UNITED STATES OF AMERICA BEFORE THE FEDERAL TRADE COMMISSION

COMMISSIONERS:	Jon Leibowitz, Chairman Pamela Jones Harbour William E. Kovacic J. Thomas Rosch
In the Matter of)	
INTEL CORPORATION, a corporation,	DOCKET NO. 9341

COMPLAINT

Pursuant to Section 5 of the Federal Trade Commission Act, 15 U.S.C. § 45 ("FTC Act") and by virtue of the authority vested in it by said Act, the Federal Trade Commission ("Commission"), having reason to believe that Intel Corporation ("Intel"), a corporation, hereinafter sometimes referred to as "Respondent," has engaged in a course of conduct that, considered individually or collectively, violates the provisions of said Act, and it appearing to the Commission that a proceeding in respect thereof would be in the public interest, hereby issues its Complaint stating its charges in that respect as follows:

The Federal Trade Commission Act

1. The Federal Trade Commission Act "was designed to supplement and bolster the Sherman Act and the Clayton Act ... to stop in their incipiency acts and practices which, when full blown, would violate those Acts ... as well as to condemn as 'unfair methods of competition' existing violations" of those acts and practices. The Act gives the Commission a unique role in determining what constitutes unfair methods of competition. "[L]ike a court of equity, the Commission may consider public values beyond simply those enshrined in the letter or encompassed in the spirit of the antitrust laws." Examples of conduct that fall within the scope of Section 5 include deceptive, collusive, coercive, predatory, unethical, or exclusionary conduct or any course of conduct that causes actual or incipient harm to competition. Moreover, where a respondent that has monopoly power

¹ F.T.C. v. Brown Shoe Co., 384 U.S. 316, 322 (1966) (quoting F.T.C. v. Motion Picture Adv. Serv. Co., 344 U.S. 392, 394-95 (1953)). See also F.T.C. v. Texaco, 393 U.S. 223, 225-26 (1968). ² F.T.C. v. Sperry & Hutchinson Co., 405 U.S. 233, 244 (1972). See also F.T.C. v. Cement Inst., 333 U.S. 683, 693 (1948); F.T.C. v. Brown Shoe Co., 384 U.S. 316, 321 (1966).

engages in a course of conduct tending to cripple rivals or prevent would-be rivals from constraining its exercise of that power, and where such conduct cumulatively or individually has anticompetitive effects or has a tendency to lead to such effects, that course of conduct falls within the scope of Section 5. Respondent may defend against such charges, however, by proving that any actual or incipient anticompetitive effects resulting from the Respondent's course of conduct are offset by procompetitive effects, and that engaging in that course of conduct was reasonably necessary to achieve those offsetting precompetitive effects. The conduct alleged in this complaint, if proven, falls within the scope of Section 5.

Nature of the Case

- 2. This antitrust case challenges Intel's unfair methods of competition and unfair acts or practices beginning in 1999 and continuing through today, and seeks to restore lost competition, remedy harm to consumers, and ensure freedom of choice for consumers in this critical segment of the nation's economy. Intel's conduct during this period was and is designed to maintain Intel's monopoly in the markets for Central Processing Units ("CPUs") and to create a monopoly for Intel in the markets for graphics processing units ("GPUs").
- 3. Intel holds monopoly power in the markets for personal computer and server CPUs, and has maintained a 75 to 85 percent unit share of these markets since 1999. Intel's share of the revenues in these markets has consistently exceeded 80 percent, and Intel is currently not sufficiently constrained by any other CPU manufacturers, including the two other manufacturers of x86 CPUs, Advanced Micro Devices ("AMD") and Via Technologies ("Via"), or the handful of non-x86 CPU manufacturers. A number of CPU manufacturers have exited the marketplace over the last decade. Due to both Intel's conduct and high barriers to entry in the CPU markets, new entry is unlikely.
- 4. In 1999 after AMD released its Athlon CPU and again in 2003 after AMD released its Opteron CPU, Intel lost its technological edge in various segments of the CPU markets. Original equipment manufacturers ("OEMs") recognized that AMD's new products had surpassed Intel in terms of performance and quality of the CPU.
- 5. Its monopoly threatened, Intel engaged in a number of unfair methods of competition and unfair practices to block or slow the adoption of competitive products and maintain its monopoly to the detriment of consumers. Among those practices were those that punished Intel's own customers computer manufacturers for using AMD or Via products. Intel also used its market presence and reputation to limit acceptance of AMD or Via products, and used deceptive practices to leave the impression that AMD or Via products did not perform as well as they actually did.
- 6. First, Intel entered into anticompetitive arrangements with the largest computer manufacturers that were designed to limit or foreclose the OEMs' use of competitors' relevant products. On the one hand, Intel threatened to and did increase prices, terminate product and technology collaborations, shut off supply, and reduce marketing support to OEMs that purchased too many products from Intel's competitors. On the other hand, some OEMs that purchased 100 percent or nearly 100 percent of their requirements from Intel were favored with guarantees of supply during shortages, indemnification from intellectual property litigation, or extra monies to be used in bidding situations against OEMs offering a non-Intel product.

- 7. Second, Intel offered market share or volume discounts selectively to OEMs to foreclose competition in the relevant CPU markets. In most cases, it did not make economic sense for any OEM to reject Intel's exclusionary pricing offers. Intel's offers had the practical effect of foreclosing rivals from all or substantially all of the purchases by an OEM.
- 8. Third, Intel used its position in complementary markets to help ward off competitive threats in the relevant CPU markets. For example, Intel redesigned its compiler and library software in or about 2003 to reduce the performance of competing CPUs. Many of Intel's design changes to its software had no legitimate technical benefit and were made only to reduce the performance of competing CPUs relative to Intel's CPUs.
- 9. Fourth, Intel paid or otherwise induced suppliers of complementary software and hardware products to eliminate or limit their support of non-Intel CPU products.
- 10. Fifth, Intel engaged in deceptive acts and practices that misled consumers and the public. For example, Intel failed to disclose material information about the effects of its redesigned compiler on the performance of non-Intel CPUs. Intel expressly or by implication falsely misrepresented that industry benchmarks reflected the performance of its CPUs relative to its competitors' products. Intel also pressured independent software vendors ("ISVs") to label their products as compatible with Intel and not to similarly label with competitor's products' names or logos, even though these competitor microprocessor products were compatible.
- 11. Intel's course of conduct over the last decade was designed to, and did, stall the widespread adoption of non-Intel products. That course of conduct has limited market adoption of non-Intel CPUs to the detriment of consumers, and allowed it to unlawfully maintain its monopoly in the relevant CPU markets.
- 12. Having succeeded in slowing market adoption of competing CPUs over the past decade until it could catch up with competitors, Intel once again finds itself behind competitors in the GPU markets and related markets.
- 13. Intel has engaged in unfair methods of competition in the relevant GPU markets. Intel's conduct is specifically intended to, and does, threaten to eliminate potential competition to the CPU from GPUs and maintain Intel's monopoly in the relevant CPU markets.
- 14. There is also a dangerous probability that Intel's unfair methods of competition could allow it to acquire a monopoly in the relevant GPU markets.
- 15. The GPU markets are highly concentrated and dominated by Intel. Intel currently lags behind its competitors in both quality and innovation for both discrete GPUs (GPUs used on separate graphics cards) and integrated GPUs (GPUs integrated into computer chipsets). Intel's market share in the GPU markets is in excess of 50 percent.
- 16. GPUs are a threat to Intel's monopoly in the relevant CPU markets. GPUs are adding more CPU functionality with each product generation. GPU manufacturers, such as Nvidia and AMD, through its affiliate, ATI, are developing General Purpose GPUs and programming interfaces that

