NSF/IUCRC CAC PROJECT

INTEGRATED VISUALIZING, MONITORING, AND MANAGING HPC SYSTEMS

Jie Li

Doctoral Student, TTU

07/24/2020

Advisors:

Mr. Jon Hass, SW Architect, Dell Inc.

Dr. Alan Sill, Managing Director, HPCC, TTU

Dr. Yong Chen, Associate Professor, CS Dept, TTU

Dr. Tommy Dang, Assistant Professor, CS Dept, TTU

REVIEWS SUMMARY

Summary of Reviews of pap173s1

Reviewer	Rel	Sound	Import	Novel	Rec	Expert
Reviewer 1	Very High (5)	High (4)	High (4)	Medium (3)	Accept (4)	Medium (3)
Reviewer 2	High (4)	High (4)	Medium (3)	Low (2)	Weak Accept (3)	Medium (3)
Reviewer 3	High (4)	High (4)	Medium (3)	Low (2)	Weak Accept (3)	High (4)
Reviewer 4	High (4)	High (4)	Low (2)	Low (2)	Weak Accept (3)	Medium (3)
Averages:	**4.3**	**4.0**	**3.0**	**2.3**	**3.3**	**3.3**

STRONG POINTS

- An **efficient** system to get the right metrics for system administrators
- Many mid-size HPC centers **require monitoring tools**, but cannot indulge in expensive monitoring systems from vendors
- Consolidate visualization of BMC data and tasks make it possible to **find bottlenecks and possible improvements**

SUGGESTIONS FOR IMPROVEMENT

- Provide **expansibility** through support of other tools beside UGE
- Make MonSTer **flexible** to have an API that **talk to other systems**, storage systems, GPUs etc.
- Explore ways in which **users, jobs, and applications** can be all linked together (get the application each job is running)
- Collecting **error, fault and failure information**. Include actions the administrator could take to improve cluster usage
  - **Track down failure patterns** and point at some strategies to prevent some future crashes
  - **Identifying abuse of the system** by users. Exploring this problem is promising
- How effective to use BMC data when **multi jobs** are running on a same node?

OTHER SUGGESTIONS

- Should discuss challenging problems
- Should cite more papers; present a solid and consistent review
- Should properly compare the proposed solution with other solutions
- Need to add real use-cases and how proposed tool is useful
- Extra experiments on different clusters - how easy would be use MonSTer for other people?
- Provide an open-source repository and let the community to use and contribute with MonSTer

QUESTIONS?/COMMENTS?