value of this object is the request sense information and is primarily used in the definition of one/more traps
Hot Spare	This object indicates if the drive is a hot-spare or not

Array Tab

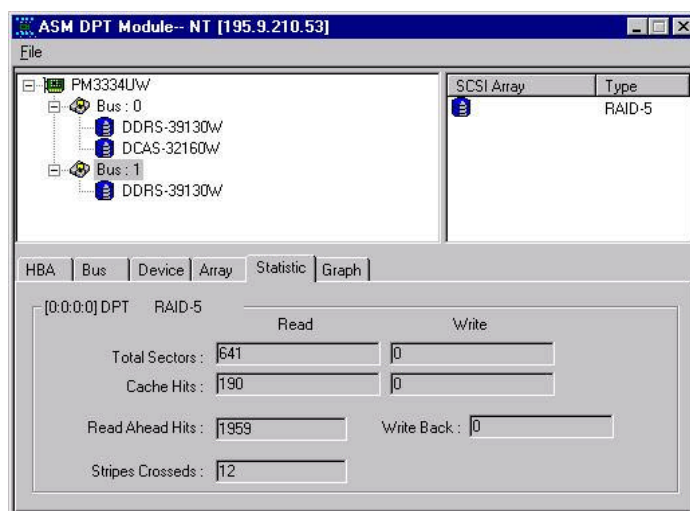


This window is used to monitor the DPT RAID Controller Array information. Under this tab, the displayed information is as shown below:

Terms	Description
Type	The RAID Array Group type
Name	The name of the RAID Array Group
Capacity	The Capacity of the RAID Array Group
Background Progress	The value of this object returns the percentage complete status of the outstanding background operations on this Array Group. This includes initial Build, Rebuild, Verify and VerifyFix operations. If there is no background operation, the value of this object shall be 100. The value of this object will always be 100 for non-redundant array (RAID-0)
Status	Invalid(1), 'active'(2), which indicates that the conceptual row is available for use by the managed device;

Terms	Description
	<p>'notInService'(3), which indicates that the conceptual row exists in the agent, but is unavailable for use by the managed device (see NOTE below);</p> <p>'notReady'(4), which indicates that the conceptual row exists in the agent, but is missing information necessary in order to be available for use by the managed device;</p> <p>'createAndGo'(5), which is supplied by a management station wishing to create a new instance of a conceptual row and to have it available for use by the managed device;</p> <p>'createAndWait'(6), which is supplied by a management station wishing to create a new instance of a conceptual row but not to have it available for use by the managed device; and,</p> <p>'destroy'(7), which is supplied by a management station wishing to delete all of the instances associated with an existing conceptual row</p>
Stripe Size	The stripe size used on the array in KBytes. A stripe is a contiguous region of disk space. RAID distributes data evenly across component drives in an array by concatenating interleaved stripes from each drive

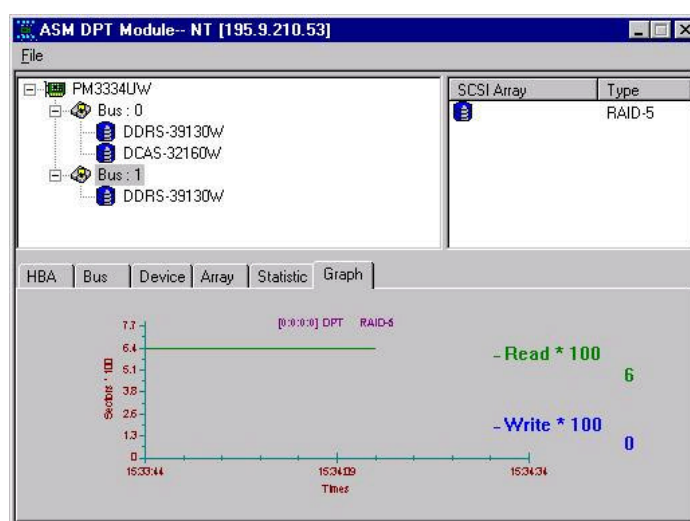
Statistic Tab



Terms	Description
Read / Total Sectors	The total number of sectors read from the device
Read/Cache Hits	The total number of data accesses in which the requested data was found in the cache
Read Ahead Hits	The total number of data accesses in which the requested data was found in the read ahead buffer
Write / Total Sectors	The total number of sectors written to the device
Write/Cache Hits	The total number of data writes to the device in which the data was written to the cache and not to the disk
Write Backs	The total number of data writes to the device in which the data was written from the cache to the disk at a time when the device would otherwise be idle

Terms	Description
Stripes Crosseds	The total number of Array Group accesses which cross stripe boundaries. Only applicable in case of array devices, zero is returned otherwise

Graph Tab



Terms	Description
Read/Total Sectors	The total number of sectors read from the device
Write/Total Sectors	The total number of sectors written to the device