

SUPERCOMPUTING CHALLENGES 2007

CLUSTER CHALLENGE

The Cluster

Hardware:

HP DL145 Dual-Core
Opteron Compute Nodes

HP DL380G5 Opteron
Head Node

InfiniBand Interconnect:
Mellanox HCA, Voltaire
Switch

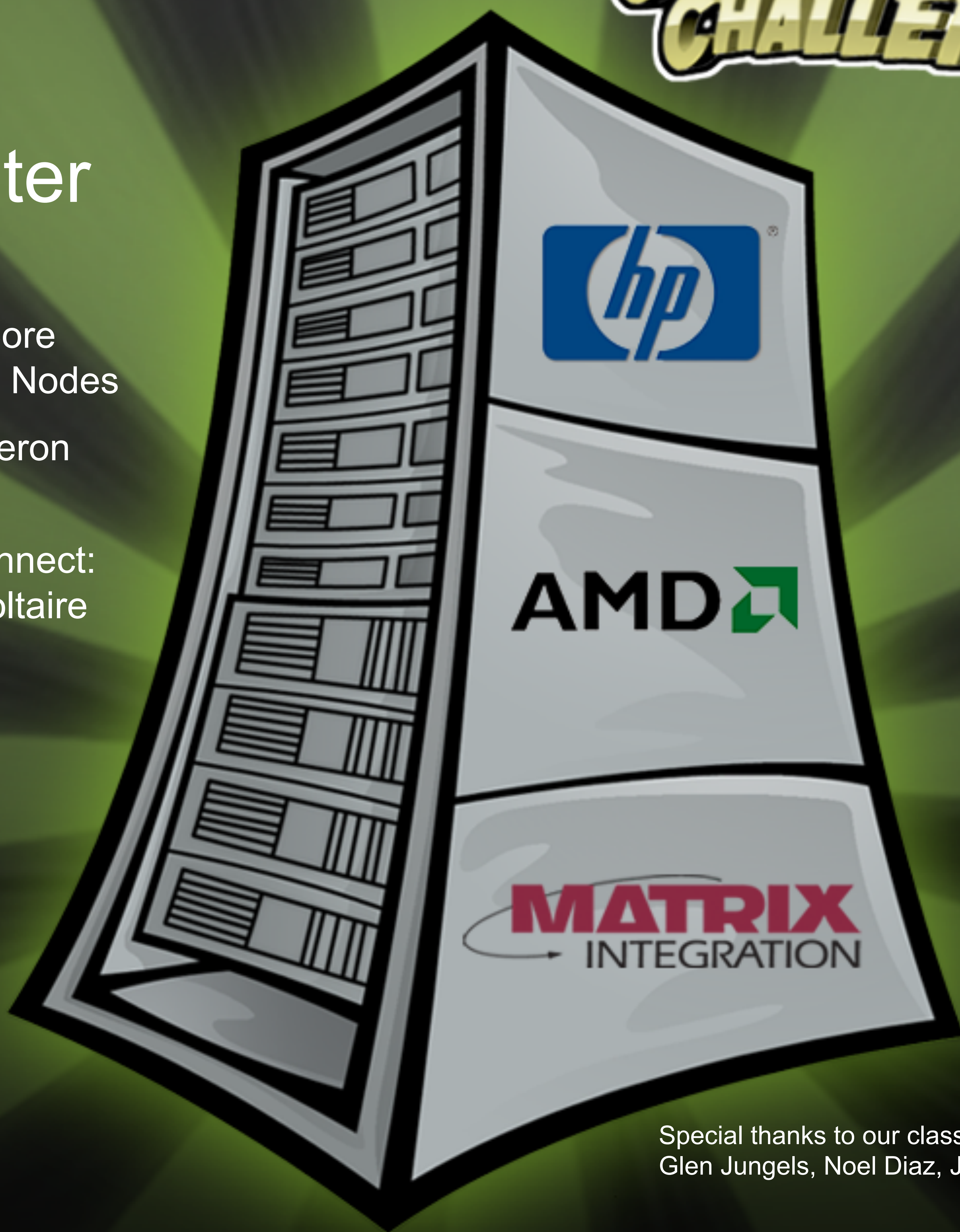
OS:

CentOS 4.5

Scheduling:

Torque/Maui

Condor



Special thanks to our classmates in ECET 581Y:
Glen Jungels, Noel Diaz, John Burgess, and Michael Whitfield



PRESTON SMITH

SYSTEMS RESEARCH ENGINEER

"THOUGH PURDUE IS A LEADER IN SCIENCE AND TECHNOLOGY, MANY UNDERGRADUATES DON'T GET TO SEE THE ENGINEERING AND TECHNOLOGY WORK THAT THEY DO IN CLASS APPLIED SO VIVIDLY AS THEY DO WORKING WITH HIGH-PERFORMANCE COMPUTING."



