FACILITIES, EQUIPMENT AND OTHER RESOURCES

The budget includes a modern database server, which has ~15TB storage, 16 processing cores and 128 GB of shared memory. We will be hosting our datasets in this server and serve bulk of the download requests from here. The web front will be hosted in the webserver of the UNM Computer Science Department. For distributed parallelism we will use the hardware described below.

PI Mueen has been awarded a Microsoft Azure Research Award with 32 nodes in Azure with exclusive access. This resource will be the test bed for the parallel programs we develop in this project. PI will request an extension of this resource.

Hardware of special note includes: The Center for Advanced Research Computing (CARC) that supports researchers with cutting edge hardware support such as supercomputer, compute clusters, visualization tools etc. One of the systems named Poblano is an IBM P5-570 SMP system with 16 processors (1.9 Ghz) and 256 gigabytes of memory, which we will use for hardware acceleration if required. If needed, we can use the distributed systems in CARC such as the Roadrunner and Blackbear clusters.

The UNM Computer Science Department has over 200 general-purpose workstations and servers running Linux, Windows and OS X. The department network infrastructure consists of a switched 1GB backbone, which links the campus network and supports the principal departmental servers. Workstations connect via Ethernet ports, based upon hardware class and usage, including 336 10/100 ports and 154 Gigabit ports provided by a redundant stack of Cisco 3750 switches. The CS Department has 4 class C subnets which are segmented into smaller broadcast domains.

Departmental services such as LDAP, DNS, DHCP, Subversion and Apache are hosted on redundant Xen servers. There are also five 8-core compute servers available for additional processing support. There is a departmental lab available to students with 18 workstations, primarily Linux, a classroom with 55 Linux based workstations, as well as several labs dedicated to specific research projects. The Computer Science Department also maintains a wireless network (80211.b) in the Farris Engineering Center for faculty and students. Additional labs are being planned. Systems support is provided by two full time staff and one part-time student.