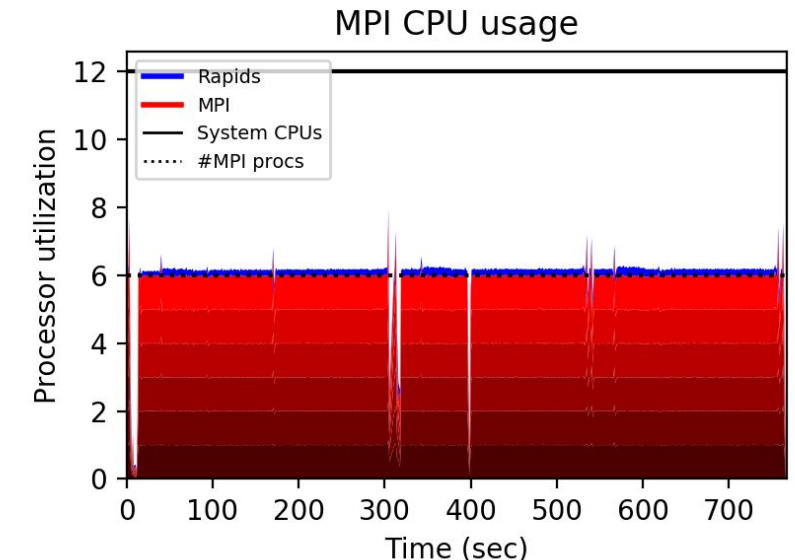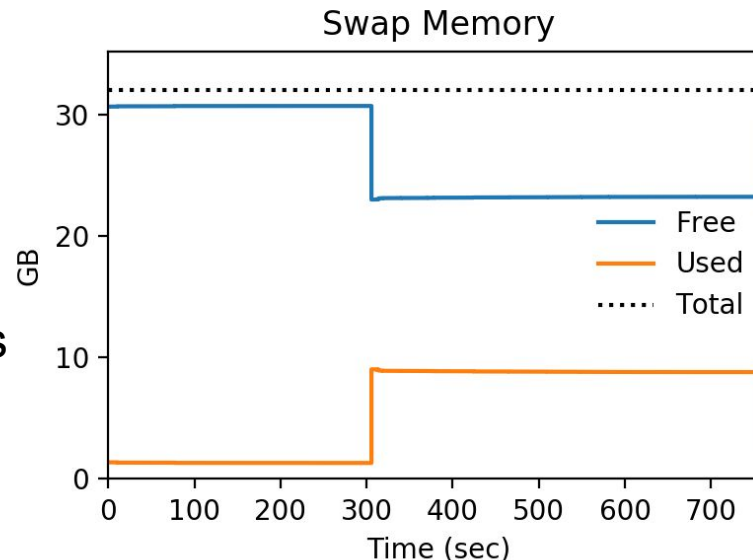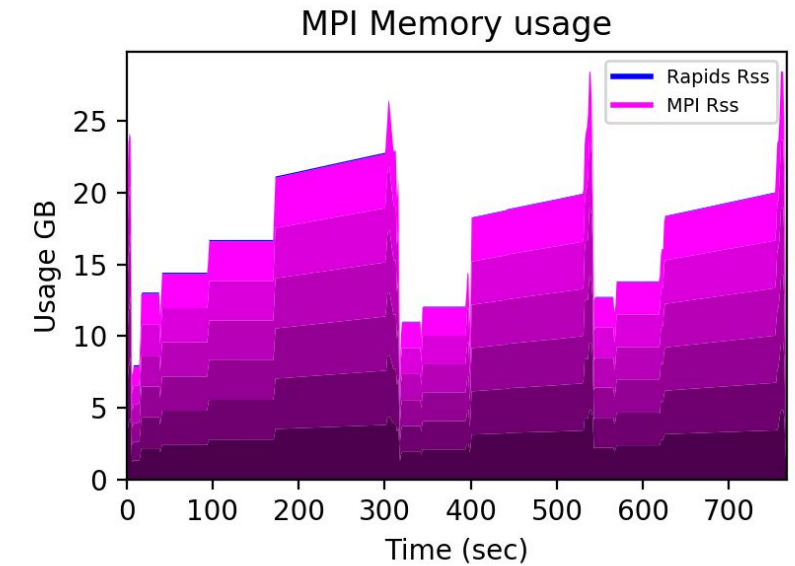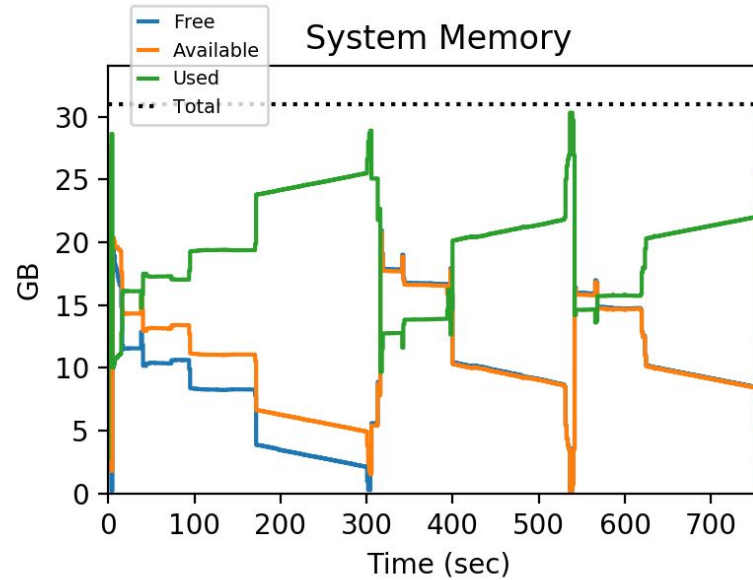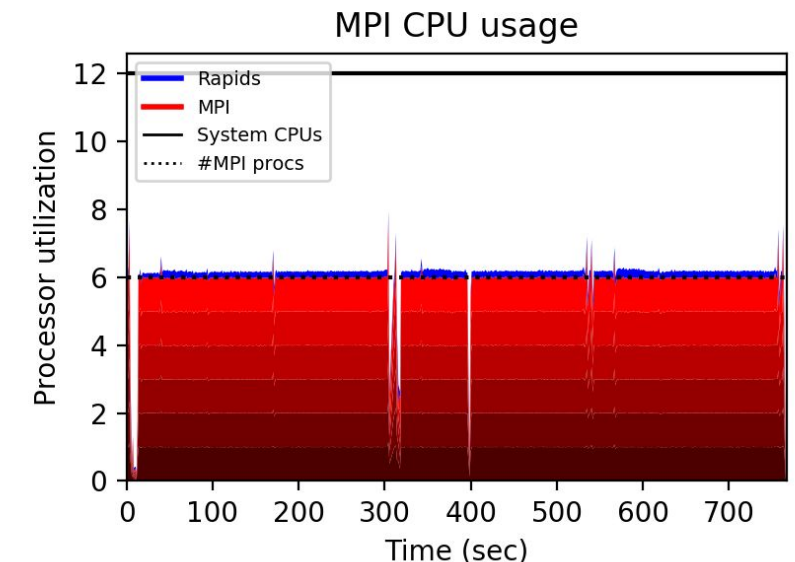