802.5 Responses To Formally Submitted PAR Comments.

The responses are grouped by issue rather than by question number, to facilitate understanding the impact of the responses.

100Mbit/s HSTR PARs

Distinct identity:

- Existing technologies can be combined (for example 802.3 with 802.1p) to provide Token Ring-like functionality. Token Ring is the only protocol that can provide true native support. Customers today have Token Ring networks employing these facilities. HSTR is the simplest migration path to preserving these facilities and leads to the least increase in network complexity.
- Token ring has native support for eight user priority levels, and for source routing. It supports a range of frame lengths of 22 to 18200 octet.
- Compatible management. Existing Token Ring management tools in use at customer sites will support HSTR. These tools cannot be effectively used if other 100 Mbit/s LAN technologies are introduced into those networks.
- HSTR will retain pin outs with classic token ring. This allows 4/16/100 Mbit/s devices to be built.
- Customers have indicated that they are not prepared to migrate to 802.12 and FDDI.
- Leverage Customers and Implementers knowledge and experience base with regard to: Building, managing, and running their networks.

Compatibility:

- The auto negotiation standard has allowed vendors to produce devices that can only support 802.3. We have investigated use of this protocol and found that these devices cannot be configured to auto negotiate 802.5 (or any other protocol). The 802.5 insertion method used is the only one we know of that will work.
- Auto negotiation has yet to prove itself reliable in the market place.
- The proposal by 802.5 to not support auto negotiation, was the result of investigations into the available 100BASE-TX devices, and how these could be configured to allow HSTR operation. Only by forcing the speed of the devices, could the link be brought up to support HSTR.
- By retaining the 802.5 pin outs (on UTP), HSTR devices would not be able to auto negotiate with Fast Ethernet devices anyway. It is also not the intention that HSTR devices will inter-operate with Fast Ethernet devices.
- Compatibility with existing 4/16 Mbit/s devices is under consideration for ~~beyond the scope of~~ the proposed standard. Operation on a LAN with other Token Ring data rates present is a consideration that is intrinsically solvable by each attaching device. The 802.5 Token Ring Working Group has historically taken the position that this is not a standards compliance issue, but a product feature outside the standards requirements.

Broad Market Potential:

- Participant and vendor numbers will be added to the PAR.

Purpose and Scope:

- The PARs will reflect the intention to use 100BASE-TX and 100BASE-FX devices.
- After considering both the FDDI and 100BASE-FX PHYs, the standard will reference 100BASE-FX rather than FDDI, because we are intending to use the modifications made by 802.3 in their use of the FDDI PHY.
- Technical investigation has shown that 100BASE-X is sufficient to support 802.5 frames.
- We do not intend to use the ~~100BASE-T MII.~~ 10 and 100 Mbit/s management functions described in Clause 30 of 802.3u.

- The management defined by MII will be mapped to the Token Ring management interface, in such a way that the user will be unaware of the underlying changes to the PHY.
- The PAR will state that only minimal changes will be made to the MAC to support the HSTR.
- The PAR title and scope text will say that 100Mbit/s HSTR will only support Dedicated Token Ring using the TXI Access Protocol (full duplex).
- The 802.5 committee has experience in the past of running two PARs in parallel to develop Token Ring over copper and fibre. There was no divergence between the two standards. It is the intention to continue this method of development for the HSTR standards.

1000Mbit/s HSTR

Distinct identity:

- 802.1p/Q does not currently support forwarding based on source routing information.
- Token Ring frames have native support for priorities and source routing.
- It is not currently standardised how tagged ethernet frames, containing source routing information are forwarded using this information.
- While it may be true that the driver interface is unaware of the underlying frame format, within the network itself transport of native token ring frames across the backbone benefits from not having to translate/fragment/reassemble the traffic.
- In the real world, the driver interface is (unfortunately) aware of the frame format.
- Token Ring is not just a frame format. It brings with it a set of management interfaces not present in other protocols. These are visible at the driver interface.
- The reference to cable and pin usage will be removed from the PAR.

Broad Market Potential:

- Participant and vendor numbers will be added to the PAR.