MORGAN STANLEY

U.S. Investment Research

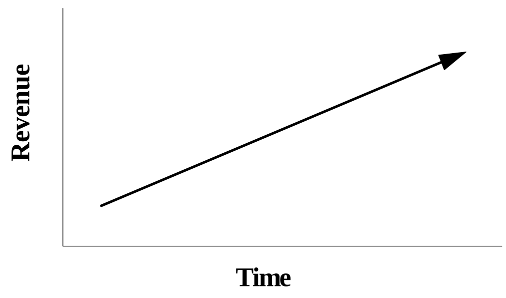
December 1996

Technology: Internet/New Media

Mary Meeker (212) 761-8042
mmeeker@ms.com

The Internet Advertising Report

The Good News:
Most Charts in This Report Look Like This One



Contributing Analysts:

Doug Arthur, Publishing (212) 761-4441
arthurd@ms.com
Chris DePuy, Internet Infrastructure (212) 761-6562
depuyc@ms.com
Michael Russell, Advertising (212) 761-6352
russellm@ms.com

This report will be downloadable from Morgan Stanley's Web site (www.ms.com) in early January 1997.

- **One of the big unknowns concerning the Internet is Internet-based advertising. Will it work? How big could it be? How much money will companies spend to deliver advertising messages to potential customers? Is it much ado about nothing? Or is the Internet spawning the next mass medium? And what's the likelihood of an Internet bandwidth meltdown, anyway?**

- **In our opinion, there are currently three good public-market proxies for the growth trends in Internet-related advertising: CNET, Yahoo! (which we don't cover), and America Online.**

- **In this report we describe the trends, the terminology, and the outlook for Internet-based advertising. Based on our review of the development of new media in the past, we conclude that, in time, the opportunity for advertising and direct marketing on the Web will be significant. Even so, there will be fits and starts along the way.**

- **See our report on CNET for more details on the financial operations of a leading advertising-based Internet company.**

The Internet Advertising Report — Table of Contents

Overview

December 1996

Technology: Internet/New Media

Mary Meeker (212) 761-8042
mmeeker@ms.com

The Internet Advertising Report

Overview

Background Thoughts

By our math, one Internet year equals three PC years (imagine going from the 386 chip to the Pentium Pro in 12 months!). Just one year ago, we spent a lot of hours describing exactly what an Internet browser did and why it was, well, *cool*. Now, a little over a year later, more than 46 million people are using Netscape's Web browsers. Clearly, we can move from great unknowns to mass consumption very quickly these days. It took the world 15 years to go from fewer than 1 million PC users to 150 million (1980–95) — we estimate that in no more than five years, the number of Internet users will jump from less than 1 million to about 150 million (1995–2000). Since 15 years divided by five years equals three years, one could say that it's kind of a dog's life to live at the Internet's pace.

Following our report of one year ago — Morgan Stanley's "The Internet Report" — we think that enough visibility has developed that we can now more closely examine one of the biggest unknowns in the Internet arena — advertising. In this report, we will try to answer a number of key questions: Will Internet-based advertising work? How big can it be? How much money will companies spend to deliver advertising messages to potential customers? Is there lots of excitement over a lot, or very little? Is the Internet spawning the next mass medium? And, as demand for Internet services continues to surge, what's the likelihood of an Internet bandwidth meltdown, anyway? Based on our review of the development of new media in the past, we conclude that, in time, the opportunity for advertising and direct marketing on the Web will be significant. Even so, there will be fits and starts along the way.

Public Market Proxies for Internet Advertising Trends

In our opinion, there are currently three good public-market proxies for the growth trends in Internet-related advertising: CNET, Yahoo! (which we do not cover), and America Online. Watching these three companies should give investors a good feel for the health and direction of the Internet.

CNET, which went public in July 1996, is the first public company that is a pure play on Internet content. The company generates revenue largely from selling advertising for its Web sites, which focus on technology-related news and information. CNET supported $2.7 million in September-quarter revenue from Internet advertising (up from zero in the previous year and up 54% on a quarter-to-quarter basis). Traffic (based on average daily page views) grew 13% quarter-to-quarter, to 1.5 million page views per day from 1.3 million in 2Q. CNET had 75 advertisers, up from 64 in 2Q, taking up 78% of available inventory in the period. The CPM (cost per thousand impressions) for CNET.COM remained constant at $75 from 2Q to 3Q.

