



## High Performance Computing Using BSWIFT

### General Policies

This document describes the general policies for using the College's high performance computer (called BSWIFT).

**Use of BSWIFT signifies compliance with and acceptance of the University of Maryland's Policy on the Acceptable Use of Information Technology Resources, which may be found at <https://it.umd.edu/security/Nethics> .**

### Communication

The main communication outlet from OACS to BSWIFT users is through the [bswift-users@umd.edu](mailto:bswift-users@umd.edu) reflector.

Requests or questions to BSWIFT administrators be sent through the [bswift-admins@umd.edu](mailto:bswift-admins@umd.edu) reflector.

### Security

BSWIFT accounts are created for single users. Users are not allowed to share their account or their account password with anyone. BSWIFT staff will be glad to assist if you wish to share data with your lab members or collaborators.

### Rules for Running Jobs

The following is a list of general guidelines that every BSWIFT user should follow:

- Do not run long interactive or non-interactive jobs on the BSWIFT login node. Use the scheduling system to submit your job.
- Do not over-allocate parallel jobs. Make certain that your job uses the number of processors that you have requested or reserved.
- Do not log into the compute nodes for the purpose of running a job.
- Do not run highly experimental code that might compromise the usability and stability of BSWIFT. You can use the login server and the 'debug' partition (compute-4-1) for code development and experimentation. *Please note though that you run such code at your own risk. Support can be provided on request.*

If an abuse of the system is identified, the offending jobs will be suspended without notice.

### Technical Support

- OACS will provide hardware support only during business hours (M-F, 8am – 5pm).
- Application and code support will be provided on request.

## System Maintenance

Planned Maintenance: Once a month (the Friday after the second Tuesday of the month), OACS performs maintenance on its computing infrastructure. Components of BSWIFT may be taken down so that OACS staff can apply updates and perform other types of infrastructure maintenance.

Unplanned Downtime: Although great effort has been made to minimize the probability of an *unplanned* downtime, such outages may occur. Upon notification by the BSWIFT monitoring system, OACS staff will contact BSWIFT users to let them know about the outage.

## BSWIFT Storage

BSWIFT should not be used for long-term data storage. Upon the completion of your job, please transfer the results and any other associated data / code files from BSWIFT to an external storage device. At the conclusion of each semester, any files older than a semester will be deleted if we are short of disk space. **It is a policy violation to use scripts to change the file access time.** Any user found to be violating this policy will have their BSWIFT account locked.

The chart below explains the three types of storage associated with BSWIFT.

Space	Space Purpose	Backed Up?
/homes/user (2.0 TB total; 10 GB per user)	Program development space; source code, scripts	Yes
/tmp (170+ GB per node)	Computational work space on each compute node	No
/data/bswift-0 (33 TB)	Space for data used for computations, mid-term storage	Selected directories on request
/data/bswift-1 (165 TB)	Space for data used for computations, mid-term storage	Selected directories on request

Notes:

- Only /tmp should be used during computations to decrease the I/O load on the file servers (/data/bswift-N where N=0,1); at the end of the job any output data should be moved to /data/bswift-N or transferred to an external storage.
- Do not write to /homes when running jobs, as it can easily be filled up.
- Your quota on /homes has a soft limit of 10 GB; you can exceed this limit for a short time but if the data is not reduced within 2 weeks, the largest files in your home directory will be deleted until the limit of 10 GB is reached.
- DO put files such as source codes, scripts, libraries, executables in /homes. If you need more than 10 GB for storing these files, please contact [bswift-admins@umd.edu](mailto:bswift-admins@umd.edu).
- Data on /homes and selected directories on /data/bswift-N are backed up. Please contact [bswift-admins@umd.edu](mailto:bswift-admins@umd.edu) if you want to add a directory on /data/bswift-N to be added to the backup list. You will be notified to what extent the request can be met.
- We urge to make copies of your important data regularly.

OACS retains the right to clean up files on /data/bswift-0 and /data/bswift-1 if it is needed to improve system performance. Users will be informed beforehand.

Please refer to <https://www.glue.umd.edu/hpcc/policies.html> for further information on computing policies for UMD's High Performance Computing Clusters.