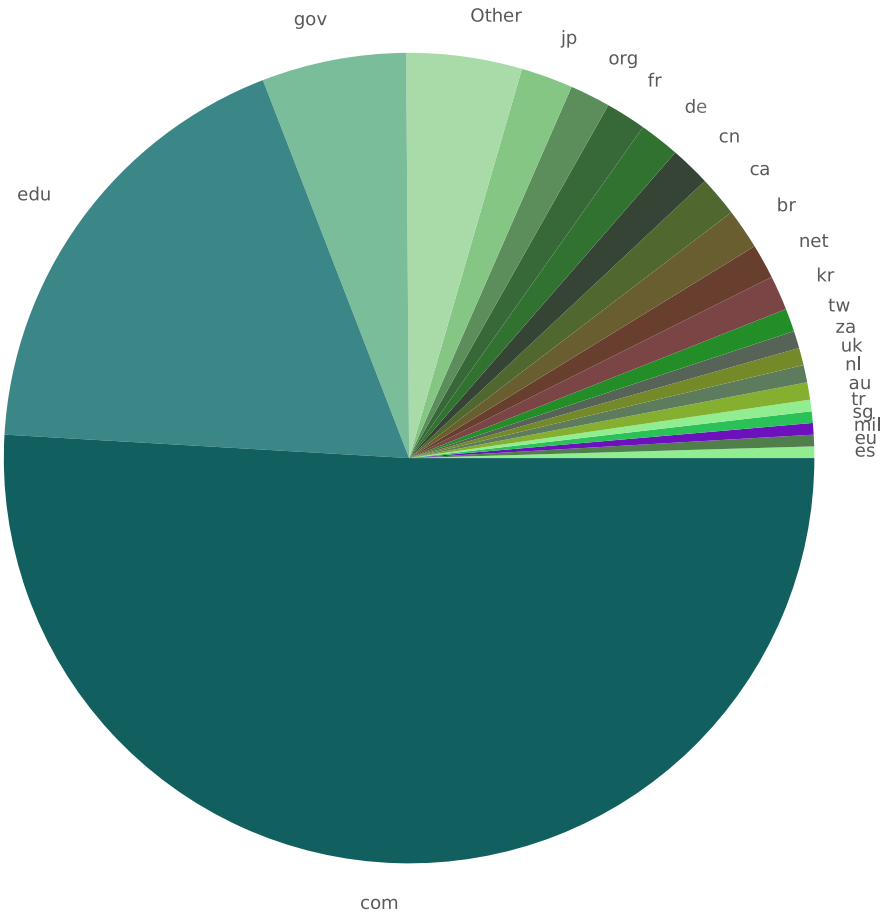
iCER SERVICE REPORT

NOV 2016

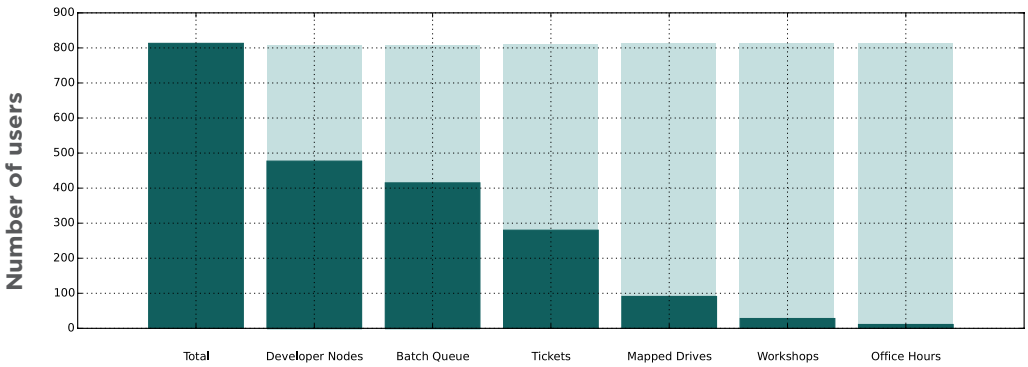
iCER services were provided to **813** researchers in October

EMAIL DOMAINS OF VISITORS WHO CAME TO MSU BOOTH IN SC 16

The big highlight for this month is that iCER put together a booth representing Michigan State University (MSU) at the 2016 conference on Supercomputing (SC16) in Salt Lake City, Utah. The booth featured MSU computational research, the new CMSE department and the new 2016 Laconia cluster. We had over 400 visitors come to the booth from a wide range of backgrounds including researchers, hardware developers, funding agencies, students and cyberinfrastructure (CI) professionals. The figure on the right is a breakdown of 433 email domains gathered from visitors that had their conference badges scanned at MSU booth.



