Report from the Scientific Program Committee

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Task of the SPC

Follow the USQCD Charter:

The Scientific Program Committee (SPC) advises the Executive Committee (EC)

- The SPC advises the EC on science priorities for USQCD

- The SPC suggests to the EC allocations of computer time on the USQCD facilities and zero-priority time on Incite resources
Scientific Program Committee

- Tom Blum
- Aida El-Khadra (Co-chair, incoming chair)
- Steve Gottlieb
- Anna Hasenfratz (Chair)
- Keh-Fei Liu (replaces Will Detmold)
- David Richards (replaces Kostas Orginos)
- Swagato Mukherjee
Available resources: (from CfP)

– BNL BG/Q: 17.7M BG/Q core-hrs (29M Jpsi core-hrs)
  (last year: 71M - this resource is going away)
– Clusters: 261M (last year: 263M) Jpsi core-hrs
  71M @ JLAB, 190M at FNAL
– GPUs: 8.4M (last year: 7.7M) Fermi/Tesla GPU-hrs
  (688 M Jpsi core-hrs):
  2.6+3.4+2.4 @ JLAB, BNL, FNAL
– KNLs: 120M KNL core hrs @ JLAB (360M Jpsi)

- New resources @ BNL: 300M Jpsi core-hrs: GPU or KNL

Total available: 1338M (last year: 1260M) Jpsi core-hrs

Modest increase
The SPC has received

- 35 Type-A proposals (27 last year)
  - 4 for Incite 0-priority time
  - 1 for MILC configuration storage
  - Rest for physics projects

- 4 Type-B proposals (can be requested any time) (5 last year)

These are within fluctuations are the same numbers as last year
Proposals 2017-2018

- Many of the proposals are continuation of past years -
  The SPC has asked for report on progress, improvements, timeline to finish if appropriate

- There are a few all or mostly new efforts -
  We tried to invite those PIs to present here

- The SPC had no direct input to the Incite proposal and has no role in distributing those resources. The EC will solicit input about possible change in the Incite proposal process - roundtable tomorrow.
### Proposals 2017-2018

- 35 Type-A proposals

<table>
<thead>
<tr>
<th>Resource</th>
<th>Request</th>
<th>Available</th>
<th>Req/Avail</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNL BG/Q</td>
<td>23.4M</td>
<td>17.7M</td>
<td>132%</td>
</tr>
<tr>
<td>Clusters(M)</td>
<td>645M</td>
<td>261M</td>
<td>249%</td>
</tr>
<tr>
<td>GPU(K)</td>
<td>8236K</td>
<td>8396K</td>
<td>98%</td>
</tr>
<tr>
<td>KNL(Jpsi)</td>
<td>789M</td>
<td>360M</td>
<td>219%</td>
</tr>
<tr>
<td>New(Jpsi)</td>
<td>300M</td>
<td>extra</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2153M Jpsi</td>
<td>1338 M</td>
<td>161%</td>
</tr>
</tbody>
</table>

- 60% over-subscription is not bad, but the clusters and KNL are very over-subscribed while GPUs are not even 100%;

- The new hardware purchase should correct this imbalance.
Distribution per field (requested) 2017-18

Not including Incite

2017-18:
IF: 446M
EF: 143M
NP: 1202M
Th: 360M
Last year:

<table>
<thead>
<tr>
<th>Field</th>
<th>2016-17</th>
<th>2017-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF</td>
<td>529M</td>
<td>446M</td>
</tr>
<tr>
<td>EF</td>
<td>86M</td>
<td>143M</td>
</tr>
<tr>
<td>NP</td>
<td>812M</td>
<td>1202M</td>
</tr>
<tr>
<td>TH</td>
<td>272M</td>
<td>360M</td>
</tr>
</tbody>
</table>

Total: (J-psi hrs)

2016-17:
- IF: 529M
- EF: 86M
- NP: 812M
- TH: 272M

2017-18:
- IF: 446M
- EF: 143M
- NP: 1202M
- TH: 360M
Per-cent request per field 2017-18

Total: (J-psi hrs)
IF: 21%
EF: 6.5%
NP: 56%
Th: 16.5%
Request vs availability

Total: (J-psi hrs)
- Clusters: 250%
- GPU: 98%
- KNL: 120% *
- BG/Q: 132%

* BNL new added as KNL
Proposals 2017-2018

SPC is attempting to rationalize availability across all resources

- Scientific merit of proposals
- Which projects align with US HEP / NP programs?
- Could projects share resources or be combined?
- Can projects shift resource request? (clusters --> KNL or GPU)
- What is the architecture of the new resource?
- What is the desired balance between NP and HEP?

- We would like to discuss some of these issues during the roundtables
Communication

Until now the SPC chair was not a member of the EC, creating occasional communication problems;

This is changing now, the chair of SPC will be a member of the EC form now on.

Communication between SPC and USQCD membership could also be improved

Secure website where proposals, reviews, responses and allocations are uploaded, minimizing individual e-mail traffic. The website could provide forum for general discussion and also questions, messages to SPC and EC.

Save your suggestions for the round table discussion