

Benchmarking Enterprise Networks: Modeling Hybrid Network Costs

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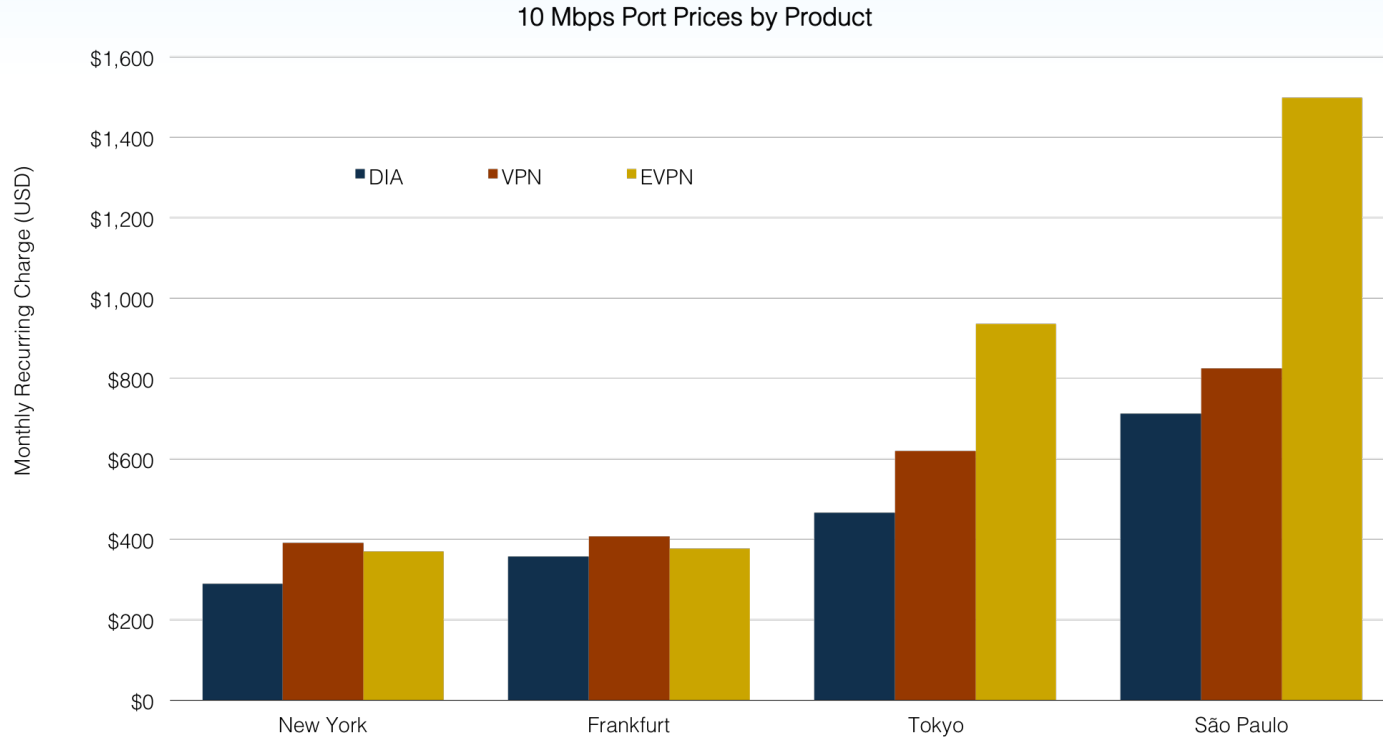
Overview

