

Duke Office of Information Technology

Duke Shared Cluster Resource (DSCR)

The Duke Shared Cluster Resource (DSCR) is a shared set of machine. These are not true "Beowulf" clusters but are simply sets of Intel x86 based machines running Linux. They have no keyboards and no monitors and thus you must log into the system using ssh. See the Figure below for a better description of the network arrangement.

There are 4 "front-end" machines that users must login to first. The names of these head nodes are cluster1.csem.duke.edu through cluster4.csem.duke.edu. Machines cluster1 and cluster2 are identical 32-bit machines, all users may log into either on. Machines cluster3 and cluster4 are identical 64-bit machines, again all users may log into either of them. Note that which machine-type you compile on, 32- or 64-bit, determines where that executable may be run. You may want to log onto one, compile your code and rename it with a '32', then login to the another and re-compile your code, renaming it with a '64'.

Once you are logged in to any front-end, you will be able to login from there to any node in the cluster. Most of your work will be done on the front-ends: compilation, job submission, debugging. The only time you may need to directly login to any node is for parallel debugging. The basic layout, or topology, of the cluster is that of a tree. Groups of 20 machines are connected to a single high-speed switch. Those switches are then connected to a higher level switch which will negotiate network connections that may exist between groups of machines. Note that this means some parallel jobs may see unexpected delays if they happen to span multiple switch subdomains.

Access

To learn about gaining access to the DSCR, go to our [Application Information](#).

If you are a member of a group that already participates in the DSCR, please direct your new account request through your designated [Point of Contact](#).

Support Information

Visit our user online [Support Information Page](#).

Duke Office of Information Technology - www.oit.duke.edu - (919) 684-2200 - help@oit.duke.edu