Public Service Commission of Wisconsin
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BROADBAND EXPANSION GRANT APPLICATION
For Fiscal Year 2022

Primary Applicant (Name and Address): Grantland Telecom, LLC d/b/a TDS Telecom 525 Junction Road Madison, WI 53717	Applications MUST be UPLOADED to ERF via the Commission's website, http://psc.wi.gov/apps35/ERF_upload/content/mymenu.aspx. Refer to section 2.3 for detailed instructions. Applications are due and MUST be uploaded to ERF no later than: **March 17, 2022** at 4:00pm (16:00) Central Time. **Late applications will not be accepted.**
	Contact for further information: PSCStatebroadbandoffice@wisconsin.gov
	Date: December 1, 2021

The Public Service Commission of Wisconsin is seeking applications for Broadband Expansion Grants. The Commission may award one or more grants during Fiscal Year 2022 to public and private entities that meet the eligibility requirements set forth in Wis. Stat. § 196.504. This grant round will be funded with bond proceeds authorized by the Wisconsin Building Commission pursuant to Wis. Stat. § 13.48(30). As such, successful applicants are subject to the requirements of Wis. Stat. § 13.48(30). Successful applicants will demonstrate a clear and achievable plan to improve broadband communications services in one or more underserved areas in the State.

Applicant Certification: In signing this application, the undersigned verifies under penalty of perjury that the Applicant and its employees and agents have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition with respect to this application; that no attempt has been made to induce any other person or firm to submit or not to submit an application; that this application has been independently arrived at without collusion with any other proposer, competitor or potential competitor; that this application has not been knowingly disclosed prior to the opening of applications to any other applicant or competitor; that all of the responses and representations of Applicant in this application are true and correct to the best of the undersigned's knowledge, information, and belief; and that Applicant agrees to, accepts, and will comply with all of the terms and conditions respecting this application and any award of a broadband expansion grant as may be established in a grant award Agreement.

Name of Authorized Representative (Type or Print)	Title	Phone ( )
Jean M. Pauk	State Government Affairs Manager	608-664-4152
Signature of Authorized Representative Jean M. Pauk	Date March 17, 2022	

SUMMARY OF GRANT APPLICATION

Primary Applicant Name Grantland Telecom, LLC	Amount of Broadband Grant Request (round to nearest dollar) $ 2,876,223
Federal Employer Identification No. 39-0532760	Amount of Matching Funds Pledged (round to nearest dollar) $ 2,353,273
Contact Name and Title Jean M. Pauk State Government Affairs Manager	Total Cost of Proposed Project (round to nearest dollar) $ 5,229,496
Telephone Number 608-664-4152	Project Name Grantland Tel Bloomington Project
E-mail Address(es) Jean.pauk@tdstelecom.com	Type of Proposed Broadband Service (FTTH, Cable, DSL, etc.) Fiber-to-the-Home with Gigabit Passive Optical Network (GPON) technology
Grant Manager, if different than Primary Applicant	Type of Proposed Project (Last-mile, Middle-Mile, backbone, other) Last-mile
Grant Manager Contact Name Linda Robinson	Grant Manager Email Address and Telephone Number 865-671-4758 linda.robinson@tdstelecom.com
If the application proposes a public-private partnership, list the names, addresses, and FEINs of the partner companies or organizations The Grant County Economic Development Corporation has provided a letter of support along with a financial commitment if a state grant is awarded for his project. The Towns of Beetown and Bloomington also support the project.	
Brief Project Description (2 sentences) Grantland Telecom, LLC, a subsidiary of TDS Telecommunications LLC proposes a last-mile fiber to the home (FTTH) project capable of providing symmetrical speeds of 1Gbps to 305 locations within its Bloomington local exchange service area. TDS Telecom will deploy fiber and scalable Gigabit Passive Optical Network equipment for the proposed project using cascaded splitter architecture between the OLT location and the premise.	
Maximum Proposed Download Transmission Speed 1Gbps symmetrical	Maximum Proposed Upload Transmission Speed 1Gbps symmetrical
Minimum Proposed Download Speed to Customer Location 100Mbps symmetrical	Minimum Proposed Upload Transmission Speed to Customer Location 100Mbps symmetrical

County or Counties served by this project	Community or Communities served by this project
Grant	Beetown, Bloomington, Glen Haven, Little Grant, Patch Grove and Wyalusing
List of the broadband service providers, if any, currently serving the area the applicant proposes to serve TDS Telecom, USCC; HughesNet; Viasat; Verizon; and ATT Mobility (per State Broadband Map)	
Does proposed project serve an *unserved* area of the State, as defined in Section 1.4 of the application instruction? (yes/no) Yes	Is the Applicant certified as a Broadband Forward! Community or Telecommuter Forward! Community, or does the grant project propose to serve a Broadband Forward! Community or Telecommuter Forward! Community? (yes/no) No
For last mile projects or component the expected number of Business Locations that will have access to the improved broadband service (i.e., total business locations passed or with new service access). 13	For last mile projects or components the expected number of Residential Locations that will have access to the improved broadband service (i.e., total residential locations passed or with new service access). 292
Of the improved business locations, how many locations are *unserved*? 7	Of the improved residential locations, how many are *unserved*? 119
For providers that are eligible telecommunications carriers will the proposed broadband service be available to Lifeline customers? (yes/no) Yes	Are there any programs available for low-income households to access low-cost service or discounts? (yes/no) Yes
Is the internet service provider currently participating in the Emergency Broadband Benefit Program? (yes/no) Yes (including its replacement--the Affordable Connectivity Program)	Is the internet service provider currently participating in the Department of Public Instruction and CESA purchasing's Digital Learning Bridge? (yes/no) No
Did the internet service provider participate in the Public Service Commission's voluntary Broadband Coverage Data Collection in 2021? (yes/no) Yes	

FY22 Broadband Expansion Grant Application
Budget & Income Summary

Wisconsin Broadband Office

Please complete this form using Microsoft Excel. A PDF copy must be attached to your application as page four. In addition, this form must also be uploaded to ERF in Excel format.

Grant Summary

Grant Applicant:	Project:
Grantland Telecom, LLC	Grantland Tel Bloomington Project

