E-Rate Form 470 Request for Proposals

For the provision of Leased Dark Fiber, Leased Lit Fiber / Metro Ethernet

Issued by

Woodburn School District

1390 Meridian Dr.

Woodburn OR 97071

The purpose of this Request for Proposals (Solicitation) is to obtain competitive Offers from qualified Firms (Proposers) interested in the provision of one pair of Leased Dark Fiber or one high capacity Metro Ethernet circuit between the following locations:

Preferred service termination locations:

* Location A: Clackamas Education Service District,

13455 SE 97th Ave, Clackamas, OR 97015

* Location Z: Washington Elementary School

777 E Lincoln St, Woodburn, OR 97071

Design Narrative

Woodburn School District believes that taking a broader, holistic view of network connectivity can result in significant reduction in total cost of ownership, higher performance, flexibility, and reliability.

The purpose of this circuit is to provide high capacity connectivity (100Gbps+) between Woodburn School District and Clackamas ESD infrastructure and provide a connection for internet service as well as WSD data center resources co-located at Clackamas ESD.

Request for Proposals

* SCOPE.
  1. The Agency is requesting proposals from contractors able to provide dark fiber or high capacity point-to-point ethernet services between the following locations:
     + - Location A: Clackamas Education Service District,

13455 SE 97th Ave, Clackamas, OR 97015

* + - * Location Z: Washington Elementary School

777 E Lincoln St, Woodburn, OR 97071

* 1. Basic Requirements

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* + 1. Service Provider Identification Number (SPIN) and FCC Registration Number (FCCRN)
    2. The proposer shall provide a valid SPIN number (Service Provider Identification Number), in the proposal submitted in response to this RFP or support a copy of its FCC Form 498 that has already been submitted to USAC. (See http://www.universalservice.org/fund-administration/forms/ for more information.)
    3. For proposers that intend to provide telecommunications services (as opposed to solely proposing to provide equipment, monitoring/management services, or configuration/implementation services), the proposer must be recognized by USAC as a telecommunications common carrier. The proposer also shall provide the company's FCC Registration Number in its proposal. For more information, please visit: https://fjallfoss.fcc.gov/coresWeb/publicHome.do.
    4. Each proposer also must certify that it is in good standing and not subject to "Red Light Status" with the FCC
    5. Responders must demonstrate the capacity to meet the network build requirements through client references, prior work and financial documentation
  1. Contract length, Pricing, and Service Level Agreements
     1. Proposals must include pricing for the following contract lengths:
        1. Five years with five one-year extensions.
        2. Ten years with five one-year extensions.
     2. Proposals must include:
        1. Non-recurring installation costs.
        2. Monthly recurring costs.
        3. Itemized list of taxes, maintenance, support, and any other recurring fees that are not included in the quoted price of the circuit or fiber lease.
        4. Service Level Agreement.
        5. Build Out Schedule.
     3. Preference for minimal NRC.
  2. Construction requirements
     1. Inside Building Cable Routing

Intra-building cable routing shall be performed in accordance with all applicable local building codes. When required, the Service Provider must plan a splice point at the building entrance to transition from outdoor cable to indoor cable, or enclose the outdoor cable in metallic conduit or covered metal raceway.

* + 1. Cable Slack for Repair or Relocation

A small amount of slack cable (15 - 20 feet) shall be neatly stored in each MDF in the event that a cable repair or relocation is required.

* + 1. Site Make Ready Work

Any trenching and conduit placement from the street to the building entrance point must include all necessary pavement and ground repair . All pavement and other grounds must be returned to its original condition. All installation of cabling, pathways, etc shall be to BICSI specification and the design specifications of The Agency.

* 1. Access and Transport Requirements

Proposers must agree to work with The Agency’s network staff to provide and receive network telemetry data necessary to resolve any network quality problems that occur.

