



Equity Research

November 5, 2007

Enterprise Storage/Networking Weekly

Room for Further HDD Share Momentum; Ent Storage Trends Looking Good

- COMBINED STX (\$28.60) & WDC (\$28.91) P/S AND OP. INCOME MULTIPLES POINT TO ATTRACTIVE/IMPROVING RISK REWARD PROFILE; CONTINUE TO FAVOR STX ON UPSIDE POTENTIAL - Western Digital's strong reported September results and outlook going into the December quarter, as well as surprisingly into 2008 provided investors with increased comfort that the overall HDD industry is benefiting from some clearly positive structural changes. We also find that when looking at the strong improvement in operating profitability for the combined companies, current shares of Seagate and Western Digital appear to offer an attractive risk/reward profile. According to our analysis, the combined market capitalizations of Seagate and Western Digital have traded at a median market cap-to-sales multiple of approximately 6x. This compares to the combined market caps trading at approximately 5.8x over the past few quarters. Using a market cap to operating income multiple analysis, we see a much wider range, which offers a much more favorable upside story for the combined companies.
- OTHER HDD POSITIVES - In this report we highlight several other HDD data points coming out last week - (1) Hitachi results - revenue growth underperformance continues, though improving operating losses, and guided profitability in CQ4 2007, a positive for the overall industry. Speculation surrounding the potential of HGST going private continues to swirl, (2) Quanta & Compal results - strong notebook shipments (expected) with 20/30% yr/yr growth now expected looking into 2008 (note: shipments have +90% correlation with HDD mobile shipments), (3) Lenovo PC shipment growth remains very strong; driven by emerging markets growth (most notably China), (4) ASUSTEK motherboard shipments; desktop HDD implications, (5) TDK and Hoya results - read/write heads and media data points, and (6) Speculation of HDD component shortages continuing into CQ4 2007.
- HITACHI REPORTS IN-LINE STORAGE SOLUTIONS REVENUE - Hitachi reported 7% yr/yr growth in its storage solution revenue during CQ3 2007, in-line with EMC's Information Storage solutions revenue growth. In this, however, the company did report strong double-digit sequential (low-single digit yr/yr) growth in its high-end USP sales, suggesting some modest (1-2pp) share gains versus EMC and IBM. USP controller installed base expanded from 6,000 units exiting CQ2 2007 to ~7,300 units exiting CQ3 2007; indicative of a healthy ramp in the new USP-V. Hitachi was upbeat with regard to its backlog and industry trends looking into CQ4 2007; most notably on growth in Europe and Asia-Pac.
- OTHER KEY TOPICS - (1) NetApp and Cisco earnings preview highlights (NetApp reporting on 11/14, Cisco on 11/7), (2) QLogic and Emulex 10-Q review highlights, (3) Xyratex derivative thoughts - WD tempers CapEx and Intevac results point to ongoing sluggish HDD CapEx spending trends; continue to point to limited Xyratex catalyst over the next few quarters, (4) Western Digital's announcement of industry leading 320GB 2.5" notebook drives, (5) Isilon executive management changes, and (6) Voltaire's announced InfiniBand win at JP Morgan; QLogic implication thoughts.

Enterprise Hardware

Aaron Rakers, CFA, Senior Analyst
(314) 955-4404 / aaron.rakers@wachovia.com

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Industry Updates – Hard Disk Drives & Enterprise Storage

Hard Disk Drives (HDDs) – The Positives Keep Coming...Further Upside Expected as Results Continue to Point to a More Sustainable Up-Cycle.

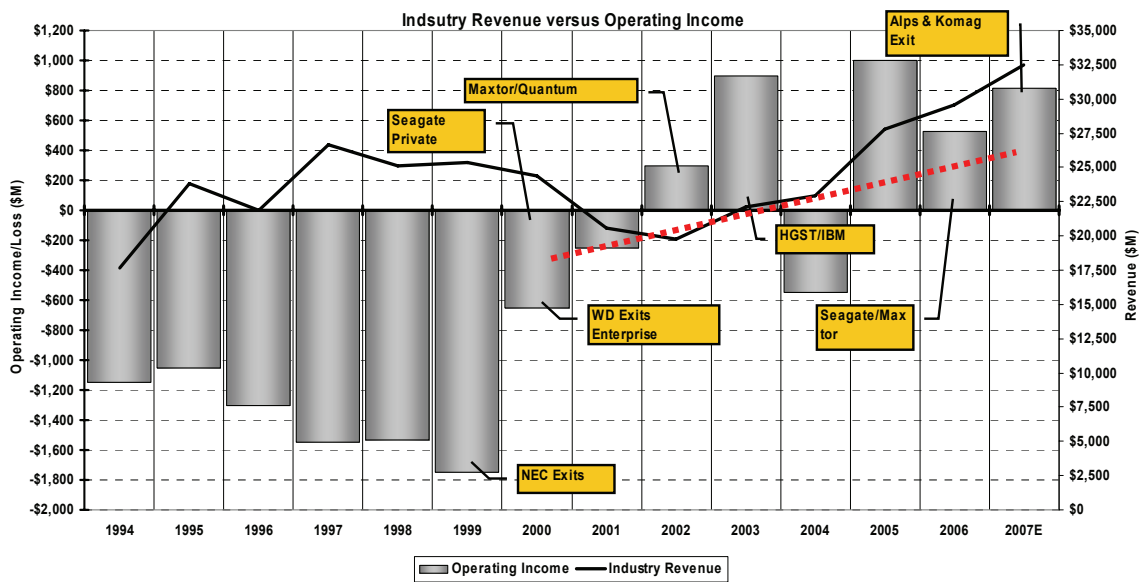
Combined Seagate & Western Digital Price/Sales and Operating Income Multiples Point to Attractive/Improving Risk/Reward Profile; Continue to Favor Seagate on Upside Potential – Western Digital's strong reported September results and outlook going into the December quarter, as well as surprisingly into 2008 provided investors with increased comfort that the overall HDD industry is benefiting from some clearly positive structural changes. As Seagate had highlighted at its recent (9/7) Analyst Day event, the industry is seeing component supplier consolidation and a more rational competitive environment benefit the overall revenue growth and, more importantly, the profitability of the HDD industry as a whole. As shown in Figure 1 below, we estimate that the industry will see a strong increase in overall revenue and operating income during 2007 (possibly even seeing upside to the peak operating income levels realized in 2005). In this we highlight the key industry consolidation events that have taken shape over the past year. As Seagate had highlighted at its Analyst Day, the industry has seen considerable consolidation on many fronts over the past few years (see Figure 2).

In addition, we have also taken a look at the combined quarterly revenue and operating income trends for Seagate, Western Digital, and Hitachi (three largest providers of HDDs – see Figure 3), and find:

1. There has clearly been a strong fundamental improvement that is expected to carry through the December quarter. Hitachi provided guidance calling for operating profitability in its current quarter – would be a first in several years and compares to \$174 million in operating losses during CQ2 2007 alone. This has been further supported by our industry checks continually suggesting that Hitachi is looking to make some meaningful strategic moves in its HDD operations over the very near-term (possibly even taking the entire operations private), while WD had noted that Samsung has also seemingly narrowed its focus on going after core niche market opportunities rather than pricing for the sake of share gains.
2. There is an improved sense that rational pricing trends will be sustained through CQ4 2007 and possibly into 2008, according to our conversations, with all vendors noting that many capacities are remaining on allocation in the current quarter; Hitachi actually stating that it was unable to fulfill 2.5” notebook HDD demand during CQ3 2007.
3. Revenue growth appears to be very healthy as a mix-shift toward higher capacities continues to gain momentum in most every HDD addressable market (most notably in notebooks, but also in 3.5” drives, which have continually been driven by the use of high-capacity drives in enterprise applications; e.g. Nearline storage).

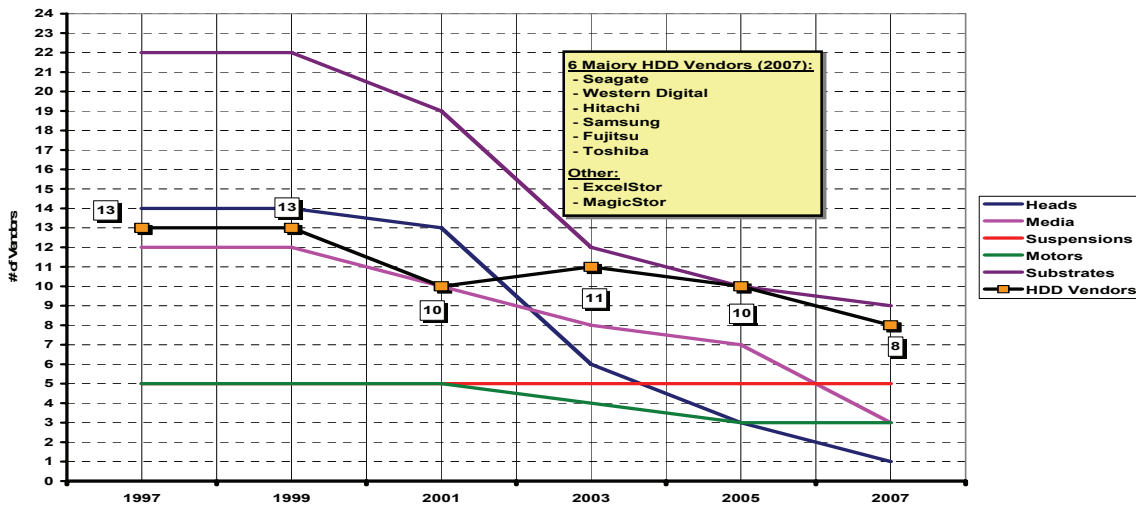
We also find that when looking at the strong improvement in operating profitability for the combined companies, current shares of Seagate and Western Digital appear to offer an attractive risk/reward profile. According to our analysis, the combined market capitalizations of Seagate and Western Digital have traded at a median market cap-to-sales multiple of approximately 6x. This compares to the combined market caps trading at approximately 5.8x over the past few quarters (see Figure 4). Using a market cap to operating income multiple analysis, we see a much wider range, which potentially offers a much more favorable upside story for the combined companies. While we have not used this methodology for valuing shares of Seagate or Western Digital on a standalone basis in the past, we believe this does provide us with a sense that the current risk/reward profile for the combined HDD industry continues to appear attractive at current levels. Figure 5 highlights the quarterly closing share price for Seagate and Western Digital relative to the combined operating income levels of Seagate, Western Digital, and Hitachi over the past few years.

