UNITED STATES OF AMERICA
BEFORE FEDERAL TRADE COMMISSION

In the Matter of INTEL CORPORATION, a corporation.	DOCKET NO. 9288

COMPLAINT COUNSELS' PRETRIAL BRIEF

[PUBLIC VERSION]

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I. Introduction

This case is about the steps Intel took to preserve its monopoly in the market for general purpose microprocessors.[1] Simply competing on the merits was insufficient for Intel. The company instead chose to exploit its monopoly to gain access to the innovative technology of others in order to maintain its market dominance.

Intel coerced major, established customers into granting access to their technology on terms favorable to Intel by conditioning the availability of Intel product information and advance microprocessor samples to such customers on cross-licenses to their technology. Because product information and samples were critical to their core businesses, Intel's victims had no choice but to accede to its demands. In effect, Intel established its own privately-administered compulsory licensing regime by which it can acquire at reduced cost any technology that it perceives to be a competitive threat. In so doing, Intel abused its monopoly position.

The evidence will demonstrate Intel's retaliation against three companies who had the temerity to become embroiled in intellectual property disputes with Intel: Intergraph Corporation ("Intergraph"), Digital Equipment Corporation ("Digital"), and Compaq Computer Corporation ("Compaq"). In each case, Intel responded in the same heavy-handed way: by denying or threatening to deny basic product information and microprocessor samples that were necessary to incorporate Intel microprocessors into personal computers, servers, and workstations. Intergraph, Digital, and Compaq owned microprocessor technology that could be used to compete against Intel microprocessors, and Compaq

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[1] This brief is intended to provide for the Court a guide to the points Complaint Counsel will be making at trial concerning Intel's conduct and its consequences. Exhibits have been cited for illustrative purposes. Much additional evidence will be introduced through the direct examination testimony of trial witnesses.

owned motherboard technology that would have allowed Compaq to differentiate its systems from those of other original equipment manufacturers ("OEMs") and potentially to provide an attractive system platform for non-Intel microprocessors. Through its retaliation, Intel sought to extort cross-licenses to its customers' technology in order to preserve its monopoly.

Intel's strategy was effective because Intel is, in fact, a monopolist. No other supplier can provide the range and volume of microprocessor products Intergraph, Digital, and Compaq required to succeed in core aspects of their respective businesses. These three companies thrived on their ability to develop and introduce leading-edge computer systems. Without advance product information and samples of Intel's parts, these companies could not develop systems for timely market launch. And without timely launch of systems based on the *latest* Intel microprocessor, each company would face potentially insurmountable barriers to competing in the market for such systems. Faced with the threat of substantial harm to their respective businesses, Digital and Compaq acceded to Intel's demands. Intergraph likely would not have been able to resist Intel's coercion had it been unable to obtain a preliminary injunction in the United States District Court requiring Intel to restore and to maintain Intergraph's access to product information and samples.

From Intel's perspective, this aggressive strategy directed against its customers made sense because its objective was the preservation of its monopoly, and it was willing to reduce its short-run profits to do so. By withholding product information and samples, Intel risked reducing the supply and variety of OEM-systems based on Intel microprocessors and therefore the sales of Intel products. Alienation of its mistreated customers was another risk of Intel's tactics. But Intel could and did run these risks because any sacrifice of short-term sales would be counterbalanced by the long-term benefits of preserving its dominance.

The key to preserving Intel's monopoly was continuing access to innovative technology, and access is what Intel obtained. In dynamic, high-technology markets such as the one involved here, the key to competition is innovation. Any hope of meaningful challenge to Intel's position depends upon other firms developing technology that is sufficiently compelling to lure customers away from Intel. It follows that Intel maintains and potentially enhances its position when it forcibly obtains and exploits innovations developed by others. Such conduct had at least the following anticompetitive consequences: (i) by gaining access to potentially competitive technology, Intel substantially reduced the threat that it would be displaced by a competitor offering a product with superior price and performance characteristics; (ii) by enforcing its private compulsory licensing regime, Intel created disincentives for innovation, again reducing the threat that Intel would be successfully challenged; and (iii) Intel's refusal to permit OEMs to differentiate reduced the likelihood that they would develop systems that would provide an attractive platform for microprocessors that compete against Intel's.

II. The Legal Elements of Monopolization

The antitrust laws permit – indeed encourage – a monopolist to compete vigorously by producing better, cheaper, and more attractive products. Because of a monopolist's dominance, however, its actions must be "examined through a special lens: Behavior that might otherwise not be of concern to the antitrust laws – or that might even be viewed as procompetitive – can take on exclusionary connotations when practiced by a monopolist." *Eastman Kodak Co. v. Image Technical Services, Inc.*, 504 U.S. 451, 488 (1992) (Scalia, J., dissenting) (citing 3 P. Areeda & D. Turner, *Antitrust Law*, ¶ 813 at 300-302 (1978)). When a monopolist uses its power to "foreclose competition, to gain a competitive advantage, or to destroy a competitor," it crosses the line. *Kodak*, 504 U.S. at 482-483

(quoting *United States v. Griffith*, 334 U.S. 100, 107 (1948)). Indeed, "[t]he anti-trust laws are as much violated by the prevention of competition as by its destruction." *Lorain Journal Co. v. United States*, 342 U.S. 143, 154 n.7 (1951)(quoting *Griffith*, 334 U.S. at 107). That is precisely what Intel did here.

FTC jurisdiction over claims of monopolization and attempted monopolization is premised upon Section 5 of the Federal Trade Commission Act. 15 U.S.C. § 45. Under Section 5, "the Commission has power ... to arrest trade restraints in their incipiency without proof that they amount to an outright violation of ... other provisions of the antitrust laws." *FTC v. Brown Shoe Co., Inc.*, 384 U.S. 316, 322 (1966).[2] Thus, Section 5, under certain circumstances, authorizes the Commission to exercise its authority beyond the letter and spirit of Section 2 where the prospective application of injunctive relief may prevent the unlawful acquisition or maintenance of monopoly power. *Cf.* 2 P. Areeda and H. Hovenkamp, *Antitrust Law*, ¶ 307c at 24-25 (1995) (suggesting Section 5 relief imposed by disinterested government agency is appropriate in cases where exclusionary nature of monopolist's conduct is ambiguous). Nonetheless, Sherman Act standards are the logical starting point in the analysis of unfair conduct.

