PRIMEHPC FX100 Tuning Guide

(Former Tuning Tutorial)

FUJITSU LIMITED

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Introduction

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The tutorials consist of the following chapters:

- Chapter 0 Tuning Guide

Intra-Node

- Chapter 1 Hardware
- Chapter 2 Program Development Environment and Programming Overview
- Chapter 3 Large Page
- Chapter 4 Fortran
- Chapter 5 C/C++
- Chapter 6 PA Event
- Chapter 7 Tuning Tool
- Chapter 8 Intra-Node Tuning

Inter-Node

- Chapter 9 MPI and Inter-node Tuning

Purpose and Aim of the Tutorials

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- The tutorials explain, in an easy-to-understand manner, the skills required for efficiently exploiting the performance of the FX100.
- The purpose of this document is to provide a useful reference on tuning while exhibiting the real capabilities of user applications.
- The tutorials consist of the following parts:
  - Overview and general description (Chapters 1 to 7 and 9)
    - Tutorials present prerequisite hardware and software knowledge for tuning as well as the prerequisite functions that form a foundation for tuning.
    - Tutorials explain how to compile and execute user applications, and how to use tools.
    - Beginners of performance tuning are recommended to read the Chapter 1 through 7. Also, MPI users are to read outline and explanation part of the Chapter 9.
  - Practices and case examples (Chapter 8)
    - Tutorials explain how to collect and effectively use the information (PA information, sampler information, etc.) required for analysis of problems that have occurred.
    - Tutorials covering response methods explain specific improvement cases so that users can take appropriate measures against problems that have occurred.
    - Middle and high level programmers of performance tuning are recommended to read the Chapter 8 and Example part of the Chapter 9.

Note:

In this tutorial, a necessary skill is extracted from each manual and explained collectively. There is information that has not been described to the tutorial like the use of functions. Please check the manual about them. This tuning guide was written for Technical Computing Suite V2.0L20.

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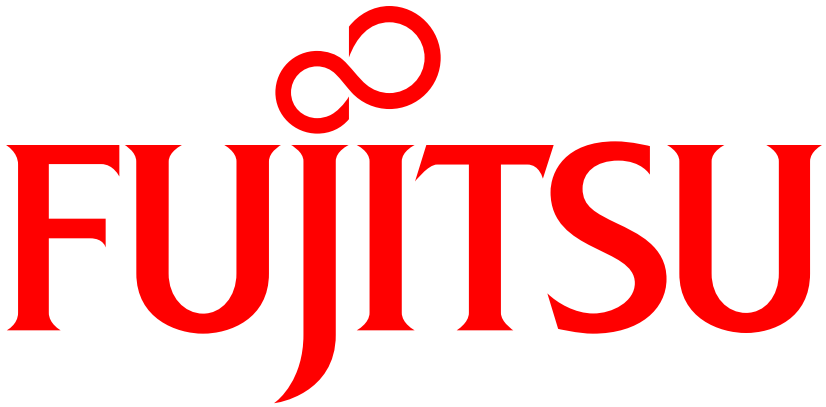
Revision History

Version	Date	Revised section	Details
2.0	April 25, 2016	-	- First published



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