

designs for their DPUs, and other companies such as Synopsys and Kalray do not rely on Arm-based designs for their SmartNICs. Respondents further state that some customers produce their own DPUs by combining a Network Interface Card (“NIC”) with a FPGA or other device to provide DPU functionality. Except as so stated, Respondents deny the allegations in Paragraph 62.

63. Respondents admit that NICs and DPUs fall within a spectrum of devices that customers use to route and manage network traffic in connected computer environments, such as datacenters. Respondents further admit that DPUs allow certain security features by isolating computing workloads to protect applications running on a main server CPU from potential attacks. Except as so stated, Respondents deny the allegations in Paragraph 63.

64. Respondents deny the allegations in Paragraph 64.

65. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 65. Except as so stated, Respondents deny the allegations in Paragraph 65.

66. Respondents admit that Arm Processor Technology offers licensees the ability to build highly efficient (in terms of power, performance, and area) CPU cores that are customizable and scalable; and that Arm provides some support for the IP it provides to its customers, offers limited design review services to those customers, and sometimes coordinates joint press releases with customers marketing Arm-based DPU products. Except as so stated, Respondents deny the allegations in Paragraph 66.

67. Respondents deny the allegations in Paragraph 67.

68. Respondents state their understanding that Intel's DPU Iventec uses an FPGA and an x86 processor and that Intel has announced plans for a product, code named Mount Evans, that is not yet in the commercial market and may use an Arm core if or when it is deployed in the future. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 68. However, Respondents deny the allegations in Paragraph 68.

69. Respondents deny the allegations in Paragraph 69.

70. Respondents admit that NVIDIA sells DPUs. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 70.

71. Respondents admit that NVIDIA predicts demand for DPUs will grow. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 71.

72. Respondents state that Paragraph 72 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 72.

73. Respondents admit that NVIDIA assesses competitive conditions as they relate to NVIDIA BlueField-2 and NVIDIA BlueField-3. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent

it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 73.

74. Respondents state that Paragraph 74 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 74.

75. Respondents state that Paragraph 75 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 75.

76. Respondents state that Paragraph 76 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 76.

77. Respondents admit that SAE International, a professional standard-setting organization, categorizes six levels of automation in vehicles, ranging from ADAS Level 0 (involving some driver assistance technology such as lane departure and blind spot warnings) to Level 5 (a fully automated vehicle driving itself with no restrictions). Except as so stated, Respondents deny the allegations in Paragraph 77.

78. Respondents admit that Level 2 automated driving is defined by the U.S. Department of Transportation as systems that provide steering and brake/acceleration support, as well as lane centering and adaptive cruise control; that Level 2+ is not an official SEA level, but is sometimes used to refer to an improvement to Level 2 that adds surround perception and AI to increase safety and convenience features, but does not reach the capabilities of Level 3; and that Levels 3 to 5 include a range of actual autonomous driving technologies that enable the automated system to monitor the driving environment with varying levels of involvement by the

driver. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 78. Except as so stated, Respondents deny the allegations in Paragraph 78.

79. Respondents admit that ADAS systems may incorporate chips and/or SoCs other than “central compute” SoCs, as that term is defined in the Complaint. Respondents state that Paragraph 79 contains legal arguments and conclusions to which no response is required. Except as so stated, Respondents deny the allegations in Paragraph 79.

80. Respondents admit that there are multiple suppliers who provide chips for Level 0/Level 1 ADAS. Respondents state that Paragraph 80 contains legal arguments and conclusions to which no response is required. Except as so stated, Respondents deny the allegations in Paragraph 80.

81. Respondents admit that Level 4/Level 5 ADAS are at an earlier stage of development than Level 1, Level 2, or Level 3 ADAS; and that there are companies developing Level 4/Level 5 ADAS technology. Respondents state that Paragraph 81 contains legal arguments and conclusions to which no response is required. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 81. Except as so stated, Respondents deny the allegations in Paragraph 81.

