Why OAM for Ethernet

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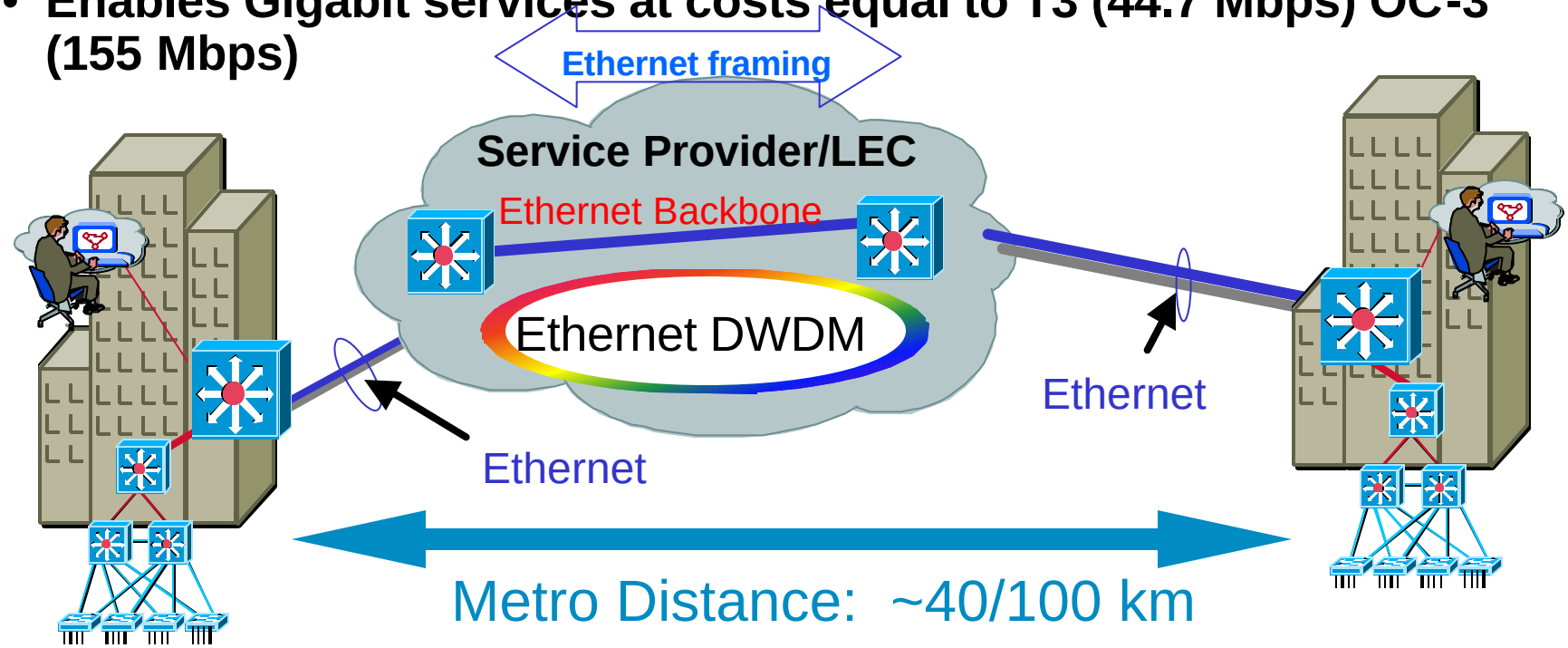
Ethernet deployments towards Service providers