threaten Intel's control over the computing platform. This General Purpose GPU computing ("GP GPU") platform has the potential to marginalize Intel's long-standing CPU-centric, x86-based strategy. Currently, both high-performance computing and mainstream applications and operating systems are beginning to adopt GP GPU computing functionality.

- 17. GPUs also could facilitate new entry or expansion in the relevant CPU markets by other firms, such as Nvidia, AMD, or Via. The need for high-end microprocessors may be reduced as more computing tasks are handled by the GPU. Some OEMs could get equivalent performance at a cheaper cost by using a lower-end CPU with a GPU microprocessor.
- 18. As it did in the CPU markets, Intel recognized the threat posed by GPUs and GP GPU computing and its technological inferiority in these markets and has taken a number of anticompetitive measures to combat it. These tactics include, among others, deception relating to competitors' efforts to enable their GPUs to interoperate with Intel's newest CPUs; adopting a new policy of denying interoperability for certain competitive GPUs; establishing various barriers to interoperability; degrading certain connections between GPUs and CPUs; making misleading statements to industry participants about the readiness of Intel's GPUs; and unlawful bundling or tying of Intel's GPUs with its CPUs resulting in below-cost pricing of relevant products. Although it is not a necessary element in a Section 5 case, because Intel is likely to achieve a monopoly in the relevant GPU markets and has a monopoly in the relevant CPU markets, it is likely to recoup in the future any losses it suffered as a result of selling relevant products at prices below an appropriate measure of cost.
- 19. These measures are intended to slow down developments in the relevant markets until Intel can catch up, and have had the effect of foreclosing competitive GPU products and slowing the development and widespread adoption of GP GPU computing.
- 20. Intel's efforts to deny interoperability between competitors' (e.g., Nvidia, AMD, and Via) GPUs and Intel's newest CPUs reflect a significant departure from Intel's previous course of dealing. Intel allowed, and indeed encouraged, other companies including Nvidia to develop products that interoperated in a nondiscriminatory manner with Intel's CPUs (and its chipsets and related connections) for the last ten years. The interoperability of these complementary products, along with the innovation and intellectual property contributions made by these companies to Intel in exchange for such interoperability, made Intel's CPUs more attractive to OEMs and customers. Indeed, Intel used other companies' technologies to enhance Intel's graphics capabilities and its monopoly power in CPUs.
- 21. Intel's conduct and representations created a duty to deal and cooperate with its competitors, such as Nvidia, AMD, and Via, to enhance competition and innovation for the benefit of consumers. These companies' reliance on Intel's original representations was reasonable.
- 22. Once Nvidia and other companies committed to working with Intel, and in some cases granted significant intellectual property to Intel, and were thus locked into Intel's strategy, Intel changed its position with these companies and used its power to harm competition.

- 23. Intel adopted these anticompetitive business practices when the GPU began to emerge as a potential challenge to Intel's monopoly over CPUs. Intel's refusal to allow Nvidia, AMD, and Via to interoperate freely, fully, and in a nondiscriminatory manner with its CPUs, chipsets, and related connections is an unfair method of competition and an unfair practice.
- 24. Intel also has bundled the price of its CPU and chipset with integrated graphics to foreclose Nvidia in some market segments, resulting in below-cost pricing of relevant products in circumstances in which Intel was likely to recoup in the future any losses that it suffered as a result of selling relevant products at prices below an appropriate measure of cost.
- 25. Intel's unfair methods of competition have harmed current and future competition in the relevant GPU and CPU markets.
- 26. These and other anticompetitive practices by Intel since 1999 allowed it to maintain its monopoly position in the relevant CPU markets and will create a dangerous possibility that Intel will obtain a monopoly in the relevant GPU markets. As a result, consumers today have fewer choices of CPU and GPU manufacturers than they had a decade ago, and fewer than they would have had absent this conduct.
- 27. The loss of price and innovation competition in the relevant markets will continue to have an adverse effect on competition and hence consumers. Absent the remedy provided herein, Intel will continue to maintain or even enhance its market power, consumers will have fewer choices, prices will be higher than they would be in competitive markets, and quality and innovation will be diminished.
- 28. The synergistic effect of all of Intel's wrongful conduct has and will continue to harm competition and consumers. Intel does not have legitimate or sufficient business justifications for its conduct.

Respondent

- 29. Respondent Intel is a corporation organized, existing, and doing business under and by virtue of the laws of the State of Delaware, with its office and principal place of business located at 2200 Mission College Boulevard, Santa Clara, California 95052. Intel develops, manufactures, markets, and sells computer hardware and software products, including x86 CPUs. For the fiscal year that ended December 31, 2008, Intel reported revenues of approximately \$37 billion and profits of approximately \$5 billion. Intel's microprocessor business reported revenues in excess of \$27 billion in 2008.
- 30. At all times relevant herein, Intel has been, and is now, a corporation as "corporation" is defined in Section 4 of the FTC Act, 15 U.S.C. § 44. For the purposes of this Complaint, "Intel" also includes its subsidiaries and affiliates.

31. The acts and practices of Intel, including the acts and practices alleged herein, are in commerce or affect commerce in the United States, as "commerce" is defined in Section 4 of the FTC Act, 15 U.S.C. § 44.