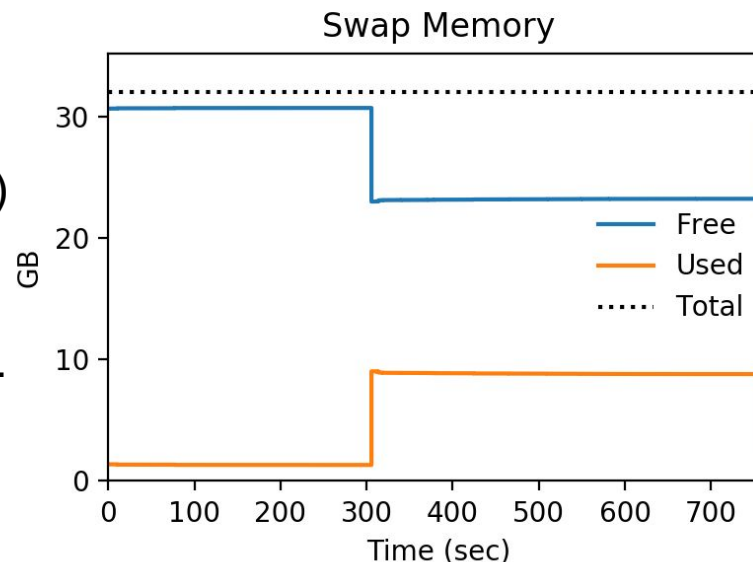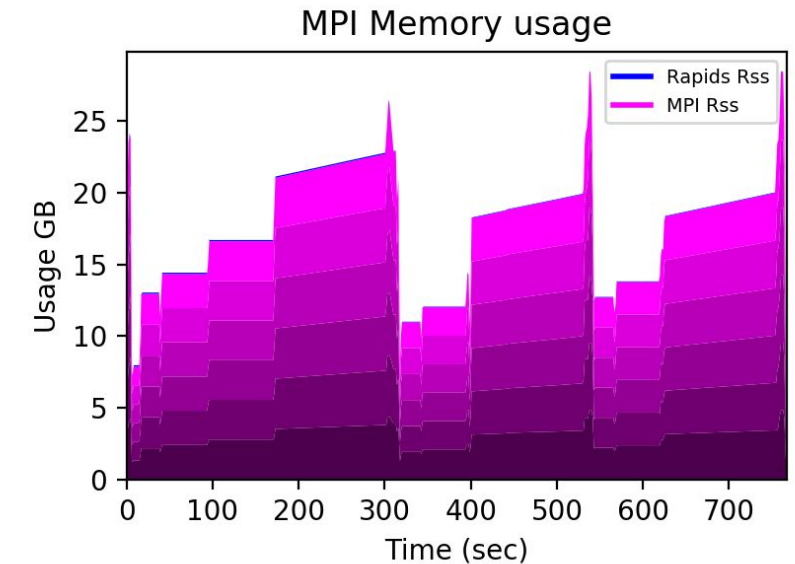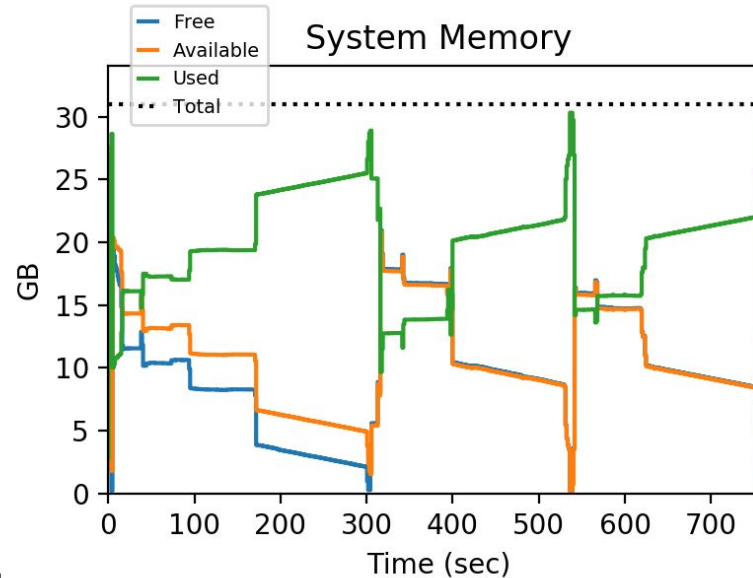# JEDI-Rapids Application Performance Monitoring

