



End User Perspective on Higher Speed Ethernet

Louis Lee, Sr. Network Architect, Equinix



Agenda

- Brief overview of Equinix
- Current utilization
 - nation-wide
 - Washington, D.C. metro area
- Traffic projections
- Requirements on higher speed Ethernet

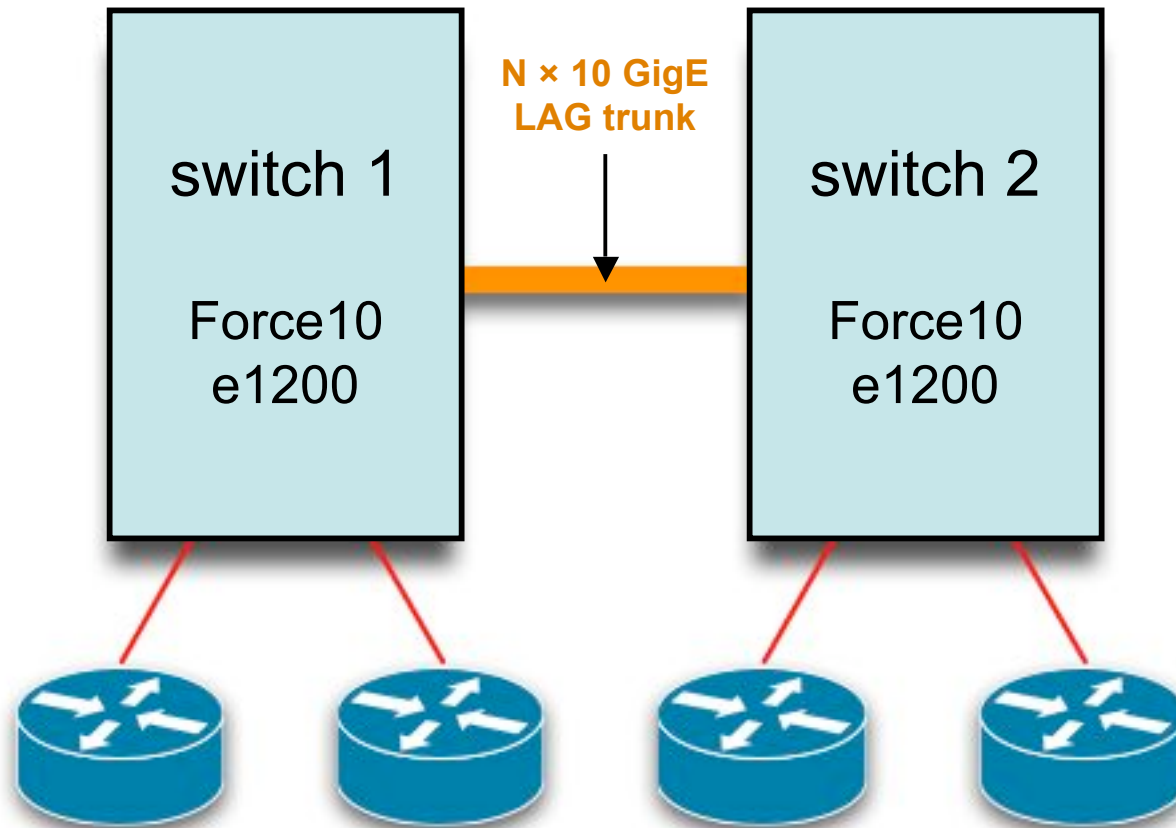


About Equinix

- California-based, publicly-traded, for-profit datacenter, colocation, interconnection provider with public IXs in 6 major U.S. metro areas.
- Customers are Internet-related businesses:
 - carriers, ISPs, content providers, SIP networks, enterprises
- Core business: colocation & interconnection



