

„Altix Usage And Application Programming“

Location: **Technische Universität Dresden**
Münchner Platz 3, Georg-Schumann-Bau Hörsaal A001
Zellescher Weg 12, Willers-Bau Hörsaal A 317

Date: **November 30th to December 1st 2005,**
Wednesday through Thursday

Instructors: **Dr. Reiner Vogelsang, SGI GmbH**

Agenda:

1st Day (Münchner Platz 3, Georg-Schumann-Bau Hörsaal A001)

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|--------------------------|---|
| 08.45 h - 09.15 h | Welcome and Introduction
Speaker: Prof. Wolfgang E. Nagel, ZIH |
| 09.15 h -10.00 h | Short Introduction to Altix Hardware
NumaLink, System and Memory Architecture, IA64
Processor Hardware Architecture |
| 10.15 h -11.00 h | Altix Linux and Programming Environment
Helpful commands and development utilities, basic
compiler options and usage, recommendations
with regard to scripting and Makefiles |
| 11.15 h - 12.00 h | Intel IA64 Compiler, Libraries and Development
Tools, Part 1
Most important options, complex optimization
steps IPO & PGO, HLO, reading compiler
optimization reports, alias disambiguation,
directives, pragmas, MKL. |
| Lunch Break | |
| 13.15 h - 14.00 h | Intel IA64 Compiler, Libraries and Development
Tools, Part 2 |
| 14.15 h - 15.00 h | Some Comments On Getting Correct Code
Array bound checks, detection of memory
corruptions, detection of exceptions, tools and
utilities for debugging. |
| 15.15 h - 16.00 h | SGI NumaTools
Runon, taskset, dplace, cpusets, dlook.Examples |

16.15 h - 17.00 h

Excursion on Documentation and Wrap-Up of 1st Day

Where can I get information on frequently used tools and utilities?

2nd Day (Zellescher Weg 12, Willers-Bau Hörsaal A 317)

09.15 h - 10.00 h

SGI Performance Analysis Tools

histx+ tool suite
pfmon, profile.pl
pmshub, shubstats, linkstats, perfcatcher.
Intel Trace Collector

10.15 h - 11.00 h

LSF Essentials

Job submission using the batch system LSF

11.15 h - 12.00 h

Optimizations of Data Intensive Applications

Cache tuning, understanding of memory hierarchies, I/O

Lunch Break

13.15 h - 14.00 h

Tuning of Parallel Applications I

Some OpenMP related things, Memory Placement,

14.15 h - 15.00 h

Tuning of Parallel Applications II

Topics:
MPI Tuning, MPI I/O
Examples.

Break

15.30 h - 16.30 h

Discussion And Important Informations For Users

Topics:
Modi of operation, next steps and future plans

Wrap-up