

## 10GBASE-T Fact Sheet

### Q1. What is 10GBASE-T?

A1: 10GBASE-T, formally known as IEEE Std. 802.3an-2006, is a technology for transmitting 10 Gb Ethernet over structured balanced cabling.

### Q2. Is 10GBASE-T a mature standard?

A2: After 4 years of development, in June 2006, the IEEE Standards Board approved the 802.3an-2006 standard. The standard is now complete.

### Q3. How far will 10GBASE-T run?

Q3: 10GBASE-T is designed to run over up to 100m over four-connector, four-pair structured cabling systems.

### Q4. What cabling can I run 10GBASE-T over?

A4: IEEE Std. 802.3an-2006 specifies the characteristics for 10GBASE-T link segments. 10GBASE-T will run over the following 4-pair structured balanced cabling types:

Cabling	Supported distance	Cabling reference
Class E / Category 6	55m to 100m*	ISO/IEC TR24750 / TIA/EIA TSB-155
Class E <sub>A</sub> / Augmented Category 6	100m	ISO/IEC 11801 Ed 2.1 / TIA/EIA-568-B.2-10
Class F	100m	ISO/IEC TR-24750

\* Supported link segments up to 100m shall meet the alien crosstalk to insertion loss requirements specified in 55.7.3.1.2 and 55.7.3.2.2 of IEEE 802.3an-2006

### Q5. Is there a short-reach version of 10GBASE-T?

A6: In addition to the 100m required operating distance, the standard defines a 30 m Category 6A or Q5: Category 7 link segment, over which 10GBASE-T devices may operate with reduced power consumption. However, all 10GBASE-T standard-compliant devices must be capable of operation over the 100 m link segment.

### Q6. Does 10GBASE-T require new cabling?

A6: The standard specifies operation over existing installed Category 6 cabling for distances of 55 m to 100 m. Category 6 ScTP can operate over the full 100 m. For Category 6 UTP, distances greater than 55 m may require alien crosstalk mitigation and field testing. Category 5e is supported as long as the cabling meets the link segment requirements of 10GBASE-T. New Category 6A or Category 7 cabling systems are designed to support 10GBASE-T operation over the full 100 m.

### Q7. Can I test my installed cabling for 10GBASE-T support?

A7: Yes. Field test tool providers are now providing equipment to test to the extended frequency ranges of 10GBASE-T, and equipment to test the alien crosstalk characteristics of an installed cable plant.

### Q8. Who is Solarflare Communications?

Q8: Solarflare is a provider of 10G Ethernet silicon, dedicated to enabling the rapid adoption of 10 Gb Ethernet. Solarflare initiated the IEEE 802.3an standards effort and its employees made more than twice the contributions to the standard than those of any other company. Solarflare is the first company to demonstrate 10GBASE-T transmission over an 802.3an standard-compliant link.