

Equity Research
North America

Industry

Internet & PC Applications Software

Mary Meeker
+1 (1)212 761 8042
Mary.Meeker@morganstanley.com

Industry Overview

June 17, 2003

June 2003 — An Update From the Digital World

GICS SECTOR INFORMATION TECHNOLOGY	
US Strategist Weight	16.0%
S&P 500 Weight	16.0%

- Settlement of Microsoft/Netscape lawsuit led us to reflect on the evolution of the commercial Internet**
 In this report we tell a short story of what's happened to date
- Multiple forces appear to be driving a new stage of Internet usage growth**
 Global broadband adoption and improving user experiences are helping pace momentum
- We continue to see Search / Find / Obtain (SFO) as the next "killer application" of the Internet**
 And recent data related to online music — a natural SFO business — give us the sense that music could be a game-alterer in the market
- Internet-related front- and back-end initiatives from Microsoft could bode well for the company over time**
 Including the next releases of Internet Explorer, MSN, and Windows (Longhorn), and ongoing developments to the company's Web services (.NET) efforts
- Internet & PC Applications Software view is Attractive**
 We continue to believe that, at the margin, online is gaining share from offline, that this will occur for some time to come, and that this should benefit the Internet leaders. For our thoughts on companies mentioned in this report, see our company-specific reports.

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June 2003 — An Update From the Digital World

We published our first “Digital World” report in December 2002. We thought there were some major events and inflection points occurring related to the Internet that were underappreciated. In that report, we focused on online vs. offline momentum related to expanded global distribution, lower relative pricing related to transparency and the ramp in the sale of used goods, and the rising impact of replacement products.

In our February 2003 report, we focused on the relevance and magnitude of sellers migrating online, as illustrated by eBay’s momentum.

In our March 2003 report, we focused on what we believe is one of the answers to the “what happened to assist such strong momentum in CQ4:02” question. In addition to improvements in the Search / Find / Obtain (SFO) experiences of the Internet, a key part of the answer may be — the scale and ramp of residential broadband usage. We also focused on what we see as an emerging group of Internet-enabled power consumers.

In our late March 2003 report, we focused on the strong relative results in customer satisfaction that Internet leaders such as Amazon.com, eBay, and Expedia have scored recently in the highly regarded American Customer Satisfaction Survey. Convenience, low (and transparent) prices/pricing, uniquely strong 24x7 customer service, and extensive selection have long been key factors behind the growth for leading online commerce (and information) sites. It’s becoming increasingly apparent to us (and measurable) that these attributes are helping to drive especially strong customer satisfaction and loyalty and that the Internet leaders, owing in part to their technology platforms, may be able to raise the bar on customer satisfaction.

In our April 2003 report we focused on the positive core secular trends in Internet advertising and drilled down on Yahoo! as a proxy and driver of these trends.

In this note we take a different approach and, in effect, tell a short story of the evolution of the commercial Internet to date. In our view, the day (May 29, 2003) that Microsoft (MSFT, \$25, Overweight-V) agreed to pay AOL Time Warner \$750MM to settle a lawsuit related to Microsoft’s Netscape-targeted business practices marked an end,

and a beginning, for the evolution of the Internet. If you already know the history, skip to page 5 for our thoughts on what Microsoft may be up to these days.

Links to aforementioned reports:

http://www.morganstanley.com/institutional/techresearch/digital_world1202.html

http://www.morganstanley.com/institutional/techresearch/digital_world0203.html

http://www.morganstanley.com/institutional/techresearch/digital_world0303.html

http://www.morganstanley.com/institutional/techresearch/online_classifieds1102.html

http://www.morganstanley.com/institutional/techresearch/digital_world03032.html

http://www.morganstanley.com/institutional/techresearch/digital_world0403.html

http://www.morganstanley.com/institutional/techresearch/digital_world0603.html

Teacher (in the year 3000) to Student:

There was a man at the turn of the last century who wrote a check to a company for \$750MM (significantly more in today’s dollars) owing to his aggressive behavior in the past. Yet, in spite of paying such a large sum, he was able to declare victory.

Student to Teacher:

How can that be?

Teacher to Student:

It’s a very interesting story and I’ll tell it to you. But first, you must guess who the person was.

Student to Teacher:

Was it the great philanthropist, Bill Gates?

Teacher to Student:

Yes. He was a very wise, shrewd, aggressive and patient man. He worked very, very hard, in part, because he thought his work was never done. He never lost his passion or drive to expand the presence of his software into many of the products we use today. You may know his company — Microsoft. Now, I’ll tell you the story.

