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### Project Objective

Improving the scalability and portability of PGDB, a GDB-based debugger for MPI applications.

Mentored by XSEDE

### Approach

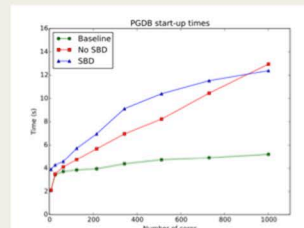
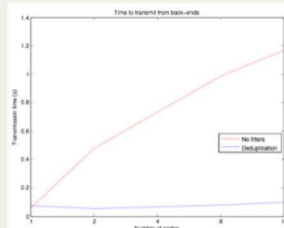
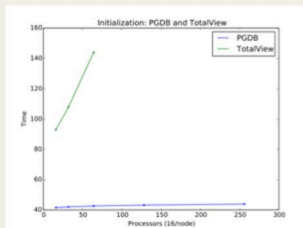
- Scalable debug symbol deployment via tree-based overlay networks
- Scalable data deduplication
- Improving underlying support for different platforms and environments
- Better understanding of system differences to facilitate deployments

### Status

Currently outperforming TotalView in scalability and performance. This serves as a baseline for future progress.

Data deduplication is implemented and showing good improvements in scalability and performance, while also enabling future work.

Implemented a scalable binary deployment interface, which reduces start-up times at large scales, and has low overhead at small scales.



### Questions

- Can we dynamically and portably detect the creation of MPI communicators?
- What is the optimal ratio of total nodes to number of nodes loading debug symbols?
- Does it scale to full supercomputers in practice?