

Document: T10/01-104r0
To: T10 Committee Membership
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Subject: SRP Protocol Identifiers

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Infiniband™ uses both text and binary identifiers to identify protocols such as SRP. The same identifiers could or should be used with SRP over VI or other RDMA transport protocols. If these assignments are approved as proposed herein, NCITS may need to be notified of their use.

1. SRP Text Identifier

SRP text identifiers appear in the ServiceName field(s) of the ServiceEntries attribute (Infiniband™ Architecture Release 1.0, volume 1, clause 16.3.3.5). The base text identifier for SRP shall be:

SRP.T10.NCITS

Variant text identifiers, if they should prove necessary, shall be of the form:

xx.SRP.T10.NCITS

where the values of "xx" are specified by the SRP standard.

Example: the current focus of SRP is its use on Infiniband™ reliable connection channels. However, it will operate without alteration on reliable datagram channels, and the modifications needed for operation on unreliable connection channels are straightforward. There is a proposal (01-085) for multiple channel operation, which may distinguish between control and data channels. This might lead to:

SRP.T10.NCITS	shall designate a reliable connection channel.
RD.SRP.T10.NCITS	might designate a reliable datagram channel.
DATA.SRP.T10.INCITS	might designate a data channel.

The "RD" and "DATA" qualifiers shown above are not part of this proposal, they are merely an example. Any such qualifiers would need to be defined by a separate future proposal. This proposal merely proposes the string "SRP.T10.NCITS".

The text identifier(s) for SRP-2 or any other follow-on standard would, of course, be defined when that standard is developed. However, I see no reason at present why we wouldn't continue to use "SRP.T10.NCITS".

2. SRP Binary Identifier

References:

X3T10 / 95-043

X3T10 / 95-360

SRP binary identifiers appear in various fields of the IOControllerProfile attribute. It was recently decided that these fields should be administered using the IEEE assigned OUI. The following is consistent with that decision.

IEEE has assigned OUI value 00609Eh to NCITS (note the IEEE database lists it as having been assigned to X3). This value appears in several T10 documents.

T10 has proposed that 01h in the first eight bits following the NCITS OUI designates values assigned by T10 (see 95-360). While it does not appear that NCITS has ever formally responded to that proposal, T10 has acted as if it had been accepted.

Some IEEE standards (e.g. 802.1) identify protocols using a 40 bit value. The OUI occupies 24 bits, the OUI registrant assigns 16 bits. Other IEEE standards (e.g. 1212 and 1394) identify protocols using a 48 bit value. The OUI occupies 24 bits, the OUI registrant assigns 24 bits. Infiniband™ allows for a 40 bit value to identify protocols.

We could in principle identify protocols using values specific to each bus. That is, the same value could be used for both SRP and SBP-3, since one is Infiniband™ specific and the other 1394 specific. I believe that is a bad approach; there appears to be no shortage of available values.

The following binary protocol identifiers appear in T10 documents:

00609Eh 0103E0h	SBP (sbp-r22a page 24)
00609Eh 010483h	SBP-2 (sbp2r04 page 46)
00609Eh 0104D8h	SPC-2 command set (mmc2r11a page 306) SPC-2 command set (mmc3r08 page 382) SPC-2 command set (rbc-r10a page 34)
00609Eh 0105BBh	SBP-3 (sbp3r01a page 61)

I propose that the above list of binary protocol identifiers be added to some T10 document. I'll suggest SPC-3, since it is the registry of so many other values. Some value needs to be assigned for SRP, I'll suggest 0108h (or 0108xxh).

Given this assignment, the following field values in the IOControllerProfile attribute would describe an SRP target:

IO Class	FF00h (FFh plus high eight bits of OUI)
IO Subclass	609Eh (low 16 bits of OUI)
Protocol	0108h (T10 administered protocol identifier)
Protocol Version	tbd

I recommend that a Protocol Version of 0000h indicate a pre-standard implementation of SRP, and that 0001h indicate an implementation compliant with the approved SRP standard. All other values would be reserved.