We don’t think much about the Internet today. We take it for granted as nearly everything is connected electronically. But there was a time long ago when things weren’t connected. Here’s how it started . . . Throughout military history, superior communications had been the strategic key to winning wars. And in the 1960s, the US Government was especially concerned about the potential for nuclear attacks on the United States and the Department of Defense developed a special project to create a communications network that would be very robust and would allow

communications across the US, even if a nuclear attack destroyed telecommunications lines.

In 1969 the Department of Defense's Advanced Research Projects Agency (ARPA) created a network that connected four computers in the US. The number of computers on the network grew and in 1972 the first documented e-mail message was sent across what was called the ARPANet. Owing to the efforts of many dedicated engineers, the network continued to develop and ultimately became the Internet. In the early years, this network of networks was difficult to use and costly for anyone other than sophisticated computer scientists. For the next twenty years the Internet was actively used by computer scientists (primarily in government, universities, and computer-related corporations) as a way to communicate their ideas, projects and discoveries.

In the 1980s, Tim Berners-Lee, a physicist and software engineer, became intrigued by the question: "Suppose all the information stored on computers everywhere were linked?" And, in 1990, he helped create a system that included a browser (he called it WorldWideWeb), an addressing scheme (called a Universal Resource Locator or URL), and formatting protocols — HyperText Transfer Protocol (HTTP) and HyperText Markup Language (HTML) — that allowed users to access data and information stored on computers attached to a network. He and his team developed this part-time while he was working at CERN's nuclear supercollider facility in Geneva, Switzerland, and he had varying degrees of support for his project. That said, his accomplishments were significant as he basically created a framework and protocols to effectively access information stored on computers. This had been a holy grail for computer scientists for decades...

In the early 1990s, Marc Andreessen, a computer science student at the University of Illinois, working in the school's National Center for Supercomputing Applications (NCSA), was an active user of the Internet. Along with a team of colleagues, he created a Web browser called Mosaic, which was released for free download on the Internet in April 1993 to a potential audience of 90MM desktop computer users. Jim Clark, a technology industry pioneer, was captivated by Mosaic. He initiated a business partnership with Andreessen and they co-founded a company that ultimately became Netscape.

Netscape began to charge for its browser (and later, server software) and the company went public in 1995 at a

valuation of \$1B. The IPO, based on valuation, first-day appreciation, and general interest, was extremely successful. At the time of the IPO there were fewer than 5MM Internet users. Eight years later, in 2003, there were more than 600MM Internet users worldwide. Also, at the time of the IPO there were about 150MM personal computer users, but the vast majority of the PCs were not set up to communicate with other PCs or devices. A combination of two things began to change this.

First, America Online (later AOL), founded by Steve Case in 1985, had launched an easy-to-use product called an online service, which had gained traction with more than 3MM users in the US in 1995. This service allowed PC users to dial into the company's servers using a telephone line and connect to other online users via email. It also allowed users to connect to AOL's growing offering of information on its own servers. Second, after the successful debut of Netscape's browser (later called Navigator), thousands of Internet Service Providers (ISPs) began to emerge that allowed PC users to easily connect their PCs to the Internet using the easy-to-use browser.

Bill Gates' Microsoft was caught somewhat by surprise at the rapid ramp of Internet usage and the rapid emergence of companies such as AOL and Netscape — and Microsoft was very threatened by these companies. If Netscape and AOL continued to succeed, Microsoft's dominant position in computer software (as a front- and back-end player) could be dramatically eroded in 5–10 years. In fact, in 2002 — just seven years after the Netscape IPO — Morgan Stanley noted that there were more Internet users (640MM) than PCs in use (600MM). Microsoft knew that it was at risk of ceding control of the operating system from the desktop to the network, and of having Netscape and AOL do to it what it had done to IBM. (IBM had dominated the computer hardware and software market from the 1950s into the 1980s. But then Microsoft took over the leadership role in the industry through its dominance in what would become a larger desktop computing market vs. the minicomputer and mainframe computing markets that IBM had dominated.)

