

## **Fordham University - Lincoln Center Campus Chapter of the Association for Computing Machinery (ACM)**

### **Linux Supercomputer Project (Heterogeneous Cluster)**

#### **Current Goals:**

- to allow students and professors a chance to build, configure and maintain a heterogeneous Linux supercomputer cluster, thereby learning both the concepts behind and application of Linux supercomputing
- once the supercomputer is up and running, we hope to make it available to other departments within Fordham (biology, chemistry, physics, business) who have a need to process data-intensive research projects.
- the Linux Supercomputer will be used for non-military research only
- should no project be available at the time we bring the supercomputer online, we will process units for the Folding@home project at Stanford
- in an effort to strengthen ties between Fordham and the NYC business community, we are planning on implementing a "Purchase-A-Node" program, whereby local businesses could donate a compute node for the supercomputer, which would be named after the business. In addition, we would create a page on the supercomputer site for the node, which would be entitled, for example, "ABC Inc Node". This would provide them with additional marketing opportunities

#### **Near Term Plan of Action:**

- Procure 3 functional used PCs of any type: 1 to serve as the Head Node and 2 to serve as Compute Nodes
- Install Fedora Core 8 Linux and test
- Install the Open Source Cluster Application Resources (OSCAR) program on top of Fedora Linux (<http://oscar.openclustergroup.org/>)
- Configure and test Head Node and at least one Compute Node

#### **Medium Term Plan of Action:**

- Add 2<sup>nd</sup> Compute Node
- Attempt to find a permanent space at the Fordham Lincoln Center campus

#### **Long Term Plan of Action:**

- Continue to add Compute Nodes using used PCs
- Increase number of Compute Nodes to 50
- Work with Homogenous Cluster side of the Project to develop crossover capabilities

#### **Faculty Advisor:**

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