

Beyond 100G Era

Huawei Launch Industry 1st 200G LPU

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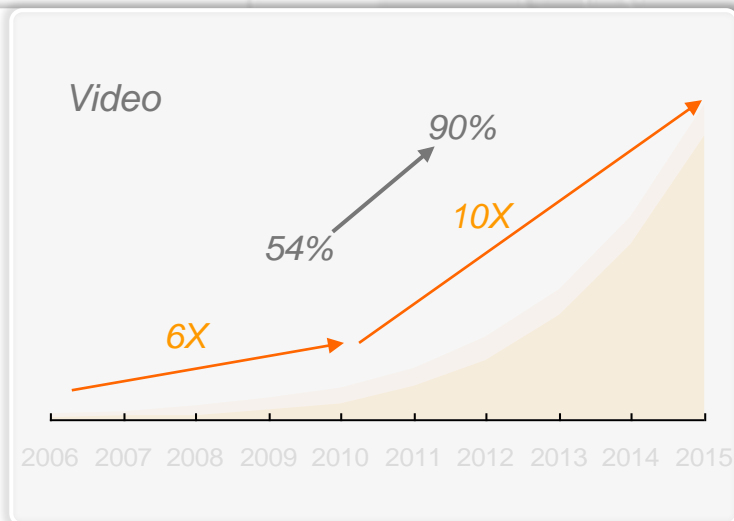
HUAWEI TECHNOLOGIES CO., LTD.



Bandwidth Demand in FBB&MBB Era

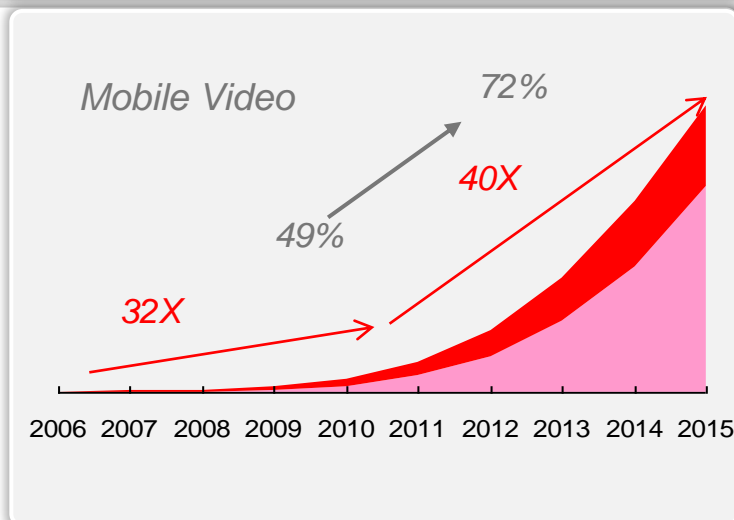
Internet @ bigger screen, FBB traffic fast growing

- ◆ TV@Home / Video@Home / App@Home
- ◆ Video: single screen -> multi-screen, single room -> multi-room
- ◆ Internet innovation: GoogleTV、AppleTV
- ◆ National broadband, global broadband

