

Benchmarking Enterprise Networks: Modeling Hybrid Network Costs

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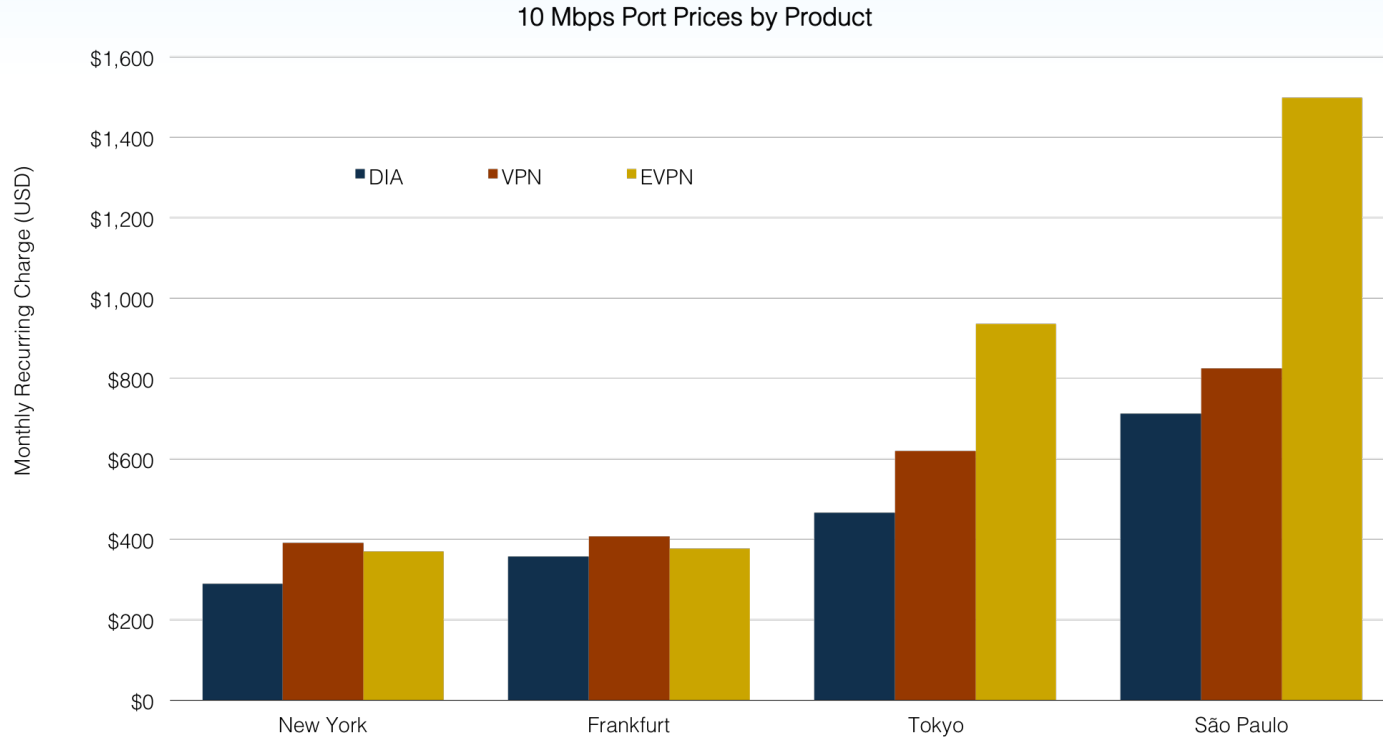
Overview

- Topics covered
 - General trends in network pricing
 - Cost optimization strategies for network design
 - Role of diversity (both in route and product choice)
 - Modeling and evaluating potential network designs and deployment strategies

