

# **X-GE ADM Solution for Metro DWDM Network**

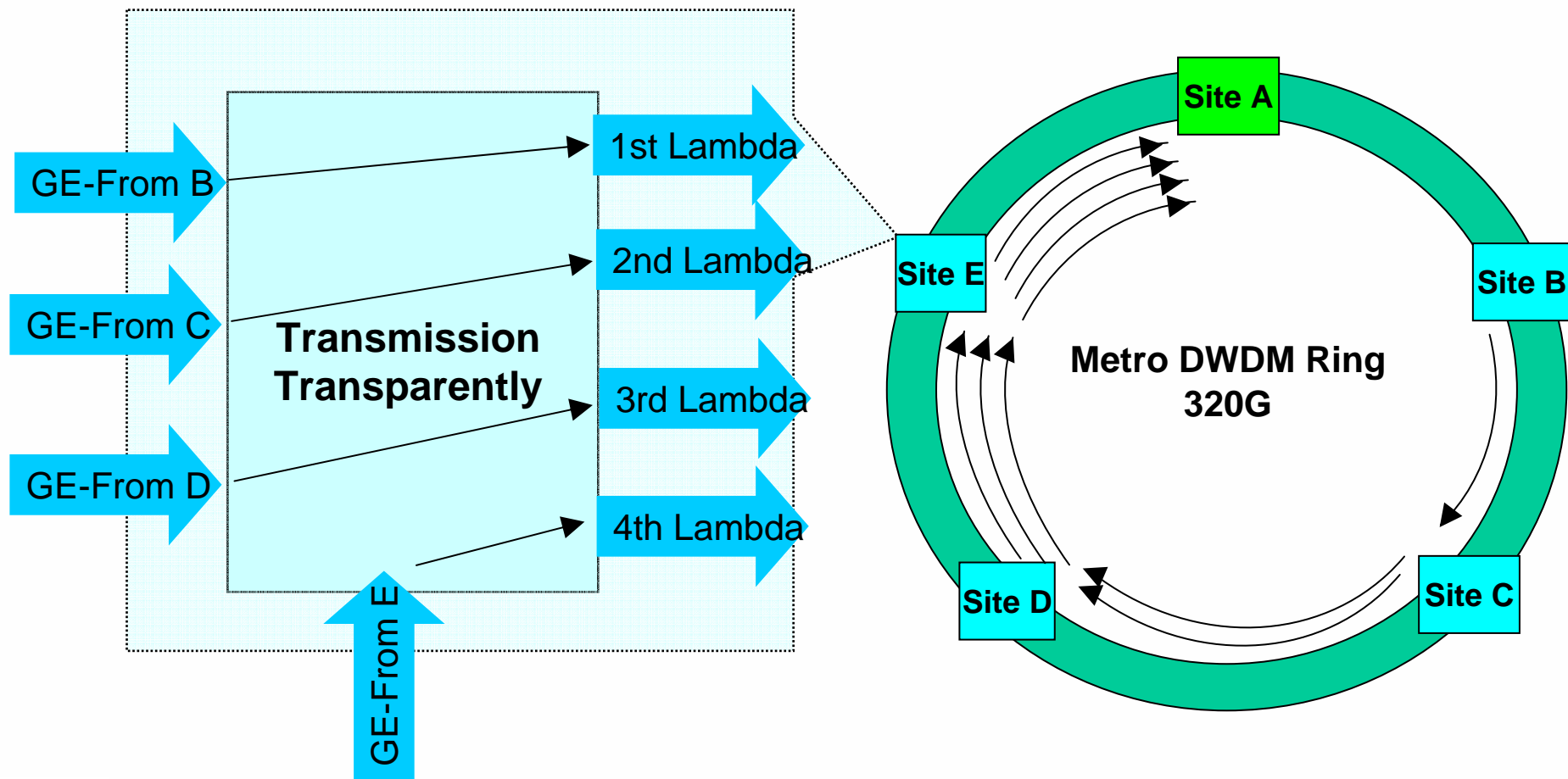


partner for a networked world

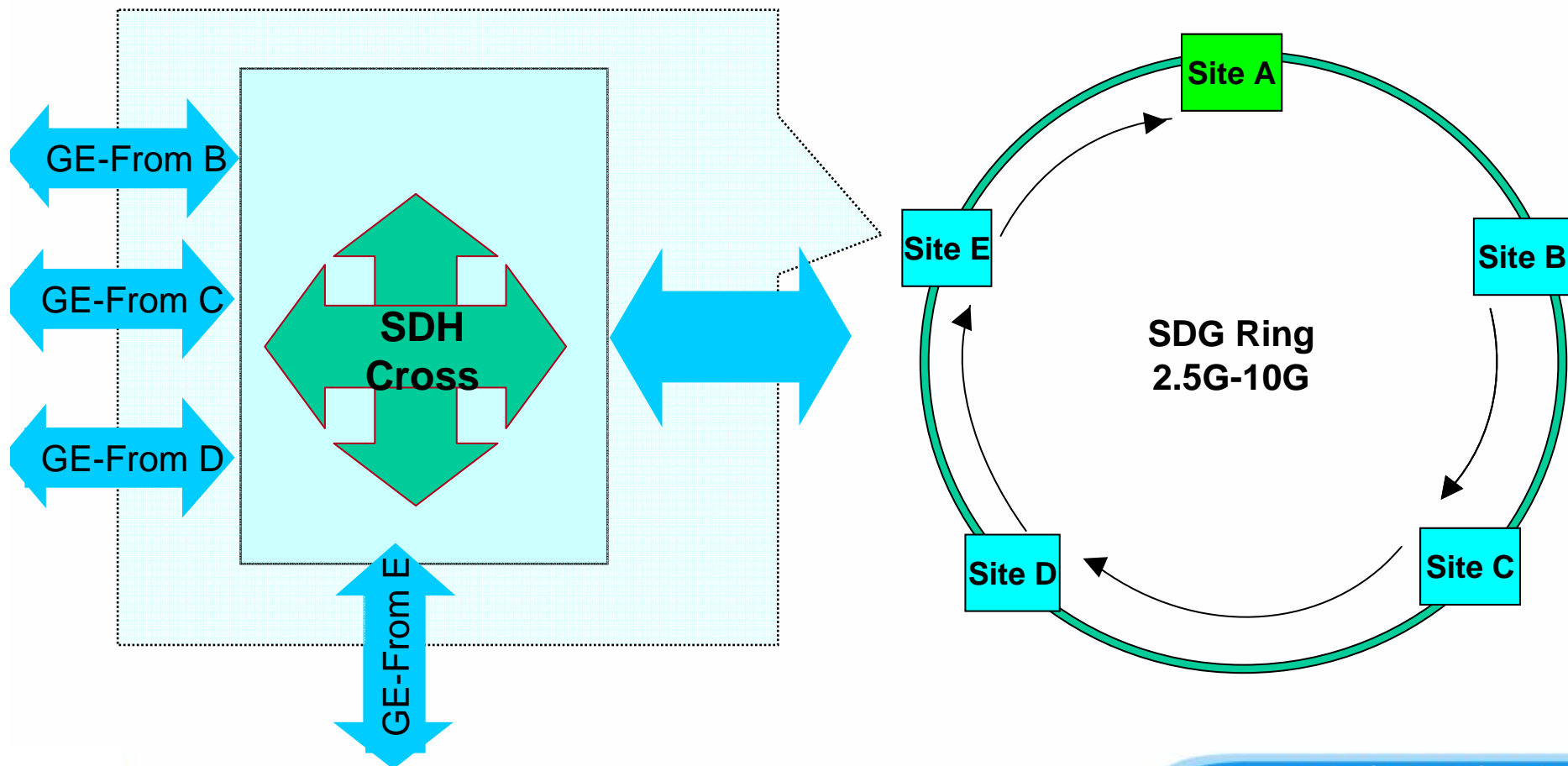


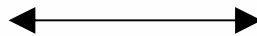
**You Profit Our Goal**

- Advantages: Provide huge capability with low cost.
- Disadvantage: A fixed network with a lot of lambdas and amplifiers. it is not convenient to increasing service

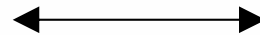


- 👉 Advantage: Dynamic network.
- 👉 Disadvantage: capability is limited. SDH is costly due to its design for TDM. It is not fit for providing a cheap GE transmission solution. It is suitable for private line or network.



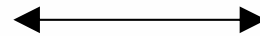
**DWDM  
(Built-in GE ADM)****SDH**Line Capability  
(320G)Line Bit Rate  
(STM-16/64)