Figure 1: HDD Industry Revenue versus Operating Income - Annual



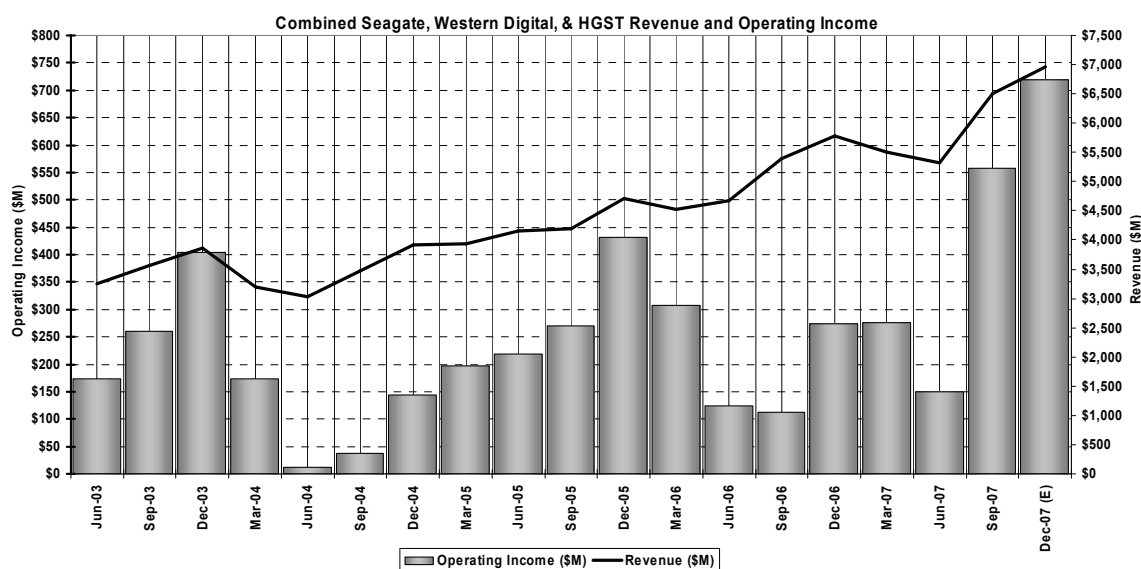
Source: Company Results; IDC; Wachovia Capital Markets, LLC

Figure 2: HDD Industry Consolidation



Source: Company Results; IDC; Wachovia Capital Markets, LLC

Figure 3: Combined Seagate, Western Digital, and Hitachi Quarterly Revenue and Operating Income



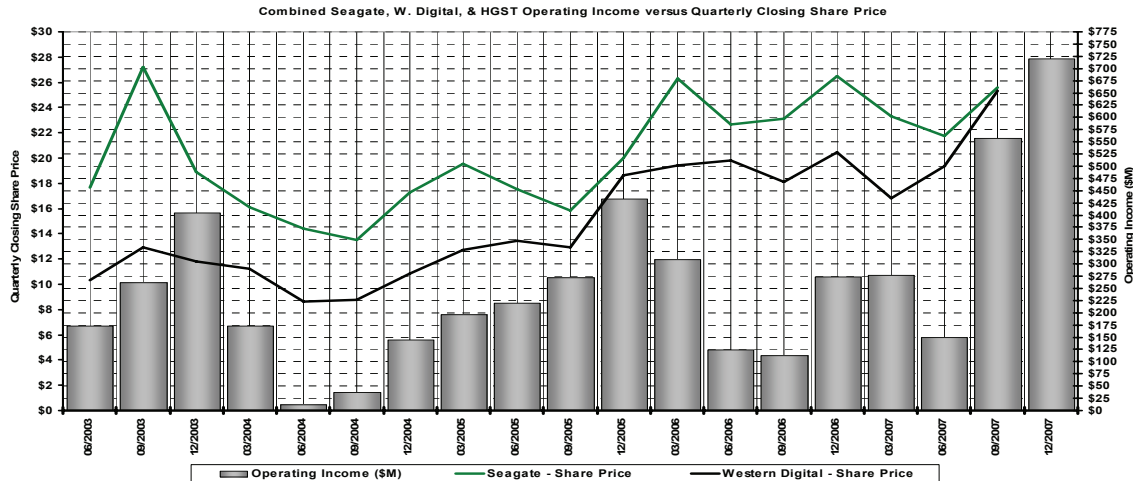
Source: Company Results; IDC; Wachovia Capital Markets, LLC est.

Figure 4: Seagate & Western Digital Quarterly Market Cap-to-Sales/Operating Income Analysis

	Combined		Ending Qtr. Market Value			Combined Multiples	
	Revenue	Op. Income	STX	WDC	Combined	MC/Sales	MC/Op. Income
Dec07 (E)	\$3,481	\$719					
Sep-07	\$3,285	\$557	\$13,557	\$5,621	\$19,178	5.84	34.43
Jun-07	\$2,744	\$149	\$11,647	\$4,296	\$15,942	5.81	106.99
Mar-07	\$2,828	\$276	\$12,652	\$3,784	\$16,436	5.81	59.55
Dec-06	\$2,996	\$274	\$14,708	\$4,565	\$19,272	6.43	70.34
Sep-06	\$2,793	\$112	\$13,231	\$4,006	\$17,236	6.17	153.89
Jun-06	\$2,529	\$124	\$13,039	\$4,378	\$17,417	6.89	140.46
Mar-06	\$2,289	\$308	\$12,981	\$4,286	\$17,267	7.54	56.06
Dec-05	\$2,300	\$432	\$9,655	\$4,048	\$13,703	5.96	31.72
Sep-05	\$2,088	\$271	\$7,608	\$2,773	\$10,381	4.97	38.31
Jun-05	\$2,179	\$219	\$8,367	\$2,868	\$11,235	5.16	51.30
Mar-05	\$1,969	\$197	\$9,267	\$2,708	\$11,975	6.08	60.79
Dec-04	\$1,847	\$144	\$8,082	\$2,246	\$10,328	5.59	71.73
Sep-04	\$1,558	\$37	\$6,273	\$1,812	\$8,085	5.19	218.51
Jun-04	\$1,336	\$12	\$6,632	\$1,785	\$8,417	6.30	NM
Mar-04	\$1,388	\$173	\$7,371	\$2,329	\$9,701	6.99	56.07
Dec-03	\$1,760	\$404	\$8,524	\$2,431	\$10,955	6.22	27.12
Sep-03	\$1,740	\$261	\$12,213	\$2,649	\$14,862	8.54	56.94
Jun-03	\$1,553	\$173	\$7,746	\$2,090	\$9,836	6.33	56.86
Average						6.21	75.95
Median						6.13	56.94
Maximum						8.54	218.51
Minimum						4.97	27.12
Implied Combined Mkt Cap on Dec. Using Median					\$21,327		\$40,941
Implied Combined Mkt Cap on Dec. Using Maximum					\$29,733		\$157,109
Implied Combined Mkt Cap on Dec. Using Minimum					\$17,308		\$19,497
Current Market Cap: Seagate							\$14,628
Current Market Cap: Western Digital							\$5,776
-- Combined Market Cap.							\$20,404
Implied Combined Upside (%; Median)							100.6%
Implied Combined Upside (%; Max.)							670.0%
Implied Combined Downside (%; Min.)							-15.2%

Source: Company Results; IDC; Wachovia Capital Markets, LLC

Figure 5: Seagate & Western Digital Closing Quarterly Share Price versus Combined Seagate, Western Digital, & Hitachi HDD Operating Income



Source: Company Results; IDC; Wachovia Capital Markets, LLC est. 12/2007E

Western Digital Provides Upbeat Commentary on Current Quarter; Already Getting Visibility 2008 –

Western Digital reported very strong results for its September quarter (see further commentary below), and more importantly provided investors with an increased sense that current strong fundamentals could potentially continue into 2008. Specifically, the company stated that: *“Based on current demand and factory build rates, we believe that the industry will be much better positioned entering the January/March quarter than in recent years...”* Furthermore, the company stated that industry inventory levels (OEM, distribution channel, and within the manufacturers), was down 8% yr/yr exiting the September quarter, and down 11% exiting October from a year ago. The company provided several comments suggesting that it has not seen any double order within the PC supply chain (though we believe a sense of caution remains warranted) and that the industry is clearly seeing structural changes (i.e. component vendor consolidation, coupled with HDD vendors focused on operating profitability) benefiting the overall industry. That said, the company, like Seagate, offered up somewhat conservative guidance for the December quarter with pricing expected to remain stable (not really factoring in ongoing mix-shifts up in capacities) and unit demand growth in the +4-6% sequential range.

Hitachi Reports HDD Results with Top-Line Growth Underperforming its Peers, but Operating Margin Showing Solid Signs of Improvement; Profitability in the December Quarter?? -

Hitachi reported total HGST revenue of \$1.45 billion, up 9% yr/yr and 19% sequentially. As noted above, this compares to Seagate reporting revenue of \$3.285 billion, or up 18% yr/yr, during its September quarter, and our estimate of Western Digital reporting revenue of \$1.673 billion, up 32% yr/yr when it reports CQ3 2007 results. Hitachi’s total shipments grew to 24.3 million units, up 22% yr/yr and 20% sequentially. This compares to Seagate reporting total shipments of 47.18 million, up 21% yr/yr and also up approximately 20% sequentially. We estimate that Western Digital will report total unit shipments of approximately 29.6 million during its September quarter, up 30% yr/yr and 19% sequentially

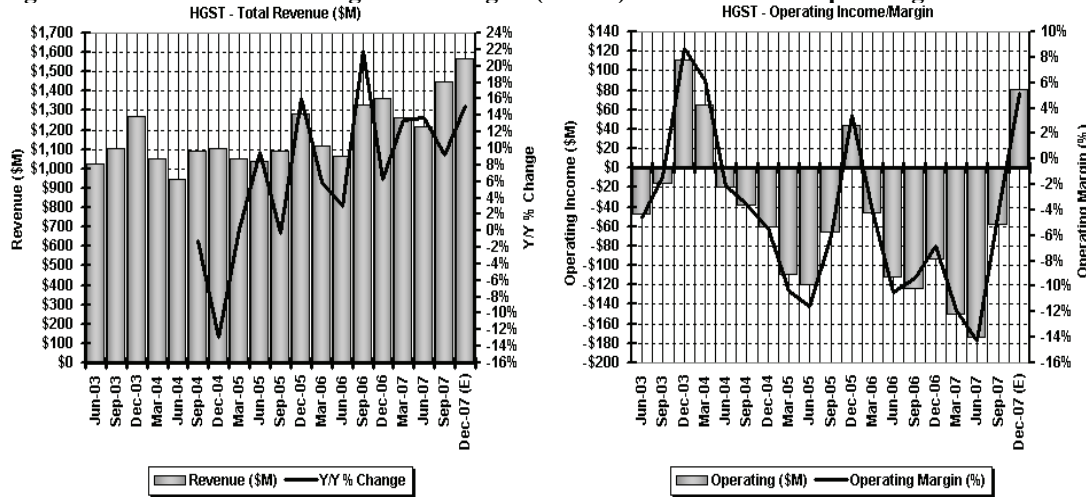
More important is Hitachi’s operating loss dynamics, in our opinion. During CQ3 2007, Hitachi reported an operating loss of \$58 million. This represents a significant improvement from the \$150 million and \$174 million operating losses reported during CQ1 and CQ2 2007, respectively. As a reminder, in early 2007 the company had laid out a restructuring effort focused on attaining breakeven trends by the end of 2007. It appears that the company’s efforts are finally moving in the right direction, which we again view as a positive for the overall HDD industry (i.e. a greater sense of pricing rationality).

HGST Guidance – Hitachi is guiding its HDD revenue to be approximately \$1.57 billion during CQ4 2007, up 15% yr/yr and 8% sequentially. This compares to our estimate of Seagate revenue growing 16% yr/yr and 6% sequentially, and Western Digital revenue growing 21% yr/yr and 4% sequentially during the current quarter. The company is estimating total shipments to grow 26% yr/yr to 25.9 million units (up 6% sequentially). Given recent demand trends, and our checks thus far during CQ4 2007, it currently appears that these growth trends could prove somewhat conservative overall, in our opinion. More importantly,

HGST is expecting to report operating income of \$81 million during Q4 2007, representing the first quarter of operating profitability since the Dec 05 quarter.

