



HIGH PERFORMANCE COMPUTING

NEW YORK STATE USERS
ALLOCATION POLICY
FOR
THE COMPUTATIONAL CENTER FOR
NANOTECHNOLOGY INNOVATIONS (CCNI)

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1 INTRODUCTION

New York State, RPI and IBM are partners in one of the fastest academic based supercomputers in the world. The supercomputer is located at The Computational Center for Nanotechnology Innovations (CCNI), based on the Rensselaer campus at its Rensselaer Technology Park in Troy, N.Y. It is designed both to help continue the impressive advances in shrinking device dimensions seen by electronics manufacturers, and to extend the CCNI capabilities to a wide array of industries and areas of scientific discovery.

As part of its financial investment, New York State has reserved time on this machine to pursue a variety of research activities as it sees fit. New York State has determined that its priority for the use of its share of the CCNI is to conduct scientific research which supports economic development.

NYSTAR believes that simulation, data analysis and visualization will lead to faster breakthroughs giving NYS researchers a competitive edge both in product development and scientific discovery. NYSTAR supports a user friendly policy that promotes access and provides assistance for NYS researchers and product developers.

2 GOALS

NYSTAR goals in allocating supercomputing time are to:

1. Enable scientific breakthrough discoveries in all fields benefiting society.
2. Attract world class researchers from both the academic and private sector.
3. Build skill sets in data analysis, simulation engineering, and visualization.
4. Attract business users and provide mission critical solutions to their problems.
5. Decrease time to market for product and research breakthroughs.
6. Create new industries and business opportunities.
7. Attract more federal research dollars.

NYSTAR believes that the creative talents of the State's leading researchers will be enhanced by the opportunity to work with some of the best computational tools in the world.

3 USER POLICY

NYSTAR has adopted the user policy of the CCNI for all its designated users. All NYSTAR designated users shall adhere to all rules, policies and requirements set forth by the CCNI.

The CCNI user policy can be found in the Appendix.

CCNI reserves the right to deny or limit use for any violation of the CCNI rules, policies and requirements.

3.1 MEDIATION

If any of the policies in place either restrict your work or will not allow you to complete your work for whatever reason it is the responsibility of the Principal Investigator to contact NYSTAR for possible mediation between the policies and the investigator. NYSTAR makes no representation that the issue will be resolvable.

4 SCIENTIFIC PREFERENCE

NYSTAR has determined that the general scientific domains that will be given preference in allocation time are:

Nanotechnology
Computational Science
Energy Research & Cleantech Research
Biotechnology Research
Applied Materials

It will be up to the Principal Investigator to provide research justification to one or more of these areas.

5 NYSTAR ALLOCATION PROCESS

NYSTAR has adopted the following allocation policy for the CCNI system. All project requests should be submitted using our online application form and will be subject to the following:

5.1 APPLICATION ELIGIBILITY

Eligibility will be determined by the following:

1. Research conducted has non-proprietary status and is sponsored, co-sponsored or partly sponsored by any State funding initiative.
2. Research conducted has non-proprietary status is sponsored, co-sponsored or partly sponsored by any Federal funding initiative including but not limited to the Department of Defense (DoD), National Science Foundation(NSF), Department of Energy(DOE), and National Institute of Health(NIH).
3. Research conducted has non-proprietary status and is sponsored, co-sponsored or partly sponsored by any Institution of Higher Learning located within NYS.
4. Research conducted has non-proprietary status and is sponsored, co-sponsored or partly sponsored by any non-for-profit laboratory or research institute located within New York State,
5. Research conducted that is sponsored by any business located with New York State with non-proprietary status
6. Research conducted and sponsored by any business located within New York State with proprietary status. *
7. Research conducted and sponsored by any entity for the purpose of collaborating and expanding the research capability of New York Sate. *

* Projects with proprietary status may incur charges for CPU usage and setup fees which will be determined by a separate fee schedule.

5.2 QUEUING

NYSTAR with the assistance of the CCNI Director will queue eligible applicants in a way to maximize the computational resources that were requested. In cases where PIs need a certain time or date NYSTAR will make every attempt to accommodate.

As usage increases NYSTAR reserves the right to establish a policy of preferred use based on NYSTAR goals defined in section 2 of this document.

NYSTAR reserves the right to re-assign allocation units as it sees fit for whatever reason.

5.3 ALLOCATION UNITS

Due to the architecture of the Blue Gene system NYSTAR will allocate time for its designated users in Allocation Units (AU). An Allocation Unit is defined as follows:

$$1 \text{ AU} = 32,000 \text{ CPU's for 1 wall clock hour}$$

To determine Allocation Units

$$\text{AU} = ((\text{number of CPU's used} * \text{one wall clock hour}) / 32000)$$

Example:

$$16000 \text{ CPU's used for a one wall clock hour} = \frac{1}{2} \text{ AU}$$

5.4 MASSIVE RESEARCH ALLOCATION

Research conducted that needs more than 14AU's in any one month shall be reviewed and approved by the Executive Director of NYSTAR and CCNI.

6 ACKNOWLEDGMENT OF NYSTAR AND NEW YORK STATE

All related publications, conference proceedings, and progress reports that result from research using the New York State Allocation of the CCNI resources must acknowledge NYSTAR by either of the following:

- Insertion of NYSTAR's Logo on any official publication where the research conducted on a high performance computer at CCNI was allocated by NYSTAR



- Printing of this sentence "This research was conducted using the resources of the CCNI and supported by the New York State Foundation for Science, Technology and Innovation (NYSTAR)."

Step 1

Contact NYSTAR Director of High Performance Computing, Michael Ridley at HPInfo@nystar.state.ny.us or at (518)292-5700. Mike can advise you on the feasibility of your proposed project, and give you the details of the application process, time and potential cost.

Step 2

Upon initial contact you will be asked to submit an application to determine your eligibility.

Step 3

Once eligibility is determined the applicant will be required to fill out a user application for the CCNI, as well as receive the user policies of the CCNI. Users are responsible for any costs required by CCNI outside of approved allocation time.

Step 4

CCNI will contact you and set you up with an on-line account based on its policies and procedures.

Step 5

When project is completed the user will be required to complete an exit application. This form will track use and provide feedback on process improvements.

APPENDIX

1. NYSTAR – Application for CCNI use
2. CCNI – New York State User Instructions
3. CCNI – User Form and Responsibility Agreement
4. NYSTAR Project Completion Survey