

Equity Research
North America

Industry

Technology

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Industry Overview

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CQ3 Tech Revenue: Up 15% Y/Y, 1% Q/Q in Seasonally Slow Quarter

GICS SECTOR INFORMATION TECHNOLOGY	
US Strategist Weight	10.4%
S&P 500 Weight	11.4%

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- **386 companies (93% of our Technology Universe) have reported CQ3:04 revenue**

CQ3 revenue increased 15% Y/Y for these companies. This is in line with a 15% Y/Y revenue increase in CQ2:04 but above 6% Y/Y growth a year ago. Mean CQ3 Y/Y revenue growth is 12% over the past ten years. Sequentially, CQ3 revenue rose 1% Q/Q in-line with 1% Q/Q growth over the past ten years.

- **Q/Q revenue growth accelerated in one of seven technology industry groups, decelerated in four and stayed the same in two**

Enterprise Systems & PC Hardware, up 10% Y/Y vs. 10% in CQ2:04

Enterprise Software, up 12% Y/Y vs. 12% in CQ2:04

Computer Services & IT Consulting, up 12% Y/Y vs. 14% in CQ2:04

Internet & PC Applications Software, up 15% Y/Y vs. 17% in CQ2:04

EMS/Distributors/Components, up 17% vs. 23% in CQ2:04

Wireline/Wireless Networking Equipment, up 21% Y/Y vs. 10% in CQ2:04

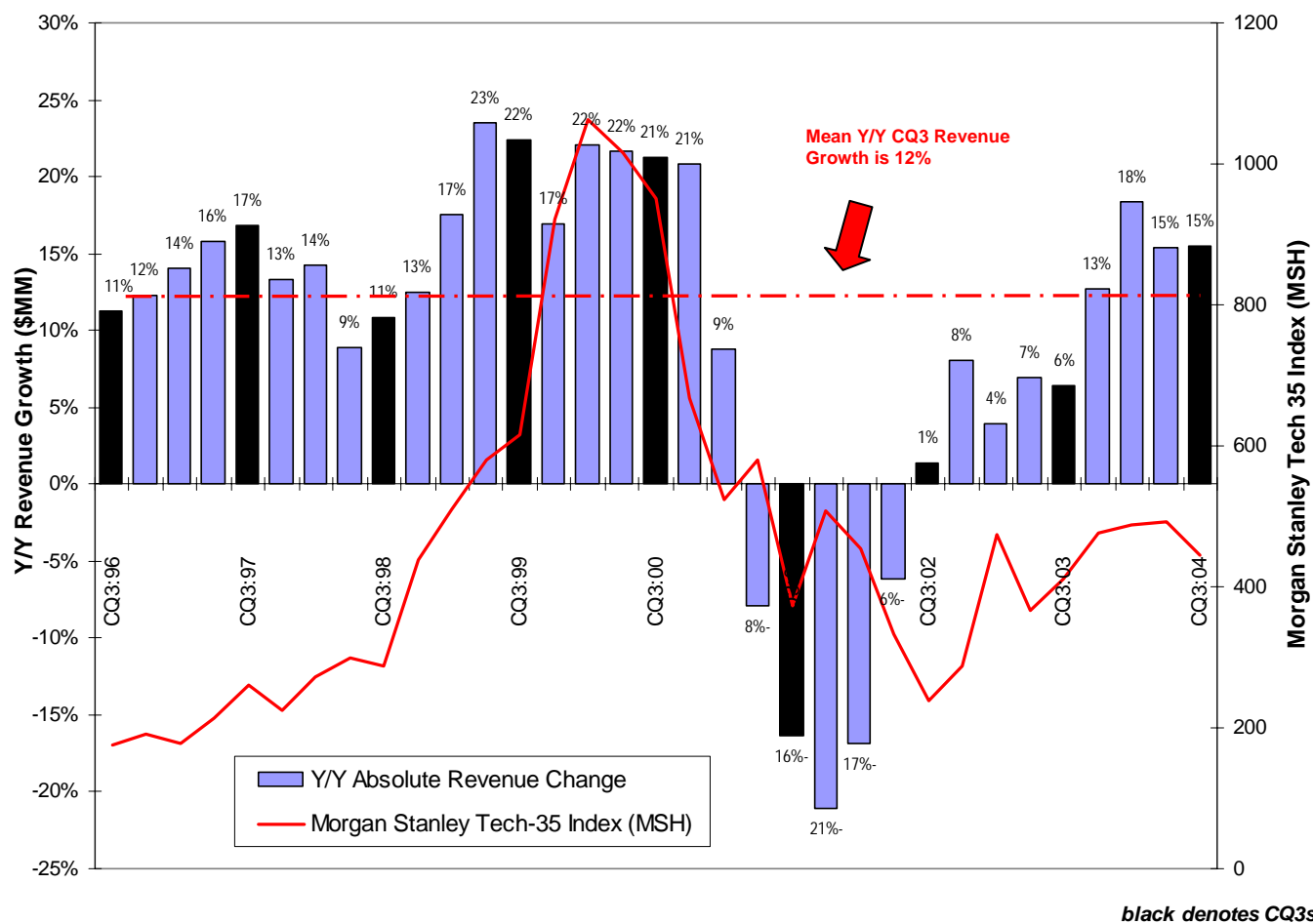
Semiconductors, up 27% Y/Y vs. 37% in CQ2:04