Relevant Markets

- 32. One set of relevant product markets are CPUs for use in desktop, notebook, netbook (or nettop) computers, servers, and narrower relevant markets contained therein, including without limitation:
 - a. microprocessors for servers,
 - b. microprocessors for desktop computers,
 - c. microprocessors for laptop or notebook computers,
 - d. microprocessors for netbook computers,
 - e. any of the foregoing products in this paragraph that are based on an x86 architecture.
 - f. any of the foregoing products in this paragraph as intended for particular end users or any category of end users, such as enterprise customers, and
 - g. any of the foregoing products in this paragraph as distributed or resold by a particular class of OEMs or distributors.
- 33. A CPU is a type of microprocessor used in a computer system. A CPU is an integrated circuit chip that is often described as the "brains" of a computer system. The microprocessor performs the essential functions of processing system data and controlling other devices integral to the computer system.
- 34. A CPU requires a chipset to communicate with other parts of the computer. The chipset operates as the computer's nervous system, sending data between the microprocessor and input, display, and storage devices, such as the keyboard, mouse, monitor, hard drive, and CD or DVD drive.
- 35. Intel, Via, and AMD are the only three firms that manufacture and sell x86 microprocessors -the industry standard for CPUs used in personal computers and servers. The x86 microprocessor
 architecture is the only one capable of running either the Microsoft Windows operating system (e.g.,
 Windows XP, Vista, or Windows 7) or Apple's current Mac operating system natively for personal
 computers and servers. Most purchasers do not consider computers using non-x86 microprocessors

as acceptable substitutes because they cannot efficiently run the Windows operating system and compatible software.

- 36. A few firms produce microprocessors that are based on non-x86 microprocessor architecture. For example, IBM's Power and Sun's Sparc are used only in very high end servers and mainframes sold by those companies. These non-x86 microprocessors represent a small and diminishing niche of the relevant server CPU market. Another example of a non-x86 microprocessor architecture is ARM. ARM is used primarily in handheld devices and mobile phones. Non-x86 architectures are rarely used in mainstream personal computers or servers. Microprocessors built on non-x86 architectures do not significantly restrain Intel's monopoly power.
- 37. A second set of relevant product markets are GPUs (including all graphics processors, or chipsets with graphics processors regardless of industry nomenclature) for use in desktop, notebook, netbook (or nettop) computers, servers, and narrower relevant markets contained therein, including without limitation:
 - a. GPUs integrated onto chipsets, and
 - b. Discrete GPUs.
- 38. GPUs originated as specialized integrated circuits for processing of computer graphics, but as they have evolved they have taken on greater functionality. Computers may achieve faster performance by offloading other computationally intensive needs from CPUs to GPUs.
- 39. A GPU may either reside on a separate graphics card within a computer ("discrete GPUs") or be integrated onto the chipset. Integrated graphics solutions are usually cheaper to implement but are often less powerful than discrete GPUs.
- 40. The relevant geographic market is the world.

Intel Holds a Monopoly in the Relevant CPU Markets and It is Likely to Obtain a Monopoly in the Relevant GPU Markets

- 41. Intel possesses monopoly power in the relevant CPU markets. Intel's unit share in the relevant markets has exceeded 75 percent in each of the years since 1999. Its share of revenue in these markets has consistently exceeded 80 percent during that time.
- 42. There are significant barriers to entry in all the relevant markets. These barriers include, but are not limited to: (1) product development; (2) the cost and expertise to develop manufacturing capabilities; (3) intellectual property rights; (4) establishment of product reputation and compatibility; and (5) Intel's unfair methods of competition and efforts to maintain or obtain a monopoly position in the markets.
- 43. The development of a commercial product for a single segment of the market, such as servers, takes years of engineering work and several hundred million dollars in sunk capital. An entrant

would have to develop a product and ensure it was compatible with computer operating systems and applications software used by business and consumer users.

- 44. A supplier of a product in the relevant markets also requires access to cutting-edge manufacturing facilities capable of mass-producing products and of achieving the minimum scale required to operate efficiently and profitably. The cost of developing, building, and equipping a new facility is at least \$3 billion. In order to remain at the cutting-edge of process technology the manufacturer also would have to be prepared to invest another \$1 billion in each facility every two or three years. An entrant could not begin shipping products for four or more years after commencing construction of such a facility.
- 45. An entrant would have to avoid infringing the patents that apply to the relevant products.
- 46. An entrant would need to develop a reputation for reliability once it has a commercially ready CPU or GPU and production facilities. This is a multi-year project. Buyers of computer systems and microprocessor components demand highly reliable products.

Intel's Unfair Methods of Competition and Deceptive Practices Maintained and Strengthened Intel's Monopoly Position in the Relevant Markets

- 47. Intel has engaged in a course of conduct since 1999 that, considered individually or collectively, had the tendency to hamper and exclude rivals, and to maintain, create, or enhance Intel's monopoly power in the relevant markets.
- 48. Intel's unfair methods of competition harmed competition in the relevant markets. Intel's methods are coercive, oppressive, deceptive, unethical or exclusionary and caused injury to competition and consumers. Intel's conduct is likely to continue to harm competition absent the relief requested herein, and violates § 5 of the FTC Act.

A. Exclusionary Conduct with OEMs and Distributors.

- 49. Hewlett-Packard/Compaq, Dell, IBM, Lenovo, Toshiba, Acer/Gateway, Sun, Sony, NEC, Apple, and Fujitsu are the largest OEMs in the world ("Tier One OEMs"). Tier One OEMs account for over 60 percent of the computers with CPUs in the relevant markets. Intel has prevented or limited the sale of non-Intel CPUs to these Tier One OEMs.
- 50. Because of Intel's actions and threats, certain Tier One OEMs reasonably feared that purchasing too many non-Intel CPUs would expose their companies to retaliation from Intel. They were susceptible to retaliation because Intel is a "must have" or essential supplier for every Tier One OEM, for several reasons. Intel is the only firm with the CPU product breadth to meet all the requirements and be the sole supplier to a Tier One OEM. Intel is also the only CPU supplier with the current capability to supply all or nearly all of the requirements of the largest OEMs. As a result, the Tier One OEMs could not credibly threaten to shift all or even a majority of their CPU purchases away from Intel; to the contrary, Tier One OEMs needed Intel as a primary supplier.

