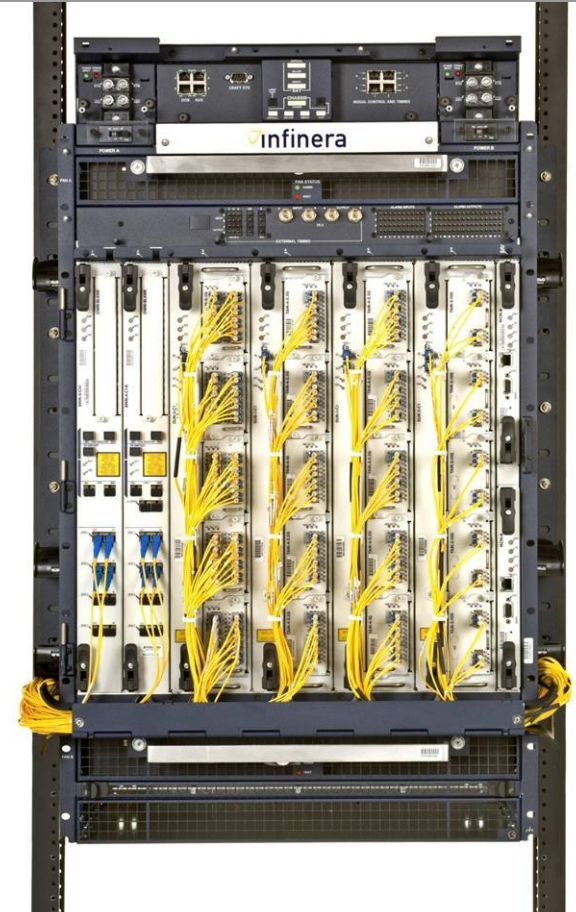




Photonic Integration and the Digital Optical Network

Colin Rhodes

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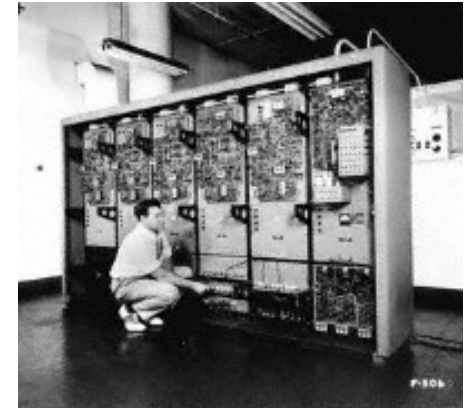
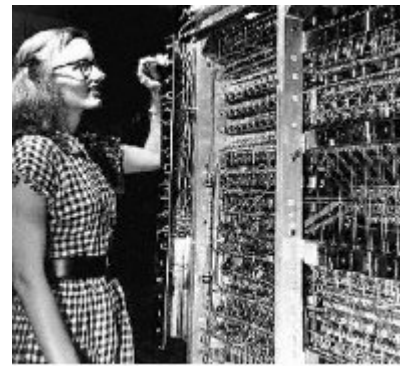


Electronics Before the Integrated Circuit

Discrete electronic components...



Enable pre-IC computing systems



- Components are costly, failure-prone, bulky, and power-hungry
- Resulting systems inherit the same problems

The Integration Revolution

INTEGRATED electronics...