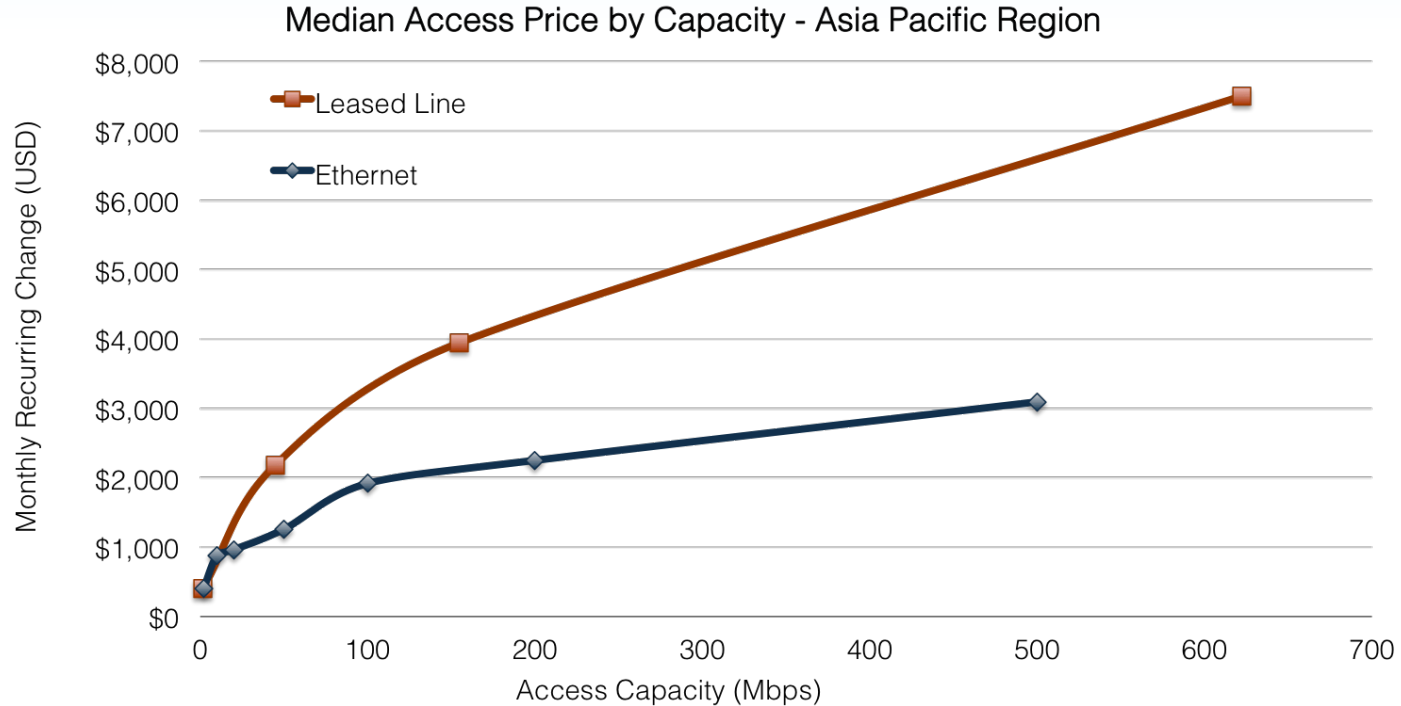
Pricing Components and Trends

- Baseline price components of a WAN deployment
 - Network Port
 - Access Line
 - Rental charges for CPE (Customer Premises Equipment)
 - Class of Service
 - Backup / Diversity Charges

