

## **Facilities Overview**

The Computer Science Department is dedicated to providing high-quality computing facilities for use by computer science faculty, students, and administrative personnel. The facilities are operated by Department and College of Science technical staff who are not only responsible for the installation, repairs, and maintenance of the systems, but who also assist faculty and students with equipment acquisitions and support for instructional and research projects.

### **General Facilities**

General Department computing facilities are available for both administrative activities (such as the preparation of research reports and technical publications) and research needs that are not supported by other dedicated equipment. The main server systems are multi-core multiprocessors with large main memories and large disk arrays for storage. The department has additional multi-user compute servers available to students for research and instruction, some with GPUs. A variety of workstations and laptops are used by faculty, staff, and students throughout the Department. The Department has also purchased compute nodes in the Gilbreth, Halstead, Hammer, Rice, and Snyder supercomputing clusters and terabytes of storage space in the SAN managed by the central research IT service on campus (RCAC). These resources are available to all Department researchers, and additional nodes/storage are available for individual purchase.

### **Instructional Facilities**

The Department operates nine instructional laboratories for both undergraduate and graduate Computer Science courses. They include over 230 X86-based workstations running Linux. Two of the labs are collaborative labs dedicated to group learning with the assistance of interactive technology. The devices instructional lab includes a locker system that allows convenient access for students to a number of devices such as the latest Raspberry Pi technology, Oculus Rift VR goggles, Parrot Drones, and Leap Motion controllers. This lab is open to CS students and student groups for experimentation with some of the latest technology. The graphics lab includes workstations with Nvidia GTX 970 GPUs to support CUDA development in CS graphics courses.

### **I/O Equipment**

The Department operates more than 50 laser printers, ten of which are multi-function. There are 10 conference rooms with 80" displays or projectors, and video and audio conferencing equipment, and two collaboration rooms. The Department also has mobile video conferencing stations and digital video cameras. The main atrium of the building features a 184" video wall for educational, informative and recreational use.

### **Networking Services**

The Department has state-of-the-art networking technology to provide access to systems in the department, across campus, and throughout the world. All desktop connections are 1Gbps. The core infrastructure is 10 Gbps and the wiring in the Lawson Computer Science building supports 10Gbps to the desktop. There are over 75 Ethernet VLAN-capable switches from Dell and Cisco Systems. This network infrastructure is connected to the campus backbone by redundant fiber links. The campus is connected to multiple high speed Internet backbones, including Abilene/Internet2 and I-Light. DSL, cable, fiber, and cellular data services are available in the community for remote access from home.

### **Information Technology at Purdue (ITaP)**

ITaP, the central campus IT group, supports general instructional labs, wireless networking, and presentation facilities in classrooms. ITaP's Research Computing (RCAC) group also maintains multiple supercomputing clusters and large storage networks for course and research computing.