Microsoft reacted by doing several things. First, in 1995, it launched an online service (called MSN) targeted at AOL. Second, on December 7, 1995, the company outlined its strategy to launch a browser (called Internet Explorer) and related products, targeted directly at Netscape (and indirectly at AOL and Sun Microsystems, which had developed the popular Internet software programming language, Java). Microsoft intentionally made this

announcement on the anniversary of the Japanese attack on Pearl Harbor, to symbolize that Netscape had “awakened a sleeping giant” as Japan had done with America in 1941. Third, in addition to impressive and dedicated product development efforts, Microsoft began to use aggressive tactics to compete against AOL and Netscape with: 1) pricing (in part by giving its Explorer browser away, which, in effect, fired a direct salvo at Navigator, Netscape’s primary revenue generator); 2) customer relationships (including a 1999 trade with AOL in which Microsoft gave AOL a spot on the Windows desktop in exchange for AOL’s including the Explorer browser in the AOL online service); 3) product integration (including integration of Explorer into the Windows operating system); and 4) other efforts.

Owing in part to legal wrangling in the 1980s related to the derivation of the graphical user interface (GUI) that was integral to the success of the Windows operating system, Bill Gates learned early in his career that it was prudent to effectively assess risk and reward related to the future potential value of business opportunities vs. the future potential costs.

Following the 1995 launch of Microsoft’s browser — which was later included with most PCs at the time of shipment and operated very effectively with Microsoft’s Windows operating system — Explorer began to quickly gain share vs. Netscape’s Navigator. By 1999, Explorer had garnered browser market share in excess of 50%; as of 2003, Microsoft’s market share exceeded 95%.

Executives in California’s Silicon Valley (in addition to executives at AOL) became increasingly concerned about the competitive threats posed by Microsoft and they began to take action. Netscape’s Jim Barksdale and Sun Microsystems’ Scott McNealy both testified before Congress against Microsoft in early 1998. Barksdale observed, “There is nothing wrong with being a monopoly, but as one in the PC market, [Microsoft has] to play by different rules.” McNealy added that, given the presence of Microsoft operating systems on more than 85% of PCs, the software giant is a monopolist that should be held to rules applicable to companies with overwhelming market dominance. He also said that Microsoft was attempting to leverage its monopoly to establish proprietary standards on the Internet. And, indeed, later (in late 1999), US District Judge Thomas Penfield Jackson declared that Microsoft was a monopolist.

As its market share was eroding, Netscape realized it needed to partner with a stronger company in order to continue to invest in its product development. And AOL’s Steve Case knew that, to compete against Microsoft in the future, he needed to bolster AOL’s technology prowess and pure-play Internet customer base. In late 1998, AOL announced its intent to acquire Netscape. While AOL had evolved into an impressive cash-generating business with more than 18MM paying subscribers at the time of the closing of the Netscape merger, the Microsoft tom-toms were getting louder and louder: Microsoft was increasingly leveraging its technology and dominant position in desktop operating systems to gain presence in key parts of the Internet foodchain.

As the Internet market’s evolution accelerated, both AOL and Microsoft were aggressive about expanding their online and Internet businesses in key areas including email and messaging, with a theme of obtaining and keeping users and finding ways to monetize them later. As examples, AOL bought instant messaging leader Mirabilis (with the ICQ product) in 1998, and Microsoft bought email leader HotMail in 1998.

In early 2000, AOL combined with Time Warner, in a merger born from the perceived need for both companies to have a long-term plan to compete with Microsoft. The information flows of the world were increasingly going digital, and the world was moving to broadband access for digital content. AOL needed an edge, and so did Time Warner. AOL was the leading online access provider in the US, and Time Warner was a leading global content provider (with its print, music, movie, and video franchises). Microsoft was the leading technology company. The question was: Where was the edge? Customers, content, or technology? And, by combining customers and content, could the AOL Time Warner combo fend off Microsoft’s plans?

The merger of AOL and Time Warner was announced and within three months (in March 2000) the US stock market (one of the greatest leading indicators on the planet) began to signal that the economy was going to slow down. And, sure enough, US GDP forecasts for 2001 proved too high, on average by 90% (net, instead of estimated growth of 3.6% for 2001, growth came in at 0.3%), and for the period 1999–2001, 97% of companies in the S&P 500 missed their earnings estimates on the downside. It’s crucial to note that the 1990s proved to be a decade, in general, of very favorable economic conditions: unemployment was low,

wage growth was good, the stock market rose, monetary policy was favorable, the president of the United States (Bill Clinton) played the sax, technology innovation was stunning, productivity gains were impressive, the world was at relative peace — in sum, life was good. Too good. Bottom line, after a prolonged good time, things began to unravel.