TRENT NELSON

SENIOR, COMPUTER ENGINEERING
COLUMBIA CITY, INDIANA

TRENT NELSON LENDS HIS BACKGROUND IN LINUX, LINUX, AND COMPILERS TO THE CHALLENGE. "THIS IS A CHANCE TO USE MY EDUCATION TO HELP PURDUE GAIN RECOGNITION IN THE PARALLEL COMPUTING COMMUNITY," HE SAYS.



RICHARD MILLER III

SENIOR, ELECTRICAL AND COMPUTER
ENGINEERING TECHNOLOGY
LAFAYETTE, INDIANA

GAINING EXPERIENCE IN PUSHING COMPUTING TO ITS LIMITS, MILLER SAYS, "I'M EXCITED THAT WE HAVE A CHANCE TO MAKE A NAME FOR PURDUE IN THE CLUSTER COMMUNITY."



ANDREW HOWARD

JUNIOR, ELECTRICAL AND COMPUTER ENGINEERING
TECHNOLOGY
WEST LAFAYETTE, INDIANA

ANDY HOWARD LENDS EXPERIENCE IN HIGH-PERFORMANCE COMPUTING AND LEADERSHIP TO THE TEAM. "I HOPE TO GAIN A BETTER UNDERSTANDING OF THE APPLIED ASPECTS OF HIGH-PERFORMANCE COMPUTING ... AND SHOW EVERYONE WHAT PURDUE IS MADE OF!"



DAVID MATTHEWS

SENIOR, ELECTRICAL AND COMPUTER
ENGINEERING TECHNOLOGY
FORT WAYNE, INDIANA

DAVID MATTHEWS BRINGS PROJECT MANAGEMENT SKILLS TO THE TEAM EFFORT. HE'S EXCITED ABOUT COMPETING IN THE BRAND-NEW CHALLENGE. "I'M HERE TO GAIN MORE KNOWLEDGE OF HOW TO MANAGE, INSTALL, AND RUN A CLUSTER COMPUTER."



JEFF EVANS

ASSISTANT PROFESSOR OF ELECTRICAL AND
COMPUTER ENGINEERING TECHNOLOGY

"THE CLUSTER CHALLENGE REPRESENTS A CONDUIT FOR OUR TEAM MEMBERS TO DEMONSTRATE THEIR SKILLS WHILE NETWORKING WITH AND LEARNING FROM SOME OF THE PIONEERS AND LEADERS IN THIS FIELD. IT IS TRULY A REMARKABLE OPPORTUNITY FOR THEM AND FOR PURDUE."



TAESUK YOON

SENIOR, COMPUTER SCIENCE
SOUTH KOREA

THE TEAM EFFORT GIVES TAESUK YOON HANDS-ON EXPERIENCE WITH SUPERCOMPUTING. HE IS EXCITED TO "LEARN MORE ABOUT THE COMPUTER HARDWARE AND ITS SPECIAL CHARACTERISTICS OF COMPUTER ARCHITECTURE."



JOSH WILDEY

SENIOR IN ELECTRICAL ENGINEERING FROM
CLEVELAND HEIGHTS, OHIO

"I'M LEARNING EVERYTHING I CAN, AND I'M EXCITED ABOUT SEEING HOW WE MATCH UP AGAINST OTHER TEAMS AT THE COMPETITION," WILDEY SAYS. HE IS FOCUSED ON NETWORKING THE CLUSTER.



ALEX YOUNTS

FRESHMAN, COMPUTER SCIENCE
LAFAYETTE, INDIANA

WITH AN UNDERSTANDING OF LINUX AND CLUSTERING, ALEX YOUNTS ANTICIPATES LEARNING FROM THE EXPERIENCES OF OPPONENTS IN RENO. "I'M EXCITED TO SEE WHAT EVERYONE ELSE WAS ABLE TO ACCOMPLISH FOR THE EVENT."



DONGHAN RYU

SENIOR, ELECTRICAL AND COMPUTER
ENGINEERING
SEOUL, SOUTH KOREA

DONGHAN "SCOTT" RYU LENDS HIS EXPERTISE IN HARDWARE AND ASSEMBLY. HE SAYS, "IT IS VERY UNUSUAL FOR MOST STUDENTS TO ACCESS POWERFUL COMPUTERS LIKE WE HAVE HERE. JUST GETTING ACCESS TO OUR HP MACHINE IS AN EXCITING EXPERIENCE FOR ME."