

October 3, 2003

Company Update

Company Rating:

Sector Weighting:

Market Weight

## Hewlett-Packard

## Takes Aggressive Posture To Capture Share in Accelerating Linux Market

## Hardware

HPQ-NYSE (10/3/2003)	\$20.35
12-18 mo. Price Target	\$30.00
Key Indices: S&P 500	
3-5-Yr. EPS Gr. Rate (E) :	10.0%
52-week Range	\$23.70-\$10.93
Shares Outstanding	3,059.0M
Float	2,800.0M shrs
Avg. Daily Trading Vol.	12,400,000
Market Capitalization	\$62.3B
Dividend/Yield	\$0.32/ 1.6%
Fiscal Year End	October
Book Value	\$12.06 per Shr
2003 ROE	9.8%
LT Debt	\$6,726.0M
Preferred	Nil
Common Equity	\$36,892.00M
Convertible Available	No

## Company Description

HPQ provides IT products, technologies and solutions to consumers and businesses, including PC, imaging and printing, enterprise systems and global services

## Ali Irani

1 (212) 667-8141

Ali.Irani@us.cibc.com

## Matthew Smith

1 (212) 667-7905

Matthew.Smith@us.cibc.com

## Peter Wright

1 (212) 667-6062

Peter.Wright@us.cibc.com

## Mary Brixie

1 (212) 667-8091

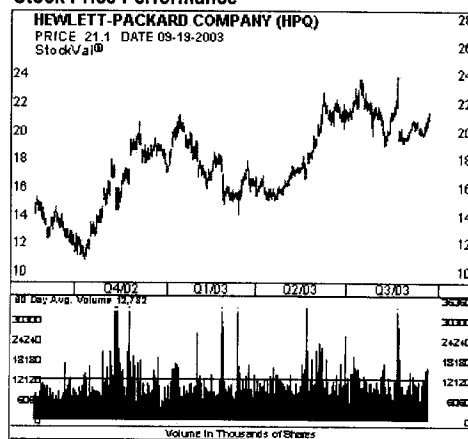
Mary.Brixie@us.cibc.com

Earnings per Share	Prev	Current
2002		\$0.91A
2003		\$1.16E
2004		\$1.48E
P/E		
2002		22.4x
2003		17.5x
2004		13.8x

## Calendar Year EPS

Year	Current
2002	\$0.91
2003E	\$1.23
2004E	\$1.45
2005E	\$1.65
P/E	
2003E	16.2X
2004E	13.7X
2005E	12.1X

## Stock Price Performance



See "Legal Disclaimer" and "Important Disclosure Footnotes" sections at the end of this report for important disclosures, including potential conflicts of interest.

See "Price Target Calculation" and "Key Risks to Price Target" sections at the end of this report, where applicable.

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# Hewlett-Packard At A Glance

