

# FORTUNE

## Intel's worst nightmare

Dwindling market share isn't the No. 1 chipmaker's only problem, says Fortune's Roger Parloff. It needs to mount a fierce defense to AMD's epic antitrust lawsuit.

By [Roger Parloff](#), Fortune senior editor  
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(Fortune Magazine) -- Advanced Micro Devices has finally arrived. Long the also-ran of the microprocessor business, a perennial distant second to industry behemoth Intel, AMD is now a contender. In the market for the crucial x86 chip, which serves as the brain for most personal computers, AMD has gained unit share for five years running and today stands at 21.6%.

In the even more lucrative market for x86 server chips, its unit share has rocketed from negligible three years ago to 26% last quarter. And just last month the company announced a potentially industry-transforming \$5.4 billion acquisition of chipset leader ATI Technologies.

So what's keeping CEO Hector Ruiz up at night? Despite all the good news, he still sees one crucial - and worrisome-piece of unfinished business standing in his way. "What can still hurt us the most, frankly, is Intel's antitrust practices," he says. "That's the largest obstacle for us to get where we need to go."

Ruiz and his colleagues believe [Intel's \(Charts\)](#) monopolistic foul play is what sank [AMD's \(Charts\)](#) last bid for parity. That was in 2001, when the company had also gained share for five years straight. But once its unit share hit 21.8%-right around where it is today - the bottom suddenly fell out of its markets, Mercury Research data show. The contraction was especially severe in Japan, where AMD's unit share slid from 25% in mid-2002 to 9% in mid-2004, according to Gartner Dataquest.

The downright suspicious part, as AMD execs see it, was what happened to AMD's share with particular Japanese customers. Its portion of [Sony's \(Charts\)](#) business dropped from 23% in 2002 to zero by 2004, AMD says.

Its consumer desktop business with [NEC \(Charts\)](#) plummeted from 84% to almost nothing over the same period, while its total share of NEC business sank from close to 40% to less than 15%. AMD's Toshiba business flat-lined-dropping from about 15% in 2000 to zero in 2001 and ever since, AMD alleges.

What happened?

Tom McCoy thinks he knows. McCoy, 55, is AMD's executive vice president for legal

affairs. He is also now the company's longest-tenured executive, having joined in early 1995-and maybe its toughest. When it comes to competing against Intel, nobody's had a longer, more close-up, or more jaundiced look.

"As a matter of economics, the monopoly probably breaks somewhere between 30% and 35%," says McCoy, referring to the point at which AMD's rising market share would imperil what he sees as Intel's stranglehold on the x86 market.

"Intel clearly got nervous," he continues, "so it went into Japan and just blew us out, just as a matter of sheer exercise of monopoly power." It did so, McCoy hypothesizes, by giving the Japanese computer makers millions of dollars in rebates and other payments for varying degrees of exclusivity - in some cases, 100%.

"We don't buy exclusivity," responds Intel general counsel Bruce Sewell, 48, flatly. Though younger and more polished than the gruff and blunt McCoy, Sewell has been a soldier in the AMD-Intel wars for just as long, first as an outside lawyer and then, since 1995, from inside Intel's legal department.

Intel's recapture of share in Japan reflected a variety of innocent factors, Sewell says, including Intel's rebound from certain production constraints and from having allowed its product line to grow stale, as well as its introduction, in March 2003, of the popular Centrino platform for notebook computers.

McCoy isn't buying Sewell's explanations. In June 2005, AMD filed a historic antitrust suit against Intel, accusing it of illegally preserving its alleged monopoly on x86 processors by means of a wide range of exclusionary practices. The suit aims to keep Intel from cramming AMD back into its familiar market-share box.

This time AMD hopes to break free to parity. The lawsuit is its hacksaw. AMD claims that computer makers are quietly rooting it on. "Our customers were telling us," says McCoy, "The only thing that prevents us from buying more technology from you is the fact that we don't think we can withstand the punishment Intel will put on us.' What the industry needed," continues McCoy, "was antitrust cover to try to back Intel off its practices. With the regulatory spotlight being turned on bright, the industry would be more courageous in building market share with us."

Legally AMD faces enormous obstacles. To begin with, none of the 38 customers mentioned in AMD's complaint-computer makers, distributors, or retailers-has yet come forward to back AMD's claims. (Every third party contacted for this article either declined comment on the allegations or did not return messages.)