Lambda



VC4

GE



VC12

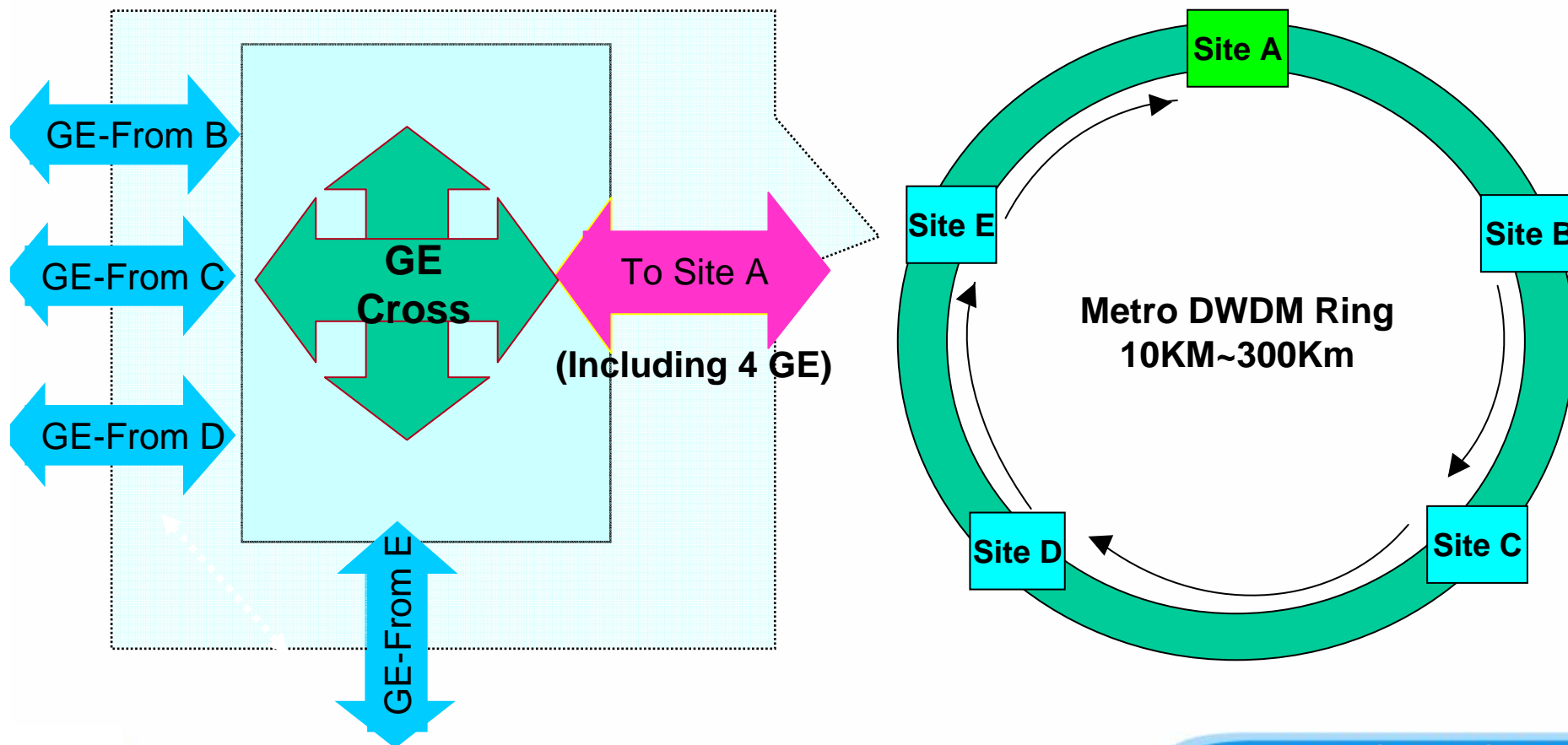
In function, **GE in DWDM** is similar to **VC12 in SDH**,  
**Lambda in DWDM** is similar to **VC4 in SDH**.  
**Line capability in DWDM** is similar to **the line bit rate of SDH**



# Huawei Confidential Industry-unique X-GE ADM Solution



- ☞ Huawei X-GE solution combines the advantages of common DWDM solution and SDH solution.
- ☞ Supporting sub-lambdas grooming. Providing a dynamic GE solution with low cost.
- ☞ It bases on GE ADM with 5G/10G line capability granularity. The maximum capability in line can be up to 320G.
- ☞ Saving lambdas





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# GE ADM Features-Summary



- A built-in unit in Metro DWDM
- GE ADM with GE glooming function
- An innovative Ethernet solution
- Transparent transmission

## Metro 6100



- ★ 32 wavelengths
- ★ Up to 320G capacity
- ★ Flexible networking
- ★ Smooth scalability
- ★ Cost-effective solution
- ★ Multiple protection mechanism choices
- ★ Convenient OAM system design and easy networking OAM

- **Rack Dimensions:**

600mm (W) × 300mm (D) × 2200mm/2600mm (H)

- **A single rack accommodates: 3 sub-racks**

- **DWDM & CWDM Compatible**

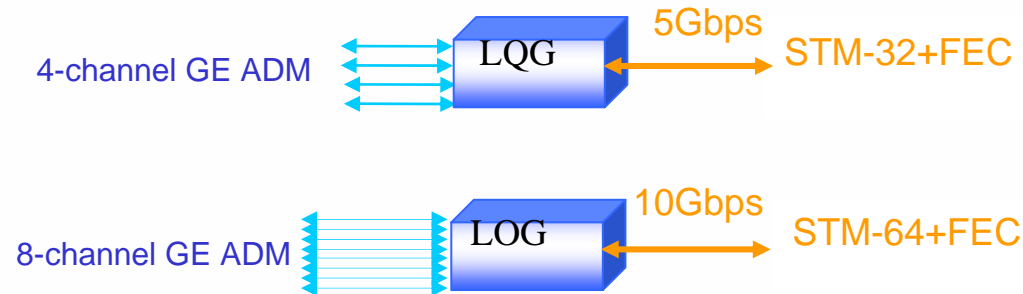




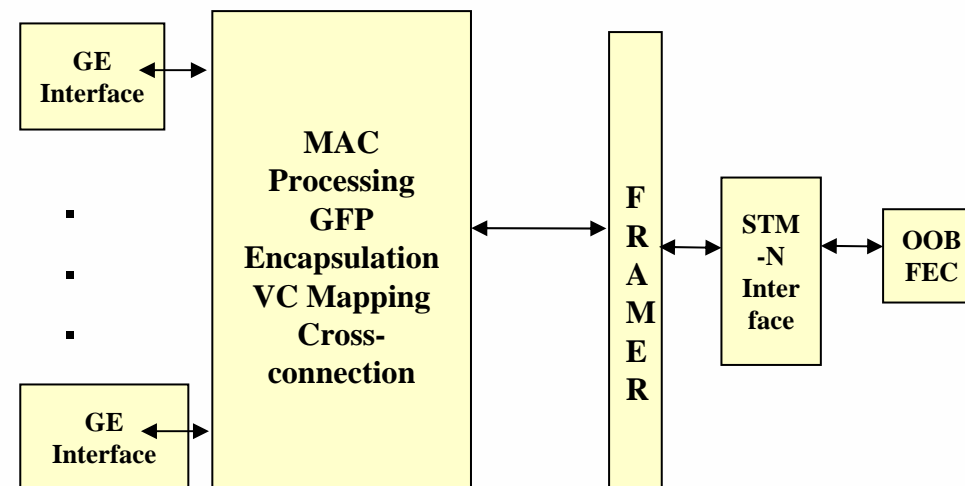
436mm (W) X 305mm (D) X 220mm (H)