Exhibit 1A: Revenue vs. EPS: 1Q:F99-1Q:F06E

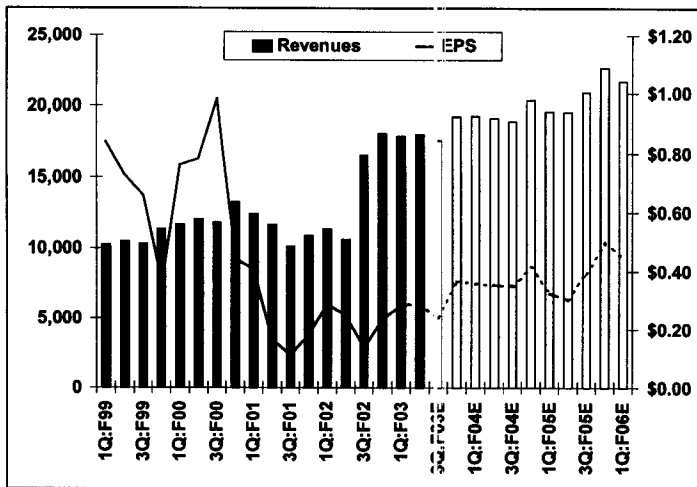


Exhibit 1B: Q/Q Growth in Revenues: 1Q:F02-1Q:F06E

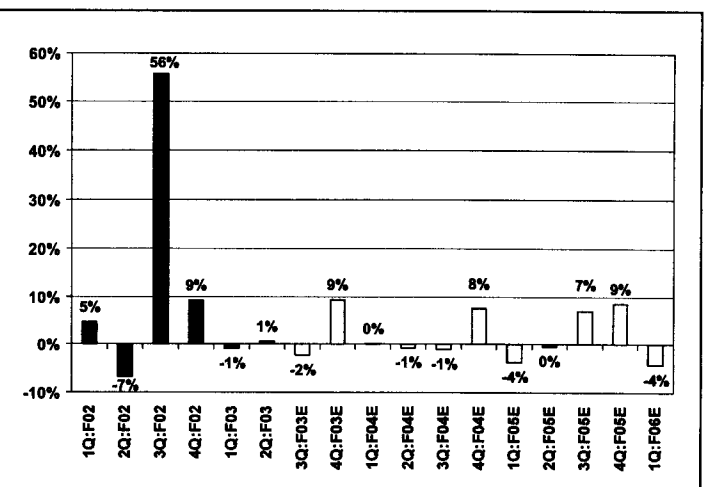


Exhibit 1C: HPQ Revenue Mix: CY2002

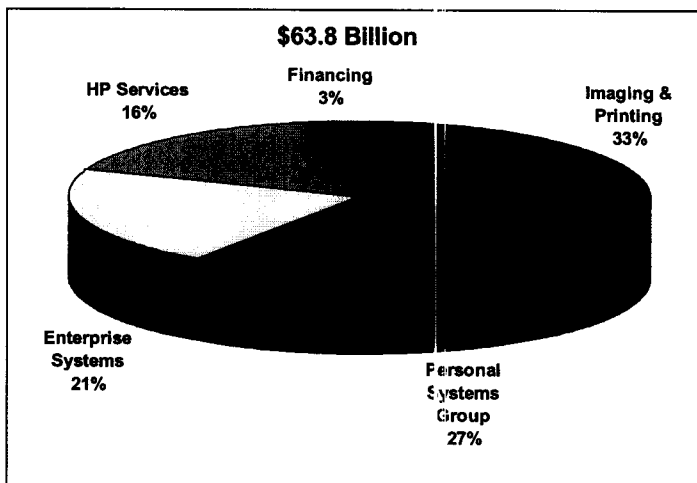


Exhibit 1D: HPQ Revenue Mix: CY2003E

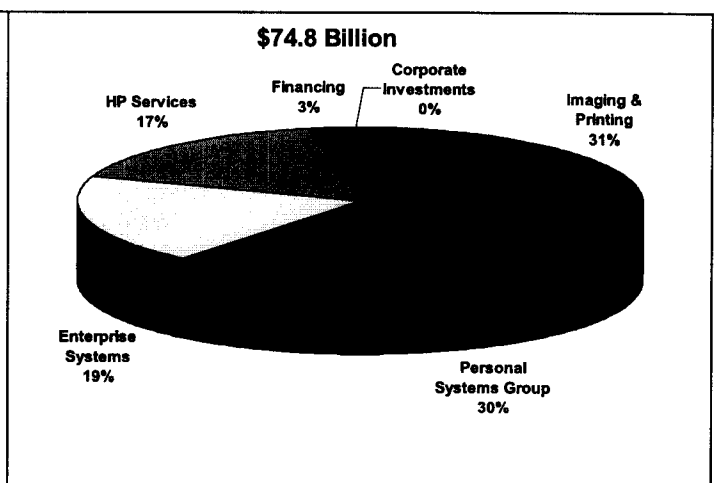


Exhibit 1E: Qtrly Segment Revenue, 1Q:F01-1Q:F06E

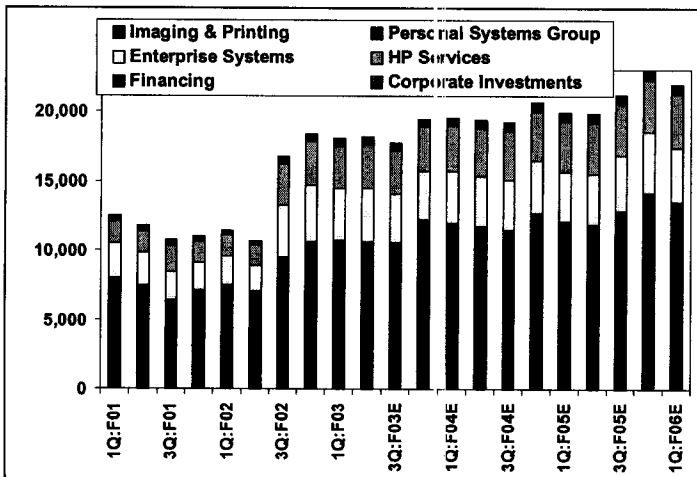


Exhibit 1F: HPQ vs. S&P, 10 Year



Source: CIBC World Markets estimates and Company Reports.

## Valuation

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### Price Target Calculation

Our 12-18 month price target of \$30 is struck on a P/Earnings multiple of 18X our CY05 EPS estimate of \$1.65. Our target P/ earnings multiple of 18X derives from the weighted average combination of four valuation approaches: forward-looking market multiple analysis relative to the S&P 500, based on HPQ's average ranges for the last eight and three years; discounted cash flow (DCF) analysis; HPQ's average Price/TTM Sales & TTM Earnings and Enterprise Value (EV)/TTM EBITDA multiples over the past 3 years.

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### Key Risks to Price Target

We believe potential for ASP and margin pressure in HP's enterprise and services businesses is among the greatest risk to earnings and achievement of share price target at the present time. HP's dominant share of the imaging and printing market, while a strength, also leaves the company at risk of market share losses from new entrants such as DELL. Other risks include the general level of IT spending, further declines in which would impact HP's overall earnings. Adverse macro economic factors may also drive overall contraction in equity market valuation multiples, directly impacting achievement of our share price target.

Equity Research

North America

United States of America

Systems and PC Hardware

## Hewlett-Packard

Reuters: HPQ.N Bloomberg: HPQ NYSE: HPQ

Rebecca Runkle  
(1)212 761 6466  
Rebecca.Runkle@morganstanley.com  
Kathryn Huberty  
(1)212 761 6249  
Kathryn.Huberty@morganstanley.com

Company Update

October 8, 2003

*A 4Q03 Trading Opportunity*

STOCK RATING	OVERWEIGHT -V
Price (October 8, 2003)	\$20.25
Price Target	\$24
52-Week Range	\$23.70-10.93

Stock ratings are relative to the analyst's industry (or industry team's) coverage universe.

GICS SECTOR	INFORMATION TECHNOLOGY
US Strategist Weight	16.9%
S&P 500 Weight	17.9%

- **We think HP is positioned for a strong F4Q, with possible upside to consensus estimates.**  
Given strong demand, a new product line-up, and lean retail inventories in Aug & Sept, we think upside to consumer revenue estimates is likely. In addition, stabilizing demand along with the completion of PartnerONE could drive strong sequential performance of ESG in Europe. Currency shifts and the fiscal-year end push should also help revenue growth this Q.
- **Risks to F4Q upside include an aggressive pricing environment and execution.**  
While we have little visibility into internal execution, we do know the pricing environment, especially for enterprise systems and commercial PCs, remains intense. We recently heard that HP stabilized its pricing and margins in Europe over the past quarter and believe that printer and PC retail pricing stabilized also some this Q.
- **HP is a good short-term trade given recent underperformance & potential F4Q upside.**  
In the short-term, we think market share gains in a strong retail environment, improvements in ESG and PSG execution, and stabilized demand in Europe could drive the stock to the high end of its trading range (16x C2004 P/E or ~\$24).
- **Industry View: Cautious**  
We have a more positive bias in terms of fundamentals and momentum and we believe current valuations already discount much of the firming fundamental outlook.

