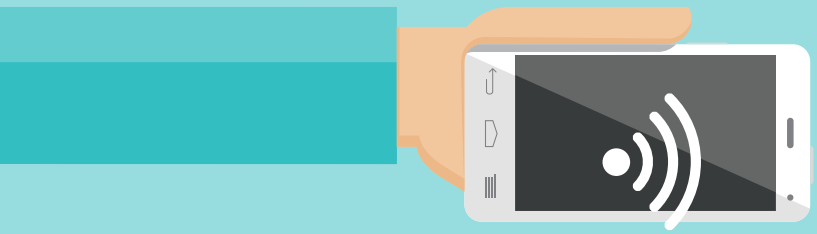


COMMODITY INTERNET SERVICES PROJECT

2019 Annual Report



20 YEARS
THE QUILT



THE QUILT

TO THE COMMUNITY



August 6, 2020

Quilt Members,

The Quilt Commodity Internet Services (CIS) Project Committee is pleased to share its 2019 annual report. This report is generated by gathering data from several sources including: member responses to our annual CIS survey, the CIS project's Authorized Quilt Provider (AQP) reported data, and marketplace data as collected and reported by TeleGeography. After analysis by the committee, the data is compiled into a report to the community highlighting the value of the CIS Project to our members and Authorized Quilt Buyers (AQB) which participate in the program.

This Annual Report captures data on:

1. Circuit data
2. Bandwidth growth
3. Pricing statistics
4. Peering information
5. Authorized Quilt Provider satisfaction ratings

We thank you for participating in the CIS Project's annual survey. The data you contribute is critical for this report and informs the on-going work of the CIS Project Committee.

Your feedback about the program, survey and report are important to us. The CIS program is in its 19th year and over that time has saved the community tens of millions of dollars. You can help make the program stronger by sharing your thoughts and suggestions with the committee.

Sincerely,

Sharon Akkoul, NYSERNet

Chair, on behalf of the CIS Project Committee

CIS Program Overview

The Quilt has now been collecting Commodity Internet Service data from its membership community for 17 years. This Annual report highlights the on-going benefits of CIS Program which are:

- ✓ To leverage aggregate community buying power and provide lower CIS pricing for Quilt members and Authorized Quilt Buyers
- ✓ To encourage CIS providers to develop features and services in support of the Research and Education community
- ✓ To reduce Quilt member staff hours spent on individual RFP efforts and CIS provider management
- ✓ To strengthen community relationships with national CIS providers through the Quilt CIS Liaisons
- ✓ To collect and disseminate CIS marketplace intelligence to The Quilt community

BY THE NUMBERS



BY THE NUMBERS

COMMITTED AQB BANDWIDTH GROWTH STARTING IN 2003

12.4 Gbps
2003

815 Gbps
2017

1.118 Gbps
2018

1.48 Tbps
2019

METRICS

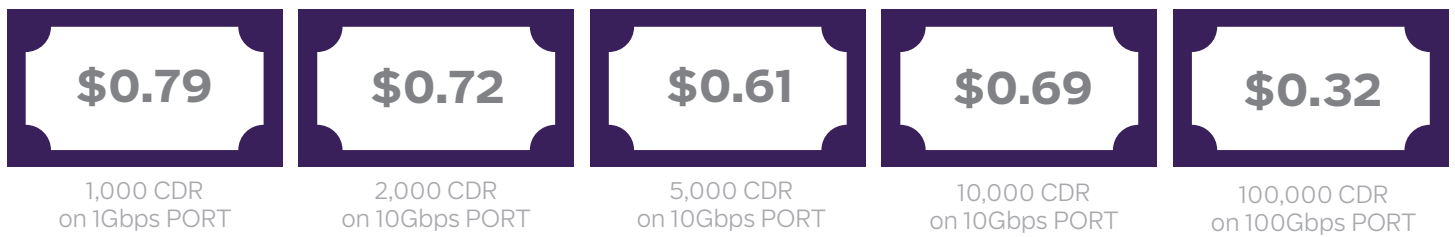
TeleGeography is a Global IP transit data base that The Quilt subscribes to in order to gather national bandwidth pricing and uses for comparison to Authorized Quilt Provider (AQP) pricing.

