

**April 13 2020**

**Via electronic mail: FOIAAppeals@doc.gov <FOIAAppeals@doc.gov>;**

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BIS Tracking Number: BIS 19-203

FOIAonline Tracking Number: DOC-BIS-2019-001696

**Re: Freedom of Information Act Request Response Appeal**

To Whom it May Concern:

I am writing in response to the result of my FOIA request received on April 3, 2020 [*The Response, April 3*]. The response to my request was heavily redacted under FOIA Exemptions (b)(3), (b)(4), (b)(5), (b)(6).

As there is a significant public interest in the content of this request, particularly as it pertains to strategic technology exports in light of the US-China trade war, I am appealing the Bureau of Industry and Security's decision to redact significant portions of the documents provided to me under this request.

For your consideration below is my argument for appeal, in addition to some market/industry context to help guide the process of adjudication.

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**A. Advanced Micro Devices**

1. Advanced Micro Devices (AMD) is a multinational semiconductor company that develops computer processors and related technologies for business and consumer markets. Computer processors for personal computers and servers are a substantial part of the company's business.
2. AMD's primary rival is Intel. AMD competes against Intel in the sale of computer processors for personal computers and servers. Coming from the brink of bankruptcy in 2011-2012<sup>1</sup>, AMD has made significant rebounds against Intel in every segment including servers<sup>2</sup>.

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<sup>1</sup> <https://edition.cnn.com/2020/03/27/tech/lisa-su-amd-risk-takers/index.html>

<sup>2</sup>

<https://www.extremetech.com/computing/305839-intel-amd-both-claim-wins-based-on-new-market-share-data>

## B. x86 Architecture

1. The x86 architecture is an instruction set architecture (ISA) series for computer processors. Developed by Intel Corporation, x86 architecture defines how a processor handles and executes different instructions passed from the operating system (OS) and software programs. The x86 architecture is also used in processors from AMD, and Via Technologies under license from Intel.
2. The majority of personal computers and servers utilize processors that run on the x86 architecture.
3. Officials within the People's Republic of China (PRC) are cognizant that the country is reliant on x86 architecture and are aware that it places the nation's industrial and technological development at a strategic disadvantage. In order to counter this, officials have developed a national strategy for the creation of an indigenous processor architecture. This begins with the production of x86-compatible chips, fabricated using a domestic supply chain<sup>3</sup>, and then processors that have an entirely indigenous architecture<sup>4</sup>.
4. AMD has participated in the first step of this process by establishing a joint venture with a Chinese semiconductor manufacturer in order to participate in semiconductor market segments within China that are off-limits to foreign firms. This joint venture has been the subject of considerable scrutiny and public interest<sup>5</sup>.

## C. The Strategic Importance of x86 Architecture

1. High-Performance Computing (HPC) facilities are of strategic importance to any nation, and the PRC understands this it is a required component to its ambitions of technological hegemony.
2. Many of the top HPC facilities in the world are located in the PRC.<sup>6</sup>
3. The majority of the PRC's HPC facilities are powered by the same x86 processors used in servers, largely provided by Intel.
4. In 2014, the BIS revoked Intel's PRC export license for Xeon CPUs and Phi co-processors for supplying processors to several PRC-based HPC facilities over their involvement in nuclear weapons development and other activities that run contrary to the strategic interests of the United States<sup>7</sup>.
5. In light of this, the PRC accelerated efforts to develop an indigenous processor architecture that could be incorporated into HPC facilities. Its Sunway TaihuLight system, which ranks third on the Top 500 list, uses indigenous processor architecture.

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<sup>3</sup> <https://www.tomshardware.com/features/zhaoxin-kx-u6780a-x86-cpu-tested>

<sup>4</sup> <https://en.wikipedia.org/wiki/Zhaoxin>

<sup>5</sup> <https://wccftech.com/no-amd-did-not-sell-keys-kingdom-how-thatic-jv-works/>

<sup>6</sup> <https://www.top500.org/lists/2019/11/>

<sup>7</sup> <https://spectrum.ieee.org/tech-talk/computing/hardware/us-blacklisting-of-chinas-supercomputers-may-backfire>

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#### **D. Public Interest Appeal**

1. In consideration of the above, we are requesting the unredacted release of *The Reponse, April 3* based on the following issues of public interest:
  - a. Given what has been stated in [A. 1-2] and [B. 1-4], to what extent is AMD participating in the PRC's efforts to create indigenous x86 compatible processors? Do these actions run contrary to U.S. strategic interests? Is the x86 architecture considered a strategic facility that may be the subject of an embargo in future developments of the US-China trade war?
  - b. Would a processor jointly developed between AMD and a Chinese firm be subject to the same trade embargos as was placed on Intel? [C. 3-4]
  - c. Is the BIS aware of any situations where AMD processors are being used in PRC-based HPC facilities that are engaged in research and development with potential strategic implications that run contrary to the interests of the United States?
  - d. Have these considerations been politicized, given the current mandate of The White House?
2. Should the appeal be accepted and released, we would like it to be applicable to future FOIA requests made on this topic.

Regards,

Sam Reynolds

