Alliance for Network Security on Additional Export Controls: Certain Advanced Computing and Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification

Comment uploaded to: https://www.regulations.gov/commenton/BIS-2022-0025-0002

Public Comment
Due Date: Jan. 31, 2023

Bureau of Industry and Security
U.S. Department of Commerce
1401 Constitution Avenue NW
Washington, DC 20230

Re: Additional Export Controls – BIS-2022-0025 – RIN 0694-AI94 – 87 FR 62186 (Oct. 13, 2022)

Dear Sir / Madam:

Thank you for this opportunity to comment on the Interim Final Rule published on October 13, 2022 (87 FR 62186), creating additional export controls on certain advanced computing and semiconductor manufacturing items, supercomputer and semiconductor end use, and entity list modifications, under the Export Administration Regulations ("EAR", 15 CFR 730 *et seq.*).

This comment is submitted by the Alliance for Network Security ("ANS") whose members consist of leading Information Technology companies that make widespread use of encryption, among other technologies. A list of member companies is included in **Attachment A**. In Section I of this comment, ANS provides its recommendations. In Section II of this comment, ANS requests clarification with respect to certain aspects of the new rule.

I. Recommendations

ANS recommends that the Bureau of Industry and Security ("BIS") review the impact of the new controls on U.S. industry and worldwide, including taking the following actions:

A. Conduct additional consultations with U.S. allies;
B. Conduct additional consultations with the semiconductor ecosystem;
C. Consider the secondary effects to U.S. industry; and
D. Consider the secondary effects worldwide.

A. BIS Should Conduct Additional Consultations with U.S. Allies

ANS recommends that BIS conduct additional consultations with U.S. allies, particularly allies that are located in countries supplying like or similar products. Currently, the additional export controls are unilateral. If the controls remain unilateral, then over time they are unlikely to be effective.

B. BIS Should Conduct Additional Consultations with the Semiconductor Ecosystem

ANS appreciated the extension of time within which to submit public comments until January 31, 2023. We recommend that BIS conduct additional consultations during and after this public comment period, with the semiconductor ecosystem, including chip designers, manufacturers and their customers. In the preamble to the Interim Final Rule, BIS stated that the new rule does not involve emerging and foundational technologies, and therefore, a public comment period was not required before the rule became effective. However, conducting a public comment period prior to a rule's effective date is a key aspect of the rulemaking process, as it provides the affected parties an opportunity to offer important insight on the implications of the new rule in a practical context, such as effects on the supply chain, investment, and other secondary effects. A public comment period also allows for a proposed rule to be revised and clarified based on public feedback prior to its effective date, creating a more unified implementation by the affected parties of the new controls. BIS also should consider whether clarifying FAQs might facilitate a more uniform implementation of the new controls. Additionally, it provides a time period for industry to update the necessary compliance tools, framework, and safeguards before the rule is effective. Finally, if as National Security Advisor Jake Sullivan has stated, these thresholds are immutable, it will be especially important for the regulators to understand the increasingly severe impacts of these controls. Technology advances so quickly that today's high end control is tomorrow's effective embargo.

C. BIS Should Consider the Secondary Effects to U.S. Industry

ANS recommends that BIS consider the secondary effects to U.S. industry. A byproduct of the new rule is the lowered forecasts of the affected companies' revenues and growth prospects. The Semiconductor Industry Association recently published a report outlining the key gaps and vulnerabilities from a U.S. perspective in the semiconductor supply chain, including the lack of manufacturing and workforce infrastructure in the U.S.as compared internationally:[1]

> *The reality is the average rate of chip manufacturing output has grown five times faster overseas than it has in the United States over the last decade.*

Additionally, the new rule is reducing the internal research and development funding by the U.S. semiconductor sector at a time when the U.S. Government is investing in the field under the CHIPS and Science Act.

D. BIS Should Consider the Secondary Effects Worldwide

ANS recommends that BIS consider the secondary effects worldwide, as the rule affects not just U.S. companies but also worldwide investment in the semiconductor ecosystem. For example, the Chinese government and Chinese private investors are committing funds to develop new technologies that ultimately are likely to replace U.S. suppliers. The new regulations also will divert investment to uses other than semiconductors, such as chiplets and software. The secondary effect of displacing investment from one

[1] https://www.semiconductors.org/wp-content/uploads/2022/11/SIA_State-of-Industry-Report_2022.pdf

field to another, ultimately undermining the intended effects of the new controls, and reducing funding for U.S. companies, are important factors worthy of consideration.