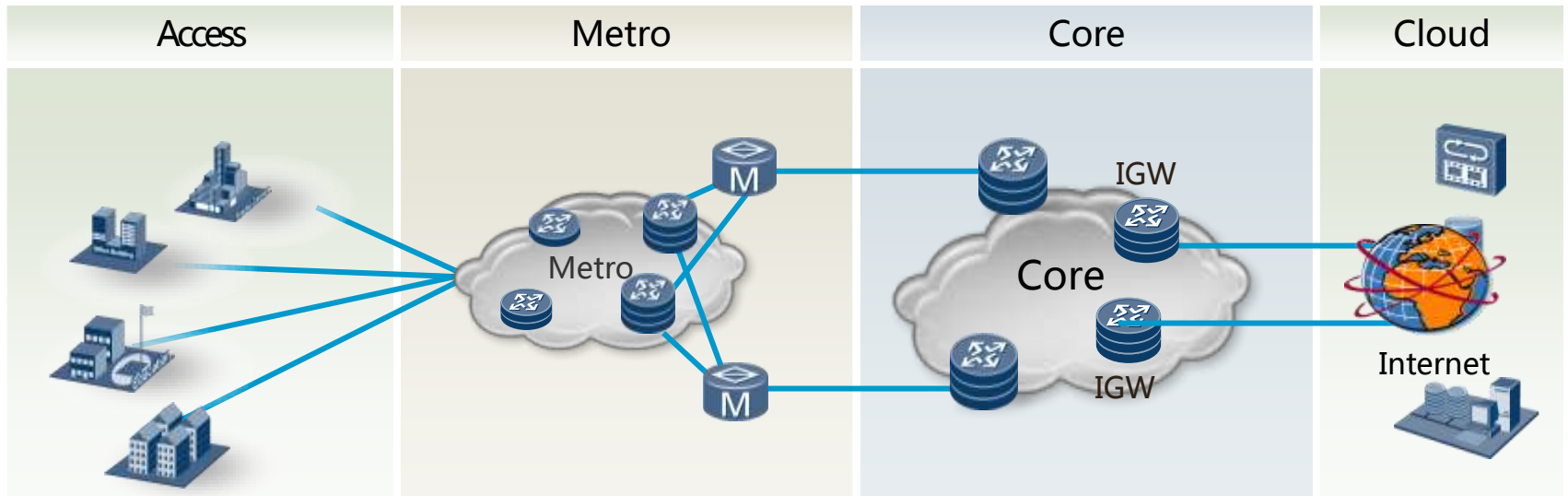


Small screen with bigger traffic, MBB traffic fast growing

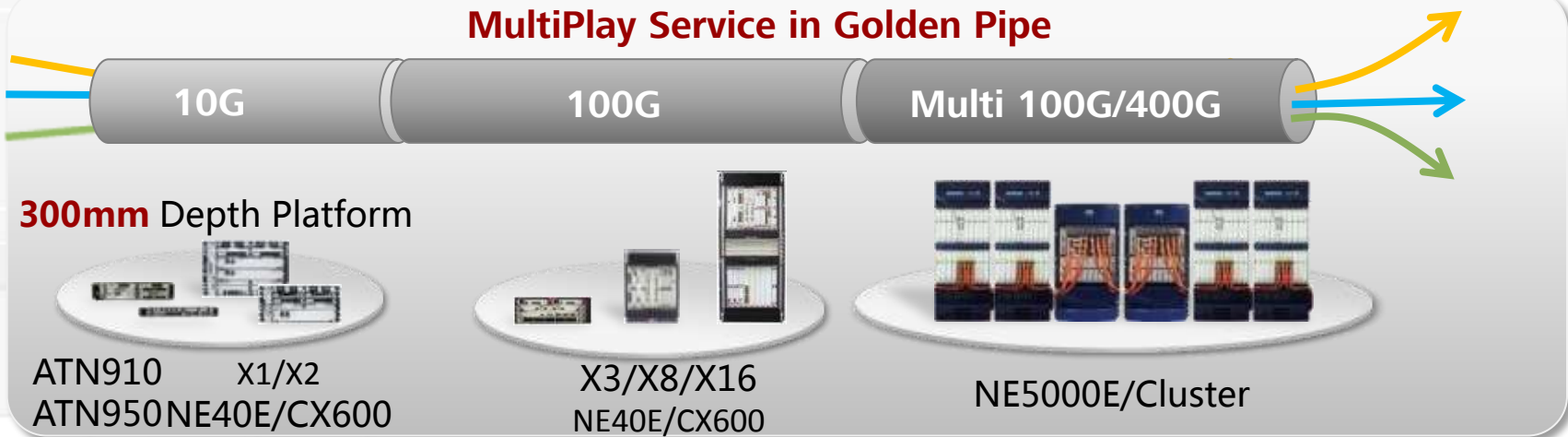
- ◆ Smart device: online time increased by 50%
- ◆ iPhone 4: 960*640
- ◆ Macro/Micro/Femto: deep coverage drives MBH expansion



