Status of UTA IAC

Jae Yu
2nd SAR Workshop
Sept. 26 – 27, 2003
Oklahoma University
UTA IAC MC Farm and Analysis Resources

- UTA has been doing MC production for the past decades

- Have two independent farms
  - Swift farm (HEP)
    - 22 dual P3 900MHz
    - 250Mbyte/cpu
    - A total of .6TB disk space
  - CSE Farm
    - 10 P3 900MHz cpu’s

- Analysis Machines
  - Four desktop machines of ~2GHz + 0.5GB each
  - Storage space ~0.4TB
The UTA-DØGrid Team

- We’ve been working well with CSE colleagues
- Faculty: 2 HEP + 1 CSE
- Senior Research Associate: 0.1 FTE
- Research Associate: 1.4 FTE (1 at FNAL + 0.4 at UTA)
- Software Program Consultant: $\frac{1}{2}$ FTE
- Engineering MS Students: 2
- Physics Undergraduate Student: 1
Software Products

- McFarm: A UTA developed, python based MC production control software (Drew Meyer)
- Ganglia resource monitoring (the ganglia team and Prashant)
  - Contains 6 farms, including Tata institute
- McFarmGraph: MC production job monitoring system using gridftp
  - Improved to increase the speed for report
  - Users make good use out of it
- MC Farm Performance Monitoring (Prashant)
Ganglia Resource Monitoring

<table>
<thead>
<tr>
<th>Name / Info</th>
<th>Load Averages</th>
<th>% CPU User, Nice, System, Idle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid (6 Clusters)</td>
<td>62.97 62.87 61.25</td>
<td>3.6 28.5 0.7 67.2</td>
</tr>
</tbody>
</table>

92 hosts up and running (153 CPUs Total)
0 hosts down

<table>
<thead>
<tr>
<th>Cluster Localtime:</th>
<th>Load Averages</th>
<th>% CPU User, Nice, System, Idle</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE-FARM (physical view)</td>
<td>0.22 0.36 1.46</td>
<td>0.9 0.0 0.2 99.6</td>
</tr>
<tr>
<td>Cluster Localtime:</td>
<td>Load Averages</td>
<td>% CPU User, Nice, System, Idle</td>
</tr>
<tr>
<td>LTU Physics (physical view)</td>
<td>5.99 5.07 4.61</td>
<td>10.3 3.8 1.2 84.8</td>
</tr>
</tbody>
</table>

Cluster Localtime: September 24, 2003, 3:05 pm
12 hosts up and running (12 CPUs Total)
0 hosts down

Cluster Localtime: September 24, 2003, 3:06 pm
13 hosts up and running (19 CPUs Total)
0 hosts down
### SWIFT-HEP Farm Request Desc for mcp14

<table>
<thead>
<tr>
<th>Request</th>
<th>%Done</th>
<th>Graph</th>
</tr>
</thead>
<tbody>
<tr>
<td>Req5934</td>
<td>87.11%</td>
<td><img src="image1.png" alt="Graph" /></td>
</tr>
<tr>
<td>Req5935</td>
<td>30.00%</td>
<td><img src="image2.png" alt="Graph" /></td>
</tr>
<tr>
<td>Req5936</td>
<td>0.00%</td>
<td><img src="image3.png" alt="Graph" /></td>
</tr>
<tr>
<td>Req7565</td>
<td>93.33%</td>
<td><img src="image4.png" alt="Graph" /></td>
</tr>
<tr>
<td>Req7738</td>
<td>0.00%</td>
<td><img src="image5.png" alt="Graph" /></td>
</tr>
</tbody>
</table>

**Graph Details:**

- **Req5934:** ARCH 54.5%, SIM 25.5%, READY TO GATHER 7.03%, DIGSTAR 16.46%
- **Req5935:** ARCH 23.42%, DIGSTAR 16.55%, READY TO EXECUTE 59.04%
- **Req5936:** READY TO EXECUTE 100.0%
- **Req7565:** ARCH 92.12%, FAIL 6.96%
- **Req7738:** FAIL 100.0%
## McFarmGraph Archive Report

### SWIFT-HEP List of Archived jobs for mcp11

<table>
<thead>
<tr>
<th>REQUEST</th>
<th>JOB COUNT</th>
<th>EVENTS</th>
<th>PHASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>bbar</td>
<td>2</td>
<td>27000</td>
<td>P</td>
</tr>
<tr>
<td>minbias</td>
<td>51</td>
<td>25500</td>
<td>DSRr</td>
</tr>
<tr>
<td>npv00+04+09+bbar</td>
<td>42</td>
<td>21000</td>
<td>DSRr</td>
</tr>
<tr>
<td>npv00+04+09+susy</td>
<td>180</td>
<td>90000</td>
<td>DSRr</td>
</tr>
<tr>
<td>ProdUnknown</td>
<td>9</td>
<td>4500</td>
<td>RT</td>
</tr>
<tr>
<td>gpd</td>
<td>2</td>
<td>110000</td>
<td>P</td>
</tr>
<tr>
<td>Req2528</td>
<td>85</td>
<td>42500</td>
<td>D</td>
</tr>
<tr>
<td>ReqTest13.05.00</td>
<td>1</td>
<td>10</td>
<td>P</td>
</tr>
<tr>
<td>susy</td>
<td>3</td>
<td>27000</td>
<td>P</td>
</tr>
<tr>
<td>topev00+04+08+ttbar</td>
<td>18</td>
<td>9000</td>
<td>DSRr</td>
</tr>
<tr>
<td>ttbar</td>
<td>2</td>
<td>12000</td>
<td>P</td>
</tr>
<tr>
<td>z</td>
<td>7</td>
<td>117500</td>
<td>P</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>861010</strong></td>
<td></td>
</tr>
</tbody>
</table>

### LEGEND

- P: PYTHIA
- D: DOGSTAR
- S: SIM
- R: DCRECO(reco)
- T: DCRECO(trk)
- R: RECOA

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This webpage is a joint project of CSE@UTA and Department of Physics
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McPerM

• Data organized in directory based xml database
• Local farms only

Sept. 26, 2003

UTA Status, J. Yu
2nd DØSAR Workshop, OU
Future Projects

• Preparation of DØRAC equipment (The Team)
  – MC Production
  – Re-reconstruction

• McFarm (Meyer)
  – Integration of re-processing within the context of SAM/Grid
  – Enhanced monitoring
  – Better error handling

• McFarm Interface to SAM/Grid (Nirma+HyunWoo)

• MySQL McFarm Monitoring Information Database for both McFramGraph and McPerM (David)

• McPerM improvement (Prashant)

• Automated MC Request download and production (??)
Conclusions

• SAR has been the driving force behind all the improvements
  – So far only supported by the university funds
• UTA will continue making improvements but will be beneficial to have help from other institutions within the region
• Was successful in re-processing-by-hand
• Expeditious preparation of RAC is highest priority
• Have been keeping our own color but should work within the context of SAM/Grid
• Must work together to bring external funds