II. Requests for Clarification

ANS has noted what appear to be certain inconsistencies in the rule, and areas where the affected parties would benefit from further clarification, which is explained in more detail below:

1. Clarification is needed regarding the definition of "supercomputer";
2. The scope of "facilitating" in Section 744.6 should be further specified;
3. There is ambiguity in a cross reference to 'support' between Sections 744.6(c)(2) and 744.6(b);
4. Export Control Classification Number ("ECCN") 4E001 technology for 4A090 items is now subject to NS-1 controls:
    - This is an anomalous result given that 3E001 technology for 3A090 items is not subject to NS-1 controls; and
    - This creates new deemed export authorization requirements for 4E001 technology for 4A090 items, even though the intent is to exempt such technology for Chinese foreign nationals;
5. There is ambiguity over what constitutes a "computer" or affected "electronic assembly" / "component" in the context of the supercomputing end-use restrictions and new integrated circuit ("IC") / advanced computing provisions;
6. Electronic Export Information ("EEI") filing options should be updated to conform with the new rule;
7. The scope of the term "use" should be clarified in Section 744.23(a)(1);
8. Technical Note 2 under ECCN 3A090 can be interpreted more broadly than is likely intended, and should be addressed either in an amendment or FAQ;
9. BIS should conduct investigations and publish harmonized lists of end-users of concern so that they can be used with transaction screening tools.

1. "Supercomputer" Definition

BIS should clarify the definition of "supercomputer" in Section 772.1 of the EAR. Specifically, Note 2 of the Supercomputer Definition states that a "supercomputer" typically has "thousands of closely coupled compute cores connected in parallel with networking technology…" It is not clear what is meant by "closely coupled compute cores." Does "closely coupled compute cores" refer to a system in which all hardware and software components are connected together and dependent on one another? Does the type of interconnect affect the outcome?

2. Scope of Facilitating

BIS should clarify the new controls related to "facilitating" the "shipment, transmission, or transfer (in-country)" of certain items specified in Section 744.6(c)(2)(ii), (v) and (viii). How broad is the activity covered by "facilitating"? Should the activity be directly related to facilitating the shipment, transmission, or transfer? For instance, if a bank issues a payment related to the shipment, transmission, or transfer of an

item covered under Section 744.6(c)(2), that would not be considered "facilitating". Likewise, if a freight company ships an item that may be covered under Section 744.6(c)(2) that would not be considered "facilitating".

Corresponding changes to FAQ IV.a.2 would provide additional clarification, which would be welcomed by the affected industry.

3. Cross References of 'Support'

Section 744.6(c)(2) states that a license is required "for the following activities, which could involve 'support' for the weapons of mass destruction-related end uses set forth in" Section 744.6(b), but involve items that are not subject to the EAR. BIS should clarify whether the reference to 'support' in Section 744.6(c)(2) incorporates all of the definitions of 'support' under Section 744.6(b)(6) are included in the activities that are prohibited under Section 744.6(c)(2). BIS also should affirm that "published" information and software, and/or activities related to international standards, are not "support" that may be subject to the EAR.

4. ECCN 4E001 NS-1 Controls

BIS should make the controls on technology under ECCNs 3E001 and 4E001 consistent by adopting the approach taken in 3E001. ECCN 3E001 technology for 3A090 items is only controlled for RS (China) and AT-1 reasons on the Commerce Control List, which includes restrictions on exports to Belarus, China, Cuba, Iran, North Korea, Russia, Syria, and the specified regions of Ukraine.

By comparison, controls for NS-1 reasons apply to the entire entry of ECCN 4E001, including the technology for 4A090 items, which restricts exports to all countries except Canada. Therefore, exports of technology for systems described in ECCN 4A090 are exceedingly more restricted than exports of technology for items described in 3A090, even though the technical parameters for ECCN 4A090 are based on the underlying capability of integrated circuits described in ECCN 3A090. As a result, ECCN 4E001 system technology requires a license for various NS-1 countries, but ECCN 3E001 IC technology does not.

Furthermore, we note that the preamble to the rule addresses deemed exports as follows:

> *This rule establishes a new unilateral RS control and brings the newly identified advanced computing integrated circuits and related computers under the control. If a relevant multilateral export control regime adopts controls for the identified technology, BIS will adopt multilateral controls in place of the unilateral control. This rule also adds a new basis for RS controls to § 742.6 of the EAR. This newly added RS control imposes a license requirement for exports, reexports, and transfers (in-country) of identified items to or within the PRC. The license requirements under this new RS control for advanced computing chips and computer commodities that contain them found in new § 742.6(a)(6).* ***The license requirements in § 742.6(a)(6) do not apply to deemed exports or reexports.***

However, while deemed exports of ECCN 4E001 technology for 4A090 items are expressly not applicable for RS reasons to Chinese foreign nationals, they are controlled for NS-1 reasons to Chinese and

other foreign nationals, which creates an incongruous result based on the stated intent in the preamble. We respectfully suggest that BIS should clarify the treatment of ECCN 4E001 technology for 4A090 items, and its applicability to deemed exports in the context of the NS-1 controls.