As the US stock market began a decline — which in duration and depth was similar only to the post-1929 period (see Exhibit 1) — most businesses began to struggle. And it seemed that the businesses that struggled the most were the ones that had flown the highest, and that had reached the heights most quickly, during the technology boom of the late 1990s. Students of history know that periods of extreme innovation (boom times) are typically followed by busts (as evidenced, for example, by the histories of the gold, railroad, and automotive industries). The late 1990s were no exception. That said, boom times typically occur because of a development that fundamentally changes the way many things are done. And in time, that development typically drives further, ongoing change and disruption, and significant, and selective, wealth creation.

Fast forward to 2001...

Morgan Stanley reckoned there had been two “killer applications” that had helped to drive the Internet’s growth: 1) email (MCI, Lotus, AOL, and Netscape were the catalysts) and messaging (ICQ was the catalyst), and 2) browsing (Netscape was the catalyst).

While Microsoft was not an innovator with these killer applications, it proved to be a fast follower. By the end of 2002, it had significant share in corporate email; in consumer email, with 32% of users vs. 39% for AOL and 30% for Yahoo!; and in instant messaging — excluding mobile phone messaging and paging — with 27% of users vs. 49% for AOL and 25% for Yahoo! (user stats per US Media Metrix, 12/02). And, as noted above, Microsoft launched its Internet Explorer in 1995 and had attained the dominant browser market share by 1999.

By 2002, it was increasingly apparent that a third killer application was emerging. Morgan Stanley called it SFO (Search / Find / Obtain) and its catalyst proved to be Google (in addition to eBay, Amazon.com, and Yahoo!). As the browser was the front-end window into the first generation of the commercial Internet, Search could prove to be the front-end window into the second generation of the

commercial Internet which is just beginning. In part, the Internet was becoming one big database of digital data and the opportunity for effective front-ends for searching the data was compelling.

Per the US Department of Commerce, eCommerce revenue (Find / Obtain) grew 26% Y/Y in 2002 vs. 3% for commerce in general, and it represented an estimated 1.3% of commerce. eCommerce, though its absolute impact was in an early stage, had clearly become an important growth market. In addition, growth for Search, in general, was impressive. No doubt the momentum of SFO caught Bill Gates’ interest. Given Microsoft’s leadership with its browser, the company, in part, could determine where Internet users were going by what they typed. For example, if you wanted to go to a Web site and you typed just (for example) “Coca-Cola” into Explorer, instead of going to www.coca-cola.com you were taken to Microsoft Search and then typically given the option to click through to the site.

Microsoft’s market share in Search stood at 20% of usage minutes in 2002, vs. 32% for Google, 25% for AOL, and 23% for Yahoo! (per US Media Metrix, 12/02). And its market share was negligible in eCommerce (Find / Obtain), where the leaders were eBay, Amazon.com, Yahoo!, and USA Interactive. In addition, Google was a semi-stealth player as a significant lead (customer) generator to eCommerce companies.

But Microsoft was tactically working on its plans to more aggressively enter the SFO markets. Rumblings indicated that the company would begin to show more SFO cards with its next launches of MSN and Internet Explorer, perhaps in the second half of C2003. Gates’ enthusiasm about eCommerce opportunities was evident based on his comments about Microsoft’s plans for Web services with XML at the core. The net goal was to enhance the Windows, Internet Explorer, and MSN front-ends with better search, and to enhance the back-end with .Net Web services. And if online business was indeed going to continue to gain share from offline business, Microsoft was potentially going to be in the front, back, and middle of the related growth.

Two key developments in the first half of C2003 gave a sense of what was to come on the Internet. First, broadband hit critical mass with an estimated 44MM global residential subscribers at the end of 2002, and growth was strong as the subscriber count rose 57% Y/Y in the US in CQ4:02 despite a challenging economy. And then, in CQ2:03, Apple

(covered by Rebecca Runkle) introduced an online for-pay digital music service that grew very rapidly, in part because the rising availability of broadband access had cranked up the size of the potential market for such a service.

And perhaps Bill Gates saw his opening...

On April 28, 2003, Apple (spearheaded by founder Steve Jobs) launched its pay-for-digital-music (aka legal) Web site called the iTunes Music Store. Apple had already experienced success with its super-hot iPod portable music player — a new and exciting product that allowed the user to carry a jukebox with thousands of favorite songs in his or her pocket. As of CQ1:03, Apple had sold 668K iPods (of which an estimated 70% were Macintosh-based, with the rest Windows-based). Within five weeks of the store launch for Macintosh iPod, Apple sold 3.5MM songs (at \$0.99 apiece) to its installed base of Macintosh iPod and Macintosh customers.

