**Computer Networking BTR Bullets for September 2004 through October 2004**

o Bill Fink and Paul Lang (ADNET) temporarily deployed a 10 gigabit per second (Gbps) L-Net connection between select GSFC buildings to support greater than 1-Gbps real-time data flows from the GGAO facility for the e-VLBI Project. The data then flows from GSFC on 2.4-Gbps optical wavelength links across the DRAGON and BOSSNET networks to MIT/Haystack where they are correlated with similar data acquired in Westford, MA. Demonstrations of these real-time flows/correlations were demonstrated in the Xnet booth at SC04.

o With cooperation from the National LambdaRail (NLR) and UCSD and UIC OptIPuter teams, Paul Lang, Mike Stefanelli (CSC), and Bill Fink enabled NASA's first use of the NLR by installing in Level3's POP in McLean, VA, a Force10 E300 10-GE switch and two Pentium/Linux-based workstations each with 10-GE NIC's, quad-GE NIC's and native 1-GE NIC's connected with the NLR. The workstations transmitted "first ping" on 7Nov04 (just before the start of SC04) with similar workstations at UIC and in the NLR booth at SC04 using new NLR 10-Gbps wavelengths set up for this purpose. The workstations were pre-loaded with SVS' Digital Earth PC data which were served to a Hyperwall display set up in the NLR booth at SC04.

o With cooperation from NLR, UCSD and UIC OptIPuter teams, and the VaTech-lead Mid-Atlantic Terascale Partnership, Pat Gary arranged that the GSFC L-Net equipment described above could remain in the NLR rack in Level3's POP in McLean, VA, for several weeks after the SC04. This will facilitate 10-Gbps test data flows (IP-based) between workstations in McLean and clusters either at UIC or UCSD for network R&D; early checkout with real user data flows of NLR lambdas between the above referenced sites even before the rest of NLR's Cisco routers/switches are deployed for layer 3 & 2 services/experiments; and early knowledge gained by users working with NLR and with one another.

o Shujia Zhou (Northrop Grumman/TASC) demonstrated a prototype of the Grid-enabled ESMF, based on DOE's CCA/XCAT framework, across a 10-GE link between two nodes in the Thunderhead cluster connected via the L-Net. This implementation is a follow-up to the effort Zhou described at
http://esto.nasa.gov/conferences/estc2004/papers/a4p1.pdf.

o Lara Clemence (GST) created a set of public web pages

available at http://esdcd.gsfc.nasa.gov/IRAD_Lambda.html for the GSFC L-Net project. Based on content provided by L-Net PI Pat Gary, these web pages provide a project overview, summaries of network design goals, implementation progress, publication/presentation info, and related links.

o Wei-Li Liu (ADNET) provided the presentation "Implementing iSCSI in Storage Area Networks -- the Advantages of a Software Initiator Solution" at the 26-27Oct04 Advanced Recording Technology Forum meeting in Upper Marlboro, MD, where the meeting's theme was "A Potpourri of Data Storage Options" (http://www.thic.org/Agenda0410.html). Liu's presentation described his findings from comparing the data throughput obtained when using hardware-assisted versus software-only iSCSI initiators on high and low performance PC running Windows and Linux operating systems.