Non-Stop Bandwidth Requirement



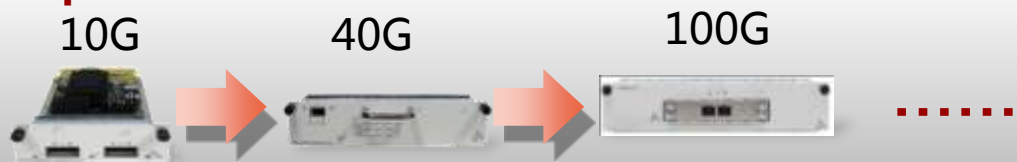
MultiPlay Service in Golden Pipe



Router Capacity is Increasing Correspondingly



Interface Speed



Port Density

64 -> 160 -> 320 -> ? ...

E.g.: 10G interface/Chassis



Cluster Technology



Huawei Contribution for Ultra Broadband



HUAWEI

We're Here

Today

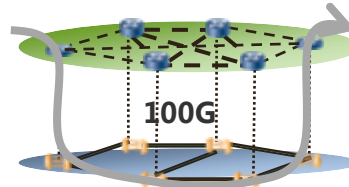
Industry 1st **200G LPU** Launched



Feb, 2011

Industry 1st **E2E 100G Test** in EANTC

E2E 100G Solution



Sep, 2009

Industry 1st **E2E 100G Solution** launched



May, 2009

Industry 1st **2+4 cluster application** in China Telecom



2008

Industry 1st **2+8 cluster** system launched

Industry 1st 200G Line Card



Performance

- 300M PPS
- Non-blocking forwarding



Green

- Innovative MIP
- <2.62W/G



Service-Rich

- Innovative EQC
- 5-level QoS