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Please see analyst certification and other important disclosures starting on page 9.

CQ3 Tech Revenue: Up 15% Y/Y, 1% Q/Q in a Seasonally Slow Quarter

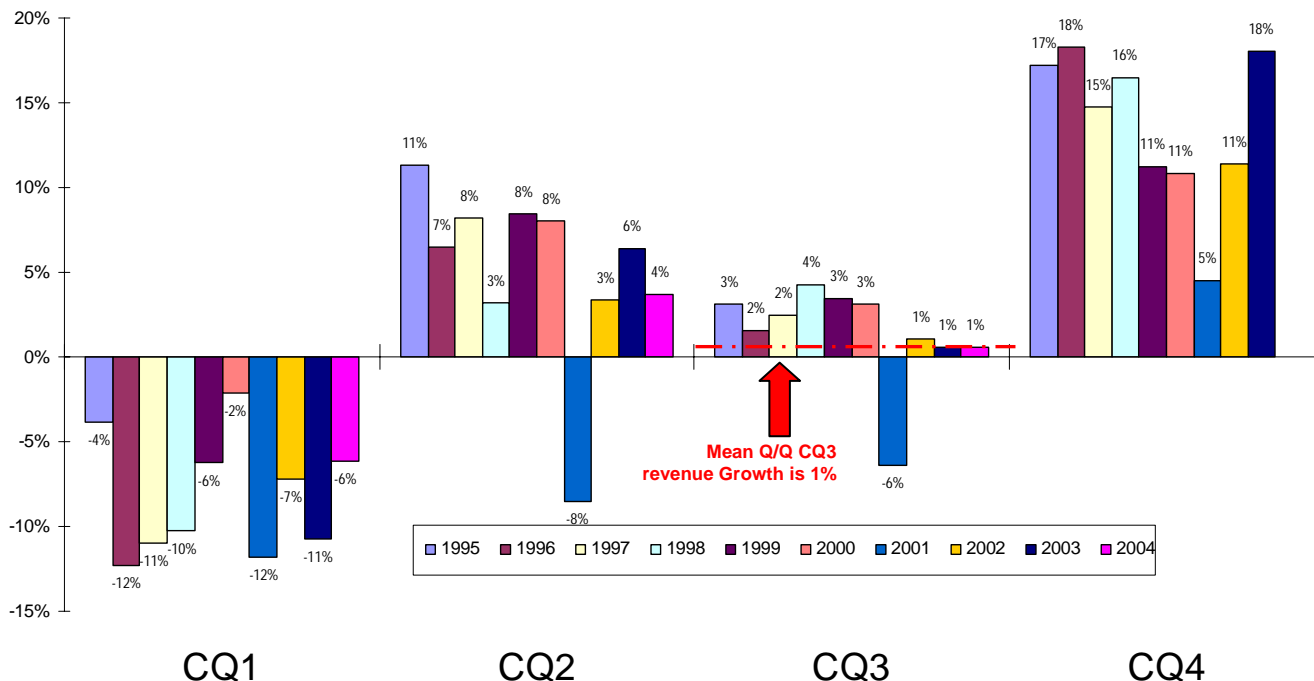
Exhibit 1
Year-Over-Year Tech Revenue Up 15% in CQ3:04 (Year-Over-Year Percentage Change)



