

Equity Research
North America

Industry

Technology

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Industry Overview

November 23, 2004

CQ3 Positive Tech EPS Surprises at 68%; Negative Surprises at 27%

GICS SECTOR CONSUMER DISCRETIONARY	
US Strategist Weight	10.4%
S&P 500 Weight	11.4%

MORGAN STANLEY US TECH TEAM

Computer Services & IT Consulting

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EMS / Distributors / Connectors

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Enterprise Software

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Enterprise Systems & PC Hardware

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Internet & PC Applications Software

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Semiconductors

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Semiconductor Capital Equipment

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Specialized IT Services

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Communications Equipment

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• 320 (77%) of 414 companies in our Technology Universe have reported CQ3:04 EPS

68% of the reporting companies had positive earnings surprises in CQ3:04 vs. 67% in CQ2:04 and 72% in CQ3:03. Note that the average quarterly positive surprise rate (since 1996) for the third quarter is 65%.

• Earnings misses remain flat at 27% in CQ3

Earnings misses remained in-line at 27% of reporting companies in CQ3, vs. 28% in CQ2:04 but increased from 21% in CQ3:03.

• Groups with the highest number of upside surprise rates:

Internet & PC Applications Software — *Industry View: Attractive*

(81% in CQ3 vs. 56% in CQ2:04)

Enterprise Software — *Industry View: Attractive*

(80% in CQ3 vs. 66% in CQ2:04)

Computer Services & IT Consulting — *Industry View: In-Line*

(76% in CQ3 vs. 74% in CQ2:04)

• Groups with the highest number of downside surprise rates:

Semiconductors — *Industry View: In-Line*

(38% in CQ3 vs. 33% in CQ2:04)

Communications Equipment — *Industry View: Attractive*

(37% in CQ3 vs. 22% in CQ2:04)

EMS / Distributors / Connectors — *Industry View: In-Line*

(35% in CQ3 vs. 26% in CQ2:04)

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CQ3 Positive Tech EPS Surprises at 68%; Negative Surprises at 27%

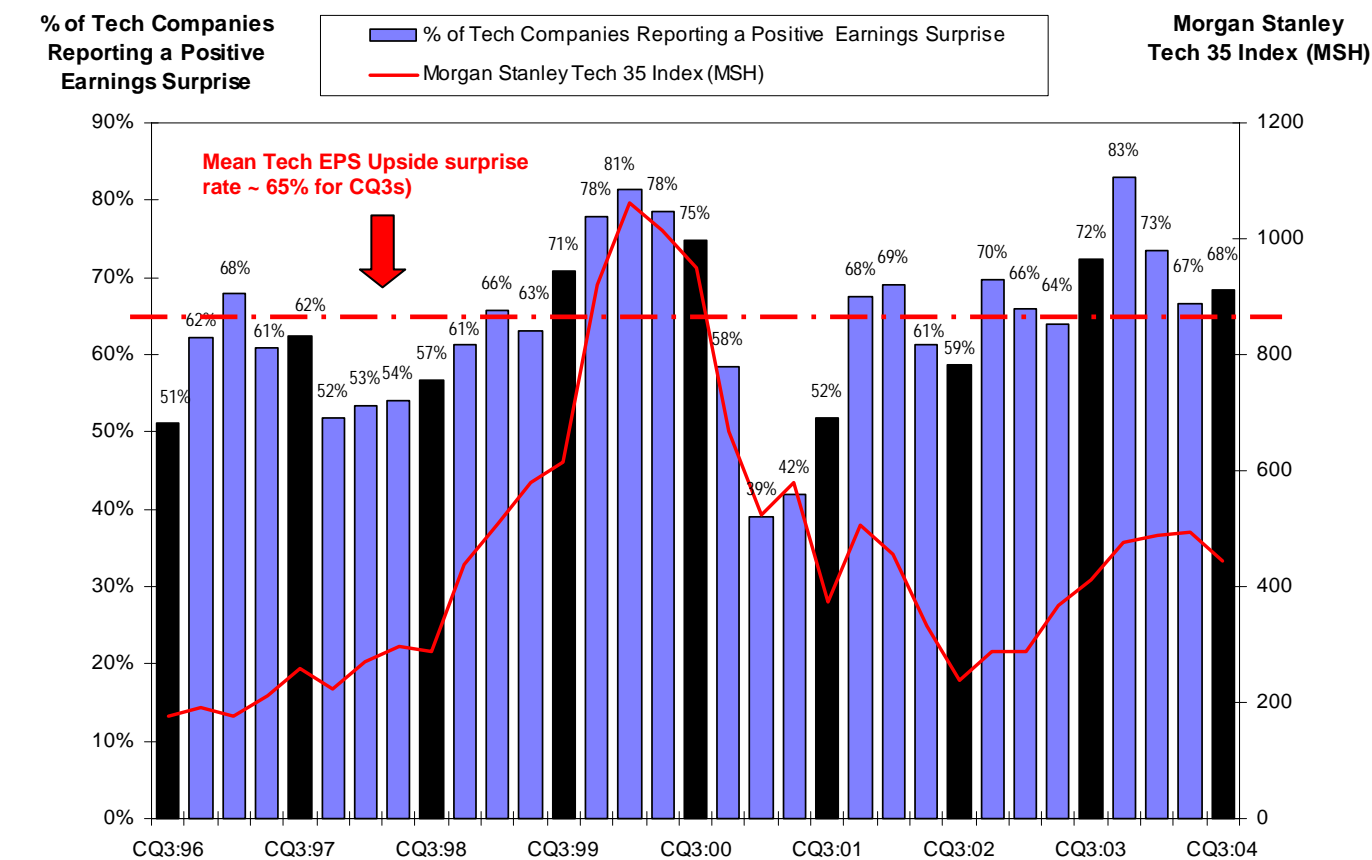
Summary

320 companies in our technology universe of 414 stocks have reported quarterly earnings (including companies with quarters ending in September, October, and November), with 219 companies (or 68%) reporting upside surprises (companies that beat the First Call consensus), 14 companies (4%) reporting in-line results, and 87 companies (27%) reporting downside surprises (companies reporting CQ3 EPS below the First Call consensus).