QUILT CIS PRICING COMPARED TO MARKETPLACE³

2019 QUILT PRICING



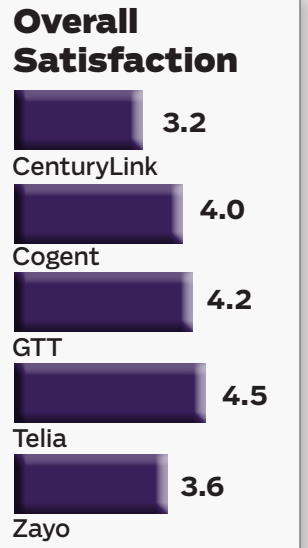
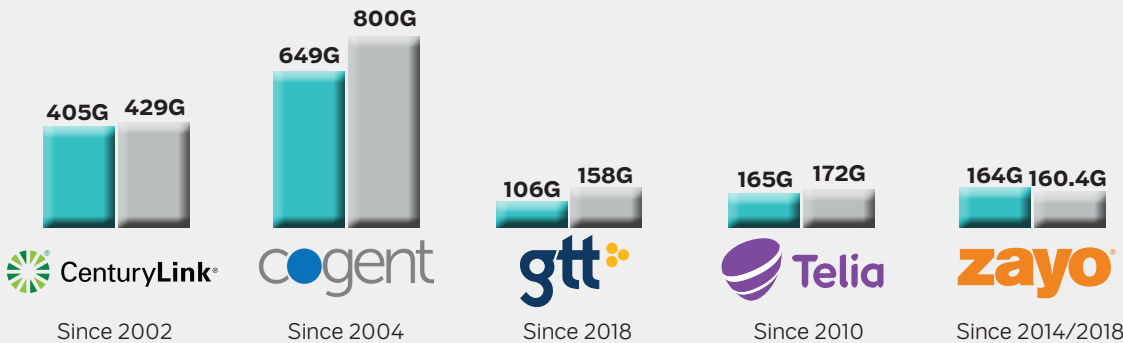
2019 AVERAGE TELEGEOGRAPHY PRICING



CURRENT AQPs

Historically, the RFP has been done on a two-year cycle. Beginning in 2020, the RFP process moved to a three-year cycle. Each provider must re-bid each RFP cycle.

■ 2019 Total Aggregated Bandwidth
 ■ Current Total Aggregated Bandwidth (As of August 2020)



AQP SATISFACTION SCORES¹

How are AQPs doing from a member point of view?

Scores are an average across all providers

Satisfaction Rank:

- 1 (Extremely dissatisfied)
- 2 (Somewhat dissatisfied)
- 3 (Neutral)
- 4 (Somewhat satisfied)
- 5 (Extremely satisfied)



TRENDS



TRENDS WE ARE WATCHING IN THE MARKETPLACE:

- ✓ Route Validation
- ✓ Evolving technologies impact on pricing strategies
- ✓ Continued Growth of 100G ports
- ✓ Looking towards 400G technology
- ✓ Consolidation of providers in the CIS marketplace
- ✓ Impact of National Broadband Policies
- ✓ Network Security and DDoS Attack Mitigation
- ✓ Peering and Caching Strategies
- ✓ Expiring Fiber IRUs
- ✓ Leveraging consortium buying for price benefits as well as key service elements
- ✓ Bandwidth utilization and provider network enhancements in response to COVID-19

SOURCES

1. The Quilt Annual CIS Survey
2. Authorized Quilt Provider Reports
3. TeleGeography

THANK YOU

We wish to thank the CIS Project Committee for their leadership, expertise and time they contribute to the on-going success of the program.

Sharon Akkoul, RFP and CIS Chair, NYSErNet

Barry Bryson, Utah Education and Telehealth Network

Cort Buffington, KanREN

Cas D'Angelo, Georgia Tech/SoX

Dave Farmer, University of Minnesota / Northern Lights

Robert Gay, OSHEAN

Jonah Keough, PNWGP

Michael Lambert, 3ROX

John Lawson, Virginia Tech / MARIA

Loren Rosenthal, KINBER

Bruce Tyrell, NJEdge.Net

Charles Von Lichtenberg, Northern Crossroads

Caroline Weilhamer, I-Light

THE QUILT



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