Source: FactSet, Morgan Stanley Technology Research

Exhibit 2

Quarter-Over-Quarter Tech Revenue Up 1% in CQ3:04 (Quarter-Over-Quarter Percentage Change)



Source: FactSet, Morgan Stanley Technology Research

Exhibit 3

Technology Y/Y Revenue Growth Thoughts by Industry Group

CQ3:04 Y/Y Revenue		
Technology Industry Groups	Growth	Thoughts on Y/Y Revenue Growth
Semiconductors	27%	Revenue growth declined from +37% in CQ2:04, but increased from +11% in CQ3:03.
Wireline/Wireless Networking Equipment	21	Revenue growth improved from +10% in CQ2:04, and +4% in CQ3:03.
EMS/Distributors/Connectors	17	Revenue growth declined from +23% in CQ2:04, but increased from +2% in CQ3:03.
Internet & PC Applications Software	15	Revenue growth declined from +17% in CQ2:04, but increased from +7% in CQ3:03.
Enterprise Software	12	Revenue growth was flat from +12% in CQ2:04, but increased from +6% in CQ3:03.
Computer Services & IT Consulting	12	Revenue growth declined from +14% in CQ2:04, and +14% in CQ3:03.
Enterprise Systems & PC Hardware	10	Revenue growth was flat from +10% in CQ2:04, but increased from +5% in CQ3:03.
Universe	15%	Y/Y revenue rose 15%, flat from a 15% increase recorded in CQ2:04, but up from the 6% increase in CQ3:03.

Source: Morgan Stanley Technology Research

CQ3:04 Trends by Industry Group (*Ranked Best to Worst Y/Y Performance*)

•Semiconductors

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

Revenue grew 27% Y/Y (less than 37% Y/Y in CQ2:04).

Strong growth came from Applied Micro Circuits (up 143% Y/Y), Applied Materials (up 104% Y/Y), Qualcomm (up 23% Y/Y), and STMicroelectronics (up 24% Y/Y). Sector laggards were Agere Systems (down 13% Y/Y), and LSI Logic (down 16%).

•Wireline/Wireless Networking Equipment

Alkesh Shah, Scott Coleman

Revenue grew 21% Y/Y (better than 10% Y/Y in CQ2:04). Growth came from Juniper Networks (up 118% Y/Y), Advanced Fibre (up 40% Y/Y), and Motorola (up 26%). Sector weakness was due to Enterasys (down 11% Y/Y) and Computer Network Technology (down 19%).

•EMS/Connectors/Distributors

Bernie Mahon

Revenue was up 17% Y/Y (less than 23% Y/Y in CQ2:04). Strong growth came from Celestica (up 33% Y/Y), Arrow Electronics (up 27% Y/Y), and Flextronics (up 18% Y/Y). Weakness came from Ingram Micro (up 16% Y/Y), and SMTC Corp. (down 21%).

•Internet & PC Applications Software

Mary Meeker, Brian Pitz, Brian Fitzgerald

Revenue was up 15% Y/Y (less than 17% in CQ2:04). Solid growth came from Yahoo (up 84% Y/Y), Google (up 105% Y/Y) and eBay (up 52% Y/Y). The group was hurt by aQuantive (down 20% Y/Y), Take Two Interactive (down 21% Y/Y) and Look Smart (down 50% Y/Y).