FY ending Oct 31:	2003	2004e	2005e	2006e
EPS (\$)	1.15	1.45	1.62	—
First Call Consensus (\$)	1.15	1.41	1.58	—
Revenue (\$ m)	72,232	74,643	78,143	—
P/E	17.6	14.0	12.5	—
P/E Rel. to (local index) (%)	86.7	77.3	—	—
Price/Book	2.7	2.6	2.5	—
EV/EBITDA	9.9	8.6	—	—
Curr. Yield (%)	1.6	1.6	—	—
Market Cap (\$ m)	61,745			
Enterprise Value (\$ m)	55,920			
Debt/Cap (07/03)(%)	23.0			
Return on Equity (07/03)(%)	16.9			
L-T EPS Grth. ('yy - 'yy) (%)	10.0			
P/E to Growth	1.40			
Shares Outstanding (m)	3,048.0			

Q'try	2002	2003e	2004e
EPS	actual	curr	prior
Q1	0.23	0.29	—
Q2	0.19	0.29	—
Q3	0.14	0.23	—
Q4	0.24	0.35e	—

e = Morgan Stanley Research estimates

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## A 4Q03 Trading Opportunity

### Company Description

Hewlett-Packard is a global provider of computing and imaging solutions as well as services for the business and the home. Its chief divisions include imaging and printing; computing systems; personal systems; and IT services.

### Summary and Investment Conclusion

While investor attention will shift to companies that report C3Q earnings this month, we think one of the strongest positioned names this Q is HP — with quarter-end in October. **Bottom-line: Given HPQ's recent under-performance (HPQ declined 3% since the end of its F3Q in July compared to a 7% increase for the group overall) and the potential upside to F4Q that we outline below, we believe HP is a solid short-term play.**

### Potential F4Q upside drivers include:

1. Based on conversations with retailers, HDD vendors and PC companies combined with NPD data, we believe consumer demand was meaningfully stronger than industry expectations this quarter. We expect HP will derive about 23% of revenues and 30% of its profits from its consumer business this quarter.
2. Retail inventories were lean through August and September and we expect strong October shipments as companies release new holiday products. Based on industry conversations, we believe HP commercial inventories were also lean in August and September.
3. HP's new Big Bang II consumer products launched in early August, drove market share gains in August — especially in growth areas, such as photo printers. We expect this trend to continue in September and October (especially given increased shelf space at electronic specialty and office superstores).
4. Based on our retail channel checks, we believe HP retail pricing stabilized in September and the beginning of October. If consumer demand remains strong despite the firming prices, this trend will directly benefit both Hewlett-Packard and Dell in the October quarter.
5. Based on conversations with European distributors, we believe IT hardware orders picked up in the second half of September, with particular strength in HP's

enterprise products. With an extra month of stabilization versus Systems & Enterprise Hardware names with September-end quarters, HP is likely to reap more upside from this unexpected trend. We also heard that HP ESG pricing and margins stabilized in Europe during the quarter. Lastly on Europe, we'd note the majority of HP's PartnerONE rollout is now complete and an easy F3Q compare should drive strong sequential revenue trends.

6. The recent shift in the Yen/\$ (from 0.0086 on Sept. 1st to 0.0091 today) and Euro/\$ (from 1.097 on Sept. 1st to 1.177 today) exchange rates will likely help HP's top-line more than investors may have expected after a stronger dollar in August. Overall, we expect a flat sequential impact and a 6% Y/Y benefit from currency on HP's top line, versus our original expectations of 4-5%. These calculations assume average quarterly exchange rates and comparing end of quarter exchange rates would imply an even larger benefit to revenues.
7. Given HP is the only company in our universe with an October fiscal year-end, its normal seasonal trends may drive better than industry revenue growth and related market share gains this quarter.

### Potential Risks to HP's F4Q include:

1. Aggressive pricing in the enterprise space with pressures on the high-end from IBM and SUNW and the low-end from Dell, may pressure hardware margins more than we anticipate.
2. Internal execution issues that are unforeseeable from an outsiders view are possible. With recent issues surrounding the ability to dynamically price PCs (F3Q), management of working capital (F1Q), and a focus on volumes versus pricing (since the merger), it's not out of the question that new or existing execution issues could impact HP's F4Q.

One last note, recent management changes in ESG may raise some investor concerns (HP undoubtedly lost some good management), but we'd note that given management's emphasis on execution — we think HPQ will remain focused on delivering results. As such, we believe more structural changes for the positive are likely

Hewlett-Packard – October 8, 2003

**Please see analyst certification and other important disclosures starting on page 7.**

over the next six+ months. We believe these moves will support improved execution and greater consistency in financial results.

**Maintain Overweight-V Rating; \$24 Price Target**

At \$20, HPQ trades at 13.7x our C2004E EPS of \$1.49. As comparison, Dell trades at 30.1x, IBM at 20.2x and LXX at 20.2x their respective C2004E EPS. From a capital structure perspective, we note HP has \$1.75/share in net cash (as of July 2003) and offers investors a dividend yield of 1.6%. A tough demand environment (especially in Europe and Asia), long-term revenue growth and margin performance and execution risks are all of concern. We continue to believe HPQ management is making the right long-term decisions for the company and that as the businesses align themselves costs will come out. However, we don't believe HPQ shares will break out of

their current multiple range (14-16x) until management provides consistent financial results. *In the short-term, we think market share gains in a strong retail environment, improvements in ESG and PSG execution, and stabilized demand in Europe could drive the stock to the high-end of its trading range (16x C2004 P/E or ~\$24).*

Our \$24 price target assumes a C04 P/E of 16.1x, which is lower than HP's 3-year historical average, pre-bubble ('96-'98), of 17x and the average P/E of its peers. Key risks to our target include loss of discipline as it relates to cost structure and margin performance, a further deterioration in IT environment and/or disruptive channel conflicts arising from HP's push into the direct channel. We believe it is important to continue to reflect a lower than historical/peer multiple given the incremental risks referenced above.