NUMBER OF USERS USING iCER SERVICES IN NOVEMBER



Batch Queue:
Users that run jobs on the main clusters

Developer Nodes:
Users that log into one of our developer nodes

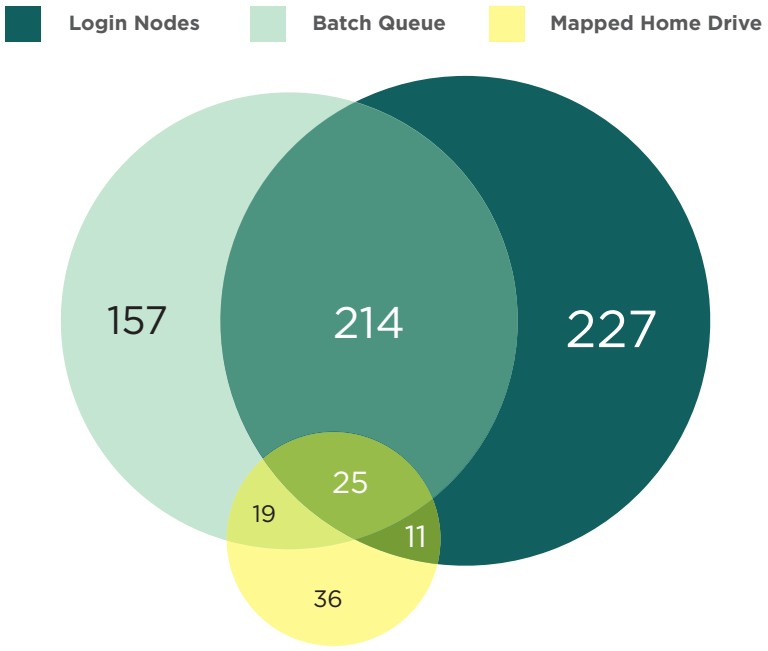
Mapped Drives:
Users that map HPC drives to their local computer (using samba)

Tickets:
Users with active support tickets

Workshops:
Users that attended iCER supported workshops

Office Hours:
Users that attended iCER open office Hours (Mondays and Thursdays 1-2pm)

NUMBER OF USERS USING iCER COMPUTE SERVICES IN NOVEMBER



This figure shows a breakdown of users that use iCER compute services:

371 users (157+214) are standard users that use the developer nodes to submit jobs to the queue.

238 interactive users (227+11) only use iCER developer nodes to do their work. This includes users:
> Only need access to software (ex. Matlab, mathematica)
> Still in software development process and have not submitted a job
> Find development nodes are sufficient for their research.

36 users used the iCER file systems to store their files.

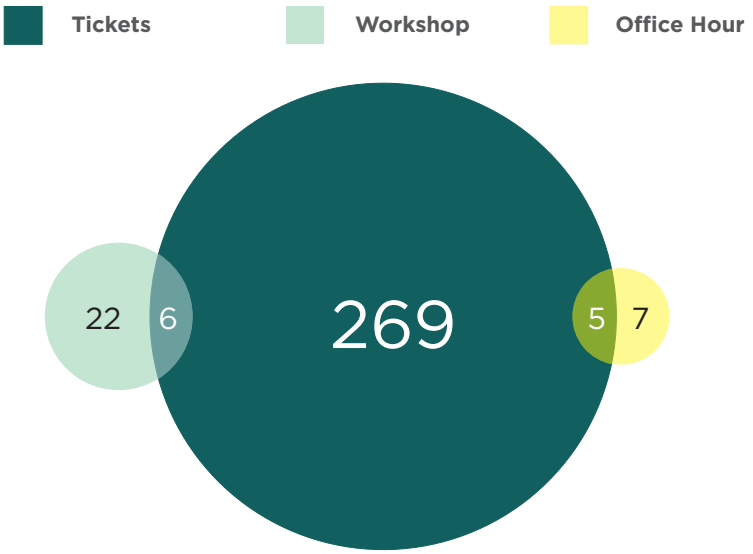
274 researchers (227+11+36) used iCER hardware outside of the batch queue.

