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DEPARTMENT OF HOMELAND SECURITY

U.S. CUSTOMS AND BORDER PROTECTION

**NOTICE OF ISSUANCE OF FINAL DETERMINATION CONCERNING STORAGE
INFRASTRUCTURE SOLUTION SYSTEM**

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 the VistA imaging tier II storage infrastructure solution (“VistA Storage Solution”) manufactured and distributed by Merlin International (“Merlin”). Based upon the facts presented, CBP has concluded that the United States will be the country of origin of the VistA Storage Solution for purposes of U.S. Government procurement.

DATE: The final determination was issued on July 16, 2015. A copy of the final determination is attached. Any party-at-interest, as defined in 19 CFR 177.22(d), may seek judicial review of this final determination within [insert 30 days from date of publication in the Federal Register].

FOR FURTHER INFORMATION CONTACT: Antonio J. Rivera, Valuation and Special Programs Branch, Regulations and Rulings, Office of International Trade (202) 325-0226.

SUPPLEMENTARY INFORMATION: Notice is hereby given that on July 16, 2015 pursuant to subpart B of Part 177, U.S. Customs and Border Protection Regulations (19 CFR part 177, subpart B), CBP has issued a final determination concerning the country of origin of the VistA Storage Solution manufactured and distributed by Merlin, which may be offered to the U.S.

Government under an undesignated government procurement contract. This final determination, HQ H259758, was issued under procedures set forth at 19 CFR Part 177, subpart B, which implements Title III of the Trade Agreement Act of 1979, as amended (19 U.S.C. 2511-18). In the final determination CBP found that, based upon the facts presented, four U.S.-origin hardware and software components and two foreign-origin hardware and software components were integrated into one end product, the VistA Storage Solution. CBP found that assembling the hardware components together, loading the software components onto the hardware components, and configuring the software components to reach the desired storage infrastructure, which were processes that took place entirely in the United States, substantially transformed the individual components into the final product, the VistA Storage Solution. CBP noted that the majority of the components were from the United States; that the processing took place entirely in the United States; that the name, character and use of the individual components differed from the name, character and use of the final product; that the tariff classification of the foreign components changed when they were integrated into the final product; and, the cost breakdown of each component, to find that under the totality of the circumstances, the country of origin of the VistA Storage Solution will be the United States for purposes of U.S. Government procurement.

Section 177.29, CBP Regulations (19 CFR 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 CFR 177.30), provides that any party-at-interest, as defined in 19 CFR 177.22(d), may seek judicial review of a final determination within 30 days of publication of such determination in the **Federal Register**.

Dated: July 16, 2015

Harold Singer
Acting Executive Director
Regulations and Rulings
Office of International Trade
HQ H59758

July 16, 2015

OT:RR:CTF:VS H259758 AJR

CATEGORY: Origin

George W. Thompson, Esq.
Thompson & Associates, PLLC
1250 Connecticut Avenue, NW, Suite 200
Washington, DC 20036

RE: U.S. Government Procurement; Country of Origin of Storage Infrastructure Solution
Systems; Substantial Transformation

Dear Mr. Thompson:

This is in response to your letter, dated November 21, 2014, requesting a final determination on behalf of Merlin International, Inc. (“Merlin”), 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.

This final determination concerns the country of origin of Merlin’s VistA Imaging Tier II Storage Infrastructure Solution (“VistA Storage Solution”). We note that Merlin 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:

You describe the pertinent facts as follows. The VistA Storage Solution is a record imaging, storage, and data retrieval system produced by Merlin in accordance with its contract

with the Veterans Administration (“VA”). The VistA Storage Solution at issue contains a 24 TeraByte (“TB”) storage system.¹ Under its contract with the VA (“VA Contract”), Merlin will install the VistA Storage Solution at 144 VA locations where Veterans Integrated Service Network (“VISN”) facilities are hosted. The VA Contract requires that each installed VistA Storage Solution (1) be networked into a single “grid” to allow access to, and automatic replication of, stored data throughout the networked system; while also (2) performing as “virtual machines” to ensure that data stored remains available in the event of any system failures. To meet these contract requirements, Merlin designed the VistA Storage Solution, assembling together three main hardware components and configuring them with three main software components, in order to provide the particular product required by the VA.