We have incorporated negative earnings pre-announcements in the September quarter by classifying them as negative earnings surprises even if the company has not yet officially reported its quarterly results, or if the company beats reduced expectations.

Exhibit 1

Percentage of Technology Companies Reporting Above-Consensus Earnings by Quarter Compared to the Performance of the Morgan Stanley Tech 35 Index (See page 10 for a summary of the MSH)



black denotes CQ3s
 Source: FactSet, Morgan Stanley Technology Research

Exhibit 2

Technology EPS Make/Miss Thoughts by Industry Group

Sector	% Companies	
	Above Consensus	Thoughts
Internet & PC Applications Software	81	Earnings predictability improved Q/Q, up from 56% in CQ2:04.
Enterprise Software	80	Earnings predictability improved Q/Q, up from 66% in CQ2:04.
Computer Services & IT Consulting and Specialized IT Services	76	Earnings predictability improved Q/Q, up from 74% in CQ2:04.
Enterprise Systems & PC Hardware	76	Earnings predictability was flat Q/Q, in-line with 76% in CQ2:04.
EMS / Distributors / Connectors	65	Earnings predictability declined Q/Q, down from 74% in CQ2:04.
Communications Equipment	60	Earnings predictability declined Q/Q, down from 68% in CQ2:04.
Semiconductors	56	Earnings predictability declined Q/Q, down from 62% in CQ2:04.
Universe	68%	Earnings predictability increased, with 68% of our Technology Universe reporting positive earnings surprises in CQ3:04— up from 67% in CQ2:04 and down from 72% in CQ3:03. Since 1996, the average CQ3 positive earning surprise rate is 65%.

Notable Group Highlights (Ranked by Above-Consensus Earnings by Quarter)

Internet & PC Applications Software

Mary Meeker, Brian Pitz, Brian Fitzgerald

In CQ3:04, 81% of Internet & PC Applications Software companies reported above-consensus earnings, trending up from 56% in CQ2:04 and from 74% in CQ3:03.

Strong revenue and earnings growth among the Internet names offset CQ3's emergence as a seasonal quarter. In the US and Europe, where computer use (including queries to search engines and purchases online) slows during the summer months, paid search advertising and eCommerce revenues were better-than-expected. We look to Yahoo!, Google and eBay as bellwethers for Internet advertising and eCommerce.

Yahoo!'s global sponsored search revenue was up 6% Q/Q (62% Y/Y) in CQ3:04, compared to flat Q/Q growth (up 81% Y/Y) in CQ2:04. Traditional branded advertising, including rich media and banner advertising, maintained

healthy growth. We note that our estimate of Yahoo!'s CQ3:04 traditional branded advertising revenue (32% of CQ3 total revenue) rose 35% Y/Y (up 5% Q/Q). In our opinion, this momentum demonstrates that traditional advertisers are continuing to ramp their online ad spending.

Google posted an impressive first public quarter, with 101% Y/Y, 19% Q/Q net revenue growth to \$503MM, 84% Y/Y operating income (ex. stock comp) growth with 56% operating margin on net revenue. We are encouraged by these results — particularly so given the company's expectation that CQ3 could be seasonally flat.

eBay's Gross Merchandise Volume (GMV) was up 4% Q/Q growth (up 44% Y/Y), compared to flat Q/Q growth in CQ2:04 and 2% Q/Q growth in CQ2:03. Prior to CQ2:04 and CQ3:04, the strong secular growth of the medium had masked some of the seasonality, in our view, but Y/Y growth rates continue to impress. That said, we believe that the fourth quarter should surprise on the upside, as the effects of seasonality tilt full-bore in the opposite direction — to more Internet usage and online consumption.

We maintain that investors still underestimate the impact the Internet will have in changing business processes and consumer behavior on a global basis. We believe that we are in the early stages of syndicated content on the web,

Technology – November 23, 2004

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with three factors are combining to drive online momentum: 1) rising usage of RSS (Really Simple Syndication) by content providers as a standard distribution platform for online content; 2) ramp in creation of blogs and other user-generated content and 3) Yahoo!'s easy-to-use integration of RSS feeds with My Yahoo!. We see the potential for next-generation content to positively impact Internet leaders including Yahoo!, Google and eBay as they leverage their distribution channels and/or content and services.

The Interactive Advertising Bureau (IAB) and PricewaterhouseCoopers (PwC) reported CQ3:04E US online advertising revenue of \$2.4B rose an impressive 35% Y/Y and 2% Q/Q (in line with expectations of flat-to-low single-digit sequential growth) in a quarter that is seasonally light on queries and Internet usage.

Growth of 35% Y/Y in CQ3:04 compares favorably to growth of 24% Y/Y in CQ3:03, with, all in, revenue growth of 38% Y/Y for C2004 YTD. We believe that online advertising revenue growth could continue to accelerate into C2005E, as marginal advertising dollars are allocated to the medium.

We continue to be optimistic about the prospects for online advertising in CQ4:04E backed by increased Internet usage and search query volume during the holiday season. Macro ad events -- in particular, the recently completed US presidential election -- could provide some upside to our expectations. We believe that datapoints (such as MSN's study with Pfizer indicating that rich media video ads online are on par with TV in terms of generating brand interest) indicating the effectiveness of online advertising will continue to emerge, and should help shift incremental ad dollars online.