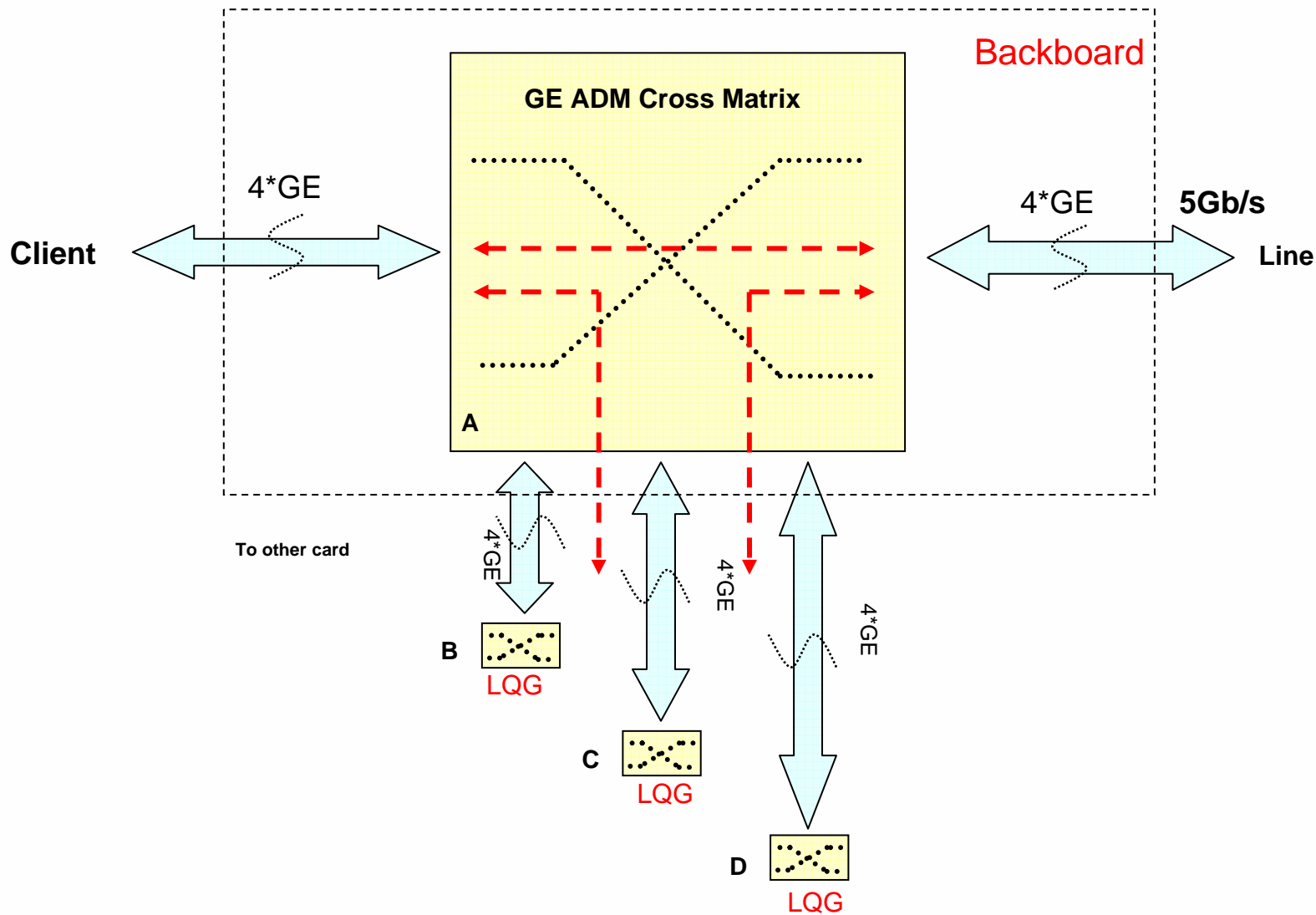
- ◆ Flexible in power supply
- ◆ Flexible OADM design
  - 4 wavelengths for one box
  - 32 wavelengths (DWDM) or 8 wavelengths (CWDM) added /dropped by equipment concatenation.
- ◆ Flexible Installation
  - Wall, Desktop, Rack mount (19" or 23", ETSI)
- ◆ **DWDM & CWDM Compatible**
- ◆ **All kinds of OTU are compatible with Metro6100**