- 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

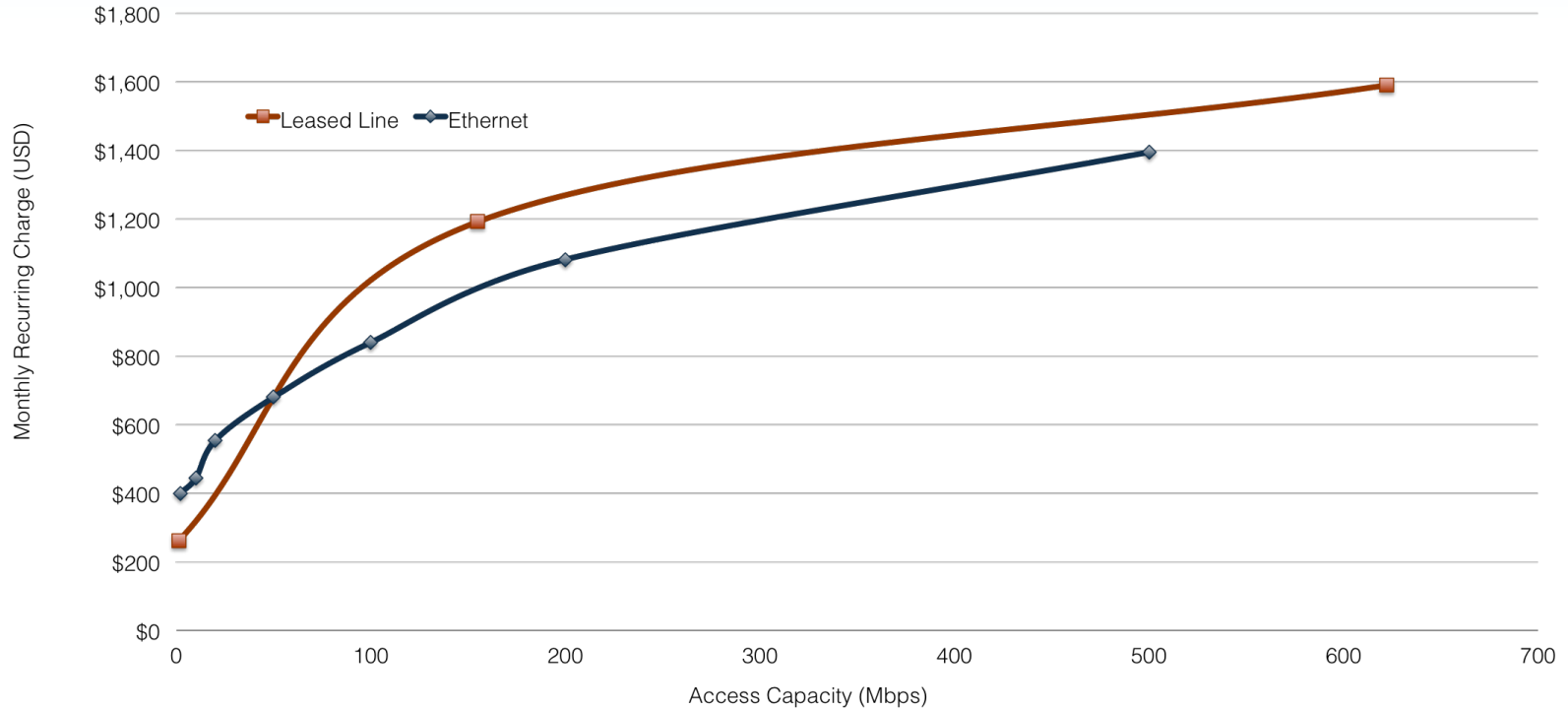
- Baseline price components of a WAN deployment
 - Network Port
 - Access Line
 - Rental charges for CPE (Customer Premises Equipment)
 - Class of Service
 - Backup / Diversity Charges

