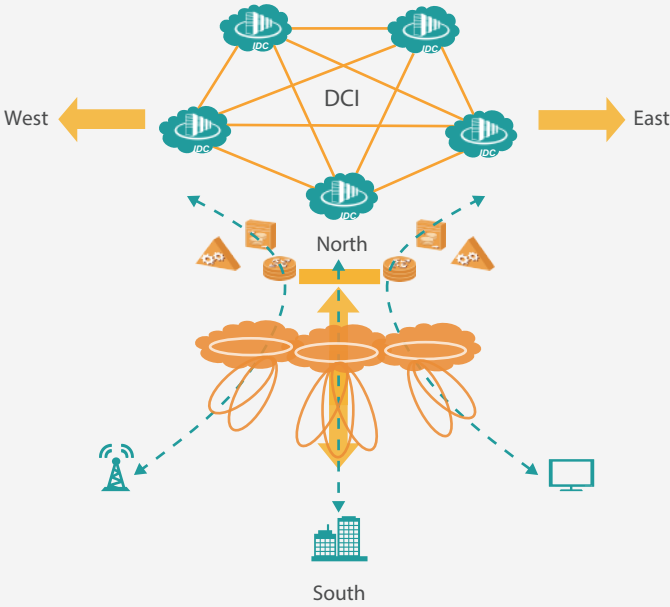# Huawei ISP DCI Solutions in the Cloud Era

HUAWEI

Cloud Services Drive DCI Architecture Transformation

◆ Cloud services have caused both inter-DC interconnection traffic and the east-west traffic among data centers (DCs) in the same city to rise dramatically. Network architecture has transformed from aggregation architectures to DC-centric.

What Challenges Face DCI?

◆ Increased Fiber Rental Costs
- Traffic between DCs increases as CAGR > 30%.
- DCI consumes fiber resource rapidly.
- Large numbers of fibers are difficult to manage.

◆ Higher Performance Requirements
- Encryption affects the forwarding speed.
- Latency is higher compared to traditional solutions.

◆ Incompatible with the O&M Practices of Traditional WDM Equipment
- Open interfaces are not supported.
- DC-friendly installation is not supported.

◆ Growing Energy Consumption
- Power dissipation in data centers has increased five-fold in the past 10 years.
- The cost of running devices higher than 1 U has doubled in the past 10 years.

What Benefits Does DCI Bring?
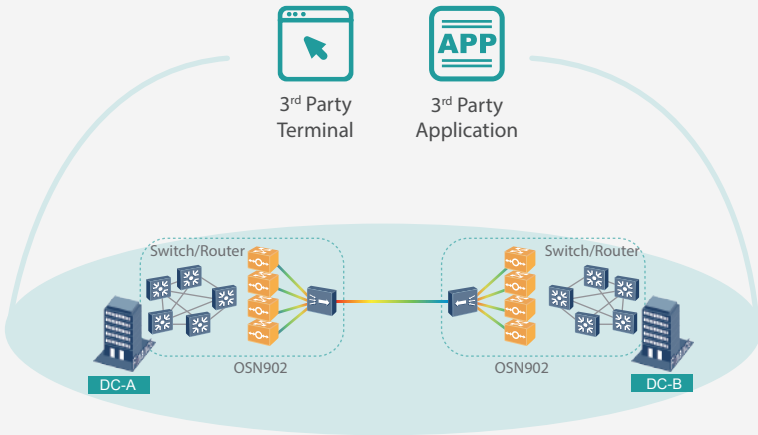
Large Capacity

Low Latency

Smart Platform

High Integration

Huawei's DCI Solution

3rd Party Terminal

3rd Party Application

Switch/Router

Switch/Router

DC-A

OSN902

OSN902

DC-B

◆ **Large Capacity and High Security**

- 100G/200G/400G programmable
- 20+ Tbit/s over a pair of fibers
- Layer 1 line rate encryption

◆ **Open Platform and Smart System**

- Multiple open interfaces available for secondary development by DCI users
- E2E service provisioning reduced from 4 weeks to 30 minutes
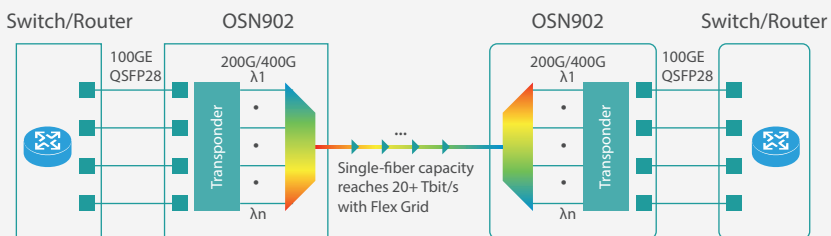- Low latency and supports latency optimization

◆ **High Integration and Easy O&M**

- Industry-leading power savings, < 0.5 W/Gbit
- High integration with up to a 50% smaller footprint
- Part replacement within 15 seconds
- Constant product supply and fast delivery