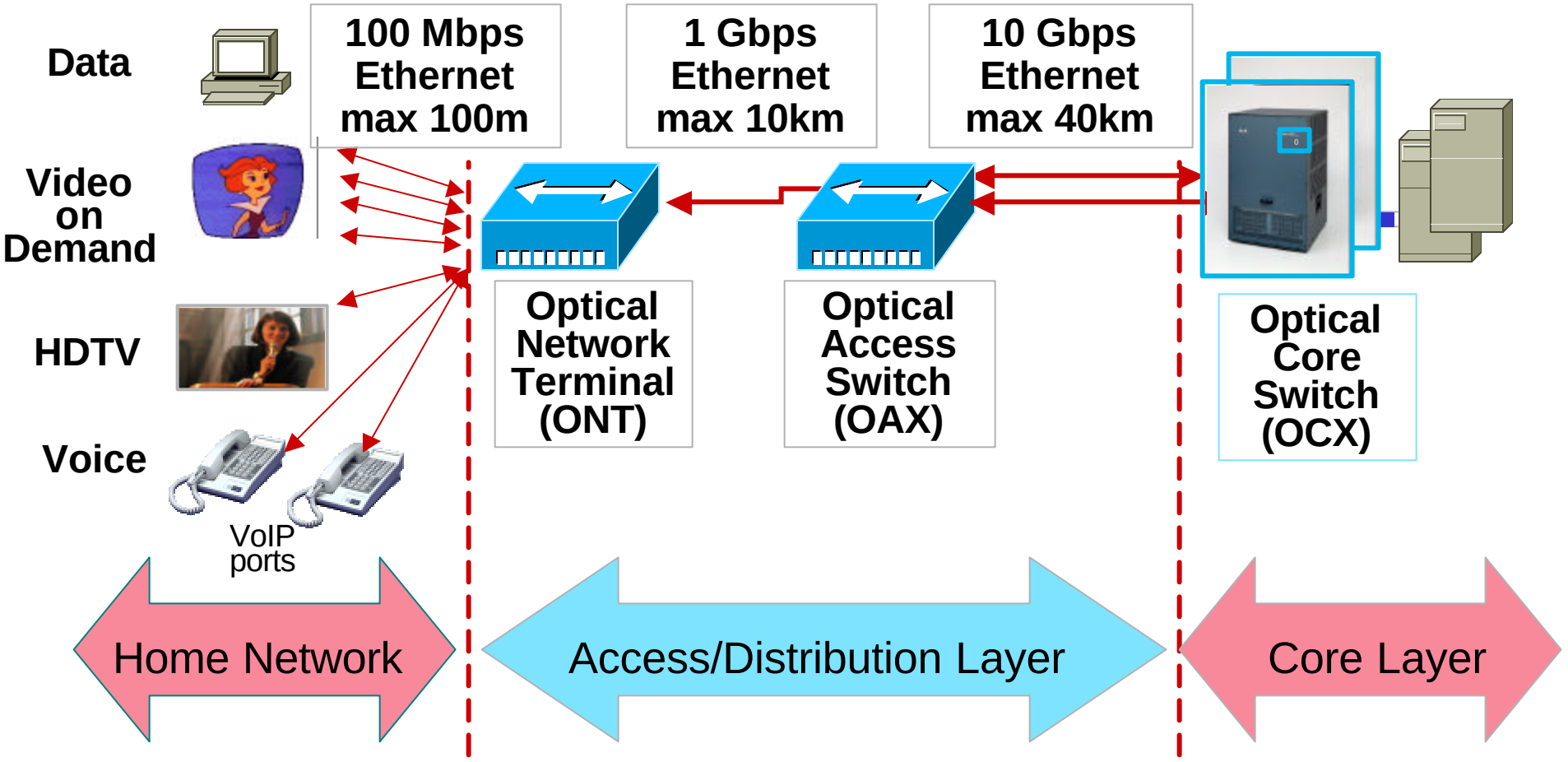
- In Campus
- In Metro
  - Campus – Campus, POP-POP
  - 10Km, 40Km and beyond
- In Access : EFM
  - Long reach GE
  - Ethernet over Copper, EPON,,,

Ethernet over Metro Dark Fiber
Ethernet over Metro DWDM

- **Ethernet access directly or aggregate multiple Ethernet ports**
- **Attach Ethernet directly to Long Reach / DWDM network**
- **Enables Gigabit services at costs equal to T3 (44.7 Mbps) OC-3 (155 Mbps)**