NUMBER OF USERS USING iCER SUPPORT SERVICES IN NOVEMBER

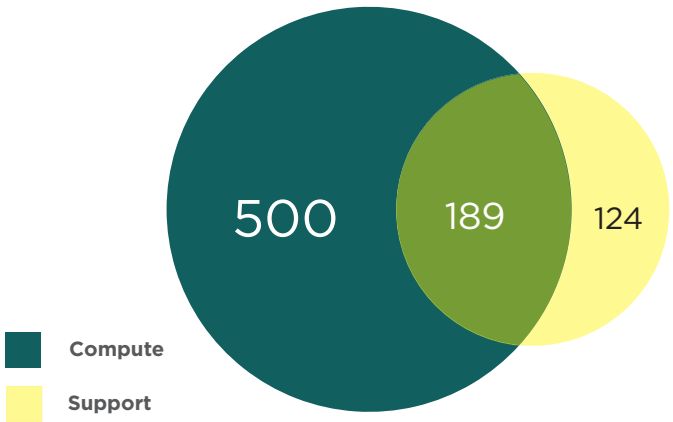
This figure shows a breakdown of users that use iCER support services. These support services include support tickets, iCER workshops and office hours.

List of iCER workshops in November:

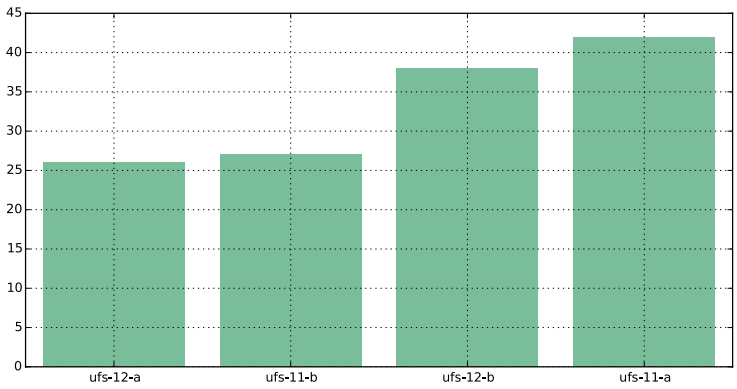
> Introduction to SQL & Relational Databases



