

## **Notre Dame Center for Research Computing (CRC) Software (Acquisition, Installation, and Support) Policy**

This document defines the CRC's software policy (SP) for ND Faculty regarding software acquisition, installation, and support. Under this program the CRC provides software specification and acquisition expertise, licensing guidance with respect to installation and deployment, installation, secured/controlled access, support with respect to efficient and effective software function (where not provided by software vendor), and software updates for currency both with the software vendor and CRC systems environment.

The CRC will review the SP annually and make revisions in line with CRC Software Advisory Committee (SAC) members. Membership on the CRC SAC is open to faculty member CRC users. The CRC welcomes interested faculty to participate as the CRC SAC has a revolving membership. The CRC SP is also influenced by the most current University Council for Academic Technologies (UCAT) Software Subcommittee guidance.

### **Software Requests**

The CRC maintains a list of currently supported software on our wiki. Continued support for existing software is revalidated annually. The CRC reserves the right to discontinue support for underutilized software. The list of software proposed for discontinued support will be mailed to the CRC user's list at least 3 months prior to support termination. Faculty can submit to the CRC a justification for continued software support.

All new software requests must be initiated by a faculty member via the CRC Software Request Form (see Appendix1) provided on the CRC webpage and wiki. Requests should be sent to [crsupport@nd.edu](mailto:crsupport@nd.edu). The information on this form will be utilized to determine the degree of support provided by the CRC. Data fields include: number of users, number of PIs, software details, research supported, licensing details, software cost, and timeline for utilization.

### **CRC Software Acquisition – Financial Support**

Financial support for software is based on typical software categories (see Appendix 2) and the following user group classifications. Additional considerations may be made on a case by case basis with input from the CRC SAC. A small number of 'seed funding' opportunities will also be set aside for promising unfunded research projects.

#### **1. Single PI (1-10 users)**

The license for the software is purchased by the user and his/her department or sponsor. CRC will help with acquisition, installation, and support of the package on CRC resources.

2. Multiple PIs (10-50 users)

Procurement costs are split among the research team, CRC, and OIT. CRC will help with acquisition, installation, and support of the package on CRC resources.

3. Broad Interest (greater than 50 users)

CRC will review the requirement and consider fully funding the procurement. CRC will help with acquisition, installation, and support of the package on CRC resources.

**CRC Software Acquisition – Technical Support**

CRC staff will provide support in the identification of efficient and cost effective software packages to meet the research objectives of faculty members. Where suitable the CRC will coordinate software acquisitions of faculty with similar objectives to better leverage research investment.

**CRC Software Installation – Licensing Support**

The legal licensing landscape for research software can often appear more complex than that of standard business/commercial software. The CRC with the help of OIT and ND General Council will help provide guidance on research software licensing and suitable installation/controlled access.

**CRC Software Installation – Technical Support**

CRC staff will provide software installation services for software to be run on CRC resources (not user workstations). The CRC will also provide centralized license server services for software requiring such.

**CRC Software Support**

CRC staff will provide software support with respect to efficient and effective software function (where not provided by the software vendor). The CRC will also provide software updates for currency with both the software vendor and CRC systems environment.

## Appendix 2 - CRC Research Software Categories and Support Level Agreement report

	<b>Description</b>	<b>Examples</b>	<b>Identification</b>	<b>Support</b>
<b>Infrastructure and Middleware</b>	Software necessary for installation, execution, and control of research application software.  Software necessary to maintain, control, and operate CRC hardware.	(Fortran, C++, Python, Perl, ...) compilers and environments, message passing libraries (MPICH, LAM,...) , math libraries, job control software, debuggers	CRC SAC will establish and maintain a list of core infrastructure software	CRC will install, maintain, update, <u>document</u> , and as appropriate provide training in all aspects of system usage.
<b>General purpose environments for visualization, SW prototyping, problem solving</b>	Higher-level, general purpose programming environments.  Often have both academic and research applications.	Matlab, Maya, Maple, Comsol, SAS,	UCAT, CRC SAC, College computing committees	CRC will install, maintain, update, <u>document</u> , and as appropriate either provide training or sponsor vendor-led training.
<b>Research-specific “production” software</b>	Software used by a single research group or within a specific field.  Primarily used to support research activities.	Gaussian, NAMD, LS-DYNA, LAMMPS, Vasp, Chemkin	Individual and research groups, College computing committees	CRC will make reasonable and timely effort to install, integrate into operating environment, and verify operation. CRC will provide application-tuning support as resources permit.
<b>Custom/user/development software</b>	Software developed within specific research groups, usually as a result of funded research projects	OpenMD, APSS, Protomol, ...	Individual faculty and research groups	CRC will provide a software environment that facilitates application development and tuning. CRC will partner on research grants to provide support for application development.
<b>Database &amp; Web services</b>	Software to structure and store data for analysis. Software to provide web query and access to data sets.	MySQL, PostgreSQL, Apache, Tomcat...	Individual faculty and research groups.	CRC will develop a list of core database and web software offerings. CRC will partner on research grants to provide resources to construct and operation project specific database/web services