Introduction to
Intel Performance Tools

Part 1/2

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Intel® Performance Tools

- Intel Advisor
  - Optimize Vectorization and Thread Prototyping for C, C++, Fortran

- Intel Inspector
  - Easy-to-use Memory and Threading Error Debugger for C, C++, Fortran

- Intel Vtune Amplifier
  - Serial/Threaded Performance Profiler for C, C++, Fortran, Mixed Python

- Intel Trace Analyzer and Collector
  - Understand MPI application behavior for C, C++, Fortran, OpenSHMEM

- Intel Distribution for Python
  - High-performance Python powered by native Intel Performance Libraries
Intel® Parallel Studio XE – Cluster Edition


- Intel Advisor*

- Intel Inspector*

- Intel Vtune Amplifier*

- Intel Trace Analyzer and Collector*

- Intel Distribution for Python
  https://software.intel.com/en-us/distribution-for-python

* Product Support → Training, Docs, Faq, Code Samples
ssh graham.sharcnet.ca

cd /opt/software/intel/18.0.1/parallel_studio_xe_2018.1.038
source psxevars.sh

→ linux/bin/compilervars.sh
→ clck_2018/bin/clckvars.sh
→ itac_2018/bin/itacvars.sh
→ inspector_2018/inspxe-vars.sh
→ vtune_amplifier_2018/amplxe-vars.sh
→ advisor_2018/advixe-vars.sh

Examples

ls /opt/software/intel/18.0.1/parallel_studio_xe_2018.1.038/samples_2018/en

class inspector samples.html vtune_amplified
Initialization the Components – The Module Way

module unload intel imkl openmpi

export MODULEPATH=/opt/software/modules:$MODULEPATH

module load intelcluster/18.0.1    (graham cluster)

or

module load intelpython/python27/18.0.1

module load intelpython/python36/18.0.1

export LD_LIBRARY_PATH=$LD_RUN_PATH:$LD_LIBRARY_PATH
Running the Performance Tools

- Intel Advisor → advixe-gui
- Intel Inspector → inspxe-gui
- Intel Vtune Amplifier → amplxe-gui
- Intel Trace Analyzer and Collector → traceanalyzer
  mpirun -np 2 -trace ./a.out
  traceanalyzer a.out.stf
- Intel Distribution for Python → python
  /opt/software/intelpython/18.0.1/intelpython2/bin
  /opt/software/intelpython/18.0.1/intelpython3/bin
To Be Continued ...

- Part 2/2
  - comparisons with other similar tools
  - examples running the performance tools

- Copy of the slides or questions
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