MIP - Macro Instruction for Packet Processing
EQC - Enhanced Quality Control



LPUF-200



1*100GE Sub Card

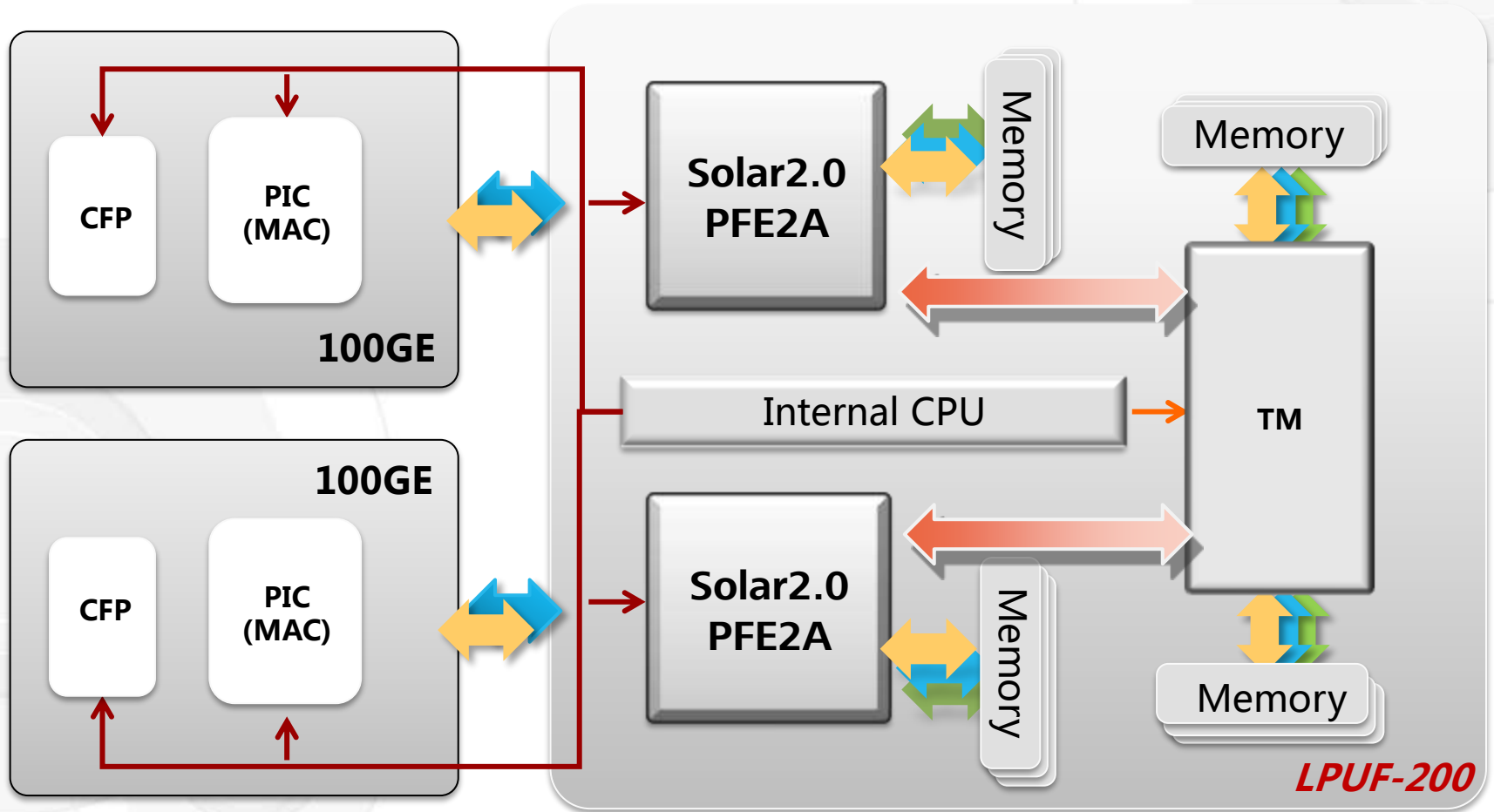


10 * 10GE SFP-E Sub Card



Hot pluggable LPU provide best
system reliability and flexibility

200GE LPU Architecture



Self-designed Chipset Enhance Sustainable Development

- 100G Chipset
- Launch in 2009
- 100G/**200G LPU**, 3.2T Chassis

- 200G Chipset
- in development
- 400G LPU

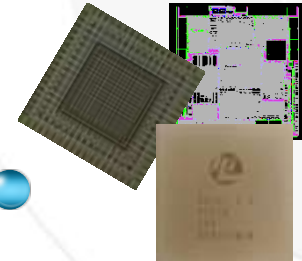
Solar3.0

Solar2.0

Solar1.0



- 40G Chipset
- Launch in 2004
- 20G/40G LPU, 1.28T Chassis



Solar Goals

- High scale, low CapEX
- High speed, low power
- High flexibility, low complexity

Talented Solar Design Team



Bill Lynch

- ◆ Ph.D. Computer Architecture in Stanford University
- ◆ Sun UltraSPARC architect
- ◆ Co-founder & CTO at Procket Networks
- ◆ Leader of Cisco 100G DCBU NPUs