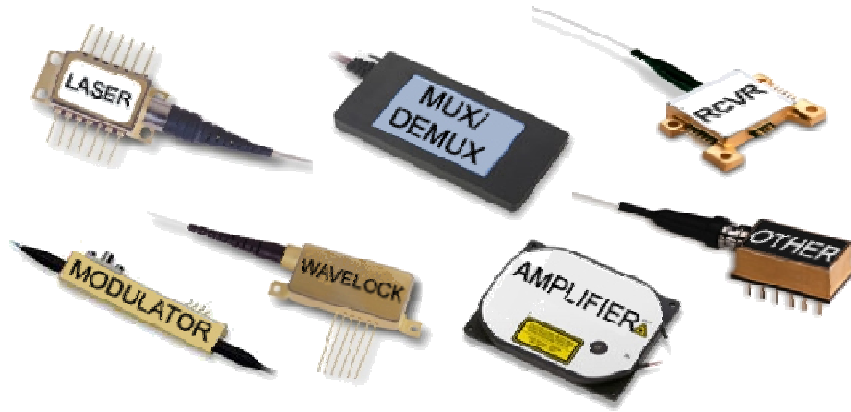
Results in pervasive computing



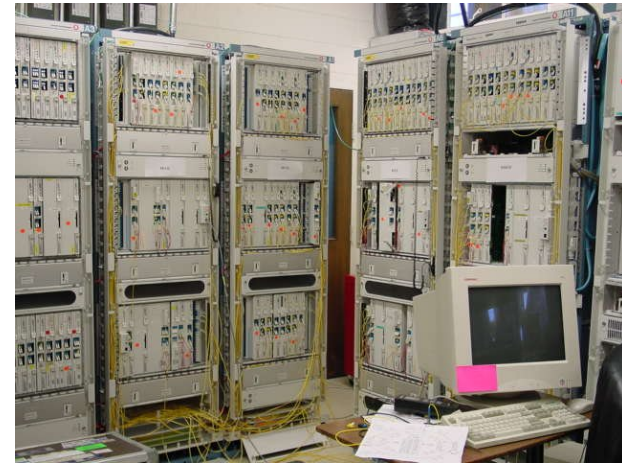
- Fundamental improvements in cost, space, power, reliability
- A virtuous cycle as advances enable new applications...
- ...including a transition from analog to digital
- Moore's Law improvements for 45 years and running

Conventional Optical Telecom Today

Discrete photonic components...