Figure 6 below highlights Hitachi's HDD revenue and operating income trends over the past several quarters, including the company's estimate for the December quarter. **Please see our detailed report published on 10/31/07 titled *Hitachi Storage Review*.**

Figure 6: Hitachi Global Storage Technologies (HGST) – Revenue and Operating Income Summary



Source: Company Results; IDC; Wachovia Capital Markets, LLC

Hoya, Provider of Glass HDD Media, Reports Slower Glass Media Sales due to Ongoing PMR Production Issues – Hoya, a provider of glass media for the HDD market (primarily used in 2.5” notebook and other small form-factor drives), announced that sales within this segment did decline yr/yr due to lingering production issues with new PMR-based solutions. This is quite interesting when considering the ongoing rapid growth taking place in the HDD market. The company did note that sales increased on a sequential basis during its September quarter. In the June quarter Hoya had noted that it was seeing an internal delay in the commencement of PMR solutions, coupled with seasonal delays leading to yr/yr revenue declines.

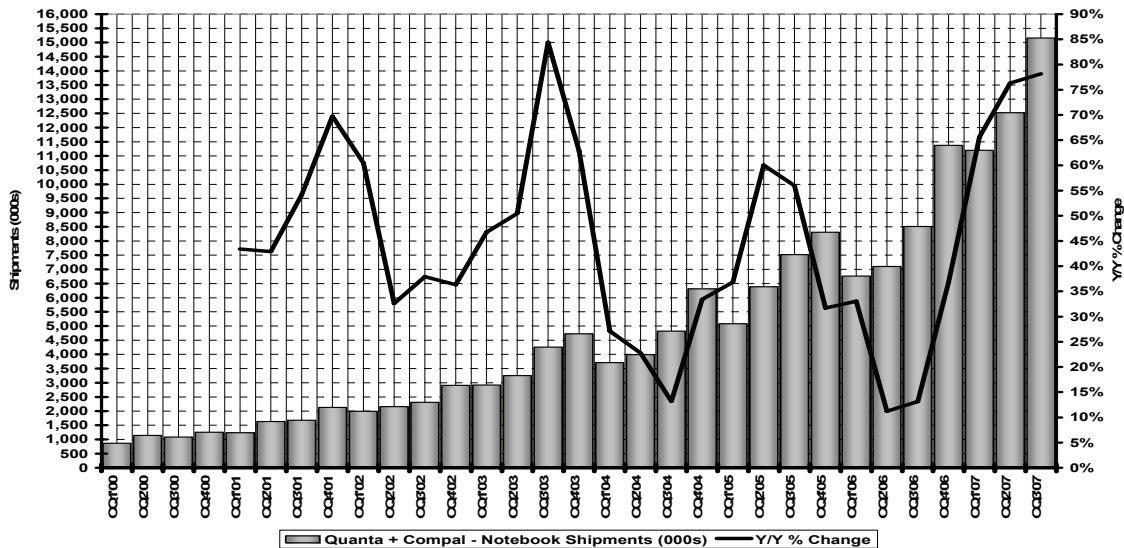
Quanta Computer Reports CQ3 2007 Results with Strong Notebook Shipments; HDD Implications

Quanta reported its CQ3 2007 results, in which we focus on the implications for the notebook PC market, and therefore HDDs. As a reminder, we continue to track notebook shipment trends from Quanta and Compal, the two leading Original Design Manufacturers of notebooks, as having strong corollary implications for the HDD industry (plus-90% correlation with 2.5” HDD shipments). Some of the key highlights from Quanta include:

- Quanta reported notebook shipments of 8.8 million units, up 20% sequentially. This reflects the company shipping 3.1 million notebooks during September, which was up 7% over August shipments, up 82% yr/yr.
- With regard to CQ4 2007 demand the company sees strong demand in the notebook market; better-than-prior expectations. Quanta now expects to ship 30 million notebooks during 2007, up more than 50% yr/yr. This compares to the prior forecast of shipping 28 million units in 2007.
- Looking into 2008, Quanta is now targeting at least 20% yr/yr notebook shipment growth, or approximately 36 million units. The company does expect CQ1 2008 trends to see “normal seasonality” with regard to shipments – mild sequential decline by low-teens percentage expected. The company expects an ongoing positive trend around the replacement of desktops, as well as a corporate upgrade cycle “warm-up”.
- The company noted that it continues to see tightness in the component market for notebooks, explicitly noting LCD panels, batteries, but nothing with regard to HDDs. The company did state that these issues has had limited impacts on shipment trends.

Figure 7 below highlights Quanta and Compal’s combined notebook shipment trends over the past several quarters.

Figure 7: Combined Quarterly Quanta + Compal Notebook Shipments

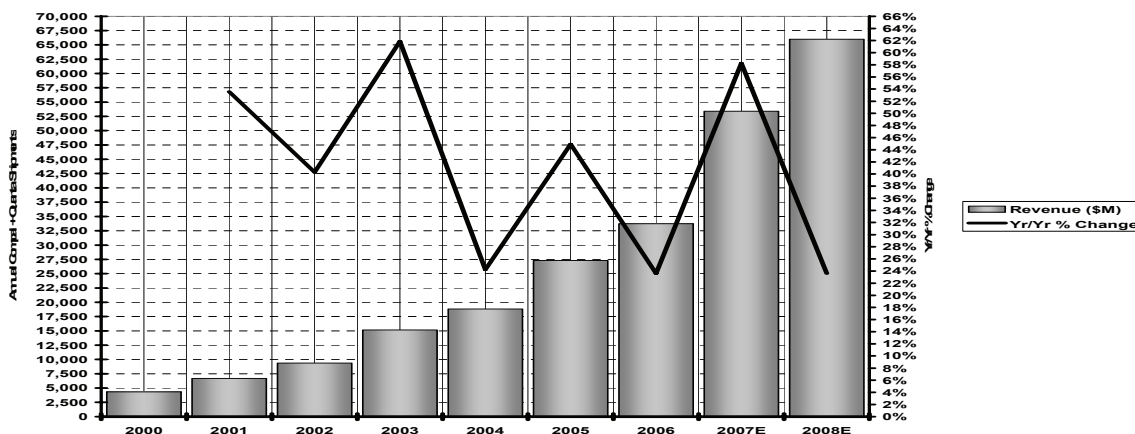


Source: Company Results; Wachovia Capital Markets, LLC

11/1/07: Compal Reports September 2007 Quarterly Results.

Compal reported September quarter unconsolidated revenue of 115.38 billion Taiwanese dollars (US\$3.56 billion, up 17% qtr/qtr and up 45% yr/yr), on strong demand for notebooks (similar to the aforementioned Quanta). The company shipped 6.1 million notebooks (up 56% yr/yr) during the quarter and expects shipments in the December quarter to total 6.7 million (up 10% qtr/qtr), and said that they would have forecasted an additional 10% sequential increase had it not been for component shortages in the channel. This would imply shipments of approximately 23.4 million units in 2007. For 2008, Compal guided for 30 million notebook shipments (up 30% yr/yr) with a forecasted market share gain of 3%. Figure 8 below highlights the combined Quanta and Compal notebook shipments for 2007 and looking into 2008.

Figure 8: Combined Compal + Quanta Annual Shipments; 2007 and 2008 Forecast



Source: Company Results; IDC; Wachovia Capital Markets, LLC

Lenovo Results Provide More Positive PC/HDD Data Points; Strong Growth Driven by Emerging Markets - Much like other data points in the PC market, Lenovo reported healthy results for its September quarter; an ongoing positive theme for the HDD industry. We remain focused on PC and HDD trends looking into 2008, though we believe visibility continues to improve and possibly suggests a typical, if not better,

seasonal trend during CQ1/CQ2 2008 at this point. Lenovo reported total PC shipment growth of 23% yr/yr. This compares to overall shipment growth of 10%, 8%, 17%, and 22% during the prior four quarters, respectively. In this, notebook shipments grew an impressive 42% yr/yr, which compares to 20%, 20%, 29%, and 26% yr/yr growth during the prior four quarters, respectively. It is interesting to note that Hitachi told us that demand for notebook HDDs outstripped supply during CQ3 2007; Lenovo is a large customer. Lenovo reported that its desktop shipments grew 12% yr/yr, which compares to 4%, 2%, 11%, and 20% yr/yr during the prior four quarters, respectively. Notebook revenue grew to 56% of Lenovo's total revenue, reflecting the ongoing notebook replacement trend in the PC market (up from 52% and 53% in the year ago and prior quarters, respectively). It is important to note that Lenovo does derive 41% of its total revenue from Greater China, as well as 20% and 12% of revenue from EMEA and Asia-Pac. Total PC shipments in China grew 31% yr/yr (vs. +30% yr/yr in prior quarter) with notebook shipments up 78% yr/yr. EMEA shipments grew 16% yr/yr (vs. +22% yr/yr in prior quarter) and Asia-Pac shipments grew 24% yr/yr (vs. +12% yr/yr in prior quarter). Americas shipments grew 12% yr/yr (vs. +15% yr/yr in prior quarter). Therefore, we believe this is an indication that the emerging markets continue to be the most notable driver of growth in the PC market - possibly providing some comfort with regard to seasonal trends looking into early 2008.

ASUSTEK, Provider of PC Motherboard, Reports CQ2 2007 Results; HDD Implications

Asustek announces September quarter results. According to an article in *DigiTimes*, Asustek Computer reported September quarter sales of NT\$133.6 billion (+21% qtr/qtr and +46% yr/yr). The article mentioned Asustek was focusing on selling mini-PCs to offset relatively weaker desktop growth. For the December quarter, Asustek is forecasting 5-10% qtr/qtr motherboard unit shipment growth, comparable to expectations that graphics cards will show growth of roughly 15% in the December quarter. We believe Asustek's motherboard shipment guidance of 5-10% qtr/qtr growth in the December '07 quarter (+5% qtr/qtr in Dec. '06) reflects normal seasonality and is quite reassuring following the 3% yr/yr decline in Tier 1 Taiwanese motherboard shipments in the month of September. Notebook shipments are expected to experience the fastest growth in the December quarter with handset shipments expected to double in 2008 over 2007 levels. Asustek sold 100,000 Eee PCs following the first two weeks of its launch with target expectations of 400,000 units exiting 2007. Monthly unit shipment goals in 2008 for the mini-PCs are forecasted to be around 300,00-400,000 units based off a full year 2008 target goal of shipping 3.8 million Eee PCs.

Did Notebook Component Shortages Adversely Impact CQ3 2007 Shipments?

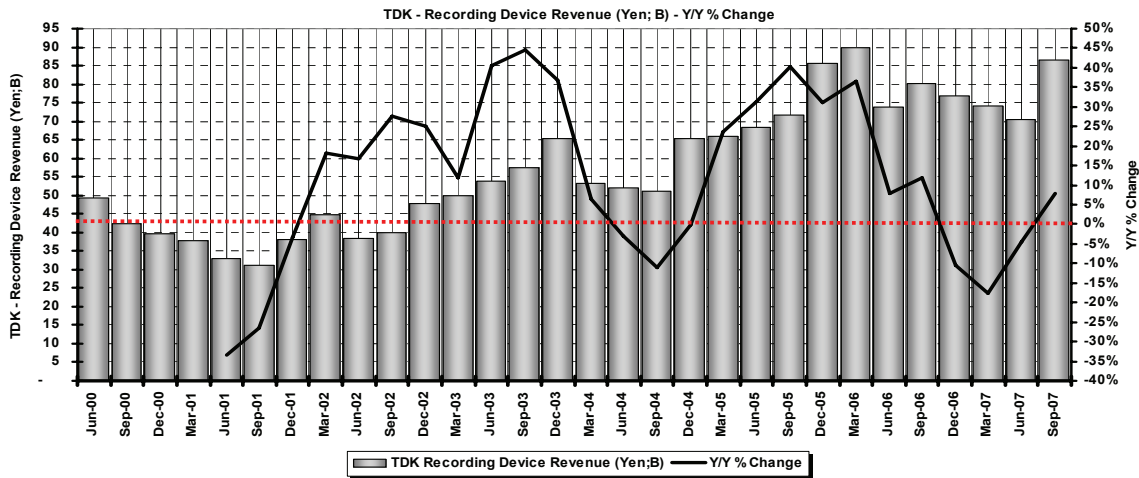
An article on *DigiTimes* reported that market sources have suggested that notebook component shortages during the September quarter forced some ODMs to reduce their third quarter shipments by as much as 10%. The article noted that many shipment orders have been delayed until the December quarter, which should cause high sequential and year/year growth of 27% and 44% respectively during that quarter. Components involved in the shortage include power management (PWM) ICs, graphics cards, high-capacity hard disk drives, panels, batteries, and mechanical parts.