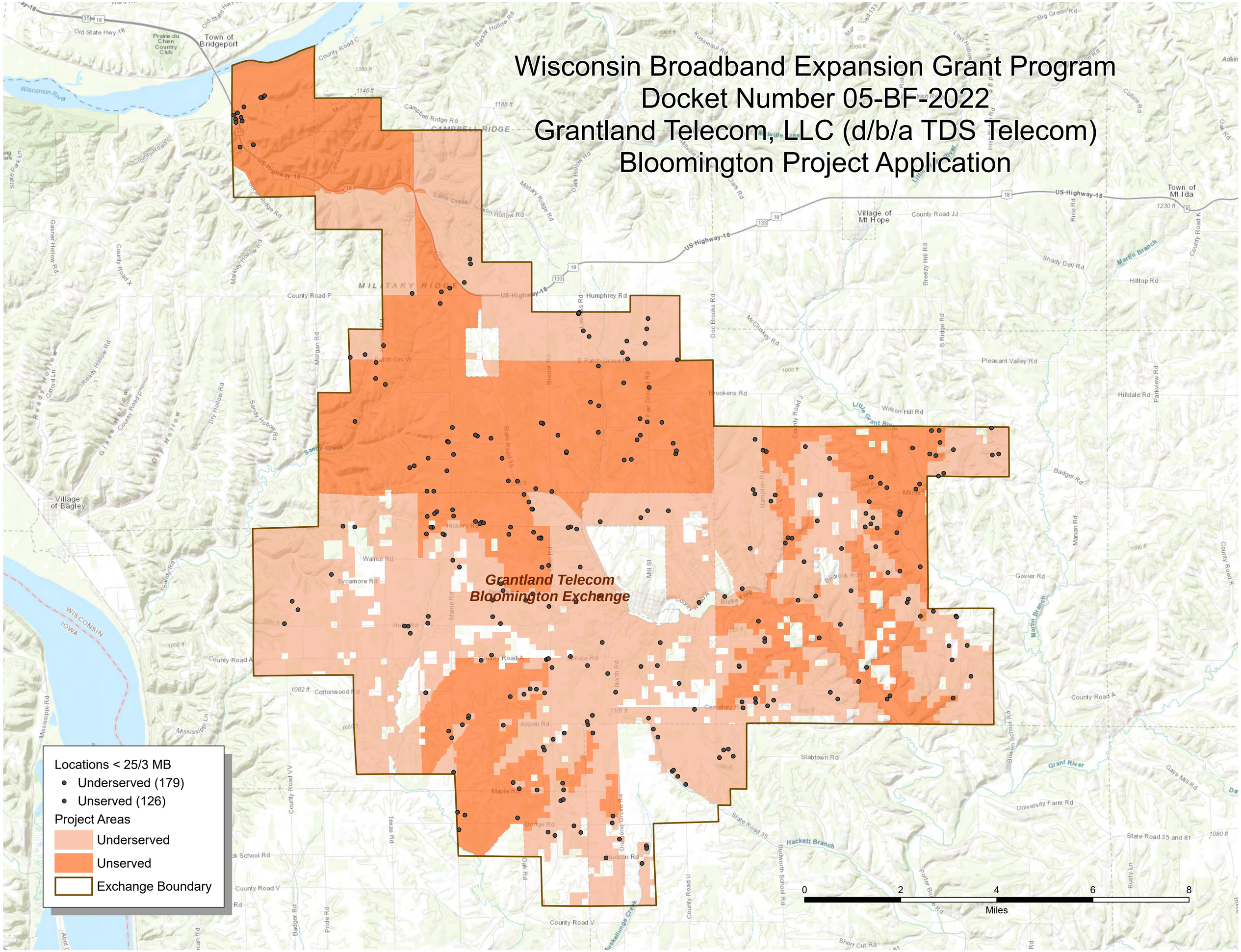
Budget

Line:	Description / Category:	Grant Funds:	Match:	Total:
1	Contractual, Consultant Fees	$ 2,120,694.26	$ 1,735,113.49	$ 3,855,807.75
2	Equipment	$ 48,630.45	$ 39,788.55	$ 88,419.00
3	Supplies			$ -
4	Labor (Salary, Fringe)	$ 424,138.85	$ 347,022.70	$ 771,161.55
5	Permitting, Licensing Fees	$ 282,759.24	$ 231,348.47	$ 514,107.70
6	Travel			$ -
7	Other			$ -
	Total:	$ 2,876,222.80	$ 2,353,273.20	$ 5,229,496.00
		45.0% match requested		

Pledged Contributions

#:	Entity:	Entity Type:	Pledge Type:	Pledge:
1	TDS, Inc.	Applicant	Cash	$ 2,352,273.20
2	Grant County EDC	Other	Cash	$ 1,000.00
3				
4				
5				
6				
7				
8				
9				
10				
			Total:	$ 2,353,273.20

Wisconsin Broadband Expansion Grant Program
Docket Number 05-BF-2022
Grantland Telecom, LLC (d/b/a TDS Telecom)
Bloomington Project Application



Application Section 3.2 Information

3.2.1 Applicant identification and contact information

a. Grantland Telecom, LLC (Grantland Tel), a subsidiary of TDS Telecommunications LLC (TDS Telecom) is requesting a grant to deploy a last-mile project to provide Fiber-to-the-Home (FTTH) broadband.

   Contact information for the grant application:

   Jean Pauk
   TDS Telecom
   525 Junction Road
   Madison, WI 53717
   608-664-4152
   jean.pauk@tdstelecom.com

b. The Grant County Economic Development Corporation has provided a letter of support along with a financial commitment if a state grant is awarded for his project. See attached letters of support in ***Exhibit B*** for a copy of the Counties' letter of support along with other state and local officials support for this application. The towns impacted by the grant are very small and indicated they do not have funding available to contribute to the project.

c. Grantland Tel is certified as a Telecommunications Utility under Wis. Stat. §§ 196.01(10) and 196.50(2)(j)1.b and is authorized to provide telecommunications service throughout the state. Grantland Tel has also been designated as an eligible telecommunications carrier (ETC) in all areas where it provides service. Grantland Tel is therefore an eligible applicant per Wis. Stat. § 196.504(1)(a)2.

3.2.2 Description of the project

a. Grantland Tel is requesting grant funding under the Broadband Expansion Grant Program to deploy broadband service to 305 locations in areas in and around the Towns of Beetown, Bloomington, Glen Haven, Little Grant, Patch Grove and Wyalusing. Grantland Tel's Bloomington service exchange is in Grant County, approximately 90 miles west from Madison.
   i. A map depicting the project is found at page 5 of this application.
   ii. As directed, the underlying data and geodatabase file for this project was emailed to the State Broadband Office mapping team.

b. The Broadband Expansion grant map on the PSC's website indicates the census blocks and locations within the projects service area are eligible for broadband expansion grants.
    i. The eligibility of these locations was based upon the maps found on the PSCW web site on February 11, 2022. This date was selected since it was the last date possible that would allow adequate time to complete network designs and cost analytics of all the eligible areas within TDS Telecom's footprint in Wisconsin.
    ii. As the current incumbent LEC, TDS Telecom verified that it does not offer broadband service to these locations at speeds at or above 25/3 Mbps.
    iii. Based on the anecdotal customer information TDS Telecom has received directly from its customers, this area is unserved and underserved without access to broadband service at the threshold speeds. Even though wireless providers may be providing some level of broadband service in these census blocks, it is inadequate to meet customer needs and does not meet the FCC or state definition of advanced service.

c. This project will enable wireline broadband service for 305 (292 residential and 13 business) locations that either do not have access to wireline broadband service or have limited speeds available. As envisioned, this project would provide broadband service to these customers in rural areas at speeds, at minimum, of 100 Mbps symmetrical. Also, 104 locations that lie outside of the state eligible areas will receive improved service since they will benefit from building the advanced network to the 305 state eligible locations—resulting in a total of 409 locations that will get faster broadband service.

    By building this network, these locations will be connected and reap the benefits higher speed broadband enables, e.g., increased employment opportunities, enhanced access to medical and public safety facilities, increased access to educational opportunities and ability to participate in ecommerce.

d. The project will only upgrade "last mile" facilities by deploying a FTTH network using Gigabit Passive Optical Network (GPON) technology.

e. The project proposes to deploy Gigabit Passive Optical Network (GPON) technology to the home (FTTH) to provide wireline broadband to existing locations primarily in the rural areas, which are unserved/underserved today. The total construction costs for this project are $5,229,496. The project will build 70.8 miles of fiber to 305 locations.

