

Fiber Rates Review

Updated Offerings and Rates

September 17, 2018



WHY WE ARE HERE

- Current business service rates for VLANs becoming non-competitive
 - Proposing to refine service offerings and lower rates to stabilize and create sales
 - Offer term contract rates for carrier class VLANs
- Need to clarify language in rate schedule for Coarse Wave Division Multiplex (CWDM) services to increase understanding of product offering
 - Update mileage rates
- Aggregate Bandwidth
 - Proposing to update rate range to maintain pace with increase bandwidth usage to manage revenue requirements in a rate neutral manner
- Informing of an update of Non Recurring Charges (NRC's) for Advanced Services on Fees & Charges schedule per cost analysis
- Proposing to update Service Connection policy
- Plan to seek approval at October 1st Board meeting

No Board action required today

VLAN Service

- We currently offer one class of service
 - Rates are becoming non-competitive for small to medium businesses
 - Market demand for two classes of service
- Strategy
 - Create flexibility to respond to market demand while stabilizing revenues
 - Demand for two Virtual Local Area Network (VLAN) services
 - Business class, best effort service
 - » Standard frame size delivered over the broadband network
 - » Lower cost service
 - Carrier class, dedicated service with advanced attributes
 - » Jumbo frame capability delivered over dedicated network
 - » Offer term rates
 - » Early termination fees will apply

Service Provider Feedback

- Feedback was consistent on need for lower rates on the business class service
 - Experiencing an erosion of VLANs in this segment
 - Utilization of Virtual Private Network (VPN) arrangement to avoid costs of VLAN
- Input on carrier class showed need for term rates
- Input on rates for carrier class was mixed
 - One provider expressed a need for lower rates
 - Other providers expressed satisfaction with current rates

VLAN Service

- Business Class VLAN rates
 - Applies to Fixed and Burstable services
 - Month to Month

Service	Current Rate	Proposed Rate
50 Mbps	\$112.16	\$112.16
100 Mbps	\$499.50	\$149.00
1 Gbps	\$999.00	\$399.00

VLAN Service

- Carrier Class VLAN rates
 - Applies to Fixed and Burstable services
 - Month to Month

Service	Current Rate	Proposed Rate
50 Mbps	\$112.16	\$158.95
100 Mbps	\$499.50	\$499.50
1 Gbps	\$999.00	\$899.00

VLAN Service

– Term 3 Year

Service	Current Rate	Proposed Rate
50 Mbps	\$112.16	\$135.11
100 Mbps	\$499.50	\$424.58
1 Gbps	\$999.00	\$764.15