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[2] *See also Federal Trade Commission v. Indiana Federation of Dentists*, 476 U.S. 447, 454 (1986) ("The standard of 'unfairness' under the FTC Act is, by necessity, an elusive one, encompassing not only practices that violate the Sherman Act and the other antitrust laws, but also practices that the Commission determines are against public policy for other reasons.") (citing *FTC v. Cement Institute*, 333 U.S. 683, 689-95 (1948), and *FTC v. Sperry & Hutchinson Co.*, 405 U.S. 233, 244 (1972)); 2 P. Areeda and H. Hovenkamp, *Antitrust Law*, ¶ 305c at 13 (1995) ("[U]nder Section 5 [the Commission] may condemn conduct that offends the Sherman Act, conduct that violates 'the spirit' of the Sherman or Clayton Acts, and even conduct that is otherwise 'unfair.'") (footnotes omitted), and ¶ 307a at 22 ("[§5] allows the Commission to condemn conduct that is 'unfair' in senses 'beyond simply those enshrined in the letter or encompassed in the spirit of the antitrust laws.'") (footnote omitted).

To prove that Intel engaged in unlawful monopolization in violation of Section 2 of the Sherman Act, 15 U.S.C. § 2, Complaint Counsel must establish: (1) monopoly power, and (2) the acquisition or maintenance of that power through exclusionary conduct. *Aspen Skiing Co. v. Aspen Highlands Skiing Co.*, 472 U.S. 585, 596 n.19 (1985); *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966). To prove attempted monopolization, Complaint Counsel must show: "(1) that the defendant has engaged in predatory or anticompetitive conduct with (2) a specific intent to monopolize and (3) a dangerous probability of achieving monopoly power." *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993).

Monopoly power is "the power to control prices or exclude competition," *Grinnell*, 384 U.S. at 571 (quoting *United States v. E. I. du Pont de Nemours & Co.*, 351 U.S. 377, 391 (1956)), and "ordinarily may be inferred from the predominant share of the market" controlled by the alleged monopolist. *Id.* Market shares in excess of 60 to 70 percent are generally adequate to establish market power. *See, e.g., Reazin v. Blue Cross & Blue Shield of Kansas, Inc.*, 899 F.2d 951, 967-70 (10th Cir.) (market share of approximately 60% supported jury verdict of monopolization), *cert. denied*, 497 U.S. 1005 (1990). *See also Kodak*, 504 U.S. at 481-82 (citing cases); 3A P. Areeda & H. Hovenkamp, *Antitrust Law*, ¶ 801a at 301 (1996) (suggesting that it is reasonable to presume substantial market power when defendant's share of relevant market exceeds 70-75% for the five years preceding the complaint).

Actions taken to acquire or preserve monopoly power are "exclusionary" if they involve "conduct, other than competition on the merits or restraints reasonably 'necessary' to competition on the merits, that reasonably appear capable of making a significant contribution to creating or maintaining monopoly power." *Barry Wright Corp. v. ITT Grinnell Corp.*, 724 F.2d 227, 230 (1st Cir. 1983)

(Breyer, J.) (quoting 3 P. Areeda & D. Turner, *Antitrust Law*, ¶ 626 at 83 (1978)). *See also Multistate Legal Studies, Inc. v. Harcourt Brace Jovanovich Legal and Professional Publications, Inc.*, 63 F.3d 1540, 1550 (10th Cir. 1995), *cert. denied*, 516 U.S. 1044 (1996); *Data General Corp. v. Grumman Systems Support Corp.*, 36 F.3d 1147, 1182 (1st Cir. 1994). In *Aspen*, the Supreme Court, also relying on Professors Areeda and Turner, expanded on this definition, instructing that courts consider the impact of conduct on consumers, competitors, and the monopolist itself, as well as whether the conduct "impaired competition in an unnecessarily restrictive way." 472 U.S. at 605 & n.32. Moreover, the defendant's purpose for taking the challenged actions is also helpful in determining whether the conduct is exclusionary. *Id.* at 602. *See also In re International Telephone & Telegraph Corp.*, 104 F.T.C. 280, 401 (1984) (relevant to consider "whether firms without substantial market power would find the conduct at issue to be profitable or economically rational").[3]

While Complaint Counsel must demonstrate that Intel's conduct was harmful to competition in the sense that it was "reasonably capable" of making a significant contribution to preserving Intel's dominance, it is not necessary to demonstrate that Intel's conduct resulted in increased prices or lower output. No court has ever required the government to make such a showing. Nor would such a requirement make sense.

Section 2 prohibits not only the acquisition of monopoly but its maintenance. *Lorain Journal*, 342 U.S. at 154 n.7. When a company maintains its monopoly position, by definition it prevents

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[3] *Cf. In re Borden, Inc.*, 92 F.T.C. 669, 820 (1978) (suggesting analysis of exclusionary conduct that not only resembles the rule of reason, "inquiring beyond intent and exclusionary effect into whether the conduct at issue was unreasonably exclusionary or anticompetitive," but also strikes a balance among the rule of reason factors "in light of the critical fact that the company engaging in the conduct is a monopolist and that competitive markets are to be preferred over monopoly power in the enforcement of the antitrust laws.") (Concurring Opinion of Commissioner Pitofsky).

competition from occurring. There will be no visible change in prices or quantities, because the monopoly has been preserved, but the harm to competition exists nonetheless: prices are higher and output lower than would have been the case without the exclusionary conduct. For this reason, "[i]njury to competition is presumed to follow from the conduct proscribed by § 2." *Walker v. U-Haul Co. of Mississippi*, 747 F.2d 1011, 1013 (5th Cir. 1984) ("Section 2 of the Sherman Act ... does not explicitly require a plaintiff to prove an injury to competition; the plaintiff must prove only the existence of monopoly power and the willful continued maintenance of that power.").

III. Intel Has Monopoly Power in the General-Purpose Microprocessor Market

A. Relevant Market

A relevant market provides the context in which market power can be measured. *Spectrum Sports*, 506 U.S. at 455-457. A relevant market has two dimensions: product market and geographic market. *Brown Shoe Co., Inc. v. United States*, 370 U.S. 294, 324 (1962).

Product markets delimit the product or groups of products consumers will reasonably substitute for one another in the event of a price increase. *Id.* at 325 ("The outer boundaries of a product market are determined by the reasonable interchangeability of use or the cross-elasticity of demand between the product itself and substitutes for it.") (footnote omitted). In other words, if buyers judge two products to be reasonably interchangeable – taking into consideration price, use, and qualities – the products are deemed to be in the same market. *du Pont*, 351 U.S. at 404.

The product market in this case is the market for general purpose microprocessors used as central processing units ("CPUs") in reprogrammable digital computers.[4] From the perspective of OEMs, the primary customers for these products, there are no reasonable substitutes for general purpose microprocessors.

The relevant market does not include products that lack the performance attributes and functionality required for use in reprogrammable digital computers. Thus, microcontrollers are not included since they are built into a system to control limited and specified physical properties of equipment, such as temperature. Nor does the market include embedded microprocessors, which are used in devices such as cellular telephones, microwave ovens, automobiles and refrigerators. Embedded microprocessors are used in systems that are preprogrammed to run one or more fixed applications, and cannot be reprogrammed to run applications that are not built into the system at the outset. To redesign embedded processors to provide the performance attributes needed in general-purpose computing would be prohibitively expensive.[5]

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[4] There is apparently no dispute in this case that the geographic market is worldwide. General purpose microprocessors are produced in the United States, as well as several Asian and European nations, and are shipped throughout most of the world.