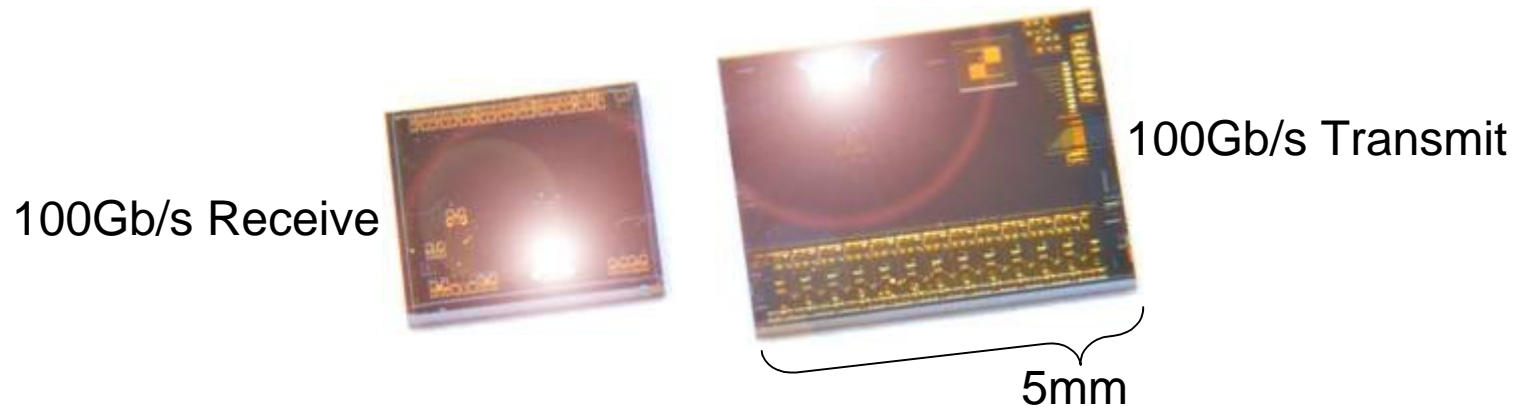


Conventional DWDM systems



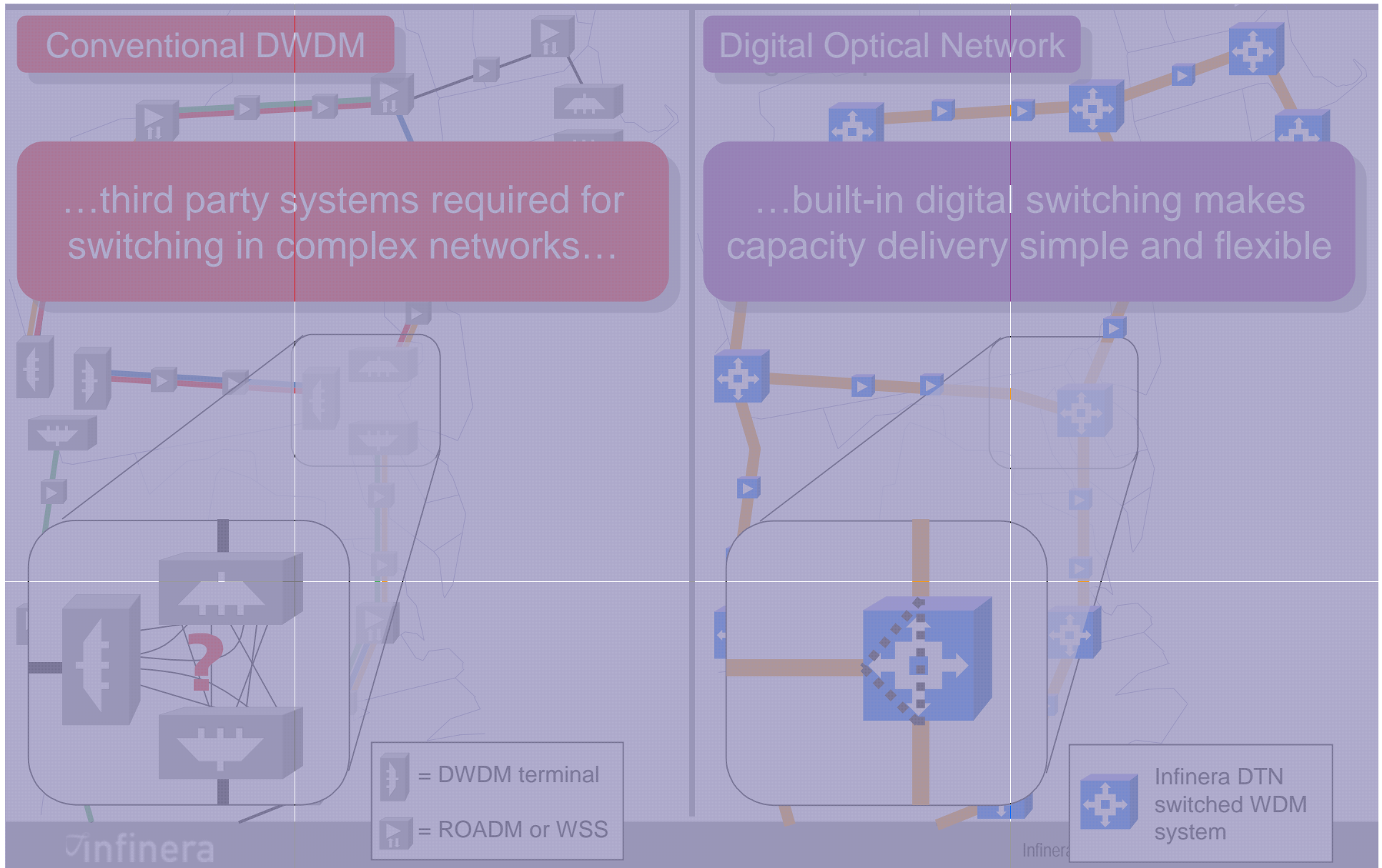
- Components are costly, failure-prone, bulky, and power-hungry
- Resulting systems inherit the same problems