Large Capacity and High Security
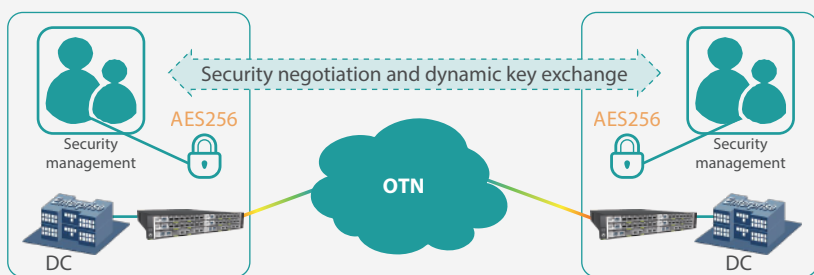
◆ Ultra-High Bandwidth

Switch/Router — OSN902 — OSN902 — Switch/Router

100GE QSFP28 | 200G/400G λ1 ... λn | Transponder | Single-fiber capacity reaches 20+ Tbit/s with Flex Grid | 200G/400G λ1 ... λn | Transponder | 100GE QSFP28

| Values | Huge bandwidth
One pair of fibers = 20+ Tbit/s | One hop
Low latency | Simplified topology
Saving 75% OPEX |

◆ High Security Encryption for Special Business

Security negotiation and dynamic key exchange

AES256 — Security management — OTN — AES256 — Security management

DC — DC

• Diffie-Hellman algorithm for key exchange
• E2E security management
• Line rate encryption, low latency, and service protection against attacks

Open Platform and Smart System

◆ Smart E2E Service Management

OSS/BSS

REST — CORBA

Agile Controller | U2000 | Web GUI | NETCONF(YANG) /SNMP/CLI

E2E service provisioning
4 weeks → 30 minutes

DC

15 µs | 25 µs | 25 µs
20 µs
55 µs
25 µs | 30 µs
25 µs

5 ms
10 ms
15 ms
Network latency visualization

DC
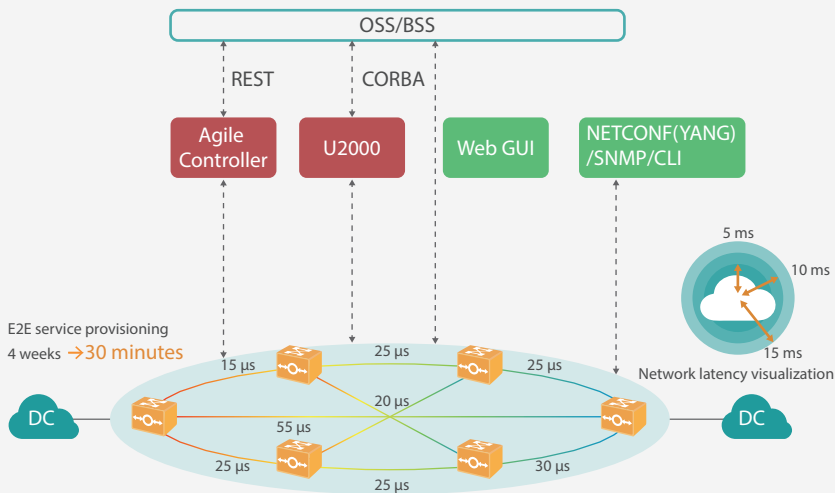
Open System & Fast Service Provisioning

High Integration and Easy O&M
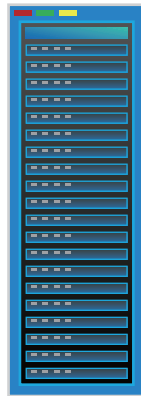
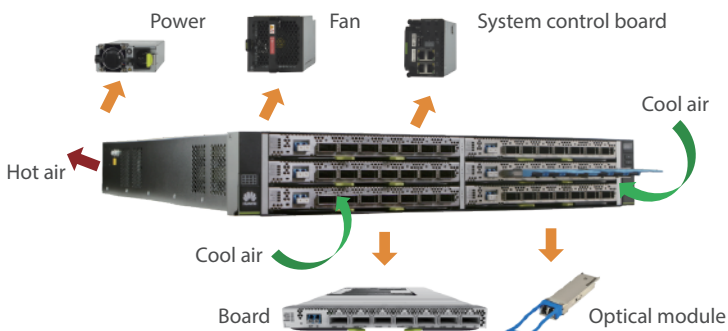◆ Full Adaptation to DC Environments

High Integration

OSN902

Modularity stackable

48T per rack

- 2 U high, **6** slots
- **200G/400G** per slot
- **2.4T** per chassis
- Power consumption **< 0.5 W/Gbit**

Easy Installation

Power   Fan   System control board

Cool air

Hot air

Cool air

Board   Optical module

- Hot pluggable modules
- Replace parts within **15s**
- Front-to-rear cooling

◆ Constant Supply and Fast Delivery

Quick Manufacturing

- Modularized materials allow for efficient manufacturing.
- Huawei's coherent optical modules account for over 30% of shipped modules, making them No. 1 in the world.

Configuration-Free

- All modules are plug-and-play.
- No configurations are required. Services are provisioned as soon as the module is powered-on.

Hungary

Dubai ~ Shenzhen

Mexico

Brazil

Fast Delivery

- All modules are configured prior to order.
- 5 supply centers around the globe ensure delivery within 2 to 7 days.

Product Family

OSN902

Dimensions (H x W x D) (mm)	86.1 x 442 x 600
Capacity	2.4T
Service Slots	6
Service Type	10GE, 40GE, 100GE
Line Rate	100G, 200G
Power Supply	AC, HVDC

Scan this QR code for further details

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By Enterprise Transport MO & Information Dept.