

# Big Data workshop – introduction

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July 9th 2013

AGREEMENT DATE: Thursday, January 24, 2013 RS- 7396440

## **NON-DISCLOSURE AGREEMENT FOR RESTRICTED SECRET INFORMATION ("RSNDA")**

This Non-Disclosure Agreement for Restricted Secret Information ("Agreement") is entered into and made effective as of the date set forth above, by and between Intel Corporation ("Intel"), and the Recipient identified below ("Recipient").

THE PARTIES AGREE AS FOLLOWS:

1. Confidential Information Transmittal Form. The Intel "Restricted Secret" confidential, proprietary and trade secret information ("Restricted Secret Information") to be disclosed hereunder is information described in the Confidential Information Transmittal Record for Restricted Secret Information ("RS-CITR") executed from time to time hereafter. RS-CITRs which reference this Agreement are subject to the terms of this Agreement. RS-CITRs will be executed prior to or concurrent with the disclosure of Restricted Secret Information. The RS-CITR will include a description of the Restricted Secret Information disclosed, the names of the Recipient's representatives authorized to receive the Restricted Secret Information, and the date of the disclosure covered by the RS-CITR. Restricted Secret Information, as identified in any particular RS-CITR may be embodied and displayed in models and test and measurement instrumentation available from Intel and sources other than Intel, and the use of such models and test and measurement devices is subject to the terms of this Agreement.

2. Obligations of Recipient. Recipient may use the Restricted Secret Information provided pursuant to this Agreement only for the purposes of evaluating the procurement of computer systems which are based on microprocessors purchased from Intel ("Intel based computer systems"), including but not limited to building and running models of Intel based computer systems, developing software for Intel based computer systems, testing such software on Intel based computer systems and the models thereof and testing such systems in Recipient's own networks. Except as expressly set forth above, **Recipient hereby acknowledges that it obtains no right to use Restricted Secret Information in any semiconductor component or product or to use Restricted Secret Information to design any computer system without express written license from Intel.** However, nothing in this Agreement shall preclude Recipient from independent development of any microprocessor, chipset or other semiconductor device without use of the Restricted Secret Information or from the use or sale of any such device independently developed by any other person. Recipient will maintain the confidentiality of the Restricted Secret Information with at least the same degree of care that it uses to protect its own confidential and proprietary information, but no less than a reasonable degree of care under the circumstances. **Recipient will not disclose Restricted Secret Information to any third parties, including any affiliates, subsidiaries, or parent or sister companies, without the prior written approval of Intel.**

Recipient agrees to implement procedures to limit the distribution of Restricted Secret Information and related tangible items provided to Recipient under this RSNDA only to those employees who (i) have an actual need to know for Recipient to carry out the uses for which Restricted Secret Information is provided hereunder, and (ii) have agreed to be bound to nondisclosure terms at least as comprehensive as those set forth herein.

In all cases where Restricted Secret Information is subject of approval or controls under the laws and regulations of the United States ("U.S.") and/or any other applicable host country laws and regulations, you must comply with these laws and regulations governing export, re-export, import, transfer and use of Intel Product, Information or Technology and will obtain all required U.S. and/or local authorizations, permits, or licenses. You agree to refrain from exporting, either directly or indirectly, any Intel Product or Technology without first obtaining any required license or other authorization from the U. S. Department of Commerce or any other agency or department of the U.S. Government, and/or other applicable host Governments.

If Intel Product, Information or Technology is exported from the U.S. or re-exported from a foreign destination by you, you must ensure that such export or re-export of any kind is in compliance with the U.S. and/or applicable host country laws, regulations, orders or other restrictions of the U.S. Export Administration Regulations and/or other applicable host Governments. You certify that you will not, directly or indirectly, export, re-export, or transship in a manner that violates these laws and regulations

3. License to Use Comments and Suggestions. This Agreement does NOT obligate Recipient to provide Intel with comments or suggestions regarding Intel Restricted Secret Information. However, should Recipient provide Intel with comments or suggestions for the modification, correction, improvement or enhancement of (a) the Restricted Secret Information or (b) Intel products or processes which may embody the Restricted Secret Information, Recipient grants to Intel a non-exclusive, irrevocable, worldwide, royalty-free license, with the right to sub license Intel's licensees and customers, under Recipient's intellectual property rights, the rights to use and disclose such comments and suggestions in any manner Intel chooses and to display, perform, copy, make, have made, use sell, and otherwise dispose of Intel's and its sublicensee's products embodying such comments and suggestions in any manner and via any media ,Intel chooses, without reference to the source.

4. Termination of Obligation of Confidentiality. Recipient will not be liable for the disclosure of any Restricted Secret Information which is, prior to Recipient's disclosure:

- (a) rightfully in the public domain other than by a breach of a duty to Intel;
- (b) rightfully received by Recipient from a third party without any obligation of confidentiality;
- (c) rightfully known to Recipient without any limitation on use or disclosure prior to its receipt from Intel;
- (d) independently developed by employees of Recipient; or
- (e) generally made available to third parties by Intel without restriction on disclosure.

5. Title. Title or the right to possess Restricted Secret Information as between the parties will remain perpetually with Intel.

6. No Obligation of Disclosure; Termination. Intel has no obligation to disclose any Restricted Secret Information to Recipient. Either party may terminate this Agreement at any time without cause upon written notice to the other party. Recipient's obligations with respect to Restricted Secret Information disclosed under this Agreement will survive any such termination. Intel may, at any time: (a) cease giving Restricted Secret Information to Recipient without any liability; and/or (b) request in writing the return or destruction of all or part of its Restricted Secret Information disclosed hereunder, and all copies thereof, and Recipient will promptly comply with such request and certify in writing its compliance.