But AMD's greatest legal hurdle is an ironic one: It is currently thrashing Intel in the marketplace. Judges may wonder exactly what manner of monopolist Intel could be when AMD is gaining share in servers, desktops, and notebooks; when CEO Ruiz has stated publicly that the 37-year-old company "is in the strongest position we've ever been in"; and when AMD's operating margin was, as of the first quarter of 2006, actually higher

than the alleged monopolist's.

Still, AMD argues that it should be doing even better, and that it is still being artificially excluded from the crucial market for enterprise-quality desktop and notebook computers.

In the days ahead we'll be hearing much about this suit-the most important antitrust case since U.S. v. [Microsoft \(Charts\)](#) in 1998-and about related probes of, or actions against, Intel now taking place in the European Union, Japan, and Korea.

For readers of Fortune, claims that Intel competed unlawfully have an intrinsic fascination; Andy Grove, who stepped down as Intel's CEO in 1998 and as its chairman last year, has been saluted on Fortune's cover no fewer than eight times since 1993, including this past December, when we extolled him as "America's greatest student and teacher of business."

### **What is monopolistic behavior?**

Yet the suit is commanding the attention of the global business community for another reason too. It's seen as a bellwether for a mega-issue roiling competition law today: Assuming for the sake of argument that Intel did do what AMD alleges, is that illegal?

For while there is wide consensus among antitrust experts about the harmfulness and, consequently, illegality of collusive activity among competitors - e.g., cartelization, bid-rigging, price-fixing-there is no comparable agreement about conduct by one very big competitor acting alone.

What's still largely undefined is precisely when tactics by such a player cross the line from vigorous competition into unlawful preservation of a monopoly (the American term) or abuse of dominance (the European term). The ambiguous outcome of the U.S. government's case against Microsoft - whose practices were condemned, but narrowly, and punished, but lightly - has spurred more debate than it has quelled.

"Is there really a place in competition law," asks Intel general counsel Sewell, "that says you compete as hard as you can until you get to X percent [market share], and then you have to back off? And, fundamentally, is backing off good for consumers?"

The one practice that has generated the most debate among scholars and regulators in recent years is the very one at the center of AMD's case against Intel: so-called loyalty rebates. These arise when a dominant firm offers rebates to business customers who fulfill 80%, 90%, or even 100% of their needs with that firm's products.

These incentives can be so great as to amount to an offer the customer can't refuse. The rebates exclude competitors, yet the rebated prices may be well above cost and, therefore, not "predatory" by any traditional definition. Do such rebates ultimately hurt the public or benefit it? The U.S. Federal Trade Commission, the U.S. Department of Justice, the U.S. Antitrust Modernization Commission, and the European Commission's Directorate-

General for Competition had all been grappling internally with this question at the time AMD filed its complaint in Delaware, teeing up the issue for a U.S. district court and eventually, some predict, the U.S. Supreme Court.

### **Cranking up the competition**

AMD's suit arrives at a critical moment in the long-standing blood feud between AMD and Intel, which have been fighting each other in court for most of the past 20 years. (At this point AMD is Intel's only meaningful competitor in the market for x86 chips.)

In 2003, AMD launched two chips, the Opteron for servers and the Athlon64 for desktops, that are widely seen as having marked technological advantages over Intel's offerings.

Though AMD's performance edge in those markets will be challenged as Intel phases in its new Core 2 Duo generation of chips, the interlude of technological superiority has given AMD an opportunity to change forever its status and reputation in the industry.

Each company incorporates this recent history into the idealized narrative it is telling in court. AMD says Intel stepped up its wrongdoing when it saw itself falling behind technologically in 2003. No longer able to win by playing fair, it played dirty.

Consumers were hurt by being forced to use higher-priced, inferior technologies. (The touchstone of modern antitrust philosophy is that the law protects competition, not competitors; i.e., it is the consumer's welfare that matters, not AMD's.)

Intel's rebuttal line goes like this: Yes, Opteron's a great part, and-guess what?-it's selling. Moral: "When AMD has good parts, they do fine," as Intel's Sewell says. "When AMD has lousy parts, they don't do so well. That's what a competitive market is all about."

The muddled reality defies both sides' simplifications, though, in part because the case's origins long predate Opteron. It's been taking shape in the mind of AMD's McCoy for nearly a decade.