•Enterprise Software

Ross MacMillan, Evan Bloomberg

Revenue was up 12% Y/Y (flat with 12% Y/Y in CQ2:04). Growth came from Business Objects (up 70% Y/Y), Symantec (up 44% Y/Y), and PeopleSoft (up 12% Y/Y). The group was hurt by Siebel Systems (down 1% Y/Y), and Synopsys (down 6% Y/Y).

•Computer Services & IT Consulting and Specialized IT Services

David Togut, Julie Santoriello

Revenue grew 12% Y/Y (down from 14% Y/Y in CQ2:04). Performance was driven by Cognizant Tech Solutions (up 58% Y/Y), Wipro (up 43% Y/Y), and Fiserv (up 22% Y/Y). Weakness was due to DST Systems (up 5% Y/Y) and Unisys (flat Y/Y).

•Enterprise Systems and PC Hardware

Rebecca Runkle

Revenue grew 10% Y/Y (flat with 10% Y/Y in CQ2:04). The group was led by Apple (up 37% Y/Y), Dell (up 20% Y/Y), and HP (up 9% Y/Y). The sector was hindered by Seagate (down 10% Y/Y) and Maxtor (down 13% Y/Y).

Industry Views:

Semiconductors: In-Line; Internet & PC Applications: Attractive; EMS/ Distributors / Connectors: In-Line; Enterprise Systems & PC Hardware: In-Line; Enterprise Software: Attractive; Computer Services & IT Consulting: In-Line; Specialized IT Services: In-Line; Semiconductor Capital Equipment: In-Line; and Wireline/Wireless Networking Equipment: Attractive.

Methodology

The CQ3:04 growth rates reflect reported revenue from companies in our Tech universe with September, October, or November quarter-ends. To fairly represent growth rates, our calculations exclude companies that have yet to report CQ3:04 results, or for which we lack complete historical revenue data. Although we omit this historical data, the trends are directionally significant — the 386 companies included represented roughly 93% of the previous quarter's revenue.

Briefly examining revenue datasets — the correlation coefficient between our complete tech universe Y/Y % change dataset and a tech universe that is 80-85% complete is .99, and the correlation coefficient between the two Q/Q % change datasets is .99.

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

Exhibit 4

Technology Industry Groups: Annual Revenue Growth
(Year-Over-Year Percentage Change, CQ3:04 Revenue in \$MM)

Industry Group	CQ3:04	2004			2003			2002			2001			2000			1999			1998			1997			1996										
	Revenue	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1								
Computer Services & IT Consulting	24,957	12%	12%	14%	12%	6%	2%	1%	4%	-3%	-7%	-10%	-10%	-5%	2%	6%	16%	16%	22%	20%	19%	18%	16%	22%	25%	34%	31%	27%	30%	23%	29%	20%	31%	31%	32%	40%
Enterprise Software	13,772	12%	12%	14%	12%	6%	2%	1%	4%	-3%	-7%	-10%	-10%	-5%	2%	6%	16%	16%	22%	20%	19%	18%	16%	22%	25%	34%	31%	27%	30%	23%	29%	20%	31%	31%	32%	40%
Internet & PC Applications Software	29,531	15%	17%	18%	14%	7%	9%	9%	14%	18%	15%	9%	5%	1%	5%	11%	23%	18%	21%	29%	43%	59%	55%	55%	36%	33%	32%	19%	25%	49%	60%	51%	41%	16%	21%	30%
EMS/Distributors/Connectors	35,214	17%	23%	21%	14%	2%	-1%	-3%	2%	4%	-8%	-23%	-29%	-24%	-7%	23%	45%	49%	41%	36%	42%	41%	46%	42%	29%	34%	30%	32%	42%	36%	30%	25%	21%	21%	23%	29%
Wireline/Wireless Networking Equipment	46,199	21%	10%	31%	12%	4%	-2%	-14%	0%	-22%	-15%	-32%	-33%	-15%	-17%	6%	24%	12%	26%	33%	9%	17%	12%	8%	11%	9%	10%	16%	6%	14%	15%	12%	11%	10%	7%	12%
Enterprise Systems and PC Hardware	87,225	10%	10%	10%	10%	5%	15%	14%	14%	10%	-7%	-12%	-16%	-14%	-4%	6%	8%	13%	8%	8%	8%	11%	19%	9%	4%	4%	-1%	9%	9%	10%	8%	9%	10%	11%	12%	12%
Semiconductors	33,814	27%	37%	29%	21%	11%	5%	8%	11%	6%	-11%	-28%	-39%	-39%	-22%	3%	30%	47%	45%	37%	31%	28%	18%	8%	2%	-2%	2%	7%	16%	22%	17%	12%	4%	-1%	11%	29%
Universe	270,712	15%	15%	18%	13%	6%	7%	4%	8%	1%	-6%	-17%	-21%	-16%	-8%	9%	21%	21%	22%	22%	17%	22%	23%	17%	12%	11%	9%	14%	13%	17%	16%	14%	12%	11%	13%	18%