Infinera's Photonic Integrated Circuit Innovation

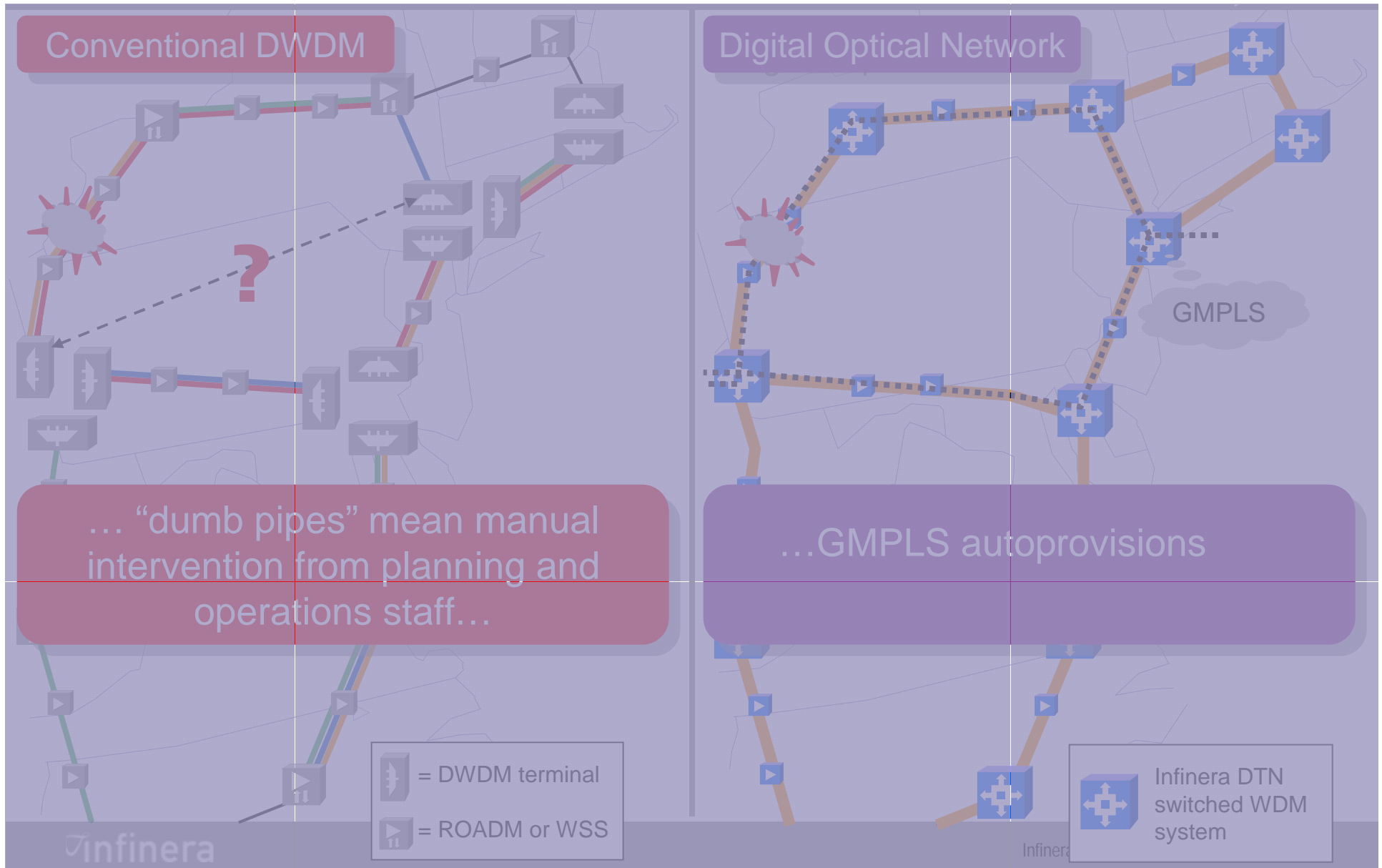


- **DIRECT BENEFITS:**
 - Size, power, cost, reliability
- **STRATEGIC BENEFITS:**
 - Low-cost OEO conversion allows a digital network paradigm
- Result: Lower CapEx, lower OpEx, more flexible optical network