Based on Python psutil
- Cross-platform
- Free, Open-source
- /proc filesystem-based
- Highly configurable
  - System memory
  - Swap memory
  - Per-Process memory
    - RSS, PSS, USS
  - System load-avg
  - CPU times (user, system)
  - Threads
  - I/O
  - Context switches
  - System calls
  - Network stats
- JEDI-Rapids polls at regular intervals
  - Saved as Python pickle
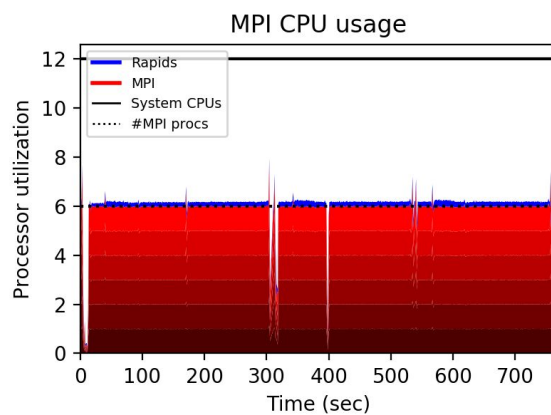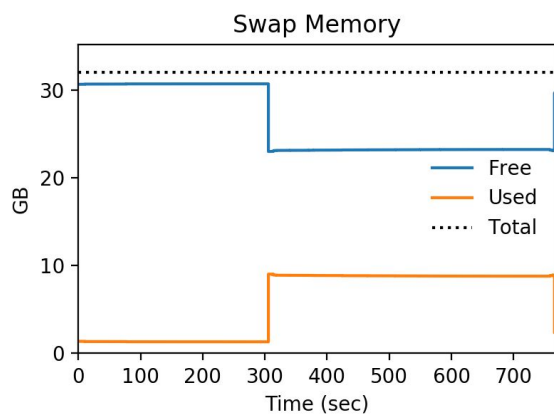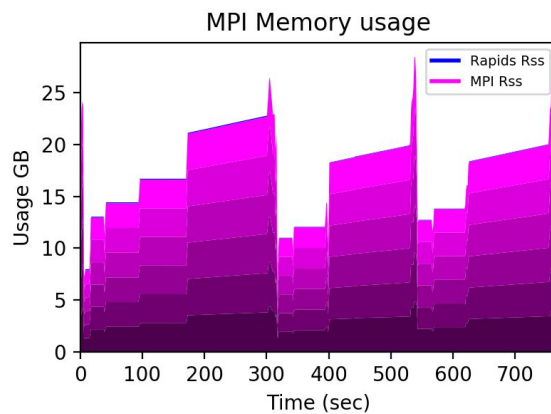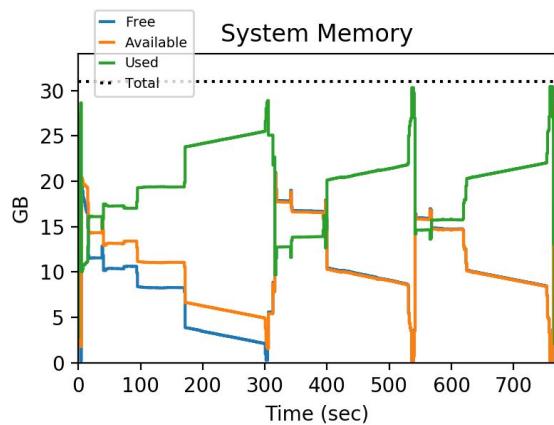 - plots are post-processed

