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HPQ - Hewlett-Packard at Raymond James IT Supply Chain Conference

Event Date/Time: Dec. 14. 2010 / 1:55PM GMT

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CORPORATE PARTICIPANTS

Tony Prophet
Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group

CONFERENCE CALL PARTICIPANTS

Brian Alexander
Raymond James & Associates - Analyst

PRESENTATION

Brian Alexander - *Raymond James & Associates - Analyst*

Moving right along to stay on time, I'm very happy to have Hewlett-Packard here again this year, and we have Tony Prophet, who is the Senior Vice President of Operations for the Personal Systems Group.

He runs HP's global supply chain, which is a $60 billion-plus supply chain, so a very prominent role within the Company. Hedge procurement for all of HP, including memory processors, drives, panels, et cetera. Leads the operation for HP's Personal Systems Group, which is a $40 billion-plus revenue segment within the Company. Also responsible for strategic alliances with companies like Microsoft and Intel and AMD.

So, with that, I'm going to turn it over to Tony. He's going to talk for about 10 to 15 minutes or so on HP's supply chain, and then we'll move into a fireside chat. Tony?

Tony Prophet - *Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group*

Thanks, Brian, and we're honored to be here and be part of this today, and look forward to your questions and your feedback.

So I'm going to talk about the HP supply chain. I'm going to talk about this in two contexts. I'm going to talk to you about the historical progress we've made in the PC supply chain, and that as a foundation for what we've done in the PC supply chain, the frame supply chain, and the enterprise hardware supply chain in vertical segments, and the work we're now doing across the Company to transform the HP supply chain now in a horizontal way, and knitting those businesses together.

So, predictably, I'm going to start with the disclaimer, Safe Harbor, forward-looking. I want you to just study this for a moment. This is our standard Safe Harbor statement. You've probably seen these before.

And this is the broad description of HP's supply chain. So, in our view, the IT industry's largest supply chain, about $65 billion. Massively scaled, and as we walk through this, I'm going to share with you some of the parameters that measure and define that scale. And I think you're familiar with the breadth of products and services that we offer. I'll give you just a brief reminder of that, and obviously the breadth of customers that we serve, both geographically and channel, from individual consumers up to the largest enterprises.

So, based on the progress that we have made vertically within the businesses, and I'm going to share that in a little bit, we still see significant opportunity to improve the business horizontally by leveraging the entire breadth of HP, the entire supply chain across the businesses.

So this is the portfolio of services, and I won't go into a lot of detail here, but obviously on the client side, the leader in the PC business. The recent acquisition of Palm in the mobile space, a leader in the mobile -- in the thin client, both in the stationary and mobile thin client space. A leader in the printing business. A leader in all of the enterprise hardware spaces of storage. Growing network with the addition of 3Com. Storage obviously with the addition now with 3PAR and servers, both industry

standard servers and the UNIX servers as well, the business-critical servers. So, a leader across those business segments, and then strong in services, in software, you're familiar with that.

So this gives you a measure of the scale of the supply chain and the velocity, so about two PCs a second, about two printers a second, a server about every 15 seconds. So, massively scaled, lots of boxes, lots of moving parts, lots of procurement activity, and lots of logistics, packaging, and transportation.

Now I'm going to focus in on the PC supply chain where -- I've led the PC supply chain for the last five years, some of the progress that we've made, and in a parallel way we've made similar progress in the imaging and printing supply chain, and likewise in the enterprise hardware supply chain.

So, those of you that have followed the industry over this period of time, you've seen a significant decline, principally from FY08 to FY09 in ASPs, largely driven by the introduction of netbooks in the consumer space. That took industry ASPs down significantly, and our challenge in the supply chain, of course, when you look at ASP, average selling price, and AUC, average unit cost, is to prevent those lines from crossing.

If you look backwards at the performance of the PC business, circa 2004, 2005, margins in the three-ish kind of range, op margins pretax in the three-ish kind of range, to the point last quarter where we were at about 5.5 points op margin in the PC business, you've seen we've been pretty successful at weathering this significant reduction in ASP and keeping our average unit costs declining as fast or faster than the ASP declines that the industry saw over that period of time. So, we've navigated some pretty tough macroeconomic circumstances that we've all had to go through, as well as the industry-specific factors, and have been able to keep the margins resilient through all of the challenges that we saw backward looking.

