iCER SERVICE REPORT

MAY 2017

NUMBER OF USERS USING iCER SERVICES IN MAY

<table>
<thead>
<tr>
<th>Total</th>
<th>Batch Queue</th>
<th>Developer Nodes</th>
<th>Tickets</th>
<th>Mapped Drives</th>
<th>Workshops</th>
<th>Office Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>778</td>
<td>200</td>
<td>222</td>
<td>22</td>
<td>811</td>
<td>13</td>
<td>8</td>
</tr>
</tbody>
</table>

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 May:
- Introduction to HPCC
- Introduction to Linux/Unix
- Introduction to Git
- Parallel Computing on HPCC
- Broad Overview of Parallel Programming

* Webinars and video conferences not included

NUMBER OF USERS USING iCER SUPPORT SERVICES IN MAY

- 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 MAY

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

- **287 users** (240+47) use the developer nodes to submit jobs to the queue.
- **205 interactive users** (185+20) only use iCER developer nodes to do their work. This includes users:
  > Only need access to software (e.g., Matlab, Mathematica)
  > Still in software development process and have not submitted a job
  > Find development nodes are sufficient for their research.
- **64 users** only used the iCER file systems to store their files.
- **269 researchers** (185+20+64) used iCER hardware outside of the batch queue.

DAILY SCHEDULER ACTIVITY IN MAY

This figure shows the activity of the batch scheduling system by day. There were two scheduler issues early in this month, and the HPCC team restarted the scheduler to address the problem. On a typical day, the scheduler processes approximately 164018 jobs. This includes jobs that are queued, jobs that start and jobs that end. Put in another way, the scheduler manages approximately 113 jobs per minute.

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

NUMBER OF MAPPED HOME DIRECTORIES PER SERVER IN MAY
TICKET ACTIVITY SUMMARY IN MAY

- **Tickets Created**: 282
- **Tickets Updated**: 419
- **Tickets Resolved**: 272
- **Open Tickets**: 23

TICKET MESSAGE SUMMARY IN MAY

- **Total User’s Message**: 570
- **Total iCER’s Message**: 899

RESOLUTION STATISTIC FOR TICKETS CREATED IN MAY

- **Tickets are resolved**: 181
  - Tickets resolved within 24 hours: 60%
  - Tickets resolved within 24-48 hours: 33%
  - Tickets resolved in more than 48 hours: 7%

MAY TICKET HIGHLIGHTS

- **How to install Python package on HPCC**

NEW USER ACCOUNTS created in May

**Youngjun Choi**
Research Consultant
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.

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.

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 16246 gateway connections in May. From our service report we know that 492 unique individuals used a developer node in April. This means that on average each person is logging into gateway approximately 33 times in the month or about 1 times a day (on average).

Report Contributors:
Camille Archer
Chun-Min Chang
Jim Leikert
Kelly Osborn
Michael Rometty
Nicol Springer
Xiaoxing (Adele) Han
Yongjun Choi