Product Choices – Network Port



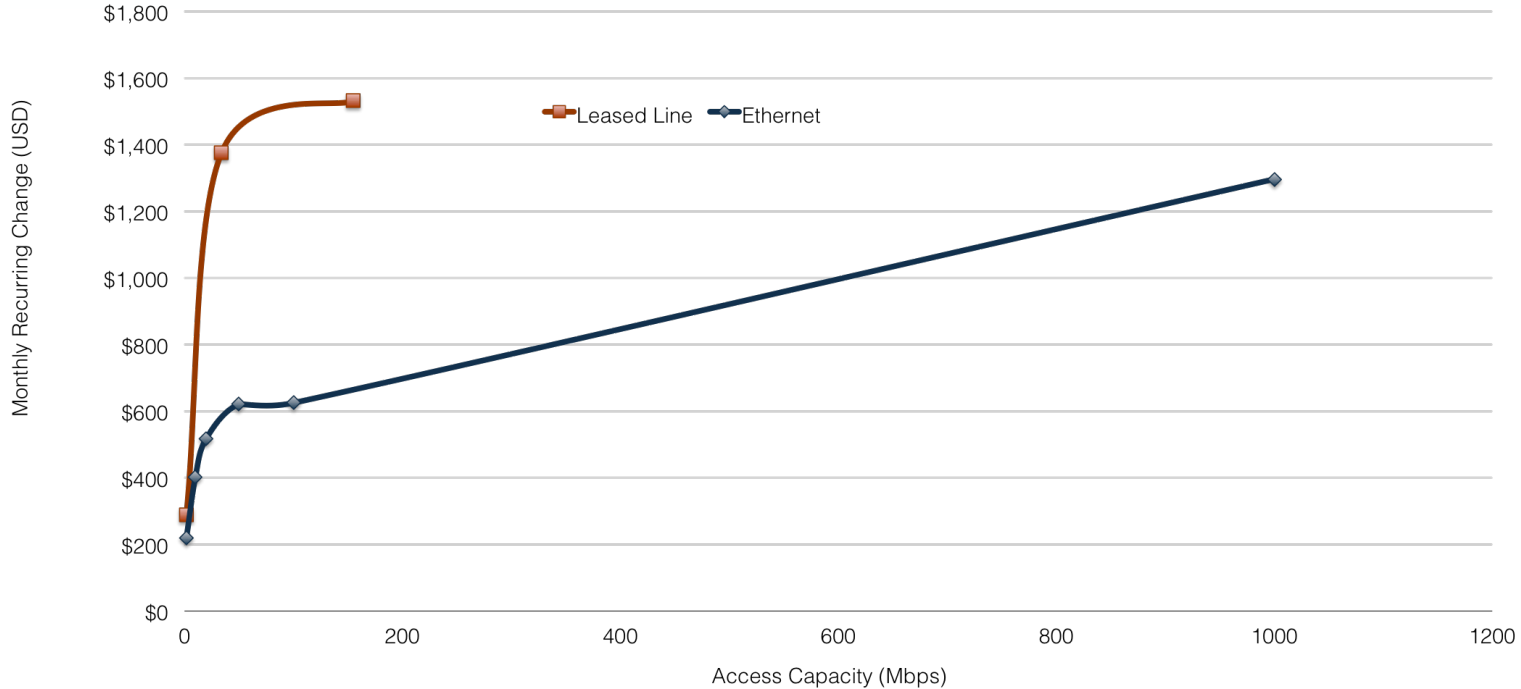
Access Types

Median Access Price by Capacity - US & Canada Region



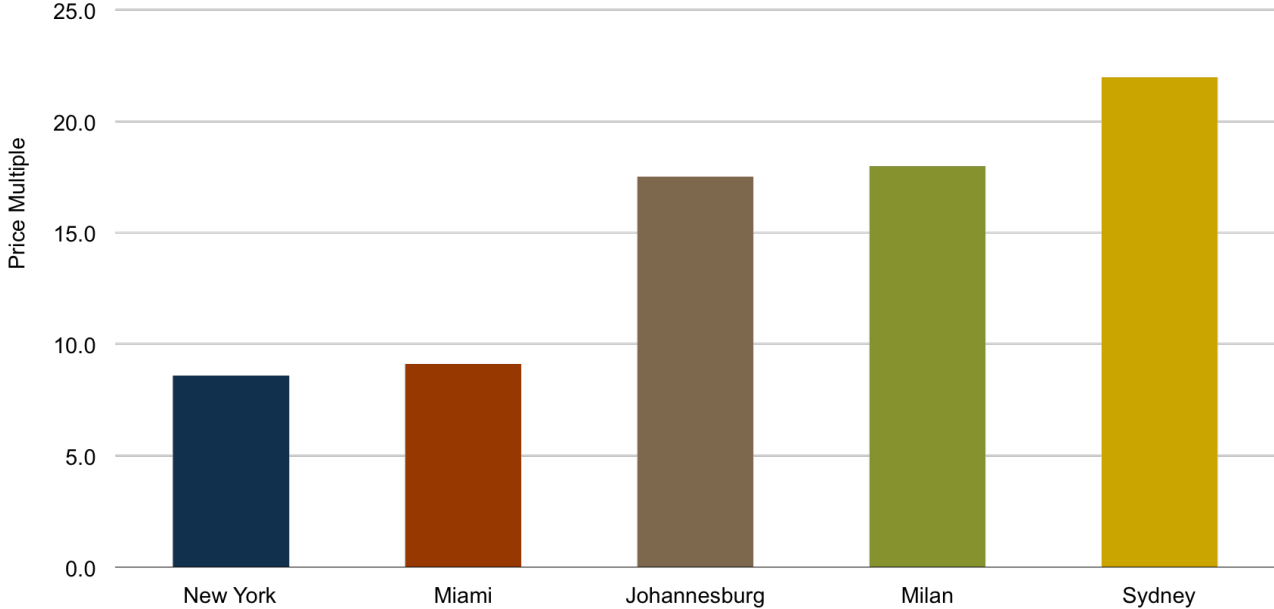