McCoy has been doing tech-related antitrust litigation for almost 30 years. "When I'd been a lawyer for about ten minutes," he says, "I started working on the IBM antitrust cases in the 1970s." That was at the Los Angeles law firm of O'Melveny & Myers, where famed litigator Charles Diamond-now AMD's lead outside lawyer-oversaw McCoy's first trial. (Diamond represented now-Governor Arnold Schwarzenegger in litigation leading to California's gubernatorial recall election in 2003.)

### **Retaliatory power**

In 1993, McCoy began handling AMD's litigation against Intel (then over AMD's rights to clone Intel's 386 and 486 chips), and two years later he joined AMD as its general counsel. That's when he began hearing firsthand about Intel's practices, he claims.

"We had customers say, 'We would love to buy [your chip], or more of it, but can't, because Intel will cut our allocation of server products. They will slow our time to market by withholding technical information we need. They will do a special deal with a competitor targeted to hurt us. We can't afford that kind of retaliation."

Intel's power over the computer makers, McCoy believed, stemmed from the commoditization of the computer-making business, which left most manufacturers with razor-thin or negative operating margins. Intel's microprocessor division, in contrast, typically enjoyed fat, 30% to 40% operating margins, because of, in McCoy's opinion, monopoly profits. (Intel's Sewell says the healthy margins in the microchip industry-in which AMD now shares-reflect the rewards for vast investments in R&D.)

Because of the computer manufacturers' narrow margins, Intel's payments of end-of-quarter rebates and other funds often determined whether manufacturers hit their quarterly numbers, McCoy argues. These payments became the industry's "heroin," as AMD founder Jerry Sanders used to put it.

Sometimes customers didn't even know precisely what they had to do to qualify for the rebates, McCoy maintains. ("The economists will tell you that's the most abusive kind of dominant-firm conduct," says AMD outside counsel Diamond.) Intel's famous "Intel Inside" co-branding program-in which it gives "market-development funds" to computer makers if they highlight the Intel brand on their machines, on packaging, and in marketing-manipulated and aggravated this situation, McCoy maintains.

"I've yet to meet anybody in the industry who wants to elevate the Intel brand over their own system brand and devalue their own corporate branding equity," says McCoy.

In 1997, Intel became the target of an antitrust probe, although not because of AMD. The Federal Trade Commission began scrutinizing the company because of its hardball responses to three patent-infringement suits brought against it by computer makers Intergraph, Digital Equipment Corp., and Compaq Computer.

In each instance, Intel responded by withholding from the plaintiff specifications about Intel's future microprocessors that each maker needed to design its products. In DEC's case, Intel implied that it might cut off DEC's chip supply within four months.

McCoy believes that that threat, though Intel quickly retreated from it, had a lasting impact on the industry. It unquestionably had a lasting impact on McCoy.

"It was a signaling around the world," he says, "that either you play on the Intel team or you don't play. That was the moment that I resolved that my career probably wouldn't be complete without trying to do more to create an environment where the customers were free to choose. That's where I'm coming from as the architect of the current battle."

With FTC regulators sniffing around, McCoy shared with them his own numerous Intel gripes. But while the FTC did file an administrative complaint against Intel in 1998 over

its response to the patent suits, it chose not to pursue AMD's additional allegations.

Failing to entice FTC intervention, McCoy then brought his grievances to the European Commission competition authorities. But in early 2002 they, too, took a pass. (Intel settled its FTC case in 1999, signing a consent decree in which it admitted no wrongdoing. Later that year a federal appeals court exonerated Intel of antitrust transgressions in the Intergraph case; DEC and Compaq had settled their cases earlier.)

In 2002, AMD began enduring its dramatic loss of share in Japan. By early 2004 the company had brought those events to the attention of the Japan Fair Trade Commission, and in April 2004 the commission's agents raided the offices of Intel's Japan subsidiary.

A year later the commission issued a terse, three-page ruling finding that since May 2002, Intel had violated Japanese law by conditioning rebates to five Japanese computer makers on their agreement to buy high percentages of their processors from Intel-in some cases 100%. Without admitting wrongdoing, Intel consented to the relief sought - a commitment to refrain from certain such practices - which Intel's Sewell characterizes as "the sleeves off our vest," i.e., inconsequential to its operations. (AMD has filed two follow-up suits against Intel in Japan, seeking damages and access to the commission's evidence.)

### **Cataloging complaints**

Even before the JFTC ruled, McCoy had summoned about a dozen AMD outside lawyers to hotels near the company's headquarters in Sunnyvale, Calif., and Austin. They were debriefing scores of AMD executives and staffers on precisely what they had been told by various customers about Intel's alleged restrictions on doing business with AMD.