82. Respondents admit that NVIDIA sells and/or offers to sell its AV solution, NVIDIA DRIVE, and/or SoCs to automakers as well as OEMs and Tier 1 suppliers, who also buy AV platforms and/or SoCs from Qualcomm (in partnership with Veoneer) and Renesas; that Tesla Motors used Intel/Mobileye for ADAS until it switched to custom Arm-based chips in its ADAS solution today; and that NVIDIA offers an AV solution that competes against Mobileye

(which incorporates some SoCs based on the MIPS ISA). Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 82. Except as so stated, Respondents deny the allegations in Paragraph 82.

83. Respondents state that Paragraph 83 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 83.

84. Respondents admit that Arm-based SoCs are highly programmable and can support third-party software. Respondents state that Paragraph 84 contains legal arguments and conclusions to which no response is required. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 84. Except as so stated, Respondents deny the allegations in Paragraph 84.

85. Respondents admit that Arm has developed IP for automotive end uses, including ADAS, under the “Automotive Enhanced” label. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 85. Except as so stated, Respondents deny the allegations in Paragraph 85.

86. Respondents admit that Wave Computing has announced that it does not intend to develop new versions of its MIPS ISA in the future, with its new cores to be based on RISC-V instead. Respondents admit that the FTC purports to quote from one or more unidentified

sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents further state that MIPS announced it will continue to honor existing licensing agreements signed before restructuring such that existing licensees can therefore continue to build new and next-generation MIPS-based automotive SoCs as long as they continue paying royalties to MIPS; and that MIPS announced it will develop new industry-leading, standards-based CPU IP based on RISC-V. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 86. Except as so stated, Respondents deny the allegations in Paragraph 86.

87. Respondents state that Paragraph 87 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 87.

88. Respondents deny the allegations in Paragraph 88.

89. Respondents admit that NVIDIA and Arm predict that the number of vehicles with ADAS will grow over the next decade. Respondents state that Paragraph 89 contains legal arguments and conclusions to which no response is required. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 89. Except as so stated, Respondents deny the allegations in Paragraph 89.

90. Respondents deny the allegations in Paragraph 90.

91. Respondents admit that NVIDIA supplies certain products to automakers, including its NVIDIA DRIVE solution and/or SoCs for ADAS. Respondents state that Paragraph 91 contains legal arguments and conclusions to which no response is required.

Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 91.

Except as so stated, Respondents deny the allegations in Paragraph 91.

92. Respondents state that Paragraph 92 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 92.

93. Respondents state that Paragraph 93 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 93.

94. Respondents state that Paragraph 94 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 94.

95. Respondents admit that datacenters consist of large numbers of server computers. Respondents further admit that Arm offers CPU IP that can be used in datacenter servers. Except as so stated, Respondents deny the allegations in Paragraph 95.

96. Respondents admit that CSPs are large datacenter operators that provide computing services remotely or for rent to customers. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 96. Except as so stated, Respondents deny the allegations in Paragraph 96.

97. Respondents admit that CPUs used in datacenters are, and have been historically, dominated by x86-based products offered by Intel and AMD. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they

relate to every other person or entity as referred to in Paragraph 97. Except as so stated, Respondents deny the allegations in Paragraph 97.

98. Respondents admit that some CPUs that use Arm Processor Technology are capable of powering datacenter servers for some CSPs. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 98. Except as so stated, Respondents deny the allegations in Paragraph 98.

99. Respondents admit that x86-based datacenter CPUs may, in some circumstances, directly compete with Arm-based CPUs for datacenter customers; that the ISA for Arm-based CPUs differs from the ISA for x86-based CPUs; and that the ecosystems for Arm-based CPUs and for x86-based CPUs are not the same. Respondents state that Paragraph 99 contains legal arguments and conclusions to which no response is required. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 99. Except as so stated, Respondents deny the allegations in Paragraph 99.

