

Calendar of Events

CHM Soundbytes

Microprocessor Marketing Wars: Chip Makers Discover the Consumer

SPONSOR

Sponsored by Major Funding for the Salute to the Semiconductor program is generously provided by Gordon and Betty Moore Foundation and Intel Corporation

Jack Browne, Claude Leglise, Melissa Rey, Dave House, and Moderated By David Laws

DATE & TIME

Friday, November 20, 2009

12 p.m. - Come and enjoy a free lunch and a lecture with CHM friends and family.

Lunch and Beverages will be provided.

LOCATION

1401 N. Shoreline Boulevard
Mountain View, CA 94043

[Directions](#)

REGISTRATION

[Register Now](#)

Call 650-810-1059 for information.

ABSTRACT OF TALK

Ever since the launch of the 4004 microprocessor in 1971, AMD, IBM, Intel, MIPS, Motorola, National, Sun, Texas Instruments, Zilog and many other major corporations have fought epic marketing wars to establish their chips as the engines of choice for multiple generations of computers.

There were battles over technical specifications, performance benchmarks, software architectures, RISC, 32 bits, and much more. Over the years, the fight shifted from one for hardware design engineers' hearts and minds to a battle for those of the computer companies' CEOs', and ultimately, for those of the consumers themselves. This combative environment drove the evolution of spec-based to brand-based microprocessor marketing.

Join us for more discussion on how the marketing of microprocessors changed as the semiconductor industry grew at unprecedented rates during the 70's thru the 90's. Learn about the events and the decisions that shaped the both the semiconductor and computing industries. Wonder at how annual chip marketing budgets ballooned from \$100,000 to over \$1Billion in less than 20 years.

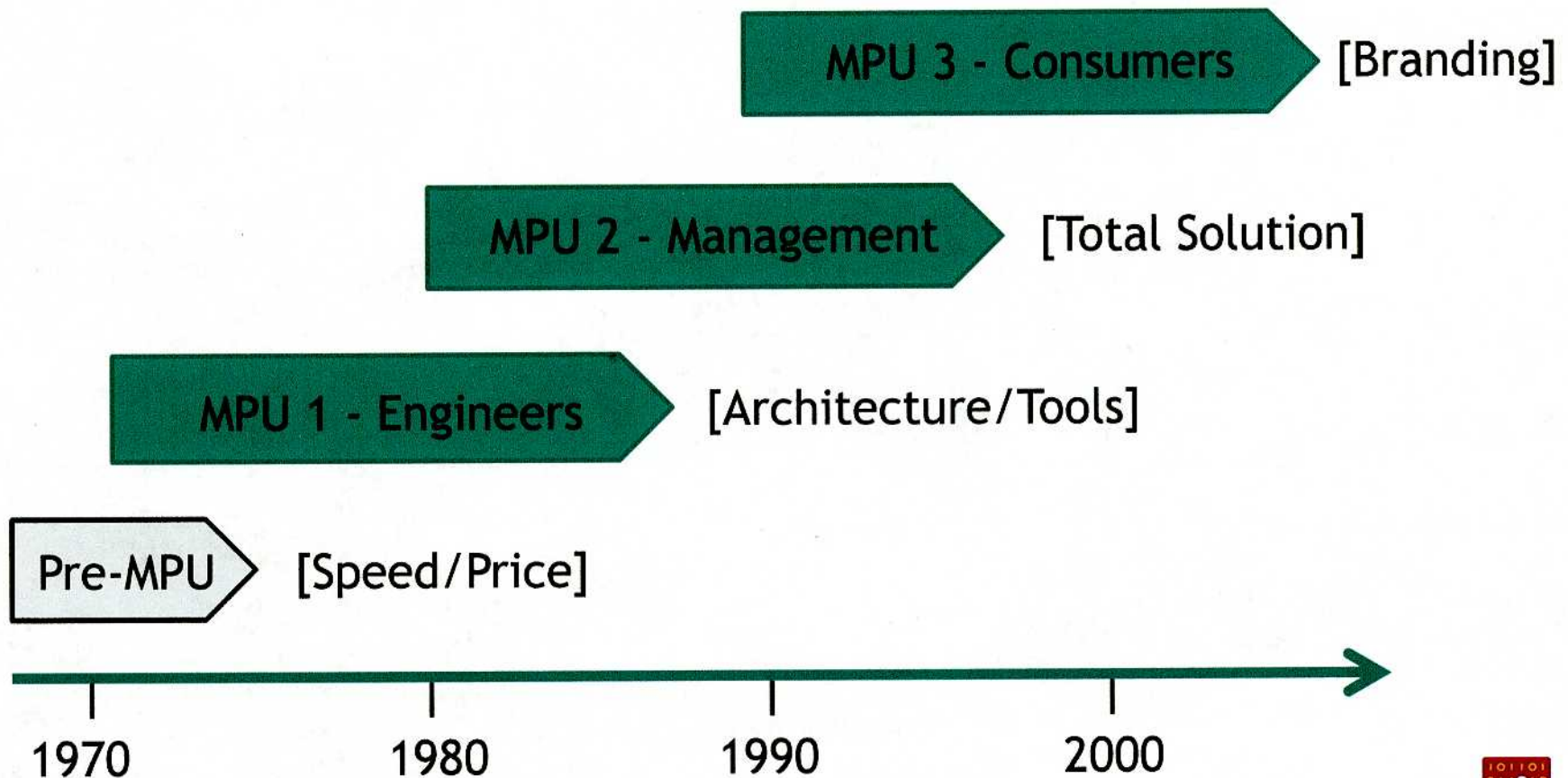
The panelists and moderator for this session were all protagonists in these microprocessor marketing wars at three of the major players: AMD, Intel and Motorola.

