Hitachi Cable Manchester

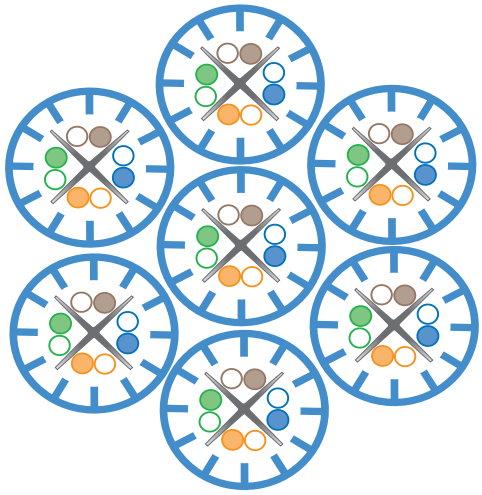
Facts about 10-gigabit Ethernet.

Why do I need 10-gigabit Ethernet?
The ever growing throughput demands created by the Internet and increased data sharing have created a need for faster networks. Today's 10/100-megabit and 1-gigabit Ethernet based networks meet the current needs of many users, but for others, such as medical facilities, universities and government agencies, faster data rates are necessary. 10-gigabit Ethernet over copper, known as 10G Base-T, will allow average users to increase their throughput speeds by 10 to 100 times. For example, If your are utilizing 100Base-T Ethernet, what is now taking 20 seconds to send or recieve will take .2 seconds over 10GBase-T. However, to ensure that you are ready for the implementation of 10-gigabit Ethernet, the correct infrastructure must be installed.

Why 10-gigabit over copper?
For those companies looking to ensure that their data infrastructure will support the applications of the future, HCM has developed it's Supra 10G cable. Referred to as an Augmented Category 6 cable, Supra 10G is designed to accommodate the current and future needs of bandwidth hungry applications. Supra 10G will allow users to achieve 10 gigabit data rates to a full 100 meters. Existing Category 6 cables can handle 10-gigabit Ethernet up to a maximum of 55 meters and Category 5e cabling was determined to be an unacceptable medium for 10-gigabit Ethernet.

Why is UTP cable preferred for 10-gigabit Ethernet?
Category 6 ScTP (shielded twisted pair) which consists of four twisted pairs surround by an overall foil shield then an outer jacket, and cable which is often referred to as Category 7 SSTP, which consists of four individually shielded pairs surrounded by an overall foil shield then an outer jacket are both recognized cables for use with 10-gigabit Ethernet. Both cables, due to the foil shields, are exceptional at reducing or eliminating alien crosstalk. Alien crosstalk, also known as ANEXT, occurs when a signal from one cable jumps over to an adjacent cable, thus corrupting its ability to properly send and receive data. Since both cables are shielded, they prevent the signal from jumping to an adjacent cable. And, since the standard for Category 6A will require testingto 500 MHz, up from 250MHz for Category 6, ANEXT is a concern. The main disadvantage to these two products, however, is their cost, since a shielded solution requires shielded jacks and patch panels, and an increased cost for installation. More experience and time are required when installing a shielded solution. Unshielded twisted pair cable (UTP), on the other hand, is less expensive, is easier to install and terminate, and has effectively established itself as the cable of choice for network cabling. But, what about alien crosstalk?

How does the Supra 10G overcome ANEXT?
HCM's Supra 10G utilizes a patented design that incorporates a non-concentric (slightly off-center) core and a splined jacket. By creating space between adjacent cables and providing superior electrical performance, the Supra 10G is able to cancel out ANEXT and provide 10-gigabit Ethernet up to 100 meters. The diagram below shows how Supra 10G cables interact when bundled.



When will 10-gigabit Ethernet be available?
The 10-gigabit ethernet standard for UTP cable is expected to be released in July, 2006. The Supra 10G is currently available, however.

For more information about the Supra 10G cable, contact HCM or one of its sales representatives.