Access Types

Median Access Price by Capacity – Europe Region



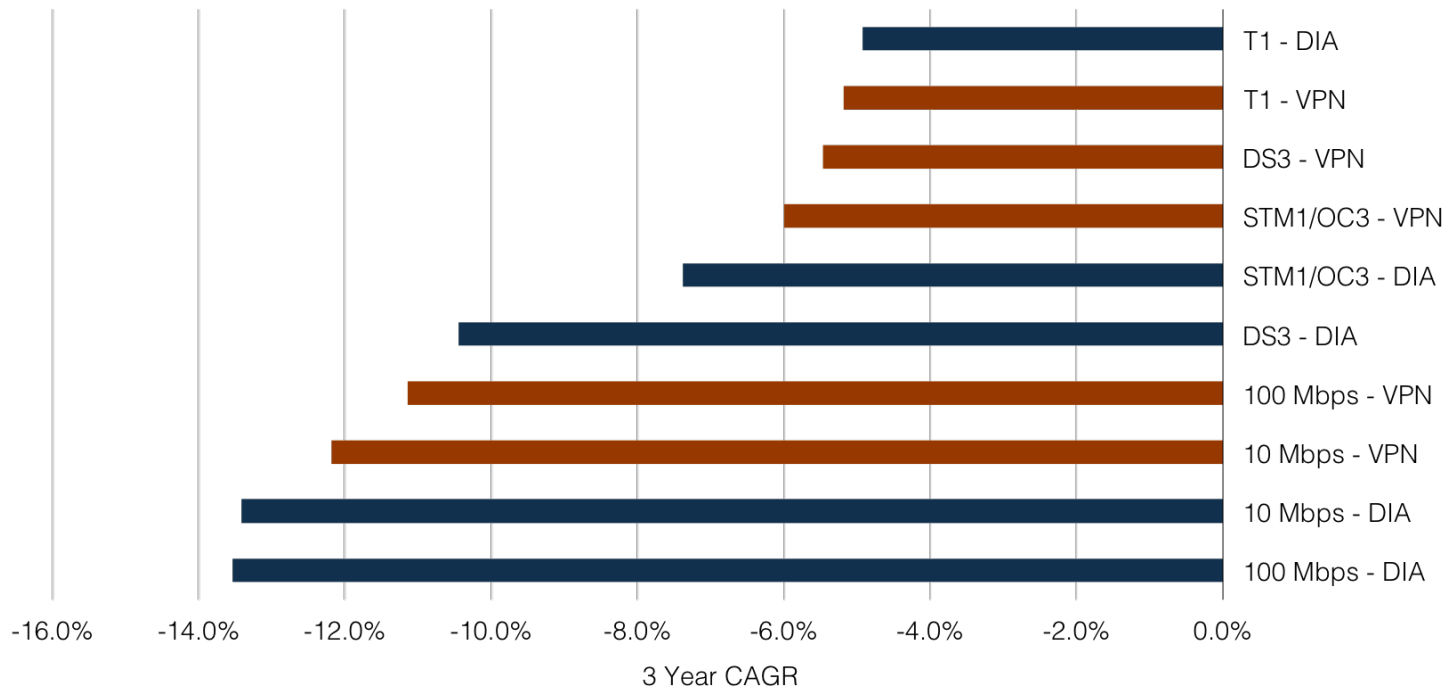
Broadband Price Multiples

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



