



DoD High Performance Computing Modernization Program
2006 Users Group Conference
Denver, CO
June 26–29, 2006

Call for Abstracts and Papers
Abstract Deadline: March 17, 2006
Paper Deadline: June 7, 2006

The DoD High Performance Computing Modernization Program (HPCMP) Office invites users of HPCMP resources to submit abstracts of technical papers, presentations, and posters for the 2006 DoD HPCMP Users Group Conference (UGC). The conference, to be held June 26–29, at the Grand Hyatt Hotel in Denver, CO, offers the opportunity to exchange information on accomplishments made by using HPCMP resources. The audience for contributed abstracts and papers presented at the UGC includes representatives from Congress, DoD leaders, laboratory and test center leaders, and researchers from the HPC community. Technical contributions must emphasize both relevance to the DoD and technical excellence.

The conference is closed to the general public so that sensitive but unclassified information may be presented. Attendance is limited to individuals with a direct relationship to the HPCMP. Academic or industrial DoD partners funded by budget category 6.1 (basic research), must provide a point of contact at the appropriate agency, who can certify that no further release approval is required. Questions about the procedures for obtaining public release approval should be directed to the appropriate public affairs office (government), Service/Agency Approval Authority (S/AAA), or contracting officer of the DoD organization sponsoring the research (academia/industry).

Oral presentations will be 30 minutes long including 5 minutes for questions. Papers/presentations should address the scientific or technical problem that motivated research, the technical approach and methodology, the HPCMP resources used to solve the problem, and the findings or insights gained in solving the problem. Authors should also address any computer science aspects of the effort, such as details on the approach to parallelization, optimization, debugging, visualization, or portability. Although the focus of papers/posters is on accomplishments made which involved the use of HPCMP resources, submissions on new topics of potentially widespread interest to DoD users will also be considered. **At least one presentation and one full paper are required for each Challenge Project and Dedicated HPC Project. See technical paper guidelines on page 4.**

Papers/presentations are being sought for a special session of the UGC pertaining to code profiling and performance modeling. Of particular interest are topics that are readily applicable to either of the following: (1) improved code execution (on a particular architecture or in general) or (2) code performance on a variety of HPCMP systems (in order to foster more efficient use of HPC resources through the careful mapping of codes to systems). Papers/presentations for (1) should exhibit clear evidence that an improved use of HPC resources has been achieved. Discussion of profiling or benchmarking should not be the primary focus of any paper/presentation in this session, as the end goal is to convey comparative benchmarking and code profiling results to users and/or code developers.

In order to provide a final conference schedule in mid-May, the March 17, 2006 deadline for abstracts must be met. Abstracts received after that deadline will not be considered. The Program Committee will deliver an acceptance decision of contributed abstracts by April 14, 2006. For additional information, please contact the Technical Papers Chair for the 2006 DoD Users Group Conference at techchair@hpcmo.hpc.mil.

Abstract Guidelines

The abstracts for contributed talks must be:

- Submitted as either PDF or Word documents. Abstracts should be approximately, but no longer than, one page with no graphic images. Each presenter will also provide a 2–3 line biographical introduction.
- **Delivered in electronic form to the Program Committee at abstracts@hpcmo.hpc.mil by March 17, 2006.** Submit electronic public release forms to Outreach at outreach@hpcmo.hpc.mil or fax forms to Outreach at 703-812-9701.

The following information is required in all abstracts:

1. Author(s) name(s) and email address(s)
2. Author(s) organization(s)
3. Body of abstract, including (a) scope and principal objectives of the work, (b) methods used, (c) summary of results, and (d) principal conclusions.
4. Presentation type (oral, poster, either)
5. HPCMP computational project number and applicable computational technology area (CTA) (e.g., see http://www.hpcmo.hpc.mil/Htdocs/CHSSI/cta_description.html)
6. Association, if any, with
 - a. High Performance Computing Software Applications Institutes (e.g., see <http://www.hpcmo.hpc.mil/Htdocs/INSTITUTES/index.html>)
 - b. Portfolio project (e.g., see <http://www.hpcmo.hpc.mil/Htdocs/CHSSI/index.html>)
 - c. User Productivity Enhancement and Technology Transfer (PET) project
 - d. Computer science (e.g., performance optimization, benchmarking, infrastructure, tools)
 - e. Visualization
 - f. Challenge Projects
 - g. Dedicated HPC Projects

Submitted abstracts should use the following naming file convention: last-name-of-first-author_abstract_2006. Authors submitting more than one abstract should include a “1”, “2”, or appropriate number in the naming convention. For example, the naming convention for the second abstract would be: last-name-of-first-author_abstract2_2006.