The iTunes Music Store allowed iPod users with Macintoshes to easily purchase music online and download it to their Macintoshes and Macintosh iPods. And Apple announced plans to launch a Windows-based version of iTunes before the end of 2003.

Let's step back and look at some of the data for online music around the time of the iTunes launch. On the Web, while paid-for music was still in its nascent stages, actual usage of music was far more developed. In February 2003, KaZaA (aka Sharman Networks) — whose Web site, kazaa.com, offered an extensive selection of free digital file downloads — ranked an impressive 18th (according to US Nielsen/NetRatings) among Web sites based on unique visitors, just behind Apple and just ahead of CNET. Based on usage per person, it was in the same league as Yahoo!, Microsoft, eBay, and Earthlink. Yahoo!'s Launch music service ranked #1 in the month of April 2003 (per US Media Metrix) in total usage minutes in the online music category (at 47 monthly minutes per its 9.6MM unique visitors). Yahoo!, in April 2003, had an estimated impressive 120K streaming sessions (up significantly Y/Y), and that most of the sessions were music videos.

In May 2003, KaZaA announced that its Media Desktop software had become the most downloaded software in history. It had overtaken the previous recordholder, ICQ instant messenger, by reaching 230MM worldwide

downloads — implying that “free music” downloads had reached extraordinarily large levels.

Another related market — for mobile phone ringtones — had also surprised many with its size. Ringtones accounted for an estimated \$1.3B in sales in 2001 in Europe and Japan according to EMI Recorded Music, with Japan being roughly equal to the size of the European market. In several markets (such as Japan and Korea), many cellular carriers were seeing their most robust growth driven by ringtones, assisted by their micropayment billing infrastructures. Based on the market sizing estimate for 2001 global sales of \$1.3B and an average price per ringtone of \$1, the actual number of ringtones downloaded in 2001 could have been 1.3B, which compared with Morgan Stanley's 2002E global mobile phone user estimate of 1.2B.

You could say that distributing music on the Internet is a natural — like cash from an ATM. But there were obstacles to be overcome, in particular those related to copyright law and piracy. The entertainment industry and its lawyers struggled to stop the waves and waves of music that were being freely shared and downloaded on the Internet. But they couldn't stop the momentum unleashed by the rapid acceptance of the technology underlying wildly popular file-sharing services like Napster. The entertainment industry wanted to make some money from its content. The stakes were high and aggressive bets were made. Most notably, AOL and Time Warner hoped that their merger would allow them to lead the way in capitalizing on the growth prospects for digital content. But no one seemed able to find a formula that would simultaneously please the entertainment industry, artists, and consumers — until Apple did.

Apple was in a unique spot as it was the vertically integrated provider of the music hardware, software (operating system and jukebox), and service (and store). This helped the company offer its customers a great user experience. In addition, Apple engaged in extensive negotiations with the music industry and emerged as the first company to obtain licensing deals with major music companies to allow it to sell downloadable digital music files (without related subscription services). Post its initial success, Apple focused on growing the songs in its music library (from the 200K songs at launch from the five major music companies including Universal, Warner, EMI, Sony and BMG); and creating and launching faster, better, lighter, more feature-rich (including video, etc.) and storage-rich iPods.

Bottom line? Apple had launched a business that, in spirit, reminded one of the early (and glory) days of America Online's online service. Throughout most of the 1990s (as its customer base rose from 170K in early 1992 to nearly 24MM in December 1999), AOL, to the surprise of many, built its business based on simplicity, ease of use, and focus on the average consumer. And, yes, a key point of the merger of AOL and Time Warner was that AOL was supposed to be in a spot of mojo (leading in areas like for-pay music) by 2003 — but that's another story for another time.

Enter Bill Gates...