JEDI-Rapids Application Performance Monitoring

- No proprietary software

- No instrumentation of code

- No recompiling or special flags

- Full operational performance

- Works with any language

  - Fortran, C++, Python, etc.

- Works on any system with no special

  external libraries

- Works on laptops, in the cloud, and

  on multi-node MPI jobs (aggregation)

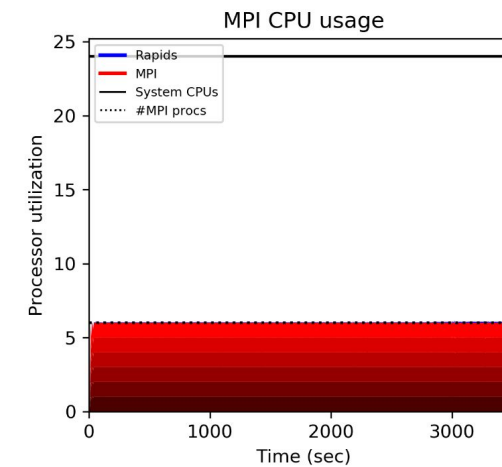- Comparison between runs,

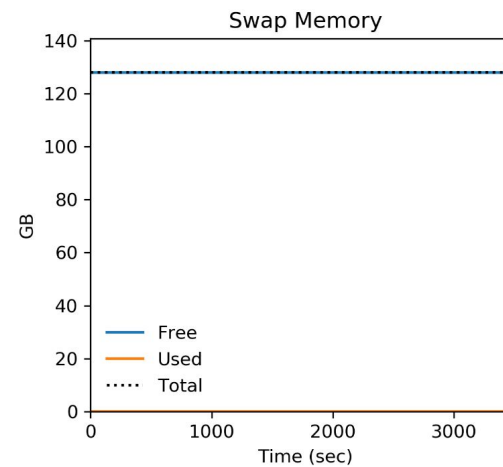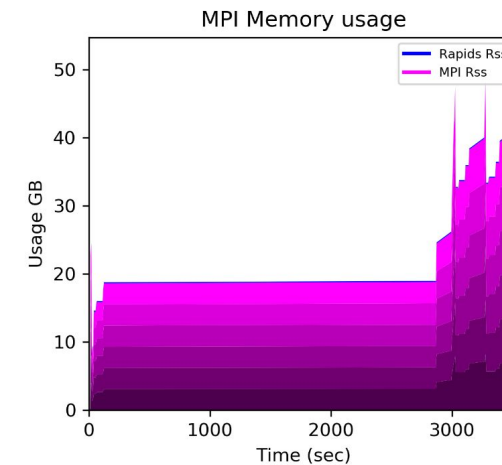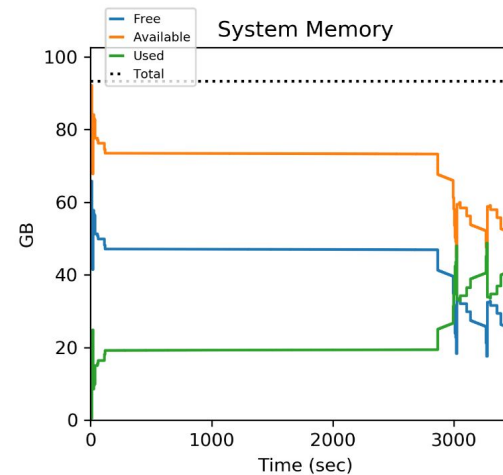 machines, problem sizes, algorithms.

JEDI-Rapids Application Performance Monitoring

KOMPSAT-5 (Laptop 12-core 32GB RAM)

COSMIC-2 (AWS 24-core 92GB RAM)

JEDI-Rapids Application Performance Monitoring

GFS Regrid C768 -> C384
(AWS 24-core 96GB RAM)
[w/ Background Load]