Speakers and Panelists:

- Jack Browne: Hi End Microprocessor Marketing Manager, Motorola, 1981-1992
 - Dave House: Intel SVP - General Manger, Microprocessor business, 1978-81, 1982-91
 - Claude Leglise: Intel 8086-8088-286-386-486 Marketing Manager, 1982-1990.
 - Melissa Rey: Intel Senior Marketing Communications Manager, Intel X86 (8086 through the 386) communication programs. 1978-1988
- Moderated by David Laws: AMD (1975-1986) V.P.Business Development

Join us for this informative and engaging discussion as the Computer History Museum continues celebrating the Salute to the Semiconductor.

Microprocessor Marketing Wars: Phases



The Evolution of Microprocessor Marketing

	Relevant notes	Competitors
<p><u>1970s: Selling to Engineers</u></p> <p>Competition on the basis of chip technical specifications</p> <p>Key elements of mix:</p> <ul style="list-style-type: none"> • FAEs • Datasheets • Development tools 	<p>Z80: single 5 volt power supply (1976)</p> <p>6502: \$25 vs. \$149 8080</p> <p>Launch campaign: \$125K</p>	<p>Fairchild (F8)</p> <p>Intel (8080)</p> <p>MOS Technology (6502)</p> <p>Motorola (6800)</p> <p>Texas Instruments (TMS1000)</p> <p>Zilog (Z80)</p>
<p><u>1980s: Selling to Management</u></p> <p>Competition on basis of total solution, targeting engineering management and ultimately CEO</p> <p>Key elements of mix:</p> <ul style="list-style-type: none"> • Architecture specialists • Software • Executive relationships 	<p>1980: In-Circuit Emulator, development system, peripheral chips, compilers, etc</p> <p>1983: 32 bits, software compatibility (Motorola, National)</p> <p>1985: Architecture wars, Unix</p> <p>RISC vs. CISC</p> <p>Late '80s: CEO decision</p> <p>386 launch budget: \$xM</p>	<p>AMD (x86)</p> <p>Digital Equipment</p> <p>IBM</p> <p>Intel</p> <p>MIPS</p> <p>Motorola</p> <p>National</p> <p>NEC (x86)</p> <p>Sun</p> <p>Zilog (Z8000)</p>
<p><u>1990s: Selling to End Users</u></p> <p>Going beyond customers and taking brand and product decision directly to consumers</p> <p>Key elements of mix:</p> <ul style="list-style-type: none"> • Mass media • Branding 	<p>Red X campaign to obsolete 286 (1989)</p> <p>The Computer Inside: fly inside the PC (1992)</p> <p>Pentium: first name for microprocessor (1993)</p> <p>Intel audio "bong" (1995)</p> <p>Intel Inside budget: \$100 in 1991, >\$1B late 90s</p>	<p>AMD</p> <p>Cyrix</p> <p>NexGen</p> <p>Transmeta</p> <p>VIA</p>