Ethernet in the First Mile



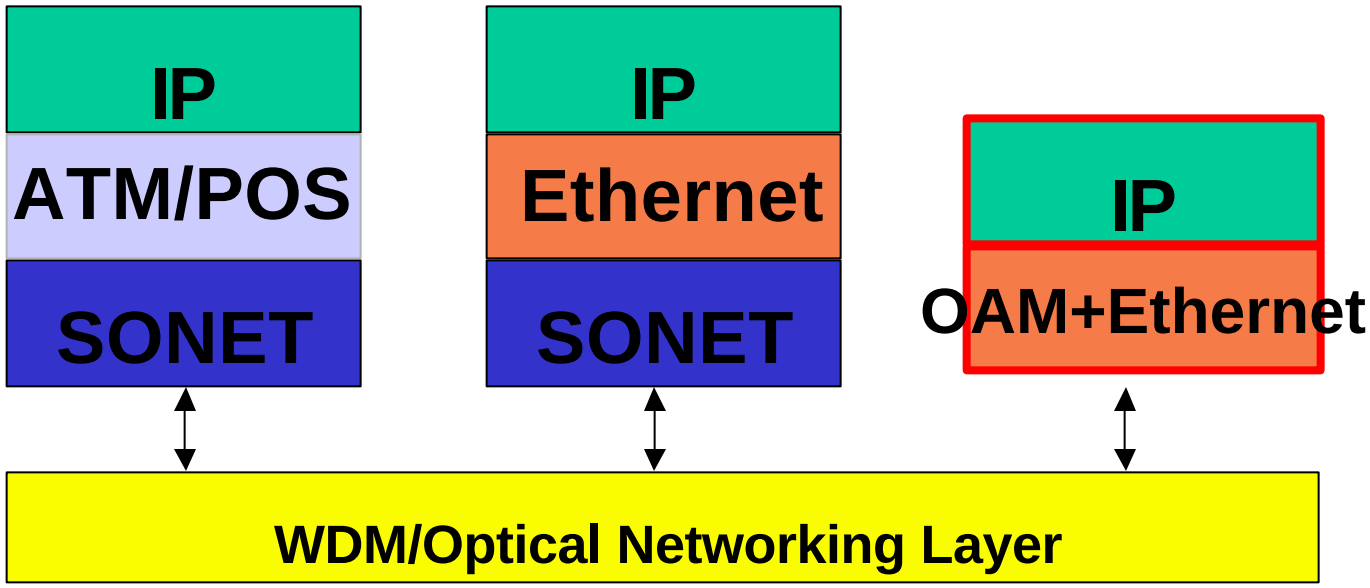
A Problem on Ethernet for SP

- *" I want Low Cost Ethernet for my SP networks. But you do not have what SP really needs: OAM"*

