Allinea Forge Highlights and What’s New in Version 6

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Some Favorite Features that are Underutilized …

- Connecting with the client
- Version control integration
- Reverse connect
- Debugging logbook
- Offline debugging
- Regression Testing
- Profiling Energy and Power Usage
HPC means being able to work productively on remote machines

- Linux
- OS/X
- Windows
- Multiple hop SSH
- RSA + Cryptocard
- Uses server license
Our Tools Integrate with Version Control Systems
Reverse Connect Simplifies Batch System Integration
Debug with the Scientific Method
# Debugging While you Sleep

## Messages

<table>
<thead>
<tr>
<th>#</th>
<th>Type</th>
<th>Time</th>
<th>Processes</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>i</td>
<td>0:00.000</td>
<td>0-3</td>
<td>Launching program /home/bpaisley/demo/ddt/cstartmpi/cstartmpi.exe at Wed May 6 11:34:30 2015. Executable modified on Mon Apr 27 13:22:13 2015.</td>
</tr>
<tr>
<td>2</td>
<td>i</td>
<td>0:01.649</td>
<td>0-3</td>
<td>Startup complete.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>0:01.655</td>
<td>n/a</td>
<td>Select process group All</td>
</tr>
<tr>
<td>4</td>
<td>-</td>
<td>0:01.656</td>
<td>0-3</td>
<td>Add tracepoint for cstartmpi.c:109. Vars: x, y</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>0:01.658</td>
<td>n/a</td>
<td>Add Expression to Evaluate: my_rank</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>0:01.658</td>
<td>n/a</td>
<td>Add Expression to Evaluate: tables</td>
</tr>
</tbody>
</table>

### Additional Information

- **Stacks**
- **Current Stack**
- **Locals**
  - Name: argc, Value: 1
  - Name: argv, Value: 0x7fffffffddd548
  - Name: beingMatched, Value: 32767
  - Name: bigArray, Value: dest
Profiling Energy and Power Usage

Energy

CPU energy report:
- Total energy: 1796.22 J
- Peak power: 67.00 W
- Average power: 59.99 W

Whole system energy report:
- Total energy: 9180.01 J
- Peak power: 320.00 W
- Average power: 306.59 W
What’s New in Version 6

- Deeper Profiling
- Custom Metrics
- View MAP Files without a license
- New Platforms – ARMv8, POWER8, CUDA 7.5

- Improved Memory Debugging
- New Offline Features
- New Platforms – ARMv8, POWER8, CUDA 7.5
High performance tools to debug, profile, and analyze your applications

Resources at allinea.com

https://www.allinea.com/videos
https://www.allinea.com/blog
https://www.allinea.com/products/forge/download