Yahoo!, a leading search engine and content aggregation site on the Web, went public in April 1996. The company supported $5.5 million in 3Q revenue, all from advertising (up 1,815% from a year ago and 68% sequentially). Traffic grew 56% quarter-to-quarter, to 14 million daily page views from 9 million in 2Q. Yahoo! had 340 advertisers, up from 230 in 2Q. We estimate that, based upon its revenues, page views, and CPMs, Yahoo! was able to sell about 25% of available inventory in the quarter. We estimate that the average CPM for Yahoo! in 3Q was $23, compared with $20 in 2Q.

America Online, a public company since March 1992, is the largest Internet online service, with more than 7 million subscribers. In 3Q the company supported $5.2 million in revenue related to advertising (up 845% year-over-year and 79% quarter-to-quarter). Traffic grew 15% quarter-to-quarter, to 92 million page views per day (including content, Internet, main menu, and member services). If we included AOL's People Connection (chat) and mail usage, average 3Q daily page views would have been near 166 million. AOL had 50 advertisers, up from 29 in 2Q, taking up 70% of available inventory in the quarter. Average CPM, across various AOL channels/pages, is currently around $45.

As a potential proxy, on an annualized run-rate basis, AOL's advertising business is at nearly the same revenue run rate that MTV's advertising business was in 1983, or at close to half the advertising revenue run rate of the entire cable industry in 1980. In 1983, MTV generated $25 million in advertising revenue; in 1996, MTV (plus VH-1) should garner over $400 million in ad revenue. We think it's important, as well as symbolic, that AOL recently hired Bob Pittman, an early pioneer in the cable industry (and founder of MTV and Nickelodeon), to run AOL Networks.

Table 1

Morgan Stanley Technology Research Recommended Internet Stock Portfolio

	Price (12/6/96)	1996 YTD Return	Mkt. Cap. ($B)	Mkt. Cap./ C1997E Rev.	P/E C1997E
America Online	$39	4%	$4.3	2.5	NM
Ascend Comm.	69	70	8.8	9.5	47
Cascade Comm.	68	199	6.6	11.5	60
Cisco Systems	65	74	43.9	5.7	27
CNET	21	31*	0.3	8.3	NM
Microsoft	76	73	98.3	9.7	37
Netscape	58	(17)	5.3	10.0	105
US Robotics	74	69	7.1	2.2	21
Mean		**63**			

** CNET's public offering was on July 1, 1996, at $16 per share.*
America Online, CNET, Microsoft, and Netscape are covered by Mary Meeker. Ascend, Cascade, Cisco, and US Robotics are covered by George Kelly, Neil Danzger, and Chris DePuy.
E = Morgan Stanley Technology Research Estimate.

For now, we are using advertising trends for CNET, Yahoo!, and America Online to gauge market growth. We like these as proxy companies for several reasons: 1) Based on usage, they are leaders in their spaces — content, search, and online, respectively; 2) they have "skin in the game" — if these companies don't generate revenue from advertising they will have big problems; and 3) general market data in emerging or fragmented markets can be suspect; in other words, we'll take Intel as a proxy for PC unit growth, thank you, and for now we like such companies as CNET and America Online for online/Internet advertising. (In this report, we use the terms "online," "Internet," and "Web" interchangeably, as do most people nowadays, although there are technical differences.)

In aggregate, these three so-called Internet advertising "leaders" generated a puny total of $13 million in Internet-related advertising revenue in 3Q. None of these companies is operating at a profit — cash burn in this area is expected to last for a while — and many advertising-supported Web sites are expected to fail. Heretofore, the advertising model on the Web simply has not worked. Nonetheless, these are early days, and we believe that some big winners in this space will emerge, in time.

An Internet Portfolio

For investors, Morgan Stanley's Internet investment approach continues to focus on a portfolio of companies (Table 1): *Internet infrastructure* companies, such as Cisco, Cascade, Ascend, and US Robotics (followed by George Kelly, Neil Danzger, and Chris DePuy); *Internet software* companies, such as Netscape and Microsoft; and *Internet content/aggregation* companies, such as America Online (Microsoft also fits here). We believe that rounding out an Internet portfolio with certain emerging companies that rely on *Internet advertising,* such as CNET, makes sense.

We have some observations about this portfolio approach. First, these stocks, in general, have performed well, and we believe any investment in the current stock market is a market call as much as a stock call. Second, Internet advertising is still in the very early stages and, in our opinion,

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

WHAT WILL YOU BUILD? | sales@docketalarm.com | 1-866-77-FASTCASE