

**LastMile Connectivity Grant Proposal
Silver Falls School District
November 2009**

Project description

The bucolic Silverton/Mt. Angel area of Oregon is nestled at the base of some notable hills in Marion County. These locations are known both as suburban and rural. While the suburban areas are well-connected to the rest of the world through fiber optic lines running through the city of Silverton, the rural parts of the region are plagued by poor network access because it has been too expensive or too difficult to build the right infrastructure.

The disparity of the connection speeds around the district are becoming a huge problem for Silver Falls staff and students. The schools in town have speeds up to 100 mbps while the rural schools are between 256 and 330 kbps. Silver Falls employs innovative teachers excited to use technology for collaboration with their peers around teaching and to engage students in learning. As students and teachers move from building to building within Silver Falls School District, one can appreciate how frustrating connection speeds are for those going from a school in town to an outlying school since the speed decreases by over one hundred times!

Silver Falls School District recently purchased the Harcourt reading series largely because of its innovative web resources. Teachers and students would be using online strategies through Harcourt and other sites to reinforce literacy skills and concepts, but dubious network connections in rural areas of the district make these approaches impossible. Teachers report the Harcourt site is unusable and they no longer waste valuable instructional time attempting to make it work for their students. They are forced to resort to regressive methods. Though the students will still effectively learn to read, their practice with 21st century resources and the skills involved in using them in relation to literacy will be lost until a better connection is obtained.

There are three regions in the Silver Falls area in need of infrastructure upgrades. These extremely rural spaces branch out from the main city of Silverton. As the economy improves and prices decline, we will be more able to make the necessary improvements to equalize access in our district. Today, we propose upgrading the network between the district office in the city of Silverton with fiber cabling to Butte Creek K-8 School and branching off to Scotts Mills K-8 School. Through this proposal, Central Howell K-8 School will also connect to the main lines through their own fiber. These two builds will make future fiber more affordable and easier to the remaining

parts of Silver Falls School District. This proposal affects the largest numbers of Silver Falls staff and students given the three builds that need to occur in order to ensure fast, reliable connections for all our students.

Description of affected sites

The build and maintenance of fiber lines to Scotts Mills will benefit the staff and students there along with the people at Butte Creek K-8 and Monitor K-8. The 600 people at these three sites will see much increased internet and networking speeds and reliability. These schools are in a rural area heavy in agriculture. The majority of students and families at these locations are considered economically disadvantaged. These schools are often a family's only connection to the outside world as many of them have suffered with the recent workforce reductions and other consequences of a community's financial downturn.

Both the Scotts Mills and Butte Creek sites have invested in computer hardware over the years. More importantly, there are creative teachers at these schools showing their commitment to students by increasing and even sharing their knowledge about twenty-first century skills and true technology integration with others in Silver Falls School District. In most cases, the teachers at these buildings are not natives of technology so the transition from standing and delivering information as they had for the first part of their teaching careers to helping students create their own learning through project-based and other methods has been a challenge. They have accepted this challenge and shifted their methods based on the needs of students on their way to higher education and workplaces drastically different than those known in the past.

Fiber running from Silverton to Scotts Mills will alleviate some of the traffic on the T1 line currently shared by four schools. The 430 students and staff at Pratum K-8, Silver Crest K-8 and Victor Point K-8 will see an increase in network readiness. Ultimately, when fiber is active for these three sites it will be built off of the line proposed here. Though this is not currently financially feasible, we believe in the next few years these connections can become a reality.

If funded, the last site this proposal will affect is Central Howell K-8. Sixty two of the 169 people at Central Howell K-8 School are part of a partnership between Silver Falls School District and Willamette ESD. The ESD is sponsoring a one-to-one laptop initiative in the fourth through seventh grades at Central Howell this year. Teachers have been writing policy, attending trainings and honing their skills with the Classmate PCs. Students are about to receive their computers. Connections on the current frame relay

will be fully tested. Fortunately, the teachers in these grade levels are creative problem-solvers and innovative users of technology. Students at Central Howell have not had the benefit of much technology even outside of their academic lives. The educators in these two classrooms can move students along appropriately, integrating technology effectively until we obtain faster connections. Once a basic foundation is built, however, students and teachers will expect a more robust network to accommodate further advances in utilizing technology for teaching and learning. Getting this site connected via fiber will be a necessity as these machines will stay with said grade levels for years to come. The hope is that this pilot project will lead to other one-to-one computing ventures in Silver Falls and around the Willamette region.