A. The Hardware Components

Each VistA Storage Solution will consist of at least the following hardware components: two to four Cisco UCS C240 rack-mount servers (“Cisco Servers”); one or more NetApp E2600 series Fibre Channel storage arrays (“NetApp Storage Arrays”); and, two Cisco Catalyst 2960 Gigabit Ethernet network switches (“Cisco Network Switches”).

You state that the Cisco Servers are produced in the United States and will provide the computing platform for the system. You state that the NetApp Storage Arrays are produced in the United States and will provide the data storage capability for the system. You state that the Cisco Network Switches are produced in the United States or China and will provide network connectivity for the system, enabling management access to the system’s components, and user and application access to the system’s data storage.

The Cisco Servers, NetApp Storage Arrays, and Cisco Network Switches will be interconnected by cables, mounted on a rack, and supplied electricity through power strips. You state that the cables, racks, and power strips (collectively, “Miscellaneous Components”) originate in various countries.

B. The Software Components

¹ Merlin produces other VistA Storage Solutions with the same functionality as the subject VistA Storage Solution, but with different storage capabilities that include 18, 36, 90, 120, and 180 TB storage systems.

The Cisco Servers will be loaded with the following software: VMware vSphere 5 ESXi hypervisor software (“VMware”); Novell SuSE Linux Enterprise Server 11 (“Novell”); and, NetApp’s StorageGRID software solution (“StorageGRID”).

You state that VMware was developed in the United States and it will enable the Cisco Servers to host three to six “virtual machines.” You state that Novell was developed in the United States and it will be the operating system software for the Cisco Servers. You state that StorageGRID was developed in Canada and it will protect images against data loss or corruption by maintaining multiple geographically separated replicas, by proactively and continuously checking integrity, and by self-healing to maintain resiliency in the event of corruption or failure. Additionally, you state that StorageGRID will provide the “virtual machines” with: an administration node for administrative access and control; a control node for metadata management and replication management of data objects; a storage node for stored objects; a standard gateway node for access to stored data; and, a primary gateway HA² pair providing a high availability cluster of standard gateways.

You state the hardware components, with their standard features, lack the “grid” and “virtual machine” functions required by the VA Contract. You state that without VMWare and StorageGRID, it would be impossible for the VistA Storage Solution components to act together as part of a multi-site system (i.e. a single “grid”). You also state that without Novell, the Cisco Servers would be unable to operate at all, much less support the “virtual machine” requirements.

C. Assembly and Configuration Process

The VistA Storage Solutions will be assembled in Virginia, United States by two of Merlin’s subcontractors, Mission Mobility (“MM”) and NetApp Inc. (“NAI”). Once MM obtains the hardware from Merlin it will perform the first assembly process in about two days as follows:

1. Assembling the hardware onto racks, and connecting the individual pieces by cables;
2. Setting the server specifications for compatibility with VA’s current document storage and retrieval system (VistA Imaging Tier II);
3. Configuring CIMC³ and hard drives;

² HA means High-Availability. See http://www.cisco.com/c/en/us/td/docs/security/nac/appliance/configuration_guide/411/cam/cam411-book/m_ha.html.

³ CIMC means Cisco Integrated Management Controller. See <http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-c-series-integrated-management-controller/products-installation-and-configuration-guides-list.html>.

4. Setting proper boot device and the connection to the server CIMC;
5. Connecting drives and media to the servers;
6. Entering the boot menu and configuring the server management IP address;
7. Loading the VMware on the servers;
8. Configuring the storage devices to accept StorageGRID; and,
9. Conducting tests to ensure the equipment operates properly.

After this first assembly, NAI will install the VistA Storage Solutions at individual VA sites in a final assembly process that takes about one to two weeks as follows:

1. Configuring the servers to permit them to communicate on the VISN, use StorageGRID, adjust the Network Time Protocol, deploy VMware templates, set up the vCenter Server Linux Virtual Appliance, and deploy the Open Virtualization Formats;
2. Mapping storage to hosts and creating raw device mapping to provide direct “virtual machine” access to storage devices;
3. Installing Novell on each “virtual machine” and building the nodes;
4. Installing StorageGRID; and,
5. Conducting tests and connecting the equipment to the VA computer network.