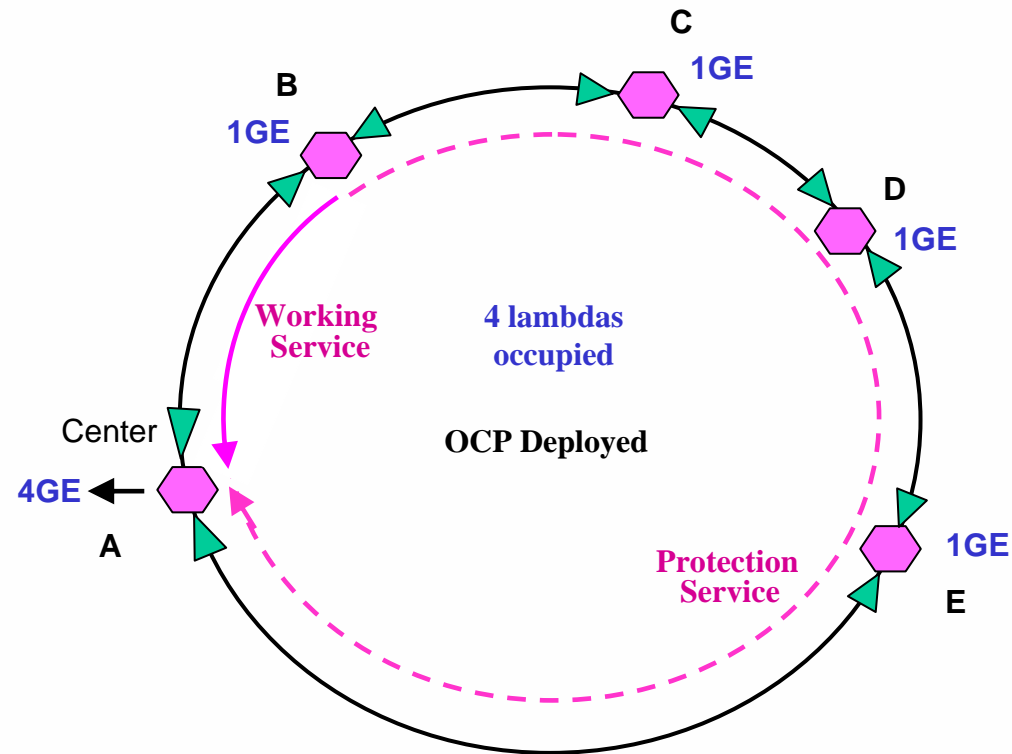


### Flow Chart of Internal Service (inside the board)

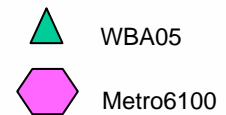


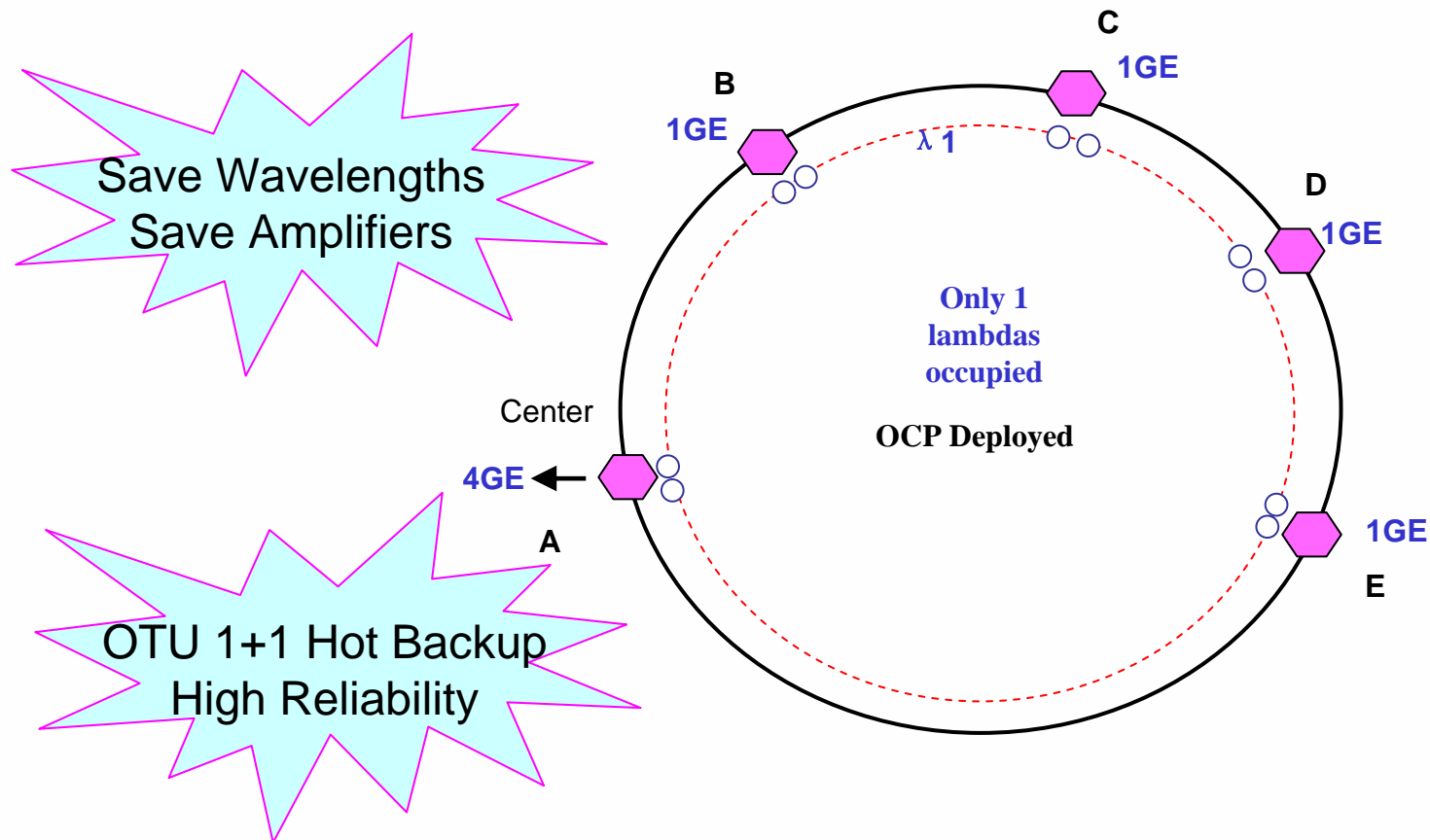


