DEPARTMENT OF HOMELAND SECURITY

Customs and Border Protection Bureau

Notice of Issuance of Final Determination Concerning

Certain Ethernet Switches

AGENCY: U.S. Customs and Border Protection, Department of Homeland Security.

ACTION: Notice of final determination.

SUMMARY: This document provides notice that U.S. Customs and Border Protection (''CBP'') has issued a final determination concerning the country of origin of certain Ethernet switches. Based upon the facts presented, CBP has concluded that Malaysia, where the switches were assembled, is the country where the last substantial transformation occurred. Therefore, the country of origin of the switches is Malaysia for purposes of U.S. Government procurement.

DATE: The final determination was issued on December 3, 2013. A copy of the final determination is attached. Any party-at-interest, as defined in 19 C.F.R. § 177.22(d), may seek judicial review of this final determination on or before [insert 30 days from date of publication in the Federal Register].

FOR FURTHER INFORMATION CONTACT: Heather K. Pinnock, Valuation and Special Programs Branch: (202) 325-0034.

SUPPLEMENTARY INFORMATION: Notice is hereby given that on December 3, 2013, pursuant to subpart B of Part 177, U.S. Customs and Border Protection Regulations (19 C.F.R. Part 177, subpart B), CBP issued a final determination concerning the country of origin of Ethernet switches which may be offered to the

U.S. Government under an undesignated government procurement contract. This final determination, HQ H241177, was issued under procedures set forth at 19 C.F.R. Part 177, subpart B, which implements Title III of the Trade Agreements Act of 1979, as amended (19 U.S.C. § 2511–18). In the final determination, CBP concluded that, based upon the facts presented, the last substantial transformation took place in Malaysia, where the switches were assembled. Therefore, the country of origin of the switches is Malaysia for purposes of U.S. Government procurement.

Section 177.29, CBP Regulations (19 C.F.R. § 177.29), provides that a notice of final determination shall be published in the *Federal Register* within 60 days of the date the final determination is issued. Section 177.30, CBP Regulations (19 C.F.R. § 177.30), provides that any party-at-interest, as defined in 19 C.F.R. § 177.22(d), may seek judicial review of a final determination within 30 days of publication of such determination in the *Federal Register*.

DATED: December 3, 2013

Sandra L. Bell
Executive Director
Regulations and Rulings
Office of International Trade

Attachment

HQ H241177

December 3, 2013

MAR OT:RR:CTF:VS H241177 HkP

CATEGORY: Origin

Josephine Aiello LeBeau, Esq.

Anne Seymour, Esq.
Wilson Sonsini Goodrich & Rosati, PC
1700 K Street, NW, Fifth Floor
Washington, DC 20006-3817

RE: U.S. Government Procurement; Country of Origin of Local Area Network Switches; Substantial Transformation

Dear Ms. LeBeau and Ms. Seymour:

This is in response to your letter, dated March 13, 2013, requesting a final determination on behalf of Arista Networks, Inc. ("Arista"), pursuant to subpart B of part 177 of the U.S. Customs and Border Protection ("CBP") Regulations (19 C.F.R. Part 177). Under these regulations, which implement Title III of the Trade Agreements Act of 1979 ("TAA"), as amended (19 U.S.C. § 2511 et seq.), CBP issues country of origin advisory rulings and final determinations as to whether an article is or would be a product of a designated country or instrumentality for the purposes of granting waivers of certain "Buy American" restrictions in U.S. law or practice for products offered for sale to the U.S. Government. Your letter was forwarded to this office by the National Commodity Specialist Division on April 8, 2013.

This final determination concerns the country of origin of Arista's 7000, 7100, 7200, series ("7 Series") local area network ("LAN") switches. We note that as a U.S. importer, Arista is a party-at-interest within the meaning of 19 C.F.R. § 177.22(d)(1) and is entitled to request this final determination.

FACTS:

Arista plans to import fully functional 7 Series Ethernet switches from Singapore.[1] The switches are designed to interconnect servers and storage appliances in data centers. Each switch consists of one or more printed circuit board assembly ("PCBA"), chassis, top cover, power supply, and fans. The switches operate using Arista's Extensible Operating System ("EOS™") software.

Arista's EOS software is designed to provide switching functionality, secure administration, increase reliability, and to optimize network management. Specifically, EOS software provides the following capabilities and benefits to Ethernet switches: in-service software upgrade, software fault containment, fault repair, security exploit containment, and scalable management interface. According to your submission, the units imported from Singapore could not function as network switches without this software, which was developed in the United States at considerable cost to Arista. Since 2005, more than 140 software engineers have continued to develop the software and more than 80 percent of

[1] CBP previously issued Headquarters Ruling Letter H175415, dated October 7, 2011, to Arista concerning the country of origin of non-functioning **7048, 7050, 7100, 7124, and 7500 series** Ethernet switches imported from China and programmed in the United States with U.S.-origin software.

Arista's Research and Development spending has been on EOS software development.