- 51. Intel took advantage of its monopoly power and induced and/or coerced certain Tier One OEMs to forgo adoption or purchases of non-Intel CPUs, or to limit such purchases to a small percentage of the sales of certain computer products. In other cases, Intel paid Tier One OEMs not to sell computers with other CPUs, such as AMD's or Via's CPUs. Intel threatened OEMs that considered purchasing non-Intel CPUs with, among other things, increased prices on other Intel purchases, the loss of Intel's technical support, and/or the termination of joint development projects.
- 52. When Intel was unable to compel a Tier One OEM to forgo entirely the purchase of non-Intel CPUs, Intel's strategy was to induce and coerce the OEM to forgo marketing and distribution methods for computers that contained the non-Intel CPU (referred to herein as "restrictive dealing arrangements"). For example, Intel induced OEMs to forgo advertising, to forgo branding, to forgo certain distribution channels, and/or to forgo promotion of computers containing non-Intel CPUs. To secure these restrictive dealing arrangements with OEMs, Intel threatened to withhold rebates, to withhold technical support, to withhold supply, and/or to terminate joint development projects, among other things. Tier One OEMs reasonably feared that marketing computers that contained non-Intel x86 microprocessors would expose them to retaliation from Intel. Intel monitored the OEMs' compliance with these restrictions, and in some instances presented scorecards to the OEMs, evaluating their compliance.
- 53. Intel offered market share or volume discounts selectively to OEMs to foreclose competition in the relevant CPU markets. First, Intel taxed OEM purchases of non-Intel CPUs through the use of market share discounts. Second, Intel also offered its CPUs at prices below an appropriate measure of cost (in sales of CPUs or in kit prices of CPUs with chipsets), or volume discounts on CPU purchases that are effectively below cost (which for purposes of this complaint includes average variable cost plus an appropriate level of contribution towards sunk costs), in an effort to exclude its competitors and maintain its monopoly in the relevant CPU markets. Although it is not a necessary element under a Section 5 claim, Intel as a monopolist is likely to recoup any losses that it suffered as a result of selling any of its products to certain OEMs below cost. Third, Intel gave OEMs a choice between higher prices on both contested (meaning that another CPU manufacturer was selling that product) and uncontested CPUs, or, if the OEM refrained from purchasing certain volumes of CPUs from Intel's CPU competitors, Intel offered lower prices on certain volumes of both contested and uncontested CPUs.
- 54. Intel used OEMs that were exclusive to Intel to discipline and punish OEMs that chose to deal with Intel's competitors. Intel gave OEMs that agreed to buy CPUs exclusively from Intel the best pricing, supply guarantees in times of shortage, and indemnification from patent liability relating to the patent litigation initiated by Intergraph against several OEMs. Intel also offered these OEMs a slush fund of hundreds of millions of dollars to be used in bidding competitions against OEMs that offered non-Intel-based computers. These payments were contingent on the OEMs purchasing CPUs exclusively or nearly exclusively from Intel. Intel's disparate treatment of these different purchasers is not justified by any savings in Intel's costs of manufacture, delivery or sale between the favored and disfavored purchasers, or any differential services performed by the favored purchasers, but rather was another anticompetitive tactic to obtain and enforce exclusive or near exclusive dealing

respecting relevant products by OEMs with Intel, thus reinforcing and maintaining Intel's monopoly in the relevant CPU markets.

55. Intel's use of penalties, rebates, lump-sum and other payments across multiple products, differential pricing, and other conduct alleged in this Complaint maintained or is likely to maintain Intel's monopoly power to the detriment of competition, customers, and consumers. Intel would not have been able to continue charging comparably higher prices across its product lines but for its conduct, as alleged in this Complaint, that harmed competition.

B. <u>Intel Redesigned its Software to Slow Software Performance on Non-Intel CPUs.</u>

- 56. Intel sought to undercut the performance advantage of non-Intel x86 CPUs relative to Intel x86 CPUs when it redesigned and distributed software products, such as compilers and libraries.
- 57. A compiler is software that translates the "source code," programs written by programmers or software developers in high-level computer languages such as C++ or Fortran into "object code" (0's and 1's), the language understood by CPUs. Libraries are collections of code for performing certain functions that can be referred to by software programmers rather than rewriting the code each time the functions are performed.
- 58. For example, in response to AMD introduction of its Opteron CPU for servers in 2003, Intel became concerned about the competitive threat posed by Opteron processors. Intel then designed its compiler and libraries in or about 2003 to generate software that runs slower on non-Intel x86 CPUs, such as Opteron. This decrease in the efficiency of Opteron and other non-Intel x86 CPUs harmed competition in the relevant CPU markets.
- 59. To the public, OEMs, ISVs, and benchmarking organizations, the slower performance of non-Intel CPUs on Intel-compiled software applications appeared to be caused by the non-Intel CPUs rather than the Intel software. Intel failed to disclose the effects of the changes it made to its software in or about 2003 and later to its customers or the public. Intel also disseminated false or misleading documentation about its compiler and libraries. Intel represented to ISVs, OEMs, benchmarking organizations, and the public that programs inherently performed better on Intel CPUs than on competing CPUs. In truth and in fact, many differences were due largely or entirely to the Intel software. Intel's misleading or false statements and omissions about the performance of its software were material to ISVs, OEMs, benchmarking organizations, and the public in their purchase or use of CPUs. Therefore, Intel's representations that programs inherently performed better on Intel CPUs than on competing CPUs were, and are, false or misleading. Intel's failure to disclose that the differences were due largely to the Intel software, in light of the representations made, was, and is, a deceptive practice. Moreover, those misrepresentations and omissions were likely to harm the reputation of other x86 CPUs companies, and harmed competition.
- 60. Some ISVs requested information from Intel concerning the apparent variation in performance of identical software run on Intel and non-Intel CPUs. In response to such requests, on numerous occasions, Intel misrepresented, expressly or by implication, the source of the problem and whether it could be solved.

61. Intel's software design changes slowed the performance of non-Intel x86 CPUs and had no sufficiently justifiable technological benefit. Intel's deceptive conduct deprived consumers of an informed choice between Intel chips and rival chips, and between Intel software and rival software, and raised rivals' costs of competing in the relevant CPU markets. The loss of performance caused by the Intel compiler and libraries also directly harmed consumers that used non-Intel x86 CPUs.

C. <u>Intel Misrepresented Industry Benchmarks to Favor its CPUs.</u>

- 62. Benchmarking is the act of executing a computer program, or a set of programs, on different computer systems, in order to assess the relative performance of those computer systems. Consumers decide on purchases, OEMs select components, and CPU producers make pricing and model number designations, based on benchmark results; ISVs rely on benchmarks as well.
- 63. Intel failed to disclose the effects of its software redesign on non-Intel CPUs to benchmarking organizations, OEMs, ISVs, or consumers.
- 64. Several benchmarking organizations adopted benchmarks that measured performance of CPUs running software programs compiled using the Intel compiler or libraries. Intel's deception affected among others, the Business Applications Performance Corporation ("BAPCo"), Cinebench, and TPC benchmarks.
- 65. Intel disseminated or caused to be disseminated advertisements, including product labeling and other promotional materials, to induce consumers to purchase computers with Intel CPUs. In these advertisements, Intel promoted its systems' performance under various benchmarks, which Intel expressly or by implication represented to be accurate or realistic measures of typical or "real world" computer usage or performance.
- 66. In truth and in fact, the benchmarks Intel publicized were not accurate or realistic measures of typical computer usage or performance, because they did not simulate "real world" conditions, and/or overestimated the performance of Intel's product vis-à-vis non-Intel products. Therefore, the representations and omissions of material facts made by Intel as described in paragraphs 63 through 65 above, were and are false or misleading.
- 67. Intel publicized the results of the benchmarking to promote sales of products containing its x86 CPUs even though it knew the benchmarks were misleading. For example:
 - a. On its website, Intel states: "Sysmark 2007 Preview [BAPCo's then-latest benchmark] features user-driven workloads." In truth and in fact, the workloads were not user-driven, in that they did not reflect a typical user experience, but instead were manipulated to make Intel processors perform better on the benchmark than AMD's.

