RAID MIB BOF
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Session Agenda

- Introduction (10 min)
- Technology - RAID and RAID management (15 min)
- History (15 min)
- Vendor Proprietary Activities (25 min)
- Goals of the proposed WG (30 min)
- Charter Proposal/Charter Bashing (25 min)

RAID Technology

RAID Advisory Board Definitions: RAID is an acronym for *Redundant Arrays of Independent Disks,* a family of techniques for managing collections of disks in such a way that desirable cost, availability, and performance properties are provided to host computing environments.

A *RAID-related product* is any computer system mass storage product that implements or interfaces with RAID technology...in some significant way. RAID-related products may include storage controllers, disk subsystems, software packages, and test equipment.

(From the RAB "RAIDBook, 4th Edition)

Array management is more complex than disk management

- Arrays are redundant groups of component devices. Management software needs to be aware of both physical device grouping and data mapping within groups.
- Large array subsystems may involve management of non-storage redundant components. (Power supplies, fans, UPS, temp sensors, etc)
- Must manage both the storage area and the storage controller, which itself may have redundant capabilities.

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“Network Attached” storage subsystems (whatever that ends up actually becoming) must by definition be “Network Manageable.”

Disk Array Management Today

- Every vendor's solution is unique.
- Management tools are chaotic and often dependent on host capabilities.
- Array management often overlaps with other aspects of systems management but is not integrated.

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A Short History

1994:

Q: “Is there a MIB for disk arrays?”

A: “No, but there should be.”

Obviously, some vendors were already starting on enterprise MIB definitions by then, but no significant thought had been given to a standard.

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Spring 1995:

Discussion on SNMP list and Usenet comp.protocols.snmp led to a meeting during the Spring N+I, held at Trimm Technologies:

Attended by:	ArrayTech	Buslogic
Conley	EMC	Hitachi
Novell	Peer	SNMP Research
Symbios	Skylight	Trimm

Mid-year 1995:

Mailing list established for RAIDMIB; currently resides at raidmib-l@netx.com

(Subscription requests to raidmib-l-request@netx.com)

Proposal arose that we produce a common model with the DMTF Mass Storage group.

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Fall 1995:

BOF at Atlanta N+I. First rough draft of a charter for the activity; decision made among attendees to move toward an IETF-sponsored WG. Defined scope of proposed activity.

Attended by:	Adaptec	Bell South	Conley
DEC	Fujitsu	Nabisco	
RAID Advisory Board		Symbios	
S/W Technologies Gr.		TI	

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Enterprise MIB activities for RAID:

These vendors are known or believed to have MIB definitions for their array products:

- Adaptec
- BusLogic (possibly never deployed to customers)
- Conner
- DG (Clariion)
- EMC
- Pacific Micro Data
- Storage Dimensions
- Symbios
- Compaq
- Others?

Major Goals for the WG:

- Standardize basic management variables.
- Standardize configuration description.
- Reduce “reinvention of the wheel.”
- Cooperate with RAB and other standards groups to develop a common language for management of array storage.

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Charter Proposal