Manufacturing operations are performed in China, Malaysia and Singapore. Software downloading operations, using U.S.-origin software, take place only in Singapore.

The following operations occur in China:

The chassis and top cover are manufactured from sheet metal.

The following operations occur in Malaysia:

1. A printed circuit board is populated with various electronic components to make a PCBA.
2. The PCBA is tested to ensure functionality.
3. The power supply and fans are installed in the chassis.
4. The PCBA is installed in the chassis.
5. The chassis and top cover are assembled together.
6. The serial numbers of the components are entered into the data tracking system, and the switch is packaged and shipped to Singapore.

The following operations occur in Singapore:

1. Custom configuration changes, such as substitution of DC for AC power supplies and/or installation of optional hardware modules, are made.
2. U.S.-origin EOS™ software is downloaded onto the flash memory on the PCBA.
3. The switch is tested, packaged, and prepared for shipping.

The EOS software program dedicates the hardware to its specific applications and the only reprogramming operations that may be done are updating the software to a different version.

ISSUE:

What is the country of origin of the Arista's 7 Series Ethernet switches for purposes of U.S. Government procurement?

LAW AND ANALYSIS:

Pursuant to Subpart B of Part 177, 19 CFR § 177.21 et seq., which implements Title III of the Trade Agreements Act of 1979, as amended (19 U.S.C. § 2511 et seq.), CBP issues country of origin advisory rulings and final determinations as to whether an article is or would be a product of a designated country or instrumentality for the purposes of granting waivers of certain "Buy American"

restrictions in U.S. law or practice for products offered for sale to the U.S. Government.

Under the rule of origin set forth under 19 U.S.C. § 2518(4)(B):

> An article is a product of a country or instrumentality only if (i) it is wholly the growth, product, or manufacture of that country or instrumentality, or (ii) in the case of an article which consists in whole or in part of materials from another country or instrumentality, it has been substantially transformed into a new and different article of commerce with a name, character, or use distinct from that of the article or articles from which it was so transformed.

See also 19 C.F.R. § 177.22(a).

In Data General v. United States, 4 Ct. Int'l Trade 182 (1982), the court determined that for purposes of determining eligibility under item 807.00, Tariff Schedules of the United States (predecessor to subheading 9802.00.80, Harmonized Tariff Schedule of the United States), the programming of a foreign PROM (Programmable Read-Only Memory chip) in the United States substantially transformed the PROM into a U.S. article. In programming the imported PROMs, the U.S. engineers systematically caused various distinct electronic interconnections to be formed within each integrated circuit. The programming bestowed upon each circuit its electronic function, that is, its "memory" which could be retrieved. A distinct physical change was effected in the PROM by the opening or closing of the fuses, depending on the method of programming. This physical alteration, not visible to the naked eye, could be discerned by electronic testing of the PROM. The court noted that the programs were designed by a U.S. project engineer with many years of experience in "designing and building hardware." In addition, the court noted that while replicating the program pattern from a "master" PROM may be a quick one-step process, the development of the pattern and the production of the "master" PROM required much time and expertise. The court noted that it was undisputed that programming altered the character of a PROM. The essence of the article, its interconnections or stored memory, was established by programming. The court concluded that altering the non-functioning circuitry comprising a PROM through technological expertise in order to produce a functioning read only memory device, possessing a desired distinctive circuit pattern, was no less a "substantial transformation" than the manual interconnection of transistors, resistors and diodes upon a circuit board creating a similar pattern.

In Texas Instruments v. United States, 681 F.2d 778, 782 (CCPA 1982), the court observed that the substantial transformation issue is a "mixed question of technology and customs law."

In C.S.D. 84-85, 18 Cust. B. & Dec. 1044, CBP stated:

> We are of the opinion that the rationale of the court in the *Data General* case may be applied in the present case to support the principle that the essence of an integrated circuit memory storage device is established by programming; ... [W]e are of the opinion that the programming (or reprogramming) of an EPROM results in

a new and different article of commerce which would be considered to be a product of the country where the programming or reprogramming takes place.

Accordingly, the programming of a device that defines its use generally constitutes substantial transformation. See also Headquarters Ruling Letter ('HQ") 558868, dated February 23, 1995 (programming of SecureID Card substantially transforms the card because it gives the card its character and use as part of a security system and the programming is a permanent change that cannot be undone); HQ 735027, dated September 7, 1993 (programming blank media (EEPROM) with instructions that allow it to perform certain functions that prevent piracy of software constitute substantial transformation); and, HQ 733085, dated July 13, 1990; but see HQ 732870, dated March 19, 1990 (formatting a blank diskette does not constitute substantial transformation because it does not add value, does not involve complex or highly technical operations and did not create a new or different product); and, HQ 734518, dated June 28, 1993, (motherboards are not substantially transformed by the implanting of the central processing unit on the board because, whereas in Data General use was being assigned to the PROM, the use of the motherboard had already been determined when the importer imported it).

