

SHARCNET Commercial Access Policy

October, 2007

(as approved by the Board in November, 2007)

1. BACKGROUND:

SHARCNET is a consortium of universities, colleges and research institutes in Ontario providing a range of high performance computers and software, linked by an advanced fiber optic network. Its overall aim is to promote the use of high-performance computing ("HPC") to accelerate the production of research results for researchers, Canadian industries, the economy and society in general. SHARCNET is a leading provider of this critical enabling technology and the training of highly qualified, computationally-aware individuals. Thus, it plays a major role in supporting innovation in both academic and industrial research environments.

As part of its overall mandate, SHARCNET seeks to promote the use of HPC to industry as a valuable tool for applied research and a key element for competitiveness, and to help create economic benefit from HPC. To do this, SHARCNET has defined the ways in which it can work with and support commercial activities.

2. PRINCIPLES FOR COMMERCIAL ACCESS AND USE:

This Policy details the principles governing access and use of SHARCNET's HPC facilities and associated services available to commercial (i.e. non-academic) organizations. In addition, this Policy provides information on training opportunities available to commercial organizations through SHARCNET. The use of SHARCNET services and facilities will be subject to written user agreement between SHARCNET and the organization. An authorized representative of the organization must complete a ***REQUEST FOR SHARCNET COMMERCIAL R&D USAGE*** (attached), which will form the basis of this user agreement.

The following are the general assumptions which underlie the Policy:

- First and foremost, SHARCNET is an academic-based consortium which provides high performance computing facilities and services to its consortium members to advance research outcomes. This class of users maintains priority access to SHARCNET facilities, computational resources and services.
- SHARCNET has defined two areas of business activity with respect to Commercial Access:
Collaborative R&D and ***Commercial Use***.
 - ***Collaborative R&D***: Collaborative R&D is research collaboration between an academic researcher using SHARCNET equipment and a commercial organization with the aim of advancing research and development with the potential for commercialization. In this instance, the researcher is a full-time faculty member employed by one of the SHARCNET academic partners and, while using SHARCNET resources, is governed by

the home institution's research and IP policies, SHARCNET policies, and the obligations and requirements set out in SHARCNET's Operating Agreement. SHARCNET will honour in this category any collaboration recognized by the faculty member's host institution as Collaborative R&D. In these cases, the use of any SHARCNET facilities as deemed necessary by the researcher are made available to support the research activities. SHARCNET researchers engaged in collaborative R&D are asked to inform SHARCNET of their collaboration efforts since this is an important area of industry involvement.

- **Commercial Use:** In some circumstances, an organization may wish to make use of SHARCNET facilities or personnel to independently carry out its own research and development or production computations. In such cases, the organization is not linked with a particular SHARCNET researcher. Commercial organizations will make use of a set of computational resources, software and services that have been established for this explicit purpose, some of which will have a fee-for-service attached. Access for Commercial Use is negotiated on a case-by-case basis.

The following outlines the key elements of the Policy for Commercial Use:

3. POLICY FOR COMMERCIAL USE

3.1. Facilities for Commercial Use:

All infrastructure resides on SHARCNET's private research network. SHARCNET is a secure, controlled-access site in that no one is permitted to use SHARCNET facilities or services without appropriate permissions. A SHARCNET user account must be established, which requires authorization from the appropriate SHARCNET management or staff member.

Physical Resources Available for Commercial Use. The physical resources available for commercial use are normally those high performance computers that have exceeded the Canada Foundation for Innovation ("CFI") "research only" usage period (currently, 5 years).

Such SHARCNET equipment available for Commercial Use will be referred to as the "Commercial Facilities", with the understanding that such systems remain available to researchers.¹ CFI rules allow SHARCNET to utilize these computational Commercial Facilities in a fee-for-service model.

Physical Resources Availability. In an effort to maximize the opportunities for Commercial Use, SHARCNET will make commercially reasonable efforts to keep the Commercial Facilities operational for the use of researchers and commercial users, but does not guarantee 100% uptime.

Notification of Resource Availability. SHARCNET will make reasonable efforts to notify all users of scheduled downtimes on the Commercial Facilities 24 hours in advance; emergencies may make it necessary to take systems down without notice.

¹ As of May 2007, the Commercial Facilities are a cluster of Compaq ES40s with 430 processors.

While SHARCNET will strive to have systems up and running on a 365/7/24 basis, it cannot guarantee that systems will be available 100% of the time, due to both scheduled and unscheduled system down-time. As much notice of system downtime will be provided to users as possible. Such notices will be posted to the SHARCNET website (www.sharcnet.ca/Facilities/) and it is the responsibility of any user to monitor the website. Neither SHARCNET nor any host institution shall be liable for any loss or compromise of data, delays, direct or consequential damages that may arise from any such downtime.

Software Availability. Commercial users of SHARCNET are permitted to use any software on the commercial hardware facilities where there are otherwise no restrictions on the use of the software by a commercial organization. SHARCNET makes no representations or warranties with respect to the security, validity or integrity of such software. Should one or more commercial organizations be interested in acquiring any commercial software or licenses not currently available, SHARCNET will undertake to work with those organizations to acquire the software for use by those organizations. This will be done on a case-by-case basis, and any costs associated with such an arrangement shall be for the account of commercial organizations requesting same.

SHARCNET provides various compilers, tools and packages for use by its users. In some cases this software is included with the existing systems, or it may be open source, or SHARCNET has acquired an unlimited use license. Such software can be used by commercial users as well. In some cases, however, software packages have been acquired under an educational licensing arrangement and, as a result, such software cannot be used by commercial users.