100. Respondents admit that Arm-based CPUs can serve the needs of some CSPs for their datacenters, depending on the requirements and expectations of the CSP. Respondents state that Paragraph 100 contains legal arguments and conclusions to which no response is required. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 100. Except as so stated, Respondents deny the allegations in Paragraph 100.

101. Respondents admit that Marvell, Ampere Computing, and NVIDIA (among others) are Arm licensees; that NVIDIA is designing an Arm-based CPUs for datacenter; and

that some CSPs, including Amazon Web Services, have designed their own Arm-based CPUs for datacenter. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 101. Except as so stated, Respondents deny the allegations in Paragraph 101.


102. Respondents deny the allegations in Paragraph 102.

103. Respondents deny the allegations in Paragraph 103.

104. Respondents admit that Arm owns Arm Processor Technology and offers licenses that permit licensees to create and produce CPUs based on the Arm ISA. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 104. Except as so stated, Respondents deny the allegations in Paragraph 104.

105. Respondents state that Paragraph 105 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 105.

106. Respondents admit that NVIDIA announced its Grace CPU in April 2021.



Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents are without knowledge or information sufficient to form a belief as to the truth of the allegations as they relate to every other person or entity as referred to in Paragraph 106. Except as so stated, Respondents deny remaining allegations in Paragraph 106.

107. Respondents admit that NVIDIA is developing its Grace CPU, which is expected to be an Arm-based CPUs for datacenter, but is not yet available; and that NVIDIA has the right to design additional Arm-based CPUs, including custom and semi-custom designs, using its Arm licenses. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 107.

108. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Except as so stated, Respondents deny the allegations in Paragraph 108.

109. Respondents deny the allegations in Paragraph 109.

110. Respondents deny the allegations in Paragraph 110.

111. Respondents deny the allegations in Paragraph 111.

112. Respondents deny the allegations in Paragraph 112.

113. Respondents deny the allegations in Paragraph 113.

114. Respondents deny the allegations in Paragraph 114.

115. Respondents admit that Arm sometimes, on a voluntary basis, receives information from licensees that relates to Arm's technological developments, which Arm considers among other factors in its research and development. Except as so stated, Respondents deny the allegations in Paragraph 115.

116. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context

and deny any characterization thereof. Respondents state that Paragraph 116 contains legal arguments and conclusions to which no response is required. Except as so stated, Respondents deny the allegations in Paragraph 116.

117. Respondents admit that CPUs and GPUs may, depending on the circumstances, be capable of processing the same computing tasks; and that NVIDIA markets some of its GPUs for AI inferencing workloads, but state that GPUs cannot operate without being attached to a CPU, whereas CPUs can operate without any GPUs. Respondents further admit that Arm has pursued some development initiatives related to AI processing, such as machine learning, but that some of those projects have been deprioritized due to resource constraints. Respondents state that Paragraph 117 contains legal arguments and conclusions to which no response is required. Except as so stated, Respondents deny the allegations in Paragraph 117.

118. Respondents state that Paragraph 118 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 118.

ALLEGED ABSENCE OF ADDITIONAL FACTORS

119. Respondents deny the allegations in Paragraph 119.

120. Respondents admit that the FTC purports to quote from one or more unidentified sources. Respondents refer to any such source, to the extent it exists, for its contents and context and deny any characterization thereof. Respondents state that Paragraph 120 contains legal arguments and conclusions to which no response is required. Except as so stated, Respondents deny the allegations in Paragraph 120.

ALLEGED VIOLATIONS

121. Respondents state that, to the extent that a separate response is required, Respondents incorporate their responses to paragraphs 1 through 120 as though fully stated herein.

122. Respondents state that Paragraph 122 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny such allegations. Except as so stated, Respondents deny the allegations in Paragraph 122.

123. Respondents state that Paragraph 123 contains legal arguments and conclusions to which no response is required. To the extent a response is required, Respondents deny the allegations in Paragraph 123.