    TDS Telecom will deploy FTTH equipment and fiber optic cable for the proposed project. The proposed solution utilizes cascaded splitter architecture between the OLT location and the customer premise. Utilizing cascaded splitters reduces the fiber

count required within the distribution network to provide broadband services to the locations in the application. By reducing the size of the fiber cable, project costs are minimized for fiber cable and splicing resulting in lower total capital costs for the project. The proposed FTTH equipment and fiber architecture can provide speeds of 1Gbps to all locations within the proposed service area. The project design and installation will conform to all applicable federal, state, and local requirements and standard engineering practices. TDS Telecom will own all facilities involved in this project. Specifically—

- Access Network. The company will deploy a FTTH network using Gigabit Passive Optical Network (GPON) technology. GPON can deliver 1Gbps symmetrical speeds shared between a group of subscribers. With such peak downstream speeds, 100Mbps download speeds are easily achievable. Given that fiber is generally maintenance free, the FTTH network will provide the company with a platform to scale as successive generations of optical technology become available and meet the consumer's ever-increasing demands for bandwidth.

- Aggregation. Traffic will be aggregated in the company's central office on an IP router where it will be transported to the company's IP core network through leased backhaul facilities. The company manages its network to the capacity needs of its subscribers and does not use pre-determined over subscription or per subscriber bandwidth usage assumptions for maintaining its networks. Consequently, backhaul and core Internet links are managed in terms of capacity, trended usage growth, and equipment/link status.

- Documentation. As stated previously, GPON can deliver 1Gbps symmetrical speed to a group of subscribers. ***Exhibit A*** are product brochures for a GPON OLT certified by the manufacturer (Nokia & Calix), two of the company's preferred suppliers. Use of these brochures should be viewed as illustrative and not as a commitment to use this product or vendor in this project.

While all customers will have access to the GPON network, they will be offered a range of broadband services at different price points and can choose the service to best meet their needs and budget. They will be offered packages at various speeds (e.g., 1Gbps, 600Mbps, 300Mbps, 100Mbps, 50Mbps) with the potential for bundling them with TDS TV and phone service.

f. This application is not for a middle mile project.

g. Grantland Tel, as a subsidiary of TDS Telecom, has the certified contractors and internal employees needed to plan and construct this project upon receipt of funding. The network engineering, construction, and service deployment,

therefore, can commence upon receipt of funding and would be constructed within the required timeframe.

TDS Telecom will complete the proposed project within 24 months of a grant award. All project dates are tentative and subject to change due to events beyond our control such as supply chain delays, weather delays, and other Acts of God. Assuming awards are granted in May 2022 and acceptance occurs in June 2022, the proposed schedule is as follows:

- OSP Engineering – start June 2022; complete 10/2022
- Electronics Engineering – start June/2022; complete 9/2022
- ROW/Permitting – start June/2022; complete 2/2024
- OSP Construction – start 10/2022; complete 4/2024
- Electronics Construction – start 9/2022; complete 4/2024
- ISP Backhaul – start 10/2022; complete 12/2023
- Market Readiness – start 4/2024 complete 6/2024
- Project Completed – 6/2024

3.2.3 Itemized Budget

a. Itemized statement of investment and construction costs:

Line:	Description / Category:	Grant Funds:	Match:	Total:
1	Contractual, Consultant Fees	$ 2,120,694.26	$ 1,735,113.49	$ 3,855,807.75
2	Equipment	$ 48,630.45	$ 39,788.55	$ 88,419.00
3	Supplies			$ -
4	Labor (Salary, Fringe)	$ 424,138.85	$ 347,022.70	$ 771,161.55
5	Permitting, Licensing Fees	$ 282,759.24	$ 231,348.47	$ 514,107.70
6	Travel			$ -
7	Other			$ -
	Total:	$ 2,876,222.80	$ 2,353,273.20	$ 5,229,496.00
		45.0% match requested		

Given the extent of TDS Telecom's operations, it has vast experience in preparing Architectural Designs that include detailed cost information for budgeting purposes. Specifically, TDS Telecom's engineers use the state-provided eligible area map and overlay TDS Telecom's exchange boundary and service locations to determine areas that are viable for deploying a FTTH network with the grant funding. Once those areas are defined, we develop architectural designs (network designs) that lay out the amount of fiber and equipment needed to provide the eligible locations with GPON technology. Given TDS Telecom designs DSL and FTTH networks daily, the cost estimates for fiber miles trenched, contractor costs, and negotiated price lists for equipment needed are applied to

the network design. Using design software, the cost estimates for procuring and constructing the GPON network are then determined. Adjustments are then made to these cost estimates to reflect more subjective changes to the design, i.e., evaluate the budget for reasonableness.

Based upon the costing effort described above, the total construction costs for this project are $5,229,496. The project will build 70.8 miles of fiber. TDS Telecom will own all facilities involved in this project. All requested funding is for the procurement and installation of equipment and plant and will not be used to subsidize any other expenses or the monthly bills of customers, i.e., grant funds will not be used for any other purpose except for building the project. All the grant funding will be used to construct the broadband infrastructure described in this proposal pursuant to acceptable costs.

Major equipment expenditures include purchasing the electronics such as a Cisco Switch, Nokia or Calix GPON and XGS PON ports. TDS Telecom generally estimate its costs based upon the following 3 categories—

- Inside Plant Capital (Equipment & Labor) – Engineering design and electronics, based on Architectural Design
- Outside Plant Engineering (Labor) - Design the fiber build, with fiber cable size, pedestal, and splitter details. Create staking sheets for OSP construction teams. This category may include some travel costs.
- Outside Plan Install/Construction (Contractual) – Build fiber cable network based on OSPE design.

The total construction costs for this project are $5,229,496. The project will build 70.8 miles of fiber and will purchase GPON equipment at $88,419 (see ***Appendix A*** for manufacturer technical sheets). TDS Telecom will own all facilities involved in this project.

b. As shown above, all requested funding is for the procurement and installation of equipment and plant and will not be used to subsidize any other expenses or the monthly bills of customers, i.e., grant funds will not be used for any other purpose except for building the project.

c. As shown above, all the grant funding will be used to construct the broadband infrastructure described in this proposal pursuant to acceptable costs.

3.2.4 Priority factors supporting the application

a. **Matching funds.** TDS Telecom is requesting 55% funding for this project (grant funding of $2,876,223). The remaining 45% funding (match of $2,353,273) will

be provided in matching funds (cash) from TDS, Inc. and Grant County Economic Development Corporation. Specifically, Grantland Tel will use equity for its investment portion if it is awarded funding. This equity will be provided by its parent company, TDS, Inc. and TDS Telecommunications Corporation, as private investment (i.e., equity funded).

As stated above, the applicant is a subsidiary of TDS Telecom, which is a wholly owned subsidiary of TDS Inc. TDS Telecom will be responsible for building the proposed project and will use TDS equity for its investment portion. This equity will be provided by its parent company, TDS Inc., i.e., equity funded. Given that TDS Inc. will provide the equity for this project, please find below a link to the most current audited financial statements (SEC Form 10-K and 10-Q) for TDS, Inc., which also covers the applicant.

