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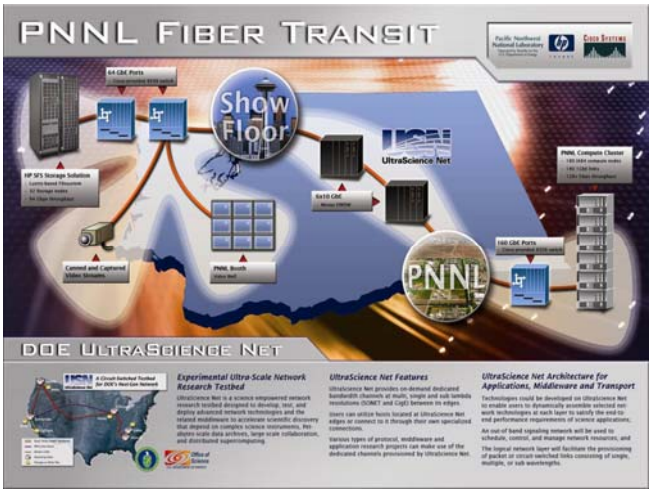
EMSL In Brief
Environmental Molecular Sciences Laboratory

Prestigious StorCloud Win at Supercomputing '05

For the second year in a row, the Pacific Northwest National Laboratory (PNNL) walked off with prestigious top honors during the StorCloud storage competition at Supercomputing 2005 (SC05) in Seattle.



Staff and users from **EMSL's Molecular Science Computing Facility (MSCF)** demonstrated their innovative storage capabilities at the conference by streaming video data—at 30 to 60 gigabits per second—from high-capacity storage to Hewlett-Packard-loaned hardware on the show floor. The low end of the rate of data movement achieved was the equivalent of transferring and processing a full DVD of video every second.

Direct access to data on parallel file systems across high-speed wide area links was recently made possible by an increase in network bandwidth at PNNL, including new fiber optic connections and a connection to DOE's UltraScience Net exchange in Seattle. During the competition, PNNL used six dedicated 10-gigabit lambdas running over the PNNL Regional Optical Network and DOE UltraScience Net to transfer the massive amounts of data from a Hewlett Packard parallel file system located at the competition to an Itanium computing cluster located more than 250 miles away.

"Researchers traditionally store data at one site, access computational resources at another, and are physically located at a third site; they would have to copy data to a desired location, which could take several days, perform calculations, and then copy the results back to the first location for post-processing and analysis, " said Kevin Regimbal, MSCF Operations Lead. "Thanks to the UltraScience Net, the National Lambda Rail, and other research networks, we are now approaching speeds that could allow researchers to access files directly, regardless of location."

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