UBC ARC Sockeye Allocation Application Guidelines

Version 1.5.0

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1. Introduction

1.1 Purpose of Document
The purpose of this document is to provide applicants for the UBC Advanced Research Computing (ARC) Sockeye system information on eligibility requirements, review process, allocations start and end dates, and how to apply. In addition, applicants and awardees should always consult the UBC ARC Sockeye Terms of Service and application standards and policies, hosted online at ARC Governance Documents. User documentation for the platform is available online at UBC ARC Technical User Documentation.

These guidelines are updated periodically, so please check back for the current version. The most recent version is always available on the UBC ARC Sockeye web site.

1.2 Objectives
The UBC ARC Sockeye (hereinafter "Sockeye") is a general-purpose high-performance computing (HPC) platform available to UBC researchers. The purpose of Sockeye is to supplement the current national platforms for digital research infrastructure, which currently are unable to meet the needs of all UBC researchers.

Sockeye provides UBC researchers access to an on-premise HPC platform to be used for large-scale computation. Access to Sockeye is prioritized for those who are not able to, or have maximized their access to national infrastructures (e.g., Compute Canada, etc.). Specific objectives are to:

- Support early career researchers (i.e., five years or fewer in a Faculty position);

- Enable Faculty that are new to UBC (i.e., five years of fewer at UBC); and

- Provide HPC access to Faculty who have controlled or sensitive data sets that are not permitted to be hosted off-site (i.e., under the governance of UBC Chief Information Officer and Chief Information Security Officer).

1.3 Description of Sockeye Platform
The Sockeye platform consists of an HPC platform, attached project storage, and low latency scratch space. Access to Sockeye is through Secure Shell (SSH) only and is limited to access from designated UBC networks. Remote access is only available by first connecting to the UBC network through the institutional VPN (myVPN) using enhanced Campus Wide Login (CWL).

Data transfers in and out of Sockeye are available through SSH/SCP (and rsync) as well as via Globus.

1.4 Governance
The UBC Digital Research Infrastructure (DRI) Resource Allocation Committee (DRAC) makes recommendations to the Vice-President Research & Innovation (VPRI), and the Associate Vice-President Information Technology (AVPIT) & Chief Information Officer (CIO) on the impact, value, and appropriateness of the UBC Advanced Research Computing Digital Research Infrastructure storage and compute resource allocation processes. The VPRI and AVPIT & CIO will consult with the ARC Advisory Committee on the recommended processes and, as needed,

approve processes for implementation. The DRAC also adjudicates proposals for resources, ensuring resource distributions are fair and equitable.

1.5 Suitability

Sockeye is well suited to transient computationally intensive workloads that can be optimized by the job scheduling and workload management software PBS-Pro (Community Edition) that is installed on Sockeye as its scheduler. The platform runs CentOS 7 Linux on Intel x86 architecture.

Projects requiring software not already installed should consult ARC before requesting an allocation, since not all research software is licensed for use on Sockeye and/or may not be permitted on the system. Refer to the list of software currently available on Sockeye to determine whether you need to consult with ARC.

2. Eligibility Requirements

At the time of submission of a Sockeye application, the applicant must be an Eligible UBC Researcher, as defined in the UBC ARC Glossary of Terms.

Researchers who do not qualify as Eligible UBC Researchers are not eligible to apply for an allocation. However, an applicant awarded a Sockeye allocation (hereinafter "Allocation Owner"), may ask that research staff, students, and external collaborators be given access to the allocation. There is no limit as to how many users can have access to an allocation. All Sockeye users must have a valid institutional email address (i.e., not commercial services such as Hotmail, Gmail, Yahoo, etc.) and an enhanced Campus Wide Login (CWL). For more information on Campus Wide Login sponsorship, please visit UBC IT About Campus Wide Login.

3. Allocations

There are currently three types of allocations: Standard, Priority and Reservation (see table below). Each applicant can only apply for, and hold one Standard or Priority allocation at a time, while a Reservation allocation is available following a consultation with UBC ARC (no application process).

All allocations are granted per Eligible UBC Researcher, who can then request access for users, (e.g., project team, lab, department, etc.). Allocations are only given for the purpose of research and cannot be used for non-research related activities.

There is no option for sub-allocation division or permission specification. All files associated with an allocation are accessible by the Allocation Owner. If different group permissions for access are required, a separate application must be submitted. This is only permitted when requirements are based on restrictions required by the grant, data agreement, or access controls needed for data classified as high risk. In these cases, ARC should be consulted.