TDS SEC Form 10-K (fiscal year ended December 31, 2021)
https://d18rn0p25nwr6d.cloudfront.net/CIK-0001051512/d429acc4-2b58-4942-8969-f6866edaf69e.pdf

TDS SEC Form 8-K (dated February 17, 2022)
https://d18rn0p25nwr6d.cloudfront.net/CIK-0001051512/e51b3e51-090e-4540-b0a3-29e74ac149ea.pdf

b. **Public-private partnerships:** The Grant County Economic Development Corporation has provided a letter of support along with a financial commitment if a state grant is awarded for his project. See attached letters of support in ***Exhibit B*** for a copy of the Counties' letter of support along with other state and local officials support for this application. Due to the small size of their budgets, none of the towns impacted by this project can make financial contributions to the project.

c. **Existing broadband service:** Grantland Tel is the incumbent provider of telecommunications services within the proposed service. According to the WI State Broadband Map, its shows TDS Telecom is providing wireline broadband service as well as some other providers who may also provide some level of broadband services in the area; however, it is unknown if any of these providers offer service to the locations in the proposed service area: USCC; HughesNet; Viasat; Verizon; and ATT Mobility (per State Broadband Map)
    a. Even though wireless providers may be providing some level of broadband service in these areas, it is inadequate to meet customer needs and does not meet the federal or state definition of advanced service with speeds of at least 25 Mbps down and 3 Mbps up.

d. **Project impact.** The Covid-19 Pandemic has highlighted the need for high-speed broadband in many rural areas, including Grantland Tel. Broadband service at

fast speeds is no longer optional for many consumers. The pandemic highlighted the need for fast broadband to enable remote work, remote schooling, and options for online shopping and entertainment. Customers in TDS' rural service areas have urged it to bring faster speeds to their areas where TDS has not previously been able to due to high costs to extend fiber in low density areas. If awarded a grant, TDS Telecom will be able to upgrade the rural areas of Grantland Tel's service territory to provide these locations with the same opportunities and the potential for economic growth currently available in more densely populated areas in a much more expedited fashion than may otherwise be possible.

Grantland Tel is requesting grant funding to deploy broadband service to 305 unserved and underserved locations in rural areas surrounding the Towns of Beetown, Bloomington, Glen Haven, Little Grant, Patch Grove and Wyalusing. Grantland Tel's Bloomington service exchange is in Grant County, approximately 90 miles west of Madison. The project is located primarily in rural areas. The project will provide FTTH broadband service to 305 rural locations currently unable to obtain wireline broadband service at speeds of 25/3Mbps, with 126 of them unable to get speeds of 5Mbps. There are 13 business locations and 292 residential locations included in the proposed project area. As envisioned, this project would provide broadband service to these customers in rural areas at symmetrical speeds of 1Gbps.

While all customers will have access to the GPON network, they will be offered a range of broadband services at different price points and can choose the service to best meet their needs and budget. They will be offered packages at various speeds (e.g., 1Gbps, 600Mbps, 300Mbps, 100Mbps, 50Mbps) with the potential for bundling them with TDS TV and phone service.

TDS Telecom has a long history of offering affordable services to its customers who are in need. Grantland Tel participates in the federal Lifeline Program providing a discount on telecommunications services including broadband for qualifying low-income customers. Also, it participates in the Affordability Connectivity Program (which replaced the Emergency Broadband Benefit program) providing a discount for broadband services for eligible customers as funded by the Infrastructure Investment and Jobs Act of 2021.

In response to the challenges many are facing due to impacts from COVID-19, Grantland Tel also began offering its TDS Connect product that aides in providing many of our customers that need internet but may not be able to afford it**.** TDS Connect will be available to the customers in the proposed service area as data-only, as well as bundled with residential voice, Star Voice, TDS TV, and TDS TV+ (where available). TDS Connect specifically provides qualified customers with up to 25/5Mbps internet access

for $19.95 per month for 12 months, including free Wi-Fi. After the initial 12 months, the cost of product currently goes to $29.95. Both existing and new data customers are eligible for the service if they participate in one of the following programs: Medicaid; Food Stamps (Supplemental Nutrition Assistance Program (SNAP)); Supplemental Security Income (SSI); Federal Public Housing Assistance (FPHA); Veteran's Pension and Survivor's Pension Benefits; and The National School Lunch Program (NSLP).

e. **Scalability.** The company will deploy a FTTH network using Gigabit Passive Optical Network (GPON) technology. As deployed, the GPON equipment can already deliver 1Gbps symmetrical speeds shared between a group of subscribers. With such peak downstream speeds, 100Mbps download speeds are easily achievable. Given that fiber is generally maintenance free, the FTTH network will provide the company with a platform to scale as successive generations of optical technology become available and meet the consumer's ever-increasing demands for bandwidth. Per manufacture specs, the GPON equipment is expandable up to 10Gbps with additional modifications and can be expanded up to 200Gbps if additional resources are expended. See ***Exhibit A*** for manufacturer technical sheets depicting the scalability of this GPON equipment.

f. **Economic development.** The Covid-19 Pandemic has highlighted the need for high-speed broadband in many rural areas, including Grantland Tel. The project area is predominantly rural residences. The following is an excerpt from the Grant County Economic Development Corporations letter citing the needs of the for economic development in the Bloomington exchange.

> "This letter is to inform you that the Grant County Economic Development Corporation, Grant County, is committed to the expansion of broadband access to unserved and underserved locations of our County, and hereby support the application for a Wisconsin PSC Broadband Grant. The Grant County Economic Development Corporation is committing $1,000 in matching funds for the purpose of this expansion, should a grant be awarded to this project…Our residents, now more than ever, are demanding adequate internet service. Recent demand, due to the Covid-19 pandemic has highlighted the need for improved broadband services in many rural areas, including the Village of Bloomington. Our residents need improved broadband service for business, education, and telehealth. Without adequate broadband service, small businesses cannot operate efficiently, students cannot complete homework, and tele-health is not possible. The Covid-19 pandemic highlighted locations lacking speeds necessary for these activities."

Furthermore, the following excerpt is from the Town of Beetown expressing its residents needs for improved broadband service for economic development purposes.

> "This letter is to inform you that the Town of Beetown, Grant County, in partnership with TDS Telecommunications LLC (TDS), is committed to the expansion of broadband access to unserved and underserved locations of our Township, and hereby support the application for a Wisconsin PSC Broadband Grant…Our residents, now more than ever, are demanding adequate internet service. Recent demand, due to the Covid-19 pandemic, has highlighted the need for improved broadband services in many rural areas, including The Town of Beetown."

By building this network, these locations will reap the benefits higher speed broadband provides, e.g., increased employment opportunities, enhanced access to medical and public safety facilities, increased access to educational opportunities and ability to participate in ecommerce. Also, the rural businesses in this area will be able to expand their markets given that high-speed broadband eliminates the logistical constraints of regionally based business models, allowing businesses in rural, isolated areas to compete with their big-city counterparts.

g. **Effect upon broadband service to adjacent areas.** This project will not impair the ability of a broadband service provider or competing broadband service provider to extend broadband service to areas adjacent to the proposed project area.

3.2.5 Other information supporting the application

a. TDS Telecom has extensive experience in deploying networks to rural customers. It has the institutional capability to ensure that the network is designed and deployed as efficiently as possible to maximize consumer benefits.

   TDS Telecom currently provides voice, data, and video services to over 183K equivalent access lines in Wisconsin, with the majority being served by fiber. For those locations where it has not been economically feasible to upgrade, TDS Telecom has and continues to pursue additional federal and state funding to upgrade its network infrastructure to provide faster speeds, such as through the FCC's Alternative Connect America Model funding, NTIA's BEAD program, and the WI Broadband Expansion Grant Program.