- b. In its "Quick Reference Matrix Q3 2008," Intel stated that its x86 CPUs had a "27% faster productivity benchmark than the competition," based on a test against an AMD processor using SysMark 2007. In truth and in fact, the benchmark did not reliably measure productivity.
- c. Intel's website includes a White Paper called "Choosing the Right Client Computing Platform for Public Sector Organizations and Enterprises." In the document, Intel stated that the "SYSmark 2007 Preview is a benchmark test that measures the performance of client computing software when executing what is designed to measure real-life activities." In truth and in fact, the benchmark was not designed to measure "real life activities," but to favor Intel's CPUs.
- d. In the same White Paper (written to help governments write technical specifications to purchase computer systems) Intel wrote: "With regard to notebooks, Intel recommends the use of BAPCo MobileMark 2007 or later versions. This benchmark measures the performance of a computer system . . . by running relevant real-world computer programs typically used by business users." Intel further stated that this benchmark provides "a performance evaluation that reflects their typical day-to-day use by business users." In truth and in fact, the benchmark did not reflect typical or day-to-day use by business users.
- e. In its "Competitive Guide" on "Quad-Core Intel Xeon Processor-based Servers vs. AMD Opteron," Intel stated that its Quad-Core Intel Xeon 5300 Series Processor was 26 percent faster in digital content creation than AMD's Quad-Core Opteron 2300 Series Processor based on the Cinebench benchmark. Intel also stated that its Quad-Core Intel Xeon 5400 Series Processor was 34 percent faster in digital content creation than AMD's Quad-Core Opteron 2300 Series Processor based on the Cinebench benchmark. In truth and in fact, the benchmark did not reliably measure the speed of digital content creation.

Therefore, the representations set forth in subparagraphs (a) through (e) above were, and are, material and false or misleading.

- 68. Through the means described in paragraphs 63 through 65 and 67, above, Intel has represented, expressly or by implication, that:
 - a. Benchmarks, such as SysMark2007 Preview, that Intel used to compare Intel CPUs to competitors' CPUs were accurate and realistic measures of typical computer usage or performance;
 - b. Intel's x86 CPU works 27 percent faster under typical computer usage conditions than competitive CPUs, including the AMD processor;

- c. The BAPCo MobileMark 2007 benchmark and later versions provide a reliable performance evaluation of x86 CPUs against competitive brands based on typical day-to-day use by business users; and
- d. The Cinebench benchmark provides a reliable performance evaluation of x86 CPUs against competitive brands in performance of digital content creation.
- 69. Through the means described in paragraphs 63 through 65 and 67, Intel has represented, expressly or by implication, that it possessed and relied upon a reasonable basis to substantiate the representations set forth in paragraph 68, at the time the representations were made.
- 70. In truth and in fact, Intel did not possess and rely upon a reasonable basis that substantiated the representations set forth in paragraph 68 at the time the representations were made. Therefore, the representations set forth in paragraph 69 were and are false or misleading.
- 71. Intel's conduct as described in paragraphs 52 through 70, above, eroded the credibility and reliability of these benchmarks and the software compiled by Intel compilers to the detriment of consumers. Intel's conduct was misleading and had the purpose and effect of harming competition and thus enhancing Intel's monopoly power. Intel had a duty, arising from its conduct and statements, to disclose the complete truth, which would have eliminated most if not all of the harm to competition and consumers. Intel lacks a legitimate or sufficient business justification for its conduct.
 - D. <u>Intel Induced OEMs and Companies in Complementary Markets to Eliminate or Limit Support of Competitive CPU Products.</u>
- 72. Intel paid or otherwise induced OEMs and companies in complementary markets to eliminate or limit their support of competitive CPU products.
- 73. For example, Intel paid ISVs to change their software designs, including by switching to use of Intel's compilers and software, to favor Intel's CPUs. As a result of Intel's inducements, they also labeled their products as compatible with Intel but intentionally omitted that they were also compatible with non-Intel CPUs.
- 74. Intel also prevented ISVs from promoting or otherwise engaging in co-development or joint marketing with AMD and other CPU manufacturers, by causing those ISVs to fear that Intel would withdraw its support for their products. As a result, Intel created a false impression that the ISV software was incompatible with non-Intel CPUs because Intel required that only its name (versus including other CPU manufacturers as well) be listed on the product.

Intel's Unfair Methods of Competition in the Relevant GPU Markets

75. Intel, Nvidia, and ATI (a subsidiary of AMD) account for nearly all the sales of GPUs in the relevant markets. Intel holds approximately 50 percent of these markets through its sales of GPUs

integrated on chipsets, with the remainder of the markets split between Nvidia and ATI.

- 76. There are high barriers to entry in the relevant GPU markets.
- 77. GPUs allow OEMs to use lower-end CPUs or fewer microprocessors for a given level of performance.
- 78. Nvidia has developed GP GPUs and related programming tools that can perform many of the same functions as CPUs.
- 79. Nvidia's ongoing development of sophisticated GPUs and related tools poses a potential threat to Intel's monopoly position in the relevant CPU markets.
- 80. Manufacturers of complementary products, such as GPUs, rely on open interfaces (e.g., busses, connections, and related programming) between the CPU and the chipset, and between the chipset and the GPU. Intel dictates the interoperability of these interfaces, because it has monopoly power over the relevant CPUs.
- 81. These interfaces are essential for such complementary products to be used in a computer. For many years, Intel allowed unhindered accessibility to these interfaces and encouraged others to become reliant on that accessibility. However, after Nvidia, Via, AMD, OEMs, and consumers became dependent on the Intel-controlled interfaces, recently Intel has selectively cut off or hindered accessibility to enhance or obtain monopoly power in the relevant markets.
- 82. For example, Intel encouraged Nvidia to innovate on the Intel platform. Intel and Nvidia worked together for a number of years to ensure that Nvidia's GPUs could interoperate with Intel's CPU.
- 83. Intel licensed Nvidia to allow it to manufacture GPUs integrated on chipsets to be used with Intel's CPUs.
- 84. Intel's apparent willingness to allow Nvidia to interoperate with Intel's CPU has dissolved as it has begun to perceive Nvidia as a threat to its monopoly position in the relevant markets. Intel now has reversed its previous course of allowing Nvidia integrated GPU chipsets to interoperate with Intel CPUs, thereby foreclosing Nvidia's integrated GPU chipsets from connecting to Intel's future CPU platforms.
- 85. Before expressly refusing to deal with Nvidia on integrated GPU chipsets for its new family of CPUs, Intel engaged in deception by misleading Nvidia on Intel's CPU roadmaps, thereby greatly increasing its competitor's costs and further delaying the development of other products that would have accelerated the adoption of GP GPU computing. Intel also took steps to create technological barriers to interoperability to preclude the possibility that integrated CPU chipsets could interconnect with future Intel CPUs.