TDK Reports CQ3 2007 Results; Strong CQ3 2007 Growth, but Tempered Outlook Given Pricing Concerns

TDK, the only merchant provider of HDD read/write heads with its acquisition of Alps HDD assets, announced its September quarter results. In this, we are focused on the company's Recording Device results, which reflect the company's sales of heads into the HDD market. As shown in Figure 9 below, TDK reported that its total recording head revenue came in at ¥86.5 billion, up 8% yr/yr and 23% sequentially (equates to \$752 million). The company did close its agreement to acquire the recording assets of Alps Electric in late September. The company reported that its overall sales of HDD heads increased yr/yr with sales volume increase on the back of higher unit production driven by demand in PC HDDs, as well as expanding applications in consumer electronics.

Going forward, TDK's release notes that overall demand continues to grow for HDD heads (suggesting that PMR thus far continues to be utilized to increase overall capacities rather than taking out head component costs, in our opinion). The company also notes that it expects intense price-based competition in HDDs with a resulting impact on HDD heads. TDK now expects its recording device revenue to total ¥316 billion during its F2008 (ending March 2008), which reflects an increase of 3.7% and an improvement over the prior forecast of approximately ¥299 billion.

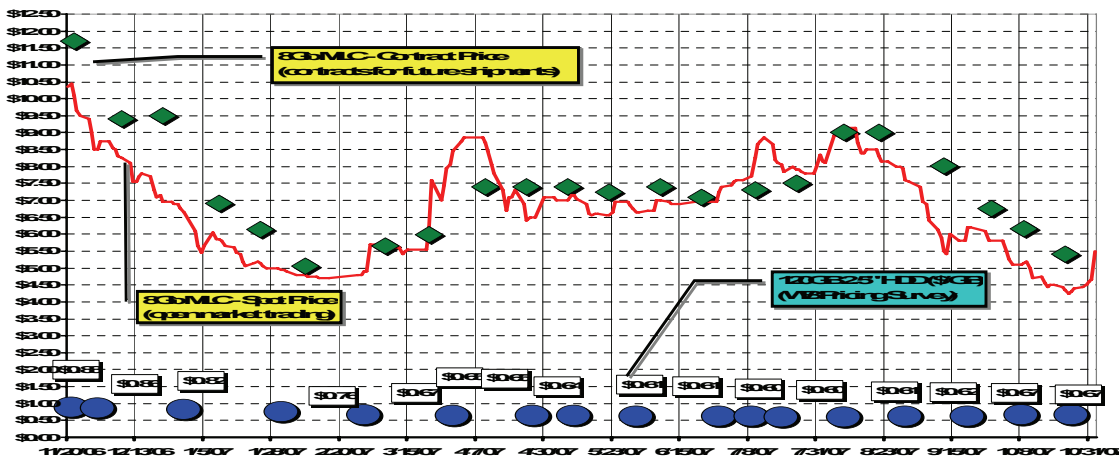
Figure 9: TDK Total Recording Device Revenue versus Yr/Yr. % Change



Source: Company Results; IDC; Wachovia Capital Markets, LLC

Flash/SSDs versus Notebook HDD -- NAND Flash Prices Beginning to Rebound After Several Weeks of Declines— We continue to highlight the differential between Flash and 2.5” HDD \$/GB trends – supporting our thesis that any Flash/SSD encroachment into this market would be a 2009-2010 story (at best). Specifically, in using our Oct 07 HDD pricing survey, we see that 120GB HDDs carry a \$/GB of approximately \$0.62-\$0.72/GB (flattish trends recently), while Flash spot prices on 8Gb MLC (or 1GB) have just recently increased to \$5.50/GB (now at approximately 8.2x premium; just for the semiconductor content today – albeit declining from a 15x premium a few months ago). We would note that this is the first increase in pricing we have seen since mid-September. Figure 10 below highlights the pricing trends we have monitored between Flash and notebook HDDs.

Figure 10: NAND Flash (8Gb MLC) Spot Price versus Monthly 2.5” HDD \$/GB Pricing (120GB 2.5” HDDs)



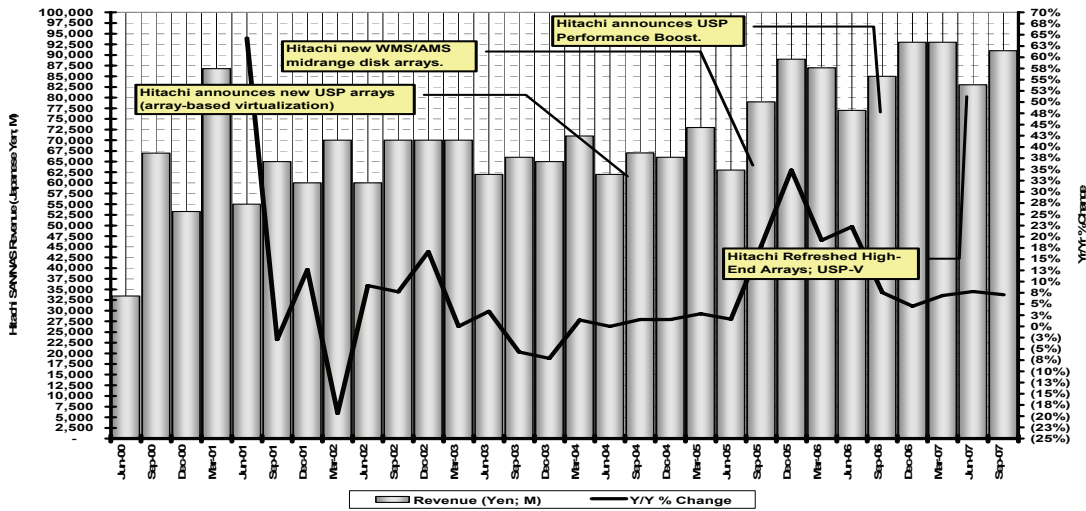
Source: DRAMeXchange; Wachovia Capital Markets, LLC

Enterprise Storage: Hitachi Reports In-Line Yr/Yr. High-End Growth (Strong Seq.); Upbeat on Trends Looking into CQ4 2007

Hitachi Reports In-Line Storage Solutions Results; Highlights Double-Digit Sequential Growth in Both High-End USP Sales and Midrange Market - Hitachi reported revenue of ¥91 billion, which was up 7% yr/yr and up 10% sequentially (see Figure 11). Using the company’s conversion ratio of 115 ¥/US\$, this equates to revenue of approximately \$790 million, or up 9% yr/yr. This compares to EMC reporting total revenue growth of 7.5% yr/yr and 3.8% sequentially within its Information Storage segment (hardware,

software, and services). EMC's overall revenue grew 17% yr/yr (+12% yr/yr excluding VMware) during CQ3 2007. IBM, on the other hand, reported a decline of 3% yr/yr in its disk storage business during CQ3 2007, in which it had noted particular weakness in its midrange solutions and some relative strength in the high-end products. Therefore, it appears that both EMC and Hitachi reported similar growth in their enterprise storage businesses, while IBM likely lost some share (although we would expect share gains during CQ4 2007 given typical year-end growth trends at IBM).

Figure 11: Hitachi Storage Solutions – Total Revenue (¥;B) versus Yr/Yr % Change



Source: Hitachi; Wachovia Capital Markets, LLC

Storage Solutions Guidance – With regard to guidance, Hitachi is expecting its 2H'F2007 (ending March 2008) storage solutions revenue to be approximately ¥186 billion, flat yr/yr, which equates to total F2007 revenue to be ¥360 billion, up 3% yr/yr (likely conservative, according to our conversations). This compares to our estimate of EMC's total revenue growing approximately 17% yr/yr over this comparable timeframe; or seeing approximately 10% yr/yr growth within the company's Information Storage segment.

With this, we would highlight the following thoughts with regard to Hitachi's storage solutions results:

- **Geographical Growth** – Hitachi reported high-double digit growth in its Asia-Pac revenue, followed by double-digit growth in EMEA and high-single digit yr/yr revenue growth in the Americas. With regard to recent concerns over economic-related slowdowns in spending, the company stated that it has not seen any meaningful impact, and in fact, it believes it has a very strong backlog looking into CQ4 2007.
- **High-End Growth** – Hitachi reported that it had seen solid double-digit sequential growth in its high-end USP-series solutions during CQ3 2007. On a yr/yr basis, high-end revenue grew in the low-single digit range. This compares to our estimate of EMC's Symmetrix revenue growing approximately 6% sequentially, or down 3% on a yr/yr basis. This implies that Hitachi is seeing a healthy ramp in its new USP-V series solutions, which commenced shipments in May with enhanced performance and the integration of Thin-Provisioning (a feature EMC has stated it would add to its Symmetrix and CLARiiON arrays in early 2008; already available on the Celerra NAS solutions). The company also noted that it currently has an installed base of approximately 7,300 USP-series controllers in the market, up from 6,000 exiting the June 2007 quarter. Additionally, the company sees more than 50% of these solutions utilizing the UVM (Universal Volume Manager; Virtualization) software, up from less than 50% a few quarters ago. In this, the company estimates that 25-30% of these solutions provide virtualization in heterogeneous environments. It does appear that Hitachi gained some share in the high-end disk array market during CQ3 2007; an interesting trend to monitor as EMC looks to fully ramp its new DMX-4 solutions in the current quarter (commenced shipments in August).
- **Midrange Growth** – Hitachi also announced that it had seen strong double digit growth on both a yr/yr and sequential basis in its midrange solutions during CQ3 2007. We estimate that midrange, in which the company has made new announcements with its enhanced AMS/WMS offerings in late September and new Simple Modular Storage Systems in mid-October, accounts for approximately 20-25% of the company's

total revenue, which compares to EMC's CLARiiON accounting for approximately 40-45% of its total systems revenue over the past few quarters.

- **Software/Services** – Hitachi reported that its storage software revenue grew in the mid/high-teens sequential range during CQ3 2007, which compares to EMC reporting that its Information Storage software license revenue grew approximately 5% sequentially (+4% yr/yr). IBM did report positive momentum in its Tivoli business during CQ3 2007. Hitachi's service revenue grew in the mid-single digit sequential range. This implies that the company did see a higher hardware mix during CQ3 2007; we had estimated that software and services accounted for 15-20% of total revenue each over the past few quarters.
- **Strong Backlog Looking Into CQ4 2007**– As noted above, the company stated that it saw a strong uptake of its UPS-V series solutions, lending itself to a “strong backlog” looking into CQ4 2007. We view this as a positive both for Hitachi, as well as for the overall storage segment as we look into an always seasonally stronger year-end spending dynamic. The company noted that it did not see any cancellations/deferrals of orders during the quarter.
- **Steady Pricing Dynamics** – Hitachi reported that it had not seen any meaningful change with regard to pricing dynamics during CQ3 2007; coinciding with other industry checks and the fact that EMC's hardware gross margin actually improved on a sequential basis during the quarter (we estimate more than 150bps).
- **Other** – Other highlights include: **(1)** SATA Drives – Hitachi does not see any risk of capacity shipments outstripping demand with the ongoing adoption of high-capacity SATA drives; a trend we have been monitoring, **(2)** The company saw no supply shortages in the HDD industry during CQ3 2007; some other enterprise storage providers had noted this, and **(3)** The company agrees with our belief that recent product announcements out of IBM should not have a meaningful impact on the competitive landscape going forward; still focused on a more meaningful architectural refresh looking into 2008. Hitachi believes that much of EMC's recent announcements in storage have been focused on catching up to Hitachi's technology position.

