PITTSBURGH SUPERCOMPUTING CENTER SCALES SERVICE FOOTPRINT

WITH COMCAST BUSINESS

SITUATION
- Pennsylvania supercomputing center provides high-performance computing infrastructure for research and education
- Nonprofit collaboration between Carnegie Mellon and University of Pittsburgh

CHALLENGE
- Supercomputing center operates educational network exchange
- Needed service provider with scalable network and regional footprint to expand its service reach

SOLUTION
- Comcast Business Ethernet Virtual Private Line

RESULTS
- Cost-effective access to fiber network with scalable capacity in rural areas
- Private, high performance data transmission between locations
- Schools can now access supercomputing infrastructure for scientific research and education

10 GIGABITS-PER-SECOND ETHERNET SERVICE CREATES HIGH-CAPACITY PRIVATE CONNECTIVITY FOR EIGHT PENNSYLVANIA COLLEGES AND UNIVERSITIES

NON-PROFIT COLLABORATION PROVIDES ADVANCED INFRASTRUCTURE FOR SCIENCE AND ENGINEERING RESEARCH

Pittsburgh Supercomputing Center (PSC) is a nonprofit collaboration between Carnegie Mellon University and the University of Pittsburgh that offers advanced supercomputing infrastructure for solving large-scale, data-intensive problems in science and engineering. Founded in 1986 and based at Carnegie Mellon University, the PSC provides government, industrial and student researchers with access to some of the most advanced high-performance computing, communications and data handling systems nationwide.

HIGH-SPEED NETWORK HUB CONNECTS DOZENS OF EDUCATIONAL INSTITUTIONS

Supported by several federal agencies, the Commonwealth of Pennsylvania and private industry, the PSC also operates Three Rivers Optical Exchange (3ROX), a high-speed network hub that connects dozens of colleges, universities and K-12 schools in Pennsylvania and West Virginia to online research and educational services and networks, such as Internet2, that may otherwise be inaccessible to them due to high bandwidth costs or limited fiber availability.

“The institutions we work with rely on us for three very important things: access to our state-of-the-art offsite data storage facility; use of our supercomputers for advanced mathematical computations, scientific modeling and large-scale data analysis; and high-speed, high-quality connectivity to the Internet,” said Ken Goodwin, Director of Advanced Networking at the Pittsburgh Supercomputing Center

PSC typically leverages privately owned fiber to provide connectivity services to nearby urban and suburban schools. However, to reach schools located farther away, such as the Association of Independent Colleges and Universities of Pennsylvania (AICUP) – Carlow University, Geneva College, Juniata College, La Roche College, Point Park University, Saint Francis University, Washington & Jefferson College and Westminster College—it needed to find a service provider that had the fiber network reach to connect the schools with sufficient capacity.

Goodwin added: “Providing connectivity to schools around the Pittsburgh area is rarely an issue, but for more rural institutions, it can sometimes be problematic because the fiber network infrastructure just isn’t there.”

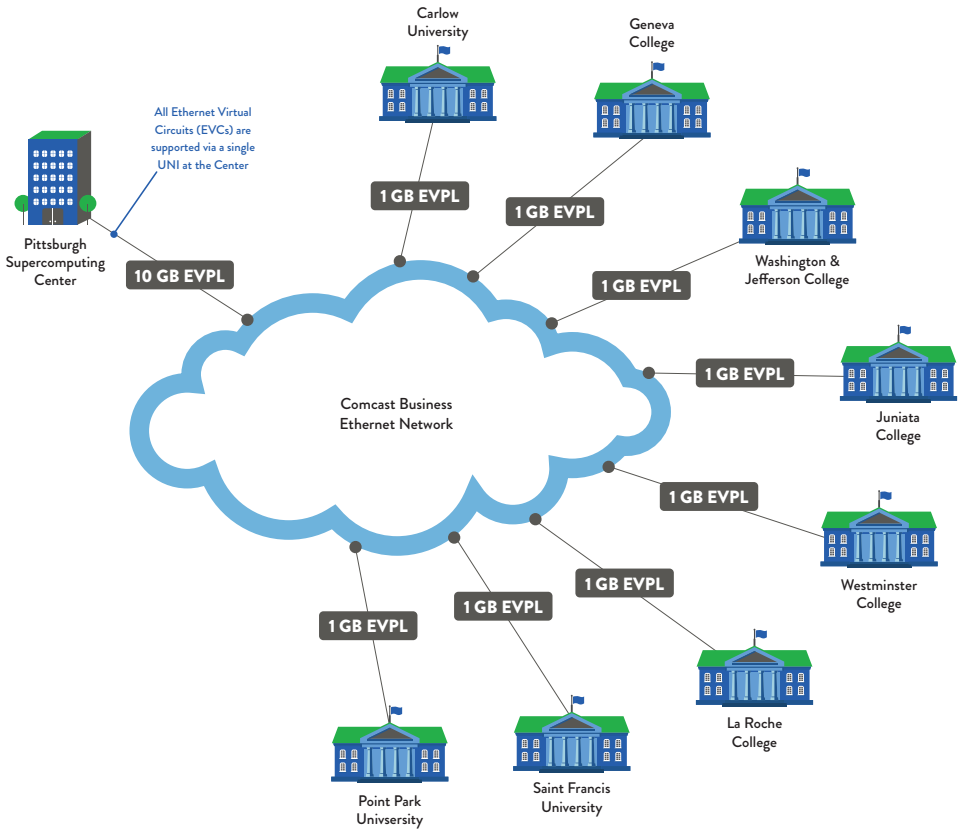
“Comcast is giving us a way to provide these schools with the same caliber of connectivity that you would expect of a major research institution at a price that can fit within a smaller institution’s budget,”

Ken Goodwin
Director of Advanced Networking
Pittsburgh Supercomputing Center

SUPERCOMPUTING CENTER EXPANDS SERVICE REACH WITH COMCAST BUSINESS ETHERNET

After a competitive review of multiple service providers, PSC chose Comcast Business to provide Ethernet services because of its scalable service offerings, expansive network footprint and competitive pricing.

Comcast Business equipped PSC with a 10 Gigabits-per-second (Gbps) Ethernet Virtual Private Line, which has been allocated into 1 Gbps links to provide eight AICUP members with private network connections to the 3ROX hub. The new service enables students and faculty to directly access, via a private connection, the necessary educational technologies and data storage capabilities they need from PSC and 3ROX.



In addition to providing member institutions with general Internet access, the EVPL direct connection provides these colleges and universities with access to research resources like PSC’s Data Supercell, a high-capacity, secure data storage solution, and its supercomputers via a complimentary shared network.

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