Solar Team Leader



John

- NP leader

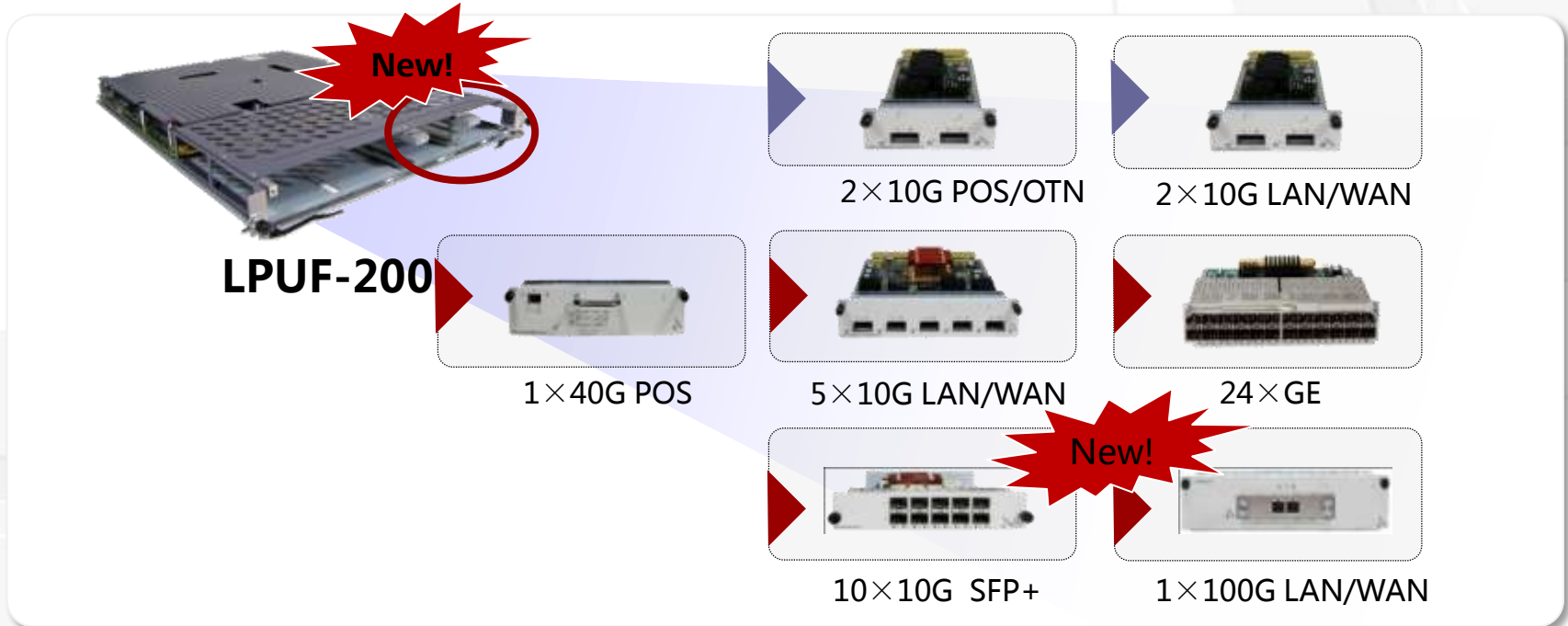


- ◆ **30+** Top talents in industry
- ◆ **300+** engineers in NA and China
- ◆ **Avg 12+** years Experience

