SGI and LightSand Demonstrate Wide Area File Sharing for the Life Sciences

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Throughout the drug discovery industry, considerable effort is required to support laboratory data systems typified by growing data duplication on multiple servers across multiple sites. The resulting, ever-increasing personnel and system cost can ultimately be eliminated with technologies that support true sharing of data across multiple sites. Storing a single repository of data accessible across many sites and managing backups and updates of this single repository not only lowers the costs of managing large data stores but also results in scientific teams working on truly unified data sets. In this cost-efficient scenario, scientific results are produced from analysis of a consistent, organization-wide data set.

SGI and LightSand have demonstrated a breakthrough in providing precisely this type of instant access to data, in this case tera-scale data over a wide area network (WAN), utilizing a high-performance, heterogeneous shared filesystem based on SGI® CXFS‘. This capability, never before demonstrated publicly, allows geographically distributed organizations to combine their large-scale, multiplatform computational and storage resources for effective collaboration. It provides immense capability to solve very large and complex problems in the life and chemical sciences, among many other industries. This long-distance storage area network (SAN) technology addresses two fundamental challenges of data management: fast access to common information for geographically separate systems and seamless integration of data managed by multiple operating systems.

In a recent experiment based on SGI CXFS shared filesystem technologies and LightSand S-600 SONET gateways, the companies demonstrated unprecedented data-sharing capabilities in a single shared filesystem environment over a simulated distance of up to 8,000 km (4,971 miles). This demonstration illustrated the ability to deliver geographically distributed high-speed data-sharing capabilities, enhanced workflow, increased productivity, and reduced costs for data-intensive environments.

The combination of SGI CXFS and LightSand‘ technologies eliminates file duplication and reduces time spent moving large files over the network, across labs, across campus, across country, and ultimately around the world. SGI CXFS enables multiple computers running different operating systems—SGI® IRIX®, Windows NT®, Windows® 2000, Sun™ Solaris™, and Linux—to access a single shared 64-bit filesystem directly within a SAN and a WAN. Each computer realizes local filesystem performance with the utility of a distributed shared filesystem.

SGI CXFS shared filesystem technologies are the cornerstone of SGI® SAN solutions. To enable the WAN implementation, LightSand provided its S-600 gateway, which efficiently transports both Fibre Channel and IP data across the wide area network. This revolutionary device provides higher throughput than any other WAN gateway and dramatically exceeds the performance of any system that uses routed IP across the WAN.

A single shared filesystem deployed across a wide area network demonstrates the next major step in the maturity of SANs by allowing engineers and scientists in geographically distributed organizations to share files across the country effectively. This ability removes the wait time inherent in traditional file-sharing methods such as FTP file transfers. Removal of this data access bottleneck allows SGI customers in the sciences to use key resources effectively, wherever they are, to more quickly develop products and capabilities for their core businesses.

For more information about SGI’s involvement with the life sciences, visit *www.sgi.com/go/chembio,* and for details about CXFS, visit *www.sgi.com/products/storage/cxfs.html.*

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