Source: FactSet, Morgan Stanley Technology Research

Exhibit 5

Technology Industry Groups: Sequential Revenue Growth
(Quarter-Over-Quarter Percentage Change, CQ3:04 Revenue in \$MM)

Industry Group	CQ3:04	2004			2003			2002			2001			2000			1999			1998			1997			1996										
	Revenue	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1	CQ4	CQ3	CQ2	CQ1				
Computer Services & IT Consulting	24,957	0%	2%	5%	4%	1%	6%	2%	6%	-2%	0%	2%	6%	-2%	-1%	4%	7%	1%	3%	1%	5%	0%	2%	3%	26%	5%	5%	1%	10%	6%	3%	0%	8%	5%	3%	2%
Enterprise Software	13,772	-4%	6%	-9%	21%	-4%	8%	-11%	15%	-7%	7%	-8%	6%	-11%	3%	-8%	12%	-4%	7%	1%	12%	1%	5%	0%	12%	-1%	10%	3%	19%	-3%	7%	5%	13%	2%	-1%	15%
Internet & PC Applications Software	29,531	-2%	3%	-9%	26%	-1%	4%	-13%	19%	1%	4%	-8%	22%	-1%	-2%	-11%	17%	2%	4%	-1%	12%	4%	11%	10%	24%	2%	11%	-3%	21%	1%	0%	2%	43%	9%	-5%	-5%
EMS/Distributors/Connectors	35,214	1%	2%	1%	13%	6%	0%	-5%	1%	3%	-2%	-1%	4%	-9%	-18%	-8%	10%	12%	9%	8%	13%	6%	4%	13%	13%	10%	1%	3%	17%	7%	3%	11%	11%	3%	-1%	6%
Wireline/Wireless Networking Equipment	46,199	5%	5%	-17%	31%	-5%	26%	-28%	22%	-11%	9%	-17%	-5%	-2%	-13%	-17%	20%	-4%	11%	-3%	7%	8%	18%	-21%	15%	4%	13%	-18%	13%	4%	20%	-25%	22%	5%	16%	-26%
Enterprise Systems and PC Hardware	87,225	0%	2%	-7%	16%	0%	3%	-8%	11%	9%	2%	-8%	7%	-8%	-3%	-12%	9%	3%	7%	-9%	14%	-2%	7%	-10%	18%	6%	-3%	-14%	18%	0%	7%	-14%	18%	-1%	8%	-13%
Semiconductors	33,814	1%	8%	2%	13%	9%	2%	-4%	4%	4%	5%	-1%	-1%	-13%	-15%	-17%	-1%	12%	12%	5%	12%	10%	6%	0%	10%	1%	-3%	-6%	6%	5%	2%	2%	12%	0%	-2%	-6%
Universe	270,712	1%	4%	-6%	18%	1%	6%	-11%	11%	1%	3%	-7%	5%	-6%	-8%	-12%	11%	3%	8%	-2%	11%	3%	8%	-6%	16%	4%	3%	-10%	15%	2%	8%	-11%	18%	2%	7%	-12%

Source: FactSet, Morgan Stanley Technology 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.

Wireline/Wireless Networking 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: 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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