ProfiT-HPC

A Profiling Toolkit for HPC in Tiers 2 and 3

Job-Specific Monitoring

- batch system data

- Telegraf plugins:
  pfit-jobID Plugin
  pfit-procstat Plugin

- pfitCollect:
  a lightweight metric collection tool

Job Report

- automated:
  script-based generation in the postexecution

- modular:
  job summary, resource consumption,
  recommendations, general information and
  more can be configured

- helpful:
  includes easy to understand summaries and
  recommendations, identifies pathological cases

Visual Dashboards

- automated:
  script-based generation in the postexecution

- interactive:
  users can zoom into their data

- structured:
  different levels of detail:
  global, node-based, process-based

Goals

- increase awareness:
  of the importance of performance
  of HPC applications

- automatic feedback:
  on the performance and resource
  consumption of a job

- **recommendations**:
  for optimization of the job

Achievements

- **requirement analysis**
  Tier 3 infrastructure survey and
  requirement analysis

- **performance indicators**
  definition based on monitoring
  data

- **prototype**
  first version in test and to be rolled
  out soon

Next Steps

- integration of user feedback
  include experiences of different
  data centers into the release

- integration of profiling tools
  integrate profiling tool metrics into
  the reports

- integration of additional metrics
  integrate network and file system
  metrics