Noteworthy News Review – Wachovia Thoughts/Analysis

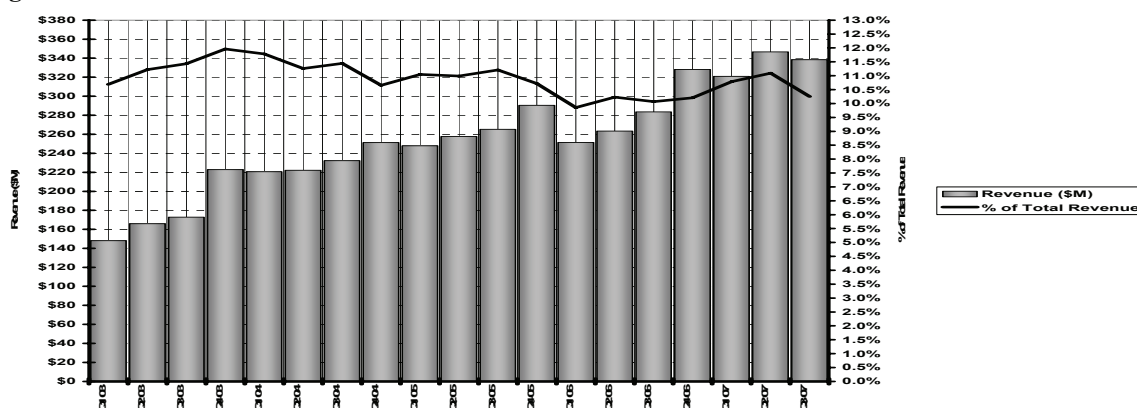
EMC

(EMC-NYSE/\$24.55– Outperform)

11/1/07: EMC to Double China Investment

In a move to further the company's international exposure, and build in recent relative momentum in the Asia-Pac market, EMC announced that it would double its investment in China to \$1 billion over the next five years (similar to moves Cisco has made over the past several years). The announcement builds upon a \$500 million commitment EMC made in June 2006 to invest in China through 2012. The additional money will cover research and development operations and sales and services in the country, which is a key market for data storage software and hardware. This announcement was made at the opening of a new R&D center in Beijing. The new center will feature 200 engineers, and follows last year's opening of a center in Shanghai that employs more than 250 people. We would point out that EMC's revenue contribution from Asia has seen double digit yr/yr increases over the past several quarters – showing a strong recovery since seeing some executive management changes in late-2006/early-2007. Figure 12 highlights EMC's growth in Asia-Pac over the past few years.

Figure 12: EMC – Asia-Pacific Revenue versus % of Total Revenue



Source: EMC; Wachovia Capital Markets, LLC

10/30/07: EMC Acquires Voyence; Terms Undisclosed (~\$100M “Tuck-In” Acquisition)

EMC announced that it has acquired privately-held Voyence, a provider of network configuration and change management solutions that automate critical change, compliance and activation processes. The acquisition helps to further extend EMC's position in the IT Service Management marketplace. The agreement will have an immediate impact on EMC's solution for managing IT service delivery and we believe reflects the company's focus on further extending its overall software portfolio with a focus on enhancing its network-facing solutions. Voyence's core software, VoyenceControl, helps companies drive down operational costs, increase availability, improve security, and demonstrate regulatory compliance. Voyence will be fully integrated into EMC's Resource Management Software business unit and the deal is not expected to have a material impact on revenues or EPS for 2007.

10/30/07: Foundry Networks and EMC Announce Interoperability Agreement

Foundry and EMC have announced an interoperability agreement to accelerate the deployment of operationally advanced network management solutions on a high-performance network infrastructure. The agreement is designed to simplify infrastructure management for customers using Foundry products and EMC Smarts solutions by automating the end-to-end management of networking infrastructures. Both companies will cooperate in the areas of pre-certification and joint interoperability testing of Foundry's routing and switching portfolio with Smarts management software. Using Smarts management solutions, Foundry customers with networking hardware can now: 1.) Achieve end-to-end visibility and control of critical business services, 2.) Automatically model components and their relationships across networks, and 3.) Analyze data from multiple sources to pinpoint root cause problems.

While we do not view this announcement as very meaningful in itself, we believe there has been an interesting theme coming out of EMC over the past few weeks. The company has been making several announcements around the networking market – from its partnership with F5 Networks announced recently to the aforementioned acquisition of Yoyence.

Network Appliance**(NTAP-Nasdaq/\$30.14- Outperform)******NOTE – NetApp to Report FQ2 2008 Earnings on Wednesday, November 14th After Market Close – Wachovia Preview Highlights Below**

The company will host a conferencall at 5:00 pm EST/2:00 pm PST on November 14th, 2007 to discuss the results of the quarter. Investors can listen to the conference call at <http://investors.netapp.com>. The dial-in information is listed below:

United States: (866) 356-4281

International: (617) 597-5395

Passcode: 15908718

Preview Summary:

- **Still Expecting In-Line Results; Maintain Outperform** - Despite our expectation that shares of NetApp could continue to experience some near-term choppiness related to an ongoing influx of mixed data points on the quarter and outlook, we remain comfortable with our FQ2 2008 (Oct. 08) revenue and EPS estimates of \$760.5M/\$0.26; roughly in-line with the consensus estimate.
- **Late-Quarter Checks Still Support In-Line Expectation; Pricing Concerns Overblown** - Our checks suggest that NetApp has navigated through an increasingly intense competitive landscape to meet expectations, but we would not expect significant upside. Our late-quarter checks suggested that pricing, while always aggressive, was not as wildly abnormal relative to past quarters. In fact, we would note that the company's product gross margin reached a self-admitted unsustainable 68% during the July 08 quarter, therefore, likely giving the company some room to be a bit more price aggressive.
- **Derivative Data Points** – We have monitored data points coming out of IBM, EMC, Arrow, Avnet, Emulex, Xyratex, and Dot Hill. While offering a mixed read on NetApp's October quarter, we currently believe sentiment suggest stable and improving trends looking into Jan 08 quarter.
- **Server Virtualization - SAN vs. NAS** – In our recent preview report, we provide some brief thoughts around the ongoing debate of whether the adoption of server virtualization disproportionately benefits SAN versus NAS. While we continue to subscribe to the argument that SAN benefits more meaningfully from virtualization (most notably due to back-end disk I/O requirements), the ongoing adoption of VI 3.0 and the expected forthcoming release of VI 3.5 could provide some incremental support for NAS deployments (note: VI 3.0 was the first release to support NFS).
- **What to do From Here?** - While we believe shares of NetApp could remain range bound and choppy over the coming weeks, and we would be a bit more cautious with regard to putting new money to work ahead of the quarter, we continue to favor NetApp's long-term position as a share gainer in the overall storage market and believe an improved product cycle story could develop looking into 2008.

Please see our detailed preview report published on 10/31/07

10/29/07: NetApp StoreVault Sets New Standard in SMB Storage Technology with the StoreVault S300

StoreVault, a division of NetApp focused on the SMB/commercial market, introduced the new StoreVault S300 storage solution for small and medium businesses (SMB). The S300 provides SMB customers with data center technology, such as advanced security, scalability, data protection and data management. This is an all-in-one solution where as previous solutions required customers to purchase a mix of products to achieve the same functionality as the S300. The StoreVault S300 is targeted at the IT generalist in smaller companies that typically require 1-3TB of data storage, have 5-15 servers, and are operating a Windows-centric environment. Several features help the S300 stand out: **1.) StoreVault to FAS Replication** – enables replication from StoreVault to existing installed NetApp FAS enterprise solutions, **2.) StoreVault Manager 3.0** – provides additional software licensing and management, **3.) Advanced Data Protection** – the StoreVault Advanced Protection Architecture combines data protection with technologies designed to maintain an entire storage system, and **4.) Platform Flexibility** – the S300 is the first platform certified to handle virtualization, NAS, and SAN at this price point.

Isilon Systems**(ISLN-Nasdaq/\$5.12– Market Perform)****11/1/07: Class Action Lawsuit Filed Against Isilon Systems**

Coughlin Stoia Geller Rudman & Robbins LLP has filed a class action on behalf of the purchasers of Isilon common stock between December 14, 2006 and October 3, 2007 and on behalf of all persons who acquired the stock pursuant to the Company's "false and misleading" Registration Statement and Prospectus issued in connection with the company's IPO. The complaint charges Isilon and certain officers and directors with violations of the Securities Exchange act of 1934 and the Securities Act of 1933. It alleges that the Registration Statement failed to disclose the truth about Isilon's business operations, finances, business metrics, and future business and financial prospects.

The suit claims the following "true facts" were omitted from the Registration Statement or were known by the company and withheld from the investing public:

1. The company was not on track, nor would be able, to reach profitability by the second half of 2007,
2. The company's clustered storage solutions did not provide a competitively differentiated business model,
3. Past results were not indicative of its future operations, specifically the amount of revenue derived from its large customers (Kodak), the ability to continue to sustain sequential revenue growth, and the ability to manage its cost structure, and
4. Despite being able to grow and diversify its customer base, the company would remain highly dependent on Kodak (note: Isilon reported no revenue contribution from Kodak in the third quarter during its preliminary earnings announcement on October 3rd).

Isilon has clearly had execution challenges over the past several quarters and has not seen upside relative to expectations since its late-2007 IPO. This recently culminated in the company taking meaningful actions with regard to reshuffling its executive management team with the departure of the CEO and CFO (see below). While it is early to tell whether this could be a positive, or negative, move, this does suggest the company is focused on improving its fundamental story going forward.

10/30/07: Isilon Announces New Division Heads; Management Reshuffling Continues

In roughly a week after the company announced the departure of its CEO, Steve Goldman, and CFO, Stu Fuhendorf, Isilon has quickly announced some additions to its executive management team. While we view this as a modest positive, we believe it will take some time before we, and investors, can look past the company's lingering execution challenges over the past few quarters. Under the leadership of Sujal Patel, Founder and now the CEO, Isilon announced the appointment of: **(1) Tony Regier** – Vice President of Global Sales; Mr. Rieger was previously at MSI Systems Integrators, a systems integrator focused on storage and networking. According to the MSI website, the company has a partnership with Isilon, as well as Network Appliance, IBM, and Cisco. **(2) David Skillern** – Vice President of Global Services Operation; Mr. Skillern previously at Network Appliance where he was Director of Services Readiness, and **(3) Kennan Conder** – Vice President, General Counsel and Corporate Secretary.

New Asia-Pac Operations – The company also announced the establishment of its Asia-Pacific operations, in which Ton Pettiegrew will be the VP and General Manager reporting to Steve Fitz, Senior VP of Worldwide Sales. Asia-Pac was 15% of the company's total CQ2 2007 revenue.