**HPQ: EXPLORING UTILITY COMPUTING—HIGHLIGHTS FROM OUR CALL WITH SOFTWARE SVP NORA DENZEL**

**Hewlett-Packard Co.**

HPQ | \$21.47 | NYSE

Steven M. Fortuna • 617.289.9608 • [steve\\_fortuna@prusec.com](mailto:steve_fortuna@prusec.com)  
Scott Ross • 212.778.5038 • [scoit\\_ross@prusec.com](mailto:scoit_ross@prusec.com)  
Jeff Constantino • 212.778.4469 • [jeff\\_constantino@prusec.com](mailto:jeff_constantino@prusec.com)

Current: **Neutral Weight**  
Risk: **Moderate**  
Target: **\$25.00**  
Industry: **Favorable**

All important disclosures can be found at the end of this report.

	FY	Rev	EPS	P/E	1Q	2Q	3Q	4Q
Actual	10/02	\$72,346.0A	\$0.79A	26.5X	\$0.23A	\$0.19A	\$0.14A	\$0.24A
Current	10/03	\$72,039.0E	\$1.15E	18.2X	\$0.29A	\$0.29A	\$0.23A	\$0.35E
Current	10/04	\$75,500.0E	\$1.40E	15.0X	\$0.34E	\$0.33E	\$0.32E	\$0.41E
Current	10/05	\$79,722.0E	\$1.55E	13.5X				

Avg. Volume: 12,100,000  
Market Cap: \$63,879 m  
Shares: 3,049.14 m

Div/Yield: 0.32/1.53%  
52w Range: 23.90-12.60

EPS Growth: 12.00%  
P/E / Growth: 1.5x

**HIGHLIGHTS**

- We, in collaboration with Senior Infrastructure Software Analyst Michael Turits, recently spoke to HP's SVP of Software on the topic of Utility Computing - what many people view as the "next big thing" in enterprise computing.
- The discussion was very helpful in terms of defining Utility Computing, identifying its components and parameters.
- We also gained a deeper understanding of HP's approach to the market, its current product offerings and to some degree its future roadmap.
- Finally, we briefly touched on the competitive landscape in this area and how HP believes it is differentiated from other hardware and pure-play software companies.

**DISCUSSION**

**Exploring Utility Computing With The Head Of HP Software.** Utility Computing – or what many people view as the “next big thing” in enterprise computing – was the topic of discussion on Friday October 17, between our IT Hardware team, Prudential Equity Group’s Infrastructure Software team (led by Senior Analyst Michael Turits) and Nora Denzel, HP’s Senior Vice President and General Manager of Software.

Our objective in speaking to Ms. Denzel about this topic was to better understand how HP defines Utility Computing, how the company views the market opportunity, what products the company is selling today (and which are on the horizon), and what advantages HP’s approach has versus its hardware and software competitors.

HP believes we are at the beginning of a new decade - one where adopting the adaptive enterprise approach allows an organization to react in real time to changes in the business, whether the change is a reorganization, merger, pricing change, currency change, or whatever. This would allow a company to focus on its core competency. IT is an enabler that should be linked to business processes. Responding in an automated way helps a company to stay competitive.

One piece of utility computing has to do with payment terms; generally the customer just pays for what it uses; the provider sells a terabyte, meters it and the customer pays for what it uses, similar to paying for your water bill. Then there is the issue of asset ownership - the infrastructure can be fully outsourced, partially outsourced or in-sourced.

Another element of utility computing is how the equipment is configured. To be sure, dynamic reallocation of computing resources is at the very heart of HP's adaptive enterprise. Resources are diverted to those applications in need of them. One approach is to use a grid to link the resources together with open source middleware. HP emphasizes its capability to link disparate, multi-vendor products in a virtualized data center.

Indeed, big pieces of technology are needed to achieve a truly adaptive IT infrastructure. They include automatic provisioning of resources to users, billing and metering, asset management, virtualization, and of course, security. Automatic provisioning speaks to the system's ability to efficiently re-purpose equipment to quickly meet the needs of a particular business process.

From a billing standpoint, service providers and customers need a well defined framework for determining who is using what resources in order to arrive at a billing methodology either for outsourcing or capacity planning. Additionally, there is a need to bill and meter at the user level, the department level, and so on according to an organization's requirements. HP itself is moving to a variable allocation model for billing internal customers.

Another huge component is asset management; organizations have 20,000 or 100,000 nodes now, with very dense equipment infrastructure. There is frequently a need for dynamic online inventory to give systems administrators a complete view for budgeting, planning and purchasing. HP has found that some customers have 10-12 asset management programs, many of which are home grown and make it hard to gather operational and financial management information.

There is also a security component of identity management, because the system needs to check before giving an application or a user access to resources. From there, resources then can be provisioned to support whatever application (e.g. SAP, PeopleSoft) needs them.

Moving beyond the infrastructure view, HP believes that business processes have become more and more important, and customers want to manage them in the same way as IT. Business impact management is the name inside HP, and the Holy Grail is to link IT to business processes.

Virtualization capability is critical to making the adaptive enterprise a reality. One of the clearest benefits of virtualization is the degree to which utilization can be improved. Today many resources in the data center have utilization rates as low as 20-30%. Another requirement for adaptive computing is to run in multiple OS environments, making it necessary to isolate failures from other applications or operating systems. Utility computing also necessitates a monitoring and root cause analysis capability.

So what functional pieces of the adaptive enterprise does HP possess today? First, the company believes it sells some of the best storage virtualization software on the market presently, both for its own RAID arrays as well as those of other companies. Among other things, Open View delivers local and remote virtualization and can do replication of HP to non-HP or non-HP to non-HP storage. On the server side, the company is shipping virtualization software that factors in usage patterns to decide on how to allocate CPU cycles. To date, HP has already sold 50-100,000 copies of its software. On the networking side, HP has virtual private network capability and can deliver applications to make networks more adaptable, such



as an adaptive network architecture for bringing on new vendors. This capability is offered through HP Professional Services.