We expect to see continued share gains by online at the expense of offline, and continue to believe that a handful of leading Internet companies will be the major beneficiaries of this share shift. We remain optimistic about the outlook for C2005E owing to: 1) growing user bases -- now 800MM+ Internet users worldwide; 2) ongoing dramatic acceptance of residential broadband -- 107MM+ global subscribers in CQ2:04E (up 47% Y/Y); 3) compelling improvements in user experiences and 4) significant expansion of product selection.

Enterprise Software

Ross MacMillan, Evan Bloomberg

In CQ3:04, we saw 80% of software companies announce positive earnings, up from 66% in CQ2:04, and 69% in CQ3:03.

The 3Q04 earnings season saw software companies beating the lowered expectations from a weak 2Q04. Software spending is improving, but still at a rate below that seen in the first quarter of 2004 and one that continues to lag other areas of technology spending. After 2Q04, where we saw the highest number of negative pre-announcements for three years, 80% companies came in above lowered revenue expectations, but guidance for 4Q04 remained below historical averages and did not see increases in-line with the out-performance seen in the quarter. Deal metric trends turned up in the quarter, with 11% growth in deals over \$1 million, up from 2% growth in 2Q04, and 50% of companies reporting increasing ASPs, up from 41% in 2Q04.

Positives in the quarter include an acceleration in license revenue growth for the companies in our tracking universe, up 9% Y/Y in 2Q04 versus up 8% Y/Y in 2Q04 and up 12% Y/Y in 1Q04. Our coverage universe grew license revenue in-line the average of the aggregate group in 3Q04, but saw a deceleration in Y/Y growth from the 10% seen in 2Q04 and 14% reported in 1Q04. On a constant currency organic basis, license revenue growth in our coverage group has remained steady at 6% for the first three quarters of 2004.

Median guidance for 4Q04 for the tracking universe was set modestly above consensus on revenues (+1%) and consensus on earnings (+1%). Aggregate sequential revenue growth guidance for 4Q04 is for a range of +5 to +10%, compared to a historic average of 10-15% growth. Companies may be remaining relatively conservative after the surprising disappointment in the second quarter. Stock prices have to a large extent reflected the improvement in fundamentals over the past 3 months, with our coverage group index registering a 28% improvement during this period. While multiples have expanded recently, they remain below historical averages and relatively attractive, in our view. The median P/E for our coverage universe (excluding salesforce.com and Rightnow) is 29x C2004 and 23x C2005. Adjusting for cash, our coverage universe (excluding salesforce.com and Rightnow) trades at a median EV/NOPAT multiple of 26x C2004 and 20x C2005.

We are maintaining our Attractive industry view on software. While improvement in demand has been modest and below forecast, growth expectations are relatively low, valuations have become more attractive and leading vendors are gaining market share and should lead the consolidation effort.

Computer Services & IT Consulting and Specialized IT Services

David Togut, Julie Santoriello

In CQ3:04, 76% of Computer Services & IT Consulting and Specialized IT Services companies reported above-consensus earnings, up from 74% in CQ2:04 and 75% in CQ3:03.

In general, companies in our industry enjoy solid earnings visibility given high levels of recurring revenue, long-term contracts, and an ability to manage costs. Still, visibility and growth varies by subsector, given different end markets and demand drivers. During CQ3:04, 71% of companies under our coverage posted double-digit earnings per share growth Y/Y while 29% posted flat results or a decline in earnings per share.

Within information processing coverage, demand trends varied by sector. Payment processing enjoyed strong unit volume growth, as share gains versus cash and checks and steady consumer spending and drove double-digit increases in aggregate credit and debit card transactions. Similarly, continued growth in guest workers combined with global agent expansion fueled high-teens gains in consumer funds transfer. Meanwhile, unit volume demand was more modest among financial data processing companies. Mutual fund processing, bank/brokerage/asset management data processing, and credit bureau reporting posted flat to low single-digit internal gains. Finally, the payroll processors continued to benefit from improved employment numbers and cross-sales, somewhat offset by lower interest income on tax filing floats.

For global IT Services providers, demand remained mixed as short-term project work and consulting opportunities strengthened in the U.S., but remained soft in Europe, while large IT outsourcing contract signings were pressured by sales cycle extensions and the pipeline of opportunities for business process outsourcing (BPO) continued to expand. Total revenue growth of 1-22% Y/Y (10% average) remained in-line with organic growth rates of -4-14% (8% average), but trailed aggregate 2Q/04 organic gains of approximately 14% Y/Y. Global IT consulting revenue

posted solid gains, growing 2-13%, benefiting from a demand up-tick in the U.S. and price stabilization in Europe. By industry vertical, the federal government continued to fuel double-digit Y/Y revenue growth for most, while financial services Y/Y gains accelerated.

For Specialized IT Services companies, CQ3 was generally characterized by solid results. Most companies demonstrated some improvement in demand, coupled with operating leverage. Moreover, leading indicators (bookings, pipeline, and backlog) were healthy for the most part. This is especially true for the pure-plays catering to the federal government. We expect their positive momentum to continue given their focus on national security — the sweet spot of government spending. India offshore IT service providers continued to post strong top and bottom-line results, but we remain concerned about the potential for margin pressure. Telecom billing and customer care providers benefited from the modest improvement in spending by telecom carriers, and from newer areas of focus, such as customer/employee care and systems integration. Still, margin improvement remains a challenge given price pressure and investments in these new businesses. Of the seven stocks under our coverage at the time of 3Q04 earnings reports, five delivered better-than-expected revenue, while six met or beat our earnings expectations.

