

SCSI MIB Liaison Report

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Agenda

- MIB Team intro
- Requirements Statement
- Review of Object Model
- Latest Developments
- Object Statistics
- Open Issues

Team Intro

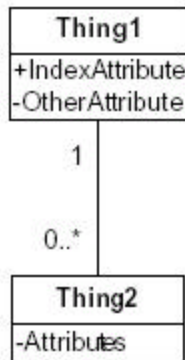
- Lead: Yaron Lederman, Siliquent;
- Editor: Michele Hallak–Stamler, SANRAD;
- MIB Advisor: Keith McCloghrie, Cisco
- iSCSI Advisors: Mark Bakke, Cisco; Marjorie Krueger, HP;
- SCSI Advisor: George Penokie, Tivoli (we hope)
- Troops: Ron Roberts, Adaptec; Satish Mali, Stonefly Networks; Kha-Sin Teow, Brocade; Sajay Selvaraj, Hcl Technologies, myself.

Requirements Statement

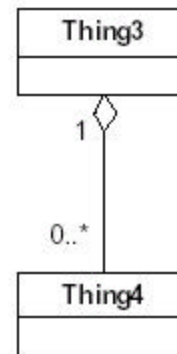
SCSI MIB should enable the representation of SCSI entities and their respective status, including error and performance-monitoring statistics. It should be possible to perform a limited number of configuration modification and diagnostic actions.

This MIB is not required to provide comprehensive configuration capabilities.

UML notation

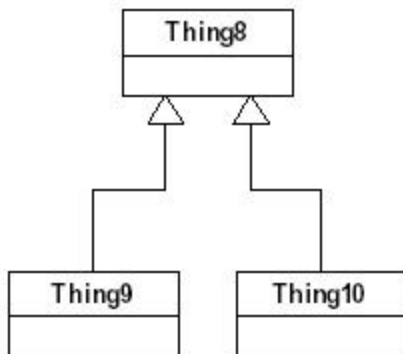


Association - There are zero or more Thing2 instances associated with each Thing1. A Thing2 is associated with exactly one Thing1.

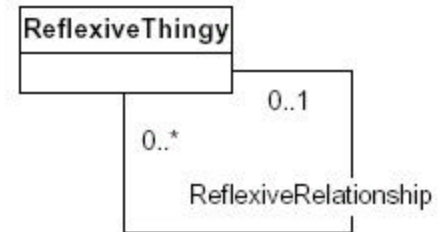


Aggregation - Each Thing3 contains zero or more Thing4 instances. A Thing4 belongs to exactly one Thing3 and cannot exist without a Thing3.