HP's Utility Data Center (UDC) solution then ties together storage, servers, networks and applications into a so-called virtualized data center. This ensures that a customer can have storage from both EMC and HP as well as disparate servers and operating systems and still have it all play together. While all of these elements would have some virtualization, UDC provides the necessary glue in the form of hardware, software and services to tie it all together.

Another strength that HP touts in UDC is its built-in security. There are three to four levels of security to protect data and limit access to it. Functionality is included to firewall things off and not show them on the visualization screen. Very little of the security functionality within UDC is achieved through partnering.

To continue adding to its capabilities, HP just bought Select Access and will bring additional capabilities to market this quarter for identity management. For other security requirements, HP has partnered with eTrust and Symantec.

HP has built billing and metering capabilities into UDC so customers can gain an understanding of who is using what and how much. There is a lot of work going on within labs today to define a set of standards on which customer billing can be accomplished, though this is a long term project for the industry. For billing, HP suggests that customers partner with companies like Amdocs or others since they have proven solutions and experience.

Presently, customers such as Phillips Semiconductor and Ericsson are using UDC, but in different ways according to their unique requirements and strategies.

When probed about HP's roadmap and what elements are missing to fulfill its vision, Ms. Denzel commented that it has a great deal of the necessary functionality already in place, particularly in infrastructure management and services management. The company recently bought Talking Blocks for services-oriented Web services management. The company would like to go further in enabling customers to correlate IT information with operational data.

Surveying the competitive landscape, her assessment is that everyone but Dell is playing in it, but cautions that one has to be careful because utility computing means so many things. She believes that having hardware, software and services provides an edge and correspondingly IBM and HP have more complete stories. *The one risk is that if much of the enabling technology in utility computing resides in the software, then perhaps software pure-play companies are in the best position to exploit multi-vendor virtualization and on-demand, adaptive computing trends going forward.*

HP specifically believes it has a compelling story in that its solution is less about outsourcing than IBM's, though HP can and will do that for customers if desired. She expressed skepticism that pure software companies could excel at delivering on utility computing solutions without tight integration to services companies because of the complexity of the challenge and the scope of the work required.

In terms of whether customers will prefer a pure outsourced model, she expressed her sense that various customers will have different levels of enthusiasm for moving in that direction, depending on how they view their internal expertise and the extent to which they believe IT provides them a competitive edge.

Underscoring HP's commitment to this area, the company plans to put \$2.5 billion in R&D towards the adaptive enterprise initiative and will judge its success primarily on its share of wallet at customers.

Achieving leadership in this area and helping customers achieve their goals of integration, asset utilization and cost reduction are believed to be important to getting there.

**Valuation and Investment Recommendation.** In summary, our checks suggest that FQ4 results are tracking at least in-line with expectations, with consumer showing strength and enterprise remaining somewhat mixed with significant disparity based on geography. Inside HP, the stakes seem to have been raised in terms of executing on the plan, something which increases our confidence near-term. Nevertheless, we are viewing FY04 a bit more cautiously and have adjusted our model accordingly.

In light of historical trends and competitive positioning, we believe that the 12-year average forward P/E ratio of 16 is a realistic multiple for HPQ shares as the company is working to improve execution and consistency and has overcome many of the risks associated with the integration challenge posed by the Compaq deal. The valuation method used to determine our 15-month price target of \$25 is based on 16x our fiscal year 2005 estimated EPS of \$1.55. We maintain our Neutral Weight rating of HP.

**Risks That May Impede Achievement Of Our Price Target Include:**

- Supply disruptions, especially in the area of printer hardware where it relies significantly on its Canon relationship.
- Possible regulatory/legal decisions regarding business activities within the consumables market; HP has been asked to provide documentation to EU regulators (2002 10-K, p. 18).
- Dell's entrance into the printer and consumable market; HP is very reliant on the profit stream from its imaging and printing business and Dell perceives an opportunity to both grow its business and hurt HP through capturing market share and using its efficiency to pressure pricing in this very lucrative business.
- Foreign currency volatility. Because the company is so geographically diverse, a strengthening of the dollar versus other major currencies would have the potential effect of reducing revenue in U.S. dollars and could reduce earnings.
- Stock option compensation. HP issues options to managers and employees but does not recognize them as an expense on the income statement. Should the company change its policy and begin to expense options, it could materially reduce earnings per share and subsequently hurt the share price. In 2002, options expensing would have reduced EPS by \$0.31 and in 2001 by \$0.26.

**BUSINESS**

*Hewlett-Packard Co. (HPQ), based in Palo Alto, CA, provides computing, imaging, printing systems, and information technology services for home and corporate use. Products include servers, PCs, inkjet and laser printers, scanners, copiers, faxes, personal computers, workstations, and storage solutions.*

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	<u>Corporate Governance Quotient</u>
Vs. S&P 500	36.4%
Vs. Technology Hardware & Equipment	82%
<i>Source: Institutional Shareholder Services (as of 5/24/03). The company outperformed other companies comprising the market index as well as their industry group by the percentage noted.</i>	

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# Hewlett-Packard Co

## HPQ: Services in Focus – A Good Lead With Printers

### ■ HP Services Could See Margin Support

We spoke with the head of HP Services (HPS), who stated there is an increased willingness among IT buyers to engage in new projects. It seems pricing pressures are relatively subdued right now and we expect HPS to benefit from previously signed deals, lending some upside to our operating margin estimate for HPS in Q4 of 10.5%, helping support our estimate of \$0.34.

### ■ Imaging & Printing Services: a Good Move

HP announced it has signed \$500 million in print management contracts with an additional \$300 million in the pipeline. We believe HP's printer franchise provides an opportunity to leverage a massive installed base to develop specialized services and we give HP credit for moving to carve out a specialized service initiative.

### ■ HPS Snapshot: Managed Svcs Seem Better Than Consulting

The bulk of HPS consists of maintenance, but managed svcs performance should benefit from previously signed mega-deals, while consulting remains weak for HP. However, checks still indicate some improvements in consulting for IBM.