All abstracts should include one of the following distribution statements:

1. For “cleared for public release” – DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
2. For “sensitive but unclassified” – DISTRIBUTION STATEMENT C. Distribution authorized to U.S. Government Agencies and their contractors (Administrative or Operational Use) (date of determination). Other requests for this document shall be referred to (insert controlling DoD office).

Technical Paper Guidelines

Conference proceedings will be published by the IEEE as a referenced record of the depth and breadth of activity using HPCMP resources within the DoD. In addition, a subset of approximately six papers will be selected for a special edition of a future IEEE Computer Society publication focusing on high performance computing. Authors of accepted abstracts are invited to write a technical paper that may be published by the IEEE society in the annual proceedings of the UGC. **One full paper is required for each Challenge Project and Dedicated HPC Project.** The technical papers for accepted talks must be:

- Submitted as either PDF or Word documents.
- Should be between four to eight pages long including all figures, graphic images, and references and include a one page summary (**see sample on next page**). Due to publication costs, please group your color graphics (pictures, charts, etc.) on one page. There is no limit on black and white graphics.
- If the paper is to be published in the conference proceedings, it has to be cleared for public release before submission to the UGC Program Committee. A copy of the release should be sent to outreach@hpcmo.hpc.mil or fax a copy to outreach at 703-812-9701.
- **Delivered in electronic form to the Program Committee at UGCpapers@hpcmo.hpc.mil by June 9, 2006.**

All papers and presentations should include one of the following distribution statements:

3. For “cleared for public release” – DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.
4. For “sensitive but unclassified” – DISTRIBUTION STATEMENT C. Distribution authorized to U.S. Government Agencies and their contractors (Administrative or Operational Use) (date of determination). Other requests for this document shall be referred to (insert controlling DoD office).
5. For “sensitive but unclassified and limited to US Nationals” – DISTRIBUTION STATEMENT C. Distribution authorized to U.S. Government Agencies and their contractors (Critical Technology) (date of determination). Other requests for this document shall be referred to (insert controlling DoD office) and the following statement:

“WARNING - This document contains technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C., Sec 2751, et seq.) or the Export Administration Act of 1979 (Title 50, U.S.C., App. 2401 et seq), as amended. Violations of these export laws are subject to severe criminal penalties.”

The following additional information will be required when submitting technical papers:

1. author name(s) and email address(s)
2. author(s) organization(s)

Electronic files should use the following naming convention: last-name-of-first-author_paper_2006. If you are submitting more than one paper please include a “1”, “2”, or appropriate number in the naming convention. For the second paper, for example, the naming convention would be: Last name of first author_paper2_2006

If presenters wish to submit a full paper for publication in the IEEE proceedings, it must be submitted by June 9, 2006. The limited distribution papers, however, will not be published in the conference proceedings. For additional information, please contact the Technical Papers Chair for the 2006 DoD Users Group Conference at techchair@hpcmo.hpc.mil.

One Page Summary Sample

(Executive Summary of Paper)

Simplifying the Job Submittal Process

Ryan Cappo

Aeronautical Systems Center (ASC)/CACI, Wright-Patterson AFB, OH

rcappo@asc.hpc.mil

Introduction

Batch Engine is both a framework and an interface to that framework that makes it easier for users of High Performance Computing (HPC) Batch Systems to prepare and submit batch jobs for commonly used applications. It does this using “Batch Script Templates,” one for each application, which describes the user inputs and the script output for that application. The Batch Engine graphical user interface gives the user the ability to choose a template (from a drop-down list) and then fill in the blanks to create a template. The user can then submit the finished script to the batch system with the click of a button. Large numbers of scripts can be submitted at the same time using the range feature. Batch Engine can use Platform LSF and IBM Load Leveler schedulers to submit jobs to the queue.

Objective

The objective of the Batch Engine application is to make it simple for end users to submit their jobs. Application managers can update templates for the users. The users will just need to know the filenames, basic information about the job they are submitting and input and output parameters. Users will not have to worry about creating submission scripts, which might contain errors that will prevent it from running after waiting in the queue for an extended period of time.

Methodology

The Batch Engine application has been made available to all internal staff and select users who request or need it at the ASC MSRC through our website. George Petit at ARL has modified Batch Engine for use on their supercomputers. As the staff and users make use of the tool, suggestions on its usefulness and recommendations for improvement should be sent to rcappo@asc.hpc.mil

Results

Batch Engine looks like a promising tool that will allow users to submit jobs easily. End users will be able to submit a range of a lot of jobs without having to modify and submit multiple submission scripts by hand. Batch Engine can run on Windows, Linux, and Solaris.

Significance to DoD

New users will be able to easily fill out values set by the application managers to complete their job submission script. Experienced users can modify the script to do exactly what they want it to do. Users that need to submit more than 100 jobs should look into using Batch Engine.