UML Notation

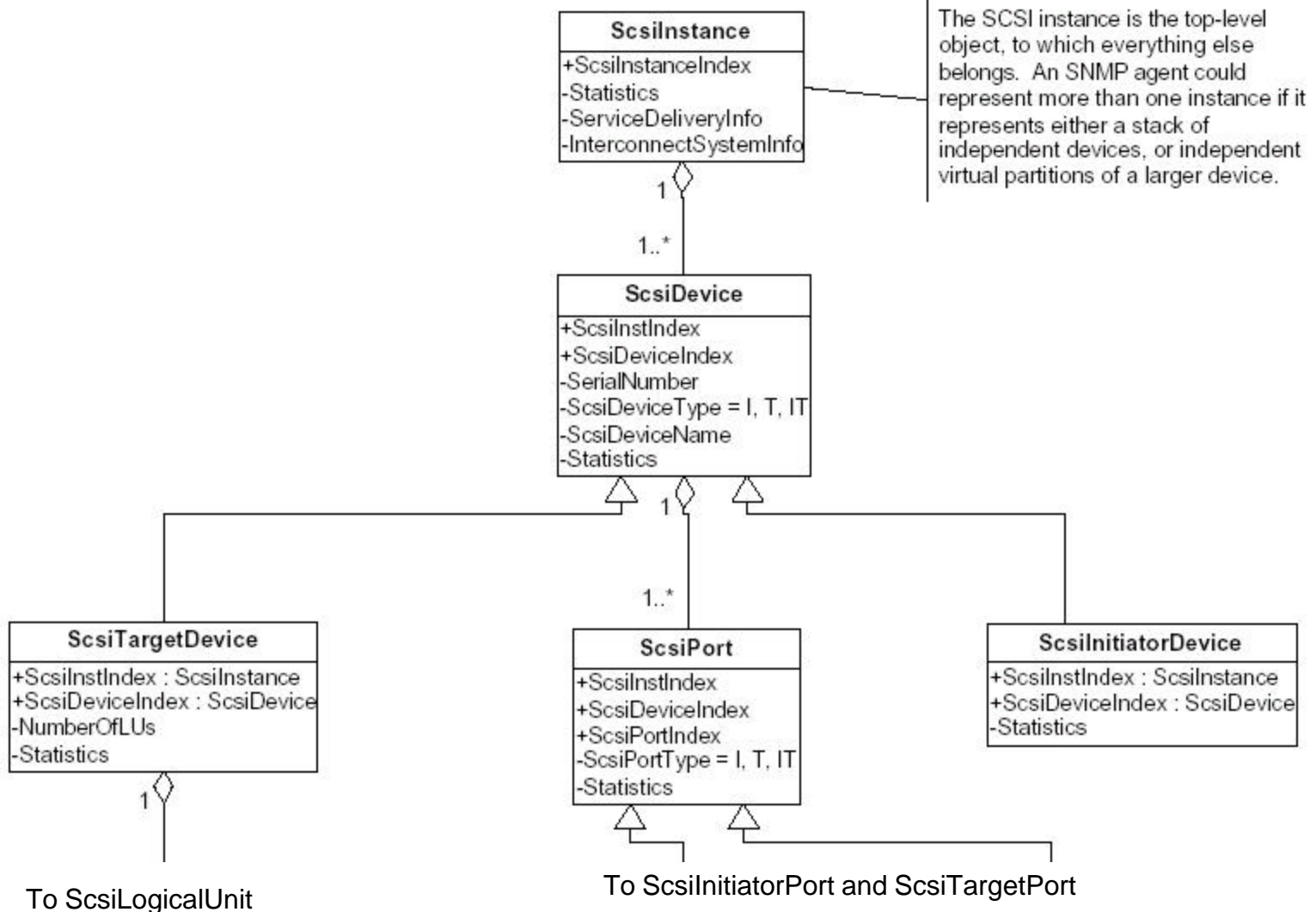


Inheritance (Logical OR) - Each Instance of Thing10 or Thing9 is also a Thing8. A Thing8 must be either a Thing9, a Thing10, or both.



Reflexive Relationship - Each ReflexiveThingy can be related to zero or one "parent" ReflexiveThingy; each ReflexiveThingy can be the parent of zero or more other ReflexiveThingies. This basically specifies a tree structure.