Note: A, B, C and D represent OTU boards in different positions

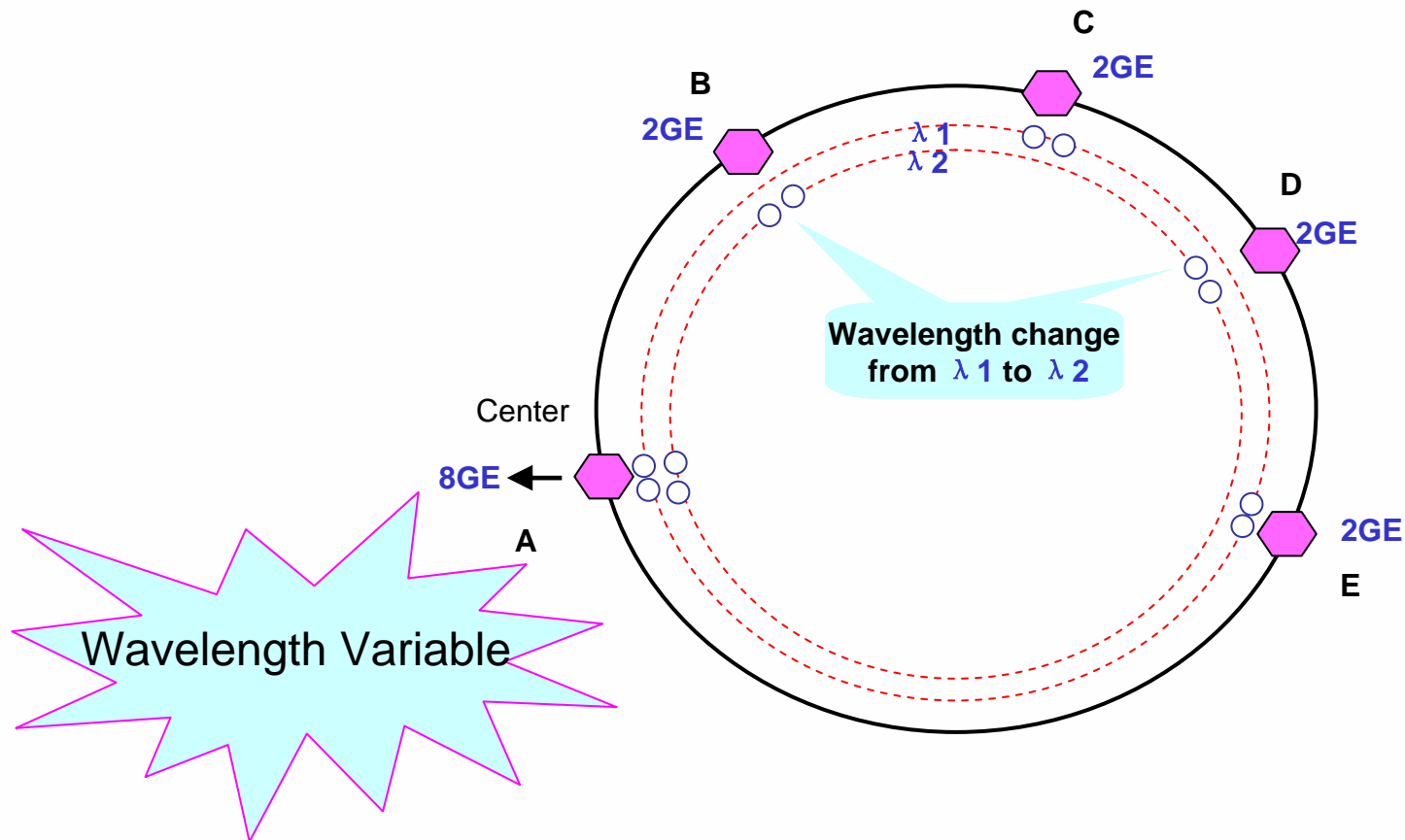


The Protection service should cross three sites so that it need several amplifiers.