Enterprise Systems & PC Hardware

Rebecca Runkle

In CQ3:04, 76% of the companies within our universe reported above-consensus earnings, in-line with 76% beating consensus earnings in CQ2:04 and 72% in CQ3:03.

Systems & PC Hardware names reported solid results for the September quarter — driven by improved enterprise demand (near quarter-end) offset partially by more mild consumer trends. Overall, our companies grew revenues by 2.6% QoQ compared to historical average growth of 2.4%. This was driven by roughly in-line revenues by the large cap names (IBM, HPQ and DELL) with mixed results from small and mid cap names (outperformance at AAPL and NCR and underperformance at GTW). On the pricing front, we started to see more aggressive consumer pricing near quarter-end and believe this could accelerate into the holiday season. Enterprise pricing continues to be quite aggressive, however we didn't see a meaningful acceleration in pricing actions in C3Q.

Given where backlog stood at September-end and with Sarbanes-Oxley and election risks behind us we think recent improvements in enterprise hardware demand are sustainable — at least in the near-term. While consumer trends decelerated some in C3Q, we do think inventory levels were appropriately (or even overly) adjusted which should limit fundamental risks coming out of 2004. Currency boosted revenue growth 3 to 4% Y/Y for most of our companies and we now believe FX will be a tailwind to F1H05 growth.

We view the systems & PC hardware group as In-Line. Choppiness prevails in many markets and we believe market share leaders are best positioned to outperform (similar to what we saw in over the past few quarters), with the group performing In-Line overall.

EMS / Distributors / Connectors

Bernie Mahon

65% of the companies in the EMS / Distributors / Connectors industry beat expectations, down from 74% in CQ2:04 and 68% in CQ3:03.

Earnings and outlooks for the EMS companies in our coverage universe for the August/September quarter deteriorated meaningfully. We initiated coverage on November 3, 2004 with below consensus revenue estimates for most of the companies in our group. On average, we are modeling 3% sequential increases for the leading EMS companies in the November/December quarter, as we expect a weaker than normal seasonal build. We expect year-over-year growth for the EMS companies to continue to decelerate into CH1:05.

Communications Equipment

Alkesh Shah, Scott Coleman

60% of the companies in the Communications Equipment industry beat expectations, down from 68% in CQ2:04 and down from 76% in CQ3:03.

Communications Equipment. CQ3 results were generally in-line to ahead of expectations. An improving carrier and enterprise spending environment, coupled with solid government spending at its fiscal year-end, reduced the number of top line misses in what is typically a seasonally weak quarter on a sequential basis. In aggregate, revenue was up 5% Q/Q and 16% Y/Y. We forecast 1% Q/Q top

line growth for the group and expect modest upside is likely given the possibility of a CQ4 budget flush.

EPS for our group was broadly ahead of consensus, as roughly 60% of the names under coverage reported EPS ahead of expectations. Moderate gross margin improvement, a result of restructurings and outsourced manufacturing, operating expense management and top-line growth were the primary drivers behind the EPS improvement for the wireline networking equipment industry.

Our Attractive industry view for communications equipment is based on improving fundamentals, including an inflection point in carrier capex and enterprise spending, and reasonable valuations. Our group trades at a discount (10%) to our aggregated DCF fair value estimate (market cap compared to DCF per share value times shares outstanding). Excluding Cisco from this analysis, the group is approximately 12% undervalued (CSCO represents more than half of the market cap of the group). Our communications industry group trades around 28 times our aggregate C2005 EPS estimates as compared to a market multiple for the S&P 500 of 18.

Semiconductors

Mark Edelstone, Louis Gerhardy, Harlan Sur, Timm Schulze-Melander

56% beat the consensus EPS expectations in CQ3:04, down from 62% in CQ2:04 and down from 72% in CQ3:03.

Negative earnings surprises were around record levels in the third quarter and near-term risk remains high

Following historically low percentages of negative earnings surprises in the fourth quarter of 2003 and the first quarter of 2004, the number of negative earnings surprises increased to a fairly normal level of approximately 20% in the second quarter. An inventory correction and expectations that demand in several of the key end markets, such as digital consumer electronics, wireline communications, and enterprise networking would be slower than previously expected caused negative earnings surprises within the U.S. semiconductor industry to increase to around 75% in the third quarter. The third-quarter results compare to a similar percentage of misses in the first quarter of 2001, when the first real wave of fundamental pressure from the fallout of the bursting of the technology bubble occurred.

We have been keeping earnings surprise statistics for more than a decade, and the sequential increase in negative surprises during the third quarter represents the largest sequential increase we have observed. Given the sheer magnitude of negative earnings surprises in the third quarter, it is highly likely that the number of misses will decline sequentially in the fourth quarter. However, we expect the number of negative surprises to remain higher than average for at least two more quarters.

During the third quarter, about two thirds of the 31 companies in our U.S. semiconductor universe reported a sequential decline in third-quarter revenues, and the average decline was 4%. However, on a weighted basis, third-quarter revenues increased 1%, as Intel and Qualcomm both posted sequential growth, and they collectively account for about 40% of the revenues in our sector. Since most of the negative earnings surprises in the third quarter were caused by a shortfall in revenues, overhead absorption was challenging, and operating margins declined for two-thirds of all semiconductor companies. We estimate that overall operating margins for the semiconductor industry declined about 400 basis points sequentially in the third quarter, to around 12%. Going forward, the potential for additional revenue risk and the likelihood that pricing pressure for commodity products will increase next year suggests that it is reasonable to expect operating margins for many companies to remain under pressure.