Differing Rates of Price Decline

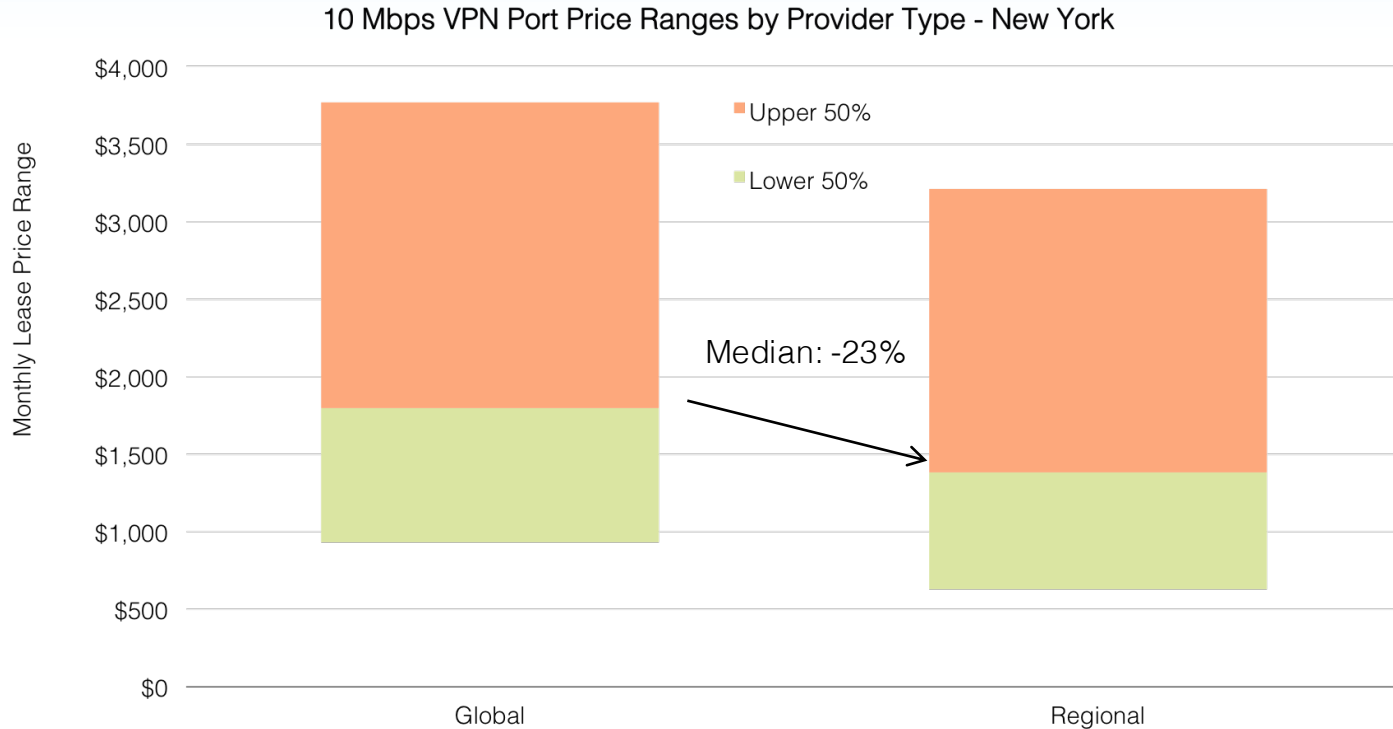
Rate of Price Decline for DIA and VPN Solutions at Key Capacities - New York City