   TDS Telecom's Senior Management is fully capable of building, operating, and maintaining the network infrastructure proposed in this application, as a natural extension of its 50 plus years of service. They have a solid performance record in

delivering advanced communications solutions to a wide and diverse customer base of rural areas, including 108 subsidiaries (including 21 in the state of Wisconsin) that are incumbent, exclusively rural local exchange carriers (ILECs) serving 1.2 million commercial and residential customers in nearly 900 rural, suburban, and metropolitan communities across the United States. For the past decade, the TDS Telecom Senior Management team has worked together to build multiple broadband networks like, or exceeding the size, scope and complexity of the project submitted in this application. Specifically—

- Since 2016, TDS Telecom has invested over $700M of its own capital to deploy broadband facilities and equipment in Wisconsin.

- Over the past four years, TDS Telecom elected to receive approximately $1 billion to increase broadband access in 25 states to 159,612 locations within 12 years from the FCC's Alternative Connect America Cost Model, under the Connect America Fund (CAF) program.
    - Under the A-CAM program, TDS Telecom receives $20.3M annually for Wisconsin and is obligated to provide broadband service at various speeds up to 25/3Mbps to over 35,000 locations in Wisconsin by 2028. Construction is underway for many of these A-CAM projects in Wisconsin and will be completed by the 2028 deadline.

- TDS Telecom received 11 federal grants as part of the Rural Utilities Service Broadband Initiative Program as funded by the ARRA of 2009 to deploy facilities and equipment to improve its broadband service in portions of its exchange service areas in Wisconsin. The total cost for these projects was $33.4M. TDS Telecom has successfully completed all 11 Wisconsin projects as of July 2014, enabling nearly 9,000 additional locations with high-speed broadband access. Nationwide, TDS Telecom has completed all 44 projects for which it received grants, which will enable high speed broadband access to nearly 32,000 households.

- TDS Telecom has actively participated in the Wisconsin State Broadband Expansion Grant program since its inception. It has been awarded multiple grants and has a track record of successfully completing grant projects. Most of these grants were for DSL projects that were designed to provide speeds meeting the FCC's ACAM requirements (25/3 Mbps for 75% of the locations with remainder receiving 10/1 Mbps). Most recently, TDS Telecom received a grant for a GPON project which employs technology similar to this application. Specifically—
    - TDS Telecom received a broadband grant in May 2014 for $100,000 for Central State Telephone Company to upgrade 270 locations in the

Cranmoor exchange. TDS Telecom completed the DSL project in May 2015, within the required timeframe and under the projected cost.

- TDS Telecom received a broadband grant in August 2016 for $156,500 for Black Earth Telephone Company to upgrade DSL service for 166 locations in the Town of Berry with VDSL2+ service, which was completed by the September 2018 deadline.
- TDS Telecom received a broadband grant in August 2017 for $285,917 for Black Earth Telephone Company to upgrade DSL service for 307 locations in the Town of Vermont, which was completed by the August 2019 deadline.
- TDS Telecom received a FY 2018 Round 2 Broadband Expansion grant for Mt. Vernon Telephone Company for $351,857 and a grant for UTELCO for $492,915 to upgrade DSL service for 738 and 398 locations respectively in the Towns of New Glarus, Mount Pleasant, and Washington. TDS Telecom completed the Mt. Vernon project in April 2020 and the UTELCO project in May 2020.
- TDS Telecom received a FY 2019 Broadband Expansion Grant for Farmers Tel for $375,868 to upgrade DSL service for 497 locations in the Town of Beetown. TDS Telecom completed the Beetown project ahead of schedule in April 2020.
- TDS Telecom received two FY 2020 Broadband Expansion Grant for Mosinee Tel (DSL project for 1,232 locations) and Midway Tel (FTTH GPON project for 329 locations) for a total of $1.3M to upgrade broadband service in the Towns of Mosinee and Stetsonville. TDS Telecom has begun work on these projects and expects to complete them ahead of their October 2022 deadlines.
- And most recently, TDS Telecom received two ARPA grants for Farmers Tel (GPON project for 184 locations) and Central State Tel (GPON project for 805 locations) for a total of $2.03M for the Towns of Potosi and Necedah.

b. This project will not duplicate existing broadband infrastructure. TDS Telecom is the only wireline provider serving this area and is upgrading and adding to its existing network.

c. As discussed above, TDS Telecom has extensive experience in deploying networks to rural customers. It has the institutional capability to ensure that the network is designed and deployed as efficiently as possible to maximize consumer benefits. Also, the proposed project will leverage Grantland Tel's existing network, whereby build and operational costs will be allocated among various services and incremental revenues are expected to result in a viable project. Specifically, Grantland Tel already has facilities in the projects entire

footprint where it proposes to deploy additional digital serving areas (DSAs) to provide broadband services at the required speeds, i.e., the project is just an extension of its existing network. The cost of increasing broadband capabilities beyond that which is currently available will be shared among various services keeping the capital expenditures low (if this grant is approved) for the project. Also, operating and maintaining the proposed network will also be minimal given the technology that will be deployed.

Grantland Tel will use equity for its investment portion if it is awarded funding. This equity will be provided by its parent company, TDS, Inc. and TDS Telecommunications Corporation, as private investment (i.e., equity funded). The applicant is a subsidiary of TDS Telecom, which is a wholly owned subsidiary of TDS Inc. TDS Telecom will be responsible for building the proposed project and will use TDS equity for its investment portion. This equity will be provided by its parent company, TDS Inc., i.e., equity funded.).

d. This is a last mile project.

e. This is a last mile project.

f. Upon completion of the network improvements, broadband access will allow patients to link to medical providers for direct consultation, remove geographical barriers and allow people to receive the medical care they need when it's needed. Access to the internet will allow users a way to get basic information about health matters and provide valuable medical advice. Expanding fast and affordable broadband will also allow users to reach the help they require in an emergency. A robust broadband network will enable police, fire, and emergency medical personnel to react to crises more quickly while facilitating cooperation between multiple safety agencies. This will allow public safety workers access to online resources, connect to network-enabled devices, and rapidly transfer critical video and data files during crises situations.

g. High speed internet has become a necessity for distance learning by students of all ages due to Covid-19. Broadband is needed for every level of education from kindergarten through high school to college and graduate school. Education is no longer confined to the classroom. The proposed project will allow for the use of broadband-enabled educational tools for remote collaboration among students on projects, videoconferences with teachers and access to a wealth of information at home a student may need to research and write a paper or complete an assignment. Distance learning utilizing a broadband connection allows adults to gain vital skills training to secure employment and move beyond

entry-level jobs with flexibility, whether it be through obtaining a college degree online or completing an online worker training program.

h. The Grant County Economic Development Corporation has provided a letter of support along with a financial commitment if a state grant is awarded for his project. See attached letters of support in ***Exhibit B*** for a copy of the Counties' letter of support along with other state and local officials support for this application.

i. See ***Exhibit B*** for letters in support of this application.

j. To address affordability for customers that need assistance with broadband, Grantland Tel will offer its TDS Connect product to those located within the proposed service area to aide qualified customers that need internet but may not be able to afford it**.** TDS Connect specifically provides qualified customers with up to 25/5Mbps internet access for $19.95/month for 12 months, including free Wi-Fi. After 12 months, the cost is currently $29.95/month. Also, it participates in the Affordability Connectivity Program (which replaced the Emergency Broadband Benefit program) providing a discount for broadband services for eligible customers as funded by the Infrastructure Investment and Jobs Act of 2021, which would be available to all qualified customers in the PSA.

