

Ciena Corporation is considering responding directly to the RFP.

E RFP 03_24_25 SCCOE CONSORTIUM DARK FIBER EQUIPMENT (E-RATE)

As Ciena is the leading manufacture in the world of optical transport equipment we do believe we can provide for the Schools District a cost-effective solution based on the needs outlined in the RFP specification. As a manufacture we do not sell direct to end users as such we can provide a network design and bill of material with a budgetary pricing for the SCCOE to consider. SCCOE procurement can then solicit to multiple Ciena resellers for best price and for those that meet E-Rate criteria. Ciena is an E-Rate approved manufacture and have created many networks throughout the U.S. that have been funded through the E-Rate program. Ciena can provide references of current customers taking advantage of E-Rate for Ciena deployments.

Questions:

Based on the information above would you prefer to have Ciena engage with a Ciena E-rate resale partner now to respond to the RFP directly?

The SCCOE E-rate Consortium does not have a preference as to who or how the RFP is responded to.

Technical questions:

Should it be assumed that you only want to use the C-BAND spectrum for this network?

The current network is a DWDM-based network. We are seeking proposals that are compatible with the existing system.

With modern DWDM optical line systems, the design can either follow a “FIXED GRID” or “FLEX GRID” technology.

Do you have a preference of FIXED GRID or FLEX GRID?

We have no plan to update or forklift the overall system. The current fixed channel solution is the one we are maintaining.

When you request 80 DWDM wavelengths it is assumed that you are looking for a 50Ghz FIXED GRID. This technology is outdated and is not recommended as it limits the wavelength size (bandwidth carrying ability) of each wavelength to a 50Ghz channel or 100 – 200 Gbps data carrying capacity based on transponder baud rate.) Today’s modern DWDM optical line systems and ROADMs are designed for both FIXED and FLEX GRID deployments for modern Coherent DWDM Wavelengths starting at 100Gbps and ranging up to currently 1.6Tbps (Ciena Wavelogic 6). Each wavelength requires more “grid” space or spectrum based on its bandwidth carrying capacity. For example: 50Ghz of spectrum can transport a 100G to 200G wavelength (depending on the transponders baud rate). At 75Ghz a 400G wavelength can be transported, where a 600G wavelength requires 90Ghz and an 800G wavelength requires 112.5Ghz (depending on the transponders baud rate). The more data carrying capacity of the wavelength the more spectrum required. It should be noted that modern DWDM optical lines systems are not designed to transport legacy 10G or 40G NON-Coherent wavelengths. This technology is not normally deployed in new optical line systems. It is an inefficient use of the dark fiber assets available to customers and is more difficult to deploy, maintain, and expand than modern coherent DWDM solutions. As an optical

engineer, if a customer is looking to reduce cost but still stay relevant today and into the future, I would recommend a FIXED GRID system at a 75GHz GRID allowing for 64 – 75GHz channels, each with the ability to carry up to 400Gbps. (64 x 400 = 25.6 Tbps system capacity in the C-Band. I would not recommend an 80 channel 50Ghz FIXED GRID. You can also consider a 100Ghz GRID for 44 – 100GHz, each with the ability to carry up to 600Gbps (800Gbps with Ciena Wavelogic 5 operating at 91.6 Gbaud).

Would you consider a response that would show a recommend FIXED GRID design at 64 channel (75Ghz Grid) or 44 channel (100Ghz – ITU Grid) channels rather than the request 80 channels (assumed 50Ghz – ITU Grid)?

We are willing to consider a fixed grid design that is fully interoperable with the existing Ekinops-based system.

Interoperability of current DWDM wavelength and a new optical line system.

Are Non-Coherent (10G or 40G legacy) wavelengths in use today?

Yes, 10G non-coherent wavelengths are in use today.

If so, do they need to be maintained on the new DWDM system?

We are not looking to replace the overall DWDM system.

If so, could they be replaced with Coherent DWDM Optics?

No, the current system is incompatible with coherent optics.

How critical is it to maintain the current DWDM vendor and its network?

Very critical.

Can a full network replacement take place?

We are not planning to perform a full network replacement.