You also state that prior to the final assembly process by NAI, VA employees will remove preloaded firmware (incompatible with the VA Contract requirements) from the Cisco Network Switches and replace it with Cisco Systems firmware package that permits the Cisco Network Switches to operate in virtual mode. After the NAI installation activity, you state that VA technicians will update the Cisco Network Switches with the latest version of Cisco Systems’ Internal Operating Software firmware, a United States developed firmware.

In an e-mail, dated May 29, 2015, Merlin submitted information concerning the cost of each component, photographs of each hardware component and the installed components together, a workflow diagram of the system, and the VA Contract.

ISSUE:

What is the country of origin of the VistAs for purposes of U.S. Government procurement?

LAW AND ANALYSIS:

Pursuant to Subpart B of Part 177, 19 C.F.R. § 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 rendering final determinations for purposes of U.S. Government Procurement, CBP applies the provisions of subpart B of Part 177 consistent with the Federal Procurement Regulations. *See* 19 CFR § 177.21. In this regard, CBP recognizes that the Federal Procurement Regulations restrict the U.S. Government's purchase of products to U.S.-made or designated country end products for acquisitions subject to the TAA. *See* 48 CFR § 25.403(c)(1).

The Federal Acquisition Regulations define "U.S.-made end product" as:

an article that is mined, produced, or manufactured in the United States or that is substantially transformed in the United States 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 transformed. 48 CFR § 25.003.

With respect to the product under consideration in the instant case, we note that CBP has not previously considered whether the components at issue are substantially transformed when brought together in the manner set forth above. However, CBP has previously considered the substantial transformation of components into servers (*see* Headquarter Ruling (“HQ”) H215555, dated July 13, 2012), into storage arrays (*see* HQ H125975, dated January 19, 2011), and into network switches (*see* HQ H241177, dated December 3, 2013), as “end products,” individually. CBP has also considered whether components of various origins have been substantially transformed during the assembly of related products. Particularly, HQ H090115, dated August 2, 2010, considered whether media servers, media gateways,⁴ circuit packs, telephone sets, and proprietary software were substantially transformed into a “Unified Communications Solution,” the “end product.” Though such rulings may not be directly on point, to the extent the Vista Storage Solution is an “end product,” we find such guidance applicable to the issue presently before us.

In order to determine whether a substantial transformation occurs when components of various origins are assembled to form completed articles, CBP considers the totality of the circumstances and makes such decisions on a case-by-case basis. The country of origin of the article’s components, the extent of the processing that occurs within a given country, and whether such processing renders a product with a new name, character, and use are primary considerations in such cases. Additionally, facts such as resources expended on product design and development, extent and nature of post-assembly inspection procedures, and worker skill required during the actual manufacturing process will be considered when analyzing whether a substantial transformation has occurred; however, no one such factor is determinative. In this case, the determination will be “a mixed question of technology and customs law, mostly the latter.” *Texas Instruments v. United States*, 681 F.2d 778, 783 (CCPA 1982).

The Country of Origin of the Article’s Components

In HQ 735315, dated April 10, 1995, CBP considered whether three essential components (a U.S.-origin controlling computer, an Australian-origin optics module with a U.S.-origin printed wiring board assembly (“PWB”), and a U.S.-origin output device such as a printer) were substantially transformed into an optical spectroscopy instrument for purposes of U.S. Government procurement. In determining that the instrument was a product of the United States,

⁴ The media gateways described in HQ H090115 packed together wide area network routers and local area network switches.

it was noted that the majority of the components (the computer, PWB, and printer) and the added software were products of the United States, and their incorporation with the foreign optic module, rendered the instrument a product of the U.S. Similarly, in HQ 561734, dated March 22, 2001, CBP determined that certain multifunctional (printer, copier, and facsimile) machines assembled in Japan from 227 parts (108 from Japan, 92 from Thailand, and 24 from other countries) and eight Japanese subassemblies, were products of Japan for purposes of U.S. Government procurement. It was particularly noted that the Japanese-origin scanner subassembly was characterized as “the heart of the machine” in HQ 561734, which is similarly reflected with the U.S.-origin PWB in HQ 735315.