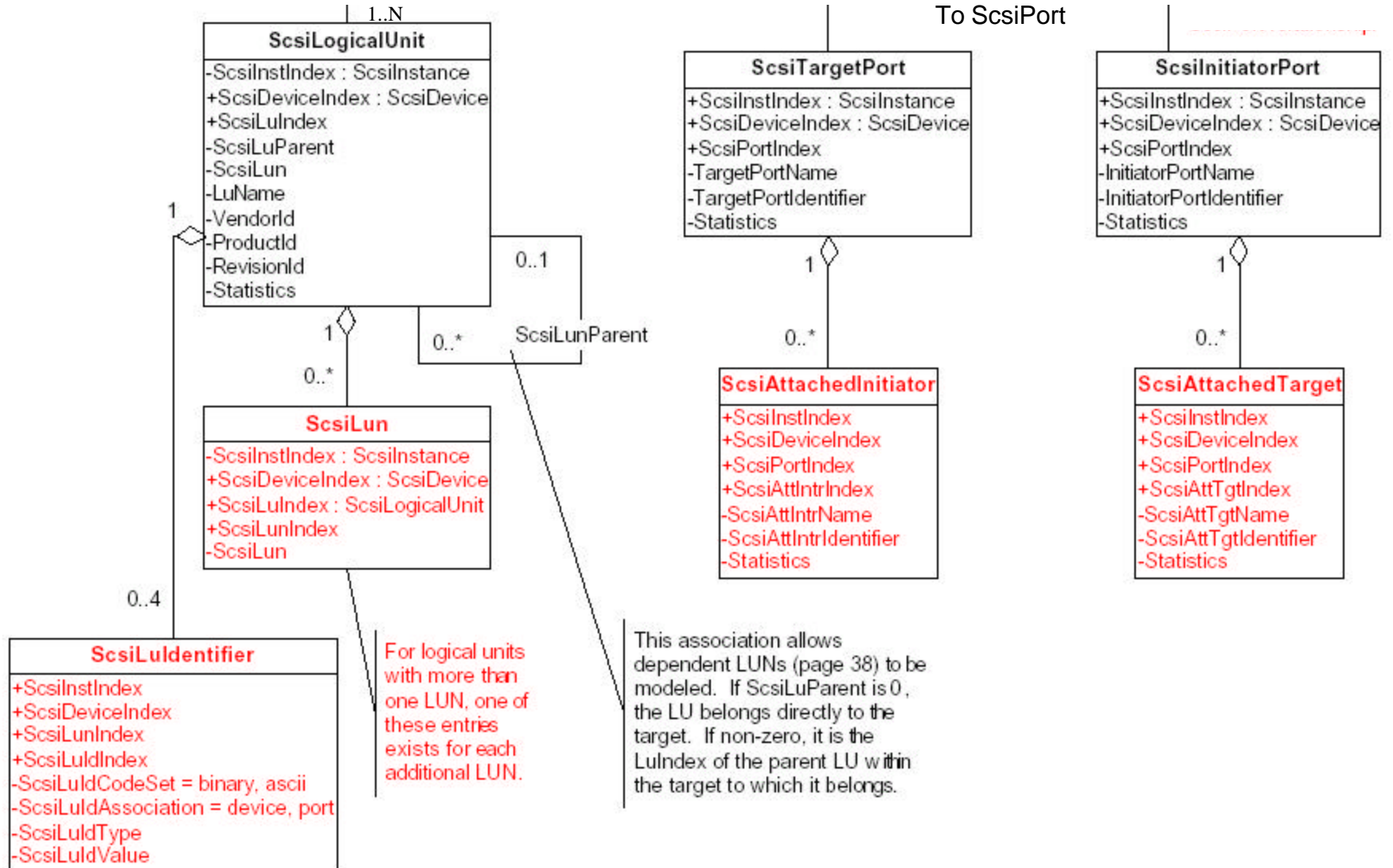
Object Model (Top Half)



Object Model (Bottom Half)

To ScsiTargetDevice

To ScsiPort



Object Model

- ScsiInstance allows agent to represent more than one independent device
 - Supports different implementation boundaries between MIB agents and devices
- Note that in this model ScsiInitiator refers to a “local” Initiator, not the remote one connected to ScsiTarget
 - That’s modeled by ScsiAttached Initiator object

Latest Updates

- Suggestion that ScsiLogicalDevice to have:
 - ScsiAttachedInitiator object (0..N) aggregation to collect per-initiator statistics

Suggested Device Statistics

- Initial list:
 - number of scsi target ports
 - number of scsi initiator ports
 - count of commands
 - count of good status returns
 - count of aborts sent by initiator
 - count of commands completed with check condition
 - count of aborts made by the device server
 - count of resets
 - count of illegal requests
 - count of I/O process terminations by the target
 - count of Recover Buffered Data commands
- What have we missed??

Suggested Port Statistics

- Initial list:
 - Read transfer rate
 - Write transfer rate
 - Number of packets/frames transmitted by this port
 - Number of packets/frames received by this port
 - Count of octet/bytes transmitted by this port
 - Octets or bytes received by this port
 - Number of bytes/octets received with wrong parity
- What else would be useful??

Open Issues

- Number of identifiers per Logical Unit? Is 4 enough?
- Do we need per initiator statistics in a ScsiLogicalUnit??
- How many Device Names are there per (Initiator or Target) Device??
 - And in a device that is both an Initiator and a Target are the Device Names identical?

Open Issues

- Should there be support for resetting SCSI Initiator elements?
- What should this MIB include about:
 - SCSI Domain?
 - Service Delivery Subsystem?
 - Interconnect?

Summary

- The object model is not yet finalized
- Appropriate statistics are still be identified
- Feedback from T10 on both aspects is requested at this time
 - And is anything else being missed ????