For the semiconductor capital equipment (SCE) group, C3Q04 earnings were broadly in line with expectations. This is in marked contrast to the semiconductor sector, as discussed above. The ability of companies in the SCE sector to meet previously guided numbers is attributed to two factors, in our view.

Most companies under coverage enjoy sizeable order backlogs which they have been able to ship during the quarter, while experiencing relatively modest levels of delivery rescheduling activity. In addition, SAB101 revenue recognition policy means that most companies in the industry have sizeable balances of deferred revenues — previously shipped and installed equipment where revenue and earnings recognition is contingent upon “customer acceptance”. The steady flow of such customer acceptances provided an important cushion to revenue and earnings during the quarter, in our view.

Upside Surprises

Some of the companies that beat earnings expectations during CQ3:04 were **CACI International** (CAI – 0.66A vs. 0.62E), **DST Systems** (DST – 0.61A vs. 0.58E), **Infosys** (INFY – 0.35A vs. 0.32E), **Automatic Data Processing** (ADP – 0.35A vs. 0.33E), **Hyperion Solutions** (HYSL – 0.39A vs. 0.31E), **Computer Associates** (CA – 0.22A vs. 0.17E), **Cognos** (COGN – 0.3A vs. 0.26E), **PeopleSoft** (PSFT – 0.17A vs. 0.14E), **Adobe** (ADBE – 0.43A vs. 0.39E), **Verisign** (VRSN – 0.19A vs. 0.16E), **eBay** (EBAY – 0.28A vs. 0.27E), **AOL Time Warner** (TWX – 0.15A vs. 0.14E), **Ingram Micro** (IM – 0.21A vs. 0.18E), **Celstica** (CLS – 0.11A vs. 0.09E), **SMTC Corp.** (SMTC – 0.03A vs. 0.01E), **Tektronix** (TEK – 0.43A vs. 0.30E), **Advanced Fibre** (AFCI – 0.07A vs. 0.02E), **Corning** (GLW – 0.14A vs. 0.11E), **Research in Motion** (0.45A vs. 0.43E), **Motorola** (MOT – 0.2A vs. 0.19E), **Apple Computer** (AAPL – 0.27A vs. 0.18E), **Seagate** (STX – 0.08A vs. 0.04E), **Gateway** (GTW – 0.01A vs. -0.07E), **IBM** (IBM – 1.17A vs. 1.14E), **International Rectifier** (IRF – 0.59A vs. 0.52E), **STMicroelectronics** (STM – 0.2A vs. 0.17E), **Intel** (INTC – 0.3A vs. 0.27E), **Broadcom** (BRCM – 0.36A vs. 0.34E), **Linear Technology** (LLTC – 0.33A vs. 0.32E).

Downside Surprises

Some of the companies that missed earnings expectations during CQ3:04 were **Fiserv** (FISV – 0.47A vs. 0.48E), **Satyam** (SAY – 0.23A vs. 0.24E), **Convergys** (CVG – 0.21A vs. 0.22E), **Manhattan Associates** (MANH – 0.17A vs. 0.19E), **Mentor Graphics** (MENT – 0.05A vs. 0.07E), **Microsoft** (MSFT – 0.27A vs. 0.30E), **Amazon.com** (AMZN – 0.17A vs. 0.18E), **Sanmina-SCI** (SANM – 0.08A vs. 0.09E), **Avnet** (AVT – 0.30A vs. 0.32E), **Agilent** (A – 0.30A vs. 0.31E), **ADTRAN** (ADTN – 0.23A vs. 0.25E), **Symbol Technologies** (SBL – 0.09A vs. 0.12E), **Tellabs** (TLAB – 0.09A vs. 0.12E), **Maxtor** (MXO – 0.23A vs. -0.20E), **Silicon Graphics** (SGI – -0.09A vs. -0.04E), **Cypress Semiconductor** (CY – 0.04A vs. 0.05E), **Intersil** (ISIL – 0.11A vs. 0.12E), **Altera** (ALTR – 0.17A vs. 0.18E), **LSI Logic** (LSI – -0.07A vs. -0.05E), **Sandisk** (SNDK – 0.29A vs. 0.34E).

Methodology

Although we believe the data in this report are useful, within a certain degree of error, in monitoring earnings surprises relative to historical trends, investors should be careful to avoid overanalyzing the data.

To arrive at the earnings surprise figures, we calculate the difference between the reported operating number and the published consensus estimates. As such, we do not address issues such as quality of earnings, how the company arrived at its earnings, or performance versus “whisper” numbers.

The source of our data is FactSet Research Systems Inc. Although FactSet attempts to update its database for reported earnings as soon as possible, it sometimes does not catch all reported earnings immediately, particularly among more obscure names, so our database could miss some companies that have already reported.

Our universe of stocks includes some companies that are not followed by brokerage firms but that do provide results to leading estimate collection services such as First Call, so these appear without analysts’ estimates. To calculate the number of earnings surprises, we look only at companies that have FactSet/First Call estimates. Thus, our database of technology stocks might vary slightly from quarter to quarter. Opinions might differ on what constitutes a company’s recurring operating earnings. First Call tries to use what most analysts consider the recurring operating earnings, but in some instances, our technology analysts might have a different view.