Microprocessor Marketing Wars - Key Dates (1971 – 1999)

- 1971 4004 intro
- 1972 8008 intro
- 1973
- 1974 8080 intro (May)
Motorola 6800 intro
4040 intro
- 1975 Altair intro - 8080 (January)
AMD 2901 intro
AMD 8080 intro
- 1976 8085 intro
Z80 intro
TMS 9900 intro
- 1977 Apple II intro - 6502 (April)
TRS-80 intro - Z80 (August)
- 1978 8086 intro
- 1979 8088 intro
Z8000 intro
Motorola 68000 intro
- 1980 Operation Crush (Intel vs. Motorola & Zilog)
- 1981 IBM PC intro - 8088 (August)
- 1982 286 intro
186 intro (with 5 page solutions ad. Note: 1)
Motorola 68010 intro
National 32000 intro
Intel/AMD x86 license agreement
- 1983
- 1984 Macintosh intro - 68000 (January)
IBM PC/AT intro - 80286 (August)
68020 intro
32032 intro
- 1985 Intel "Religious" ads. Note 2.
386 intro (October 15) With 3 page "worth the wait" ad. Note 3
November Windows 1.0 ships
- 1986 MIPS R2000 intro (January)
Compaq DeskPro 386 intro (July)
- 1987 IBM PS/2 intro - 8086, 286 & 386 (April)
68030 intro
SPARC 86901
- 1988 88000 intro (April)
MIPS R3000
SPARC TC601

- 1989 486 intro (April)
i860 intro (February)
Red X campaign starts: "Now get 386 system performance at a 286 system price."
- 1990 Power 1
64040
- 1991 AMD 386 intro
Launch of Intel Inside program (May)
- 1992 DEC Alpha
Micro SPARC
Cyrix 486/386 intro
Judge rules AMD gets 386 microcode but not Intel design (February)
- 1993 Pentium intro
MIPS R4000
Power PC 601, 603
- 1994 Ultra SPARC
Power PC 604, 620
68060
- 1995
- 1996 Power PC 604e
AMD K5 intro
Pentium MMX intro in October (1st CPU sold with apps)
- 1997 AMD/Nexgen K6 intro
Cyrix merged with National
- 1998
- 1999 AMD K7 Athlon intro

Melissa's Notes

- 1) We introduced the 186 and the 286 in a 5 page ad; this had never been done before. Jeff Miller wanted stand alone ads and Chiat Day and I wanted the contiguous spread ad, we elevated the discussion to Davidow and he agreed with our strategy. The ad ran in November of '82. This was the first ad that talks to the engineer as a person, a regular consumer.
- 2) The Religious ad (ran in August) was our boldest ad; it was 8 pages long. It was a placeholder ad and it was a positioning ad, the first ad to speak to the investment in software, the complete solution, guarantee of a safe future (486), and completeness and compatibility to protect investment.
- 3) On a PR level, this was our most elaborate intro. We introduced the 386 at the De Young Museum in San Francisco, and then in Europe and Japan. From an advertising perspective, we went dark right before the intro, no advertising of any products anywhere. The 386 was a 3 page ad; headline" By September 30, 1985, 30 Major Corporations Had Already Committed \$75Million To A 32-Bit Microprocessor that Didn't Exist.....It was worth the wait." We also started running a series of customer testimonials. The strategy was to position our architecture, cost, capacity and brand preference.

MPU Marketing Wars notes

Zilog Z8000 [circa 1977]

From: Z8000_1 oral_history 2007 102658075_js db js ms_bp

Faggin: [pg 15] ... we were still in the design phase of the Z8000 when Intel announced the 8086 and so that was a blow for us a bit because we were not first with the 16-bit. It was my desire to be first. That's why I started the process even before the Z80 was done. But unfortunately it took a long time to get to silicon on the Z8000. And so we were second to market. On the other hand, as we took a look at the 8086 we became convinced that the Z8000 was far superior architecturally and also it was a much smaller chip and our spec was higher speed than the 8086, so that we can actually have a very competitive run.

