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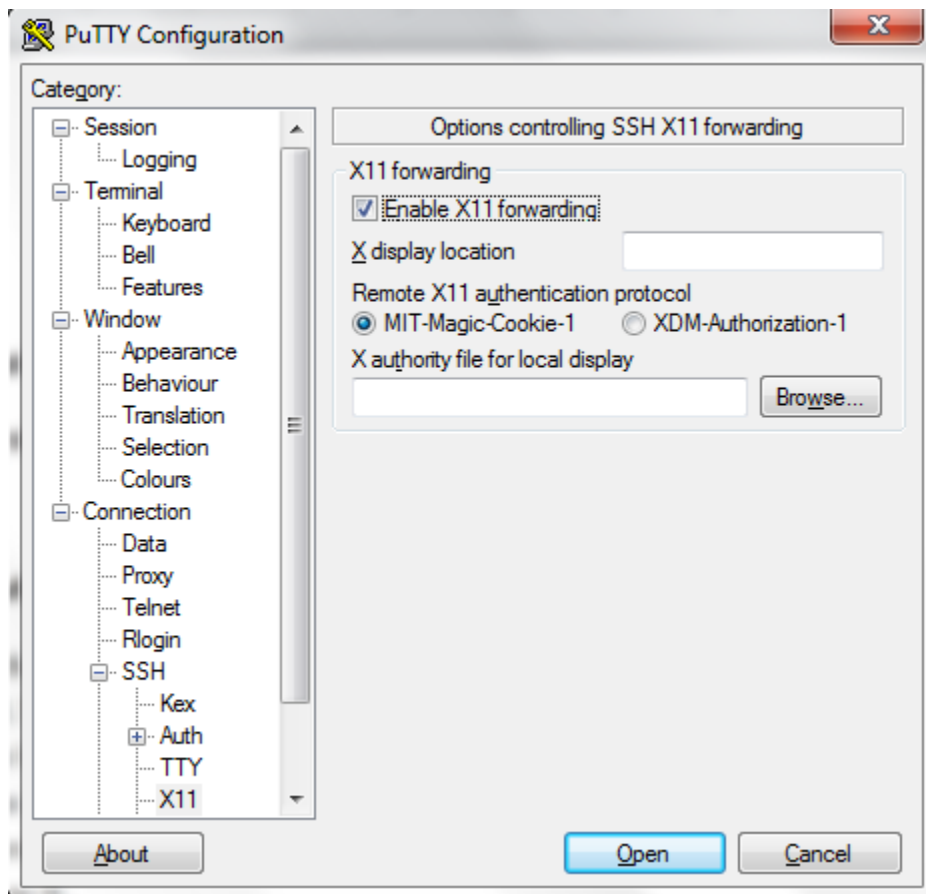
Department of Electrical and Computer Engineering

ECE 677: Distributed Computing Systems

Profiling Using Intel Tools

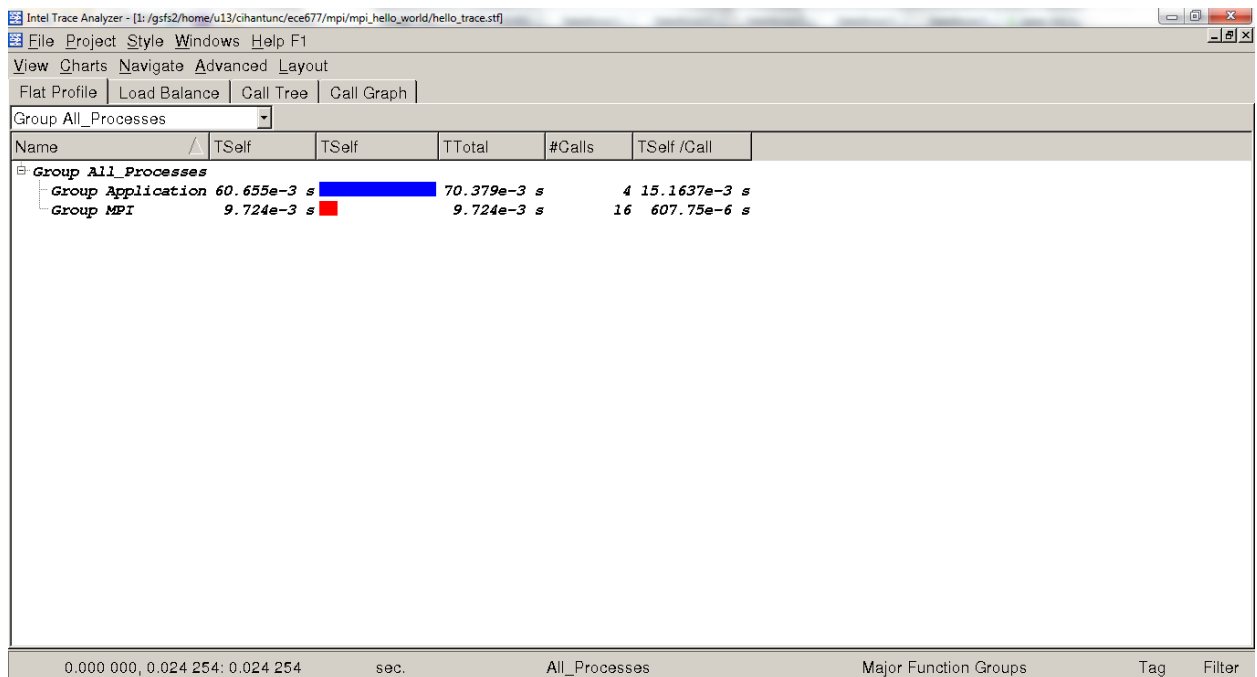
This document is to show you how to run the profiling tools. Even though hottip gives gprof for profiling, I am not so sure how effective it is for MPI. Therefore, instead, we will use Intel Trace Analyzer and Collector. It is a GUI based program, hence it requires X windows. Thus to run it we need to activate X windows.

- If you are sshing from Mac, Linux or Cygwin, you can use -X flag: `ssh -X username@login.hpc.arizona.edu`
- If you are using Putty to connect, you need to activate in from Connection -> SSH -> X11 as shown below:



Below are the steps you need to do to use Intel Trace Analyzer and Collector:

- After loading intel and intel-mpi modules, you need to load an environment file.
module load intel intel-mpi
source /uaopt/intel/2012.0.032/itac/8.0.3.007/bin/itacvars.csh
- While compiling our source codes, we need to use `-trace` flag. As an example:
`mpiicc -trace -o hello_trace mpi_hello_world.c`
- Before running, we need to update our batch script and give the name of the new executable file
- After the execution is complete, it will create us "hello_trace.stf" file and we will use it in our analyzer.
- To analyze it with the profiler, use the following command: `traceanalyzer hello_trace.stf`
- It will show us a GUI window. Please note that the quality will depend on the program you are using as well as the connection



- You can get more information about it, how it works from the link below.
http://nf.nci.org.au/facilities/software/intel-itac/8.0.1.009/doc/Getting_Started.html

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