In this case, you state that there are six essential components, four from the United States, one from China, and one from Canada. From the VA Contract, the VistA Storage Solution appears to serve two purposes: (1) giving access to and automatically replicating stored data in the network; and (2) backing up data virtually in the case of any system failure. The VA Contract also notes that the VistA Storage Solution must be compatible with VA’s VistA Imaging Tier II, a sophisticated and comprehensive electronic health record (“EHR(s)”) database system used by the VA’s medical staff to store, retrieve, and manage documents at various VA locations.⁵

At their basic levels, all six components provide essential qualities to support the purposes of the VA Contract; that is, the server will provide a computer operating structural function, the storage array will provide a storage structural function, the network switch will provide a connectivity structural function, VMware will provide the system with “virtual machine” capability, Novell will provide the system with an operating system, and StorageGRID will provide the system with capabilities that enhance its virtual functions and ensure data protection. However, the underlying basis of this product is the ability to store EHRs for their later use by the VA.⁶ If the product could not store EHRs, it would not have any EHRs to retrieve. Even when considering its network connectivity and virtual data protection purposes, these functions would not matter if the product was not able to store EHRs in the first place. Similar to the scanner subassembly being the “heart of the machine” in HQ 561734, which allowed the multifunctional machine to take in data it would eventually output, the NetApp Storage Array allows the VistA Storage Solution to store EHRs that are later utilized by the functions of its other components. Therefore, only considering the country of origin of the VistA

⁵ EHR is an electronic version of a patient’s medical history, comprising a collection of standard medical and clinical data gathered by the patient’s providers. See <http://www.healthit.gov/providers-professionals/electronic-medical-records-emr>.

⁶ The VistA Storage Solution’s storage capabilities were emphasized in the VA Contract, which states that the purpose of the solicitation by the VA “is to acquire Tier II archive storage for use within VA’s VistA Imaging environment,” noting the prior storage capabilities and updated storage requirements, which “must be reviewed on a regular basis to determine the best solution to meet the system’s expanding storage needs.”

Storage Solution's components, and noting that four of the six components are from the United States, and the particular importance of the U.S.-origin NetApp Storage Array, we find that this factor weighs towards a United States country of origin determination for the VistA Storage Solution.⁷

The Extent of the Processing that Occurs within a Given Country

In determining whether the combining of parts or materials constitutes a substantial transformation, the determinative issue is the extent of operations performed and whether the parts lose their identity and become an integral part of the new article. *Belcrest Linens v. United States*, 573 F. Supp. 1149 (Ct. Int'l Trade 1983), *aff'd*, 741 F.2d 1368 (Fed. Cir. 1984). Assembly operations that are minimal or simple, as opposed to complex or meaningful, will generally not result in a substantial transformation. See C.S.D. 80-111, C.S.D. 85-25, C.S.D. 89-110, C.S.D. 89-118, C.S.D. 90-51, and C.S.D. 90-97. If the manufacturing or combining process is a minor one which leaves the identity of the article intact, a substantial transformation has not occurred. *Uniroyal, Inc. v. United States*, 3 CIT 220, 542 F. Supp. 1026 (1982), *aff'd* 702 F. 2d 1022 (Fed. Cir. 1983).

In HQ H125975, CBP held that an electronic data storage system that ensures data integrity and availability was a product of Mexico as a result of the assembly and programming operations that took place in Mexico. All of the systems hardware components were assembled into the final product in Mexico and its foreign-origin controller assembly, already assembled into the final product, was reprogrammed with software in Mexico. It was stated that the system could not function in its intended manner without the software.

This case considers a very similar product that will be assembled from subassemblies into its final form, loaded with software, and then configured to customer specifications, all in the same country. This process from assembly to configuration will start and end in the United States and may take more than two weeks to complete. According to the information submitted, the VistA Storage Solution cannot function in its intended manner without the downloaded software components. We also note there are various configuration tasks which take place throughout this process that are essential to the VA Contract purposes, such as configuring the servers to permit them to communicate on the VISN and deploy VMware, and mapping storage to hosts and

⁷ This finding is made on the assumption that the four U.S.-origin components of the VistA Storage Solution actually originate in the United States as claimed in the final determination request.

creating raw device mapping to provide direct “virtual machines” access to storage devices. The *NetApp and VMware vSphere Storage Best Practices*⁸ is a technical report published by NetApp, detailing the flexible storage infrastructure designs offered by combining NetApp Storage Array, VMware, with servers and network switches, and intended for those architecting, designing, managing, and supporting such a storage infrastructure. In explaining the best practices for device mapping, various storage architecture concepts and constructs, and methods of configuration, it is clear that such tasks are not minimal or simple, but require a certain level of expertise to design and reach the desired storage infrastructure for particular systems like the VistA Storage Solution. Therefore, only considering the extent of processing that occurs within a given country, and noting the entire process will take place in the United States, we find that this factor weighs towards a United States country of origin determination for the VistA Storage Solution.