DEFENSES

Respondents assert the following defenses, without assuming the burden of proof on such defenses that would otherwise rest with the FTC.

1. The Complaint fails to state a claim on which relief can be granted.
2. The combination of NVIDIA and Arm's businesses will be procompetitive. The Transaction will result in substantial merger-specific efficiencies, cost synergies, and other procompetitive effects that will directly benefit competition and consumers. These benefits greatly outweigh any and all alleged anticompetitive effects.
3. The FTC's claims are too speculative to support any claim on which relief can be granted.
4. The set of commitments that Respondents voluntarily proposed to the FTC address any and all of the alleged anticompetitive effects in the alleged downstream market(s),

which the FTC failed to define, and ensure that there will be no harm to competition or consumers.

5. The FTC has failed to define any appropriate relevant market or markets.
6. The FTC has failed to establish that Respondents exercise market power with respect to any relevant market.
7. The FTC's claim reflects improper selective enforcement of the antitrust laws.
8. The FTC's claim is barred in whole or in part by failure to show any plausible harm to consumers or consumer welfare or any plausible anticompetitive effect.
9. The customers at issue in the Complaint have a variety of tools to ensure that they receive competitive pricing and terms.
10. The FTC fails to allege a time frame for the alleged anticompetitive effects.
11. The relief that the FTC seeks is inconsistent with the public interest. The public interest favors consummation of the Transaction and alternative remedies are available to the Commission.
12. These proceedings are invalid because the constraints on removal of the Commissioners violate Article II of the Constitution and the separation of powers.
13. These proceedings are invalid because the constraints on removal of the Administrative Law Judge violate Article II of the Constitution and the separation of powers.
14. These proceedings are invalid because adjudication of this matter by the Administrative Law Judge and, in turn, the Commission violates Article III of the Constitution and the separation of powers.
15. These proceedings are invalid because adjudication of this matter by the Administrative Law Judge and, in turn, the Commission violates the right to due process of law

under the Fifth Amendment to the Constitution, including because of the lack of a neutral decision-maker.

16. These proceedings violate the right to due process under the Fifth Amendment to the Constitution, which requires equal protection of the laws.

Respondents reserve the right to assert any other available defenses.

NOTICE

Respondents state that the Notice of the Complaint is a restatement of the rules of the FTC to which no response is required. To the extent a response is required, Respondents deny the allegations in the Notice of the Complaint except state that the FTC has provided notice of a hearing date on August 9, 2022.

NOTICE OF CONTEMPLATED RELIEF

Respondents state that the Notice of Contemplated Relief is a restatement of the rules of the FTC to which no response is required. To the extent a response is required, Respondents deny the allegations in the Notice of Contemplated Relief.

Respondents respectfully request that the Court: (i) deny the FTC's requested relief; (ii) dismiss the Complaint in its entirety with prejudice; (iii) award to Respondents their costs of suit, including expert fees and reasonable attorneys' fees, as may be allowed by law; and (iv) award to Respondents such other and further relief as the Court deems just and appropriate.

Dated: December 21, 2021

Respectfully submitted,

/s/ Belinda S Lee

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CERTIFICATE OF SERVICE

I hereby certify that on December 21, 2021, I filed the foregoing document electronically using the FTC's E-Filing System, which will send notification of such filing to:

April Tabor
Acting Secretary Federal Trade Commission
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The Honorable D. Michael Chappell
Administrative Law Judge
Federal Trade Commission
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I also certify that I caused the foregoing document to be served via email to:

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December 21, 2021

By: /s/ Belinda S Lee

Belinda S Lee

CERTIFICATE FOR ELECTRONIC FILING

I certify that the electronic copy sent to the Secretary of the Commission is a true and correct copy of the paper original and that I possess a paper original of the signed document that is available for review by the parties and the adjudicator.

December 21, 2021

By: /s/ Belinda S Lee

Belinda S Lee