He likely looked at the online music market and ran some numbers. The size of the global recorded music market was \$32B in 2002 and 2.3B CD albums and 265MM CD singles were sold worldwide, according to the International Federation of the Phonographic Industry. Per Morgan Stanley's Enterprise Hardware analyst Rebecca Runkle, assuming 13 songs per CD, that made for roughly 30B songs sold in 2002. And this 30B number did not include the billions of songs downloaded on the Internet. Net, on a unit basis, it was a huge market . . . and one ideally suited for the Internet as a distribution platform. See Rebecca's report: 'Apple Computer: Is the Street Out of Tune?'

http://www.morganstanley.com/institutional/techresearch/digital_world0603.html

Digital music was also potentially a very large market from a distribution standpoint. In other words, Search / Find / Obtain (SFO) — music lovers want to find music as efficiently as possible and listen to it at their convenience. Microsoft recognized that its momentum in the emerging market for SFO wasn't on par with that of Google, Yahoo!, eBay, and Amazon.com, and it was trying to find its edge of the wedge. And, suddenly, presto, chango . . . perhaps music could be the way to expand Microsoft's SFO presence. Music was a massive market based on units, nearly everyone listened to music, new songs were released continuously, it was digital — and, prior to Apple's breakthrough, it was a total hassle for users. The infrastructure was in place that should have allowed a person who wanted to listen to The Who's "My Generation" to be able to SFO it in seconds. But for most people it didn't work that way. And then Apple created its SFO magic for music. And, for the recording industry — finally — the genie was out of the bottle and it wasn't going back.

Bill Gates saw the emerging market for pay-for digital music file downloads as a potential way to get into the SFO market in a big way. If Microsoft could dominate the market for Digital Rights Management (DRM) technology AND searching for music (and content) AND micropayments — well, the company could eliminate a lot of anxiety about where its future revenue growth would come from. And Microsoft could potentially leverage its already impressive presence as a Web destination and browser provider more effectively into search and eCommerce, combined with the company's emerging Web services (.NET) efforts. The company was planning to launch a bevy of new products in the next few years, including new versions of Explorer and MSN and Windows (Longhorn). For Longhorn specifically, the product was planned to ship in 2005. The product was slated to feature improved/enhanced: security; media playing and DRM; search (on and off the networks); messaging; and an overhauled file system. In short, the goal of the product was to more effectively allow users to link to more and more information.

And this gets us back to where we started. Bill Gates paid \$750MM to AOL Time Warner to settle a lawsuit and declared victory?

Yes. Microsoft, in effect, paid AOL Time Warner \$750MM in arrears for the opportunity it had to defeat Netscape in the Internet browser and software wars of the late 1990s. Some comps: Netscape went public at a valuation of \$1B in CQ3:95; hit a peak annualized revenue run rate of \$650MM in CQ4:98; and was sold to AOL in March 1999 at a valuation in AOL shares at the time of \$10B (up from a valuation of about \$4B in November 1998, when the merger was announced). As for Microsoft: its MSN/Internet business (as of CQ1:03) was operating at a \$2B revenue run rate; all in, it sold its shares of online travel leader Expedia for about \$2B; it had 90%+ share in the Web browser market; it was neck-and-neck with Yahoo! and AOL in the Internet/online user count; and its business outlook for its Internet business was quite strong.

In addition, AOL Time Warner and Microsoft agreed to a new digital media / digital rights management initiative (which may use the Windows Media Player as a vehicle to deliver new technology). Under the agreement, the companies could work together on a series of initiatives to support the more rapid deployment of digital media for consumers, and to support new business models for content owners through digital rights management technology (this could accelerate the overall adoption of digital content,

while providing protection against digital piracy). This aspect of the deal, given the underlying potential for digital media (and the related SFO aspects), could be a key win for Microsoft. The companies also agreed to a new royalty-free, seven-year license of Microsoft's browsing technology and a variety of steps designed to ensure that their products work better with each other.

All the details here weren't available and everyone knows that press announcements aren't always connected with actual deliverables later. But if AOL Time Warner did indeed assist Microsoft in its digital media efforts and related SFO, DRM, and micropayment efforts, then Microsoft received a double win in the settlement. And, the reality was that the rapidly-changing "content" business may have finally received the kick it needed to drive future growth and faced the fact that change was inevitable.

So, that's the story for now. I'll come back later and tell you what happened next — it's very dynamic and interesting...

Student to Teacher:

Thanks for the history. I've decided that I'd like to be a monopolist in the technology industry. That will allow me to build a great business (and create significant wealth). It will also give me the flexibility to take (and fund) a very long-term approach to growing the business. And I want to be a business leader who is paranoid that some new technology will come along any day that could obsolete my business, so that I'm constantly focused on improving both the near-term and long-term outlook for my company. And, subsequently, I will keep winning and my company will continue to create shareholder value — which will help allow me to keep hiring and maintaining the most talented people — which, in turn, will allow me to keep advancing my company and my industry...