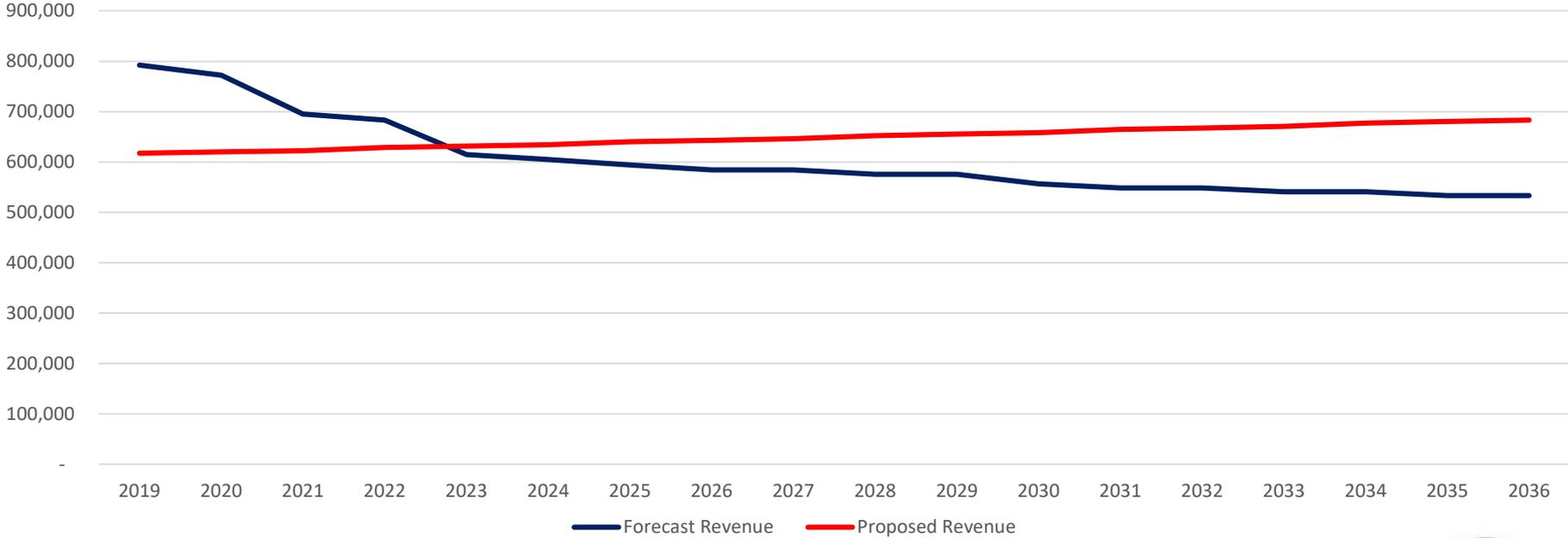
– Term 5 Year

Service	Current Rate	Proposed Rate
50 Mbps	\$112.16	\$127.16
100 Mbps	\$499.50	\$399.60
1 Gbps	\$999.00	\$719.20

VLAN Service

- Goal is to stabilize revenue through offering competitive rates

VLAN Revenue Forecast Comparison

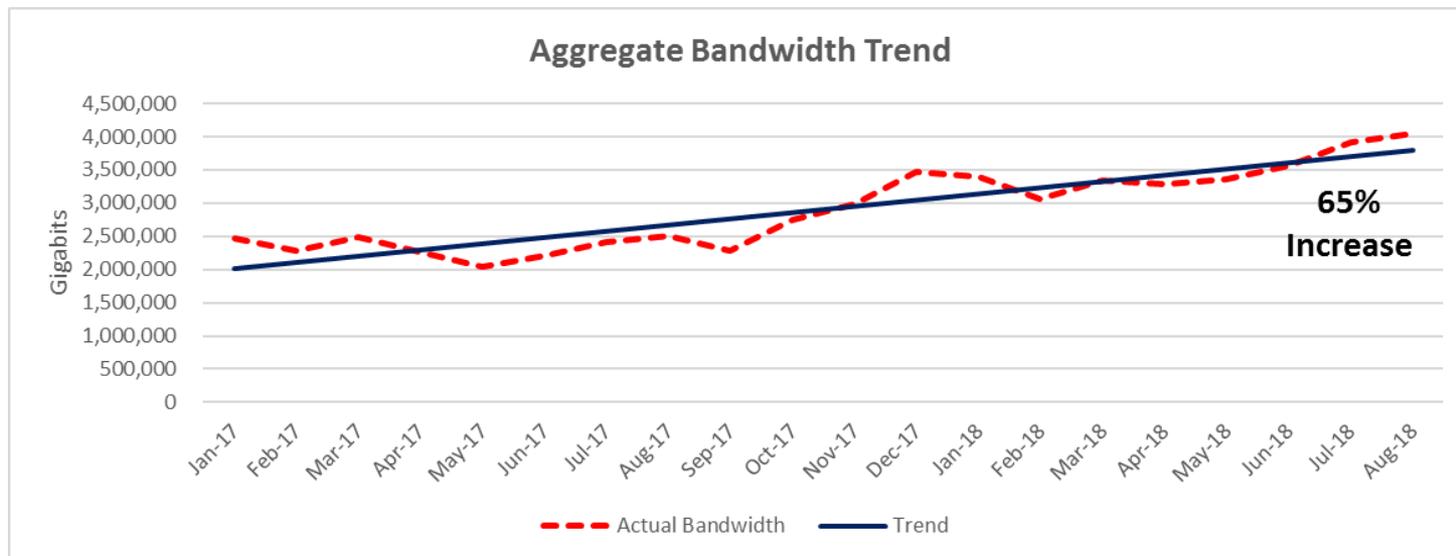


CWDM

- Adding clarifying language to service description
 - Provide a better understanding of product offering
 - Addition of “Per Pathway” clarification
 - Changing description
 - Simplex to Single Fiber
 - Duplex to Dual Fiber (pair)
- Adjusting mileage rate
 - Base rate covers first 14 circuit miles; mileage rate applies over 14 circuit miles
 - New rates will provide administrative ease in billing processes
 - Single Fiber will change from \$47.84/mile to \$43.06/mile
 - Double Fiber will change from \$42.80/mile to \$38.52/mile