<u>Attachments</u>

A – Equipment Technical Specs

B – Support Letters

EXHIBIT A

GPON Technical Specs

Nokia 7360 ISAM FX

ANSI

The Nokia 7360 Intelligent Services Access Manager (ISAM) FX is a high-capacity access node designed to deliver ultra-broadband services to any number of users in a rapid and cost-effective way. Because there is no single solution to bring ultra-broadband to the masses, the 7360 ISAM FX supports a mix of services including VDSL2 with vectoring, point-to-point, GPON, EPON (with DPoE) and 10G PON services. High-bandwidth throughput is guaranteed by backplane technology that enables dual 100Gb/s backplane connections to each line termination (LT) slot.

With three 7360 ISAM FX shelf sizes to choose from, service providers have maximum flexibility for deploying in central office, outside plant cabinet or other remote environments. With the 7360 ISAM FX, operators have the flexibility to deploy a mix of technologies that can deliver fast broadband, a faster time to market and the fastest possible return on investment.

Features

- High-capacity backplane: 2 x 100Gb/s per slot
- Four-slot (FX-4), eight-slot (FX-8) and 16-slot (FX-16) shelf options
- High-capacity 480Gb/s controllers (NT) with 40Gb/s network capacity (can be used as uplink, downlink or direct user link)
- Optional Network Termination Input Output (NTIO) for an additional 80Gb/s network capacity
- Full NT redundancy with Active/Active and load sharing options
- Added resiliency with MPLS, Ethernet Ring Protection Switching (ERPS) (G.8032) and Link Aggregation Group (LAG) support
- Simultaneous support of passive optical network (PON), point-to-point, POTS and VDSL2 with vectoring

7360 ISAM FX-16 — GPON shown

7360 ISAM FX-8 — VDSL2 Vectoring shown

7360 ISAM FX-4 — Multi-service shown

- Fully managed by the Nokia 5520 Access Management System (AMS) and 5529 Access Provisioning Center (APC) applications

Benefits

- Secure investment with system capacity that anticipates future technologies such as time and wavelength division multiplexed PON (TWDM-PON)
- Flexibility to deploy any access technology in any location in the network
- Residential, mobile and business applications converge on a single platform
- Deliver over 100Mb/s to subscribers over existing copper with VDSL2 vectoring and bonding
- Optimized for Gigabit services with Nokia Gigabit Express
- Take advantage of existing Data Over Cable Service Interface Specification (DOCSIS) provisioning systems with DOCSIS Provisioning of EPON (DPoE) support
- Built on widely deployed Nokia ISAM technology serving over 160 fiber to the home (FTTH) and 90 VDSL2 operators worldwide

Note: Feature content based on R5.1 baseline

Technical specifications

Full service platform

- Multiservice access support
  - IPTV services
  - Multimedia service
  - High-speed Internet access
  - Business access
  - Cell-site backhaul
  - Voice
- LT support
  - Gigabit PON (GPON) line cards
  - Ethernet PON (EPON) line card with DPoE
  - 10G EPON line card with DPoE
  - Point-to-point fiber line card
  - VDSL2 with vectoring line cards
  - System Level Vectoring (SLV) processor
  - Voice services line card
- Network Termination (NT) support: FANT-F
  - 480Gb/s switching matrix (bidirectional)
  - Active/Active redundancy
  - Four configurable 10Gb/s or 1Gb/s network links
  - Small Form Factor Pluggable (SFP)+ cages
- Network Termination Input Output (NTIO) support: FNIO-A
  - Eight configurable 10Gb/s or 1Gb/s network links
  - Small Form Factor Pluggable (SFP)+ cages
  - Used as uplink, downlink or direct user link management
  - Fully managed by the Nokia 5520 AMS and 5529 APC

Standards compliance

- Environmental
  - ETS EN 300 019-1-1 storage – Class 1.1 weather-protected, partly temperature-controlled locations
  - ETS EN 300 019-1-2 transport – Class 2.3 public transportation
  - ETS EN 300 019-1-3 stationary use – Class 3.1E and Class 3.3 (assuming no condensation and icing)
  - GR-63-CORE

- SBC TP76200MP
  - GR-3108-CORE
- Powering
  - ETS EN 300 132-2
- Protection
  - ITU-T K.20 enhanced and K.45 basic
- Safety
  - IEC 60950, EN60950 Class 1, AS/NZS 60950.1
  - UL/CSA 60950-1-03
  - EN 60950-1
- EMC
  - ETS EN 300 386 for telecommunications center installation environment
  - ETS ES 201 468
  - GR-1089-CORE
  - FCC part 15 Class A
  - EN 55022
- Acoustic noise
  - ETS 300 753

Operating conditions

- Operating temperature range: -40ºC to 65ºC (-40ºF to 149º F)
- Relative humidity: 5% to 93% (non-condensing)
- Over-temperature sensors and over-temperature shutdown

Power

- Input
  - 48/60V DC nominal
  - Fully redundant power feeding (branch A and B)

Dimensions

- FX-16
  - Height: 600mm (23.62in) (~14 RU)
  - Width: 500mm (19.68in); can be used in ETSI-sized 600 x 300mm racks
  - Depth: 280mm (11.02in)
- FX-8
  - Height: 360mm (14.17in) (8 RU)
  - Width: 445mm (17.52in); can be used in 19in racks
  - Depth: 280mm (11.02in)
- FX-4
  - Height: 223mm. (8.77in) (5 RU)
  - Width: 445mm (17.52in); can be used in 19in racks
  - Depth: 280mm (11.02in)
  - Rack-mounting pitch of 25mm (0.984in)

Construction (based on FX-16)

- 16 wire-speed LT slots
- 256 GPON ports per shelf:
  - 16 ports x 16 slots
  - 8192 subscriber locations (32 split)
- 10Tb/s total system capacity

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PRODUCT DATASHEET

Calix E7-2 GPON-8

DESCRIPTION

The Calix E7-2 GPON-8 line card provides eight ITU G.984-compliant Gigabit Passive Optical Network (GPON) interfaces, four Gigabit Ethernet (GE) interfaces, and two ports of integrated 10-Gigabit Ethernet. The E7-2 GPON-8 line card can be plugged into one or both of the two universal slots in a Calix E7-2 shelf. In a 1RU chassis, E7-2 supports sixteen PONs, up to 64 Optical Network Terminations (ONTs) for a total of 1024, plus eight point-to-point Ethernet subscribers and two 10GE ports. The E7-2 GPON-8 card supports a full set of Ethernet services and network topology protocols on the Ethernet ports and can be used interchangeably with other E7-2 line cards to create a redundant system configuration.

KEY ATTRIBUTES

GPON AND POINT-TO-POINT ETHERNET: The Calix E7-2 GPON-8 card provides multiservice capability over IP/Ethernet-based networks. Each GPON-8 provides eight GPON OLT ports that subtend up to 64 ONTs each, for a card capacity of 512 GPON ONTs, 1024 per E7-2 1RU chassis. Additional four GE ports per card can provide high-bandwidth, point-to-point Ethernet services to individual subscribers or be used to aggregate other Ethernet devices.