And, by the way, didn't someone say that "music is the universal language of mankind..."? And can I message you when I have questions?

Teacher to Student:

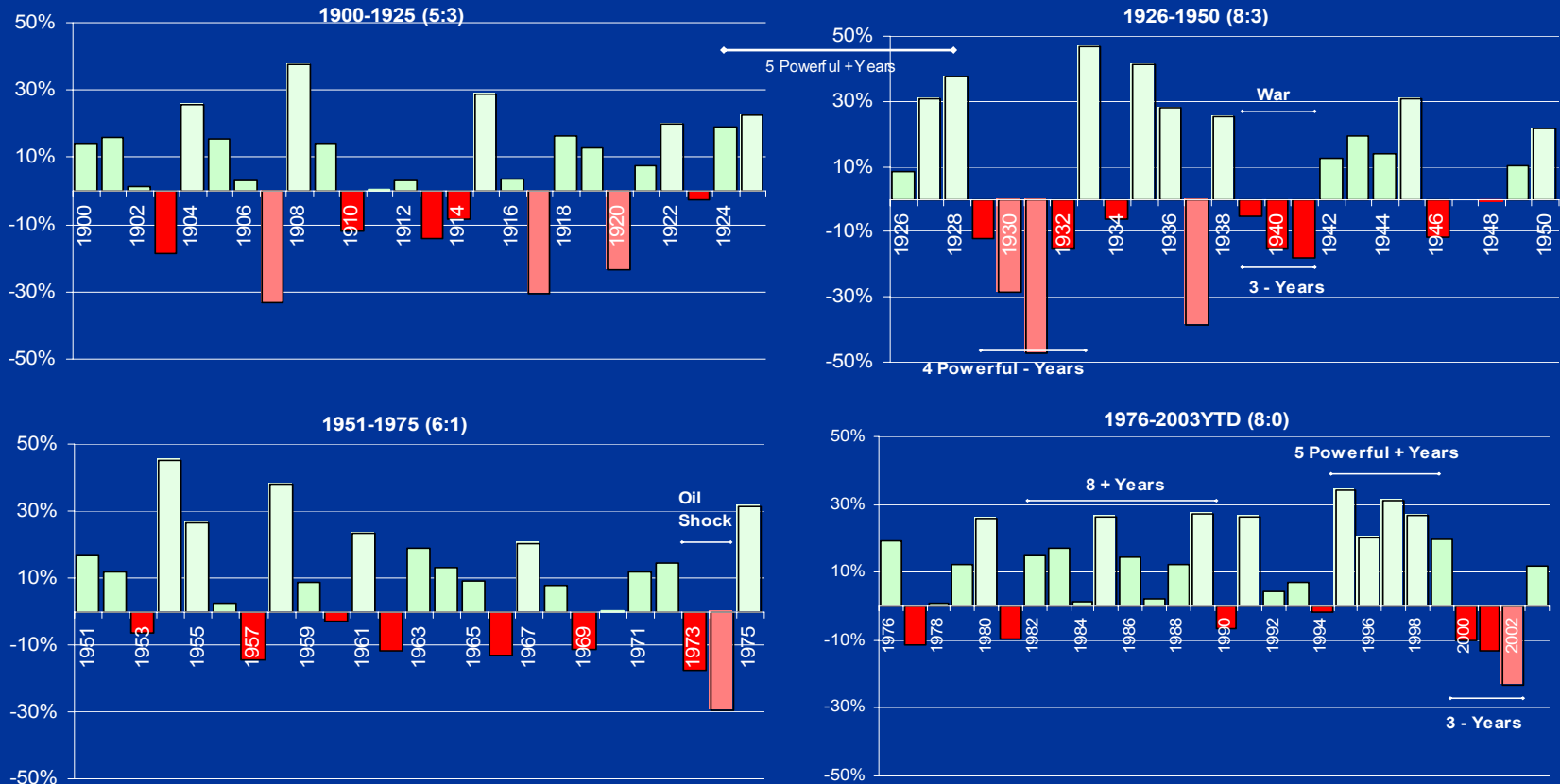
Henry Wadsworth Longfellow made the comment about music and, regarding messaging — nope, I gave it up years ago... ;)

Exhibit 1

Performance of S&P Composite Was Very Strong in 1980s and Especially Strong in 1995-1999

From 1995-1999, S&P Composite averaged 25% compound annual return — highest consecutive returns from 1900-2003YTD (only close comparison was 1924-1928 when the average compound annual return was 24%). 23% decline in 2002 was greatest annual decline in quarter of a century (since 1974 when the oil shock occurred).