After three months of interviews, outside lawyer Diamond and his crew assembled the highlights into a 48-page complaint, which AMD filed in federal court in Wilmington on June 27, 2005. "The big thing for me," recalls McCoy of that moment, "was the very sober recognition that we were triggering what was going to be the antitrust case of the modern era against what is, in our view, a very mean and infinitely rich company. We were in it to the death."

The complaint cataloged Intel's alleged misconduct not just with five Japanese computer makers, but also with more than 30 other industry participants around the world.

"It's an Academy Award-winning complaint," comments David Balto, a private antitrust lawyer and former FTC policy director. "If proven, AMD's going to have a winning hand." (Within weeks of the filing, EC competition regulators - evidently picking up the ball they had let lie in 2002-raided Intel's offices in England, Germany, Italy, and Spain. In February 2006, South Korean regulators raided Intel's offices in Seoul.)

AMD's suit identifies only a handful of individuals by name, but they include some big fish. It asserts, for instance, that at a meeting in Taiwan in September 2003, Intel's

chairman and then-CEO Craig Barrett personally warned Stan Shih, the then-CEO of computer maker Acer, of "severe consequences" if Acer supported AMD's imminent Athlon64 launch. Acer then canceled many of its planned endorsement activities, AMD alleges.

Asked about the charge, Shih told Taiwan's *Economic Daily News* that he and Barrett had "exchanged opinions and expressed our own ways of looking at things, but didn't have time to discuss details and talk about other individual companies." Intel denied AMD's accusation in its court filings, but declined to make Barrett or current CEO Paul Otellini available to be interviewed by Fortune. Former CEO and chairman Grove also declined comment.

Antitrust scholars, however, have concentrated not on the boldface names in the complaint but on the paragraphs describing the "first-dollar rebates" Intel allegedly offered, which pose the knotty legal conundrum at the core of the case.

The rebates allegedly worked like this: Suppose XYZ computer maker needs 100 chips per quarter, and that during the last quarter it bought 90 from Intel and ten from AMD. Since AMD wants to grow, it might bid for 20 of XYZ's 100 units in the new quarter. (It can't realistically bid for all 100 units because it can't increase its capacity that quickly and because XYZ will have some preexisting contracts that specify delivery of Intel-powered computers.)

Here's how Intel allegedly dashes AMD's hopes for gradual growth. It tells XYZ that its price per processor is, say, \$90, but that if XYZ ends up buying more than 80% of its processors from Intel that quarter, it will pay a rebate of \$10 per processor, resulting in an \$80 price.

The rebate, however, applies not just to the processors that put XYZ over the 80% target, but to every Intel processor XYZ purchases that quarter, back to the first one. That offer knocks AMD out of the box. Outside counsel Diamond explains why: "Effectively, what Intel's saying is, If you don't buy those ten incremental units from AMD, we'll give you them for free."

That's because 80 processors at \$90 each cost the same as 90 processors at \$80 each. "So in order to capture that business," Diamond continues, "AMD has to give away product for free. It's pretty axiomatic that you can't stay in any business if you're giving away your product free to pick up market share."

Intel's Sewell has a simple response: His company doesn't offer first-dollar rebates. "We offer a discount program," he asserts, "which is stepped at basically 20%, 40%, 60%, 80%. So if you buy below 20%, you get no discount. If you buy 20% to 40%, you get a discount, but it applies only to the units between 20% to 40%. By the time you get up to 80% or 100%, you're getting the highest discount. If you're at the highest discount rate, and you were to normalize that across all units, you get a better price across the board if you buy more parts from us, but you don't have this dramatic incentive, where you get

nothing below 90%, and everything above 90%. In our view, this is a very traditional discount that scales with volume."

AMD's Diamond replies: "If, in fact, Intel's corporate policy is to use only reasonable, stepped discounts and no first-dollar rebates, that's a pretty recent innovation, and I guess we've earned part of our legal fees already. That has not been historically correct."

The case won't be tried before 2008, because the discovery tasks will be monumental. AMD has already subpoenaed documents from more than 100 major industry participants, including Microsoft. For anyone to opine about the strength or potential outcome of AMD's case this early would be both presumptuous and foolish. Yet for anyone interested in business, it's hard not to be awfully curious about exactly what became of AMD's Japanese market share in mid-2002.

[Tell us what you think](#) about the case and Intel's business practices.

