

Statement of Considerations

REQUEST BY PETITIONER MICRON TECHNOLOGY INC., FOR AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN RIGHTS IN SUBJECT INVENTIONS AND ADVANCED PERMISSION TO ASSERT COPYRIGHT IN TECHNICAL DATA AND COMPUTER SOFTWARE IN THE COURSE OF OR UNDER NTESS, LLC SOLICITATION 1275064 UNDER PRIME CONTRACT NO. DE-NA0003525; DOE WAIVER DOCKET W(A)2019-001

Patent Rights

Petitioner has made a timely request for an advance waiver to worldwide rights in Subject Inventions made in the course of or under NTESS, LLC Solicitation No. 1275064 entitled "Exploring the Impact of Extended Memory Operations" under NTESS Prime Contract No. DE-NA0003525. Petitioner is also requesting advanced permission to assert copyright in technical data and computer software generated under the proposed subcontract. The scope of the work is to examine potential types of Compute In Memory (CIM) and Compute Near Memory (CNM) architectures and evaluate the efficiency of these architectures relative to existing reference architectures using mini-apps jointly selected by Petitioner and NTESS. In addition, the effectiveness of certain types of CIM and CNM architectures with High Bandwidth Memory (HBM) compatible buffers aimed at reducing data movement on select applications will be examined.

The dollar amount of the program is \$14,993,636.00 of which Petitioner is providing a 40.5% cost share of \$6,069,846.00. The period of performance is approximately three (3) years.

Petitioner's experience and expertise will contribute substantially to the development of the inventions and copyrighted works made under the subcontract. Petitioner is the number 2 supplier of memory worldwide including DRAM, NAND flash and NOR flash. On July 31, 2013, Petitioner closed its acquisition of 100% of Elpida. Petitioner has a DRAM supply agreement with Inotera and has a NAND manufacturing and technology development JV with Intel (IM Flash Technology). Petitioner is the number-two memory maker worldwide and owns and operates manufacturing and testing facilities across seven countries with wholly owned wafer fabrication facilities in Idaho, Utah, Virginia, Singapore, Japan and Taiwan and wholly owned module assembly and test facilities in Idaho, China, Puerto Rico, Japan and Singapore. Petitioner is one of three major memory manufacturers in the world, and the only U.S. manufacturer among those three. Petitioner holds thousands of patents for memory and storage technologies and is among the top 20 U.S. patent recipients in the world. In 2018, Clarivate Analytics named Petitioner a Top 100 Global Innovator for the sixth consecutive year and five inventors of Petitioner's patents are among the world's top 50 all-time patent recipients; one of whom is named on more patents than Thomas Edison.

Petitioner has made a significant investment of private funding which will directly assist and further promote development of the work to be performed under the subcontract. Petitioner spends approximately 500 million dollars per fiscal quarter for research and development in the field of memory storage devices and systems. Petitioner will bring its expertise in analysis of similar acting applications in the commercial environment which may be applied to DOE's selection of future memory and storage devices and implementation of memory centric computing architectures.

Petitioner has agreed to accept the attached DOE waiver terms and conditions if the requested waiver is granted. Specifically, Petitioner agrees to abide by the conditions set forth at U.S.C. §202-204 relating to the Government license, march-in rights, preference for U.S. Industry, as well as U.S. Competitiveness.

Petitioner agrees that any products embodying any waived invention or produced through the use of any waived invention will be manufactured substantially in the United States, unless Petitioner can show to the satisfaction of DOE that it is not commercially feasible to do so. In the event DOE agrees to foreign manufacture, there will be a requirement that the Government's support of the technology be recognized in some appropriate manner, e.g., recoupment of the Government's investment, etc. Petitioner further agrees to make the above condition binding on any assignee or licensee or any entity otherwise acquiring rights to any waived invention, including subsequent assignees or licensees. Should Petitioner or any other such entity receiving rights in any waived invention undergo a change of ownership amounting to a controlling interest, then the waiver, assignment, license, or other transfer of rights in the waived invention is suspended until approved in writing by DOE.

Data Rights

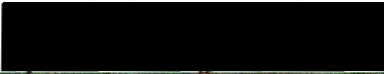
While the Bayh-Dole Act only applies to the allocation of patent rights. Petitioner has also requested to have advanced rights to assert copyright in computer software and technical data without the Contracting Officer's prior approval. The Petitioner notes that DOE is funding the project with the goal of providing DOE insights into potential future implementation of memory and storage devices and how to specify and implement memory centric computing architectures. Petitioner states that it is committed to commercializing the project technology, but recognizes the challenges of doing so in the context of a highly competitive global memory market with significant foreign competition. Memory is a cross-cutting technology that impacts multiple CPU manufacturers, network manufacturers, and storage manufacturers. Speed in being able to present and distribute successful results of the contemplated research, to customers, industry partners and other stakeholders, is essential to Petitioner's commercialization efforts. Allowing Petitioner to swiftly present project data to relevant third parties (but with copyright protection already attached to cutting-edge project data) will materially enhance Petitioner's commercialization efforts.

The Government reserves a Government license in both the copyrighted technical data and computer software. For data other than computer software, the Petitioner grants to the Government, and others acting on its behalf, a paid-up, non-exclusive, irrevocable, worldwide license in such copyrighted data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly by or on behalf of the Government. For computer software, the Petitioner grants to the Government, and others acting on its behalf, a paid-up, non-exclusive, irrevocable, worldwide license in such copyrighted computer software to reproduce, prepare derivative works, and perform publicly and display publicly (but not to distribute copies to the public) by or on behalf of the Government. However, the limited Government-use license in copyrighted software will revert to a broad Government license, which allows the Government to distribute copies to the public, if either the Petitioner abandons the commercialization of the software or DOE march-in rights are exercised, for example, where the Petitioner has not taken effective steps to commercialize the software.

Conclusion

Granting of the waiver should have little effect on competition since there are several technology options, this being one of many previously or yet-to-be developed in the marketplace. Moreover, Petitioner's technology will require significant additional developments prior to commercial introduction. Thus, there should not be undue market concentration of Petitioner's products.

In view of the objectives and considerations set forth in 10 CFR 784.4, all of which have been considered, it is recommended that the requested waiver for worldwide patent rights in Subject Inventions be granted, as well as advanced permission to assert copyright in technical data and computer software.



Fred A. Lewis
Patent Attorney
Office of the General Counsel
National Nuclear Security Administration

Date 01/16/2019

Based on the foregoing Statement of Considerations and the representations in the attached Waiver Petition, it is determined that the interest of the United States and the general public will best be served by a waiver of the U.S. and foreign patent rights and advanced permission to assert copyright, and therefore, the waiver is granted. This waiver shall not apply to a modification or extension of the subcontract where, through such a modification or extension, the purpose, scope or cost of the subcontract has been substantially altered.

CONCURRENCE:

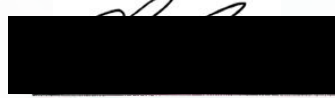


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Program Director
Office of Advanced Simulation and Computing
and Institutional Research and
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Office of Defense Programs
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Date

1/23/19

APPROVAL:



Brian Lally
Assistant General Counsel for Technology
Transfer and Intellectual Property

Date

1.29.19