IMAGINE THE POSSIBILITIES...
Bringing Service Visibility Into The Light With CPRI As A Service

Bill Beesley
Manager, MSO Strategy and Development
Fujitsu
Common Public Radio Interface (CPRI)

- Separates Remote Radio Unit from Base Band Unit
  - Ultra-low latency <70 ns
- BBU can now be placed at base of tower or at central location
- Historically only done over dark fiber
  - See low latency above

But dark fiber is valuable and lacks service layer visibility
Cell Transport

- Majority of towers in the US are on MSO fiber
- Early backhaul
  - SONET evolved to Ethernet/MPLS
  - Then to dark fiber to support CPRI deployments
- Fronthaul
  - Separates the location of the radio equipment and the baseband controller
  - Primarily dark fiber
    - Ultra low latency - <70 ns
    - Service transparent
    - Vendor proprietary
      - eCPRI introduced to allow vendor neutrality between equipment
Low Latency Ethernet/Time Sensitive Networking

- Time Sensitive Networking
- Built on 802.1 series of standards to support CPRI fronthaul
- Ultra low latency & low jitter
- Strict time synchronization

Now we can provide an actual Service instead of just dark fiber
Hybrid Active/Passive

- Passive DWDM
  - Multi-services over single fiber
- Smart optics
  - Self tuning
  - Inband management for remote OAM, BERT, DDM, OTDR
- Single and dual fiber options
- 10 G & 25 G
Unified Software Control

- Separate controllers for each domain
  - Operational behaviors based on agree-to-service definitions
- Unified Service Operations view
  - Walled garden views limit scope as necessary
- Microapps “glue” together systems
  - Utilize standard north and southbound APIs
  - Can be introduced into existing operations systems—and incrementally
  - No longer a closed, monolithic management system

Open APIs and Microapps allow a trusted management model
New technologies introduce new capabilities

- Low latency/time sensitive Ethernet
- Best end to end service visibility
- Strict network timing
- Can carry multiple services
- Hybrid active/passive
- Economical alternative
- Adds service visibility to passive architectures
- Can carry multiple services
- New software intelligence can create better collaborate customer experiences

Conclusions

We can still use dark fiber when we want to
Thank You!

Bill Beesley
Manager, MSO Strategy and Development
Fujitsu
bill.beesley@fujitsu.com