

With a new high performance computing platform from Matrix Integration and Hewlett Packard, Indiana University is primed to become the research leader for genomics.



“Partnering with Matrix Integration, we have developed a new computing environment that will provide new capabilities to our scientists that will lead to better understanding of genomes through sequencing and re-sequencing.” William K. Barnett, PhD Research Technologies and the Pervasive Technologies Institute Indiana University

Company Overview

The mission of the Research Technologies division of UITS is to develop, deliver, and support advanced technology solutions that enable new possibilities in research, scholarly endeavors, and creative activity at Indiana University and beyond; and to complement this with education and technology translation activities to improve the quality of life of people in Indiana, the nation, and the world.

The Research Technologies Systems group provides robust and reliable systems and services that enable computing research experimentation and implementation, and which amplify the talents and visions of local and national researchers in a wide range of scientific domains. The RT Systems group designs, deploys and administers the world-class supercomputing and storage systems that make up the hardware component of Indiana University’s advanced cyber infrastructure, as well as the core services which support the effective use of these systems.

Challenges

In order for the biology researchers at the Research Institute at Indiana University to be able to handle the vast amounts of data required for the science and research of genomes, they need increased computational horsepower that is aligned with shared memory.

A new platform was required to handle meta-genome sequencing and re-sequencing, essential processes that allow researchers and biologist to process the genomics data faster, leading to better life solutions.

Solution Snapshots

Hardware

16 HP DL580 Servers

Software

HP Insight Control Manager

Services

Matrix Integration:

Engineering

Integration Services

Installation Services

Objectives

- Develop a new hardware platform that includes servers with the computational power to handle meta-genome sequencing and re-sequencing and that would also reduce data latency.
- Use the multi-core technologies of the HP ProLiant DL580 Servers that allow IU to run software in parallel on a single node.

Approach

- Worked with Matrix Integration to design, engineer, install and integrate the new platform and existing system.
- Purchased HP ProLiant DL 580 Servers with refined I/O expansion capabilities, latest 8-core Intel processors, and expandable DDR-3 memory. “We are pleased with how easy it is to install the servers. And the onboard diagnostics and swappable components make these servers easy to manage, as well.” Dave Hancock, Manager, HPC.
- HP Insight Control Software that enables Indiana University to dramatically reduce troubleshooting time and associated costs.
- “Matrix Integration’s expertise comes with having deployed HP products, specifically the HP ProLiant Servers in a high performance computing environment. This helped us feel confident with the solution,” states Barnett.

Impact

- “This is a new platform for us so we haven’t seen the benefits, yet, (March 2011) but we do know that our systems administrators will benefit greatly from the ease of management. We are looking forward to seeing the great strides our research will take with this new computational power.” William K. Barnett, PhD Indiana University

About Matrix Integration

For more than 30 years, Matrix Integration has provided professional IT services to businesses throughout the United States to help them determine the best IT solutions available. As one of the leading IT organizations in the Midwest, Matrix Integration has the staff, process control and solutions to meet most any IT business needs