"naa." type for iSCSI names

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iSCSI (rev19) Names – usage model today

- iSCSI name = type designator + string
  - ➢ type designator = "iqn." or "eui."
  - ➢ string = UTF-8 string, unique for the given type designator

- iSCSI names are in turn used in constructing three types of names today.
  - ➢ SCSI Device Name – is the iSCSI name of the iSCSI node (defined by iSCSI)
  - ➢ SCSI Port Name – is the iSCSI node name, with an iSCSI qualifier (defined by iSCSI)
  - ➢ LU Name – typically the SCSI Device (i.e. iSCSI name) with a vendor-defined qualifier (<u>not</u> defined by iSCSI, but is proposed to be defined by SPC-3)

NAA?

- One of the widely deployed SCSI transport protocols, Fibre Channel, defines the NAA (Network Address Authority) identifiers for world-wide unique names and mandates its use for SCSI port names.

NAA	Name value

• The value of the NAA field identifies the specific naming authority.

- Serial Attached SCSI (SAS) has recently resolved to use NAA-style names for SCSI device and port names.

- T13 has recently decided to add the NAA name format to ATA's IDENTIFY DEVICE command.

That being the situation, What's being proposed?

draft-krueger-iscsi-name-ext-00.txt proposes:

- Defining a new valid name type designator "naa." in the iSCSI name structure described on the previous slide.

- If the WG approves this proposal, new iSCSI names such as the following would be legal:
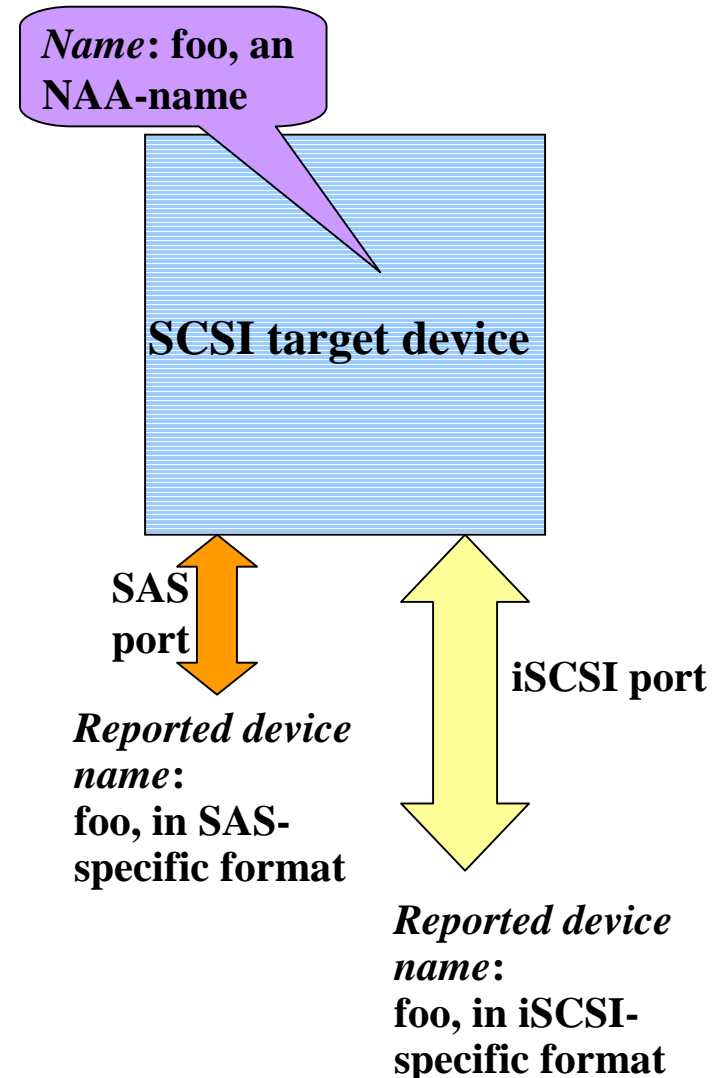
    "naa. <NAA-identifier represented as a UTF-8 string>"

NAA-Name identifier (hex)	Would map to (string)
0x52004567BA64678D	"naa.52004567BA64678D"
0x62004567BA64678D0123456789ABCDEF	"naa.62004567BA64678D0123456789ABCDEF"

Other than that…..
- No changes to existing iSCSI name structure.
- No changes to iSCSI aliases, or other elements of iSCSI naming architecture.
    - ➢Bottomline: No changes required to existing code based on iSCSI draft, rev19.

What's the benefit?

- If this proposal is accepted by the IPS WG, it enables building SCSI target devices that support multiple SCSI transport protocols (say SAS and iSCSI) and use the same NAA identifier as the basis for the SCSI device name.

  ➢ Leads to economy of device identifiers.

  ➢ A storage mgmt agent or any SCSI initiator working with multi-transport target devices could easily infer that it is talking to the same SCSI device supporting two transports.

  ▪ The initiator may do this by extracting the base identifier "foo" from the SCSI device names reported from both transports – possibly as UTF-8 strings and simply doing a string compare.

Name: **foo, an NAA-name**

SCSI target device

SAS port

iSCSI port

Reported device name:
foo, in SAS-specific format

Reported device name:
foo, in iSCSI-specific format

In addition….

HP has made a T10 proposal (ftp://ftp.t10.org/t10/document.02/02-419r0.pdf) to unify the plethora of transport-specific naming formats to that of iSCSI naming format (described on slide 2).

> ➢ <u>If </u>the T10 proposal is accepted,
>> ✓ All transports accessing one SCSI target device would report the <u>same name</u> for the SCSI device in the <u>same format</u> (an iSCSI-format name string).
>> ✓ LU names do not have to contain iSCSI-specific name formats as iSCSI's naming format would in fact become T10's standard format.
>>
>> To be completely useful, the T10 proposal requires the current iSCSI name extension proposal.

> ➢ If the T10 proposal is <u>not</u> accepted for some reason, approving this iSCSI name extension proposal would still make sense, because it enables the economy of identifiers and multi-transport target recognition as described on the previous slide.

In short, the T10 proposal referred to above, if approved, would increase the value of this name extension proposal. However, this proposal is <u>not dependent</u> on T10's, and is useful regardless of T10's decision.

Summary

The author team of <u>draft-krueger-iscsi-name-ext-00.txt</u> makes a motion that the IPS WG adopt this document as an official workgroup item to enable further work as a standards-track document.