[5] There is no meaningful pricing link between general purpose microprocessors and embedded processors or microcontrollers. Embedded processors and microcontrollers generally sell at much lower prices than general purpose microprocessors, and offer much lower margins to the sellers. The average selling price of Intel microprocessors has been about [redacted] per chip in recent quarters. Most embedded processors are sold for a few dollars per chip. In determining the price for its general purpose microprocessors, Intel is not concerned about losing sales to suppliers of embedded processors and microcontrollers.

B. Monopoly Power

Intel's market share has consistently been well into the monopoly range. Intel's share of revenues from the sale of general purpose microprocessors has exceeded [redacted] percent in each of the last six years,[6] ranging from [redacted] in 1994 to [redacted] in 1996:

1993	[redacted]%
1994	[redacted]%
1995	[redacted]%
1996	[redacted]%
1997	[redacted]%
1998 (1st half)	[redacted]%

These high shares actually understate Intel's market power because of the significant differentiation within the market and Intel's complete control of certain segments.

The general purpose microprocessor market is segmented as a result of several factors. The first is the operating systems and other software with which the microprocessors can be used. Intel microprocessors interact with operating systems and applications software by means of the "x86" instruction set.[7] This means that Intel's instruction set is compatible with the most popular family of operating systems, those written by Microsoft Corp. (MS-DOS, Windows 3.1, Windows 95,

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[6] [redacted] Intel's market share has grown over the past several years and is now in the range of 80 percent or more. *See* [redacted]; CX 48 (PC Processors and Chipsets; Market Strategy and Forecast Report Updated Edition Q4 '98) at 3.1.1 (Mercury Research estimated Intel's 1997 market share to be 85%, up from 79.7% in 1996). [redacted].

[7] The full set of instructions recognized by a particular microprocessor is known as the "instruction set."

Windows 98, and Windows NT). Moreover, there is a vast library of applications programs written for the x86 instruction set. Most consumers today will not consider purchasing a computer that does not utilize the x86 instruction set.[8] These factors provide an immense marketing advantage for Intel.

General purpose microprocessors are also differentiated in terms of performance and price. Intel segments the downstream market by the type of computer (*e.g.*, server, workstation, business desktop, home desktop, and mobile), [redacted].[9] [redacted]

[redacted].[10]

Intel virtually owns key segments of the x86 microprocessor market. Specifically, Intel has a market share of approximately [redacted] in x86 servers and workstations, and high-end and mid-

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[8] *See* [redacted].

[9] *See, e.g.*, [redacted]; CX 61 (Intel: No Enterprise Ambitions for Celeron) at 1 (Intel will withhold features such as a faster bus, advanced memory, and 3D instructions from the Celeron in order to protect its sales of more expensive Pentium II and Pentium II Xeon processors).

[10] *See* [redacted].

range x86 desktop computers – [redacted] for mobile computers.[11]

Many OEMs have built their reputations either on introducing cutting-edge, high-performance computers incorporating the newest, top-of-the-line processors or on supplying a broad range of x86-based computers fulfilling a variety of performance and price needs. In either case, these OEMs are vulnerable to pressure from Intel to a degree that is not fully captured in the market share statistics. Although they may have alternative microprocessor suppliers for low-performance, low-priced models, they must use Intel microprocessors in their mid-range and high-performance models.

Intel's ability effectively to relegate competition to the fringes – the high end and the low end of the market – through its segmentation strategy demonstrates its market power. Even so, Intel is positioned to expand its presence substantially even in these portions of the market. At the high end, the server and workstation segments traditionally have been dominated by RISC competitors.[12] The

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[11] *See* [redacted]. Intel's customers in this segment cannot readily switch to non-Intel microprocessors because they have made large investments in building sophisticated computers based on x86 architecture.

[12] Reduced Instruction Set Computer ("RISC") processing and Complex Instruction Set Computer ("CISC") processing represent two approaches to microprocessor design. In general, RISC processors use instruction sets that include a relatively smaller number of relatively simpler commands than CISC processors. At one time RISC processors offered a significant performance advantage over Intel processors because they were capable of performing more commands in the same amount of time. Intel's x86 instruction set is basically CISC in its design; however, the latest versions of x86 compatible microprocessors use elements of both RISC and CISC.

RISC share of the market has been declining,[13] however, and RISC competitors increasingly have been adopting the Intel architecture.[14] This progression is likely to accelerate now that Intel has introduced the Xeon and will introduce in 2000 its next-generation, 64-bit microprocessor named Merced.[15]

[redacted][16] [redacted]

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[13] *See* [redacted]

[14] *See* [redacted]

[15] *See also* [redacted]

[16] [redacted]

[redacted][17]

In the low-end desktop segment, Advanced Micro Devices, Inc. ("AMD") and Cyrix Corporation (now a subsidiary of National Semiconductor Corporation) have had some success in establishing a beachhead. That segment is not large, however, and is characterized by razor-thin profits. Moreover, it is questionable whether AMD and Cyrix can maintain their recent gains. In early 1997, Segment 0 (sub-$1000 computers) was ignored by Intel as part of a strategy to preserve its high profit margins in the sale of microprocessors for more sophisticated desktop computers. After Compaq and others demonstrated the market demand for lower priced desktops utilizing microprocessors from AMD and Cyrix, Intel took aggressive steps to capture the new segment and is widely expected dramatically to gain share in the low-end segments.

Intel's demonstrated ability to control prices and exclude or limit competition is the hallmark of monopoly power. *Grinnell*, 384 U.S. at 571. Intel enjoys substantial discretion over the price it charges for particular microprocessor models.[18] [redacted][19] [redacted]

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[17] [redacted]

[18] *See, e.g.*, [redacted]

[19] *See* [redacted]

[redacted][20] [redacted]

[redacted],[21] [redacted]

[redacted]

[redacted].[22]

Finally, the ability to sustain supracompetitive profit margins over a significant period of time evidences substantial market power. [redacted]

[redacted].[23]

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[20] *See* [redacted]

[21] *See* [redacted]

[22] *See* [redacted]

[23] *See* [redacted]

C. Barriers to Entry

Monopoly power is durable where new entry into the market or expansion by fringe firms is difficult or unlikely. Intel's monopoly in the market for general purpose microprocessors is enhanced by formidable barriers to entry and expansion: the sunk costs and long development times of design and manufacture, economies of scale, network effects, intellectual property rights, and reputational barriers.

Sunk-Cost Investments and Long Development Times. Developing a new microprocessor is an extremely costly and risky undertaking. Substantial sums must be expended on microprocessor design. In fiscal years 1995 through 1997, Intel invested between $1.3 and $2.3 billion each year in R&D, most of it related to microprocessors.[24] Additional capital must be invested in fabrication facilities ("fabs").[25] Albert Yu, Intel's Senior Vice President and General Manager of the Microprocessor Group, estimates that the cost of building a state-of-the-art fab in 1997 would have been more than $2 billion. [redacted].

Moreover, the length of time between the investment in any of the necessary steps – design, testing, and fabrication – and the potential return on that investment increases the entrant's risks.

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[24] CX 690 (Intel 1997 Annual Report) at 4. *See also* [redacted].

[25] [redacted].

Designing a new microprocessor, especially one based on a new architecture, can take several years.[26] Testing to assure its performance and reliability takes additional time. Constructing a fab and beginning production typically takes between two and three years.[27] [redacted]

[redacted][28]

Some of the sunk costs of building a fabrication facility can be avoided by contracting out for the production of microprocessors to fabrication facilities owned by a third party, as Cyrix initially did. However, third-party fabricators often require substantial up front investments for modifications to their equipment necessary to make the microprocessors. Further, so-called "fabless" entry has significant practical disadvantages. Complex microprocessor designs require sophisticated production processes. That, in turn, means that there must be close interaction between chip designers and process engineers, which naturally becomes more difficult when these groups work for separate companies. For the same reason, control of product quality is rendered more difficult, and production capacity may be limited. That is [redacted] why the evidence will show that "fabless" entry does not, as a practical matter, reduce the barriers to meaningful entry into this business.

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[26] [redacted].

[27] *E.g.*, [redacted].

[28] [redacted].

Economies of Scale. According to Dr. Yu, volume is "king" in the microprocessor business. High volume production drives down manufacturing costs through learning-by-doing and generates high revenues. This combination of high revenues and low production costs generates the profits needed to fund the next generation of technological development.[29]

As a result of economies of scale, a firm cannot secure a small foothold in the microprocessor market and expect to grow.[30] Unless a new entrant achieves significant volume early, it will fail to lower costs through learning-by-doing and thus will be at a continual cost disadvantage relative to Intel. New entrants must devise a way quickly to gain a substantial share of the market or be forced to cope with a huge cost disadvantage because of the substantial economies of scale achieved by Intel's enormous production capacity.[31]

Network Effects. Many modern, high-technology markets are characterized by demand that results both from consumer tastes and from each consumer's perception of what other consumers are demanding. A telephone network is the usual example: the network is useless with only one subscriber

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[29] [redacted]. *See also* A. Yu, *Creating the Digital Future* at 83, 143 (1998) ("Volume generates revenue, profits, and development resources for more new products. No volume means no business. It's that simple."); [redacted].

[30] [redacted].

[31] [redacted]. The barrier posed by economies of scale applies to fabless firms as well as those that fabricate their own microprocessors. [redacted].

attached, and its usefulness to any one subscriber tends to grow as the number of subscribers to the network grows. Network effects or network externalities refer to the benefit (or "positive feedback") that accrues to each member of a network when the network grows. As one of Intel's experts, Carl Shapiro, observes, "other things being equal, it's better to be connected to a bigger network than a smaller one." C. Shapiro and H. Varian, *Information Rules: A Strategic Guide to the Network Economy* 174 (1999) ("*Information Rules*").

Network markets are prone to "tipping." *Id.* at 175-79. As more and more members congregate around a particular standard, its value increases, and it becomes increasingly attractive to prospective members. Conversely, competing standards become increasingly unattractive as the industry "tips" toward the dominant standard. *Id.* Once a network market has tipped toward a particular standard, the standard continues to attract investment and becomes increasingly difficult for challengers to dislodge. Hence, "[p]ositive feedback makes the strong get stronger and the weak get weaker, leading to extreme outcomes." *Id.* at 175.

These effects are evident in the microprocessor market. Intel microprocessors are the dominant standard for microprocessors. Most software programs and operating systems are written to be compatible with Intel's microprocessors and their imitations.[32] Consequently, the cost of switching to a non-Intel-compatible microprocessor can be high.[33] For example, if a firm replaced its Intel-based PCS with systems based upon a non-Intel architecture, it would not only sacrifice backwards

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[32] *See* [redacted]

[33] [redacted]

compatibility with existing data and have to replace its entire software library, but also would have to retrain its personnel, convert data in existing files, and handle the transition when some users are on the old system and other users are on the new system. Even so, it would risk losing important historical information. [redacted][34] This effect largely insulates Intel from competitive challenges from rival microprocessor producers whose standards differ from those of Intel.

Moreover, as the largest network by far, the Intel network tends to draw the efforts of both software developers and complementary hardware developers away from smaller networks. Software developers require substantial volumes of users – [redacted] – before they will be interested in investing the time and effort to write software for a particular architecture.[35] [redacted][36]

Network effects thus significantly enhance Intel's dominance, which creates a dilemma for potential entrants into the market for general purpose microprocessors. On the one hand, a new

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[34] [redacted]. Firms have attempted to overcome this hurdle by developing hardware or software emulation packages that permit their chips to run programs written for Intel architecture. Because emulation degrades performance and sometimes introduces new "bugs," emulation strategies have had quite limited success.

[35] [redacted].

[36] [redacted].

entrant could propose a new standard incompatible with Intel's microprocessors. To do so, it must convince independent hardware and software vendors to assume the risk of designing and manufacturing complementary products for which there is no current market, and must convince consumers that the new architecture will provide performance advantages that are not merely significant, but so significant that users are willing to give up compatibility with the existing technology in order to obtain the performance benefits of the new technology. This is extraordinarily difficult to achieve.[37]

On the other hand, the new entrant can mimic firms like AMD and Cyrix and attempt to manufacture Intel-compatible microprocessors with incremental performance advantages and lower prices. This choice, of course, creates a dependence on Intel, which controls the standard, protects the standard with patents, and usually has a "first-mover advantage" with respect to changes in the standard.[38] A firm that attempts to compete by imitating the Intel architecture may have success for a time, particularly in the low price, low margin fringe of the market, but is constantly at risk that Intel will evolve the standard in directions that tend to push the fringe firm outside the network, subject to the same forces that hinder the vendors of incompatible microprocessors. Such firms inevitably will lag

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[37] [redacted]

[38] *See, e.g.*, [redacted]

behind Intel in introducing the latest generation of microprocessors, thereby missing the most lucrative period of the product cycle. Furthermore, a firm following an "imitator" strategy remains subject to other, non-network barriers to entry or expansion, including sunk costs, economies of scale, and the intellectual property and reputational barriers detailed below.[39]

Either mode of challenging an entrenched monopolist such as Intel in a network industry is daunting. Intel's ability to maintain, and even to increase, its market power is not surprising given the inherent difficulties faced by a challenger.

Intellectual Property Rights. A new microprocessor firm must also avoid infringing on the intellectual property of others, in particular patented technical features and copyrighted architectural layouts and microcoded instructions. Intel's web of microprocessor and other patent rights constitute a significant entry barrier, especially for those seeking to follow an Intel-compatible strategy, *i.e.*, to compete with Intel within its own standard and network.[40]

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[39] *See infra*; *see also* [redacted]

[40] [redacted]

Reputational Barriers. In addition to the powerful barriers created by network effects, supply-side economies of scale, intellectual property rights, and sunk costs, there are a number of "reputational" barriers that discourage OEM customers from purchasing non-Intel microprocessors. Intel's long-running "Intel Inside" advertising campaign, for example, has created a powerful brand image among consumers that potential rivals must overcome in order to sell their products.[41] As a result, rival producers of microprocessors compatible with software written for Intel architecture must sell their chips at an average discount [redacted] relative to technically comparable Intel chips.[42]

Another impediment arising from Intel's reputation is the difficulty of getting OEMs to participate in the development and testing of non-Intel microprocessors. Intel uses major OEMs to help develop and test its new microprocessors, often over several years. [redacted].[43] In contrast, other microprocessor manufacturers have to develop and test their microprocessors internally, a difference that increases the time for development and initial

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[41] *See* [redacted].

[42] [redacted].

[43] *See* [redacted].

acceptance of a new microprocessor, since the OEMs have not already tested the offerings from firms other than Intel.

A third reputational barrier to entry is fear on the part of OEMs that Intel allocates product in a way that punishes firms that use non Intel microprocessors.[44] An OEM who wishes to provide a broad spectrum of computer products is particularly dependent on Intel because Intel is the only feasible source of certain classes of microprocessors.[45]

[46]

[44]

[45]

[46] *See*

[redacted][47]

Recent Entry and Exit. The recent history of entry and exit in this industry demonstrates how daunting the barriers are. It is true that Integrated Device Technology ("IDT") and Rise purport to have entered the business and that Metaflow and Transmeta are expected to do so. The evidence will show, however, that these firms exert no competitive influence on Intel. [redacted]

What is clear is that the trend in the general purpose microprocessor market has been toward exit, not entry. Three companies have exited from the sale of x86 microprocessors during the last few years: IBM, Texas Instruments, and UMC. Non-x86 companies are also exiting. Silicon Graphics has announced plans to rely on Intel microprocessors for its future workstations, relegating its MIPS

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[47] [redacted]

subsidiary to the embedded market. Hewlett-Packard Company (HP) entered into a joint venture to help Intel develop its next-generation microprocessor, [redacted]. Intergraph exited the Clipper microprocessor, in favor of Intel, beginning in 1993. [redacted]. Thus, the recent history of exit only confirms the evidence that will be adduced at trial as to the imposing barriers facing potential entrants and fringe players in this market.

IV. Intel Coerced Access to Intellectual Property from Intergraph, Digital, and Compaq

In the ordinary course of business, Intel provides its customers with product information and samples of Intel microprocessors then being developed for commercial release. The product information is a kind of "shop manual" that gives the OEM the information it needs to incorporate the microprocessor into a functioning computer system. [redacted].[48] Thus, while Intel considers these specifications to be proprietary and provides them subject to formal nondisclosure agreements, Intel makes the information widely available to computer manufacturers that buy Intel microprocessors. [redacted]. This dissemination of product information yields substantial benefits for both parties: Intel's customers

[48] [redacted].

benefit because the disclosure enables them to develop computer products incorporating the upcoming microprocessor components to be released by Intel. By the time that a new version Intel microprocessor becomes commercially available, the OEM is prepared to ship complete computer systems incorporating that device and thus is in the market on a timely basis. Intel benefits because advance cooperation fuel the demand for huge quantities of Intel microprocessors as the OEMs' sales volume grows.

In three separate instances, detailed below, Intel disrupted its established commercial relationships with significant customers by refusing to provide advance product information about Intel microprocessors. As Intel well understands, this sanction threatens the commercial viability of the disfavored customer. Without access to these data, the customer cannot bring to market in a timely fashion computer systems using Intel's current microprocessors. This results in lost sales for the OEM at the time in the product life cycle when margins are likely to be highest.

Intel's purpose in each case was to use its monopoly muscle to pressure the customer to grant to Intel a license for microprocessor-related technology developed and owned by the customer. In each case, Intel's tactics were not reasonably necessary to achieve any legitimate, procompetitive end.

A. Intergraph Corporation

Intergraph Corporation is best known for its high-end computer workstations designed for sophisticated graphics applications such as computer-aided design, engineering, manufacturing, and animation. In 1987, Intergraph acquired from Fairchild Semiconductor technology relating to the Clipper microprocessor, a RISC-based architecture. [redacted]

[redacted][49]

Intergraph continued to develop and to improve the Clipper microprocessor; until 1993, all of Intergraph's workstations were built around this proprietary technology.

[redacted][50] [redacted]

[redacted][51]

[redacted]. In 1993, however, Intergraph's president, Jim Meadlock, met with Intel's President, Andrew Grove, who convinced Mr. Meadlock that Intergraph ought to use Intel products exclusively. Mr. Grove assured Mr. Meadlock that Intergraph need not worry about Intel being a sole source supplier because Intel would treat Intergraph fairly, which Mr. Meadlock understood to mean on terms equivalent to Intel's treatment of similarly

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49 [redacted]

50 [redacted].

51 [redacted].

situated customers.[52] Intergraph [redacted] became an exclusive Intel shop.[53]

In betting its future entirely on Intel, Intergraph was a pioneer.[54] At that time, the sort of "technical computing" typically undertaken on workstations was performed principally on RISC-based systems running variants of the UNIX operating system. Both suppliers and customers perceived that the less powerful Intel microprocessors could not handle intensive, workstation-class applications. Intergraph, however, had the foresight to recognize the potential for a new breed of workstations based on Intel's Pentium Pro and running the Windows NT operating system.

This substantially benefited Intel. Intergraph expended significant time and resources to redesign its workstations so as to optimize their performance with Intel's microprocessors. Intel, in turn, fully supported Intergraph's efforts by providing the necessary product support, including timely documentation and access to product samples. [redacted]

52 [redacted]

53 [redacted]

54 [redacted]

Intergraph helped to establish Intel's credibility among workstation users and software developers.[55]

[56]

[57]

[58]

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[55]

[56]

[57] *See also*

[58]

This close and mutually beneficial working relationship between Intergraph and Intel began to unravel in late 1996. Intergraph determined that certain OEMs were infringing the company's Clipper patents and encouraged them to enter into a licensing agreement with appropriate compensation for Intergraph. [redacted][59]

[redacted] some of the OEMs Intergraph contacted advised Intel of Intergraph's claim and sought indemnification. Accordingly, in the spring of 1997, Intel and Intergraph began to discuss cross-licensing the two companies' technology in order to put an end to all questions of infringement. The negotiations bogged down principally over Intel's demand that it obtain from Intergraph a royalty-free license. Intel responded to the stalemate with a letter demanding the return of all confidential information, and informing Intergraph that henceforth Intergraph would not receive any product information or product samples from Intel unless it signed a cross-license on terms that were acceptable to Intel.[60]

Intergraph was by this time totally dependent upon Intel for its supply of microprocessors, and likewise dependent upon Intel for timely product information that is necessary to design systems incorporating Intel microprocessors. Intel's cutting off the supply of such information posed a serious

[redacted]

[59] [redacted]

[60] [redacted]

threat to Intergraph's business. [redacted]. In November, 1997, Intergraph filed suit against Intel in federal district court, alleging violations of the antitrust laws, patent infringement, and various common law claims seeking equitable relief and damages, including a preliminary injunction requiring that Intergraph be supplied the needed product information.

Intel's embargo against Intergraph remained in place through the first quarter of 1998, resulting in late product introductions, loss of reputation and goodwill, the defection of talented employees, and a great many lost sales.[61] Before the dispute with Intel, Intergraph was the leading seller of workstations running Windows NT. [redacted].[62]

On April 10, 1998, the U.S. District Court for the Northern District of Alabama concluded that Intel's actions threatened irreparable harm to Intergraph by making it impossible for Intergraph to bring competitive workstation products to market in a timely manner. *See Intergraph Corp. v. Intel Corp.*, 3 F. Supp. 2d 1255 (N.D. Ala. 1998) (CX 787). The court issued a preliminary injunction requiring Intel to provide Intergraph with advance product information, engineering samples, pre-release production quantities of new microprocessors, and production microprocessors on terms available to

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[61] [redacted] *See also* [redacted].

[62] Intergraph reported a net loss of $70 million on total revenues of $1.1 billion for the year ended December 31, 1997.

other Intel customers. The district court's decision is on appeal to the United States Court of Appeals for the Federal Circuit.

B. Digital Equipment Corporation

Digital is a microprocessor customer of Intel as well as a competitor.[63] That is, Digital offers its customers a choice between computer systems based on an Intel microprocessor, and computer systems based on a microprocessor of Digital's own design, known as the Alpha. The Alpha is widely regarded as the highest performing general purpose microprocessor available, with speed and processing power superior to any of Intel's products.[64] The Alpha architecture is the only non-Intel architecture capable of running the Windows NT operating system. Nevertheless, Alpha has been able to garner only a small share of the microprocessor market, in significant part because software developers have generally not created Alpha versions of their Windows NT applications. In network industries parlance, Alpha has been unable to generate the "positive feedback" necessary to establish itself as a standard architecture.

The Alpha microprocessor is incorporated primarily in Digital computers that run Digital's proprietary version of the Unix operating system. The majority of the systems sold by Digital, however, use an Intel microprocessor. [redacted]

[63] Digital was acquired by Compaq Computer Corporation in 1998. It is now a wholly-owned subsidiary of Compaq.

[64] *Cf.* [redacted]

[redacted].[65] [redacted] Digital was a regular recipient of Intel product information and samples. [redacted]

[redacted][66] There is no evidence that Digital ever misused the product information provided by Intel.

In 1995, Intel introduced the Pentium Pro microprocessor. Digital examined the product and concluded that it infringed Digital's Alpha patents. On May 12, 1997, Digital sued Intel for patent infringement, alleging that Intel's Pentium microprocessors infringed ten separate Digital patents.

Digital was prepared to continue doing business as usual with Intel during the litigation. [redacted]

[redacted][67]

Intel took the unprecedented step of demanding the return of microprocessor product information that had been supplied to Digital for use in designing computer systems with Intel microprocessors as

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65 [redacted]

66 [redacted]

67 [redacted]

components.[68] Intel also refused to provide product information that was normally provided to enable Digital to design and test computer system products incorporating Intel's soon to be released microprocessors.[69] Intel was aware that Digital required this information in its day-to-day business. Intel also demanded the return of microprocessor prototypes and refused to supply additional samples, even though such samples were available to similarly situated computer manufacturers buying Intel microprocessors.[70]

When Intel cut Digital off from access to product information about upcoming Intel microprocessors, Intel effectively cut off the supply of these microprocessors to Digital by making sure that Digital was unable to make use of them when they became available. As it was doing so, Intel made thinly veiled threats to cut Digital off altogether. [redacted][71]

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68 [redacted]

69 [redacted]

70 [redacted]

71 [redacted]

Because Intel generally does not undertake long-term contractual commitments to deliver microprocessors, news of Intel's expressed willingness to honor its "contractual commitments" was reported as news of doubt about whether Digital would have long-term access to Intel microprocessors.[72]

Without access to key technical information from Intel, Digital's introduction of Intel-based computer systems (including notebook computers based on Tillamook and Pentium II microprocessors) was delayed [redacted].[73] Product life cycles can be as short as six months for a computer system, and prices and margins are highest at the time that a new production is first introduced. Intel's embargo on the supply of product information and samples threatened Digital's computer business. [redacted]

In late 1997, Digital agreed to settle the patent litigation and related disputes. Intel obtained the facility at which Alpha chips had been manufactured and a license covering Digital's microprocessor patents. Digital received a cross-license to use Intel technology.[74] When the settlement agreement

[redacted]

[72] CX 957 (Jiji Press Ticker Service, *Intel May Stop Supplying Pentium to DEC: Barrett* (June 24, 1997)); CX 962 (Mark Hachman, Electronic Buyers' News, *Intel Strikes Back at Digital* (June 2, 1997)); CX 975 (Grant Buckler, Newsbytes, *Intel Fires Back at DEC with Lawsuit* (May 28, 1997)).

[73] [redacted]

[74] [redacted]

took effect, Intel restored Digital's access to the information available to other customers for use in designing Intel-based computer systems.

C. Compaq Computer Corporation

Compaq Computer Corporation is the world's largest manufacturer of computers, a larger company than Intel, and Intel's largest customer. That Intel was willing and able to coerce such a company speaks volumes about Intel's market power and its willingness to use it.

Many OEMs are viewed in the industry simply as box makers: They assemble computers from Intel microprocessors, chipsets, and motherboards, and off the shelf parts from other component manufacturers. In contrast, Compaq's strategy is to differentiate its products through its own research and development efforts.[75] By manufacturing complementary components such as chipsets and motherboards, Compaq seeks to add value to its products – more features, greater reliability, and lower production costs. If it had succeeded, Compaq would have been better able to purchase non-Intel processors. Compaq's strategy of differentiating its computer systems came into conflict with Intel's strategy for expediting the adoption of new Intel microprocessors by the largest number of OEMs.

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[75] *See* [redacted]

In 1994, Intel accelerated the expansion of its business from microprocessors into the systems area. Intel began to manufacture and sell chipsets and motherboards, and in some cases complete computer systems. It did so in order to provide OEMs with a vehicle for launching new generations of Intel microprocessors. By providing OEMs with a complete set of the building blocks needed to design Intel-based systems, Intel can speed dissemination of each new generation of microprocessors.[76]

Intel's increased activity in the systems area heightened the risk that Intel would bump up against Compaq's portfolio of system-level patents. [redacted][77] [redacted][78] [redacted]

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[76] [redacted]. *See also* [redacted].

[77] [redacted].

[78] *See* [redacted].

[redacted][79]

Among the OEMs purchasing complete motherboards from Intel was Packard Bell Electronics, Inc. In November 1994, Compaq sued Packard Bell for patent infringement, alleging that Packard Bell was using Compaq technology in its computer systems. As the allegedly infringing technology in the Packard Bell systems was part of Intel-supplied motherboards, [redacted] Intel, in May 1995, intervened in the Compaq/Packard Bell litigation. [redacted] Intel took steps to coerce Compaq into resolving the negotiations quickly, and on terms favorable to Intel. Specifically, Intel withheld from Compaq several categories of Intel technical information necessary to design systems around Intel microprocessors. As discussed above, Intel had a long history of sharing this type of information with OEMs generally, and with Compaq in particular.

At the time of the negotiations, Compaq was dependent upon Intel for [redacted] its supply of microprocessors.[80] The disruption in the flow of technical information to Compaq threatened its core

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79 [redacted]

80 [redacted] *See also* [redacted]

business. [redacted][81]

[redacted][82]

[redacted][83]

[redacted]

81 [redacted]

82 [redacted]

83 [redacted]

Compaq and Intel executed a cross-license agreement on January 10, 1996. [redacted] [84]

The terms imposed by Intel to resolve the conflict impaired Compaq's ability to differentiate its products through chipset innovation and other system-level design efforts. [redacted] [85]

V. Intel's Conduct was Exclusionary

Intel's coercive conduct crossed the line between lawful, vigorous competition and exclusion. As noted above, exclusionary conduct is "conduct, other than competition on the merits or restraints reasonably 'necessary' to competition on the merits, that reasonably appears capable of making a significant contribution to creating or maintaining monopoly power." *Barry Wright Corp.*, 724 F.2d at 230. The characterization of conduct as exclusionary involves determining whether the allegedly unlawful conduct "exclude[s] rivals on some basis other than efficiency," *Aspen*, 472 U.S. at 605 (citing Robert H. Bork, *The Antitrust Paradox* 138 (1978) ("Bork")), or "has impaired competition in an unnecessarily restrictive way." *Id.* (citing 3 P. Areeda & D. Turner, *Antitrust Law* 78 (1978)). In making this determination, a court must examine the potential effect of the conduct on consumers, rivals,

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84 [redacted].

85 [redacted].

and the alleged monopolist itself, as well as any alleged business justification for the conduct that the defendant may put forward. *Id.* at 605. These factors compel the conclusion that Intel illegitimately preserved its monopoly position.

The primary tool Intel used to preserve its monopoly was refusing to provide product information and advance samples to Intergraph, Digital, and Compaq without first being granted a license to those firms' technology. It also retaliated when these companies charged it, directly or indirectly, with patent infringement by cutting off their access to product information and samples, thereby imposing an additional condition that those who wish to deal with Intel must relinquish its patent rights. As a legal matter, it is absolutely clear that conduct of this type is predatory when it preserves a monopolist's market dominance. "[A] monopolist's unilateral refusal to deal with its competitors (as long as the refusal harms the competitive process) may constitute prima facie evidence of exclusionary conduct in the context of a Section 2 claim." *Data General,* 36 F.3d at 1183 (citing *Kodak,* 504 U.S. at 483 n.32). While even a monopolist has a right not to deal with its competitors, this right is qualified. *Aspen,* 472 U.S. at 600-601.

The seminal case involving the obligation of one company to do business with another makes the source of qualification clear: "*In the absence of any purpose to create or maintain a monopoly,* [Section 1 of] the act does not restrict the long recognized right of a trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal." *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919) (emphasis added). Where the refusal to deal serves to monopolize, it is prohibited by Section 2. *Kodak*, 504 U.S. at 483 n.32; *Aspen*, 472 U.S. 601-603; *Lorain Journal*, 342 U.S. at 155. Thus, as Judge Posner has explained, *Colgate* does not protect a monopolist that "[r]etaliates against customers who have the temerity to

compete with him, by cutting such customers off ... in order to discourage competition." *Olympia Equipment Leasing Co. v. Western Union Telegraph Co.*, 797 F.2d 370, 377 (7th Cir. 1986), *cert. denied*, 480 U.S. 934 (1987).[86]

A. Intel Preserved its Monopoly by Unlawfully Coercing Intergraph, Digital, and Compaq to Gain Access to Their Intellectual Property.

Intel's conduct preserved its monopoly by guaranteeing Intel's access to innovative technology. The evidence will show that access to the latest microprocessor technology is fundamental to Intel's preserving its market position; indeed, nothing is more important. *See, e.g.*, A. Yu, *Creating the Digital Future* at 7. As Dr. Yu explains in his book, "As technology advances . . . you must be fast enough to keep up with the pace. If you are late to market by a year or more, you have just missed a whole product generation and have to start all over again. It's like riding a bicycle: if you don't peddle and move forward quickly, you will fall." *Id.* at 83. Intel did not limit itself to internal innovation, but rather elected to demand access to the innovation of other companies, including Intergraph, Digital, and Compaq.

Access to technology is critical in high technology network industries because technology is the critical competitive asset. The entrenched firm can be challenged either by another firm with a clearly superior technology starting a new standard or by another firm offering an incremental improvement to the incumbent standard. Either way, innovative technology is the central competitive weapon and

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[86] *See also City of Vernon v. Southern California Edison Co.*, 1991 Trade Cas. (CCH) ¶ 69,336 (C.D. Cal. 1990) ("Where the monopolist's competitor is the monopolist's customer as well, the antitrust laws may impose duties on the monopolist to ensure that the monopolist's conduct does not unjustifiably impair its customer's ability to compete.") (citing *Olympia Equipment Leasing*), *aff'd in part and rev'd in part*, 955 F.2d 1361 (9th Cir. 1992), *cert. denied*, 506 U.S. 908 (1992).

intellectual property is the protection for these critical assets. By gaining access to innovative technologies, Intel makes it much less likely that another firm will successfully exploit those technologies against Intel or use them to develop clearly superior products.

Intel had the power to coerce licenses because, as the entrenched monopolist, it controlled basic product information and microprocessor product samples indispensable to core aspects of the businesses of Intergraph, Digital, and Compaq. Intel did not have to cut off the sale of microprocessors; Intel knew that withholding the timely disclosure of product information and samples would exert overwhelming pressure on Digital, Intergraph, and Compaq to comply with Intel's demands.

By granting the licenses, the victim companies in essence paid Intel to continue supplying them essential inputs over which Intel had monopoly power. Payment was made with the coin of technology. Unless enjoined from this type of conduct, Intel will be able to continue using monopoly power to extract technology and entrench its position.

B. Intel Preserved its Monopoly by Deterring Competitive Innovation in the Market for General Purpose Microprocessors.

Deterring innovation was another means for Intel to preserve its monopoly. The technological lead Intel needs to maintain its monopoly is more easily achieved when innovation by others moves at a slower pace.

Intel's penchant for refusing to provide product information and samples to those whose technology it desires functions, in effect, as a privately-administered compulsory licensing regime. It subverts the publicly-established system of intellectual property rights and necessarily undermines the

confidence of patent holders in the protection those rights are meant to confer. As a result, it harms competition by deterring customers' investment in research and development for fear that they may be regarded by Intel as a threat and subjected to Intel's private power of eminent domain.

The evidence will show that the ability of Intel to force licenses to the technology it desires will, over time, dull the incentive of other firms to innovate. Those investing in research and development, and those financing such investment, need to ensure that they earn an adequate return. A company should be free to exploit its technology individually or partner with an Intel competitor if they believe that to be in their interest. Likewise, a company should be able to engage in a true "value-for-value" exchange with Intel, not one in which they are held hostage by Intel's monopoly power or forced to pay for Intel's forbearance from exercising that power to exclude them.

[redacted]

C. Intel Preserved its Monopoly by Preventing OEM Differentiation.

Intel's exclusionary conduct also preserves Intel's monopoly position by precluding OEMs from differentiating themselves from one another and thereby obstructs distribution opportunities for rival general purpose microprocessor suppliers. Intel's conduct deters OEMs from innovating, lest their innovations too become objects of Intel's compulsory licensing regime. Consequently, most innovation takes place at the microprocessor level, leaving OEMs as mostly undifferentiated box assemblers. *Cf.* *Information Rules* at 234 ("Nowadays, pretty much all PC hardware works together because of efforts by Intel and Microsoft to promulgate industry standards. This has been great for Intel and Microsoft but has partially commoditized the PC OEM business, in which competition is increasingly based on being the low-cost producer and distributor."). Intel's conduct adversely affects rival microprocessor suppliers – albeit indirectly – by reducing the ability of potential OEM customers to rely

on the strength of their own brand identity to sell computers using non-Intel microprocessors and by making it more difficult for OEMs and rival microprocessor suppliers from acting together to launch a differentiated or more competitive product.

The advantage that Intel gains from this artificial barrier to entry does not derive from the creation of a superior product, business acumen, or historical accident. It is produced as a direct result from Intel's abuse of its monopoly power and its exploitation of dependent relationships. The exclusion of these competitors therefore manifests an anticompetitive effect.

VI. Intel's Conduct was Unjustified

The evidence will show that Intel's conduct was a raw exercise of monopoly power to muscle competitors into signing over intellectual property rights. Extracting those rights and preserving its monopoly was the benefit Intel obtained from its tactics.

By terminating Intergraph's, Digital's, and Compaq's access to product information and samples, Intel gave up the benefits it obtained from the cooperative relationship it had previously enjoyed with each company. For example, Intergraph's use of product information and samples – now being provided pursuant to court order – to design new products benefits Intel because of the potential for future business. Similarly, design wins for Intel products at Digital provide Intel with a useful vehicle for distributing its microprocessors. Intel obtained feedback on its products during the development process and revenues once companies began to market products incorporating its most recent microprocessors. Indeed, Intel's distribution of product information and advance samples is designed in large part to make sure that OEMs have attractive products incorporating Intel's newest microprocessor when Intel is ready for release.

Intel sacrificed these benefits when it stopped providing product information and samples to these companies. Without those materials, the companies could not develop new Intel-based products.[87] Intel necessarily lost that potential revenue stream. Any feedback Intel could have gotten from these OEMs was gone as well.

Aspen teaches that the sacrifice of short term benefits is evidence of anticompetitive purpose and nature. When Ski Co. refused to accept coupons or permit a competitor to purchase tickets in bulk for inclusion in a package deal, thereby foregoing profits, the Court held that it was reasonable to conclude "that Ski Co. elected to forgo these short-run benefits because it was more interested in reducing competition in the Aspen market over the long run by harming its smaller competitor." *Aspen*, 472 U.S. at 608. Here, Intel likewise was motivated by the long term preservation of its monopoly and was therefore willing to sacrifice, in the near term, its relationships with key customers.

This conclusion is strengthened by the weakness of "justifications" for Intel's conduct likely to be offered [redacted]

[87] *See, e.g.*, [redacted]

[redacted]

That Intel is seeking to force other companies to grant Intel access to intellectual property on terms favorable to Intel is, of course, precisely the point of Complaint Counsels' case. Intel has established a system of compulsory licensing in the sense that it gives OEMs no choice about whether to grant Intel access to their intellectual property. To add injury to insult, [redacted], Intel seeks to gain this access at a reduced price by using its monopoly position as leverage. This is an illegal exercise of monopoly power, not an effort to make Intel's bargaining position with its rivals more symmetric. For all the reasons stated above, the course of conduct [redacted] is one designed to preserve Intel's monopoly position by guaranteeing its access to innovative technology.

Intel's creation of a compulsory licensing scheme in its own favor also undermines any claim it might make that its conduct is justified because it is making decisions concerning the licensing of its own intellectual property. Such an argument would need to be based on the premise that a company is free to decide whether or not to license its intellectual property. Intel, however, has established a practice that prohibits companies like Intergraph, Digital, and Compaq from refusing to license to Intel. Intel's entire course of conduct is concerned with depriving companies of the right to decide when and how to license their intellectual property. *Data General Corp. v. Grumman Systems Support Corp.*, 36 F.3d 1147 (1st Cir. 1994), and *Image Technical Services, Inc. v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997), *cert. denied*, 118 S. Ct. 1560 (1998), the most relevant cases that might be used to bolster Intel's argument, do establish that a desire to protect intellectual property rights may justify an otherwise exclusionary refusal to license. But that presumption is overcome where, as here,

Intel's true purpose – the coercion of access to the intellectual property of others – is revealed by the statements of its own witnesses.

VII. The Remedy

Intel's conduct warrants relief sufficient to foreclose the possibility that Intel again might attempt to maintain its monopoly power by using exclusionary practices to compel other to grant intellectual property licenses.[88] Such relief, therefore, must enjoin Intel from discriminating against other companies in order to force those companies to license or sell property to Intel on Intel's terms. The order should cover the sale of products and the provision of information, prototypes, and technical assistance concerning products in which Intel has a dominant position.

Absent such relief, Intel will be free to continue its policy of coercing innovative technology from other companies and its monopoly position will remain unassailable.

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[88] Included as Attachment A is Complaint Counsel's Notice of Contemplated Relief, as noticed in the Complaint filed June 8, 1998.

Respectfully submitted,

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