

## Collaborative Research: SI2-SSI: EVOLVE: Enhancing the Open MPI Software for Next Generation Architectures and Applications



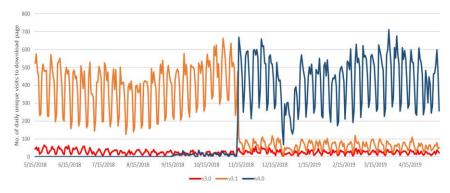
PIs: Edgar Gabriel <sup>1</sup>, George Bosilca <sup>2</sup> Co-PIs: Thomas Herault <sup>2</sup>, Aurelien Bouteiller <sup>2</sup> <sup>1</sup> University of Houston, <sup>2</sup> The University of Tennessee, Knoxville

## **Open MPI**

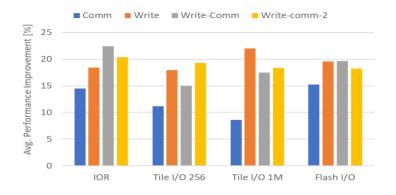
- Widely used implementation of the Message Passing Interface (MPI) Specification
- Jointly maintained by a consortium of academia, industry and national laboratories
- Over 60,000 downloads per year
- World-wide user community

## **Goals of the EVOLVE project**

- Extend Open MPI to support new features of the MPI specification
- Support new architectures
- Improve scalability
- Enhance Parallel I/O performance and functionality



Open MPI download statistics 05/2018 to 05/2019.



Average performance improvement of MPI\_File\_write\_all for various overlap algorithms