A low percentage of Central Howell's population has links to the Internet outside of school making the connection to the world in school imperative in getting these students ready for work and further school after their secondary education. Many families in the Howell area make a conscious choice to remain globally disconnected. At this point in time, students leave Central Howell to attend the local high school without adequate knowledge about being a literate, productive digital citizen. Silverton High School works hard to educate the whole child including literacy in finding and analyzing information in all venues. However, relying on the high school to be the only provider of this instruction is no longer feasible. There is simply too much to convey in a short four years. Silver Falls School District believes that these skills and knowledge should be taught at all levels in an age and developmentally appropriate fashion in order to cement learning and graduate students with a solid foundation in using resources comprehensively and responsibly.

The total number affected by these networking upgrades will be approximately 1200. As early adopters of online education through the state of Oregon's virtual school district along with other innovative uses of technology, Silver Falls staff and students urgently need these network enhancements. Reaching out to the more rural areas of Silverton and Mt. Angel will allow the in-town fiber and ultimately the fiber connection to the Willamette ESD to be fully utilized as the staff members and students in Silver Falls School District become even more effective users of the global resources presented through a powerful Internet connection.

Administrators in Silver Falls are supporting their staff members in the use of data that's stored at the ESD level. This data needs to be transferred nightly and accessed many times each day to aid in the allocation of resources, plan for staff development, and to make instructional accommodations. All of these important data are more readily accessed

through a secure, healthy online environment. Silver Falls School District believes that all teachers should have equal access to the same types of data to aid in decision-making and instructional strategies. The only way to prevent frustration during planning times and team sessions is to build up the current infrastructure.

Key ESD and school staff involved in this proposal

Members of the Silver Falls communications staff and the technology staff at the ESD have worked together for many years. The team has effectively corresponded about creative ideas for solving the connection crises in the district. They will continue to work together in regards to the network viability and welfare in Silver Falls School District as it may be a few more years before the district in its entirety is connected to fiber. Readers will find descriptions of each of the involved parties below.

Scott Voll - Willamette ESD Communications

As a network and communications specialist, Scott maintains good relationships with vendors in the realm of effective connections especially to rural areas. He is constantly checking on the least expensive but most logical ways to create healthy hardy infrastructure.

Sabrina Carson - eRate Coordinator at Willamette ESD

Sabrina is responsible for checking and submitting forms related to eRate services and discounts. Her involvement in the process starts with the application, continues through vendor bidding and ends with filing and auditing of services.

Gary Marshall - Silver Falls Director of Technology

Providing leadership and direction for computing and network systems is a large portion of what Gary does in Silver Falls School District. He ensures high quality of services which meet instructional and operational needs of the district. Gary provides technical networking support, through proactive monitoring, management and troubleshooting.

Brett Milliken - Silver Falls Senior Information Technology Specialist

Expertise in efficient network access and security are constants in Brett's world. Delivering the fastest, most reliable comprehensive access is Brett's priority. He understands the importance of globally connecting today's kids and works hard to build infrastructure and purchase products that support teachers instructionally while also keeping the Silver Falls network safe and secure.

Description and role of contractors involved in this proposal

Wave Broadband and Silver Falls School District have already been working together to provide quick, efficient access from the suburban schools to the world. The fiber lines in the city of Silverton were built and are leased from Wave Broadband. The company is locally placed and highly committed to supplying affordable networking solutions to schools. From their website: "One of our current priority projects focuses on students and providing them with a positive learning environment, because education is one of the most powerful tools in creating a vibrant and healthy community."

Description of other leveraged resources

As mentioned, the schools within the city of Silverton are connected with high-performing fiber. This investment will further benefit students in the whole district when fiber lines are laid for the remaining parts of the school system. Schools will be fully able to access resources at the ESD level such as filtering, remote desktop support and data stored and organized at the ESD and state level through the network.

Google Applications for Education are the district's most recent investment. Though these resources are free to educational entities, the investment has come in the time taken for planning and staff development. Implementation and proper use are of the utmost importance. A stronger, faster network will allow staff and students throughout the district to take full advantage of everything Google Apps has to offer.

Proposal Budget

This proposal includes only fiber builds and monthly costs associated with rural fiber. Silver Falls School District will pay costs related to additional hardware.

Proposed build cost	\$83,000
Build cost minus \$50,000 grant	\$33,000
Funding Source(s) – general fund/LastMile Connectivity grant	
e-Rate Discounts Applied	56%
Total cost to Silver Falls SD	\$14,520

Recurring costs	\$ 5100/month
e-Rate Discounts Applied	56%
Total costs to Silver Falls SD	\$ 2,244/month
How this cost will be paid postgrant – general fund	