5. "Computer", "Electronic Assembly" and "Component"

BIS should resolve the ambiguity surrounding the definitions of a "computer", an "electronic assembly" and a "component" that may be subject to the new supercomputer end use and new 3A090 and 4A090 language with respect to several situations:

For the Supercomputer Provision at 744.23:

- Stand-alone data storage equipment classified as ECCN 5A002 which may be used as active (short term) storage or for long term data retention for a supercomputer. The data storage equipment is self-contained and not physically incorporated into a computer (e.g., it consists of a storage controller and an array of storage drives in a separate enclosure).

BIS should confirm that the stand-alone data storage equipment would not be considered a "component" subject to 744.23(a)(1)(ii).

For the 4A090 Provision:

- So-called "appliances", which are typically servers loaded with application-specific software (either a customized operating system or a virtual machine image) that transform the server into an application-specific device (e.g., a network security appliance, a video analytics appliance, a DNA sequencing appliance, etc.) distinguishable from a general-purpose computer. Such items may be historically classified under EAR99, 5A992, or 5A002.
    - Printed circuit boards specially designed for such appliances, where the printed circuit board contains the ECCN 3A090 IC.

BIS should confirm that the appliance would not be considered a "computer" for purposes of ECCN 4A090. BIS also should confirm that a printed circuit board specially designed for such appliance would not be considered an "electronic assembly" for purposes of ECCN 4A090.

6. Filings Related to ECCNs 3A090 and 4A090

BIS should clarify which particular ECCN the exporter should use in its EEI filings, when a product meets the criteria for classification under both ECCNs 3A090 and 5A002. The same issue arises under ECCNs 4A090 and 5A992. BIS should create new sub-paragraphs under ECCNs 5A002 and 5A992 for products implementing cryptography for data confidentiality that also meets or exceeds the technical control parameters of ECCN 3A090 and 4A090. BIS should take a similar approach to other affected categories, for example, by adding new sub-paragraphs to 5A001 and 5A991 (as needed) in Category 5, Part 1.

7. Determining "Used" in the Product Scope of Section 744.23(a)(1)

BIS should clarify how broadly exporters may interpret the term "used" in determining the product scope under Section 744.23(a)(1). We note that the end use scope is defined to only cover "development"

and "production", and the FAQs issued on October 28, 2022 indicates steps at facilities that do not alter the technology levels—such as assembly, test, and/or packaging facilities—are not covered.

Our understanding is that any product that does not contribute to the "development" and "production" of the product would fall outside the scope of these controls. For example, storage devices and networking devices may be present in a facility, but they are not "used" for the specified end-use, and therefore would not be subject to control under this provision and can be exported without a license. Other examples include so-called Facility Monitoring and Control Systems (e.g., HVAC, clean room temperature, and chillers, pumps and boilers, as well as so-called voltage sag correctors, which provide protection for electric equipment from voltage variations).

In addition, BIS should confirm that the due diligence specified in BIS FAQ, IV.A2:

"Appropriate due diligence includes review of publicly available information, capability of items to be provided or serviced, proprietary market data, and end-use statements."

…constitutes a reasonable level of due diligence in this context, as well.

8. Interpreting Technical Note 2 Under ECCN 3A090

The term "bit-manipulation operations, and/or bitwise operations" seems susceptible of a broad interpretation including any kind of data processing. Is that the intent? How should exporters think about classifying a component for a router or a switch that meets or exceeds the technical control parameters under ECCN 3A090, but would otherwise be classified under an ECCN in Category 5, Part 1 or Part 2?

9. Publication of Harmonized Lists of Specific End-Users of Concern

End-use controls place the burden of due diligence and compliance on the exporter. Conducting adequate investigations requires manual intervention and additional skilled personnel adding to the cost and time of ensuring compliance. They also create a risk of disparate implementation between stakeholders. ANS members recommend BIS conduct investigations and publish a harmonized list of end-users of concern so that they can be used with transaction screening tools.

Conclusion

Thank you for your consideration of these comments and recommendations regarding the additional export controls, and we request that you implement the proposed recommendations outlined in this comment. We look forward to additional rules, and/or FAQs, addressing these points.

Sincerely,

Alliance for Network Security

Attachment

Attachment A
ANS Company Member List

Amazon Web Services, Inc.
Cisco Systems, Inc.
DataDirect Networks, Inc.
Google, Inc.
Hitachi Vantara LLC
Juniper Networks, Inc.
McAfee, Inc.
Microsoft Corporation
Qualcomm Technologies, Inc.
Rockwell Automation, Inc.
Veritas Technologies, LLC