Product Choices – Network Port

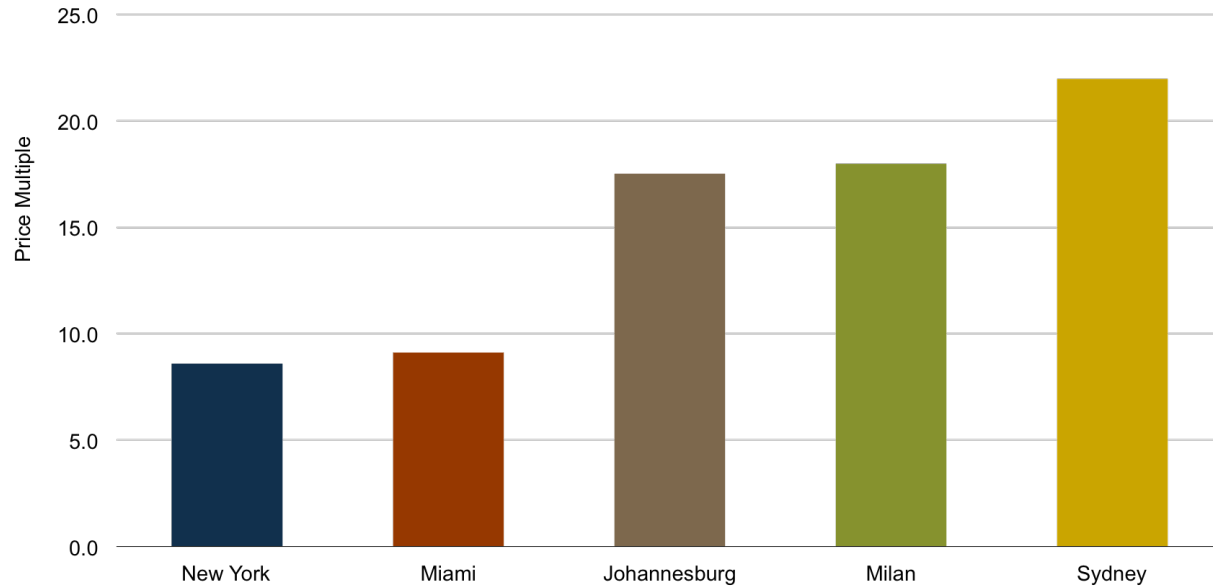


Access Types



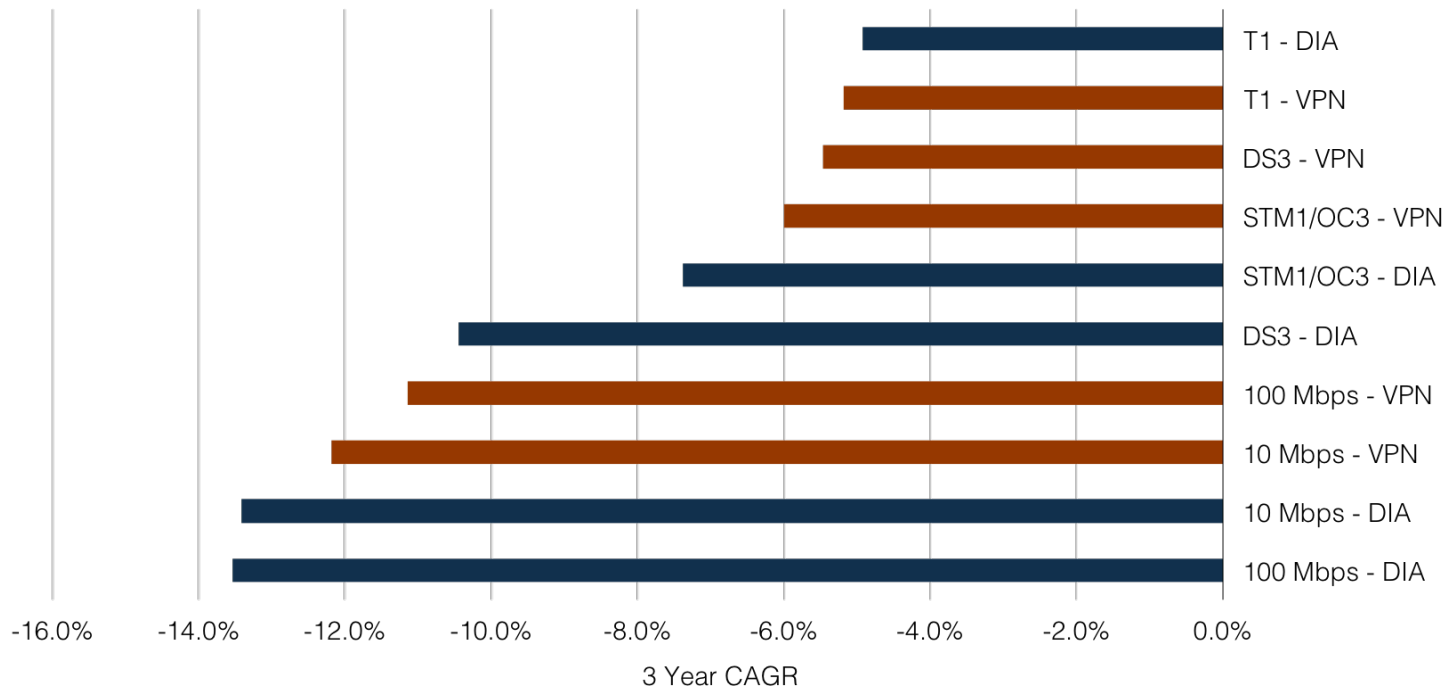
Broadband Price Multiples

Price Multiple between 10 Mbps Business