Exhibit 3
Technology Stock Universe: Quarterly EPS Surprise Trends
(March quarter through August 20, 2004)

Technology Segment	Actual EPS Versus								
	Companies			FactSet/First Call Consensus			Percent Versus Consensus		
	Companies Reported	Companies in Segment	Percent Reported	Above	In line	Below	Above	In line	Below
Internet & PC Applications Software	36	45	80	29	0	7	81	-	19
Software	59	90	66	47	3	9	80	5	15
Computer Services & IT Consulting	34	38	89	26	2	6	76	6	18
Hardware	29	36	81	22	2	5	76	7	17
EMS/Distributors/Connectors	23	25	92	15	0	8	65	-	35
Communications Equipment	60	82	73	36	2	22	60	3	37
Semiconductors	79	98	81	44	5	30	56	6	38
Universe	320	414	77	219	14	87	68	4	27

Source: FactSet, Morgan Stanley Technology Research

Exhibit 4
Percentage of Technology Companies Reporting Above-Consensus Earnings by Quarter
(December quarter through March 31, 2004)

Technology Segment	Sep-04	Jun-04	Mar-04	Dec-03	Sep-03	Jun-03	Mar-03	Dec-02	Sep-02	Jun-02	Mar-02	Dec-01	Sep-01	Jun-01	Mar-01	Dec-00	Sep-00	Jun-00	Mar-00	Dec-99	Sep-99	Jun-99	Mar-99	Dec-98	Sep-98	Jun-98	Mar-98	Dec-97	Sep-97	Jun-97	Mar-97	Dec-96	Sep-96	Jun-96	Mar-96
Internet & PC Applications Software	81	56	80	72	74	70	81	79	78	78	76	80	68	71	61	65	85	89	80	84	95	72	76	50	71	58	82	44	60	60	67	56	50	67	60
Enterprise Software	80	66	66	86	69	62	63	75	77	58	58	80	48	54	47	68	82	79	76	82	68	61	60	67	79	78	75	73	74	71	63	63	55	53	64
Computer Services & IT Consulting	76	74	76	85	75	59	59	63	55	60	71	55	57	59	55	38	50	60	72	56	76	56	81	40	61	62	65	50	55	55	80	35	55	70	55
Enterprise Systems & PC Hardware	76	76	66	89	72	72	76	73	85	71	69	77	54	44	52	56	52	59	77	63	48	58	60	76	67	54	44	52	60	67	78	74	71	67	65
EMS/Distributors/Connectors	65	74	86	86	68	48	55	64	41	47	65	41	18	29	41	71	88	88	81	75	69	50	56	69	63	35	53	73	57	62	57	47	46	29	
Communications Equipment	60	68	68	84	76	65	58	68	51	57	67	56	46	43	30	60	85	81	86	83	65	69	68	63	52	66	63	66	68	69	70	77	52	57	67
Semiconductors	56	62	79	81	72	65	70	67	40	61	77	71	59	19	21	53	74	86	88	85	77	66	65	60	36	37	32	35	54	52	63	62	41	46	51
Universe	68	67	73	83	72	64	66	70	59	61	69	68	52	42	39	58	75	78	81	78	71	63	66	61	57	54	53	52	62	61	68	62	51	55	56

Source: FactSet, Morgan Stanley Technology Research

Exhibit 5
Percentage of Technology Companies Reporting Below-Consensus Earnings by Quarter
(December quarter through March 31, 2004)

Technology Segment	Sep-04	Jun-04	Mar-04	Dec-03	Sep-03	Jun-03	Mar-03	Dec-02	Sep-02	Jun-02	Mar-02	Dec-01	Sep-01	Jun-01	Mar-01	Dec-00	Sep-00	Jun-00	Mar-00	Dec-99	Sep-99	Jun-99	Mar-99	Dec-98	Sep-98	Jun-98	Mar-98	Dec-97	Sep-97	Jun-97	Mar-97	Dec-96	Sep-96	Jun-96	Mar-96	
Semiconductors	38	33	20	15	19	24	24	28	53	35	18	13	36	71	72	32	13	4	7	8	11	15	24	24	55	54	55	55	35	30	27	23	50	37	35	
Communications Equipment	37	22	29	11	16	26	33	29	47	41	31	20	32	47	59	20	8	11	12	15	30	22	23	20	35	21	30	21	18	21	19	19	28	26	24	
EMS/Distributors/Connectors	35	26	14	9	32	43	36	36	47	47	35	41	65	59	41	24	-	-	6	19	13	38	44	31	25	29	27	27	13	29	31	36	40	31	36	
Internet & PC Applications Software	19	36	17	19	21	27	16	21	22	17	24	20	14	10	35	15	10	5	5	11	5	17	(12	25	7	17	9	44	20	30	33	11	50	33	40
Computer Services & IT Consulting	18	24	21	12	19	38	24	33	29	30	23	16	13	21	0	19	8	8	8	12	4	16	8	16	4	14	20	25	20	35	15	40	20	10	35	
Enterprise Systems & PC Hardware	17	24	28	11	24	24	14	19	15	29	31	12	31	41	33	37	33	30	4	30	40	31	24	24	13	42	40	43	36	21	13	22	29	29	30	
Enterprise Software	15	29	33	12	17	31	34	21	18	39	40	9	34	30	42	18	14	11	19	16	16	23	33	23	16	8	11	18	24	15	38	34	42	40	32	
Universe	27	28	24	83	20	29	27	27	36	35	28	16	32	44	51	24	13	10	10	23	29	31	34	36	26	25	25	27	39	31	33	27	39	31	33	

Source: FactSet, Morgan Stanley Technology Research

Technology – November 23, 2004

Please see analyst certification and other important disclosures starting on page 13.