1. Dark Fiber Network Services
   1. Dark Fiber Requirements
      1. Service Providers shall provide a minimum of 2 strands (one pair) of fiber.
      2. Service Providers shall provide a map detailing the cable routes for the proposed fiber links.
   2. Fiber/Cable Type
      1. Preference for non-dispersion compensated fibers consistently throughout the network.
      2. Service Providers must identify the fiber type they use in their response and provide specifications for the fiber and cable.
      3. The Agency anticipates lighting the Service Provider’s fiber with 100G and/or 10G G.694.1 100Ghz DWDM optical modules with LC connectors.
      4. The fiber connectors and adapters shall be compliant with TIA/EIA 604
      5. The fiber connectors shall have an average insertion loss of 0.3 dB or less. Service Providers should provide datasheets for the proposed SC fiber optic connectors and adapters.
   3. Link Loss Budget
      1. Preference for link loss of 12 dB or less as measured using a double - ended loss test at 1310 nm
      2. Service Providers must identify in their proposal any links where the estimated link loss is expected to exceed 12 dBm at 1310nm. The estimated link loss shall be indicated for any exception.
   4. Fiber Testing
      1. Insertion loss testing measuring end-to-end attenuation (including all fiber, splices, and connectors) shall be conducted on all the fiber links. Insertion loss testing shall be done in both directions at the operating wavelengths of 1310 nm and 1550 nm. The double-ended loss test methodology shall be used.
      2. The Service Provider shall record all optical power measurements to the nearest tenth of a unit of measure (to one significant digit in the decimal place, i.e., -14.3 dB).
      3. Test results must be permanently recorded and presented in both hard copy and computer-readable format to The Agency for review. Any fiber link failing to meet the Link Loss Budget standards will be repaired or removed and replaced at no cost to The Agency with an installation that proves through testing to meet the standards.
      4. The Fiber Network will not be accepted until all fibers meet the appropriate standards.
      5. The Service Provider is required to provide documentation of their fiber testing procedures, including referencing procedures for fiber optic testing, prior to testing. This document must list equipment to be used (manufacturer and model number) and the date when it was last calibrated. All test equipment used will have been factory calibrated (or by an approved calibration service provider) within the past two years
2. Metro Ethernet Services
   1. Ethernet Circuit capacity of 100Gbps.
   2. Transport Internet Protocol (IP) data packets to and from a specified Ethernet interconnection point at each physical address for which service is contracted. Other communications protocols may be used to transport data packets; however, IP over Ethernet is required at the user and network interfaces.
   3. Preferred layer one hand-off is 100G-SR or 100G-LR
   4. Following the Open Systems Interconnection (OSI) model: Layer two interfaces will be Ethernet, preferably meeting Metro Ethernet standards such as VPWS, VPLS, IEEE 802.1ad (QinQ), IEEE 802.1ah (MAC in MAC), and IEEE 802.1Qay (PBB-TE).

* 1. Layer two ethernet jumbo frames must be permitted; preference for MTU of 9000 bytes or greater, minimum acceptable MTU of 1600 bytes.
  2. Proposals must list underlying physical transport technologies that will be used in providing the proposed services.

1. Evaluation of Proposals
   1. Scoring of the proposal shall follow the below weighting.
      1. Basic Requirements (5%)
      2. References / Prior Work / Financial Documentation (10%)
      3. Dark Fiber or Metro Ethernet Requirements (30%)
      4. Pricing (35%)
      5. Service Level Agreement, Recovery Time Objective, Build Out (20%)
2. Submission Process

Bids may be submitted via mail or electronically

* 1. Submission deadline is February 23rd.
  2. No extensions will be granted.
  3. Submissions received after February 23rd will not be accepted.
  4. Electronic submissions may be emailed to [corin.ahlberg@woodburnsd.org](mailto:corin.ahlberg@woodburnsd.org)
  5. Mail submissions may be sent to:

Woodburn School District

ATTN: Network Services / Corin Ahlberg

1081 Newberg Hwy

Woodburn, Oregon 97071

Appendix A - estimated customer-acquired modulating electronics costs

Current pricing of customer-acquired optics based on third party compatible optic vendors, to be used to calculate the Total Cost of Ownership of dark fiber quotes vs metro ethernet quotes.

100G-SR: $100/ea

100G-LR: $600/ea

100G-ER: $2,000/ea

10G-LR/ER/ZR DWDM: $250/ea

Passive OADM: $150/channel

Passive DWDM 40 channel: $1,700/ea