S&P Composite Stock Price Returns, 1900-2003YTD (6/10/03)



Diagonal hash bar denotes year when S&P Composite rose/fell in excess of 20%. Also noted ratios equal number of years during period that S&P Composite rose 20%+ compared with number of years S&P Composite declined by 20%+. Source: Morgan Stanley Research; data exclude dividends

Source: Morgan Stanley Research

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The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report: Mary Meeker

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As of May 30, 2003, Morgan Stanley beneficially owned 1% or more of a class of common equity securities of the following companies covered in this report: Amazon.com, Yahoo!, eBay, Microsoft.

Within the last 12 months, Morgan Stanley has received compensation for investment banking services from AOL Time Warner Inc..

In the next 3 months, Morgan Stanley expects to receive or intends to seek compensation for investment banking services from AOL Time Warner Inc., Amazon.com, Yahoo!, eBay, Microsoft.

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An employee or director of Morgan Stanley & Co. Incorporated and/or Morgan Stanley DW Inc. is a director of AOL Time Warner Inc..

Morgan Stanley & Co. Incorporated makes a market in the securities of Amazon.com, Yahoo!, eBay, Microsoft.

Global Stock Ratings Distribution*(as of May 31, 2003)*

Stock Rating Category	Coverage Universe		Investment Banking Clients (IBC)		
	Count	% of Total	Count	% of Total IBC	% of Rating Category
Overweight	549	30%	223	37%	41%
Equal-weight	858	47%	276	46%	32%
Underweight	416	23%	107	18%	26%
Total	1,823		606		

Data include common stock and ADRs currently assigned ratings. For disclosure purposes (in accordance with NASD and NYSE requirements), we note that Overweight, our most positive stock rating, most closely corresponds to a buy recommendation; Equal-weight and Underweight most closely correspond to neutral and sell recommendations, respectively. However, Overweight, Equal-weight, and Underweight are not the equivalent of buy, neutral, and sell but represent recommended relative weightings (see definitions below). An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations. Investment Banking Clients are companies from whom Morgan Stanley or an affiliate received investment banking compensation in the last 12 months.

Analyst Stock Ratings

Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U). The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

More volatile (V). We estimate that this stock has more than a 25% chance of a price move (up or down) of more than 25% in a month, based on a quantitative assessment of historical data, or in the analyst's view, it is likely to become materially more volatile over the next 1-12 months compared with the past three years. Stocks with less than one year of trading history are automatically rated as more volatile (unless otherwise noted). We note that securities that we do not currently consider "more volatile" can still perform in that manner.

Unless otherwise specified, the time frame for price targets included in this report is 12 to 18 months. Ratings prior to March 18, 2002: SB=Strong Buy; OP=Outperform; N=Neutral; UP=Underperform. For definitions, please go to www.morganstanley.com/companycharts.

Analyst Industry Views

Attractive (A). The analyst expects the performance of his or her industry coverage universe to be attractive vs. the relevant broad market benchmark over the next 12-18 months.

In-Line (I). The analyst expects the performance of his or her industry coverage universe to be in line with the relevant broad market benchmark over the next 12-18 months.

Cautious (C). The analyst views the performance of his or her industry coverage universe with caution vs. the relevant broad market benchmark over the next 12-18 months.

Stock price charts and rating histories for companies discussed in this report are also available at www.morganstanley.com/companycharts. You may also request this information by writing to Morgan Stanley at 1585 Broadway, 14th Floor (Attention: Research Disclosures), New York, NY, 10036 USA.

Other Important Disclosures

For a discussion, if applicable, of the valuation methods used to determine the price targets included in this summary and the risks related to achieving these targets, please refer to the latest relevant published research on these stocks. Research is available through your sales representative or on Client Link at www.morganstanley.com and other electronic systems.

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The Americas

1585 Broadway
New York, NY 10036-8293
United States
Tel: +1 (1)212 761 4000

Europe

25 Cabot Square, Canary Wharf
London E14 4QA
United Kingdom
Tel: +44 (0)20 7513 8000

Japan

20-3, Ebisu 4-chome
Shibuya-ku,
Tokyo 150-6008, Japan
Tel: +81 (0)3 5424 5000

Asia/Pacific

Three Exchange Square
Central
Hong Kong
Tel: +852 2848 5200