- 86. For discrete GPUs, Intel has created several interoperability problems, including reductions of speed and encryption, that have had the effect of degrading the industry standard interconnection with Intel's CPUs. Some of this conduct appears to have been specifically targeted at crippling GP GPU computing functionality.
- 87. Intel has sought to ensure that its own x86-based GP GPU computing programming tools and interfaces will become the industry standard. In order to accomplish this, Intel has disparaged non-Intel programming tools and interfaces and made misleading promises to the industry about the readiness of Intel's GP GPU hardware and programming tools.
- 88. Intel also bundles its CPUs with its own GPU chipsets and then prices the bundle to deter OEMs from pairing Intel CPUs with non-Intel GPUs. Intel's bundling scheme has led to significant loss of consumer choice and has no legitimate justification except to exclude competition. Moreover, it has resulted in below-cost pricing by Intel in circumstances in which Intel is likely to recoup in the future any losses that it suffered as a result of below-cost pricing.
- 89. Intel sells its Atom CPU bundled with a graphics chipset. Some OEMs purchased the bundle from Intel, discarded Intel's inferior graphics chipset and chose instead to use Intel's Atom CPU with the Nvidia graphics chipset. To combat this competition, Intel charged those OEMs significantly higher prices because they used a non-Intel graphics chipset or GPU. Intel would offer the bundled pricing only to OEMs that would then use the Intel chipset in the end-product and not use a competitive product.
- 90. Intel's unfair methods of competition in the relevant GPU markets have specifically been used to enhance and have enhanced its monopoly position in the relevant CPU markets.
- 91. Intel's wrongful conduct also creates a dangerous probability that it will acquire a monopoly in the GPU markets. Intel's conduct has no legitimate or sufficient business justification and has and will continue to harm competition, innovation, and consumers, unless it is enjoined.

Intel's Unfair Methods of Competition in Industry Standards

92. Intel's course of anticompetitive and unfair conduct extends to its control of industry standards to hinder innovation by its CPU competitors and to maintain its monopoly power in the CPU markets. Using its dominant CPU position, Intel has manipulated the content and timing of many industry standards to advantage its own products and prevent competitors from introducing standards-compliant products prior to product introduction by Intel. Two examples of such anticompetitive conduct relate to the Universal Serial Bus host controller specification and the High Definition Content Protection ("HDCP") standard for use in DisplayPort connections between computers and display devices such as monitors and televisions. In these instances, Intel encouraged the industry to rely on standards that Intel controlled and represented that the standards would be fairly accessible. But Intel has delayed accessibility to the standards for its competitors so that Intel can gain a head start with its own products and wrongfully restrain competition. Intel's conduct has no offsetting, legitimate or sufficient procompetitive efficiencies but instead deters competition and enhances Intel's monopoly power in CPUs.

Anticompetitive Effects of Intel's Conduct

- 93. The acts and practices of Intel as alleged herein have the purpose, capacity, tendency, and effect of harming competition and consumers in the relevant CPU markets. As a result, Intel's rivals and potential rivals incur higher distribution costs, face diminished sales opportunities, and secure lower revenues. Intel's conduct reasonably appears capable of making a significant contribution to the maintenance of its monopoly power or enabling it to achieve monopoly power in the relevant markets. Intel's monopoly power also has been buttressed by various unjustified restraints it places on licensees of its x86 intellectual property.
- 94. Intel's conduct adversely affects competition and consumers by, including but not limited to:
 - a. causing higher prices of CPUs and GPUs and the products containing microprocessors;
 - b. reducing competition to innovate in the relevant CPU and GPU markets by Intel and others;
 - c. inhibiting Intel's competitors from effectively marketing their products to customers;
 - d. reducing output of CPUs, GPUs, and the products containing them;
 - e. raising rivals' costs of distribution of CPUs and GPUs;
 - f. harming choice and competition at the OEM level and hence depriving consumers of their choice of CPUs and GPUs;
 - g. reducing the incentive and ability of OEMs to innovate and differentiate their products in ways that would appeal to customers; and
 - h. reducing the quality of industry benchmarking relied upon by OEMs and consumers in purchasing computers.
- 95. The acts and practices of Intel as alleged herein have the purpose, capacity, tendency, and effect to restrain competition unreasonably and to maintain Intel's monopoly power in the relevant markets. In addition, Intel's conduct is an illegal attempt to monopolize the relevant markets, and Intel has a dangerous probability of achieving a monopoly in these markets absent appropriate relief. Absent such relief, for OEMs and consumers of the relevant products, the consequences have been and likely will continue to be supracompetitive prices, reduced quality, and less innovation.

96. Intel's course of unfair methods of competition, considered individually or collectively, has harmed competition and consumers in the relevant markets. Intel's conduct has no legitimate or sufficient efficiency justification that would outweigh the anticompetitive effects of its conduct. Moreover, Intel has not used a least restrictive means to advance any legitimate goals, if any, to minimize anticompetitive effects.

First Violation Alleged

- 97. The allegations in paragraphs 1 through 96 above are herein incorporated by reference. Intel's acts and practices, considered individually or collectively, constitute unfair methods of competition in or affecting commerce, in violation of Section 5 of the FTC Act.
- 98. Such acts and practices, or the effects thereof, will continue or recur in the absence of appropriate relief.

Second Violation Alleged

- 99. The allegations in paragraphs 1 through 96 above are herein incorporated by reference. Intel has willfully engaged in anticompetitive and exclusionary acts and practices to acquire, enhance or maintain its monopoly power in the relevant markets, constituting unfair methods of competition in or affecting commerce, in violation of Section 5 of the FTC Act.
- 100. Such acts and practices, or the effects thereof, will continue or recur in the absence of appropriate relief.

Third Violation Alleged

- 101. The allegations in paragraphs 1 through 96 above are herein incorporated by reference. Intel has willfully engaged in anticompetitive and exclusionary acts and practices, with the specific intent to monopolize or maintain a monopoly in the relevant markets, resulting, at a minimum, in a dangerous probability of monopolization in the relevant markets, constituting unfair methods of competition in or affecting commerce, in violation of Section 5 of the FTC Act.
- 102. Such acts and practices, or the effects thereof, will continue or recur in the absence of appropriate relief.

Fourth Violation Alleged

- 103. The allegations in paragraphs 56 through 96 above are herein incorporated by reference. The acts and practices of Intel, as alleged herein, constitute deceptive acts or practices in or affecting commerce, in violation of Section 5 of the FTC Act.
- 104. Such acts and practices, or the effects thereof, will continue or recur in the absence of appropriate relief.

Fifth Violation Alleged

- 105. The allegations in paragraphs 1 through 96 above are herein incorporated by reference. The acts and practices of Intel, as alleged herein, constitute unfair acts or practices in or affecting commerce, in violation of Section 5 of the Federal Trade Commission Act.
- 106. Such acts and practices, or the effects thereof, will continue or recur in the absence of appropriate relief.