### ■ Valuation: \$27 Price Target

Our \$27 price target is 19X our 2004 EPS estimate and is also supported by our sum-of-the-parts analysis. Furthermore, we believe HP's printer business alone is worth \$22 per share based on a 23X multiple of IPG earnings.

Highlights (US\$m)	10/01	10/02	10/03E	10/04E	10/05E
Revenues	81,878	72,346	72,055	76,295	-
EBITDA	6,446	5,815	7,246	8,138	-
EBIT	3,693	3,038	4,446	5,488	-
Net income (UBS)	4,969	5,857	4,760	4,359	-
EPS (UBS, US\$)	0.71	0.77	1.15	1.40	-

Profitability & Valuation	5-yr hist. av.	10/02	10/03E	10/04E	10/05E
EBIT margin %	-	4.2	6.2	7.2	-
ROIC (EBIT) %	-	14.1	15.7	19.6	-
EV/revenues x	-	0.7	0.8	0.7	-
EV/EBITDA x	-	9.1	8.1	6.7	-
PE (UBS) x	-	22.8	17.7	14.5	-

Source: Company accounts, Thomson Financial, UBS estimate. UBS EPS is adjusted by adding back goodwill amortization.  
Valuations: based on an average share price that year, (E): based on a share price of US\$20.25 on 09 Oct 2003

**Ben A. Reitzes**  
benjamin.reitzes@ubs.com  
+1-212-713 3268

**Jonathan D. Hoopes**  
jonathan.hoopes@ubs.com  
+1-212-713 1118

**Apurva Shah**  
apurva.shah@ubs.com  
+1-212-713 7983

## Global Equity Research

United States

Computers

Rating **Buy 2**

Price target **US\$27.00**

RIC: HPQ.N BBG: HPQ US

9 October 2003

Potential returns	
Price target upside	+33.3%
Dividend per share (E)	US\$0.32
Dividend yield (E)	1.6%
Total return potential	+33.3%
Trend EPS growth rate	+12%

Trading data	
Price	US\$20.25
52-wk. range	US\$23.52-11.16
Market cap.	US\$62.2bn
Shares o/s	3,071m
Free float	89%
Average volume ('000)	10,066
Convertible	Yes
Volatility	Medium

Balance sheet data 10/03E	
Shareholders' equity	US\$38.6bn
P/BV (UBS)	1.6x
Net cash (debt)	US\$7.50bn

EPS (UBS, US\$)				
	10/02	10/03E	Prior	Cons.
Q1	0.21	0.29A	-	-
Q2	0.19	0.29A	-	-
Q3	0.14	0.23A	-	-
Q4	0.24	0.34	-	-
FY	0.77	1.15	-	-

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## **HP's Services (HPS) In Focus**

Yesterday, we spoke with Ann Livermore, HP's Executive Vice President in charge of Services. In line with our research, it seems there is an increased willingness among IT buyers to engage in new projects although for HP, Consulting & Integration remains relatively weaker than Outsourcing, which is benefiting from some large deals signed earlier in the year. It also seems that pricing on services deals are in line with expectations, even somewhat stable in some cases. In short, our findings back our estimate for HPS revenues of \$3.3 billion for fiscal 4Q03 (ends in October) and we also believe that our HPS operating margin estimate of 10.5% (down 0.4% q/q) for 4Q03 could be conservative, helping support our quarterly estimate of \$0.34. Services represent about 17% of HP's revenues.

## **Total Print Management Leverages Crown Jewel**

Earlier in the day, Livermore and Vyomesh Joshi (HP's Executive Vice President in charge of Imaging & Printing - IPG) hosted a conference call to discuss HP's recent momentum in imaging & printing services – Total Print Management (TPM). HP claims it has recently seen an increase in customer interest in IPG services. To date, HP has signed contracts with more than 625 customers totaling nearly \$500 million with \$300 million more in prospective business. The contracts are typically multi-year and include some key customers like Bayer, Bechtel SAIC and Duke University. HP touts its ability to reduce printing costs, improve operations and promote real-time marketing opportunities. HP claims it has helped some customers reduce enterprise printing costs by as much as 30% so far.

When we specifically asked Livermore why HP was making the I&P services announcements now, she indicated there were a few reasons: First, HP is making a big I&P services push into the enterprise; second, customers agree that printing & imaging represents a good opportunity to save costs; and finally, HP believes one-third of all business processes include some type of image rendering or printing.

We believe that certain IPG services, especially network management, can be valuable in lowering costs in the enterprise — and HP has a strategic advantage with its large installed base of business printers and reputation for reliable network printing. HP claims that most of its printers and multi-function devices contain embedded software that enable communication with PCs and servers, and certain HP printers allow tracking of consumables usage and consumables ordering via a Web-based process. While we acknowledge the near-term impact is small from TPM, IPG services are a unique area where HP can differentiate itself from IBM in the enterprise.

For the most part, Total Print Management revenues are billed on a “price per page” basis and revenues will be recognized in both the Imaging & Printing segment (printers and supplies) and HP Services (the services portion) and HP

Financial Services (the financing portion). We believe HP's recent indications to enter the copier market with Konica/Minolta as its OEM partner will only help HP offer even broader IPG related services and touch customers who are more accustomed to "click" charges as well.

We believe HP's announcements today of the \$500 million in signings and \$300 million in prospects are being showcased as part of a new marketing effort in this space. We note that these signings and prospects account for only about 3-5% of an estimated \$20 billion services backlog at HP. However, longer-term HP is hoping for a greater impact as it cited analyst estimates that the market for imaging and printing services could grow from a small base today to as much as \$17.5 billion in 2005/6. We note that HP still believes it has only a 4% market share of the 15 trillion annual printed pages on a global scale despite.