**Amplifiers can be saved because the service has been regenerated in every site. Just like the SDH ring.**



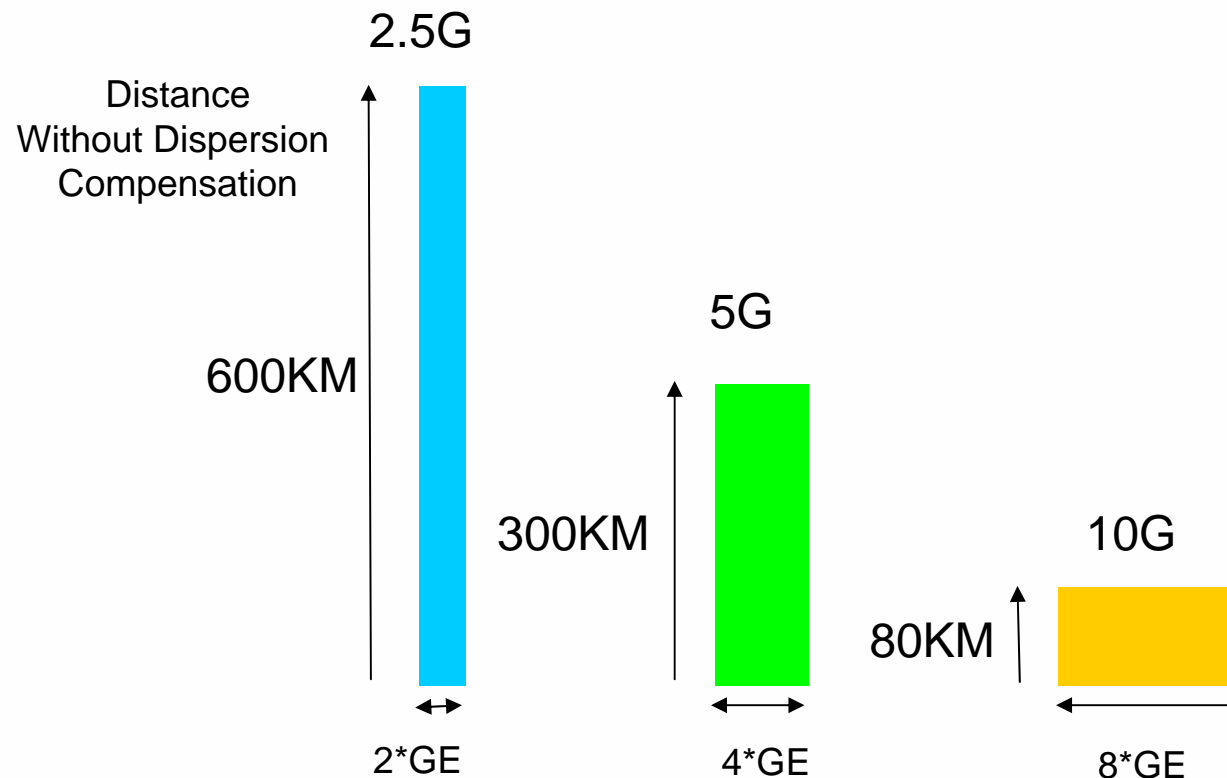
Every LQG Board has alternative wavelength  
Support SFP interface (Small Factor-form Pluggable)



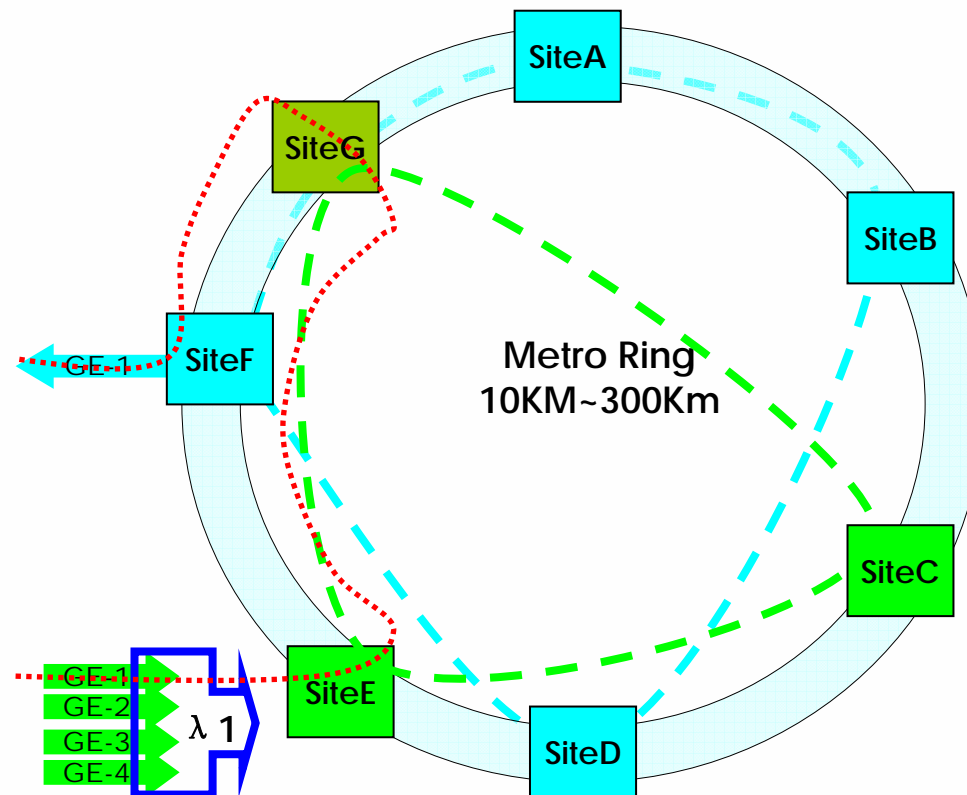
# Huawei Confidential Distance of Transmission for Huawei X-GE