Tier	CPU/GPU	Project Storage/Scratch
Standard Allocation	Shared access to all available CPUs and GPUs	5 TB project storage/5 TB scratch

Priority Allocation	Increased priority access to all available CPUs and GPUs	Up to 50 TB project storage/Up to 50 TB scratch
Reservation Allocation	Based upon consultation	Based upon consultation

3.1 Standard Allocation

Application for the Standard Allocation is available at any time. This allocation provides shared access to all available CPUs and GPUs, as well as 5 TB of project storage and 5 TB of scratch space.

3.2 Priority Allocation

A Priority Allocation competition is held twice a year. The call for July 2021 Priority Allocations opens on **April 19, 2021**, and closes on **May 7, 2021, at 4:59 PM PDT**. This tier provides increased priority access to all available CPUs and GPUs, up to 50 TB project storage, and up to 50 TB scratch space.

Priority Allocations are awarded in priority to researchers who meet the following criteria:

- New to UBC (within five or fewer years), or

- Early-career researchers (within five years of first appointment), or

- Have research data that has to be hosted on-site or cannot be accommodated by any other existing computational resources (e.g. Compute Canada).

Additionally, justification for why a Sockeye Standard Allocation is unable to meet needs must be substantiated. The DRI Resources Allocation Committee (DRAC) requires a strong justification and preference for applicants with a demonstrated use of Sockeye through the use of a Standard Allocation.

Successful applications for the Priority Allocation from applicants who already hold a Standard Allocation may be required to migrate data over from one allocation to another.

3.3 Reservation Allocation

Allocation owners with an existing Standard or Priority Allocation may request a Reservation Allocation. The Reservation Allocation is available on an ad hoc basis through a consultation with the ARC team, and accommodates short-term requirements for additional compute resources on Sockeye. To request a Reservation Allocation, please contact ARC Support to schedule a consultation.

3.4 Allocation Start Dates and End Dates

Standard Allocations start as soon as the applicant receives notice that they have been awarded an allocation.

Priority Allocations for the July 2021 competition will begin in early July 2021.

Allocations (Standard or Priority) are awarded for a maximum of 14 months: all allocations awarded between **April 1, 2021 and March 31, 2022** will terminate at the end of the academic year on **June 30, 2022**.

The Allocation Owner is responsible for all data associated with their Sockeye allocation and must remove the data from the Sockeye platform no later than 14 days after the end of the allocation, if the allocation is not being renewed. The Allocation Owner may request data deletion for their allocation at any time.

4. How to Apply

The application process for Sockeye requires the submission of an online application. Check the Sockeye website for details.

ARC may temporarily stop accepting Standard or Priority Allocation applications at any time in the interests of system efficiency. Communications regarding any pause in onboarding applications will be posted to the ARC website should this situation occur.

5. Review Process

5.1 Technical Review
All applications for resource allocation on UBC ARC Sockeye are subject to a technical review by ARC. The technical review assesses the technical feasibility of the application to ensure it is suitable for the platform. There is no evaluation of the merit of the project, the nature of the research group, or the resources requested at this stage/point of the review. For example, if a research project requires establishing a web application, this type of project cannot be supported on UBC ARC Sockeye and the application would therefore be declined during the technical review.

Requests involving unsupported software or operating systems (e.g. Microsoft Windows) will also be declined during the technical review.

5.2 DRAC Review
Even though DRAC will not review applications based on scientific merit, applications may be subject to an additional review process by the committee. This is requested in order to ensure an equitable balance between the research priorities supported by the Sockeye mandate.

5.3 Final Decision
All decisions regarding allocations are final. There is no appeals process; however, applicants are welcome to apply for subsequent calls when applicable.

6. Administration of Allocations

6.1 Allocation Finalization
Successful applicants will be notified and must either accept or decline their allocation by the deadline specified in the notice of award.

6.2 Allocation Setup
Successful applicants will be contacted to provide additional information required to activate their allocation.

6.3 Early Withdrawal

The Allocation Owner should notify ARC Support as soon as possible if they no longer require allocated resources. This will allow other researchers to make use of the resources.

6.4 Communications

All communications related to allocation applications will be sent to both the applicant and their Designated Contact via their institutional email address provided in the application.