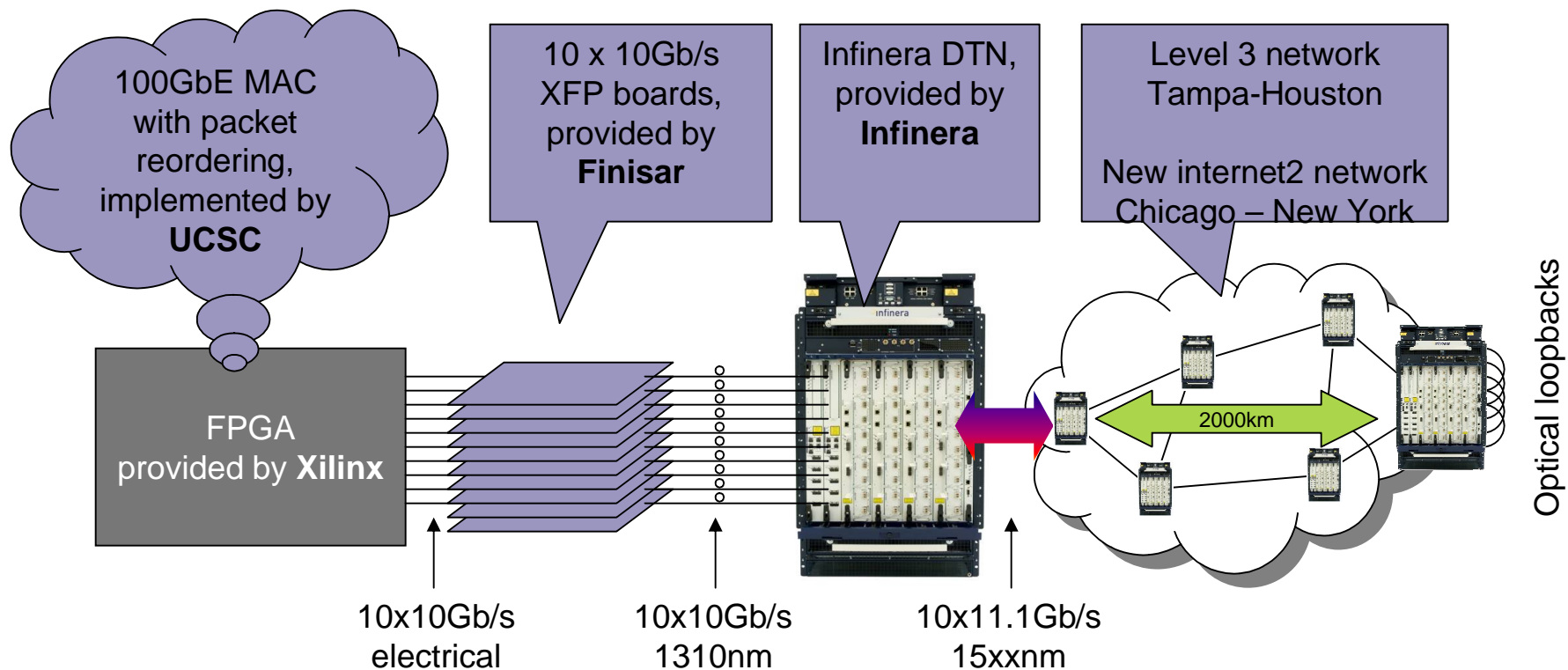
DWDM Versus a Digital Optical Network: Integrated Switching



DWDM Versus a Digital Optical Network: Software-based Network Intelligence



Live 100 GbE Demos – Tampa to Houston & Chicago to New York



* 100 GbE first demonstrated Nov 13 at SC06 between Tampa and Houston

Infinera Summary

- Leader in photonic integrated circuits... and only PIC-based systems manufacturer
- PIC direct benefits: Space, power, reliability, cost
- Strategic benefits: OEO conversion and digital optical networks
- Pioneer in 100GE developments and pushing standards efforts in 803.3 HSSG
- Satisfied customer base
- A differentiated and (we believe) compelling future

Team & Board

Executive Team

- Jagdeep Singh, CEO
 - CEO, Lightera (Ciena);
- Dave Welch, CSO
 - CTO, SDL (JDS)
- Drew Perkins, CTO
 - CTO, Lightera (Ciena)
- Tom Fallon, VP Ops
 - VP/GM, Cisco Optical Transport BU
- Duston Williams, CFO
 - CFO, Maxtor, Western Digital
- Rusty Cumpston, VP Eng
 - COO, Optical Networks Inc.; Nortel
- Fred Kish, VP PIC
 - R&D and Manufacturing Head, Agilent III-V Division
- Howard Lukens, VP Strategic Sales
 - VP Sales, Ciena; Stratacom
- Scott Chandler, VP Sales
 - VP Sales, Sonus; Cisco
- Lonny Orona, VP Customer Service
 - VP Service/Ops, Ciena, MFS

Outside Directors

- Alex Balkanski
 - Partner, Benchmark
- Vinod Khosla
 - Partner, Kleiner Perkins
- Greg Galanos
 - Partner, Mobius
- Ken Goldman
 - CFO, Siebel Systems
- Carl Redfield
 - SVP, Cisco Systems
- Hugh Martin
 - Ex-CEO, ONI, CEO, Nanofluidics
- Dan Maydan
 - President Emeritus, Applied Materials
- Pradeep Sindhu
 - CTO, Juniper