Broadband and DIA Port + Access, Q4 2016



Differing Rates of Price Decline

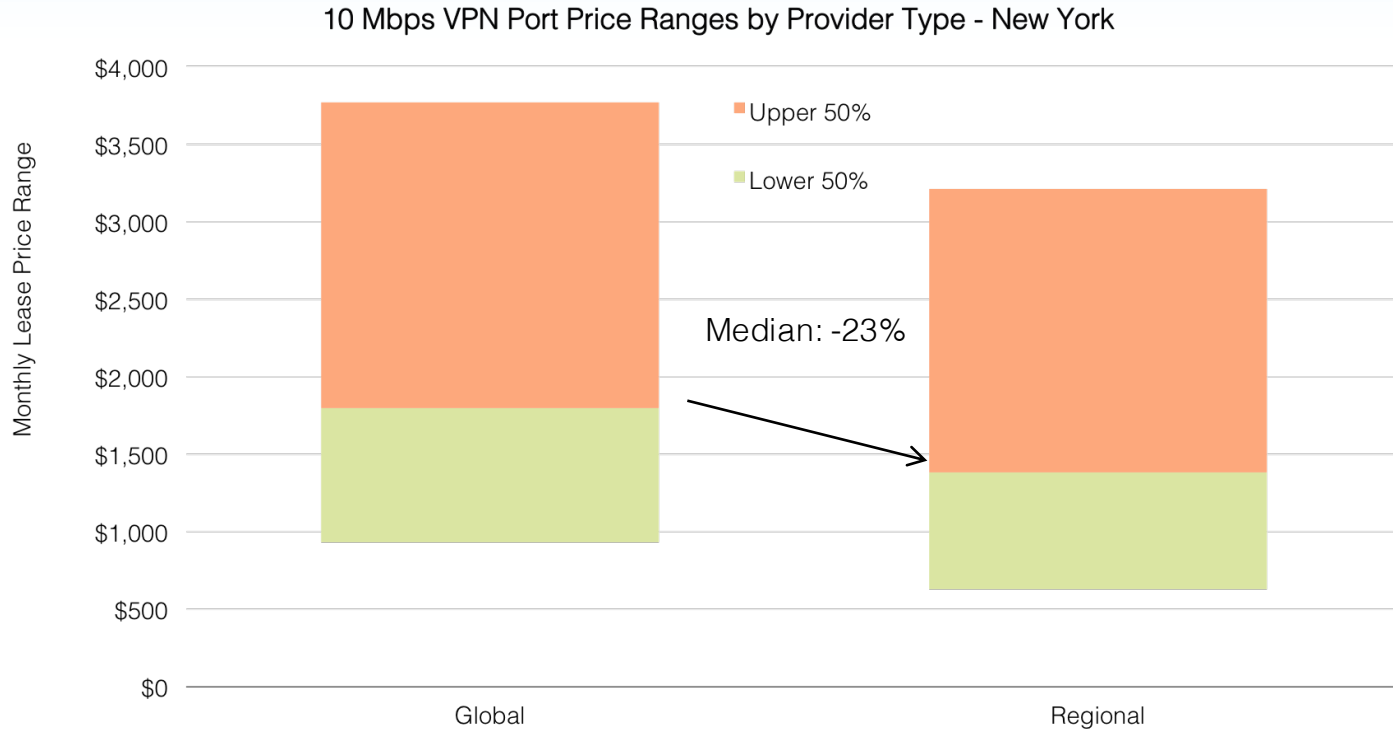
Rate of Price Decline for DIA and VPN Solutions at Key Capacities - New York City