You believe that under the manufacturing scenario described in the FACTS section above, Arista's 7 Series Ethernet switches are products of Singapore. You argue that without the EOS software, the units exported from Singapore lack the intelligence to perform as network switches. In fact, you claim that the EOS software gives the Malaysian switches their essential character by providing network switching and routing functionality, management functions, network performance monitoring, security and access control, and by allowing interaction with other switches. Further, programming the switches with the EOS software creates a permanent change in the PCBAs that cannot be undone by third parties during the normal course of business. The only reprogramming operation that may be performed during the normal course of business is either updating the installed software or entering licensing keys that enable the activation of additional EOS software features.

In support of your position, you make a two-pronged argument. The first is that the switches are substantially transformed by programming. As indicated above, CBP has previously found that programming may effect a substantial transformation.

The second prong of your argument is that, when there are multiple manufacturing locations, the country of origin is the country where the last substantial transformation occurs. In this case, you claim that programming is the last substantial transformation that the switches undergo, hence, the country of origin is Singapore. You cite HQ H170315 (July 28, 2011) and HQ H203555 (April 23, 2012) as support.

HQ H203555 concerned the country of origin of oscilloscopes made according to five possible manufacturing scenarios. Regardless of the scenario,

components were assembled into subassemblies, which were then made into complete oscilloscopes, in Singapore. Boards important to the function of the oscilloscopes, incorporated into the subassemblies in Singapore, were assembled in Malaysia only or in Malaysia and Singapore. In all cases, U.S.-origin firmware was downloaded onto the fully assembled oscilloscopes in Singapore. For all scenarios, CBP found that there were three countries where programming and/or assembly operations took place, the last of which was Singapore. However, no one country's operations dominated the manufacturing operations of the oscilloscopes. The boards assembled in Malaysia were important to the function of the oscilloscopes, as was the U.S. firmware and software used to program the oscilloscopes in Singapore. Further, the assembly in Singapore completed the oscilloscopes. Therefore, the last substantial transformation occurred in Singapore, which was the country of origin for procurement purposes.

HQ H170315 concerned the country of origin of satellite telephones. CBP was asked to consider six scenarios involving the manufacture of PCBs in one country and the programming of the PCBs with second country software either in the first country or in a third country where the phones were assembled. In scenarios I, II, and VI, CBP found that the country of origin of the phones was Malaysia because, as the country where the assembly and programming of the boards which conveyed the essential character of the phones took place, that was the place where the last substantial transformation occurred. Moreover, subsequent assembly operations in Singapore did not substantially transform the programmed boards into a new and different article. In scenarios III through V, the boards were assembled in Malaysia or Malaysia and Singapore. Handset programming took place wholly, or in part, in Singapore, where the phones were also assembled to completion. For those scenarios, CBP found that the country of origin of the phones was Singapore.

We note that none of the rulings cited in Arista's submission (some discussed above) are instructive because they do not address situations in which assembly is performed in one country and software is developed in a second country and downloaded in a third country. The rulings refer to situations in which assembly and software downloading are performed in one country using programs developed in the same or another country, or to situations in which assembly is performed in one country and downloading is performed in another country using programs developed in the same country in which the software is downloaded onto the article.

In this case, the switches are assembled to completion in Malaysia and then shipped to Singapore, where EOS software developed in the United States at significant cost to Arista and over many years is downloaded onto them. It is claimed that the U.S.-origin EOS software enables the imported switches to interact with other network switches through network switching and routing, and allows for the management of functions such as network performance monitoring and security and access control; without this software, the imported devices could not function as Ethernet switches.

We find that the software downloading performed in Singapore does not amount to programming. Programming involves writing, testing and implementing code necessary to make a computer function in a certain way. See Data General supra. See also "computer program", Encyclopædia Britannica (2013), (9/19/2013) http://www.britannica.com/ EBchecked/topic/130654/computer-program, which explains, in part, that "a program is prepared by first formulating a task and then expressing it in an appropriate computer language, presumably one suited to the application."

While the programming occurs in the U.S., the downloading occurs in Singapore. Given these facts, we find that the country where the last substantial transformation occurs is Malaysia, that is, where the major assembly processes are performed. The country of origin for purposes of U.S. Government procurement is Malaysia.

HOLDING:

Based on the facts provided, the last substantial transformation occurs in Malaysia. As such, the switches will be considered products of Malaysia for purposes of U.S. Government procurement.

Notice of this final determination will be given in the Federal Register, as required by 19 C.F.R. § 177.29. Any party-at-interest other than the party which requested this final determination may request, pursuant to 19 C.F.R. § 177.31, that CBP reexamine the matter anew and issue a new final determination. Pursuant to 19 C.F.R. § 177.30, any party-at-interest may, within 30 days of publication of the Federal Register Notice referenced above, seek judicial review of this final determination before the Court of International Trade.

Sincerely,

Sandra L. Bell, Executive Director
Regulations and Rulings
Office of International Trade

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