Global Cooperation

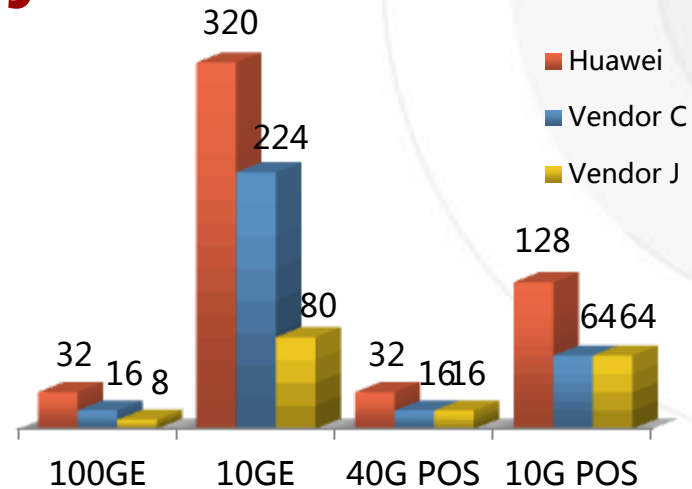
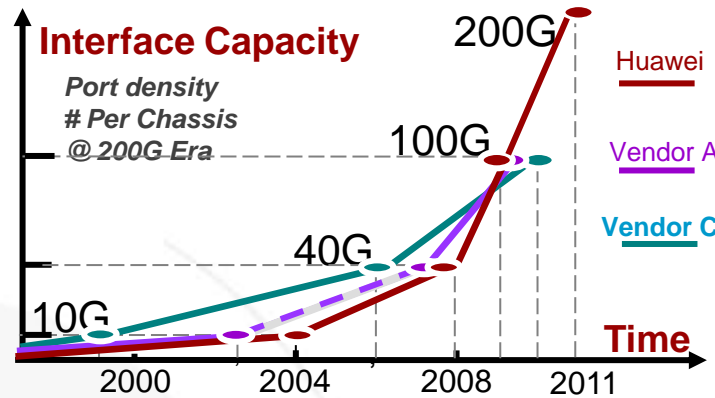


200G Line Card Family



- ◆ Full series flexible card with both $\frac{1}{2}$ and $\frac{1}{4}$ slot size can be deployed on demand.
- ◆ Smoothly expansion stepped by carriers' service requirement to protect investment.
- ◆ Hot pluggable enabling service reliability