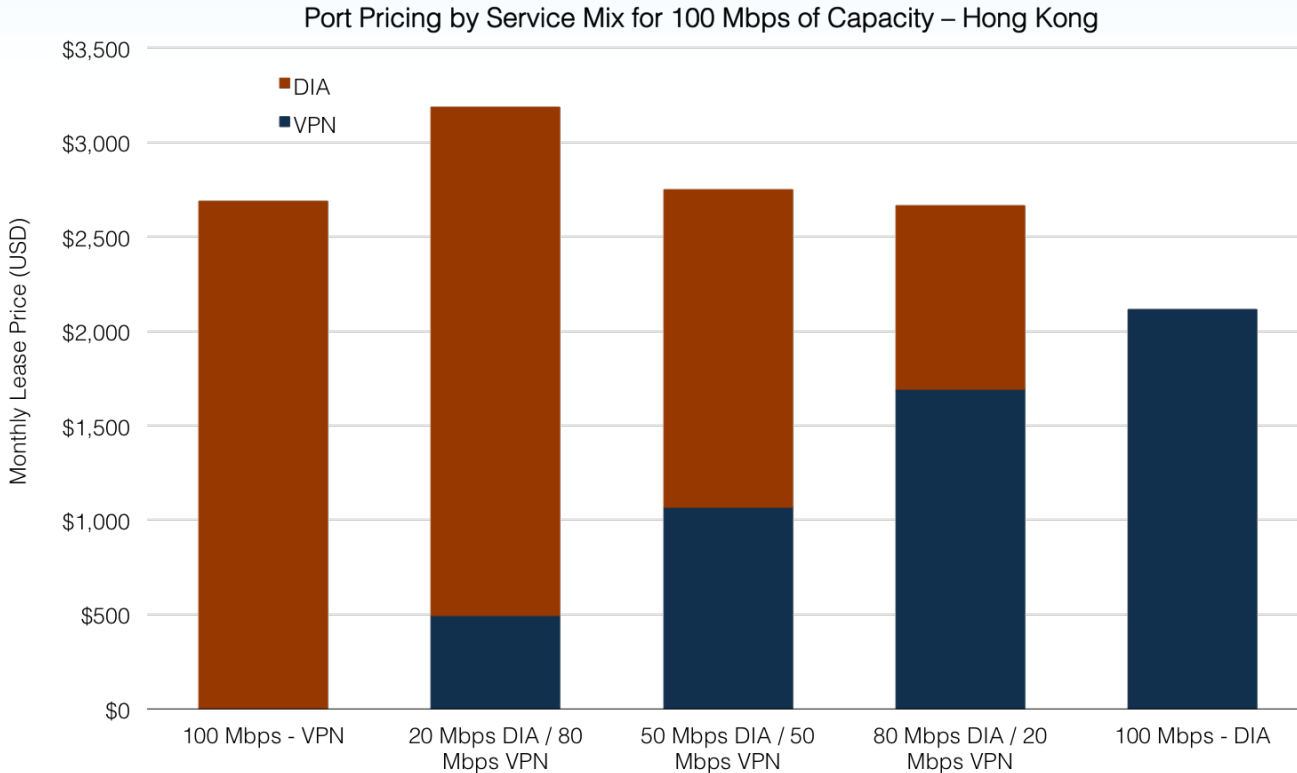
From Trends to Strategies

- How can we apply these trends in pricing to advantageous network design? What should I be thinking about when writing an RFP for my network?
- What are my baseline requirements for each site, and for each major traffic stream at each site? And what are my network design options given those key restraints?
- What role does my choice of provider play in evaluating expected costs and specific RFP responses?