### **HPS Snapshot: Likely Improving in Managed Services, Not Consulting**

We are modeling HP's services business to account for about 17% of the company's FY03 revenues or about \$12.3 billion (flat y/y). As the second most profitable operation in Hewlett-Packard's portfolio, we expect HP Services earnings of about \$1.3 billion in FY03 (flat y/y) accounting for about 30% of company's the aggregate operating profits. Support (break/fix) should still account for 65% of the services revenue pool for the year (and account for most if not all of services profitability). Consulting and integration (about 21% of HPS revenues), which we expect to be up 3% y/y in 4Q, will likely still be down 15% for the full year. Meanwhile, we are modeling a low single digit operating margin for outsourcing (a.k.a. managed services, about 15% of HPS revenues) in FY03 – as HP continues to make headway in Total Print Management and as mega-deals signed earlier in the year (i.e., P&G, Ericsson and Bank of Ireland) start to generate earnings. We think there might be room for upside to services profitability if not in Q4, then likely in FY04.

**Checks Still Support Quicker Turn for Big Blue in Consulting:** Our checks and recent CIO survey lead us to believe that the consulting business in general could be firming for leading vendors only (like IBM) with some improvement in signings. This view is consistent with the UBS Computer Services and IT Consulting team (led by Adam Frisch), who believes that the IT services market is starting to improve for the leading (top tier) vendors, but underlying fundamentals are not yet strong enough for the entire sector to show significant increases in revenues growth. Despite continued weakness in HP's consulting business, we believe that its outsourcing (managed services) unit should show improvement this quarter.

Also yesterday, Technology Partners International, an independent 3rd party outsourcing and consulting deal advisor, provided its own perspective on outsourcing services demand. Based on its pipeline of activity, TPI expects the dollar value of mega-deals (greater than \$1 billion) will be down in 4Q03

because of a tough prior year compare when some very large deals were signed; notably the JP Morgan outsourcing deal with IBM for \$5 billion. TPI mentioned there were at least 4 mega-deals that could be closed in 4Q03. In addition, TPI indicated the business process outsourcing (BPO) market remains strong and that the European outsourcing market has also surged. IBM fares quite well with a strong presence in each of these segments, and TPI mentioned that HP has been less visible of late. Nonetheless, mega-deals signed earlier this year and smaller, less publicized deals are likely to drive some improvement in HP's outsourcing business into year-end.



SG Cowen

# Hewlett-Packard

Strong Buy (1)

September 29, 2003

## IPG Hand Has Strengthened

**Analysts**  
**Richard Chu**  
 (617) 946-3937  
 richard.chu@sgcowen.com

**Conclusion:** The inescapable conclusion from last week's twin developments (HP/Samsung OEM deal; Kodak strategic de emphasis of film in favor of digital) is that IPG not only has a highly defensible franchise, it is the primary beneficiary of the shift from analog to digital imaging. Thus, they solidify our conviction that IPG alone, conservatively, is worth \$20/sh or more.

- **Kodak underscores analog to digital shift.** Making its case for a strategic shift away from film to digital i.e., ink, in photo), Kodak foresees digital taking north of 45% of a 115B photo print market by 2006: that, by our estimate, implies a nearly \$10B increment in inkjet supplies revenue, with HP's IPG, arguably poised to be the primary beneficiary.
- **Samsung OEM deal may presage others.** The Samsung inkjet alliance suggest that "HP inside" may be a more attractive option for new entrants than attempting to reinvent the wheel; and, it suggests IP/patent barriers may be tough to overcome. HP also announced Olivetti Tecnost; more partnerships should be forthcoming.
- **Reiterate 1/Strong Buy.** These developments bolster our confidence in mid-teens growth for IPG's high margin supplies business over the next several years. Despite still to be proven execution in ESG and PSG, we think HPQ shares are especially attractive in the wake of the Q3 hiccup at 13+X and 11X our C2004 and C2005 EPS estimates.

<b>HPQ (09/26)</b>	<b>\$19.40</b>	<b>Revenue \$MM</b>									
<b>Mkt cap</b>	<b>\$59.1B</b>	<b>FY</b>	<b>2002</b>	<b>2003E</b>		<b>2004E</b>		<b>2005E</b>			
Dil shares out	3047.0MM	<b>Oct</b>	<b>Actual</b>	<b>Prior</b>	<b>Current</b>	<b>Prior</b>	<b>Current</b>	<b>Prior</b>	<b>Current</b>		
Avg daily vol	9,771.2K	Q1	—	—	17,877.0A	—	18,715.0	—	—		
52-wk range	\$10.9-23.7	Q2	—	—	17,983.0A	—	18,850.0	—	—		
Dividend	\$0.32	Q3	16,536.0	—	17,348.0A	—	18,005.0	—	—		
Dividend yield	1.6%	Q4	18,048.0	—	18,910.0	—	20,105.0	—	—		
BV/sh	\$12.11	Year	<b>72,346.0</b>	—	<b>72,118.0</b>	—	<b>75,675.0</b>	—	<b>81,000.0</b>		
Net cash/sh	\$1.85	EV/S	—	—	0.7x	—	0.7x	—	0.7x		
Debt/cap	15.4%										
ROE (LTM)	NA										
3-yr fwd EPS growth	NA	<b>EPS \$</b>									
		<b>FY</b>	<b>2002</b>	<b>2003E</b>		<b>2004E</b>		<b>2005E</b>			
		<b>Oct</b>	<b>Actual</b>	<b>Prior</b>	<b>Current</b>	<b>Prior</b>	<b>Current</b>	<b>Prior</b>	<b>Current</b>		
		Q1	0.23	—	0.29A	—	0.35	—	—		
		Q2	0.19	—	0.29A	—	0.34	—	—		
		Q3	0.14	—	0.23A	—	0.28	—	—		
		Q4	0.24	—	0.34	—	0.41	—	—		
<b>S&amp;P 500</b>	<b>996.9</b>	Year	<b>0.80</b>	—	<b>1.15</b>	—	<b>1.38</b>	—	<b>1.68</b>		
		CY	—	—	1.21	—	1.43	—	1.73		
		P/E	—	—	16.0x	—	13.6x	—	11.2x		

Please refer to the back of this report for important disclosures.