The Equinix Exchange Infrastructure

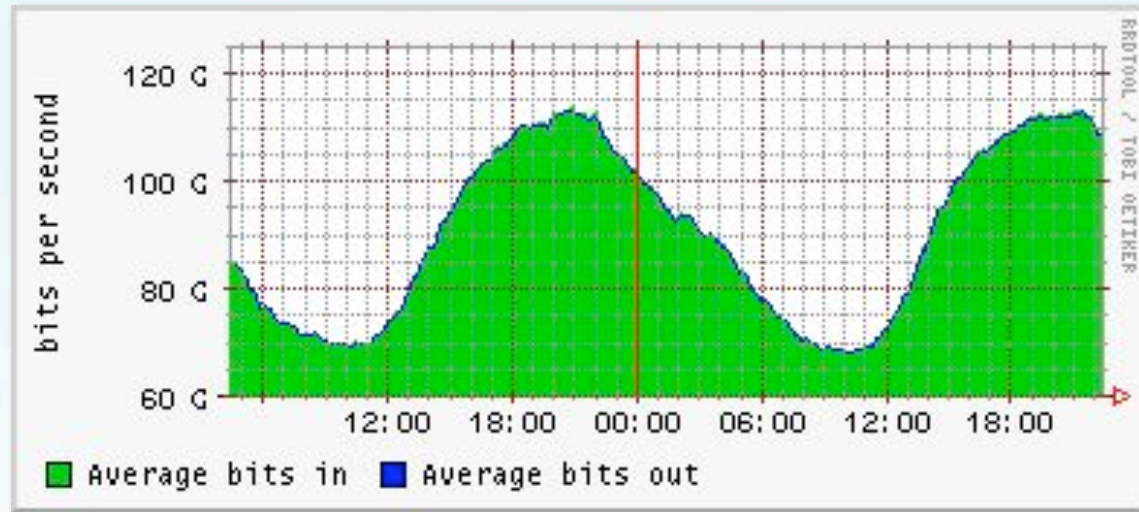


IX participants with FastE, GigE, NxGigE, and 10 GigE connections

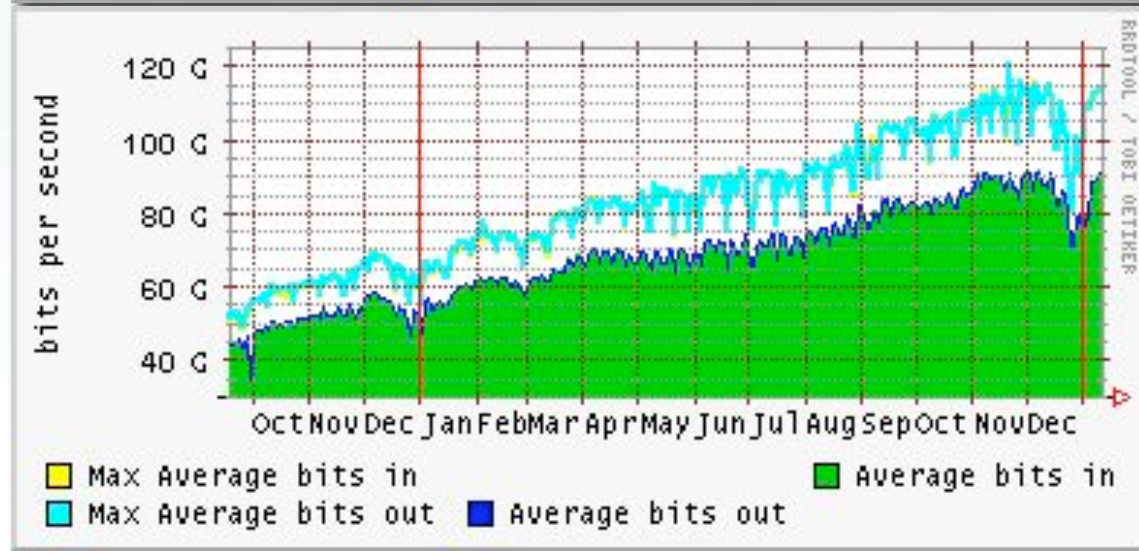


Current Utilization: Nation-Wide Across All Exchanges

Hourly graph



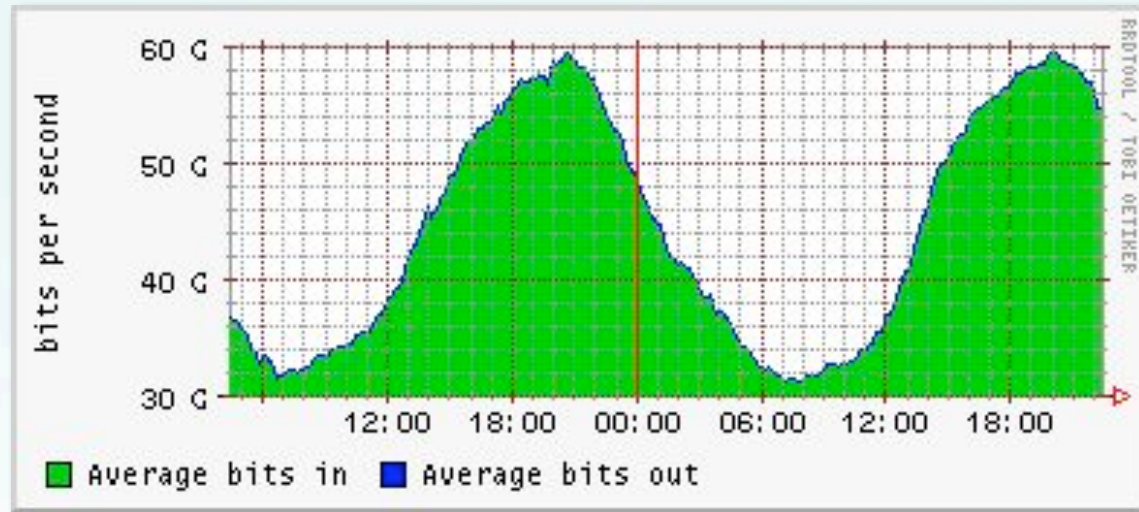
Monthly graph



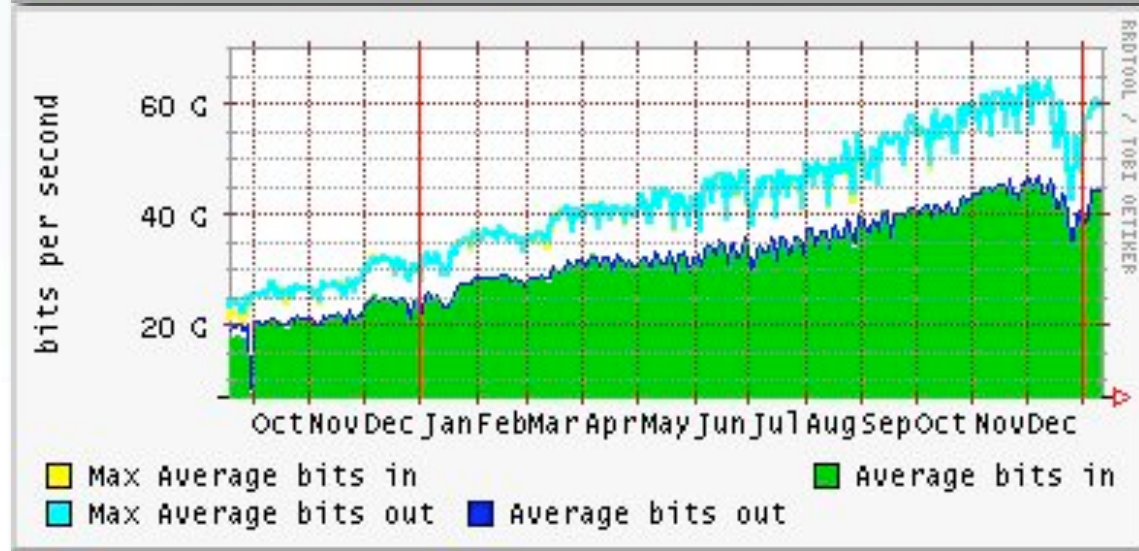


Current Utilization: Wash. DC Metro Exchange

Hourly graph



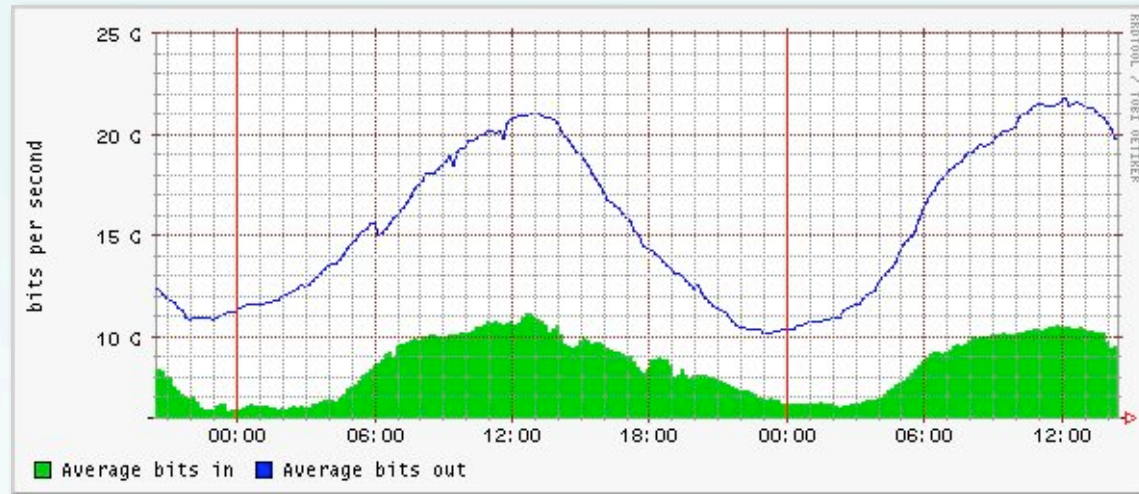
Monthly graph



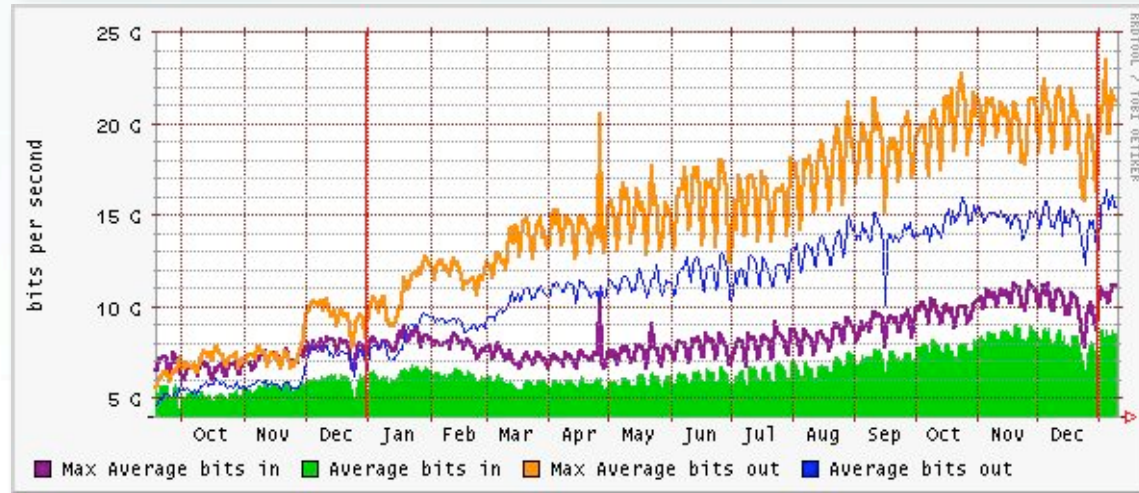


Current Utilization: Wash. DC Metro trunk

Hourly graph



Monthly graph





Traffic Projections

- Washington, D.C. 10GE connections:
 - Late 2005 - 1st customer 10GE
 - Today - 23 10GE customer connections (pushing over 45 of the 61 Gbps)
 - Before 2008 - several 2 × 10GE customer LAGs
 - By 2009 - 1st few 4 × 10GE customer LAGs
- Traffic is doubling every year! There is no reason to expect that this growth will slow down within the next 5 years.



Traffic Projections (cont')

- Link Aggregation concerns:
 - 10GE port density on switches!!
 - Additional fibers or WDM equipment
 - Added cost
 - More complexity
 - Traffic distribution across customer LAG links are less than optimal due to large flows.

Equinix's Requirements for Higher Speed Ethernet

- 100 Gbps or greater
- 0 - 2 /10 km SMF
- Port density:
 - 1 × 100GE port should not replace more than 4 × 10GE
- Link fault signaling support
- Link aggregation support



Thank you. Questions?

Questions about this presentation or Equinix's future plans can be sent to:

Louis Lee <louie@equinix.com>

Lane Patterson <lane@equinix.com>