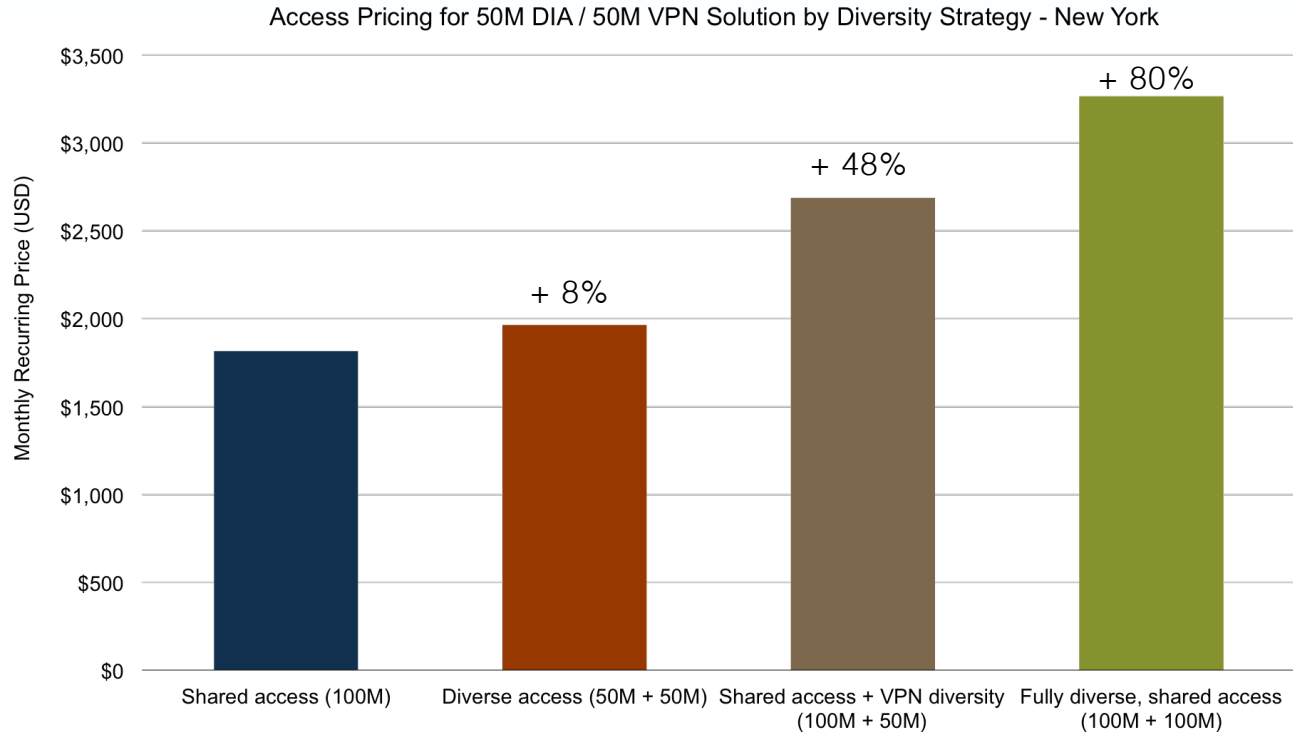
Provider Choice Matters



Scale vs. Product Diversity



Shared vs. Diverse Access



Evaluating Network Strategies

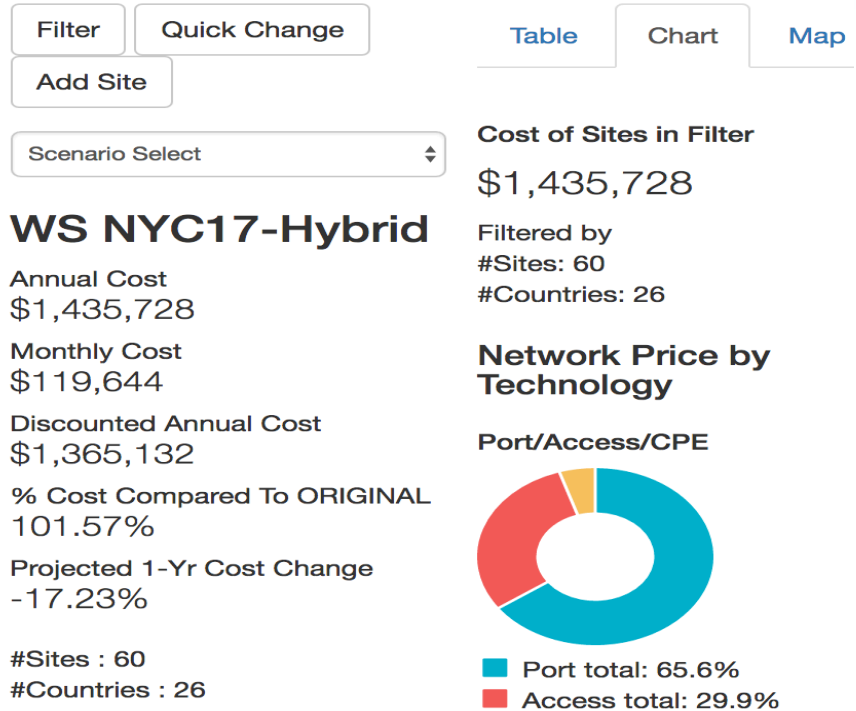
- General strategies are great, but each network is different. An approach for one deployment may not hold for another
 - Varying site geographies
 - Differing providers in a position to bid
 - Other local market conditions
- Where possible, it is best to evaluate potential strategies against a model of your specific deployment

Baseline Hypothetical WAN Configuration

- Scenario analysis based on hypothetical global network
- 36 sites – 10 in APAC, 10 in Europe, 6 in LatAm, 10 in the US
- Capacities range from 2-1000 Mbps
 - most common are 2 Mbps and 100 Mbps
- Class of Service mix: 10% Voice/Video, 30% Business Critical, 60% Best Efforts
- Ethernet access preferred over leased line, except at low capacities

Interactive Modeling

- TeleGeography tracks and models networking costs for customized networks in detail in our Interactive Benchmarking application



Scenario Comparisons in App

Three Final Takeaways

- Pick network products wisely
 - Offloading low-priority traffic to the internet can help optimize costs
 - Multiple services at a single site can give you more flexibility to take advantage of solutions like SD-WAN for improved performance
 - Scale should not be overlooked – larger ports have a lower cost per Mbps. Splitting that port into multiple, smaller services doesn't always result in cost savings
- Backup and Diversity
 - Site diversity has many dimensions (network product, provider, access route, etc)
 - Shared access is a useful strategy for cost savings, but should be balanced with the appropriate backup solution for that site's traffic
- Provider Choice matters
 - The regional vs. global provider choice often has a substantial financial impact, but doesn't have to be an all or nothing choice

Thank you!

For questions, please contact me at:

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