Whether such Processing Renders a Product with a New Name, Character, and Use

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 (“HTSUS”)), 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. 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 C.S.D. 84-85, 18 Cust. B. & Dec. 1044, CBP stated:

⁸ This technical report was published by NeApp with contributions from Cisco (Trey Layton), but is independent from Merlin. See Vaughn Stewart, Larry Touchette, et al., *NetApp and VMware vSphere Storage Best Practices*, NetApp Technical Report, TR-3749, Version 2.1 (July 2010).

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* 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); and 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); *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 it was imported).

It is claimed that Merlin will take several individual components and combine them in the United States to make an otherwise mere collection of hardware into a functional storage system, specifically compatible with the VA technology demands. These hardware components will not have pairing capability until the software components are downloaded, and it is claimed that their integration into the final product will impart the essential character of the VistA Storage Solution, substantially transforming the individual components that comprise it. In support, HQ H082476, dated May 11, 2010; HQ H034843, dated May 5, 2009; and, HQ H175415, dated October 4, 2011, are cited.⁹

HQ H082476 held that a mass storage device was a product of the United because assembling 12 foreign-origin hardware components (a central processing unit, speed processing circuit, EEPROM, hard disk drive, memory module, etc.) and configuring them with U.S.-

⁹ Counsel for Merlin cites to “*Notice of Issuance of Final Determination Concerning Certain Ethernet Switches*, 76 Reg. Reg. 62431 (Oct. 7, 2011), issued as *Customs Headquarters Ruling 561568*.” HQ 561568, dated March 22, 2001, was published as 66 Fed. Reg. 17222 and concerns bowling pin sets. The cited 76 Reg. Reg. 62431 concerning Ethernet switches corresponds to HQ H175415, and the correct citation is provided above.

developed proprietary software, a process that took place entirely in the United States, constituted a substantial transformation. It was noted that the tariff classification of the assembled hardware without the software (8471.70.40, HTSUS) shifted when the product was complete with the software (8471.80.10, HTSUS). The decision particularly emphasized the technical effort in loading the software, and that the “customization and installation of firmware and application software make[s] what would otherwise be a non-functioning rack storage unit, into [a] proprietary clustered technology.” HQ H034843 held that USB flash drives were products of Israel or the United States because, though the assembly process began in China and the software and firmware were developed in Israel, the installation and customization of the firmware and software that took place in Israel or the United States made the USB flash drives functional, permitted them to execute their security features, and increased their value. HQ H175415 held that Ethernet switches were products of the United States because, though the hardware components were fully assembled into Ethernet switches in China, they were programmed with U.S.-origin operating software enabling them to interact and route within the network, and to monitor, secure, and access control of the network.

Similarly, the substantial transformation of components into servers, storage arrays, or network switches per HQ H215555, HQ H125975, and HQ H241177, as noted above, is well documented, relying on the same principles discussed in HQ H082476, HQ H034843, and HQ H175415. This suggests that the servers, storage arrays, and network switches, each and of themselves, already have a determined use and character prior to their assembly into a Vista Storage Solution. As HQ 732870 and HQ 734518 point out, when programming does not actually create a new or different product, it may not constitute a substantial transformation. Moreover, HQ 241177 notes certain “software downloading” does not amount to “programming” which “involves writing, testing and implementing code necessary to make a computer function a certain way.” Given these considerations, it would appear, for instance, that programming an imported, already functional, network switch just to customize its network compatibility, would not actually change the identity of the imported product as a network switch. However, the issue before us, with an end product that has functions and purposes beyond network connectivity, requires consideration beyond the function of one single component, but rather consideration of the integrated whole.