## **Investment Thesis**

We have argued that HP's core crown jewel Imaging/Printing franchise has EPS power of roundly \$1/share in F04 and, we think, can be valued at \$20/share or more, based on the growth prospects (mid teens usage/supplies growth) and superior brand, defensible IP and business model attributes. Developments in the past week reinforce our belief that such a valuation is appropriate, perhaps conservative. Otherwise, we continue to believe that structural/secular maturation combined with prospects for a moderate cyclical recovery are conditions conducive for improved returns in the Company's non IPG businesses spanning computing systems and related services, driven increasingly by standards based platforms moving deeper into the enterprise. Although we had lowered our expectations for expected ESG earnings, we still look for a positive EPS swing (about \$0.06/share) F04 versus F03. Plainly, investor skepticism has intensified considerably pending evidence of sustainable execution; however, at a PE on C2004/05 EPS of just 13.5X and 11.2X, we continue to see favorable risk reward, especially in view of the likelihood of a solid rebound in Q4 financials.

## **Samsung Partnership and Kodak Strategic Shift Underscore Envable Position for HP's IPG Franchise**

Two developments in the past week further underscore the defensibility and attractiveness of HP's high profitable Imaging and Printing franchise. While the franchise remains under attack, it is not only likely to withstand such threats but is positioned to enjoy solid growth and returns over the next several years. The two events, in reverse order: first, the late in the week strategic announcement by Eastman Kodak indicating that it will henceforth stop investments in film/silver in favor of pushing ahead full speed on digital; second, the announcement of an OEM inkjet partnership between HP and Samsung (for select Asian markets, and Olivetti, for Eastern Europe).

### **Kodak strategic shift suggests a very large market for ink**

Plainly, the dynamics that have led to Kodak's strategic decision to pull the plug on further investment in film/silver has been brewing for some time. Indeed, it is highly ironic that as recently as early 2000, the managements of Kodak and HP (represented by Antonio Perez, then President of HP's consumer business, but currently Kodak President/COO), got on stage to announce the formation of a new 50-50 joint venture (Phogenix). The JV's goal: develop and take to market an ink-based (not wet chemicals) photofinishing mini lab targeted at capturing a piece of the potentially burgeoning digital photo output market and developing a \$500MM+ business by 2005; Kodak would capture paper and HP the ink from the lucrative supplies stream. Although Phogenix had finally begun beta shipments early in 2003, the JV was shuttered in mid 2003. Last week's announcement from Kodak makes it clear that the shift to digital and to ink, in photo is not a dynamic that it can afford to attack one step removed (as, via a joint venture).

Examine Kodak's assertions with respect to the mix of print output over the next several years and the implications are inescapable. Kodak now (and back then, in 2000, at the time of the Phogenix JV launch) sized WW photo "print" demand at roundly 90 billion exposures, the vast majority (i.e., 90%+) of this satisfied via "traditional" film exposures.



- Kodak projects that by 2006, total print demand will expand to about 115 billion (an implicit CGR of 8%) and that the share of film/silver-based "print and select" exposures will drop to just 60-65 billion. In the meantime, it projects that the market for so-called "select & print" digital image output will build to a whopping 50+ billion prints (thinking in terms of 5x7 equivalents).
  - Assuming \$0.40/print, this is tantamount to a incremental print market of over \$20B, presumably much of which is consumables/supplies. Our take is that given HP's approximately 40-50% footprint in the inkjet arena, it is not unreasonable to think of a roughly \$8-10 billion incremental opportunity in photo-driven supplies over the next several years, compared to a base-line F2003 estimate of approximately \$7+B in inkjet based supplies revenue for HPQ. We estimate that combined laser and inkjet supplies will account for about \$12B of IPC's \$22.5B in revenue this year.
- We don't minimize Kodak's intent to play more aggressively in the inkjet business where, presumably, it will focus primarily on photo printing market (in addition to digital in the commercial printing arena). Notwithstanding, and despite Kodak's impressive credentials in color/imaging sciences and chemistry, we don't see it as one of the players with a critical repository of inkjet related patents, Kodak will have to transition from analog to digital and we do not see it looming as a serious threat any time soon in the broad inkjet arena. We certainly do not see it in any position to seriously undermine thermal inkjet supplies pricing structures.

In short the Kodak announcement validates a large opportunity in digital imaging for HP.

### **Samsung Inkjet Agreement**

Earlier in the week, HP announced two OEM agreements: the first with Samsung Electronics' Digital Printing Division and the second with Olivetti Tecnost; in both cases, the agreements envision the two partners building branded inkjet printer offerings (using HP's existing supply chain, in some cases) and incorporating HP's proprietary inkjet technology; in both cases, HP will be extending its distribution reach leveraging the partners, while it sells consumables directly to the partner (whether such supplies will be branded "HP-inside" remains unclear).

- Samsung has already evolved into a major global supplier of laser printing products, and is especially visible at entry levels. Notably, its success in the laser arena has been fueled by the fact that a substantial part of the early body of laser technology patents have moved into the public domain; it has been further fortified by significant licensing from Japan. Despite this, Samsung has had only very limited success in the inkjet arena. Duration of the agreement is unknown; Samsung will be able to sell into Korea and selected Asian markets.
  - We see at least two takeaways from the Samsung/HP alliance.
  - First and foremost, it should significantly help HP's ability to drive growth in installed base, and consequently, downstream supplies growth, by leveraging Samsung's resources.
  - Second, we see the decision as evidence that Samsung has concluded after several years' effort to develop a full fledged inkjet platform of its own that it has found, on balance, patent/IP barrier constraints to be too difficult to navigate around. Consequently, it may also suggest that Dell (with a Samsung/Dell partnership agreement in laser printing expected imminently) will find it

difficult to leverage a Samsung partnership in inkjet --- beyond Lexmark, its options may indeed be limited to HP, Canon, and Seiko Epson.

- The Olivetti deal is structured similarly, but targeted at select Eastern European and Latin American markets.
- Looking ahead, we would certainly not be at all surprised if HP were to reach a similar partnership agreement with a leading systems player in the clearly increasingly important China market; downstream, of course, such an agreement may circumvent or minimize potentially troublesome IP loopholes.