COMPARISON BETWEEN NUMBER OF USERS USING iCER SUPPORT AND COMPUTE SERVICE IN NOVEMBER

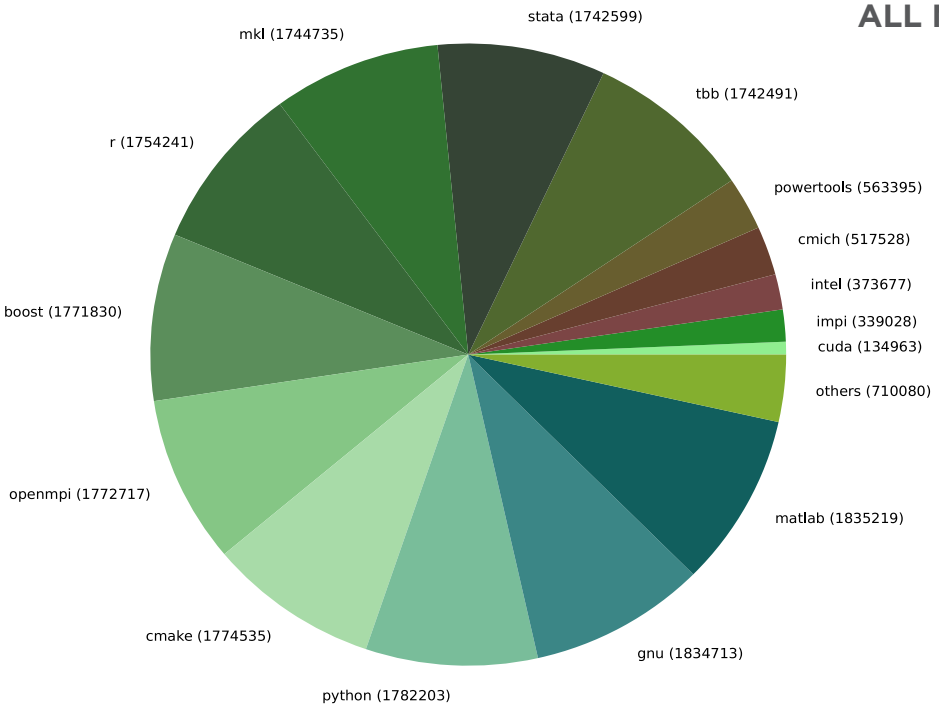


NUMBER OF MAPPED HOME DIRECTORIES PER SERVER IN NOVEMBER



In an effort to better serve our users, we have been analyzing the software that is being used on the HPC by recording which software modules are being loaded using the "module load" command. Clearly this is not a complete view; many users install their own software in their home directories, some modules are automatically loaded as part of a user profile and there will be a bias toward pleasantly parallel codes which will load their required modules every time a job runs (as compared to bigger jobs which would only load the modules once). However, we find this data interesting and wanted to share it with you.

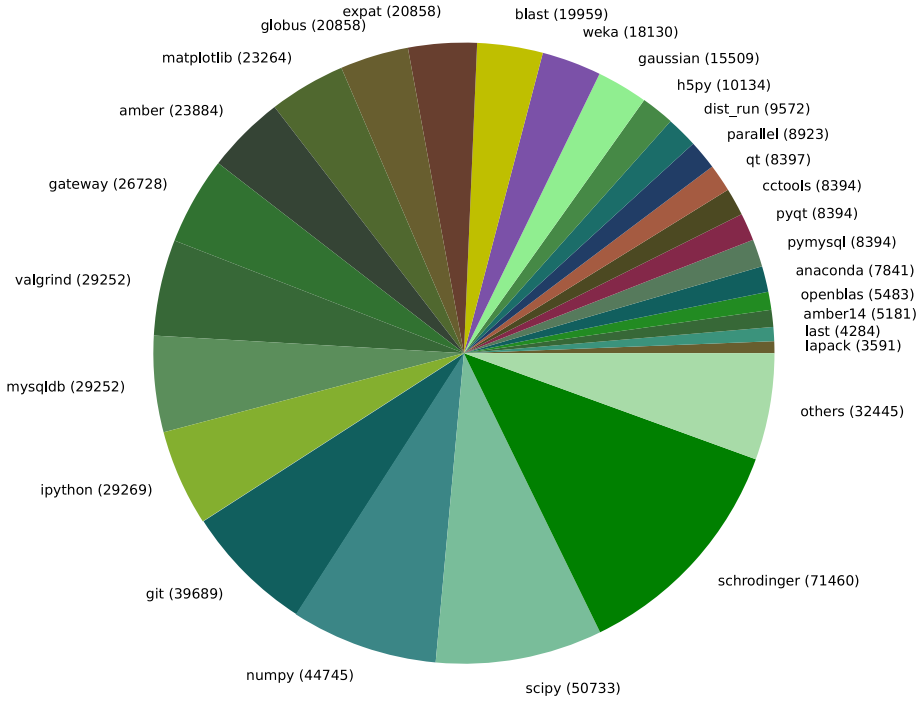
ALL MODULE LOAD COUNTS <10000000



The pie chart shows the most commonly loaded modules. Note again that the biggest ones are the ones included in a user's default profile such as MATLAB, Python, and R. These modules get loaded every time they log in or run a job. As can be seen clearly, the default modules get loaded in an order of magnitude more than many of the other modules.

ALL MODULE LOAD COUNTS <100000

After taking out the default modules, the pie chart on the right shows more modules that users are choosing to include in their .bashrc files and being submitted on a lot of jobs. This group also includes the gateway module which gets loaded every time someone logs onto gateway. This by itself is interesting and shows that we had 26728 gateway connections in November. From our service report we know that 477 unique individuals used a development node in November. This means that on average each person is logging into gateway approximately 56 times in the month or about 2 times a day (on average).



Report Contributors:
Camille Archer
Dirk Colbry
Jim Leikert
Kelly Osborn
Pat Bills
Xiaoxing (Adele) Han