

Fixed & Mobile Backhaul – Can we make a buck?

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Presentation Goals

- Backhaul requirements are changing - where is it heading?
- What are the implications?
- What will be needed in the future?

Backhaul Requirements

- Not a shock - It's all IP, all the time
 - RFP's coming out daily from 4G providers
 - But it's not for “vanilla” ethernet
 - Requests target speeds from 10 – 1000 Mbps
 - Requests require severe circuit testing/monitoring
 - RFC2544 test suite
 - Y.1731/801.ag quality monitoring
 - Frame error (10^{-6}), latency (5 ms), jitter (2 ms)
 - CoS/QoS tagging
 - Verifiable quality end-to-end - MSC to the site

Implications

- Not possessing a “Carrier-Grade” ethernet network core and transport networks is no longer an option.
 - Wire speed core routers necessary
 - Ability to switch dozens/hundreds of 1 & 10 Gbps links without latency necessary
 - Full support of RFC2544/Y.1731 through entire network is table stakes
 - Path diversity a plus, may be a requirement

Requirements

- Core routing
 - Ability to switch multiple 1/10/40 Gig ports
 - Terabit backplanes
 - Wirespeed routing at the core router edge port
 - Y.1731 enabled core components
 - Fully diversified 10 or 40 Gbps ring backbones

Requirements

- Network/Site components
 - Fiber drops to site
 - Interface equipment supporting Y.1731 & RFC 2544.
 - Interface flexibility, media and power

Requirements

- Performance
 - Guaranteed throughput
 - Time to repair
 - Circuit upgradeability
 - Support for
 - Jumboframes
 - IPv6
 - VLAN
 - Performance/executive reports

Conclusion

- The opportunity is there to make a buck providing ethernet backhaul.
 - But the network has got to be robust.