Exhibit 6

Morgan Stanley Technology 35 Index (MSH) Weekly Stock Summary

Segment Company	Ticker	Rating	Industry View	Price 23-Nov	Change %								52-Wk Price Range		Valuation Parameters					Performance Contribution			
					Wk	2003	3Q03	4Q03	1Q04	2Q04	3Q04	4Q04 to date	2004 YTD	High	Low	Market Value *	FirstCall Mean EPS C04E C05E	FirstCall Mean P/E C04E C05E	Price to LTM Sales	% Portfolio Weight	% Week Weighted Return		
Computer Services & IT Consulting																							
Accenture	ACN	O	I	25	(0)	46	23	18	(6)	11	(2)	(7)	(4)	28	22	14,821	1.28	1.43	20	18	0.9	2.7	(0.01)
Automatic Data	ADP	O	I	45	1	1	6	10	6	(0)	(1)	9	14	47	37	26,254	1.66	1.88	27	24	3.4	3.2	0.02
Electronic Data Systems	EDS	U	I	22	(3)	33	(6)	21	(21)	(1)	1	13	(10)	25	16	11,232	0.25	0.76	90	29	0.5	2.6	(0.07)
First Data	FDC	O	I	42	(1)	16	(4)	3	3	6	(2)	(3)	3	47	36	35,718	2.14	2.44	20	17	3.6	3.0	(0.03)
Segment Mean:					(1)	24	5	13	(5)	4	(1)	3	0									11.4	(0.09)
Enterprise Software																							
Computer Associates	CA	--	--	30	0	103	17	5	(2)	4	(6)	14	10	30	22	17,587	0.75	0.94	40	32	5.2	3.2	0.01
Oracle	ORCL	O-V	A	13	(2)	23	(6)	18	(9)	(1)	(5)	13	(4)	16	10	65,404	0.54	0.62	23	21	6.4	2.6	(0.05)
PeopleSoft	PSFT	O-V	A	23	3	25	4	25	(19)	0	7	18	3	24	15	8,540	0.67	0.82	35	28	3.2	2.9	0.08
Veritas Software	VRTS	--	--	22	1	137	9	17	(27)	3	(36)	26	(40)	41	16	9,685	0.91	1.02	25	22	5.0	1.7	0.02
Segment Mean:					1	72	6	16	(14)	2	(10)	17	(8)									10.4	0.07
Internet & PC Applications Software																							
Amazon.com	AMZN	O-V	A	39	(4)	179	33	9	(18)	26	(25)	(5)	(27)	58	33	15,713	0.97	1.21	40	32	2.4	2.1	(0.08)
InterActive Corp	IACI	O	--	24	0	48	(16)	2	(7)	(5)	(27)	9	(29)	35	19	16,642	0.91	1.03	26	23	2.7	2.0	0.01
eBay	EBAY	O-V	A	109	1	91	3	20	7	33	(0)	19	69	111	51	72,429	1.22	1.59	90	69	24.0	4.8	0.07
Electronic Arts	ERTS	--	--	49	0	92	25	3	13	2	(16)	6	2	56	41	14,763	1.92	2.04	25	24	4.6	2.9	0.01
Intuit	INTU	O-V	A	43	(1)	13	8	10	(16)	(14)	18	(5)	(18)	54	36	8,144	1.79	2.07	24	21	4.4	2.3	(0.02)
Microsoft	MSFT	O-V	A	26	(2)	6	8	(2)	(9)	15	(3)	(4)	(3)	30	24	288,026	1.26	1.32	21	20	7.6	2.9	(0.07)
Yahoo!	YHOO	O-V	A	36	(1)	175	8	27	8	50	(7)	8	62	39	19	49,627	0.34	0.50	106	73	15.5	4.7	(0.04)
Segment Mean:					(1)	86	10	10	(3)	15	(9)	4	8									21.7	(0.16)
EMS/Distributors/Connectors																							
Flextronics	FLEX	O-V	A	14	(1)	81	36	4	15	(7)	(17)	9	(3)	20	10	7,953	0.60	0.80	24	18	0.5	2.6	(0.02)
Segment Mean:					(1)	81	36	4	15	(7)	(17)	9	(3)									2.6	(0.02)
Communications Equipment																							
Agilent	A	E	A	23	(0)	63	13	32	8	(7)	(26)	6	(22)	39	20	11,105	1.08	1.28	21	18	1.6	2.2	(0.01)
Cisco	CSCO	E-V	A	19	(2)	85	17	24	(3)	1	(24)	5	(22)	29	18	126,198	0.81	0.94	23	20	5.7	2.2	(0.04)
Nokia	NOK	U	C	16	(1)	10	(5)	9	19	(28)	(6)	18	(5)	24	11	73,946	0.79	0.88	21	18	2.0	2.6	(0.02)
Juniper	JNPR	E-V	A	28	(2)	175	20	25	39	(6)	(4)	19	51	31	16	15,027	0.44	0.64	64	44	11.6	4.2	(0.08)
Motorola	MOT	E-V	A	19	5	62	27	17	26	4	(1)	4	34	21	12	44,172	0.83	0.97	23	19	1.3	3.8	0.18
Ericsson	ERICY	E	C	33	1	163	38	20	57	8	4	6	87	34	16	52,461	1.63	1.78	20	19	2.8	5.3	0.07
Segment Mean:					0	93	18	21	24	(5)	(9)	10	21									20.3	0.03
Systems & PC Hardware																							
Seagate Technology	STX	O-V	I	14	(0)	76	54	(31)	(15)	(11)	(6)	3	(26)	22	10	6,445	0.63	0.49	22	28	1.1	2.1	(0.01)
Dell	DELL	O	I	40	(0)	27	5	2	(1)	7	(1)	13	18	41	31	100,246	1.26	1.54	32	26	2.1	3.3	(0.02)
EMC	EMC	--	--	13	4	110	21	2	5	(16)	1	16	4	16	9	32,088	0.35	0.49	38	27	4.1	2.8	0.11
Hewlett-Packard	HPQ	O-V	I	20	2	32	(9)	19	(1)	(8)	(11)	7	(13)	26	16	59,597	1.37	1.55	15	13	0.8	2.5	0.05
IBM	IBM	O	I	95	0	20	7	5	(1)	(4)	(3)	11	2	100	82	158,512	5.01	5.54	19	17	1.7	2.8	0.00
Segment Mean:					1	53	16	(1)	(2)	(6)	(4)	10	(3)									13.4	0.14
Semiconductors																							
Applied Materials	AMAT	--	A	17	1	72	14	24	(5)	(8)	(16)	3	(24)	25	15	28,538	0.84	0.72	20	24	3.6	2.1	0.02
Broadcom	BRCM	O-V	A	31	2	126	7	28	15	19	(41)	12	(10)	47	25	9,886	1.22	1.10	25	28	4.1	2.5	0.06
Intel	INTC	O	A	23	(2)	106	32	16	(15)	1	(27)	16	(27)	35	20	148,346	1.11	1.11	21	21	4.7	2.1	(0.05)
Micron Technology	MU	--	A	11	(5)	38	15	0	24	(8)	(21)	(5)	(15)	18	11	7,354	0.39	0.72	29	16	1.7	2.5	(0.12)
Qualcomm	QCOM	E-V	A	40	2	48	16	29	23	10	7	3	50	44	22	65,679	1.11	1.25	36	32	13.6	4.3	0.07
STMicroelectronics	STM	E	A	20	0	38	16	12	(13)	(7)	(21)	17	(25)	30	16	18,096	0.67	0.85	30	24	2.1	2.1	0.01
Texas Instruments	TXN	E	A	24	(1)	96	30	29	(1)	(17)	(12)	14	(17)	34	18	42,035	1.03	1.12	24	22	3.5	2.3	(0.01)
Xilinx	XLNX	E-V	A	32	1	88	12	36	(2)	(12)	(19)	18	(18)	45	25	11,058	0.92	1.05	35	30	7.0	2.3	0.02
Segment Mean:					(0)	77	18	22	3	(3)	(19)	10	(11)									20.1	(0.03)
Mean:				(0)		71	14	14	2	1	(10)	9	1			47,809	1	1	33	26	5		
Median:				(0)		63	13	17	(1)	(0)	(6)	9	(4)			26,254	1	1	25	23	3		
Sum:																1,673,326						100	(0.06)
MSH (Tech-35 Index)																							
MSH	MSH	--	--	483	0	65	12	16	2	1	(10)	8	2	524	394								
MOX (Internet Index)	MOX	--	--	14	(1)	64	9	9	2	4	(11)	14	6	15	11								
S&P 500 Index	SPX	--	--	1173	(0)	26	2	12	1	1	(2)	5	6	1188	1031								
NASDAQ (COMP)	COMP	--	--	2076	(0)	50	10	12	(0)	3	(7)	9	4	2154	1751								