Multiple E7-2 shelves can be linked together using low cost, industry standard 10GE SFP+ copper cables, resulting in a high-density configuration serving over 1000 GPON ONT subscribers in as little as 1RU space (1:64 split). GPON-8 card features and capabilities include:

- Based on ITU G.984 GPON family of standards
- GPON: 2.488 Gbps downstream, 1.244 Gbps upstream
- GEM (Ethernet) based GPON
- Interoperable with Calix 700 ONTs and 836GE RSG
- Integrated 10GE and GE/2.5GE aggregation and transport
- Class B+ ODN, +28 dB link budget, up to 20 km at 32-way splits
- Extended reach GPON up to 40 km with 1:8 split
- Class C+ ODN, +32 dB link budget with Forward Error Correction (FEC), up to 35 km at 32-way split, up to 60 km at 2-way split
- Hardened for central office and remote terminals

INTEGRATED HIGH-CAPACITY AGGREGATION: The E7-2 GPON-8 card is built on a core Layer 2 and Layer 3 switch capable of full-duplex, line rate forwarding at all frame sizes and traffic types across all interfaces. Each GPON OLT port has a dedicated 2.5Gbps switch interface. Industry standard pluggable modules are used for all interfaces, including ITU G.984 compliant GPON, GE and 2.5GE optical SFP, and 10GE SFP+. The SFP+ ports also support SFP modules and Direct Attach copper cables.

IP SERVICES DELIVERY: The Calix E7-2 GPON-8 card delivers a full spectrum of IP access services over GPON and Point-to-Point Ethernet networks.

- Secure AES encryption on the PON
- IPTV – broadcast and Video on Demand (VoD)
- MEF compliant business services
- High-Speed Internet (HSI) access
- Voice – Native SIP/VoIP and TDM Gateway support
- T1 services
- CATV: 1550nm RF video overlay; 1610nmRF return

NETWORK RESILIENCY: All Calix E7cards support a flexible set of standards-based network topology protocols for use in aggregation, ring-based transport, and uplink.

- ITU G.8032 Ethernet Ring Protection Switching (ERPS)
- ITU G.8032v2 Ethernet Ring Protection Switching (ERPS)
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- IEEE 802.3ad/802.1AX Link Aggregation
- ITU G.983.5 – Type B Protection and enhanced survivability for GPON OLTs

MOBILE BACKHAUL: With integrated network synchronization, hierarchical QoS and support for T1 services, the GPON-8 card transport uncompromised mobile broadband traffic while also supporting triple play residential and MEF certified business services from a single platform. A powerful collection of classification, policing, and scheduling algorithms let operators manage per-subscriber and per-service traffic flows to maintain priority/delay/loss service differentiation within the E7 network.

SCALABLE IPTV SUPPORT: The E7 supports industry standard IGMP snooping to identify and replicate multicast video sent between the set-top box and the video distribution network, providing efficient, scalable, high-quality IPTV distribution on both GPON and Ethernet interfaces.

Calix E7-2 GPON-8

MINIMUM SYSTEM REQUIREMENTS

Calix E7-2 shelf supports two GPON-8 line cards per shelf
Calix E7 Software Release 2.2

DIMENSIONS (W x H x L)

14 x 10.1 x 0.78 inches
35.6 x 25.7 x 2 cm

WEIGHT

2.08 lbs. (0.94 kg)

PORTS

Eight GPON OLT ports
Four SFP ports support optical 1GE/2.5GE and copper 100/1000BaseT modules
Two SFP+ ports supporting 10GE and GE optical modules

PACKET SWITCHING CAPACITY

Wire speed forwarding across all Ethernet and GPON OLT ports
32,000 MAC addresses per system
9,000 byte jumbo frames
1500 byte frames over GPON
4,096 VLANs
4,000 IGMP Multicast channels

QUALITY OF SERVICE

Service classification based on port, SVLAN-ID, CVLAN-ID, P-Bit
Port and flow-based policing to 1Mbps increments
8 CoS queues per port
Strict priority scheduling with minimum bandwidth guarantee
Congestion avoidance: Tail Drop

STANDARDS AND RFC SUPPORT

TR101 VLAN Service models
IEEE802.1ag Connectivity Fault Management (G.8032 support)
IEEE 802.1D Rapid Spanning Tree
IEEE 802.1p CoS Prioritization
IEEE 802.1 MAC Bridges
IEEE 802.1Q VLAN tagging
IEEE 802.1ad VLAN stacking (Q-in-Q) support
IEEE 802.1w RSTP
IEEE 802.3ad/802.1AX Link Aggregation
RFC 2236 IGMP v2
RFC 3376 IGMP v3
RFC 3046 DHCP Relay Agent Information Option ("Option 82")
RFC 4541 IGMP snooping
RFC 4553 Structure-Agnostic Time Division Multiplexing (TDM) over Packet (SAToP)
ITU-T G.8032 Ethernet Ring Protection Switching (ERPS)/Enhanced EAPS
ITU-T G.8032v2 Ethernet Ring Protection Switching (ERPS)
ITU-T G.984 GPON
ITU G.984.1 Type B Protection
Dynamic Bandwidth Assignment (DBA)
NIST Advanced Encryption Standard (AES)

SYNCHRONIZATION

Synchronization enabled by E7 line cards
External reference timing
Built-in Stratum-3 clock
Hardware-ready to support Synchronous Ethernet

COMPLIANCE

NEBS Level 3 compliance (GR-63-CORE, GR-1089-CORE, GR-3028)
UL 60950
FCC Part 15 Class A
CE Mark

POWER SPECIFICATIONS

GPON-8 power/heat dissipation: 75 Watts

OPERATING ENVIRONMENT

Temperature: –40° to +65° C (–40° F to +149° F)
Humidity: 10 to 95% (non-condensing)

STORAGE ENVIRONMENT

Temperature: –40° to +85° C (–40° F to +185° F)
Humidity: 5 to 95%

CALIX ONTs

The E7-2 GPON-8 card supports all Calix family of ONTs, including 700GX, 700GE, 836GE, 800G GigaCenter, and T-Series ONTs Single Family Unit (SFU), Small Business Unit (SBU), Multi-Dwelling Unit (MDU), and rack-mount models. Calix ONTs support auto sensing GPON and GE network interfaces, allowing service providers to manage service changes without subscriber onsite technical support.

ORDERING INFORMATION

CALIX E7 LINE CARDS

100-03006 ..... E7-2 GPON-8 (8x GPON OIM, 4x GE SFP, 2x 10GE SFP+)

CALIX PLUGGABLE TRANSCEIVER MODULES

The E7-2 supports pluggable modules for all service and network interfaces. Refer to the Calix Optical Transceiver Modules Datasheet (#250-00191) for a complete list of modules and specifications.