In HQ H090115, CBP held, based on a totality of the circumstances, that subassemblies manufactured in China (media servers, media gateways, circuit packs, and telephone sets) were substantially transformed into a “Unified Communications Solution” product of the United States. The United States processing, lasting about 16 days, included configuring the software to the end users requirements and integrating the hardware and software to work as one functional unit. It was particularly noted that the software was developed and maintained exclusively in the

United States, and added functionality to certain individual components and changed the functionality of others.

In this case, you state there is only one foreign hardware component. Similar to HQ H090115, the foreign hardware component is assembled with other hardware components in the United States, loaded with software, and then configured to the end users requirements. This process occurs entirely in the United States, lasts about 16 days, and will also result in one functional unit. By integrating the network switch into the VistA Storage Solution, the result is not merely a network switch; rather, the network switch will be configured, per the added and customized software components, to specifically work with two other hardware components in a manner that permits storing and retrieving EHRs for a particular and complex medical network. The network switch, though it would be functional as a network switch prior to its assembly and configuration with the other components, would not be functional as the subject end product with its required purposes and functions.

Moreover, though HQ H090115 notes that the development of the software is also relevant, in this case you state that there are three software components, two developed in the United States and one in Canada, all of which will be installed and configured in the United States. Particularly, StorageGRID will be customized in the United States to be compatible with the hardware components and the networked system, the various nodes enabled by StorageGRID will be built during the assembly process in the United States, and the access to storage enabled by StorageGRID will be enabled in the United States by mapping the storage to the servers. As noted in the discussion above concerning *NetApp and VMware vSphere Storage Best Practices*, these tasks are not minimal or simple, but require a certain level of expertise to design and reach the desired storage infrastructure for particular systems like the VistA Storage Solution.

Therefore, only considering whether such processing renders a product with a new name, character, and use, and noting the manner in which the foreign hardware component and foreign software component are integrated to form an end product that functions differently than such components do on their own, we find that this factor weighs towards a United States country of origin determination for the VistA Storage Solution.¹⁰

Additional Factors

¹⁰ This finding is made on the assumption that the four U.S.-origin components of the VistA Storage Solution actually originate in the United States as claimed in the final determination request.

Aside from the factors above weighing towards a finding that the VistA Storage Solution is a product of the United States for purposes of U.S. Government Procurement, we note additional factors that lead to this conclusion. While changes in tariff classification are not determinative, the two foreign components, the Cisco Network Switch (8471.80.1000, HTSUS) and StorageGRID (8523, HTSUS), will change in tariff classification once configured and integrated into the final product (8471.70, HTSUS). *See* HQ H082476. Additionally, the cost breakdown per each hardware component places the most value on the NetAPP Storage Array, followed by the Cisco Server, and then the Cisco Network Switch; while the cost breakdown per each software component places the most value on Novell; followed by VMware, and then StorageGRID.¹¹

In summary, Merlin produces the VistA Storage Solution using six main components (three hardware components and three software components), from which only two components are of foreign-origin. The components will be combined, loaded with software, and then configured using skilled technical effort to design and reach the desired storage infrastructure for the VistA Storage Solution. The customization of the components and further installation of the software and firmware make what would otherwise be a non-functional rack storage unit into Merlin's proprietary networked storage system, the VistA Storage Solution. This process, from combining the two U.S.-origin hardware components and one foreign-origin hardware component to installing the two U.S.-origin software components and one foreign-origin software component, occurs entirely in Virginia, United States in a period of up to 16 days. As a result of the processing in the United States, based on the totality of the circumstances and assuming that four of the components actually originate in the United States as claimed, we find that the imported hardware and software components will be substantially transformed. Therefore, the country of origin of the VistA Storage Solution will be the United States for purposes of U.S. Government procurement.

HOLDING:

Based on the facts provided, the hardware and software components will be substantially transformed through an assembly process that occurs entirely in the United States. As such, the

¹¹ Aside from the values per component provided by Merlin in the e-mail, dated May 29, 2015, these values aligned with the values per unit costs estimated from Merlin's Product Catalog, dated October 1, 2013, and similarly reflected by Cisco prices, consumer reports, and other price databases.

VistA Storage Solution will be considered a product of the United States 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,

Harold Singer, Acting Executive Director
Regulations and Rulings
Office of International Trade

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