* Market values are calculated using the current price and the latest primary shares only (as available in the most recent filing); data from FactSet.

%Week Weighted Return is calculated by taking the sum of the products of the portfolio weight multiplied by the respective weekly return for each of the component stocks in the Morgan Stanley Technology 35 Index.

E = Morgan Stanley Research Estimates; A = Attractive; I - In-Line; C = Cautious; O = Overweight; E = Equal-weight; U = Underweight; -- No coverage at this time
V = More volatile. 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 "volatile" can still perform in that manner.

Source: Morgan Stanley Research

Industry Views:

Semiconductors: In-Line — Although valuations are reasonable, we believe that near- to intermediate-term fundamentals will remain challenging, and the potential for additional reductions in forward revenue, margin, and earnings estimates remains high.

Semiconductor Capital Equipment: In-Line — We believe we are at an early stage in a capital spending pull-back. Traditionally, the equity market has not discounted a trough in bookings, suggesting that downside risks remain. Valuation levels suggest a reasonable risk/reward profile may be building if share prices pull back.

Computer Services & IT Consulting: In-Line — Weak fundamentals at industry bellwethers could limit price appreciation potential for our industry coverage as a whole. Given superior free cash flow, we prefer the information processors over the IT services companies.

Internet & PC Applications Software: Attractive — We maintain that investors still underestimate the impact the Internet will have in changing business process and consumer behavior on a global basis. We continue to believe that, at the margin, online is gaining share from offline, that this will occur for some time to come, and should benefit the Internet leaders.

Enterprise Systems and PC Hardware: In-Line — Hardware demand continues to improve, albeit at a slow rate. Choppiness prevails in many markets and we believe market share leaders are best positioned to outperform, with the group performing In-Line overall.

Enterprise Software: Attractive — While improvement in demand has been modest and below forecast, growth expectations are relatively low, valuations have become more attractive and leading vendors are gaining market share and should lead the consolidation effort.

Communications Equipment: Attractive — Improving fundamentals, including an inflection point in carrier capex and enterprise spending, and reasonable valuations, lead us to expect shares to outperform the S&P over the next 6-12 months.

Electronic Manufacturing Services / Distributors / Connectors: In-Line — Consensus C2005 revenue estimates appear aggressive in light of cyclical pressures. However, EMS companies should at least preserve margins as we expect a milder trough combined with restructuring benefits.

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Analyst Certification

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: Brian Fitzgerald.

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(as of October 31, 2004)

Stock Rating Category	Coverage Universe		Investment Banking Clients (IBC)		
	Count	% of Total	Count	% of Total IBC	% of Rating Category
Overweight/Buy	632	34%	258	39%	41%
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Total	1,863		663		

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