NOTICE

Notice is hereby given to the Respondent that September 15, 2010, at 10:00 a.m., or such earlier date as is determined by an Administrative Law Judge of the Federal Trade Commission, is hereby fixed as the time, and the Federal Trade Commission offices, 600 Pennsylvania Avenue, N.W., Room 532, Washington, DC 20580, as the place, when and where a hearing will be held before an Administrative Law Judge of the Federal Trade Commission, on the charges set forth in this complaint, at which time and place you will have the right under the Federal Trade Commission and Clayton Acts to appear and show cause why an order should not be entered requiring you to cease and desist from the violations of law charged in the complaint.

Due to the nature of the complaint, the Commission finds good cause under § 3.41(b) of the Commission's Rules of Practice for Adjudicative Proceedings to extend the timed hearing to no more than 322 hours. Each side shall be allotted no more than half of the 322 hours within which to present its (i) opening statements, (ii) in limine motions, (iii) all arguments excluding the closing argument, (iv) direct or cross examinations in either party's case, or (v) other evidence that is presented live at the hearing. Counsel supporting the complaint and Respondent's counsel shall report jointly to the Administrative Law Judge each day as to the time each party has used each hearing day.

You are notified that the opportunity is afforded you to file with the Commission an answer to this complaint on or before the fourteenth day after service of it upon you. An answer in which the allegations of the complaint are contested shall contain a concise statement of the facts constituting each ground of defense; and specific admission, denial, or explanation of each fact alleged in the complaint or, if you are without knowledge thereof, a statement to that effect. Allegations of the complaint not thus answered shall be deemed to have been admitted.

If you elect not to contest the allegations of fact set forth in the complaint, the answer shall consist of a statement that you admit all of the material allegations to be true. Such an answer shall constitute a waiver of hearings as to the facts alleged in the complaint, and together with the complaint will provide a record basis on which the Commission shall issue a final decision containing appropriate findings and conclusions and a final order disposing of the proceeding. In such answer, you may, however, reserve the right to submit proposed findings and conclusions under § 3.46 of the Commission's Rules of Practice for Adjudicative Proceedings.

Failure to file an answer within the time provided above shall be deemed to constitute a waiver of your right to appear and to contest the allegations of the complaint, and shall authorize the Commission, without further notice to you, to find the facts to be as alleged in the complaint and to enter a final decision containing appropriate findings and conclusions and a final order disposing of the proceeding.

The Administrative Law Judge will schedule an initial pre-hearing scheduling conference to be held not later than ten days after the answer is filed. The scheduling conference and further proceedings will take place at the Federal Trade Commission, 600 Pennsylvania Avenue, N.W., Room 532, Washington, DC 20580. Rule 3.21(a) requires a meeting of the parties' counsel as early as practicable before the pre-hearing scheduling conference (and in any event no later than five days after the answer is filed by the last answering respondent). Rule 3.31(b) obligates counsel for each party, within five days of receiving a respondent's answer, to make certain initial disclosures without awaiting a discovery request.

NOTICE OF CONTEMPLATED RELIEF

Should the Commission conclude from the record developed in any adjudicative proceedings in this matter that the Respondent has violated or is violating Section 5 of the FTC Act, as amended, as alleged in the Complaint, the Commission may order such relief against Intel as is supported by the record and is necessary and appropriate, including, but not limited to:

- 1. Ordering Intel to cease and desist from the conduct alleged in the Complaint, and to take all such measures as are appropriate to correct or remedy, or to prevent the recurrence of, the anticompetitive practices engaged in by Intel.
- 2. An order that limits the manner in which Intel uses threats, bundled prices, quantity discounts, and other offers to encourage exclusivity or to deter competition or unfairly raise the price of its microprocessors or GPUs (including pricing conditioned on Intel getting so much of a resellers' purchases that that condition has the practical effect of foreclosing rivals from all or substantially all of that resellers' purchases, provided that pricing based purchases exceeding 60% of a resellers' historical purchases during the period the pricing is offered will be presumed to have that effect); such order may, among other things, include a prohibition against Intel from directly or indirectly requiring its customers to:
 - a. purchase only microprocessors or GPUs that have been manufactured by Intel;
 - b. purchase a minimum or fixed volume or percentage of the customer's overall CPU or GPU requirements from Intel (regardless of whether such fixed percentage relates to a product line for customers with multiple product lines or on a company-wide basis);
 - c. not purchase CPUs or GPUs manufactured by a company, or by companies, other than Intel;

- d. purchase a maximum or fixed number of CPUs or GPUs manufactured by a company, or by companies, other than Intel (regardless of whether such maximum or fixed number relates to a product line for customers with multiple product lines or on a company-wide basis);
- e. purchase a maximum or fixed percentage of the customer's GPU requirements from a company, or from companies, other than Intel (regardless of whether such maximum or fixed percentage relates to a product line for customers with multiple product lines or on a company-wide basis); or
- f. comply with restraints on the manner in which customers market, advertise, promote, distribute, or sell any products containing microprocessors that have not been manufactured by Intel.
- 3. Prohibiting Intel from inducing, or attempting to induce, OEMs or other third parties (i.e., ISVs) to adhere to, or agree to, any of the above requirements (as listed in Paragraphs 2.a. through 2.f. of this notice) by discriminating, or threatening to discriminate, against OEMs or other third parties that fail to adhere to, or agree to, such requirements, including, but not limited to, inducing or attempting to induce OEMs or other third parties to adhere to, or agree to, any of such requirements by engaging in, or threatening to engage in, the following:
 - a. charging OEMs or other third parties lower or higher prices for CPUs or GPUs in the relevant markets (inclusive of rebates, allowances, discounts and any other adjustment to price, including anything of value that has the same practical effect as pricing, rebates, or discounts as a means of discrimination) when such price is contingent upon a specific Intel market share or if the OEM does not use a competitive product;
 - b. withholding payments and/or other compensation to OEMs unless they are exclusive or near exclusive to Intel in the relevant markets;
 - c. withholding research and development funds from OEMs unless they are exclusive or near exclusive to Intel in the relevant markets:
 - d. allocating OEMs or other third parties fewer CPUs during periods of shortage (actual or manufactured) depending on whether they are exclusive or near exclusive to Intel in the relevant markets;
 - e. providing OEMs reduced monetary or in-kind support to market, advertise, promote, or distribute products manufactured by Intel unless they are exclusive or near exclusive to Intel in the relevant markets:

