

STATEMENT OF CONSIDERATIONS

REQUEST BY ALCATEL-LUCENT USA INC. (ALCATEL-LUCENT) FOR AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN PATENT RIGHTS UNDER DOE GRANT NO. DE-EE0002887; W(A) 2010-038

Alcatel-Lucent has requested a waiver of domestic and foreign patent rights for all subject inventions arising from its participation under the above referenced grant entitled "Recovery Act: Energy Efficiency of Data Networks through Rate Adaptation (EEDNRA)."

Under this grant, Alcatel-Lucent will conduct a concept definition study to better understand rate adaptation in packet-switched network equipment, as a way to make energy consumption proportional to actual data traffic. It is believed that by successfully controlling the energy consumption of IP routers, Ethernet switches, and other packet-switched data networking equipment in proportion with the traffic loads of the equipment significant energy savings would be achieved. Alcatel-Lucent estimates that such an approach if adopted worldwide could save roughly 2 billion kWh per year of electrical energy.

Algorithms and protocols are the most likely outcome of the study. The algorithms and protocols would be implemented through software and firmware. It is possible that a resulting algorithm may be used to upgrade existing network equipment. However, most commercialization is expected to be through the incorporation of the study results in new or next generation networking equipment.

The total anticipated cost of the grant is \$504,735. The Department of Energy is providing \$300,000 and Alcatel-Lucent is providing \$204,735 for a cost share of approximately 40%. This waiver is contingent upon Alcatel-Lucent maintaining, in aggregate, a cost of approximately 40% over the course of the grant. The period of performance is January 31, 2010 through March 31, 2011.

Alcatel-Lucent is a major telecommunications equipment provider and has a history of successfully developing and commercializing innovating technologies through its research arm, Bell Labs. Bell Labs include computer science and data networking experts with expertise in system/router design, algorithms and combinatorial optimization, and traffic management. More recently Bell Labs has applied its expertise to rate-adaptation research which is essential to the success of the work under this grant. This research has results in several published papers, presentations, and pending patent applications.

Alcatel-Lucent has agreed that this waiver shall be subject to the march-in and preference for U.S. industry provisions, as well as the U.S. Government license, comparable to those set out in 35 U.S.C. 202-204.

Alcatel-Lucent has not agreed to the standard U.S. competitiveness provision that requires products embodying any waived invention or produced through the use of any waived invention be substantially manufactured in the United States. According to Alcatel-Lucent, it cannot agree to such a provision for several reasons. The most likely outcome of the study will

be software and firmware that can be incorporated into network equipment. However, the supply chain that includes the manufacture and assembly of the network equipment has already been established. This established supply line includes certain network equipment that is already assembled outside the United States. However, Alcatel-Lucent notes that the research under the grant will be conducted in United States, that Alcatel-Lucent intends to license any resulting technology in a non-discriminatory manner including to any party that is able to manufacture in the United States, and that Alcatel-Lucent will make available any technology that allows for the upgrading of existing network equipment in the United States.

Specifically, in lieu of the standard U.S. competitiveness provision, Alcatel-Lucent agrees to the following legal commitments in exchange for this waiver:

1. If the work performed under the grant identifies methods, architectures, or other technologies that can reduce energy usage and be incorporated into or otherwise used by existing network switches, routers or other network elements, Alcatel-Lucent will make the benefits of the identified technologies available for networks and network elements in the United States by offering goods or services to owners and users of network infrastructure in the United States, or by licensing the identified technologies, under commercially reasonable terms, to others who apply for licenses and are willing to implement the identified technologies in their own network infrastructure or to offer them to others for implementation.
2. All work under this grant will be performed within the United States. The work under the grant will primarily be conducted by two researchers based in the United States and supervised by one director and one technical manager based in the United States.
3. Alcatel-Lucent has an active program for licensing the patents in its portfolio to others for commercialization purposes in exchange for various forms of consideration (including, but not limited to, bilateral patent license exchanges with others) and will seek to license the subject inventions related to this grant in the normal course of those licensing activities on a non-exclusive basis. In accordance with its licensing program, Alcatel-Lucent, in its sole discretion, may license any and all patents for subject inventions under this grant at any time and will undertake to license such inventions on reasonable, customary, and non-discriminatory commercial terms.

In particular, Alcatel-Lucent agrees to license any waived invention on reasonable and customary commercial terms to any third party that applies for such license and that agrees to substantially manufacture in the United States any products embodying any waived invention or produced through the use of any waived invention. Alcatel-Lucent will not exercise its sole discretion so as to exclude any such third party as a potential licensee under reasonable and customary commercial terms. However, subject to the U.S. Preference Provision at 35 USC 204, Alcatel-Lucent disclaims any obligation to obtain from any such party, as a condition for licensing, an agreement to substantially manufacture in the United States.

Referring to item 10 of the waiver petition, granting this waiver is not anticipated to have any adverse impact on competition. Although Alcatel-Lucent is one of the leading companies in

networking and routing equipment, it has significant competitors including Ericsson, Cisco, Nokia-Siemens, and Huawei. Based on publicly available information, it is estimated that these four competitors (including the two parent companies of Nokia-Siemens) have a combined annual revenue of 237 billion dollars. Alcatel-Lucent does not believe this waiver will affect competition because Alcatel-Lucent intends to license any waived invention to all interested parties on reasonable and non-discriminatory terms. Moreover, based on the competitors estimated revenue, it would appear that they have the financial resources to develop competing technologies.

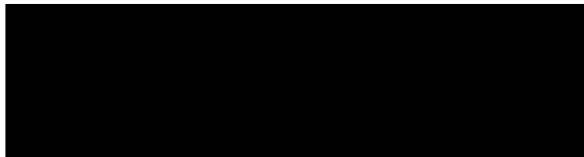
Considering the foregoing, it is believed that granting this waiver will provide Alcatel-Lucent with the necessary incentive to invest its resources in commercializing the results of the grant in a manner that will make the above technology available to the public in the shortest time. Therefore, upon evaluation of the waiver petition and in view of the objectives and considerations set forth in 10 CFR 784, all of which have been considered, it is recommended that the requested waiver be granted.

/Glen R. Drysdale/
Glen R. Drysdale
Patent Attorney
Golden Field Office

Date: 7/20/10

Based upon the foregoing Statement of Considerations and representations in the attached waiver petition, it is determined that the interests of the United States and the general public will best be served by a waiver of patent rights of the scope determined above, and therefore the waiver is granted. This waiver shall not apply to any modification or extension of the agreement, where through such modification or extension, the purpose, scope, or cost of the agreement has been substantially altered.

CONCURRENCE:



~~Douglas Kaempt~~
Program Manager
Industrial Technologies Partnerships

Date: 11/18/10

APPROVAL:



John T. Lucas
Acting Assistant General Counsel for
Technology Transfer and Intellectual
Property

Date: 11/19/2010