10GBASE-T – Why Now?

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With Assistance from 10GBASE-T CFI Group
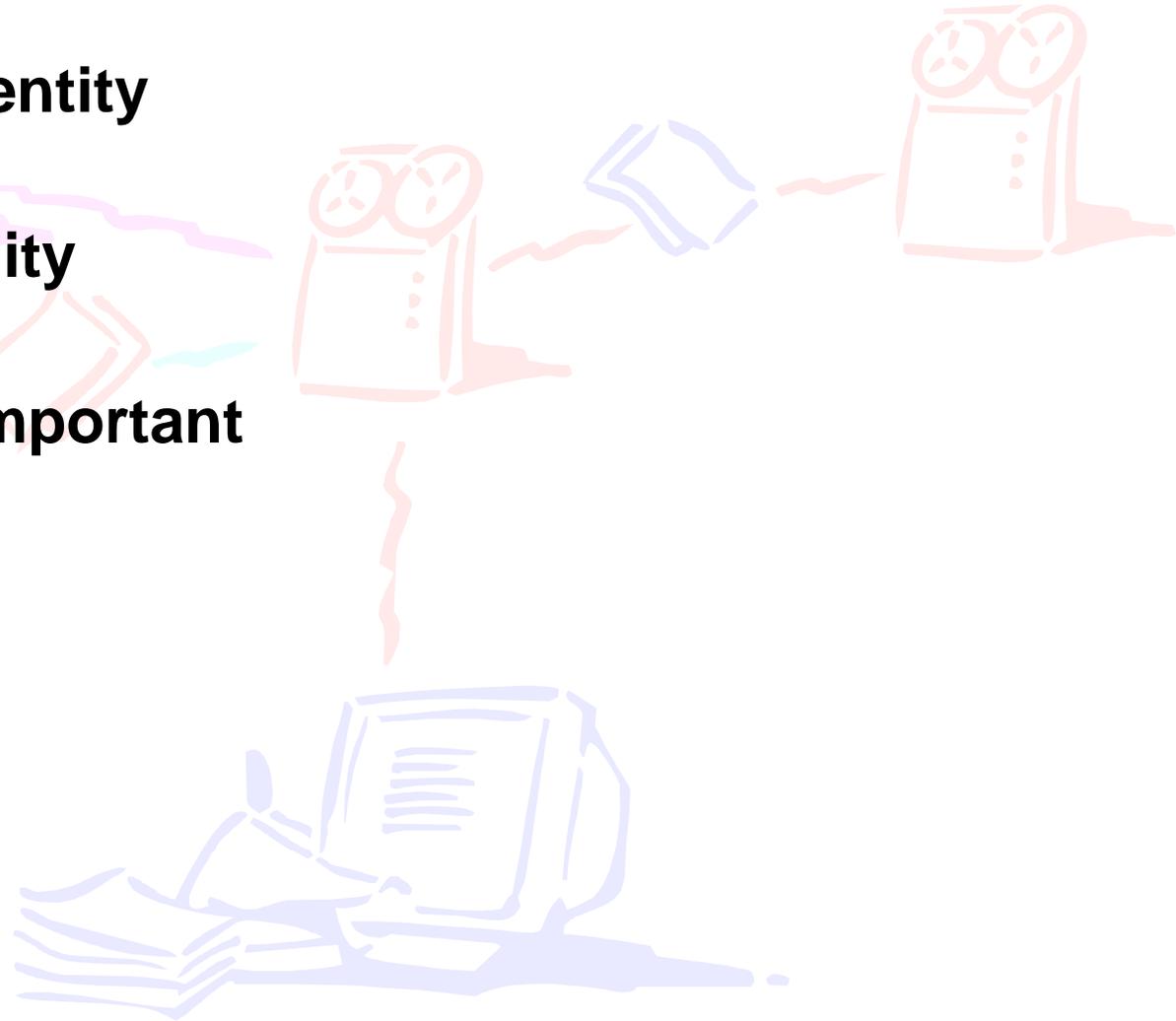
IEEE 802.3 Working Group

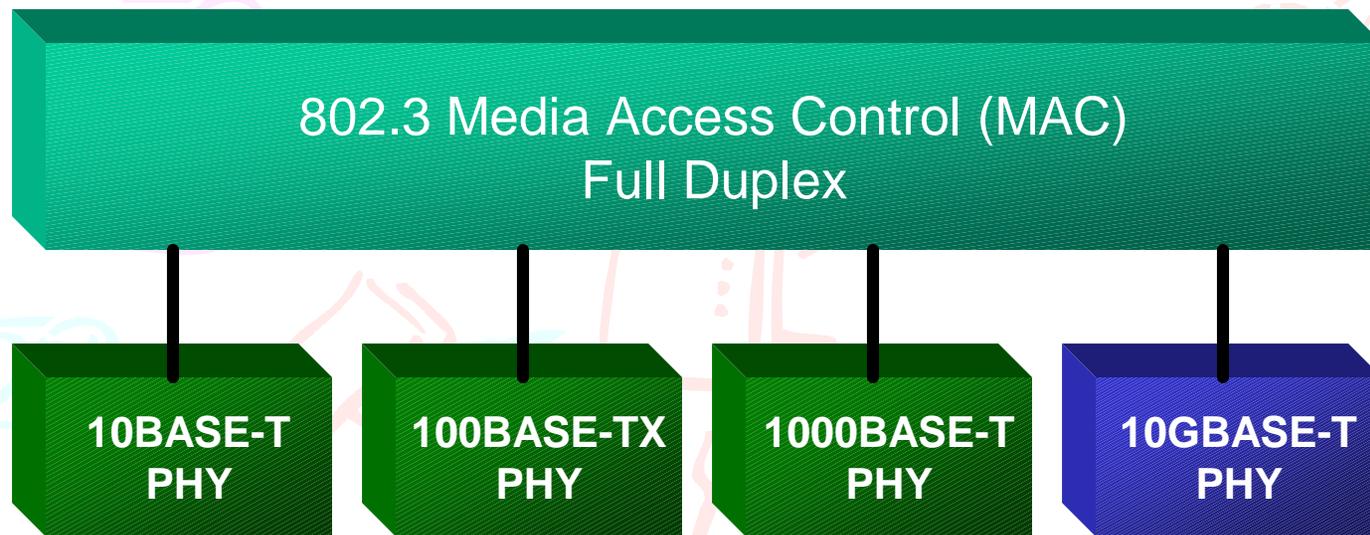**Kauai, HI**

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Outline

- **Distinct Identity**

- **Compatibility**

- **Why is it Important**

- **Why Now**

- **Summary**

Distinct Identity

- **There is no 802 standard for 10 Gigabit Ethernet over UTP Category 5 or better over horizontal structured cabling to 100 m**

- **10GBASE-CX4**
  - **Call-for-interest tomorrow night**
  - **Targeting shielded copper cabling < 15m**

- **10GBASE-S**
  - **As specified by IEEE 802.3ae™**
  - **Fiber optic solution only**

Compatibility

802.3 Media Access Control (MAC) Full Duplex

10BASE-T PHY	100BASE-TX PHY	1000BASE-T PHY	10GBASE-T PHY

- **10GBASE-T would be the next in the family of UTP PHYs**

Why is it important?

- **High bandwidth and low latency applications**
  - IP-based storage (bandwidth)
  - Inter-process communication (latency)

- **UTP-based solutions are historically lower cost than their comparable fiber-based solutions**
  - Ethernet's "10x the performance at 3x the cost"
  - Can enable low cost equipment, installation and ownership

Why Now?

- **EFM and DTE Power are not exciting enough ;-)**

- **Ethernet is moving beyond the traditional data traffic market**
  - **IP-based storage**
  - **Inter-process communication (IPC)**

- **Multiple vendors are working on solutions**
  - **Create a solution that is Ethernet based**
  - **Merge the efforts to converge on a single solution within 802.3**

Summary

- **Higher bandwidth applications for 10 Gigabit Ethernet are starting to emerge**

- **The 100 m UTP market has always been important to Ethernet**

- **802.3 is a good organization to build industry consensus on a solution**

- **10GBASE-T should be studied!**

Thanks!