- 👉 Low cost at Line, full potential transmission and best transmission efficiency.
- 👉 Cost=distance \* capacity
- 👉 Focus on metro character, reach the balance of line capacity and transmission distance, providing 128~256\*GE,



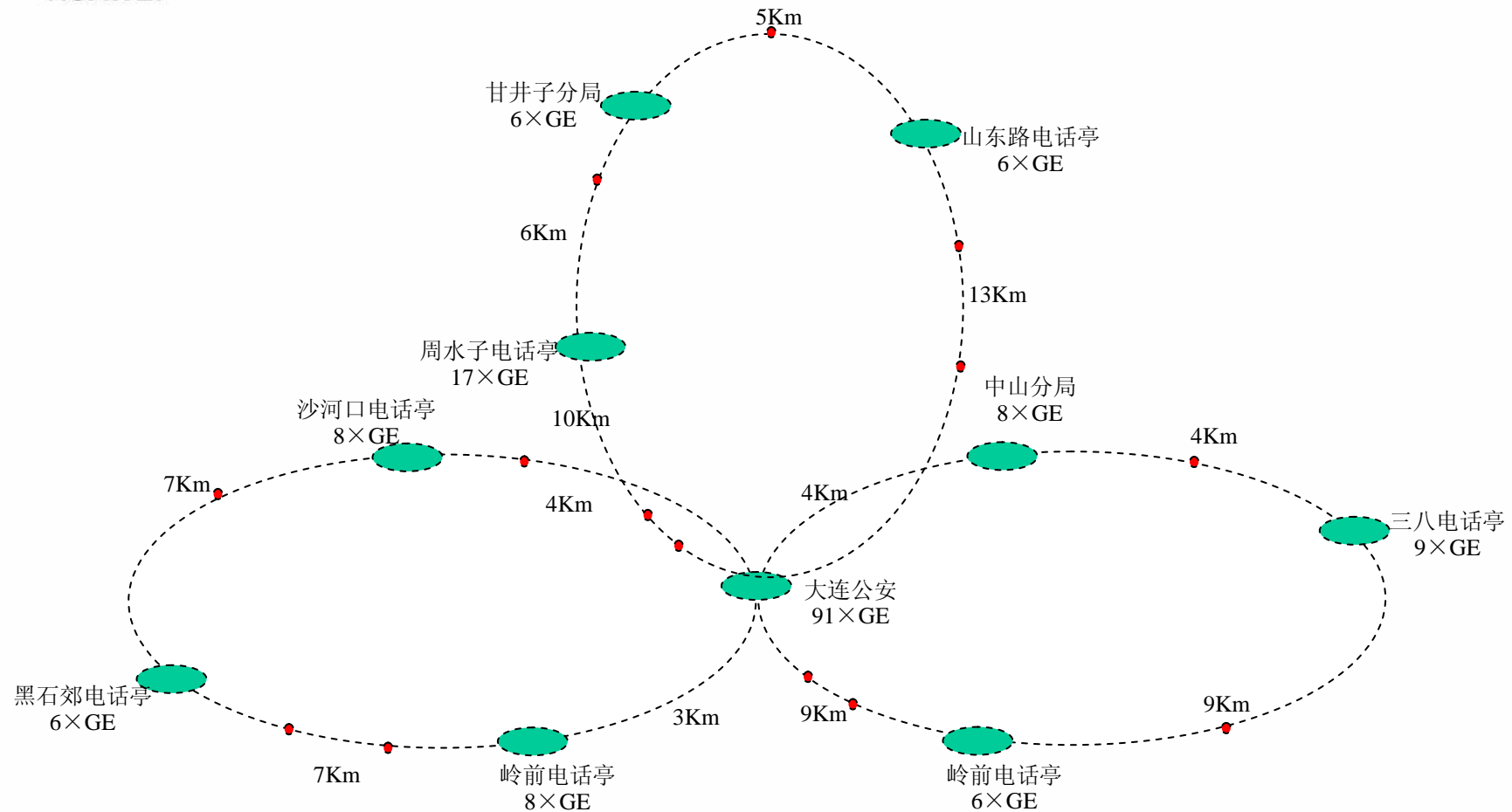
- ☞ Quickly provide E2E service.
  - ☞ Traditional WDM provide point to point multiplex, while X-GE solution provide End to End multiplex.
  - ☞ Adding and deleting sudden services timely, without any impact to other services.





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## Da Lian Metro DWDM Network in China



图例:



业务站



跳纤站



Da Lian Metro WDM case: Centralized service model, 91\*GE will be terminated at the POP site, 46 LDG and two separate equipments are needed. When LQG or LOG are used, only one equipment is needed.

