

# Michigan State University High Performance Computing Center Service Level Agreement

The purpose of this Service Level Agreement (SLA) is to define the services and responsibilities of the Michigan State University High Performance Computing Center (HPCC) and its clients.

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This agreement is effective on the date signed and will expire one year from the date of signage.

Client Signature:

Date:

HPCC Director:

Date:

## **Services Provided by HPCC**

- E-mail notification of system downtime
- Hardware and software error tracking
- Supported electronic user community
- Account on HPCC systems
  - Redundant storage space in home directory
  - HPCC staff-assisted file restoration
  - Additional, non-redundant storage space available on both SGI and cluster systems
- Support for listed hardware (see Appendix A)
- Support for listed software packages (see Appendix B)
- Regularly scheduled system maintenance
- System monitoring
- Documentation for system use
- Documentation for supported software (see Appendix B for supported software)
- Documentation tutorial on parallel programming

Clients who have financially partnered with HPCC to purchase their own cluster nodes will receive the following additional services:

- Hardware will be selected by HPCC
- Hardware will be housed at HPCC
- Hardware and software administration by HPCC staff
- Maintenance issues resolved by HPCC staff
- Scheduling priority on both client-purchased nodes and ACNS nodes purchased with matching funds

Scheduling priority is valid for three years after purchase.

Questions on node management must be brought to the attention of the HPCC director.

## **Services Not Provided by HPCC**

- Program development support
- Application support
- Hardware support for non-HPCC machines
- Support for any software not explicitly listed in Appendix A. This is subject to change at the discretion of the HPCC Board of Advisors; see the HPCC website for current list.

## **Support**

- Systems are supported 8 a.m. to 5 p.m. Monday through Friday, excluding university holidays. When possible, monitoring and maintenance will be provided on a 24 hour basis.
- Support can be accessed via e-mail or phone:
  - [hpc@msu.edu](mailto:hpc@msu.edu)
  - (517)353-9309
- Information on service outages is available at <http://servicestatus.msu.edu>
- Complaints must be addressed to the HPCC director and will be addressed with the guidance of the HPCC Board of Advisors
- Requests for service enhancements must be brought to the attention of the HPCC director and will be reviewed by the HPCC Board of Advisors

## **Client Responsibility**

- Client will possess a valid MSU NetID
- Client will adhere to the MSU Acceptable Use Policy
- Client will not store any confidential, restricted, or sensitive data on HPCC systems, except in forms or fashions not readily accessible or useable to unauthorized parties.

## Appendix A

### HPCC Supported Hardware

System hardware may change without notice. Check the HPCC website for current hardware configurations.

#### SGI Altix 3700 BX2

- 64 1.6GHz Itanium2 processors
- 512GB memory
- Linpack: 332.9 Gflops

#### SGI Altix 350

- 4 1.4GHz Itanium2 processors
- 4GB memory

#### SGI shared disk

- TP9500: 6.4TB disk
- TP9300: 2.8TB disk

#### Western Scientific Opteron Cluster

- 128 nodes
- SuperMicro H8DA8 Motherboard
- Dual AMD Opteron 275, 2.2GHz, 2MB Cache, dual core
- 8 GB DDR-400 REG ECC SDRAM
- 2 73GB U320SCSI 10K RPM disk drives
- Infiniband interconnect

#### Western Scientific Lustre parallel filesystem

- 8.5TB

## Appendix B

### HPCC Supported Software

This list may change without notice. Check the HPCC website for all software packages currently supported.

#### Compilers:

- SGI
  - Intel C/C++
  - Fortran
- Cluster
  - Pathscale
  - Portland Group
  - Fortran
  - Intel
  - GNU C/C++

#### Libraries:

- SGI
  - Open MP
  - SGI's MPT
  - SGI's SCSL
  - Intel's MKL
- Cluster
  - MVAPICH (MPICH)
  - AMD's ACML

#### Applications:

- SGI
  - GAMESS
  - AMBER
- Cluster
  - Matlab
  - Fluent
  - Abaqus
  - LS-DYNA
  - TotalView