

Fast Fiber Optic Cable To Link UC Santa Cruz To Statewide Network

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University officials unveiled plans Thursday to connect UC Santa Cruz to a statewide fiber optic computer network, a move that promises to improve connection speeds on campus 10 times once installed.

UCSC is partnering with the Corporation for Education Network Initiatives, a nonprofit corporation started in part by the University of California, to plug in the university to the California Research and Education Network hub in Sunnyvale. UCSC is the last of the 10 UC campuses to connect to the fiber network.

Jim Dolgonas, chief executive officer of CENIC, said the physical difficulty of connecting lines from Sunnyvale to Santa Cruz, over the mountains, made the project difficult, not to mention expensive. The "Fiber to the Future" project is estimated to cost \$5 million, according to campus spokesman Jim Burns, and should be completed by the end of the year.

"This will allow Santa Cruz to connect to institutions across the world," Dolgonas said, "with networking that's as good as any research institution in the nation."

UCSC Chancellor George Blumenthal, a former astrophysicist, pointed to several areas of research on campus, including astrophysics, that require processing massive amounts of digital data, much of which is compiled off-site, and then sent electronically to other universities for analysis. The improved connection that the fiber network promises would allow for much easier transfer of large amounts of data to and from the university.

Stanford Woosley, a professor of astronomy and astrophysics, imagined being able to send a terabyte of information -- 1,000 times larger than a megabyte -- in under 15 minutes. Today, he said, that would take a full day, and take up so much of the broadband that it would slow down everyone else on the campus' connection. For reference, the Library of Congress stores about 10 terabytes worth of printed literature on file.

Margaret Morse, dean of the arts department at UCSC, spoke briefly at a conference announcing the project about potential benefits of such a connection to the newly formed digital arts and new media department, suggesting allowing students greater access to other UC campuses and their professors could help to expand the nascent program.

Blumenthal said although the fiber-optic network will not immediately connect to the Santa Cruz City Schools district, he would be open to allowing both K-12 schools and businesses citywide to tap into the wider broadband.

"I see this project as having the potential to fuel the local economy, enable new opportunities for the city of Santa Cruz and the county of Santa Cruz, and for K-20 education in Santa Cruz," he said.

County Superintendent Michael Watkins said the county Office of Education would be interested in establishing the infrastructure to take advantage of the county's first-ever fiber-optic connection.

"K-12 needs to embrace technology to a greater level," Watkins said. "If we don't start embracing it at the elementary school level, our kids are going to be left behind. The technology gap will just continue to grow."

Getting the fiber-optic cable in to the university is only the first step toward establishing an ultra high-speed connection in all labs and classrooms, however. The initial plans call for the network to be sent to five locations on campus; routing the fiber signal across campus is an entirely different challenge. Kris Hafner, associate vice president of information resources and communication for the UC Office of the President, estimated outfitting each of the UC campuses with the fiber cabling needed to route the signal into each classroom could cost \$80 million to \$100 million.