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[How AMD made it a fight.](#) ■

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## How AMD made it a fight

### Better chips and an expanded product line put Intel on the defensive,

says Fortune's David Kirkpatrick.

By [David Kirkpatrick](#), Fortune senior editor

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(FORTUNE Magazine) -- AMD is going after Intel in court, but it has already struck where it really hurts. After 20 years of unequivocal Intel supremacy, the market for x86 microprocessors has finally become - and for the foreseeable future will remain - a two-horse race. Says a very senior executive at a major PC company: "AMD is here to stay."

Each of the top three PC makers is now a customer. AMD's biggest recent victory was landing [Dell](#) ([Charts](#)). The largest PC maker decided in May to end its exclusive relationship with Intel and put AMD's top-of-the-line Opteron processors into some servers. In early August, [IBM](#) ([Charts](#)) announced a new line of Opteron-based servers. [AMD](#) ([Charts](#)) now powers more than a quarter of all x86 servers worldwide. [Hewlett-Packard](#) ([Charts](#)) (the PC industry's No. 2) and Sun already sell AMD machines across their product lines. And [Lenovo](#) ([Charts](#)), the No. 3 PC maker worldwide, already a big AMD customer in China, plans to announce in August that it will start using AMD chips in a line of business desktop PCs for the U.S.

AMD CEO Hector Ruiz isn't declaring victory, though. While the company's share of x86 industry revenue has risen in three years from 8% to nearly 18%, according to Mercury Research, Ruiz says AMD needs 30% to stay healthy. But he is optimistic. "Now, of course, the big thing for us," he says, "is to get Michael [Dell] to go beyond servers." Don't think it couldn't happen.

AMD has had surges in the past, but this one is different. It used to sell only fast processors for consumer desktop computers. Now it has chips for desktops, notebooks, and, most important, servers, the part of the business where profit margins are highest. According to PC semiconductor analyst Dean McCarron of Mercury Research, when AMD had only one strong product, Intel could easily beat it back with price cuts, funded with profits from its other businesses. McCarron says, "AMD used to be a weed to be chopped down every now and then. Now it is much deeper in the market."

AMD broke out of its box partly by taking advantage of an Intel misstep. In the late 1990s Intel started pouring hundreds of millions of dollars into a new type of processor not based on x86 technology. Eventually called Itanium, the chip was aimed at high-end computing. It would process bits-the ones and zeroes of data-in chunks of 64 rather than 32, as x86 did. It also had the virtue of being uncopyable by AMD, which had won the right to use the x86 architecture in a series of court battles.

But Itanium had a big disadvantage: Applications written for x86 ran on Itanium only in a clunky "emulation" mode. AMD saw that what customers wanted was a 64-bit version of x86 that could still run all the old applications, so it built one.

When Ruiz became CEO in 2002, he oriented the entire company around the new AMD 64 architecture, developing products for every part of the market. He got a huge assist from [Microsoft \(Charts\)](#), which announced in 2003 that it would build a 64-bit version of Windows especially for AMD 64. By mid-2004, Intel was forced to copy AMD, announcing its own 64-bit version of x86, now the backbone of its entire product line. Meanwhile the Itanium business has remained lackluster.

Sean Maloney, Intel's new executive vice president for sales and marketing, says, "We left the door open because we had been used to our competitor dropping the ball regularly. They picked up their game, so we picked up ours."

Intel's financial results in the most recent quarter were abysmal (profits were less than half what they'd been a year earlier), but its product strategy is aggressive. In July it launched a range of new products it calls Core 2 Duo. Industry website CNET called it "the company's biggest product launch since Pentium in 1993." These two-processor 64-bit chips will go into desktops, notebooks, and servers. For now they outperform AMD's alternative products, though Intel's nemesis claims its own new designs will emerge shortly.

Meanwhile, both companies are taking drastic steps to improve competitiveness. Intel CEO Paul Otellini said in July that the company would lay off 1,000 managers. He's also waging a price war and building inventory-AMD's stock has suffered as a result, dropping from \$42 in March to below \$20 in August. (In the same period Intel has slid from \$20 to \$17.) AMD in late July announced its biggest acquisition ever, of chipmaker ATI for \$5.4 billion. Ruiz says that will let AMD enter new businesses, like consumer electronics.

As the two chipmakers compete, they will speed innovation and cut prices. Expect your PC to get better and cheaper.

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[AMD's epic antitrust lawsuit against Intel](#) ■

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