3.2. Security:

In addition to physical security measures, SHARCNET employs several full-time professional Systems Administrators, who are the only individuals who have access to root passwords under normal operating circumstances. The SHARCNET Scientific Director is the only other person within the SHARCNET organization who can access this information in the event of an emergency. The Systems Administrators are charged with ensuring that all users of the facility do nothing that compromises security.

Acceptable Use. All SHARCNET users are expected to use the facilities appropriately and considerately and are required to sign an Acceptable Use Policy (AUP; located on the SHARCNET website) on an annual basis.

The AUP must be electronically “accepted” by every user before use of SHARCNET facilities can commence. A commercial user account requires the explicit, prior approval of the SHARCNET Scientific Director.

All users are required to undergo initial orientation training in the use of SHARCNET’s facilities and resources. Orientation provided for commercial users shall be on a cost recovery basis.

Secure Access. All SHARCNET users can access the administrative nodes of any of the Commercial Facilities through secure connections (using *ssh*).

While SHARCNET endeavours to provide secure access to the systems and to files, SHARCNET does not assume responsibility for users' data security. Individuals, research groups and Commercial Users are expected to take appropriate measures to safeguard the security and confidentiality of their data including temporary files. Such users are responsible for arranging and undertaking any encryption or de-encryption of data that they deem necessary.

3.3. Data Storage:

SHARCNET provides a minimum of 200Mb of disk space for each user home directory; this can be increased with a request to the Scientific Director and is negotiated on a case-by-case basis. Home storage is intended for source code, programs, parameter files etc. and small amounts of data. Home storage is backed up.

Each system has, additionally, limited-term storage available for users to store larger amounts of data; this storage is not backed up. It is the responsibility of users to backup or otherwise ensure the integrity of this data. There is also an archival storage system for longer term storage. Use of storage other than the standard home storage allocation will be subject to a fee depending upon the amount of data stored. The types of user storage available are outlined in SHARCNET's storage policies (www.sharcnet.ca/Documents/policies/storage.html).

The SHARCNET AUP describes the policies that apply to data that exceeds the time limit on a particular storage device, that appears to be abandoned or that is owned by a user whose account privileges are suspended. In these cases SHARCNET will make commercially reasonable efforts to contact the user, or the user's sponsor, in whose space the data resides to arrange for appropriate disposition of the data, but reserves the right to destroy the data if necessary.

3.4. Job Scheduling:

SHARCNET will use commercially reasonable efforts to ensure that the appropriate levels of resources are available for contracts negotiated with parties for Commercial Use. These negotiated levels shall be in accordance and consistent with SHARCNET's stated objective to provide priority to academic users. All jobs intended for the Commercial Facilities as negotiated will be submitted to the standard SHARCNET queuing system.

4. ADDITIONAL SERVICES FOR COMMERCIAL USERS

Subject to the Policy for Commercial Use, SHARCNET may offer but is not obliged to provide additional services to commercial users on an *ad hoc* and fee-for-service basis. These may include the following:

- SHARCNET may provide special back-up arrangements to suit the needs of commercial users. Applicable costs will apply and should be included as part of the contractual arrangement with SHARCNET.
- SHARCNET may also provide HPC technical support and advice. Applicable costs will apply and can be arranged on an *ad-hoc* basis through the SHARCNET Scientific Director.

SHARCNET also sponsors a range of educational activities which range from tutorials on software and libraries to multi-day workshops and courses on parallel programming.

SHARCNET users, including commercial users, are able to participate in SHARCNET training opportunities. In some cases, there is a small fee associated with these training opportunities and these are published along with the training event on the SHARCNET website (www.sharcnet.ca/Events/).

5. PROPOSED FEE STRUCTURE:

The following is proposed as the fee structure; billing is done on a monthly basis, and payment shall be required within 30 days:

- Compute Facilities: cpu/hr at \$0.10; blocks of cpu usage can be negotiated with the contract
- Fees for storage beyond normal home storage: as negotiated
- Backup Fees: as negotiated
- HPC Technical Support: \$150/hr

6. THE SHARCNET/COMMERCIAL USE AGREEMENT:

- Must be negotiated with the SHARCNET Scientific Director or his delegate and approved by the SHARCNET Scientific Director.
- The agreement must be signed by an appropriate authority from the commercial organization making the usage request.
- Any special requirements, with associated fees, will be as set out in the Agreement.
- SHARCNET requires that appropriate AUP forms accompany the Commercial Use Agreement which must be signed by all commercial users. Violation of SHARCNET policies will result in appropriate disciplinary action, including suspension and/or termination of account privileges.
- The Agreement is renewable and is reviewed annually.
- Amendments to the Agreement may be added at any time, by either party, and upon mutual agreement.
- The standard form agreement shall be amended only to reflect the particular circumstances of the project or the requirements of the commercial user.



REQUEST FOR SHARCNET COMMERCIAL R&D ACCESS

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| Full Name of Applicant: | |
| Position: | |
| Organization Name: | |
| Type of Business (<i>i.e. Financial, Manufacturing, IT, Pharmaceutical, R&D, Resources (Oil, Gas), Other, etc.</i>): | |
| Organization Mailing Address: | |
| Telephone: | E-mail: |
| FAX: | Organization Web Address: |
| Project Name: | |
| Project Description (provide a short description and attach a longer description if appropriate): | |
| Anticipated Start Date: | Length of Project: |
| Anticipated No. of Users: | No of CPU Hours Required (<i>est.</i>): |
| Peak No of Concurrent CPU's Required (<i>est.</i>): | Peak No. of Hours per Month (<i>est.</i>): |
| Disk Storage Required (<i>if known</i>): | Any special requirements (<i>backups, HPC support, etc.</i>): |
| Applicant's Signature: | Date: |