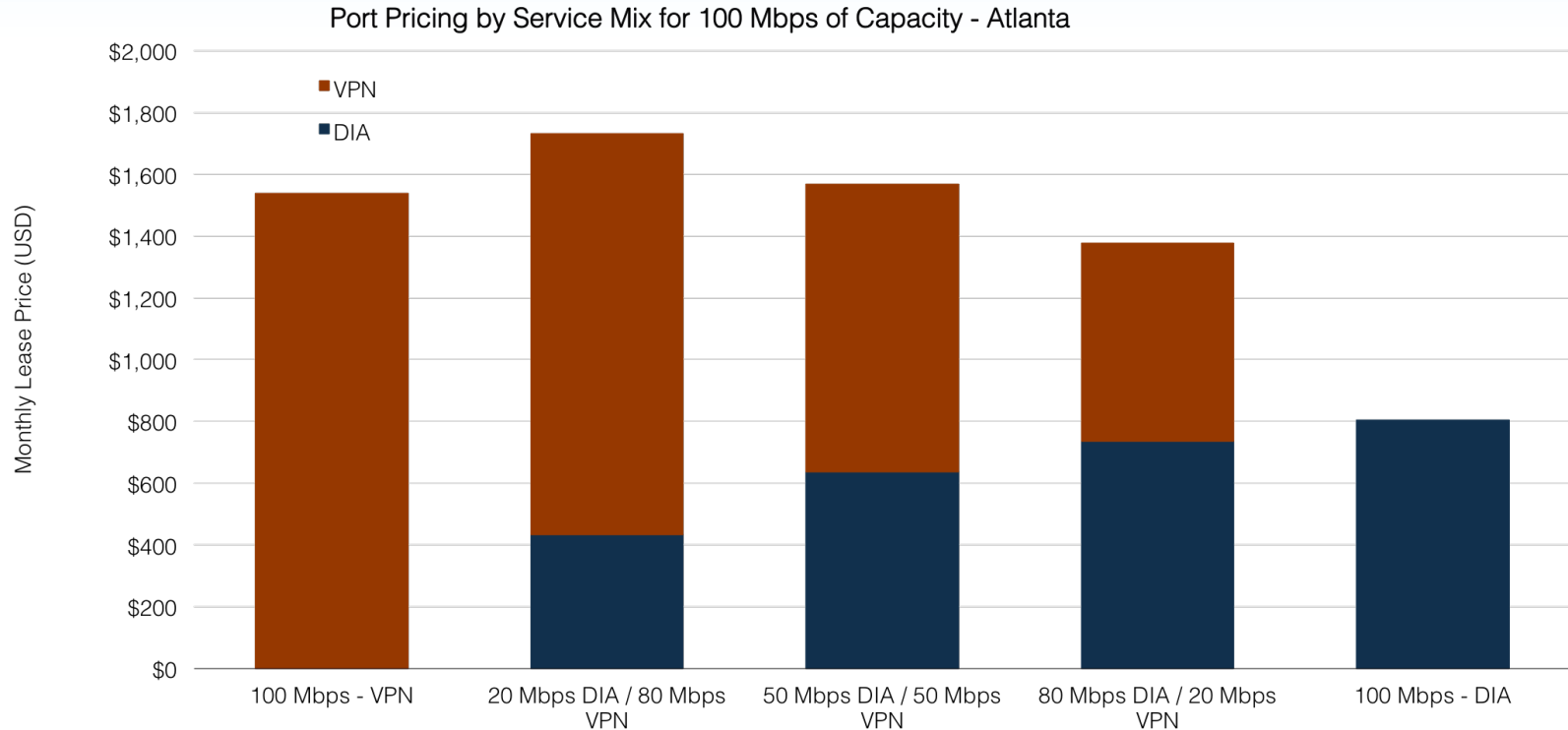
From Trends to Strategies

- 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

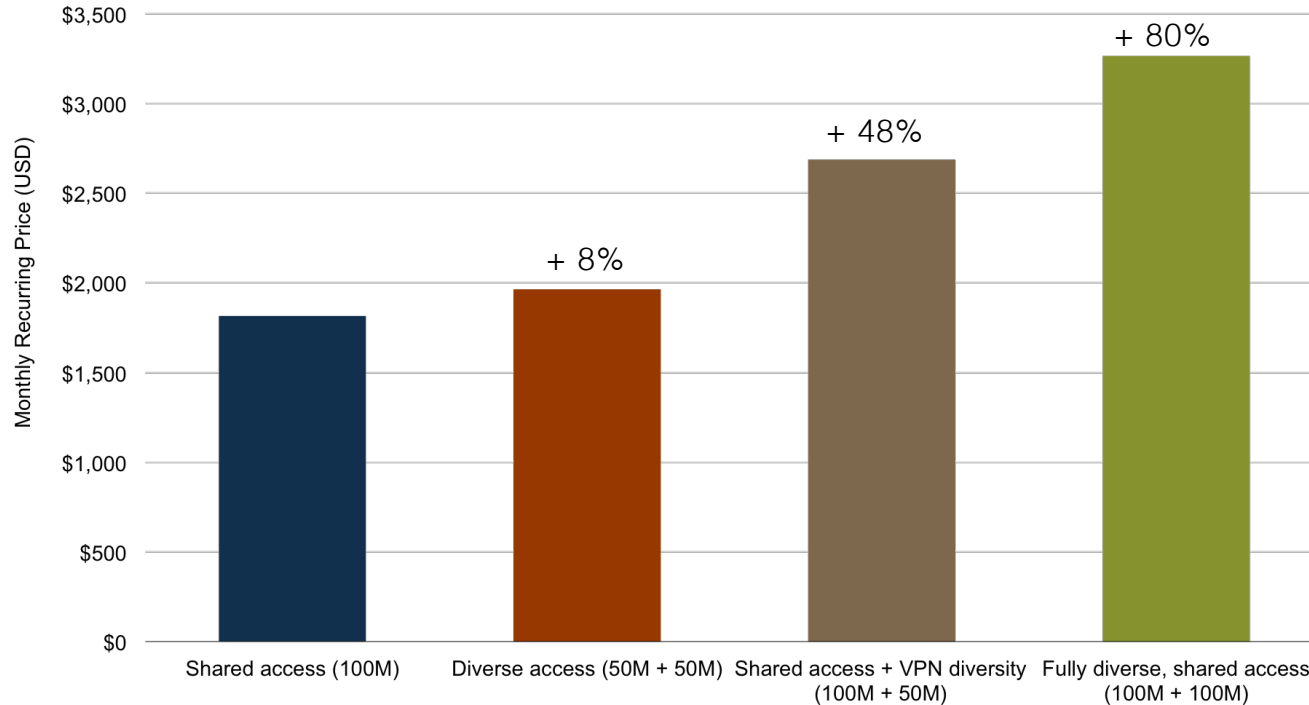


Scale vs. Product Diversity



Shared vs. Diverse Access

Access Pricing for 50M DIA / 50M VPN Solution by Diversity Strategy - New York



Evaluating Network Strategies

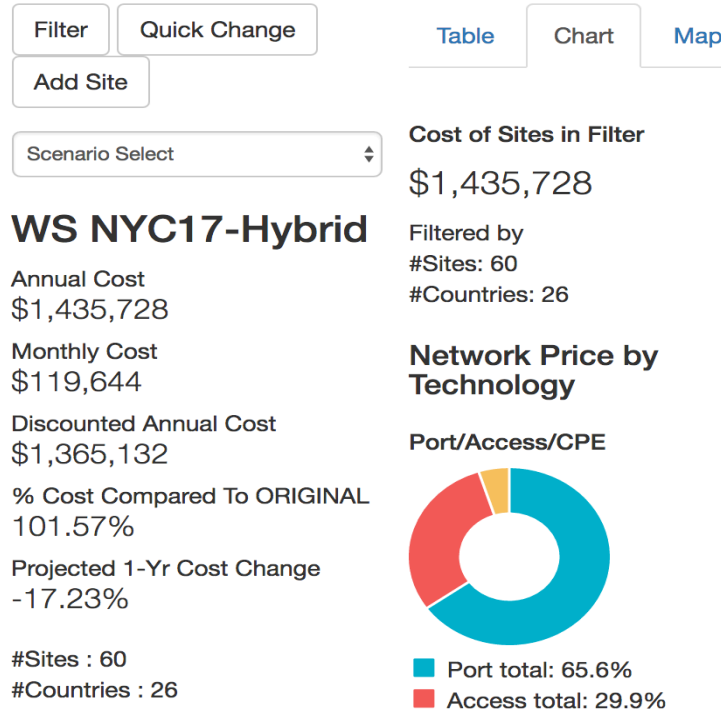
- General strategies are great, but each network is different. An approach for one deployment may not hold for another
 - Varying site geographies
 - Differing providers in a position to bid
 - Other local market conditions
- Where possible, it is best to evaluate potential strategies against a model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