Xyratex**(XRTX-Nasdaq/\$16.29- Market Perform)****11/1/07: Western Digital CapEx Guidance a Modest Xyratex Negative; Continues to Illustrate the Tempered CapEx Dynamics Taking Place in the HDD Industry (Focused on Improving Fundamentals Into 2008).**

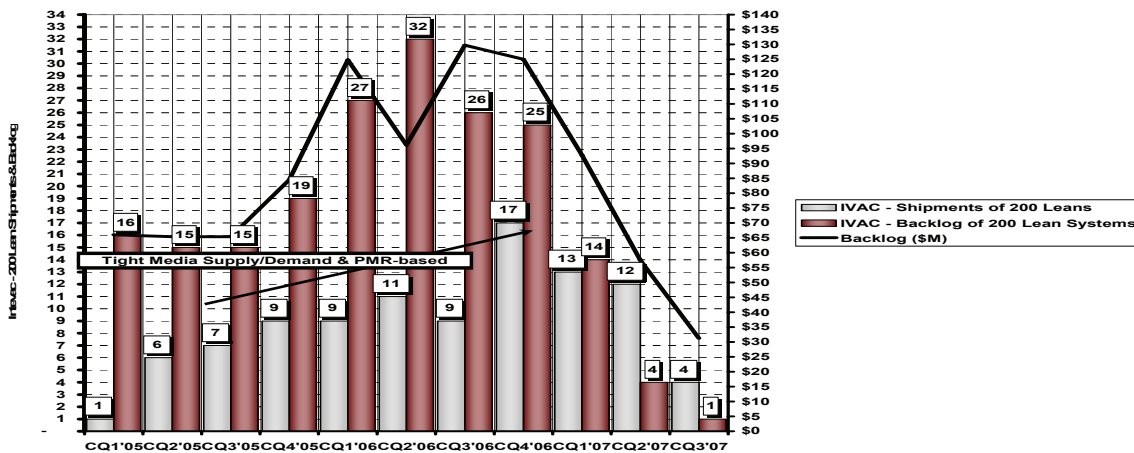
Shares of Xyratex continue to underperform. While the company's positioning at NetApp remains solid, and could be improving given the ongoing challenges at Dot Hill, and the company should continue to benefit from a growing tier 2/3 customer base, we believe shares continue to come under some pressure given lingering concerns over a tepid HDD CapEx spending environment. These concerns were only supported last week by Western Digital's statement that its F2008 CapEx would come in at the low-end of its prior guidance range of \$700-\$750 million. In this, the company had estimated approximately \$400-\$450 million in normalized CapEx spending, with the addition of \$200 million for the upgrade of its read/write head wafer manufacturing facilities to 8-inch wafers versus 6-inch wafers and \$100 million related to the company's recent acquisition of Komag. The reduction in the company's CapEx forecast came out of the production/test, or rather capacity-addition, related spending side, which does have implications for

Xyratex. This is important as spending at WD was clearly representing an offsetting factor to a significant slowdown in spending at its largest customer, Seagate. We believe these more tempered CapEx forecast are primarily reflective of improving yields on next-generation PMR-based drives.

That said, we continue to believe that Xyratex's issues are more of a function of CapEx spending timing, rather than a meaningful change in the competitive landscape. **We believe CapEx at its HDD customers, namely Seagate and Western Digital, could improve looking into early/mid-2008, and shares could see some support as investors begin to factor this into their estimates.** We are focused on an opportunity to see Xyratex's fundamental estimates finally bottom and would view this as a potential opportunity to become more constructive on the name.

11/1/07: Intevac Results Point to Ongoing Tempered HDD CapEx Spending. Intevac's results, like Veeco's last week, provide yet another data point highlighting the tempered capacity addition spending trends in the HDD market. Despite reporting decent CQ3 2007 results with revenue of \$50.6 million, the company reported that it had shipped only 4 sputtering equipment solutions during the quarter. This compares to shipments of 12 solutions in the prior quarter. The company's backlog declined to \$31.2 million from \$57.5 million exiting the prior quarter, and comprised of only one solution, down from 4 exiting the prior quarter. **The summary – Intevac results continue to support our thesis that incremental spending in the HDD market will remain a mid/2H'08 story, limiting catalyst for Xyratex over the next few quarters.** Figure 13 below highlights Intevac's shipments and backlog trends over the past several quarters.

Figure 13: Intevac Shipments and Backlog



Source: Intevac; Wachovia Capital Markets, LLC

Hitachi (Hitachi Data Systems and HGST (HDDs)) (HIT-NYSE-ADR/\$68.23 - Not Rated)

10/31/07: Hitachi CQ3 2007 Results: High End Strength vs. EMC. HDD Underperforms STX/WDC, but Operating Losses Improving and Profitability Expected in CQ4 2007 (An Industry Positive)

Hitachi reported its CQ3 2007 results. Below we summarize some key highlights as well as implications for EMC, Seagate, and Western Digital.

- **Hitachi Enterprise Storage (EMC Implications)** - Total revenue of 91 billion Yen, up 7.1% yr/yr and 9.6% sequentially (vs. EMC Information Storage revenue up 8% yr/yr). Our conversations suggested that the company continues to see a ramp in its new USP-V platform (integrates Thin Provisioning, as well as incorporates a back-end switched architecture), and ongoing relatively healthy growth in the midrange market (though we did see some refreshes during CQ3 2007). Hitachi did report strong double-digit sequential growth in its high-end USP sales with an expanding installed base from 6,000 controllers to 7,300 controllers exiting CQ3 2007. While we believe Hitachi's results provide ongoing comfort in EMC's competitive positioning, we believe high-end momentum warrants monitoring as it appears Hitachi did take some modest share during CQ3 2007.
- **Stable Pricing; Healthy Backlog Trends** - Hitachi has seen stable pricing dynamics in the storage market in CQ3 2007; has not seen a meaningful slowdown related to recent macro-related concerns. In fact, Hitachi was upbeat with regard to its backlog build and overall spending trends looking into CQ4 2007.

- **Hitachi HDD Operations - PROFITABILITY COMING?** - Revenue growth of 9% yr/yr to \$1.45 billion (+19% seq.) continues to under perform yr/yr growth trends at Seagate and W. Digital. Operating loss is the key focus - improving to a loss of only \$58 million, versus \$150M and \$174M losses in CQ1 and CQ2 2007, respectively. Hitachi is guiding to operating profitability in CQ4 2007, a positive for the overall HDD industry (providing some comfort with regard to rational pricing trends). HGST total shipments of 24.3 million units grew 22% yr/yr, which compares to Seagate shipments up 20.5% yr/yr and our estimate of 30% yr/yr growth out of Western Digital. HGST did report healthy shipment growth of +14% yr/yr (+25% seq.) in 1.8"/2.5" HDDs (most notably in notebook PCs), as well as 44% yr/yr growth in 3.5" HDD shipments (+21% seq.) - implies another quarter of modest share expansion for Seagate in 2.5" drives; stable share trends vs. Seagate in desktop drives on a sequential basis. **See further HDD discussion in HDD section above (pg. 5).**

Please see our detailed report titled *Hitachi Storage Review* published on 10/31/07

Seagate Technology

(STX-NYSE/\$28.60 - Outperform)

****See Above HDD Industry Comments Following WD's Strong Earnings Release and Guidance.** We are also increasingly interested in Seagate's thoughts around time-to-market position with next-generation technologies following WD's announcement of its new 320GB 2.5" HDDs using its 3rd generation PMR technology that achieves 250GB/sq.-inch (vs. the prior generation 200GB/sq.-inch 2nd generation PMR).

10/29/07: Seagate to Close North Ireland Plant

Seagate announced that it will be shutting one of two manufacturing facilities in Northern Ireland, resulting in a cut of 900 employees, or about 1.5% of the company's workforce. The company announced a generous payout for those employees being displaced – 6-weeks for every year served. The plant manufactures substrate materials used in disks for hard drives. While it is unclear how much money the company will save from closing the plant, it is part of Seagate's ongoing effort to streamline operations. Seagate, which is the largest private employer in Northern Ireland, did state that labor, shipping, and other costs were growing too high in this region. Seagate has expanded its substrate manufacturing at its facilities in Singapore and Malaysia, while external suppliers have lowered their costs. Foreign exchange movement and shipping and utilities costs also contributed to the decision to close the plant.

10/29/07: Seagate Unveils Program to Drive Business Growth with Key Americas Channel Partners

Seagate introduced its new program designed to spur business growth for its high-value North American system builders by providing dedicated support and exclusive resources that should help channel partners reduce costs, increase profits and improve their hardware and software delivery infrastructure. The new program, Seagate Premier, focuses on top-performing system builders that are hard-drive volume and strategic category leaders in new growth segments. Seagate Premier, part of the Seagate Partner Program, offers benefits such as account management supports, product and solution training, seminars, partner matchmaking events, and eligibility to access market development funds. The program focuses on providing national, regional and local whitebox and whitebook system builders with technical expertise and marketing resources needed to deliver Seagate storage to a broader range of customers.

Western Digital

(WDC-NYSE/\$28.91 - Market Perform)

11/1/07: WD Reports FQ1 2008 Results: Strong Results/Guidance – Raising Estimates and Valuation

- **Conclusion - Maintain MP; Raise Valuation Range** - We expect shares of WD, as well as Seagate, to rally on the heels of WD's strong Sept quarter results and very positive tone with regard to demand looking into CQ4 2007 and even early 2008. While a more constructive stance on shares of WD could be argued, especially with shares now trading at less than 10x our C2008 EPS estimate of \$2.75 and given a F2008 FCF yield of ~9%, we continue to believe that Seagate offers the better risk/reward profile at current levels.
- **Very Positive Commentary on Overall HDD Industry Trends; Visibility Looking into Mar 08 Quarter Already?** - WD went as far as to note that: *"Based on current demand and factor build rates, we believe that the industry will be much better positioned entering the January/March quarter than in recent years..."* The company noted that it was continuing to see shipment allocations, most notably in mid-capacity 2.5" and 3.5" desktop drives, coupled with very lean inventory dynamics in both the distribution and OEM channels (we remain focused on concerns surrounding double-ordering in the PC supply chain). In fact, WD noted that it had seen inventories, excluding enterprise drives, decline 8% yr/yr as the company

exited the September quarter for the total industry. As of the end of October, inventories were down 11% yr/yr as data points continue to point to ongoing strength in the PC market and other HDD segments.

- **Derivative Fallout (Seagate & Xyratex)** - We would expect shares of Seagate to rally in response to WD's very positive commentary around overall rational pricing dynamics into CQ4'07 and the improving visibility looking into 2008 (reflective of lean inventory trends, HDD constraints/allocations, and more favorable OEM ordering patterns). Xyratex, however, could see a muted/modestly negative share reaction as WD did guide CapEx toward the lower-end of its prior \$700-\$750M range for F2008; reflective of slower capacity additions. We believe sentiment could become more positive looking into Mar/Jun 2008 given current unit demand trends and an ongoing mix-shift to higher capacity drives.

Please see our detailed report published on 11/2/07.

10/31/07: WD Ships 320GB Capacity 2.5" Hard Drives for Notebooks and Portable Storage Devices

Western Digital announced that it is now shipping its new WD Scorpio 320GB 2.5" SATA (Serial ATA) hard drives for notebooks and portable storage devices. WD uses its head and media technology to achieve the highest-capacity 2.5", 9mm form-factor hard drive and includes features to lower noise output while running at cool operating temperatures. The Scorpio 320GB hard drives feature a 3Gb/s transfer rate and are designed for use in OEM notebook platforms that offer high storage capacities. The WD Scorpio has several exclusive features: **1.) WhisperDrive** – WD's WhisperDrive technology combines seeking algorithms to make the Scorpio 320GB as one of the quietest drives available, **2.) ShockGuard** – this technology combines firmware and hardware to protect the drive mechanics and platter surface to meet combined shock tolerance specifications, and **3.) IntelliSeek** – the IntelliSeek technology calculates optimum seek speeds to lower power consumption, noise, and vibration.

QLogic

(QLGC-Nasdaq/\$15.38 - Market Perform)

11/1/07: Voltaire Announced Significant InfiniBand Win; Market Maturing = QLogic Positive

In a recent interview with Voltaire's CEO, Ronnie Keneth, the company highlighted its competitive position in InfiniBand against Cisco and QLogic. The company did just announce a significant win with JP Morgan for their networking backbone and unified datacenter fabric. While we would monitor Voltaire as a clear competitor to QLogic's InfiniBand strategy (Host Card Adapters and Switches), the market remains in its infancy and therefore adoption remains a positive for all providers, in our opinion. JP Morgan is focused on implementing network convergence between its InfiniBand fabric and its existing FC-based SANs and Ethernet LAN environments. InfiniBand, given its performance rates of 20Gbps and 40Gbps, enables this convergence. JP Morgan is using Voltaire's Grid Directors. JP Morgan has in the past highlighted its positive position with regard to InfiniBand. We estimate that InfiniBand revenue total approximately \$4-\$6 million at QLogic during its recent September quarter; company reiterating its guidance of having InfiniBand revenues totaling at the high-end of its prior guidance range of \$25-\$30 million during F2008 (ending March 2008). We will be interested in Voltaire's earnings release being held on Monday, November 5.

11/1/07: QLogic SANbox 5600Q Series Stackable Switches Now Available from Hitachi Data Systems

QLogic has announced that its SANbox 5600Q Series Fibre Channel stackable switches are now available from Hitachi Data Systems. SANbox 5600Q Series Fibre Channel stackable switches scale from 8-16 user ports with the option to stack up to 6 SANbox 5600Q switches via four-packs of 10Gb Fibre Channel inter-switch link ports, yielding 96 total user ports. Hitachi has modified the configuration to offer more cost-competitive 8, 16, or 20 active port versions, along with 4Gb small form factor pluggables and applicable rail kits. This gives customers scalability and improved performance in a pay-as-you-grow solution.

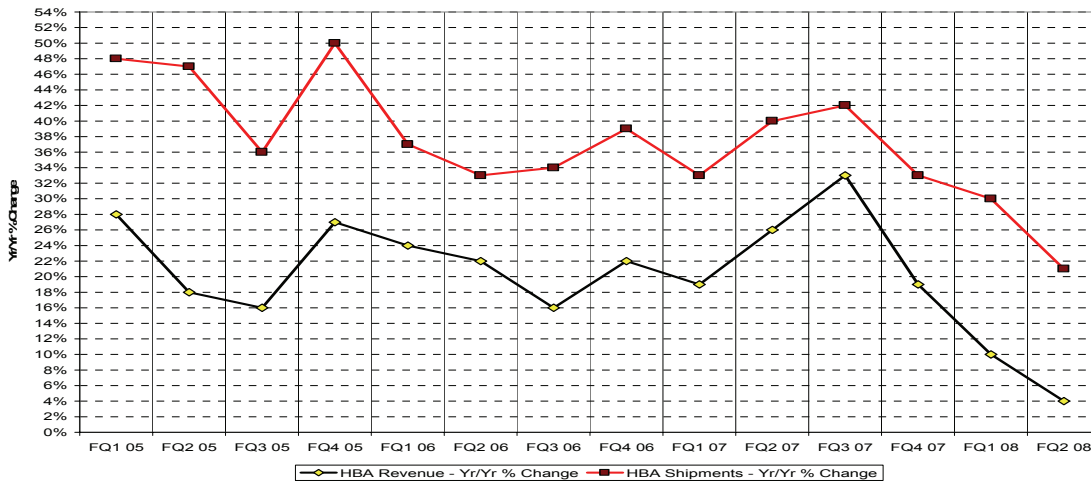
10/31/07: QLogic 10-Q Review

QLogic released its FQ2 2008 (September 2007) 10-Q. The company provided some incremental growth details, but no real surprises. Below we highlight some of the key takeaways from the 10-Q filing:

- **Incremental HBA Growth Details** - QLogic disclosed that overall HBA units grew 21% yr/yr, which reflects a deceleration from 30% yr/yr growth in the prior quarter and approximately 33-42% yr/yr growth range throughout its F2007 (see Figure 14). Mezzanine card shipments grew 200% yr/yr, which compares to more than 300% yr/yr growth in the prior quarter as the company continues to benefit from the adoption of blade servers. This does compare to Emulex reporting 400% yr/yr growth in its mezzanine card shipments during CQ3 2007. ASPs for HBAs declined 15% yr/yr, which compares to a 12% yr/yr decline

in the prior quarter and a decline of 10% yr/yr throughout F2007. We remain cautious with regard to QLogic's HBA growth trends over the next few quarters; despite some modest relative sequential outperformance versus Emulex during the September quarter.

Figure 14: HBA (FC/iSCSI) – Revenue vs. Unit Growth (Yr/Yr % Change)



Source: QLogic, Wachovia Capital Markets, LLC

- FC Switching & InfiniBand** - As previously disclosed, QLogic's 10-Q highlights the fact that the company's network product revenue growth was primarily driven by the recognition of incremental InfiniBand switching revenue; offset by a 17% yr/yr decline in FC switch revenue. Like the prior quarter 10-Q, the company is no longer providing specific unit or ASP trends for its FC switching business. We believe InfiniBand growth will remain the key driver to the network product segment; company estimating InfiniBand revenue at the high-end of \$25-\$30M range during F2008.
- Other** - Other key highlights include: (1) Top 10 customers accounted for 85% of total revenue during September quarter; up from 80% in the year ago quarter, (2) Inventory breakdown - finished goods inventory decline a continued positive, (3) Tax rate - company guidance of ~34% during F2008 continues to appear aggressive, in our opinion.

Emulex

(ELX-NYSE/\$21.00- Outperform)

11/2/07: Emulex 10-Q Review Quick Notes

Some of the key highlights coming out of Emulex's 10-Q filing include:

- Cash Flow** – Emulex's 10-Q filing is the first time we get a look at the company's Statement of Cash Flow. During the September quarter, Emulex generated \$48.9 million in Cash Flow from Operations, which compares to \$46.7 million a year ago and \$24.3 million generated in the prior quarter. FCF generated was \$39.3 million (\$0.46/sh.) compares to \$46.7 million (\$0.51/sh.) and \$19.4 million (\$0.22/sh.) generated in the year ago and prior quarters, respectively. That said, it appears that the company realized very strong working capital management during the September quarter.
- Inventory Breakdown**– Emulex reported a 45.9% sequential decline in its raw materials inventory and a 13.4% sequential decline in its finished goods inventory. That said, finished goods rose to 72% of the company's total inventory balance from 62% exiting the prior quarter. The company reported strong inventory management during the September quarter.
- Share Repurchase (No Repurchases Thus Far in December Quarter)** – Since the issuance of a \$150 million repurchase program in December 2006, the company has used approximately \$110.1 million to repurchase 5.66 million shares at an aggregate share price of \$19.45 per share. Through November 1, the company had not repurchased any common shares in the open market.
- Incremental Growth Highlights:**
 - Host Server Products (HSP)** – Revenue totaled \$88.769 million during FQ1'08, up 3% yr/yr and down 5% sequentially. This again represents an underperformance relative to QLogic HBA revenue being essentially flat sequentially. Emulex reported that its overall units shipped grew only 10% yr/yr, offset by a 6% decline in its ASPs. This is quite interesting when compared to QLogic reporting yr/yr HBA unit

- growth of 20% yr/yr and an ASP decline of approximately 15%.
- o **Embedded Storage Products (ESP)** – Revenue totaled \$27.996 million during FQ1'08, up 78% yr/yr (non-organic considering the late 2006 acquisition of Sierra-Logic), or down 2% sequentially, better than initial guidance calling for more than a 10% sequential decline. This reflects unit shipment growth of 240% yr/yr, offset by a 6% yr/yr decline in blended ASPs.
- **Key Customer Breakdown** – Emulex's 10-Q highlights its key customer contributions. IBM accounted for 28% of total revenue, up from 25% in the prior quarter, while HP accounted for 15% of revenue, up from 13% in the prior quarter. EMC grew to 22% of total revenue, flat versus the prior year and up from 17% in the prior quarter. With this, implied sequential revenue growth was: IBM and EMC essentially flat on a sequential basis, while HP revenue grew 8% yr/yr. It is interesting to note that we continue to see an expanding contribution from IBM going through the indirect channel (approximately 8% during the September quarter). IBM indirect revenue grew 16% sequentially, following a 35% sequential increase in the prior quarter. Top-5 customers accounted for 63% of total revenue, versus 62% in the prior quarter and reflecting 3% and -6% yr/yr and sequential revenue growth, respectively.
- **Headcount Details** – The company's 10-Q details Emulex's headcount breakdown. R&D headcount stood at 467 employees exiting the September quarter, up from 368 and 446 employees in the year ago and prior quarter, respectively. The company continues to focus on increase its international presence in India – a long-term driver of R&D expense leverage. Sales & marketing headcount grew modestly to 133 from 127 persons and 105 employees in the prior and year ago quarter, respectively. General & administrative headcount stood at 121 employees exiting the September quarter, up from 112 and 91 employees exiting the prior and year ago quarter, respective. This leaves approximately 63 employees in manufacturing, essential flat sequentially and yr/yr.

Brocade Communications

(BRCD-Nasdaq-\$9.41 – Market Perform)

No Meaningful News Last Week; Focused on Upcoming Earnings Release. We Expect In-Line Results, Fundamental Story Remains Positive, Though Upside Limited, In Our Opinion.

Cisco Systems

(CSCO-Nasdaq/\$32.51 – Outperform)

11/1/07: Cisco Earnings Preview: Expect In-Line Results; Positive Long Term Trends Continue

Cisco will be reporting its FQ1 2008 (October 2007) financial results on Wednesday, November 7th after market close. A live broadcast will be available on Cisco's website at www.cisco.com/go/investors. Dial in information is listed below:

United States: (888) 848-6507

International: (212) 519-0847

Preview Highlights

- **Expecting In-Line FQ1 2008 (Oct 07) Results** - Cisco is to report its FQ1 2008 results on 11/7/07, after the close. Although we believe the overall networking space remains healthy (supported by recent earnings releases from both industry participants and component providers) and a long-term positive secular trends remains well intact to benefit Cisco, we would not anticipate upside versus expectations for the company's October quarter. Our checks have suggested stable pricing and demand trends, coupled with some post-FCC 7/07 growth slowdown in Scientific-Atlanta and an ongoing tempered growth dynamic in some of the company's key verticals in North America (most notably financial services); most notably offset by continued strength in the commercial and Federal verticals.
- **Wachovia Estimates Unchanged** - We are leaving our estimates for Cisco's FQ1 2008 unchanged with revenue of \$9.53 billion (+16% yr/yr), at the high-end of the company's \$9.45-\$9.55 billion guidance range. We estimate ~\$125 million in WebEx/IronPort revenue contributions during the October quarter (vs. a partial quarter contribution of \$76 million in the prior quarter), which results in organic revenue growth of approximately 15% yr/yr. We estimate non-GAAP EPS of \$0.36, up 19% yr/yr.
- **SFA Growth a Focus, In Our View** - During the July quarter Cisco had reported that its SFA revenue grew more than 30% yr/yr; however, orders grew 12% yr/yr, suggesting that the company will see a deceleration in growth trends following the FCC 7/07 impact. Cisco had stated that growth in the 15-25% range could be attained over the next few quarters.

- **Sluggish US Enterprise Growth to Continue to be Offset by Broad Diversification** - Like others, we expect Cisco to offer a sense of caution with regard to US enterprise spending trends given current macro concerns. However, this should continue to be offset by the company's broad diversification with international growth remaining solid (most notably Emerging Markets and Asia-Pac) and commercial and Federal verticals representing healthy growth drivers.

11/1/07: Cisco to Buy Securent for \$100 million

Cisco announced that it has agreed to acquire privately held software maker Securent for about \$100 million in cash and assumed options. Securent's platform allows businesses to administer, enforce, and audit access to data, communications, and applications regardless of vendor, platform, or operating system. Cisco is expected to move Securent into their collaboration software group and the deal is expected to close in the second quarter of FY2008. This is acquisition #125 for Cisco.

11/1/07: Cisco to Pump More Money Into China

Cisco announced a multi-year, \$16 billion series of initiative to expand in China with investments in manufacturing, venture capital and education efforts. The ventures include a partnership with Alibaba Group, China's largest online commerce company, to develop business services for small and medium sized companies by exploring collaboration in Web-based business services. Cisco also plans on doubling manufacturing in China, a venture capital partnership with a government bank, and support for technology education. To date, Cisco has committed approximately \$8.5 billion. Cisco and government-owned China Development Bank will explore a joint \$100 million program to provide capital and expertise for innovative Chinese businesses, including companies in IT, health care, communications and other fields. On the education front, Cisco and China's Education Ministry will open 300 centers at vocational colleges to train students in networking technologies, adding to 200 centers already operating. Cisco's goal is to train 100,000 students over the next three years.

10/31/07: Cisco Partners to Fuel Global Development and Delivery of Managed Services

Cisco has introduced the Cisco Managed Services Channel Program. This program is designed to accelerate the global development and delivery of managed services based on advanced networking technologies as well as IP Next-Generation Networks. The program is also designed to give partners incentive to deliver a wider range of managed services by integrating the Cisco Powered Program framework. The Managed Service Partner Program will drive global consistency through predictable offerings and in-country product access. Partners will have the tools to offer consistent services to customers and will provide financial rewards for partners that utilize the network to address a customer's business need as well as offer marketing and branding opportunities. The program currently includes companies such as AT&T, Bell Canada, Dimension Data, Sprint, and Verizon Business.

10/31/07: Cisco and Wipro Form Strategic Alliance

Cisco and Wipro have entered into a strategic alliance to jointly develop and deliver IT service solutions to help both companies meet customer needs, particularly in fast-growing markets. Under the terms of the agreement, new IT infrastructure service solutions will be built that combine Cisco's networking solutions and Wipro's infrastructure and managed services portfolio. Wipro will offer solutions based on Cisco products and services on a global basis, with initial focus in India, the Middle East and Africa. Cisco will become the preferred networking partner for Wipro's portfolio of services. The companies also announced the establishment of the Cisco Solution Centre at the Wipro Campus in Bangalore, India, which should be functional sometime in November.

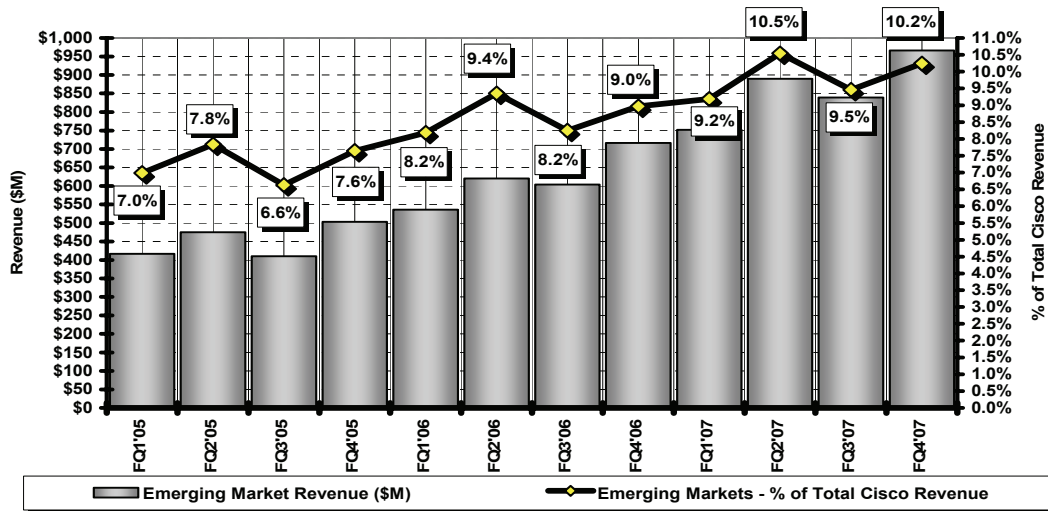
10/30/07: Cisco Makes Globalization Announcements in India

As previewed, Cisco made several announcements around its globalization strategy with expanded investments in India, including the opening of the Cisco Globalization Centre East campus in Bangalore, India. While this does not change our fundamental view on Cisco, rather providing further evidence of Cisco's focus on diversifying itself in the emerging markets arena, below are some of the key highlights:

- This is NOT ABOUT labor arbitrage, but rather a focus positioning itself for the growth opportunities in this emerging markets (~11% of Cisco's total revenue).
- The company unveiled its new Globalization Centre East campus in Bangalore, India. Additionally, Cisco announced an additional \$100 million in venture investments within this region; building on the dedication of \$100 million announced in 2005 and as part of the company's overall \$1.1 billion investment plan.

- Cisco announced a strategic collaboration with Satyam Computer Services to explore new venture investments.
- As we have heard from Cisco in the past when referencing its emerging markets strategy, the company is positioned favorably given the faster GDP growth, but even more importantly, from the fact that many times there is no incumbent networking infrastructure in place that often lends itself favorably to the most cutting edge technology deployments (i.e. supporting the company’s favorable gross margin trend in these regions). The company noted that this is often seen as Greenfield market opportunities.
- The company currently has 3,000 employees working in India, but is focused on having as many as 5,000 in 2 years and then as many as 10,000 in five years. The new East Campus can accommodate 1,200 employees. The company notes that it is focused on the establishment of government relationships in order to talk about productivity gains for the overall economic growth of the region. The company wants to have 20% of its top talent of Cisco located in India.
- The company also noted that this will be strongly leveraged as the company can touch nearly 70% of the worldwide population in a four hour flight out of Bangalore.
- Like most presentations Cisco has done over the past year, the company showcased its TelePresence technology with a meeting between executives in Bangalore and San Jose, CA.
- Figure 15 highlights Cisco’s Emerging Markets growth.

Figure 15: Cisco – Emerging Market Revenue (Total; \$MM) vs. % of Total Revenue



Source: Cisco, Wachovia Capital Markets, LLC

10/29/07: Cisco Announces Two New Linksys Applications

Linksys announced two different product releases. The first is the Wireless-G Access Point with Power over Ethernet (WAP2000) for business network environments. The WAP2000 is part of a portfolio of products that provides small businesses, resellers and distributors with a complete network ecosystem. It is designed to provide small businesses with a feature-rich solution with increased network capabilities and reach. The performance, range, and speed of the WAP2000 can effectively double network size and increase throughput by 35%.

The second product release from Linksys is the Wireless-G Broadband Router with 2 Phone Ports (WRP400). The WRP400 combines Linksys voice, video, and data service technology with QoS and secure wireless set-up features into a triple-play solution. The WRP400 is designed for consumers and SOHOs utilizing triple-play networking capabilities as well as for service providers who want to broaden their networking offerings. The new router features an integrated processor to handle load intensive applications as well as Wireless-G to provide uninterrupted throughput.

OTHER NOTEWORTHY NEWS

11/1/07: FalconStor and SYNEX Corporation Announce Strategic Partnership

FalconStor announced that they have partnered with SYNnex to distribute the new FalconStor turnkey storage appliances and virtual appliances for virtual infrastructure environments to the mid-market. The two newly released FalconStor VirtualTape Library (VTL) Appliances with de-duplication (VTL Storage Appliance and VTL Virtual Appliance) and the FalconStor Continuous Data Protection (CDP) Appliances (CDP Storage Appliance and the CDP Virtual Appliance) will be available via SYNnex throughout North America. The VTL Storage Appliance is designed to offer back with enterprise-class reliability and efficiency and to leverage de-duplication to keep more data on-line for longer periods of time. The CDP Storage Appliance provides data protection and continuous data availability across both physical and virtual systems. The VTL Virtual Appliance and the CDP Virtual Appliance are pre-configured, ready-to-run software applications. They are packaged with the operating system inside a virtual machine running under VMware Virtual Infrastructure 3. The solution is designed to reduce infrastructure cost and complexity.

10/30/07: CommVault, Provider of Data Protection Software, Announces CQ3 2007 Results

CommVault reported revenue of \$47.4 million, up 29% yr/yr, which remains quite strong when considering the maturity of the market. This compared to the consensus estimate of \$46 million. The company saw a large deal at Fidelity help drive its results, as well as strength in the company's new Simpana 7.0 product. With regard to guidance for its F2008 (ending March 2008), CommVault now expects revenue to be in the range of \$194-\$196 million, ahead of the prior guidance of \$191-\$193 million. The company added 249 new customers during the quarter, bringing its total customer base to approximately 6,900. Deals over \$100,000 were 37% of total revenue, up from 26% in the prior quarter as the company did see healthy growth in large deal sizes. Dell continues to be a large customer for CommVault, accounting for 28% of the company's total revenue. Hitachi is also an important partner.

10/30/07: PC Mall Reports CQ3 2007 Results; PC Strength Continues

PC Mall reported total revenue of \$287.7 million, up 19% yr/yr. This easily surpassed the consensus expectation of \$269 million for the September quarter. The company reported that its commercial revenue grew 12% yr/yr, while public sector and consumer revenue grew 79% yr/yr and 3% yr/yr during the quarter. Some of the additional highlights include:

- Key Product Breakdown Summary
 - **Software** – 15% of revenue and up 22% yr/yr. Within this they saw strong growth in Graphics software and from business software (VMware noted).
 - **Notebooks** – 15% of revenue; up 12% yr/yr.
 - **Desktops** – 10% of revenue; up 24% yr/yr. The company had noted a positive trend with regard to pricing trends in the desktop market.
 - **Servers** - Intel based servers up 23% and Unix grew 20% yr/yr. Total server sales was 7% of revenue, which compared to 6% of the company's total revenue in the prior quarter. Sales of Unix to SMB space grew 20% yr/yr.
 - **Storage** – 5% of revenue; up 37% yr/yr with noted strong growth in enterprise storage solutions. The company did note that SMBs appear to be shifting their focus to enterprise storage deployments during CQ4 2007.
 - **Networking** - 4% of total revenue; no comment with regard to growth.
- VMware became PC Mall's fourth largest software partner during the quarter. The company was clearly positive with regard to the trends it has seen in virtualization; also highlighting momentum in the area of thin-client computing.
- Sales of Apple solutions grew 10% yr/yr and represented 23% of revenue. Desktop sales were up 7% yr/yr, which was well-below Apple's strong quarter. Sales of Apple notebooks were up 26% yr/yr during the quarter. Sales of Apple solutions are 63% of consumer sales. The company is positive on its CQ4 2007 outlook as it expects to benefit from Apple's launch of its Leopard operating system, which started shipping in late August. The company did state that it had seen some delay in purchases due to this roll-out during its September quarter.
- **Inventory** - PC Mall reported that its inventory balance stood at \$59.7 million exiting CQ3 2007, which was up 18% sequentially (up \$8.4 million), which followed a 23% sequential increase in the prior quarter. The company had primarily attributed this to a focus on taking advantage of favorable pricing trends in its key partners (e.g. Apple), as well as from the company's recent acquisition of SARCOM.

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