UManitoba HPC (Grex) resource allocation call 2025-2026

Overview of HPC compute and storage resources

This call is for renewing and updating the allocation of resources on the Grex HPC system, specifically, CPU time (in Core Years, CY) and storage (in TBs). There is no charge for using Grex for University of Manitoba academic PIs. The request for resources must come from Faculty members (Principal Investigators, PIs), and the allocation is given to the PI's research group, their group members, and academic external collaborators.

Grex is the High-Performance Computing (HPC) system at the University of Manitoba. Since the SISF renewal completed in 2024, its generally available compute capacity is as follows:

- 30 of 192-core AMD Genoa 9654 nodes with either 4 GB or 8 GB of memory per core.
- 54 nodes of 40 or 52-core Intel CascadeLake CPUs, 3.5 ot 9GB of memory per core
- 2 nodes with 4x NVIDIA V100 GPUs, Intel CascadeLake CPUs, and 192 GB memory
- 2 nodes with 2x NVIDIA L40s GPUs, AMD Genoa CPUs, and 384 GB memory.

The total number of allocatable CPU cores is **8,644**.

- General GPU nodes are available on a first-come, first-served basis. There are no dedicated GPU allocations, as the number of GPUs (eight V100s and four L40s) is limited. We ask you to indicate if you anticipate using the GPUs in your proposal.
- Contributed resources: A significant number of contributed GPUs (34 total, comprising A30 and V100 models) and CPU cores (1,992 AMD Genoa) are available. These resources are owned by contributors and are not allocatable but can be used opportunistically when not in use by their owners, especially for short compute jobs.

The Project storage, allocatable per research group, has a total capacity of 2 PB, with 1.7 PB designated for *the contributing Faculties of Agriculture, Engineering, and Science.*

- The /project space is allocated by default between 5 and 40 TB per group. Up to **80TB** can be allocated by PI's from non-contributing Faculties, subject to the overall capacity.
- Larger allocations are possible through this call for research groups from contributing Faculties. Research groups from these Faculties will be given priority for/project storage according to their contributions.

Categories of Resource Requests

There are two categories of resource requests:

- Default allocations or "Rapid Access Service" (RAS) is limited to under 60 core-years, 4 GB memory per core, and 5 to 40 TB of Project storage per research group. RAS requests do not require a full proposal. For information and access, please email arc@umanitoba.ca .

- Resource Allocation Call (RAC): Users who need more core-years or storage than the RAS limits provided above, should request resources via a RAC proposal during this call.

Proposals must be submitted in the format described below.

Often, RAC proposals are recurring, as research projects may span more than one year. PIs of recurring projects can resubmit the same proposal as last years', however, in this case we ask applicants to update progress/publication records and review/update the value of requested resources, especially storage.

Proposal Format and Submission Timelines

Please use the attached 2026 RAC Request Template for your proposal. You may remove all explanations (text in italics) if desired. The Template is intended as a guide. Expected lengths for each section are included in the template, but your proposal may use more or less space, depending on the size and complexity of the request.

Proposals for the use of Grex resources will be reviewed by the Advanced Research Computing (ARC) Committee and Grex technical staff to ensure resources are used efficiently. Based on total available Grex resources and the total volume of all the requests received, the allocations may be scaled to fit within the system's capacity.

Proposals must be sent by email to ARC@umanitoba.ca by 4:30 pm on December 12, 2025