#### 7. General.

(a) This Agreement is neither intended to nor will it be construed as creating a joint venture, partnership or other form of business association between the parties, nor an obligation to buy or sell products using or incorporating the Restricted Secret Information.

(b) Recipient understands and acknowledges that no license under any Intel patent, copyright, mask work right, trade secret (except as expressly provided in Section 2 above) or other intellectual property right is granted to or conferred upon Recipient in this Agreement or by the disclosure of any Restricted Secret Information by Intel to Recipient as contemplated hereunder, either expressly, by implication, inducement, estoppel or otherwise, and that any further license under such intellectual property rights must be express and in writing.

(c) The failure of Intel to enforce any right resulting from breach of any provision of this Agreement by Recipient will not be deemed a waiver of any right relating to a subsequent breach of such provision or of any other right hereunder.

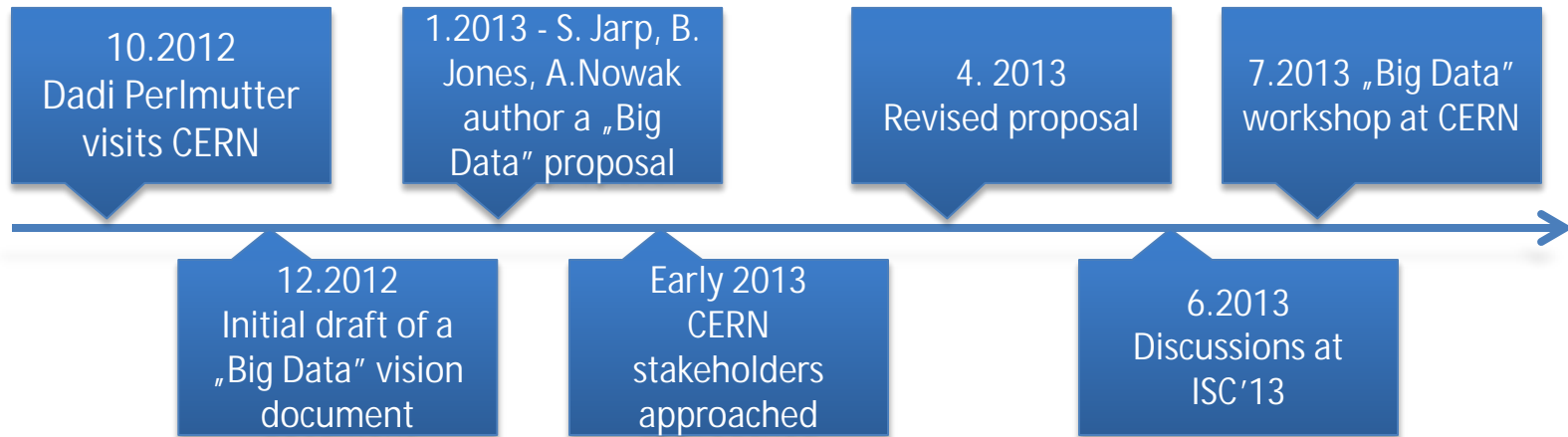
(d) This Agreement will be governed by the laws of England and Wales without reference to conflict of laws principles.

(e) This Agreement and any accompanying RS-CITR and RS-CITRs executed from time to time hereafter which incorporate the terms of this Agreement, constitute the entire agreement between the parties with respect to the disclosure(s) of Restricted Secret Information described in each RS-CITR, and may not be amended except in a writing signed by a duly authorized representative of the respective parties. Any other agreements between the parties, including non-disclosure agreements, will not be affected by this Agreement.

# Agenda

- July 9<sup>th</sup> - Lunch
- July 9<sup>th</sup> (IT auditorium)
  - Introduction
  - Online challenges overview by CERN (2 talks)
  - Intel technology plans and discussions
- July 10<sup>th</sup> (513-1-024)
  - Software presentations from CERN (2 talks)
  - Follow-up discussion
  - Summary

# History (timeline)



# The initial idea

- Establish a globally-visible “Big Data Lab” at CERN
- LHC experiments are looking to upgrade their systems – Intel is working on new computing technologies – work on a synergy
- Targeting major improvements, initially in the domain of real-time triggering and data acquisition
- Resources from Intel, CERN and the experiments in 2014-2018

# Technical means

- Next-generation Intel technology
- Upgraded LHC experiments (post LS1)
- Definition, simulation, early prototyping, alpha/beta-testing, and product validation
- Configurations range from prototype (hardware and simulation), through medium sized, up to a potential full size deployment



# Initial list of technical areas of interest

- Memory technologies
  - Non-volatility
  - Large cache size/deeper hierarchy at reasonable latencies
- Interconnect – high bandwidth, high integration
- Acceleration/co-processing
  - Small cores, many cores, low frequency
  - In-socket systems
- New CPU and system architectures
- Next generation software
- Storage

# Goals for this meeting

- Inform CERN about next-gen Intel technology
- Inform Intel about CERN's LHC, experiment and computing upgrade plans/requirements
- While keeping a future Big Data lab in mind:
  - Identify key areas of synergy
  - Identify technical base
  - Specify participating new technologies
  - Clarify engagements
  - Set directions
- Establish key elements of a project plan

# Thank you

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