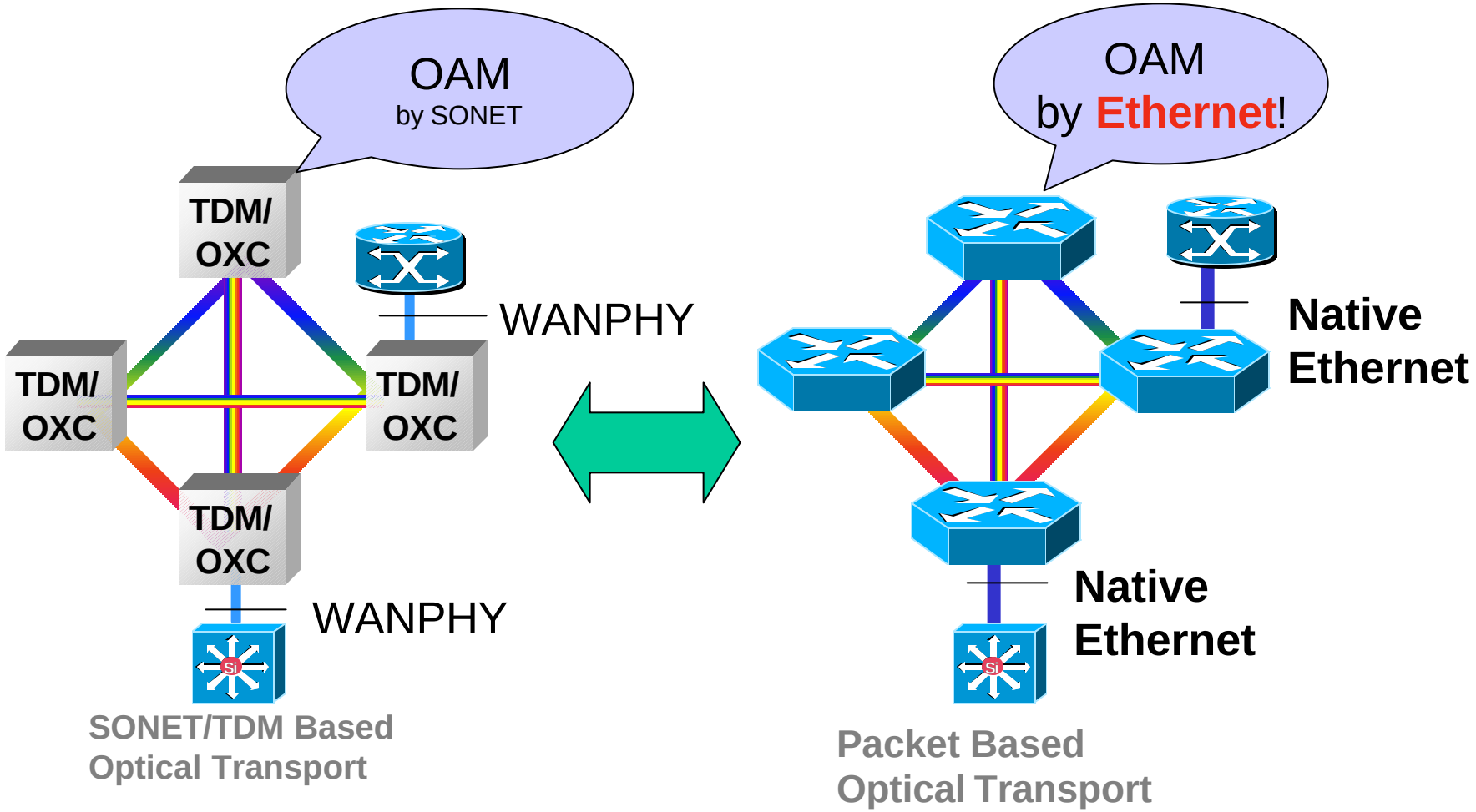
- **Low cost**
- **Reduced network complexity**
- **Common protocol across LAN / MAN / Access**
- **While keeping the same level of "Management" capability with existing transport / access networks.**

Ethernet over Dark Fiber Layer Model

- **What if Ethernet provides OAM ?**



TDM vs Packet based Metro Optical Transport



What features would be needed on Ethernet ?

- **Fiber Management**
  - **Management Channel**
  - **Failure Indication / Isolation**
  - **Performance Monitoring**
  - **Protection Switch / Fail over**

Must have :

- **Transparent to existing Ethernet MAC**
- **No change to existing Ethernet Frame**
- **No changes to data transmission rate**
- **Complete set of OAM capabilities, including fail-over, message channel and performance monitor.**

What Ethernet to be applied ?

- Fast Ethernet
- GE
- 10GE
- Ethernet in the First Mile
- Any Future Ethernet…

Summary

- **Significant interest in using Ethernet in Metro and Last/First mile service provider networks**
- **Ethernet avoids unnecessary protocol conversion and is simpler and less expensive than other technologies**
- **OAM is a requirement for service provider networks**
- **Desirable to have industry standard solution for OAM for Ethernet networks.**

What to do next ?

- **Discuss “OAM Requirements on Ethernet ” in EFM**
- **To form an “Ad-Hoc” ?**