SFP ..... 1GE and 2.5GE optical and copper Small Form-factor Pluggable (SFP) modules
SFP+ ..... 10GE optical Enhanced Small Form-factor Pluggable (SFP+) modules
Direct Attach ..... Multi-rate copper Small Form-factor Pluggable (SFP/SFP+) cables
GPON OIM ..... 2.5Gbps GPON (Class B+ ODN with minimum 28dB link budget, up to 1:64 splits)
ER-GPON OIM ..... 2.5Gbps Extended Reach GPON (up to 58 km with 1:4 split)

Notes:

- For GPON OIM, 10GE XFP, 10GE SFP+ pluggable transceivers and Direct Attach cables, only products purchased directly from Calix are supported. The use of GPON OIM, 10GE XFP, 10GE SFP+ pluggable transceivers and Direct Attach cables not purchased directly from Calix is not supported and will void all product warranties covering the Calix equipment to which such third-party materials are connected.
- SFP modules may also be used in SFP+ sockets at 1GE rate.
- Copper Direct Attach cables can operate in SFP and SFP+ sockets at 1GE, 2.5GE, and 10GE data rates as supported by the card type.

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EXHIBIT B

LETTERS OF SUPPORT

GRANT COUNTY
ECONOMIC DEVELOPMENT CORP.

February 17, 2022

Wisconsin Broadband Office
Public Service Commission of Wisconsin
Hill Farms State Office Building
North Tower, 6th Floor
4822 Madison Yards Way
Madison, WI 53705

Dear Broadband Access Grant Review Committee:

This letter is to inform you that the Grant County Economic Development Corporation, Grant County, in partnership with TDS Telecommunications LLC (TDS®), is committed to the expansion of broadband access to unserved and underserved locations of our Village, and hereby support the application for a Wisconsin PSC Broadband Grant. The Grant County Economic Development Corporation is committing $1,000 in matching funds for the purpose of this expansion, should a grant be awarded to this project.

Our residents, now more than ever, are demanding adequate internet service. Recent demand, due to the Covid-19 pandemic has highlighted the need for improved broadband services in many rural areas, including the Village of Bloomington. Our residents need improved broadband service for business, education, and telehealth. Without adequate broadband service, small businesses cannot operate efficiently, students cannot complete homework, and tele-health is not possible. The Covid-19 pandemic highlighted locations lacking speeds necessary for these activities.

TDS is a Fortune 1000 Company and has strong track record of completing broadband projects. TDS stands ready, willing and able to complete the fiber broadband grant project and provide quality fiber broadband service to these rural unserved and underserved areas of the Village of Bloomington more quickly than may otherwise be possible.

The Grant County EDC fully supports this application and looks forward to working with TDS to greatly expand broadband service in the Village of Bloomington.

Respectfully,

Ron Brisbois
Executive Director

WE'VE GOT THE CORNER ON GOOD BUSINESS

Website: www.grantcounty.org/business
Email: gcedc@grantcounty.org
Phone: 608-822-3501
Bronson Boulevard • Fennimore, Wisconsin 53809

February 23, 2022

Wisconsin Broadband Office
Public Service Commission of Wisconsin
Hill Farms State Office Building
North Tower, 6th Floor
4822 Madison Yards Way
Madison, WI 53705

Dear Broadband Access Grant Review Committee:

This letter is to inform you that the Town of Beetown, Grant County, in partnership with TDS Telecommunications LLC (TDS®), is committed to the expansion of broadband access to unserved and underserved locations of our Township, and hereby support the application for a Wisconsin PSC Broadband Grant.

Our residents, now more than ever, are demanding adequate internet service. Recent demand, due to the Covid-19 pandemic, has highlighted the need for improved broadband services in many rural areas, including The Town of Beetown. Our residents need improved broadband service for business, education, and telehealth. Without adequate broadband service, small businesses cannot operate efficiently, students cannot complete homework, and tele-health is not possible. The Covid-19 pandemic highlighted locations lacking speeds necessary for these activities.

TDS is a Fortune 1000 Company and has a strong track record of completing broadband projects. TDS stands ready, willing and able to complete the fiber broadband grant project and provide quality fiber broadband service to these rural unserved and underserved areas of Town of Beetown more quickly than may otherwise be possible.

The Town of Beetown Board fully supports this application and looks forward to working with TDS to greatly expand broadband service in the township.

Respectfully,

/s/ Bart Breuer

Bart Breuer
Acting Supervisor
Town of Beetown

Date February 17th, 2022

Wisconsin Broadband Office
Public Service Commission of Wisconsin
Hill Farms State Office Building
North Tower, 6th Floor
4822 Madison Yards Way
Madison, WI 53705

Dear Broadband Access Grant Review Committee:

This letter is to inform you that the Town of Bloomington, Grant County, Wisconsin, in partnership with TDS Telecommunications LLC (TDS®), is committed to the expansion of broadband access to unserved and underserved locations of our township, and hereby support the application for a Wisconsin PSC Broadband Grant. The Township of Bloomington is committing **$0.00** in matching funds for the purpose of this expansion, should a grant be awarded to this project.

Our residents, now more than ever, are demanding adequate internet service. Recent demand, due to the Covid-19 pandemic has highlighted the need for improved broadband services in many rural areas, including the Town of Bloomington. Our residents need improved broadband service for business, education, and telehealth. Without adequate broadband service, small businesses cannot operate efficiently, students cannot complete homework, and tele-health is not possible. The Covid-19 pandemic highlighted locations lacking speeds necessary for these activities.

TDS is a Fortune 1000 Company and has strong track record of completing broadband projects. TDS stands ready, willing and able to complete the fiber broadband grant project and provide quality fiber broadband service to these rural unserved and underserved areas of the Town of Bloomington more quickly than may otherwise be possible.

The Town of Bloomington Board fully supports this application and looks forward to working with TDS to greatly expand broadband service in the Township.

Respectfully,

Greg Patterson – Chairman

Greg Patterson-Chairman
Town of Bloomington

TRAVIS TRANEL

STATE REPRESENTATIVE • 49th ASSEMBLY DISTRICT

(608) 266-1170
Toll-Free: (888) 872-0049
Rep.Tranel@legis.wi.gov

P.O. Box 8953
Madison, WI 53708-8953

March 1, 2022

Wisconsin Broadband Office
Public Service Commission of Wisconsin
Hill Farms State Office Building
North Tower, 6th Floor
4822 Madison Yards Way
Madison, WI 53705

Dear Broadband Access Grant Review Committee:

I would like to express my support for the TDS Broadband Access grant application for Grantland Telecom in its Bloomington exchange serving area in Grant County. The project proposes to provide fiber broadband to 297 eligible locations in rural areas near Bloomington.

Improving broadband access and speeds in rural areas, such as those surrounding Bloomington, is costly due to low customer density and rugged nature Grant County. This FTTH project is estimated to be over $5.2M. TDS is seeking a grant of 55% of its estimated costs for $2.8M. If awarded, TDS will build over 70 miles of new fiber to reach the 297 eligible locations with this project.

TDS has a proven track record deploying broadband networks in Wisconsin. It has successfully completed six grant projects awarded by the Public Service Commission of Wisconsin in prior grant rounds. Four additional grant projects are currently being constructed. Receipt of grant funding to deploy fiber in the Fennimore area will accelerate fiber deployment in an area that otherwise may not see expansive upgrades for several years.

Residents in the rural areas surrounding Bloomington need improved broadband service for business, education, and telehealth. Without adequate broadband service, small businesses cannot operate efficiently, students cannot complete homework, and in-home patient monitoring is not possible. The Covid-19 pandemic highlighted locations lacking speeds necessary for these activities. I urge you to support this application and request that your award this application to TDS to address the urgent needs of residents in the Bloomington area for faster broadband services.

Sincerely,

Travis Tranel
State Representative
49th Assembly District