

PROJECT ARRANGEMENT
UNDER THE IMPLEMENTING ARRANGEMENT
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF
AMERICA
AND
THE MINISTRY OF EDUCATION, CULTURE, SPORTS, SCIENCE
AND TECHNOLOGY OF JAPAN
CONCERNING COOPERATION IN RESEARCH AND
DEVELOPMENT IN ENERGY AND RELATED FIELDS

CONCERNING COMPUTER SCIENCE AND SOFTWARE RELATED TO HIGH
PERFORMANCE COMPUTING FOR OPEN SCIENTIFIC RESEARCH

The Department of Energy of the United States of America (DOE) and the Ministry of Education, Culture, Sports and Technology of Japan (MEXT), hereinafter collectively referred to as the "Participants":

ACTING under Section 4 of the Implementing Arrangement Between the Department of Energy of the United States of America and the Ministry of Education, Culture, Sports and Technology of Japan Concerning Cooperation in Research and Development in Energy and Related Fields of April 30, 2013 (hereinafter referred to as the "Implementing Arrangement"); and

DESIRING to establish a framework for cooperation between agencies in Japan and in the United States for system software technology development, to support computer science and software related to high performance computing for the advancement of science and technology in the Participants' countries,

Have decided as follows:

Section 1-Objective

1. The objective of this Project Arrangement is to facilitate scientific and technological exchanges that promote collaboration on research and development for projects involving the next generation of system software for high performance computing and related science and technologies.
2. This Project Arrangement is under the terms and conditions of the Implementing Arrangement, which is itself subject to and governed by the Agreement between the Government of Japan and the Government of the United States of America on Cooperation in Research and Development in Science and Technology signed on June 20, 1988, as amended and extended (hereinafter referred to as "the Agreement"). In the event of any conflict between the contents of this Project Arrangement on the one hand and the Agreement or the Implementing Arrangement on the other hand, the contents of the latter will govern.

Section 2-Areas for Cooperation

Cooperation under this Project Arrangement may include, but is not limited to, the following areas:

Research and development of

1. Kernel System Programming Interface
2. Low-level Communication Layer
3. Task and Thread Management to Support Massive Concurrency
4. Power Management and Optimization
5. Data Staging and Input/Output (I/O) Bottlenecks
6. File System and I/O Management
7. Improving System and Application Resilience to Chip Failures and other Faults
8. Mini-Applications for Exascale Component-Based Performance Modelling

Section 3-Participating Organizations

Each Participant may invite other government agencies and organizations and private organizations in its country to participate in cooperative activities under this Project Arrangement, at the participating organizations' own expense and subject to such terms and conditions as the Participants may specify. For MEXT, such participating organizations include Japanese national laboratories, universities and other MEXT-funded institutions. For DOE, such participating organizations include DOE national laboratories, universities and other DOE-funded institutions.

Section 4-Forms of Cooperation

Cooperative activities under this Project Arrangement may include, but are not limited to, the following:

1. Exchange of Personnel: scientists, engineers, post-graduates and graduate students on short-term or long-term basis under Section 6 of the Implementing Arrangement.

2. Equipment Transfer: under Section 7 of the Implementing Arrangement. Unless decided otherwise in writing, any equipment made available by one Participant to the other Participant for the purpose of the collaboration will remain the property of the sending Participant.
3. Development and Exchange of Technical Information and Experiences, and Collaborative Visits: The Participants will jointly or independently develop research results in the areas listed in Section 2. Data and experience developed by the Participants under this Project Arrangement will be exchanged. The Participants will arrange collaborative visits related to research and development programs for this purpose.

Section 5-Management

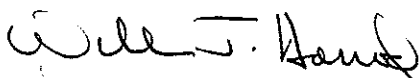
1. A Committee on Computer Science and Software (hereinafter referred to as "the Committee") will be established in order to facilitate the implementation and coordination of cooperative activities in the area of computer science and software related to high performance computing for open scientific research.
2. Each Participant should designate an equal number of members of the Committee.
3. Each Participant should designate one person to act as its co-chairperson on the Committee.
4. The Committee should meet in Japan and the United States alternately, as a rule, at least once every year on mutually decided dates.
5. The duties of the Committee will be:
 - (a) to review and to recommend cooperative activities in the area of computer science and software related to high performance computing for open scientific research under this Project Arrangement;
 - (b) to monitor progress of cooperative activities under this Project Arrangement;
 - (c) to review and to formulate proposals for alteration of cooperative activities under this Project Arrangement; and
 - (d) to take timely and appropriate actions to ensure the effective implementation of the collaboration contemplated by this Project Arrangement.
6. In the event the Committee cannot meet in person, the Committee can discharge its duties by written communications, teleconferences, or videoteleconferences.

Section 6-Commencement, Modification, and Discontinuation

1. Cooperative activities under this Project Arrangement are to commence upon signature and, unless discontinued under the procedure described in paragraph 3 of this Section 6, are to continue so long as the Implementing Arrangement continues.

2. This Project Arrangement may be modified by written consent of the Participants, so long as the Implementing Arrangement continues.
3. The Participants may discontinue this Project Arrangement at any time by mutual consent in writing. Alternatively, a Participant that wishes to discontinue its participation in this Project Arrangement should endeavor to provide at least 6 months advance notice in writing to the other Participant.

Signed at Leipzig this 23 day of June 2014 in two originals.



FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF
AMERICA:



FOR THE MINISTRY OF EDUCATION
CULTURE, SPORTS, SCIENCE
AND TECHNOLOGY OF JAPAN: