

**UNITED STATES DISTRICT COURT**  
**SOUTHERN DISTRICT OF NEW YORK**

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STATE OF NEW YORK, :

Plaintiff, :

v. :

MICRON TECHNOLOGY, INC.; MICRON :  
SEMICONDUCTOR PRODUCTS, INC.; :  
INFINEON TECHNOLOGIES AG; INFINEON :  
TECHNOLOGIES NORTH AMERICA CORP.; :  
HYNIX SEMICONDUCTOR, INC.; HYNIX :  
SEMICONDUCTOR AMERICA, INC.; :  
SAMSUNG ELECTRONICS CO., LTD.; :  
SAMSUNG SEMICONDUCTOR, INC.; :  
MOSELVITELIC CORP.; MOSEL VITELIC :  
INC.; NANYA TECHNOLOGY :  
CORPORATION; NANYA TECHNOLOGY :  
CORPORATION USA, INC.; ELPIDA :  
MEMORY, INC.; ELPIDA MEMORY (USA) :  
INC.; and NEC ELECTRONICS AMERICA, :  
INC. :

Defendants. :  
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Case No. \_\_\_\_\_

**COMPLAINT**

**Trial by Jury Demanded**

The State of New York, by its Attorney General Eliot Spitzer, brings this action to recover treble damages and attorney fees, and seeking civil penalties and injunctive and other equitable relief. The defendants, manufacturers of computer memory chips, participated in one of the largest price-fixing cartels of our time. More specifically, the State of New York alleges, upon information and belief (except as otherwise indicated), as follows:

**INTRODUCTION**

1. This action arises from a conspiracy to artificially control and inflate prices of

semiconductors known as dynamic random access memory chips (“DRAM”). DRAM are memory chips that hold data and temporary instructions for quick access while the device is in use. One of the most important components of modern digital electronics, DRAM is used in virtually every kind of personal computer, as well as in many servers and other digital electronic devices (“DRAM containing products”).

2. In approximately 1999, the defendant DRAM manufacturers entered into a secret, worldwide conspiracy designed to eliminate competition. Instead of competing, they began coordinating the prices they charged to the large computer manufacturers – commonly known as OEMs (“Original Equipment Manufacturers”) – and to their other customers. This pricing coordination was not an isolated or occasional occurrence. Over a period of more than three years, there were hundreds, if not thousands, of pricing communications among the conspirators, intensifying in the days immediately preceding the dates on which the cartel members submitted pricing bids to the OEMs, their largest and most important customers. The conspirators succeeded in their principal objective: controlling DRAM prices and raising them far above competitive levels. As a result, consumers of PCs and other digital devices paid more for DRAM memory – or purchased less of it or purchased DRAM of lesser quality – than they would have in a competitive market. In sum, during the period 1998 through June of 2002, when federal criminal inquiries into the price-fixing scheme began, pervasive exchanges of pricing information, coordination of pricing, and manipulation of the DRAM market became a routine way of doing business among the conspirators.

3. The scheme continued so long because the conspirators took deliberate steps to maintain its secrecy. Individuals participating in the price exchanges were instructed to refrain

from communicating via emails or cell phone calls, which might reveal their illegal activity.

4. In June, 2002, the U.S. Department of Justice launched a criminal investigation. One of the conspirators, Micron, initially denied any culpability, but later agreed to cooperate with federal investigators, revealing the details of the conspiracy in exchange for immunity from criminal charges. To date, four other companies – Samsung, Hynix, Infineon and Elpida – have been charged with, and have pleaded guilty to, federal criminal price-fixing. These four companies have agreed to pay fines in excess of \$730 million. [DOJ Release March 22, 2006.] Moreover, at least 12 employees or officers of these DRAM manufacturers have also pleaded guilty and, in many cases, agreed to serve prison terms in the United States. Justice Department officials have called the conspiracy “one of the largest cartels ever discovered.” [DOJ Release January 30, 2006.]

5. The DRAM conspiracy caused enormous damage to users of DRAM-containing products and DRAM memory chips. In particular, New York residents, businesses, schools and government entities purchased significant quantities of products containing price-fixed DRAM chips. Accordingly, the State of New York brings this action on its own behalf, and on behalf of its consumers, to recover the illegal overcharges flowing from the DRAM conspiracy and to secure related equitable relief.

#### **JURISDICTION AND VENUE**

6. This complaint alleges violations of the Sherman Act, 15 U.S.C. §1. It is filed under, and jurisdiction is conferred upon this Court by, sections 4, 12 and 16 of the Clayton Act, 15 U.S.C. §§ 15, 22 and 26. The State of New York also alleges violations of state antitrust and consumer protection and related laws, and seeks damages and civil penalties, as well as

injunctive and other equitable relief under those state laws. All claims under federal and state law are based upon a common nucleus of operative facts, and the entire action commenced by this Complaint constitutes a single case that would ordinarily be tried in one judicial proceeding.

7. The Court further has jurisdiction over the federal claims under 28 U.S.C. §§ 1331 and 1337. The Court has jurisdiction over the state law claims under 28 U.S.C. § 1367 because those claims are so related to the federal claims that they form part of the same case or controversy.

8. Jurisdiction over Defendants is proper pursuant to 15 U.S.C. § 22 and N.Y. C.P.L.R. §§ 301 and 302(a)(1), (2) and (3).

9. Venue is proper in this District under 15 U.S.C. § 22 and 28 U.S.C. § 1391 because each Defendant resides, transacts business, committed an illegal or tortious act, or is found in this District, and a substantial part of the events giving rise to the claims arose in this District.

## **THE PARTIES**

### **Plaintiff**

10. Plaintiff, the State of New York, brings this action as a sovereign state, in its proprietary capacity, as *parens patriae* and as otherwise authorized by law, including 15 U.S.C. § 15, N.Y. Gen. Bus. L. § 340 *et seq.*, N.Y. Exec. L. §§ 63(1), 63(12) and 63-c and the common law, on behalf of: (a) all state and local government branches, departments, agencies, subdivisions and other entities (“State Entities”) that purchased DRAM or DRAM-containing products, directly or indirectly, from Defendants or their co-conspirators; and (b) all natural persons in New York who purchased DRAM or DRAM-containing products indirectly from

Defendants or their co-conspirators. "State Entities" include the State itself, and all counties, cities, towns, villages, local governmental units, and other public bodies created under New York law.

**Defendants**

11. Defendant Micron Technology, Inc. is a Delaware corporation with its principal place of business at 8000 South Federal Way, Boise, Idaho. During the time period covered by this Complaint, Defendant Micron Technology, Inc. manufactured, sold and distributed DRAM throughout the United States, including New York, as well as worldwide.

12. Defendant Micron Semiconductor Products, Inc. is a wholly owned and controlled subsidiary of Defendant Micron Technology, Inc., with its principal place of business at 8000 South Federal Way, Boise, Idaho. During the time period covered by this Complaint, Defendant Micron Semiconductor Products, Inc., by itself and through its Crucial Technology division, sold and distributed DRAM to customers throughout the United States, including New York and worldwide. Micron Technology, Inc. and Micron Semiconductor Products, Inc. (including the Crucial Technology division) are referred to collectively as "Micron."

13. Defendant Infineon Technologies AG is a German corporation with its principal place of business at St. Martin-Str. 53, 81669, Munich, Germany. During the time period covered by this Complaint, Defendant Infineon Technologies AG manufactured, sold and distributed DRAM throughout the United States, including New York, as well as worldwide.

14. Defendant Infineon Technologies North America Corp. is a wholly owned and controlled subsidiary of Infineon Technologies AG, with its principal place of business at 1730 North First Street, San Jose, California. During the time period covered by this Complaint,

Defendant Infineon Technologies North America Corp. sold and distributed DRAM to customers throughout the United States. Infineon Technologies AG and Infineon Technologies North America Corp. are referred to collectively as “Infineon.”

15. Defendant Hynix Semiconductor, Inc. is a business entity organized under the laws of South Korea, with its principal place of business at SAN 136-1, Ami-Ri Bubal-eub, Ichon-si, Kyongki-do, Korea. During the time period covered by this Complaint, Defendant Hynix Semiconductor, Inc. manufactured, sold and distributed DRAM to customers throughout the United States, including New York, as well as worldwide.

16. Defendant Hynix Semiconductor America, Inc. is a wholly owned and controlled subsidiary of Defendant Hynix Semiconductor, Inc., with its principal place of business at 3101 North First Street, San Jose, California. During the time period covered by this Complaint, Defendant Hynix Semiconductor America, Inc. sold and distributed DRAM to customers throughout the United States, including New York, as well as worldwide. Hynix Semiconductor, Inc. and Hynix Semiconductor America, Inc. are referred to collectively as “Hynix.”

17. Defendant Samsung Electronics Co. Ltd. is a business entity organized under the laws of South Korea, with its principal place of business at Samsung Main Building 250-2 ga, Taepyung-ro Chung-gu, Seoul, Korea. During the time period covered by this Complaint, Defendant Samsung Electronics Co. Ltd. manufactured, sold and distributed DRAM to customers throughout the United States, including New York, as well as worldwide.

18. Defendant Samsung Semiconductor, Inc. is a wholly owned and controlled subsidiary of Defendant Samsung Electronics Co. Ltd., with its principal place of business at 3655 North First Street, San Jose, California. During the time period covered by this Complaint,

Defendant Samsung Semiconductor, Inc. sold and distributed DRAM to customers throughout the United States, including New York, as well as worldwide. Samsung Electronics Co. Ltd., and Samsung Semiconductor, Inc. are referred to collectively as “Samsung.”

19. Defendant Mosel Vitelic, Inc. (“MVI”) is a business entity organized under the laws of Taiwan, with its principal place of business at No. 19 Li Hsin Road, Hsinchu Science Based Industrial Park, Hsinchu, Taiwan, R.O.C. During the time period covered by this Complaint, Defendant Mosel Vitelic, Corp. manufactured, sold and distributed DRAM to customers throughout the United States, including New York, as well as worldwide.

20. Defendant Mosel Vitelic Corporation (“MVC”) is a wholly owned and controlled subsidiary of MVI with its principal place of business at 3910 North First Street, San Jose, California. During the time period covered by this Complaint, Defendant MVC sold and distributed DRAM to customers throughout the United States, including New York, as well as worldwide. MVC and MVI are referred to collectively as “Mosel Vitelic.”

21. Defendant Nanya Technology Corporation is a business entity organized under the laws of Taiwan, with its principal place of business at HWA YA Technology Park, 669, Fu Hsing 3rd Rd., Kueishan, Taoyuan, Taiwan, R.O.C. During the time period covered by this Complaint, Defendant Nanya Technology Corporation manufactured, sold and distributed DRAM to customers throughout the United States, including New York, as well as worldwide.

22. Defendant Nanya Technology Corporation USA, Inc. is a wholly owned and controlled subsidiary of Nanya Technology Corporation, with its principal place of business at 675 E. Brokaw Road, San Jose, California. During the time period covered by this Complaint, Defendant Nanya Technology USA, Inc. sold and distributed DRAM to customers throughout

the United States, including New York, as well as worldwide. Nanya Technology Corporation and Nanya Technology Corporation USA, Inc. are referred to collectively as “Nanya.”

23. Defendant Elpida Memory, Inc. is a business entity organized under the laws of Japan, with its principal place of business at Sumitomo Seimei Yaesu Bldg., 3F, 2-1 Yaseu 2-chome, Chuo-ku, Tokyo, Japan. During the time period covered by this Complaint, Defendant Elpida Memory, Inc. manufactured, sold and distributed DRAM to customers throughout the United States, including New York, as well as worldwide.

24. Defendant Elpida Memory (USA), Inc. is a wholly owned and controlled subsidiary of Elpida Memory, Inc., with its principal place of business at 2001 Walsh Avenue, Santa Clara, California. During the time period covered by this Complaint, Defendant Elpida Memory (USA) Inc. sold and distributed DRAM to customers throughout the United States, including New York, as well as worldwide. Elpida Memory, Inc. and Elpida Memory (USA), Inc. are referred to collectively as “Elpida.”

25. Defendant NEC Electronics America, Inc. (“NEC”) is a wholly owned and controlled subsidiary of NEC Electronics Corporation, with its principal place of business at 2880 Scott Boulevard, Santa Clara, California, and its manufacturing plant in Roseville, California. During the time period covered by this Complaint, Defendant NEC sold and distributed DRAM to customers throughout the United States, including New York, as well as worldwide.

### **The Conspiracy and Co-Conspirators**

26. The acts charged in this Complaint have been done by Defendants and their co-conspirators, or were authorized, ordered, done, or ratified by their respective officers, agents.



employees or representatives while actively engaged in the business or affairs of each Defendant.

27. Each named Defendant acted as the agent of, or otherwise for or on behalf of, each other Defendant with respect to the matters alleged in this Complaint. Each Defendant that is a subsidiary of a foreign parent acts and acted – in the United States, including the State of New York – as the agent of, or otherwise for or on behalf of, its parent company.

28. Various others participated as co-conspirators with Defendants in the violations of law alleged in this Complaint and have engaged in conduct and made statements in furtherance of the conspiracy.

### **INTERSTATE COMMERCE**

29. At all times relevant to this action, Defendants participated in the market for DRAM. Their activities in that market (and those of their co-conspirators) were in the regular, continuous, and substantial flow of interstate and foreign commerce, and had a substantial effect on interstate and foreign commerce of the United States, including the State of New York. Those activities included the manufacture, sale and distribution of DRAM, the submission of prices to OEMs and other DRAM customers, and the illegal fixing and coordination of those prices.

### **DRAM: THE PRICE FIXED PRODUCT**

#### **The Product And Its Functions**

30. DRAM are high-speed memory chips, used to store data in a wide variety of computing and other electronic devices while the device is in operation. The chips consist chiefly of silicon “wafers” onto which millions of transistors – circuits for the flow of electrons – have been traced. Through these transistor switches, electrons are shunted back and forth, and stored in the memory cells created on the surface of the chips. These intricate arrangements of

electrons must be recharged or “refreshed” by fresh flows of electrons – something that happens automatically thousands of times per second. This constant refreshing, which ensures continuous availability, is why these memory chips are called “dynamic.”

31. “Random Access Memory” means that the data on the chip, stored in the form of 0s and 1s, can be accessed directly from any part of the memory, rather than having to proceed sequentially from a starting place. A DRAM chip is thus the opposite of, for example, a cassette tape from which data can be retrieved only in a fixed sequence.

32. DRAM chips perform a crucial function in PCs and many other electronic devices: to hold data and instructions available for quick and random access while the device is in use. For purposes of this Complaint, DRAM includes not only Dynamic Random Access Memory chips, but also Synchronous Dynamic Random Access Memory (“SDRAM”) and Double-Data Synchronous Dynamic Random Access Memory (“DDR”) chips. SDRAM and DDR are high-speed, high-performance types of DRAM chips.

33. A key attribute of a DRAM chip is its “density” – the amount of information it can store in the tiny circuits etched into its silicon surface. The basic unit of information is the “bit”, designated by an “on/off” flow of electrons. Eight bits are packaged together as a “byte.” Technological progress in the DRAM industry has been rapid, and is reflected in increasing chip capacity, measured in bytes. Approximately every three years, a new, higher density chip has reached the market, permitting PCs and other electronic devices to process greater amounts of information more quickly in a shrinking space.

34. Typically, sales of DRAM show rising trendlines for each new key product, which then shift downward as a new DRAM product is brought to market. Thus, in 1998, sales of the

16 megabyte (“MB”) chip, which had been introduced several years before, far exceeded those of any other chip. Thereafter, sales of the 16MB chip fell, as the product was successively superseded, within a few years, by the 64MB chip, the 128MB chip, and the 256MB chip, which is still the current leader.

35. Until approximately 1998, when the conspiracy began, density-adjusted prices for DRAM generally declined over time. An important reason for this was that, while DRAM are complex and costly to manufacture, the chips do not differ significantly, regardless of who manufactures them. As a consequence, DRAM chips tend to be substitutable, one for another – what economists call a “commodity” product. DRAM purchasers were thus able to buy chips from multiple sources, preventing any single manufacturer from amassing significant pricing power. As DRAM technology improved, manufacturers of computers and other electronic devices were able to cut the cost and improve the quality of their own products, effectively passing these improvements in DRAM price and performance along to consumers.

36. DRAM are produced in highly automated facilities, called “fabs.” Even for an established firm – let alone a newcomer to the market – constructing a fab is a risky undertaking, often requiring years of work and a significant investment that can exceed a billion dollars. In the period 1998 through 2002 the industry trend was strongly toward consolidation. Smaller players dropped out of the market, or were acquired by the major players: Samsung, Micron, Hynix and Infineon.

37. Because DRAM manufacture is a difficult and costly business to enter, DRAM production capacity tends to be relatively fixed for years into the future. Thus, existing DRAM firms need not fear that new competitors will emerge quickly or easily, and – absent a

competitive environment – they can price DRAM accordingly.

### **Major DRAM Purchasers: Computer OEMs**

38. The principal use of DRAM chips is in personal computers. PC OEMs are, therefore, the DRAM manufacturers' largest and most important customers. During the period of the DRAM conspiracy, these OEMs included Dell, Inc., Hewlett-Packard Company, Compaq Computer Corporation, IBM Corporation, Apple Computer, Inc., and Gateway, Inc., among others.

39. Each of these OEMs purchased from several of the DRAM manufacturers. Some terms of purchase, and business targets, were set in agreements generally entered into by each of the OEMs with each of its DRAM suppliers. OEMs generally subjected the particular products to testing and qualification processes. Many of the DRAM products that the OEMS purchased were not single chips, but rather, modules, *i.e.*, sets of chips soldered onto a modular printed circuit board, which was then assembled as part of a PC.

40. The key terms of DRAM sales – price and quantity – arose from negotiations between the DRAM manufacturers and the OEMs. Negotiations were structured around bi-weekly or one month intervals. At the end of that period, agreements on price were reached, which were effective for the next two weeks or one month. For the OEMs, DRAM procurement teams operated in a competitive downstream market, in which consumers had come to expect declining price points and increased performance.

41. OEMs often solicited initial or “first pass” pricing proposals from their DRAM suppliers. These price quotes were a starting point for further negotiations, conducted by meetings, teleconferences, and exchanges of emails between an OEM and its DRAM suppliers.

In the negotiations, each side tried to buttress its position by appealing to current market conditions and trends. An important market variable was the relationship of the “spot” price – the price at which DRAM chips could be obtained on the open market – to the “contract” price that the OEM paid its DRAM suppliers. If the spot price rose above the contract price, the DRAM manufacturer argued that the contract price should rise to reflect market conditions. Correspondingly, if the spot price dropped, OEMs generally sought a downward price adjustment.

42. Because the OEMs purchased from several DRAM suppliers, a particular OEM could, and did, threaten to shift business away from a particular DRAM manufacturer that it believed was pricing too aggressively. Each DRAM manufacturer, on the other hand, while often striving to establish itself as a favored supplier with these “core” or “strategic” accounts, knew that the OEMs had long-term incentives not to concentrate their purchases excessively among too small a group of DRAM suppliers. To do so would render an OEM more vulnerable to supply shortages or price increases in the future. As described below, the conspirators used illegal means to upset this balance of market forces in their favor.

#### **The Conspiracy Forms And Increases Prices**

43. Because PCs accounted for so substantial a share of total DRAM production, negotiations between DRAM manufacturers and PC OEMs were a focal point of price competition among DRAM manufacturers. In approximately 1998, the DRAM manufacturers began to put an end to that competition and to raise prices to the OEMs. To achieve this goal, one of the DRAM manufacturers’ principal means was the systematic and continuous exchange among themselves of confidential pricing information relating to the bids that each submitted to

the OEMs at two or four week intervals.

44. The sheer number of DRAM executives who participated in the exchanges of price information is extraordinary. Although the total number remains unclear, in sworn evidence Samsung has acknowledged that 48 of its executives and employees may have obtained or received competitive information, and it has provided a list of 30 additional Samsung executives and employees who may also have been involved. Hynix has acknowledged that at least 15 of its executives had contacts with competitors related to pricing or the DRAM market in general. Infineon has identified at least 16 of its executives who had pricing-related contacts with their DRAM competitors. Micron has identified 20 of its executives and employees who had pricing-related communications with competitors

45. These exchanges occurred at several levels. At one level, there was a continuous exchange of pricing information among the DRAM manufacturer account executives, who were primarily involved, on a day-to-day basis, in price negotiations with a particular OEM. For example, at Hynix Semiconductor America, a subsidiary of Hynix Semiconductor Inc., an account executive for IBM during the period of the conspiracy was Paul Palonsky. As Hynix has acknowledged in sworn evidence, Palonsky gathered competitive pricing information “directly from competitors, including Samsung, Micron, Infineon, Hitachi, Toshiba, Elpida, LG, and NEC.”

46. Palonsky exchanged pricing information, among others, with Tom Treventi of Infineon, primarily by telephone, as frequently as once per month during the period between mid-1999 and the end of 2001. They exchanged information on such topics as: (a) current prices charged to IBM; (b) possible prices to be quoted to IBM during upcoming negotiations; (c) actual

prices quoted to IBM during negotiations; and (d) actual prices agreed upon with IBM during negotiations.

47. During this same period, Palonsky's counterpart at Micron was Keith Weinstock, worldwide account executive for IBM. Between summer 1998 and spring 2002, Weinstock and Palonsky spoke regularly, in general over the telephone. They also lunched together during the same period. According to Micron itself: "Weinstock and Palonsky discussed various topics including . . . price or price quotes, in terms of ranges. Weinstock and Palonsky exchanged information about what they believed their respective employers planned to initially quote to IBM in upcoming negotiations . . . . Palonsky would provide Weinstock with specific bid figures that he said were the initial bids offered to IBM by DRAM suppliers other than Hynix."

48. These account executives worked under the direction of higher-level corporate officials, who, in turn, exchanged pricing information with their counterparts at competing firms, and then relayed directions to the account executives they supervised. For example, between April 1999 and June 2002, Palonsky worked for CK Chung, Hynix's Director of Worldwide Strategic Account Sales. Hynix has acknowledged that Chung not only collected pricing information, which his subordinates had obtained from Hynix's competitors; Chung also had his own direct pricing discussions with competitors. Chung's contacts with executives at Samsung are illustrative. At times, he spoke with a Samsung contact about pricing and other issues as frequently as once every two weeks.

49. As Hynix has also admitted, Chung transmitted this "pricing information from competitors to his superiors with the knowledge that the information would be used to set Hynix pricing to OEMs in the United States." Emails reflect that Chung relayed the competitive pricing

information that he obtained from his competitor-contacts to his superior, DS Kim, and widely throughout the Hynix sales and marketing organization.

50. A March 2001 email exchange between Palonsky and Chung regarding Palonsky's negotiations with IBM illustrates how the price exchange and coordination process drove DRAM prices upward. At the time, IBM was resisting Hynix's pressure to raise a DRAM module price from \$36 to \$38. Palonsky reported to Chung:

I talked to IBM about the potential that we might want to raise prices now to the \$38.00 level. This was received very poorly. IBM told me we would be alone and they would be forced to cut our share. IBM does not expect their biggest and favorite supplier to lead the price up.

51. IBM assured Palonsky that other suppliers were charging no more than \$36, and had even committed not to increase prices until April 15. Based on IBM's feedback, Palonsky recommended that Hynix's pricing stay "flat," but sought Chung's authorization to proceed. On the same day, however, Chung emailed back the information he had obtained from Samsung, the largest DRAM manufacturer:

Before you submit our final price as you suggested for the first part of April, please have a last minute coordination with SS [Samsung]. They are saying they will go with \$38. . . . If you can have SS lead the charge, you will follow Samsung's leadership.

52. The same pattern was repeated at other OEMs, as the conspirators continuously and systematically relied on pricing information from their competitors to guide their own pricing decisions. A January 2002 email exchange between Infineon's Dennis Lee, the Gateway account manager, and Joachin Soucheiron, another Infineon executive, provides another example. Soucheiron solicited input from Lee on Infineon's intended price quote to Gateway:



[P]lease check with your usual channels and let's discuss. I do NOT want to be any higher than our competitors, but I believe they will be aiming high as well given the current market situation.  
(emphasis in original)

Later that day, Lee transmitted specific competitor prices back to Sourcheiron and to T. Rudd Corwin, Infineon's Vice President for Sales of Memory Products:

Here are some price point [sic] for you from our friends at Micron and Hynix - Micron dropped the bomb last Friday and Hynix is increasing the pricing today. . . . Let me know what you think . . . . it will be better if we don't have the exact same price as Hynix and Micron. . . .

53. The pricing information that the DRAM manufacturers illegally shared was used to set prices across the entire range of key accounts. At Micron, for example, during the relevant period, there were weekly "core account" conference calls. High-level Micron sales executives presided over exchanges of information among the Micron account executives responsible for each of the major OEMs. This included pricing information obtained directly from Micron's competitors.

54. The sensitive competitive information that the DRAM manufacturers continuously exchanged was not always narrowly targeted to boost the prices they charged to the OEMs. Broader exchanges of information also took place. In July 2001, for example, Infineon's Christine Lee forwarded to her superior, Rudd Corwin, Micron's then-current price book, which listed DRAM prices by alphanumeric part numbers.

55. The conspirators also exchanged price-related information regarding the DRAM "spot" market. In contrast to the OEM sales described above, which generally were made pursuant to contracts, DRAM also were sold on the spot market on a single transaction basis, for

immediate or short-term delivery. The spot market price was important to DRAM market participants, even if they themselves did not make “spot” purchases, because it provided a “real-time” measure of changing market demand. Some spot price data was available to market participants publicly; commercial services also provided data. As noted above, where “spot” prices dropped below “contract” prices, contract customers, such as the OEMs, could use that market indicator to pressure the DRAM manufacturers to adjust contract prices downward.

56. The conspirators therefore took steps to control spot, as well as contract, prices. Micron has acknowledged, for example, that an executive with responsibility for spot sales communicated with executives from both Samsung and Infineon regarding spot market prices. Specifically, Micron has admitted that James Alt, its Channel Sales Account Manager during part of the relevant period, spoke to Samsung’s Jim Elliott by telephone between January 2002 and June 2002, and that Elliott and Alt exchanged information regarding the price ranges that their respective employers were quoting to spot customers. Alt also exchanged spot market price quote ranges with Jim Champion, an Infineon employee with responsibility for spot sales.

57. As noted above, the prices paid by OEMs and the spot prices were pricing benchmarks. In consequence, the effects of the price manipulation engaged in by the DRAM manufacturers extended throughout the DRAM market, affecting prices to DRAM customers beyond merely the OEMs.

58. Sensitive information was also communicated in face-to-face meetings of competitors. During an August 1999 meeting of executives from Infineon and Hyundai (later Hynix), Hyundai provided Infineon with specific figures for Hyundai’s “SAM” (“share of market”) at major OEMs such as Dell, HP and IBM. The information detailed the share of total

DRAM purchases made by each of those OEMs that Hyundai's own sales represented. In addition, Hyundai provided DRAM market forecasts to its competitor, Infineon.

59. An internal email, written by Samsung Vice-President Mike Bocian to other top Samsung executives, is revealing. Bocian, an active member of the conspiracy, exchanged pricing information with a top Micron marketing executive, Bill Lauer, among others, concerning Dell, the world's largest OEM. Bocian and Lauer exchanged their respective companies' current intentions to lower, hold, or raise their price quotes, and they described their expectations about their companies' likely price quotes by using phrases such as "sub \$20" or "plus \$30."

60. In March of 2002, Bocian was asked for a report on "current pricing issues." In a responding email, he highlighted that it was:

key to our advantage. . . the successful dramatic rate of pricing increases. . . . They [DRAM customers] clearly never expected the supply base [DRAM manufacturers] would stick together to bring the price up so quickly. . . .

61. Incredibly, an official of defendant Mosel Vitelic Inc. was even quoted in the press bragging about the cartel's manipulation of prices:

We're trying to encourage a price of \$3. . . . That's the consensus. . . . [Y]ou just need to have a phone call. . . . Everybody knows each other. We just said "try not to sell below \$3."

62. An official of Defendant Nanya has also been quoted openly discussing anticompetitive measures:

"Everyone is feeling the need of cutting production," said Charles Kau, an executive vice president with Linko-based Nanya Technology. "As of [sic] how to engage in the cut is an issue that needs to be discussed." Nanya is willing to cooperate in such a cut, he added.

63. In sum, during the period 1998 through June of 2002, when federal criminal inquiries into the price-fixing scheme began, pervasive exchanges of pricing information, coordination of pricing, and manipulation of the DRAM market became a routine way of doing business among the conspirators. Although the conspirators took steps to conceal their unlawful activity, by the spring of 2002, the conspiracy's effects – significant price increases – were clear to at least some major DRAM purchasers.

64. To reiterate, four of the DRAM manufacturers – Samsung, Infineon, Hynix, and Elpida, all of which are named defendants – have pleaded guilty to participating in this unlawful conspiracy. Each has acknowledged entering into illegal price-fixing agreements and making substantial sales that were affected by the conspiracy.

65. Samsung, for example, has admitted that “[d]uring the relevant period [on or about April 1, 1999 to on or about June 15, 2002] [Samsung’s] sales directly affected by the conspiracy to OEMs in the United States totaled approximately \$1.3 billion.” *United States v. Samsung Electronics Co., Ltd., et al.*, N. D. Ca., No. CR-05-0634 PJH, Sentencing Hearing Tr., at 19 (Nov. 30, 2005).

66. Similarly, Hynix has admitted that: “[d]uring at least certain periods of time during that relevant period [on or about April 1, 1999 to on or about June 15, 2002] [Hynix], through certain officers and employees participated in a conspiracy in the United States and elsewhere . . . the primary purpose of which was to fix the price of DRAM sold to certain OEMs . . . . During the relevant period Hynix DRAM sales, directly affected by the conspiracy, to OEMs in the United States totalled 839 million U.S. dollars.” *United States v. Hynix Semiconductor, Inc.*, N. D. Ca., No. CR 05-249 (PJH), Sentencing Hearing Tr., at 22-23 (May

11, 2005).

67. Infineon has acknowledged: “At certain times during the relevant period [on or about July 1, 1999 to on or about June 15, 2002) DRAM prices decreased significantly; nevertheless the defendant and its co-conspirators reached agreements to limit the rate of price declines which were achieved with varying levels of effectiveness. At other relevant periods the defendant and its conspirators reached agreements on price increases and were able to institute price increases on certain sales to certain OEMs.” *United States v. Infineon Technologies AG*, N. D. Ca., No. CR-04-0299 PJH, Sentencing Hearing Tr. at 32 (October 20, 2004).

68. Micron received immunity from the U.S. Department of Justice and, therefore, did not plead to criminal charges. But its Chairman, CEO and President, Steve Appleton, has publicly admitted that “[t]he DOJ’s investigation revealed evidence of price fixing by Micron employees and its competitors on DRAM sold to certain computer and server manufacturers.” Indeed, in sworn evidence provided to the State, Micron has admitted that it no longer “agrees” with an earlier public statement that it did not violate “the U.S. antitrust laws.”

#### **FRAUDULENT CONCEALMENT AND TOLLING**

69. The conspirators were careful to conceal the means by which they achieved their illegal control over DRAM pricing. At Micron, for example, executives were instructed not to report on pricing-related contacts with competitors via email or cell phone. Also, as illustrated above, in some instances the conspirators discussed means of concealing the conspiracy, and were concerned that quoting identical prices might reveal their collusion. Moreover, like price-fixing schemes generally, the conspiracy was inherently self-concealing. Although the OEMs felt the direct effects of the illegal activity, they did not suspect that it was occurring.

70. The State of New York did not discover, and could not have discovered through the exercise of reasonable diligence, the existence of the claims alleged until after the first of the DRAM manufacturers' guilty pleas to federal antitrust charges.

71. As a result of the DRAM manufacturers' active, intentional, and fraudulent concealment, the statutes of limitations governing the claims asserted in this action have been tolled.

### **DIRECT PURCHASES**

72. During the relevant period, State Entities made substantial purchases of DRAM-containing products, including PCs. State Entities generally dealt directly with the OEMs and other producers of DRAM-containing products, rather than with the Defendants, which manufactured the DRAM chips.

73. However, many State Entities made their purchases from OEMs pursuant to a contract entered into by New York State's procurement agency, the Office of General Services ("OGS"), with the OEMs (the "Centralized Contract"). As set out below, all purchases of DRAM-containing products by State Entities, made pursuant to Centralized Contract, are direct, and not indirect, purchases of price-fixed DRAM.

74. The Centralized Contract contained generally applicable terms and conditions, which were incorporated by reference into individual contract awards that OGS made with the PC OEMs. The Centralized Contract remained in effect for the entire period relevant to this action.

75. Part of the Centralized Contract (the "Assignment Clause") provides as follows:

ASSIGNMENT OF CLAIM. Contractor hereby assigns to the State any and all its claims for overcharges associated with this contract which may arise under the antitrust laws of the United States, 15 U.S.C. Section 1, et seq. and the antitrust laws of the State of New York, G.B.L. Section 340, et seq.

76. Following issuance of the Centralized Contract, individual contracts subject to its terms were made between OGS and numerous PC OEMs. Generally, these contracts remained in effect during the entire period relevant to this action. Dell, IBM, Hewlett-Packard, Gateway, and Apple are among those OEMs who entered into the Centralized Contract with OGS.

77. The Centralized Contract terms were available not only to New York state-level entities. Many other State Entities also were authorized to make purchases pursuant to the Centralized Contract in their dealings with OEMs, and they did so. These include political subdivisions, such as counties, cities, towns, and villages, and public school districts, as well as public authorities and public benefit corporations.

78. With the Centralized Contract as a framework, procurement procedures during the relevant period allowed the purchasing entity to deal directly with the PC OEM contractors. Generally, the PC OEM "hosted" its individual contract on a website accessible to State Entities, and there quoted the contractually agreed-upon prices for its products. The State Entity desiring a particular product transmitted purchase orders to the OEM, or its authorized resellers.

79. Various State Entities made substantial purchases under the Centralized Contract, including purchases of DRAM-containing products. For example, in the period of January 1999 through December 2002, the following State Entities made purchases, including purchases of DRAM-containing products, under the Centralized Contract in the following amounts:

<b>State Entity</b>	<b>OEM</b>	<b>Purchases</b>
N.Y. Dept. of Environmental Conservation	Dell	\$3,135,731.00
N.Y. Dept. of Health	Dell	\$4,026,460.47
	Micron	\$587,555.80
N.Y. Insurance Dept.	IBM	\$1,498,811.35
	HP	\$2,543,088.99
N.Y. Dept. of Labor	Dell	\$7,493,097.93
SUNY at Stony Brook	Dell	\$7,205,463.20
	Gateway	\$480,141.15
	IBM	\$422,382.99
	Apple	\$1,838,202.05
	HP	\$316,849.31

These are illustrative only. The total purchases by State Entities under the Centralized Contract during the relevant time period are in the hundreds of millions of dollars, a significant portion of which represents DRAM-containing products.

80. By virtue of the Assignment Clause, the State of New York, on behalf of all State Entities that purchased DRAM or DRAM-containing products under the Centralized Contract, stands in the shoes of the OEMs and other direct purchasers of price-fixed DRAM for purposes of alleging federal and state antitrust claims.



## CLAIMS FOR RELIEF

### *First Claim (Violation of Section 1 of the Sherman Act)*

81. From approximately 1998 through approximately mid-2002, Defendants engaged in a continuing contract, combination and conspiracy in unreasonable restraint of interstate trade and commerce in violation of Section 1 of the Sherman Act, 15 U.S.C. § 1.

82. The combination, contract and conspiracy consisted of, among other things, an agreement by the Defendants secretly to fix, coordinate and raise their DRAM prices, including without limitation through exchange of DRAM prices offered to OEMs and in the spot market.

83. This unlawful cartel had the following effects, among others:

- a. price competition in the sale of DRAM was suppressed and/or eliminated;
- b. prices for DRAM sold by defendants and their co-conspirators were fixed, raised, maintained and stabilized at artificially high, non-competitive levels;
- c. purchasers of DRAM and DRAM-containing products were deprived of the benefits of free and open competition, and paid artificially high, supra-competitive prices for DRAM and DRAM-containing products, or purchased products that contained less memory, or were otherwise of lower quality, than they would have been absent the conspirators' illegal acts, or were unable to purchase products that they would otherwise have purchased absent the illegal conduct.

84. The conduct set forth above is a per se violation of Section 1 of the Sherman Act.

85. As a result of the conspiracy, the Defendants' customers, OEMs and end-users of

DRAM, including natural persons and State Entities in New York, were injured in their business and property. They paid higher prices for DRAM and DRAM-containing products than they otherwise would have paid in a competitive market.

86. Under 15 U.S.C. §15, the State is entitled to recover treble damages, based on the injury that the State Entities suffered as a result of Defendants' illegal conduct, and attorneys' fees. The State is furthermore entitled to enjoin Defendants from engaging in similar illegal conduct in the future, as well as to such other equitable relief as may be appropriate.

***Second Claim (Violation of the Donnelly Act, N.Y. Gen. Bus. L. § 340 et seq.)***

87. From approximately 1998 through approximately mid-2002, Defendants engaged in a contract, agreement, arrangement and combination in unreasonable restraint of business, trade and commerce in violation of the Donnelly Act, N.Y. Gen. Bus. L. § 340 *et seq.*

88. The contract, combination, agreement and arrangement consisted of, among other things, an agreement by the Defendants secretly to fix, coordinate and raise their DRAM prices, including without limitation through exchange of DRAM prices offered to OEMs and in the spot market.

89. This unlawful cartel had the following effects, among others:
- a. price competition in the sale of DRAM was suppressed and/or eliminated;
  - b. prices for DRAM sold by defendants and their co-conspirators were fixed, raised, maintained and stabilized at artificially high, non-competitive levels;
  - c. purchasers of DRAM and DRAM-containing products were deprived of the benefits of free and open competition, and paid artificially high,

supra-competitive prices for DRAM and DRAM-containing products, or purchased products that contained less memory, or were otherwise of lower quality, than they would have been absent the conspirators' illegal acts, or were unable to purchase products that they would otherwise have purchased absent the illegal conduct.

90. The conduct set forth above is a per se violation of the Donnelly Act.

91. As a result of the conspiracy, the Defendants' customers, OEMs and end-users of DRAM, including natural persons and State Entities in New York, were injured in their business and property. They paid higher prices for DRAM and DRAM-containing products than they otherwise would have paid in a competitive market.

92. On behalf of all State Entities that purchased DRAM-containing products or DRAM, directly or indirectly, from Defendants or their co-conspirators, and on behalf of all natural persons in New York who purchased DRAM-containing products or otherwise purchased DRAM indirectly, the State is entitled to recover three-fold the actual damages sustained as a result of Defendants' illegal conduct, and attorneys' fees. The State, in its sovereign capacity, also is entitled to recover civil penalties under N.Y. Gen. Bus. L § 342-a. The State further is entitled to enjoin Defendants from engaging in similar illegal conduct in the future, as well as such other relief as may be appropriate.

***Third Claim (N.Y. Exec. L. § 63(12))***

93. From approximately 1998 through approximately mid-2002, the Defendants engaged in repeated and persistent fraudulent and illegal acts, in the conduct of their businesses, by illegally conspiring to fix, coordinate and raise their DRAM prices, including through

coordinating their prices to OEMs and in the spot market.

94. Defendants' conduct violated the Sherman Act, 15 U.S.C. § 1, the Donnelly Act, N.Y. Gen. Bus. L. § 340 *et seq.*, as well as state antitrust laws throughout the United States, and N.Y. Exec. L. § 63(12).

95. On behalf of all State Entities that purchased DRAM-containing products or DRAM, directly or indirectly, from Defendants or their co-conspirators, and on behalf of all natural persons in New York who purchased DRAM-containing products or otherwise purchased DRAM indirectly, the State is entitled to recover three-fold the actual damages sustained as a result of injury caused by Defendants' violations of N.Y. Exec. L. § 63(12). The State further is entitled to enjoin Defendants from engaging in similar illegal conduct in the future, as well as to such other equitable relief as may be appropriate.

***Fourth Claim (California Cartwright Act)***

96. From approximately 1998 through approximately mid-2002, defendants and their co-conspirators entered into and engaged in a continuing unlawful trust in restraint of the trade and commerce described above in violation of Section 16720, California Business and Professional Code (the "Cartwright Act").

97. The trust consisted of, among other things, an agreement by the Defendants secretly to fix, coordinate and raise their DRAM prices, including without limitation through exchange of the DRAM prices offered to the OEMs and in the spot market.

98. This unlawful cartel had the following effects, among others:

- a. price competition in the sale of DRAM was suppressed and/or eliminated;
- b. prices for DRAM sold by defendants and their co-conspirators were fixed,

raised, maintained and stabilized at artificially high, non-competitive levels;

- c. purchasers of DRAM and DRAM-containing products were deprived of the benefits of free and open competition, and paid artificially high, supra-competitive prices for DRAM and DRAM-containing products, or purchased products that contained less memory, or were otherwise of lower quality, than they would have been absent the conspirators' illegal acts, or were unable to purchase products that they would otherwise have purchased absent the illegal conduct.

99. The conduct described above constitutes a per se violation of the Cartwright Act.

100. As a result of the conspiracy, the Defendants' customers, OEMs and end-users of DRAM, including natural persons and State Entities in New York, were injured in their business and property. They paid higher prices for DRAM and DRAM-containing products than they otherwise would have paid in a competitive market.

101. On behalf of all State Entities that purchased DRAM-containing products or DRAM, directly or indirectly, from Defendants or their co-conspirators, and on behalf of all natural persons in New York who purchased DRAM-containing products or otherwise purchased DRAM indirectly, the State is entitled to recover three-fold the actual damages sustained as a result of Defendants' illegal conduct, and attorneys' fees. The State further is entitled to enjoin Defendants from engaging in similar illegal conduct in the future, as well as such other relief as may be appropriate.

## RELIEF SOUGHT

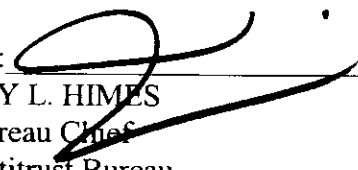
Accordingly, Plaintiff State of New York requests judgment as follows:

- a. Adjudging and decreeing that Defendants have engaged in conduct in violation of Section 1 of the Sherman Act, 15 U.S.C. §1, the Donnelly Act, N.Y. Gen. Bus. L. § 340 *et seq.*, N.Y. Exec L. § 63(1), and the Cartwright Act, Section 16720, California Business and Professional Code.
- b. Awarding damages in an amount proven at trial to have been sustained by the State and those on whose behalf it sues, trebled as provided by law, against Defendants, jointly and severally.
- c. Awarding disgorgement, restitution or such other equitable relief as may be appropriate, in an amount to be proven at trial, by the State and those on whose behalf it sues, against Defendants, jointly and severally.
- d. Awarding the State of New York civil penalties against each Defendant, pursuant to New York Gen. Bus. Law § 342-a;
- e. Enjoining and restraining Defendants, their affiliates, assignees, subsidiaries, successors and transferees, and their officers, directors, partners, agents and employees, and all other persons acting or claiming to act on their behalf or in concert with them, from engaging in any conduct, contract, combination or conspiracy, and from adopting or following any practice, plan, program or device having a purpose or effect similar to the anti-competitive actions set forth above;
- f. Awarding the State of New York the costs of this action, including reasonable attorneys' fees, and expert fees; and

g. Directing such other and further relief as may be just and proper.

Dated: New York, New York  
July 13, 2006

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**JURY DEMAND**

Pursuant to the provisions of Rule 38, Federal Rules of Civil Procedure, State of New York hereby respectfully demands trial by jury.

Dated: New York, New York  
July 13, 2006

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