Faggin: there is a point where architecture and design and any technical issue is not sufficient to break into the market, that being first and having the strongest marketing and the strongest momentum there is what makes a company win.

Peuto: When I talk about my years at Zilog my answer is always I learned how important marketing was because fundamentally Intel, with Operation Crush and Motorola with their 'Push' essentially squeezed us in some sense. There is also even more statement that can be made about that because, as you remember, the story repeated itself with RISC versus CISC where people were pretending that the cleaner architecture of RISC was better than CISC and, guess what? Intel managed to silicon over all the weaknesses of the architecture in order to make it work. So in some sense it has been an incredible lesson for all of us who thought that clean architecture was really, really important and, in fact, it was not as important as we thought

National 32000 [circa 1980]

From:

http://archive.computerhistory.org/resources/text/Oral_History/NSC_32000/102658246.05.01.acc.pdf

Richard Sanquini: [pg 2] ... The Series 32000 was the world's first commercially available 32-bit general purpose microprocessor family. And a lot of the pundits that were out there at the time claimed it was best in breed. And we had some really tough competition. The competition was Intel, Zilog, Motorola, and TI..

[pg 15] And Burroughs had made, from a business perspective, a commitment to completely move over from Intel to the Series 32000. And we had all of their engineering and manufacturing facilities pretty much converted I think. our CEO and his staff, basically, really weren't cognizant of the importance of when you're selling a microprocessor, you're really selling the company. We were blindsided, because we had dealt with, Burroughs, Colorado Springs and Rancho Bernardo. We actually never called on Detroit, where the chairman and the CEO sat. So we never talked to the chairman and the CEO. And actually Grove and Moore made a visit with Jack Bush, who was here previously. He was the account manager for Intel. They convinced them that the 386 was a lot nearer than it really was. But they did that because they had a relationship and what I call a credibility technical backlog with them. So they said, "Don't make the change."

AMD 2900 [circa 1975]

From: http://archive.computerhistory.org/resources/text/Oral_History/AMD_2900/102658341.05.01.pdf

R.C. Ghest: [pg 3] ... we started with a very small amount of capital, we didn't think that we could produce our own MOS microprocessor. So I advocated that we second source the 8080. But because we had a lot of expertise in bipolar, with the 9300 series and a variety of proprietary products, I thought that in the high-speed bipolar area, we could go our own way and build a bipolar microprocessor chipset. ... So we decided on a 4-bit high-speed bipolar processing unit. And that became the 2901.

Springer: [pg 14-15] Well, I remember the date we announced the product. And that was July 21st, 1975.... All the focus was on making a big splash when it came out. And so there was a data sheet to get out, but the basic marketing program was advertising and seminars and out talking to customers and product literature and all that kind of stuff ... It was a three-page ad. I don't think we'd ever run a three-page ad before. And the headline on it was "Bye-Bye MSI." We were claiming a revolution in bipolar technology. ...

Springer: [pg 16] We had an absolutely brilliant ad agency, Keye, Donna, Perlstein. And Paul Keye was the copywriter. They were a consumer ad company. They'd never done technology before. They went on after us to do Continental Airlines or something like that. And they were down in Hollywood. They injected a consumer ingredient in advertising that other semiconductor companies didn't have. So it gave us catchy lines and provocative graphics and all that kind of thing.

Holbrook: [17] Let me expand on what I felt like were the component parts to our success. This family turned out to be very successful. I mean we really penetrated the marketplace. Why did it do that? It wasn't just simply a new widget, and the widget was nice. But it was a lot of other things as well. First, we got an advertisement out there that captured attention. The next problem is the customer base wants to use the widget, well how do I do that? So John Mick co-authored a book on how do you build these things? How do you build a system around this family of products? And that book became a bestseller. I mean, it was widely distributed. And in the years since, I've had any number of people come up and say, "Oh I, you know, I had this book, I read this book. It led me into this and this and this and this." We then fleshed out the family with supporting products around the bit-slice architecture so that it was more and more useful to people. It's a microprogrammable architecture, so there's software that has to be created by the designer. So we provided System 29, a development system, which let the customer base have the necessary tools to design code for the thing. ... So we essentially educated and enabled the audience.

[dl 11.2.09]