- f. giving OEMs less technical support with respect to microprocessors or GPUs unless they are exclusive or near exclusive to Intel in the relevant markets;
- g. giving OEMs less access to technical information/specifications regarding microprocessors or GPUs unless they are exclusive or near exclusive to Intel in the relevant markets; and
- h. prioritizing the supply of microprocessors or GPUs to OEMs that are exclusive or near exclusive to Intel in the relevant markets.
- 4. With respect to an OEM that purchases a greater percentage share of Intel microprocessors (versus the percentage share of microprocessors bought by that OEM from another microprocessor supplier), Intel is prohibited from giving to that OEM more advantageous terms or conditions than those that are offered to another OEM whose percentage share is not as favorable to Intel. Intel is also prohibited from enforcing any terms or conditions in a way that favors a greater percentage share of microprocessors from Intel. For purposes of this paragraph, terms and conditions expressly include but are not limited to contracts, pricing, or purchase terms and conditions, and all actions described in Paragraphs 3.a. through 3.h. of this notice. Provided, however, it should not be a violation for Intel to offer, or its customers to accept, discounts or lower prices based solely on volume (provided that the same are in accordance with the law).
- 5. Prohibiting Intel from producing or distributing software or hardware that has the purpose or effect of unreasonably excluding or inhibiting competitive microprocessor or GPU products or complementary products.
- 6. Prohibiting Intel from pricing its microprocessors so that the incremental price to a customer of microprocessors or GPUs sold in competition with another competitor is below cost when such price includes all rebates, payments, or other price decreases on other products not in competition. Pricing will be presumed to be below cost even if it exceeds Intel's average variable cost but does not contribute to its fixed sunk costs in an appropriate multiple of that average variable cost. Pricing or sale of kit or bundled products will be presumed to be above "cost" if the "kit" or "bundle" includes an x86 product or, if it does, if, after all discounts have attributed to the competitive product(s) in the bundle, the resulting pricing is well above Intel's average variable cost plus a contribution to Intel's fixed sunk costs in an appropriate multiple of that average variable cost.
- 7. Requiring that, with respect to those Intel customers that purchased from Intel a software compiler that had or has the design or effect of impairing the actual or apparent performance of microprocessors not manufactured by Intel ("Defective Compiler"), as described in the Complaint:
 - a. Intel provide them, at no additional charge, a substitute compiler that is not a Defective Compiler;
 - b. Intel compensate them for the cost of recompiling the software they had compiled on the Defective Compiler and of substituting, and distributing to their

- own customers, the recompiled software for software compiled on a Defective Compiler; and
- c. Intel give public notice and warning, in a manner likely to be communicated to persons that have purchased software compiled on Defective Compilers purchased from Intel, of the possible need to replace that software.
- 8. Prohibiting Intel from manufacturing or distributing computer software, hardware, or other products that impair the performance, or apparent performance, of non-Intel microprocessors or GPUs.
- 9. Prohibiting Intel from inducing or coercing others to design, manufacture, or sell products that impair the actual or apparent performance of non-Intel microprocessors GPUs.
- 10. Prohibiting Intel from making deceptive or misleading statements and omissions concerning anything (including, but not limited to, performance, roadmaps, or plans) related to the manufacturing or sale of any x86 or related product, including CPUs, GPUs, chipsets, compilers, libraries, software.
- 11. Requiring Intel to correct the deceptive or misleading statements and omissions it has made in the past.
- 12. Prohibiting Intel from coercing or influencing benchmarking organizations to adopt benchmarks that are deceptive or misleading.
- 13. Prohibiting Intel from improperly inducing or coercing customers not to use a competing GPU or graphics chipset.
- 14. Prohibiting Intel from designing or bundling together its own software or hardware so that they unfairly discriminate between Intel and non-Intel GPUs or graphics chip or related products.
- 15. Prohibiting Intel from directly or indirectly, expressly or by implication or effect, conditioning any discount, rebate, or other kind of consideration or benefit in connection with an OEM's purchase of Intel microprocessors on the condition that the OEM purchase another Intel product.
- 16. Prohibiting Intel from charging a higher price, or directly or indirectly conditioning any discount, rebate, or any other kind of consideration or benefit based solely on the inclusion, configuration, or type of software, operating system, or other component(s) used in any product into which an Intel microprocessor is to be incorporated or on the class of customers to whom the OEM's products containing Intel components will be marketed.
- 17. Requiring Intel to make available technology (including whatever is necessary to interoperate with Intel's CPUs or chipsets) to others, via licensing or other means, upon such terms and conditions as the Commission may order, including but not limited to extensions of terms of current licenses.

- 18. Prohibiting Intel from including or enforcing terms in its x86 licensing agreements that restrict the ability of licensees to change ownership, to obtain investments or financing, to outsource production of x86 microprocessors, or to otherwise partner with third parties to expand output.
- 19. Requiring that, for a period of time, Intel provide prior notice to the Commission of acquisitions, mergers, consolidations, or any other combinations of assets, including but not limited to intellectual property, in the relevant microprocessor markets and complementary software and hardware products.
- 20. Requiring that Intel, directly or through any person, corporation, partnership, subsidiary, division, trade name, or other device, in connection with the manufacturing, labeling, advertising, promotion, offering for sale, sale, or distribution of any product, in or affecting commerce, shall not make any representation, in any manner, directly or by implication, including through the use of a product name, endorsement, depiction, or illustration, about the efficacy or performance of any product unless the representation is not deceptive or misleading and, at the time the representation is made, Intel possesses and relies upon competent and reliable scientific evidence that substantiates the representation.
- 21. Requiring that for a period of time after the last date of dissemination of any representation covered by any ordered relief in this matter, Intel shall maintain and upon request make available to the Federal Trade Commission for inspection and copying:
 - a. All advertisements and promotional materials containing the representation;
 - b. All materials that were relied upon in disseminating the representation;
 - c. All tests, reports, studies, demonstrations, or other evidence in their possession or control that contradict, qualify, or call into question such representation, or the basis relied upon for the representation, including complaints and other communications with consumers or with governmental or consumer protection organizations; and
 - d. All other documents supporting compliance with the Commission's order.
- 22. Prohibiting Intel from entering into, implementing, continuing, or enforcing a Contract with any Customer that requires the Customer to disclose to Respondent any plans the Customer may have to sell, or offer for sale, Computer Products containing a Competing Relevant Product.
- 23. Prohibiting Intel from suing or threatening to sue its competitors' third-party fabricators.
- 24. Requiring that Intel's compliance with the order be monitored for the full term of the order at Intel's expense by an independent monitor appointed by the Commission.
- 25. Requiring that Intel file periodic compliance reports with the Commission.
- 26. Any other relief appropriate to correct or remedy the anticompetitive effects in their incipiency of any or all of the conduct alleged in the complaint.

IN WITNESS WHEREOF, the Federal Trade Commission has caused this complaint to be signed by its Secretary and its official seal to be hereto affixed, at Washington, DC, this sixteenth day of December, 2009.

By the Commission, Commissioner Kovacic recused.

SEAL

Donald S. Clark Secretary