NE5000E Port Density with 200G LPU



3.2T

12.8T

100G Era



200G Era



× 2



50%~75%

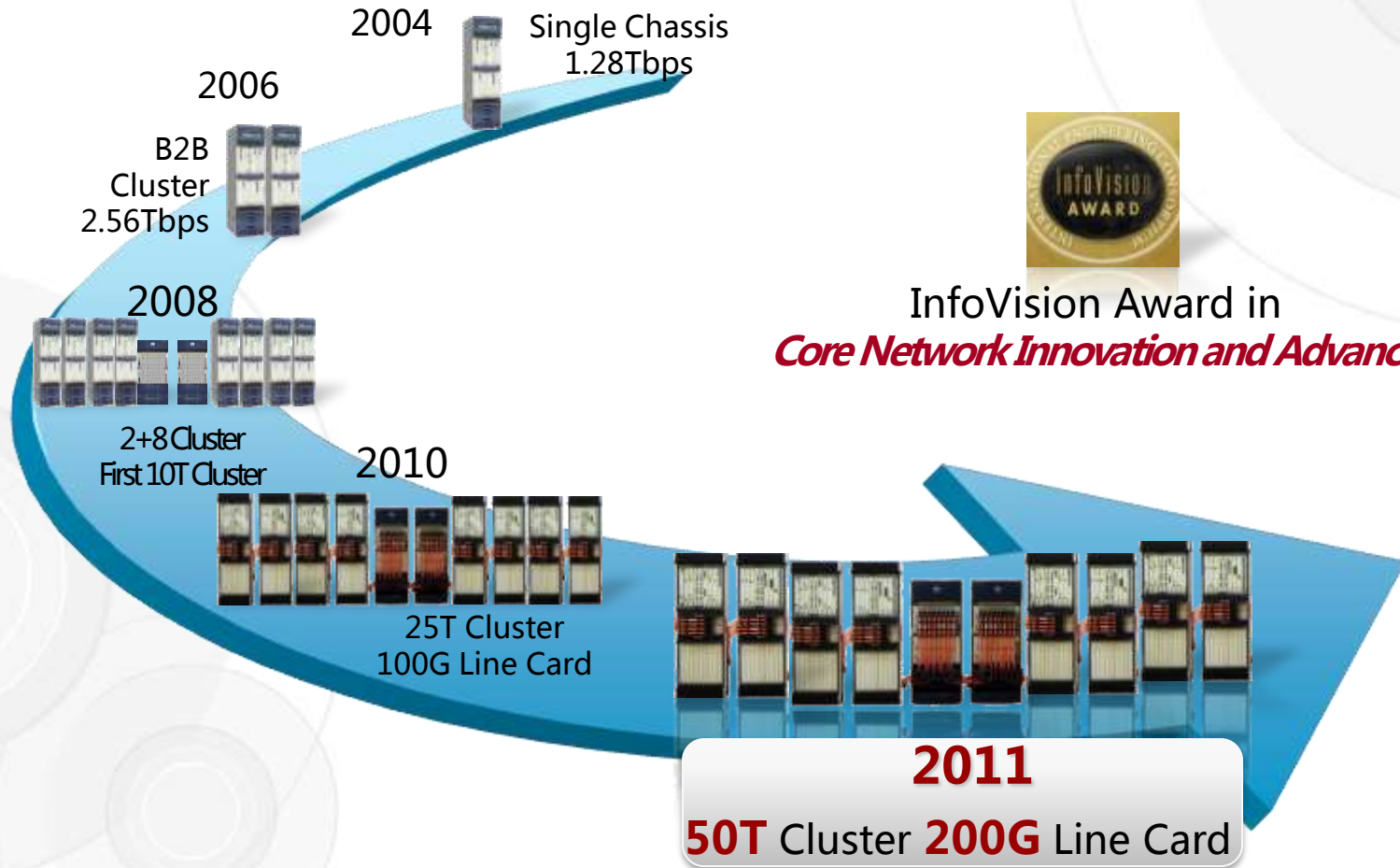
Space & Power



50%

Space & Power

Huawei Cluster Technology



NE5000E Worldwide Applications



- ◆ **2300+** NE5000E are deployed worldwide.
- ◆ **160+** NE5000E cluster commercial application in **20+** backbone/metro core network.
- ◆ **1st** 2+4 commercial cluster application in China Telecom

By the end of 2010

Summary

Industry 1st
200G LPU

Innovative
Solar Chipset

Full
Compatibility

Hot Pluggable
Design

Smooth
Expansion

Value to
Customer

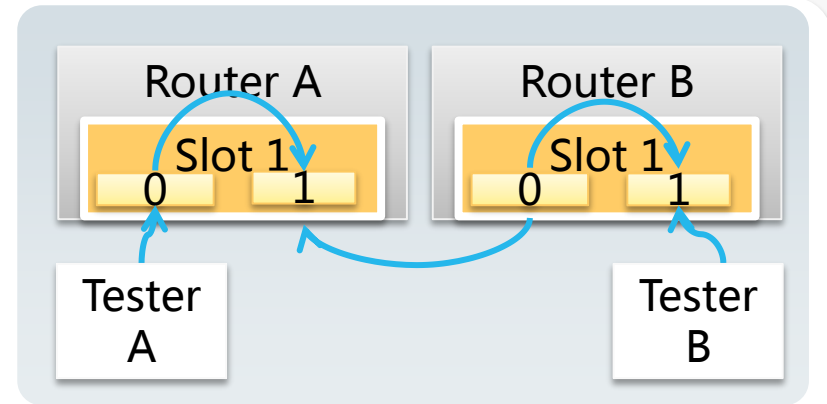
Meet exploding bandwidth demand

OpEX Saving : Space and power saving

Smoothly expansion, investment protection

200G LPU Test in Beijing

- ◆ Date: 29th, Apr, 2011
- ◆ Location: Beijing R&D Center
- ◆ Room : IP Innovation Center (Q10-1-A05R)
- ◆ Time : 10:00am – 12:00pm



◆ Test Items: traffic forwarding

◆ Line Rate Monitoring

◆ Test Instruments: IXIA

Beyond 100G Era

IP Your Future!