Aggregate Bandwidth

- Current range is \$.0500 to \$.1050 per GB
 - Lower rate is necessary to maintain revenue neutrality for the service providers
 - Lowering of this rate was forecasted as aggregate bandwidth increased
- Proposed rate range is \$.0200 to \$.0700 per GB
 - Based on current estimated bandwidth growth and revenue requirement
 - Rate is expected to be valid for another two years



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NRC Updates for Advanced Services

- Performed cost analysis on VLAN, CWDM and Dark Fiber NRC's
 - Based on material and labor costs
- Proposed changes:
 - VLAN
 - Current charges
 - \$565 per port for 50 Mbps and 100 Mbps services
 - \$1,125 per port for 1G service
 - Proposed charges
 - \$312.50 per port for Business Class services
 - \$1,893.50 per port for Carrier Class services
 - CWDM
 - Current charge of \$1,050 updated to \$1,887
 - Dark Fiber
 - Current charge of \$1,050 updated to \$1,487
 - Critical Dark Fiber current charge of \$2,100 updated to \$1,942

Presented to Board as informational and to the General Manager for approval per Resolution 12-13731.

Service Connection Policy

- Proposal for District to provide underground fiber connection storage (handholes)
 - Completes the fiber distribution system to District standards
 - District already provides fiber conduit
 - Prevents installation of improper infrastructure
 - Saves District labor costs
 - Allows developers to have “Fiber Ready” homes

NEXT STEPS

- Resolution for rate schedule changes presented for Board action on October 1, 2018
- Resolution for Service Connection policy changes presented for Board action on October 1, 2018
- If approved the rate changes and Service Connection policy would be effective January 1, 2019
- All other existing rates remain in effect

Questions?

Appendix

Glossary

- **AGGREGATE TRANSPORT BANDWIDTH:** Purchase of a DLL service connection includes charges for bandwidth usage utilizing a rate range specified in the rate table. Usage charges will be based on an aggregated bandwidth revenue requirement calculated annually. Usage charges will be within the rate range specified below and adjusted quarterly for the purpose of meeting the annual core services revenue requirement.
- **Coarse Wave Division Multiplex (CWDM):** Coarse wavelength-division multiplexing (WDM) is a technology which multiplexes a number of optical carrier signals onto a single or multiple optical fiber by using different wavelengths (i.e., colors) of laser light defined under ITU-T G.694.2.
- **MRC:** Monthly Recurring Charge, occurring every month.
- **NRC:** Non-Recurring Charge, a one-time charge.
- **VLAN:** A virtual (or logical) LAN is a local area network with a definition that maps workstations on some other basis than geographic location (for example, by department, type of user, or primary application). The virtual LAN controller can change or add workstations and manage load balancing and bandwidth allocation more easily than with a physical picture of the LAN. Network management software keeps track of relating the virtual picture of the local area network with the actual physical picture.

Rate Methodology

- Variability of bandwidth growth requires a rate range from \$.0500 to \$.1050 to produce consistent revenue from bandwidth component
- This rate range tolerates an annual bandwidth growth from -13% to 83% (expected is 36%)
- This continues bill stability for the service providers

Rate Methodology - Details

- Bandwidth revenue requirement is calculated to maintain overall revenue neutrality from core services for the District in 2017
- Bandwidth is forecasted quarterly and billed on average monthly rate
- Change in bandwidth growth rate is adjusted quarterly to capture variation from forecast
- Aggregated Bandwidth Rate to produce target bandwidth revenue is calculated quarterly based on this updated forecast

Rate Methodology – Details

- Rates will change through time to maintain revenue neutrality
- If investment in the Broadband Network requires the forecasted revenue requirement to go up, we will come back to the Commission for a rate increase

Slide 11 from Dec 19, 2017 Presentation on loop rates

Revenue Requirement

- Total Revenue Forecast \$9,572,000
- Core Services Revenue \$5,187,000
 - Revenue from fixed rates 2,849,687
 - Revenue from bandwidth 2,337,313
- Sample rate calculation
 - $Rev_{BW} / 12 / \text{Bandwidth(GB)}$
 - $\$2,337,313 / 12 / 2,496,375 = \$.0780/\text{GB}$

Slide 4 from Jan 16, 2017 presentation on loop rates

When is Board action required?

- Rate increases or decreases
 - A change to increase/decrease a fixed rate
 - A change to produce incremental (new) revenue from the aggregated bandwidth rate
- An increase of more than 5% in the aggregate bandwidth rate year over year
 - May or may not be a rate increase

Slide 5 from Jan 16, 2017 presentation on loop rates