An important part of that has been the reduction in (multiple speakers) the cost of the PC supply chain, so what these bars represent is the cost of transformation, so this is not the cost of memory, this is not the cost of microprocessors, this is not the bill of material costs. This is the cost to manufacture, the transportation, the duties, and any inventory costs associated with excess obsolescence or bad inventory purchase decisions.

So, think about that, back in 2006, as being about $55, the transformation cost for a PC, and today being less than $40. And the cost as a percentage of revenue being slightly less than 7% back in 2006 and now slightly less than 6% today. So, we've been able to keep ahead of fuel costs, inflation, currency, all of those issues in the cost of transformation, and again driven them down from about $55 to transform a PC in 2006 down to about $40 -- less than $40 today to transform a PC. So, significant success in this transformation.

Now an important part of how we did this was the transformation of the physical network. So immediately post-merger, HP Compaq, immediately post-merger this was the HP supply chain, PC supply chain, so about 70 nodes worldwide. Many of them in high-cost locations, many of them company-owned, and largely oriented to building desktops, and again this was really on the eve of the inflection where desktops started to decline on a relative basis to notebooks.

Notebooks were taking off. We had a desktop-oriented supply chain, high cost, company-owned, and with the complexity you see, this is really just the tip of the iceberg. Each of those nodes had inbound hubs, outbound hubs, unique IT connections, and drove a tremendous amount of overhead to support the complexity of these nodes that we inherited from the two companies that were combined, post-merger.

Now this is the supply chain today -- about 30 nodes and significantly fewer of them company owned. Obviously biased more towards lower-cost locations, but not exclusively. We continue to operate a plant in Indianapolis. We continue to have a plant in Japan, so where it makes sense for proximity to the customers, to serve those customers with high velocity, we're there, and -- but generally in lower-cost locations, many fewer of them company-owned.

But the transformation has not been solely about reducing the node count. We've also focused on being present where the markets are growing. So, we believe we're the first multinational to manufacture PCs in Russia, so we have an operation -- again, operation we partner with in St. Petersburg, where we make desktop PCs.

We've expanded our existing plant in Shanghai, China. We have established a new factory in western China. I'm going to talk a little bit more about that, and I think you're hearing more and more of our competitors talk about western China, and I think we can show you some of the actions that we have undertaken well in advance of both the competition and some of the industry forces that are now apparent to everyone that are driving folks to western China.

Upgraded our operations in India, north central India, and significantly upgraded our operations in Brazil.

So in all the BRIC countries, we've significantly reinforced our operations, and then we expect to begin operations in the first quarter of -- calendar quarter of next year with a new factory in Turkey. Again, we believe we'll be the first multinational manufacturing PCs in Turkey. That'll allow us to effectively serve central Asia, Eastern Europe and the Middle East, the Mediterranean region particularly. So we think we'll be, again, well positioned there in the markets that are growing with a footprint that we think is without peer among the PC industry.

So transitioning to discuss western China, if you look back in the last 12, 18 months, you can't have missed the amount of industry attention around the industrial forces and the labor forces that are affecting coastal China. HP stood back three years ago, and we took a look at what was happening in our (multiple speakers) in China, 2007 to early 2008, and said we think we see a problem coming in terms of labor availability. We saw significant absenteeism after a Golden Week or after Chinese New Year, some early signs of inflation. Obviously, you can see it in the property market and the price of fuel and food, and so we took a decision to -- not to eliminate our operations in coastal China, but to expand our operations as an adjunct to what we had in coastal China.

So we haven't extinguished those operations in coastal China, but we looked at other locations to diversify, and we looked at the typical places you would imagine, Vietnam, Malaysia, Indonesia, India. Our decision was to move to western China. It is very much aligned with the priorities of the Chinese government, so urbanization and a drive to the West and the support for the West in terms of infrastructure, and we were early in doing this.

So this is the operation in western China, and again if you take a circle out 1,200 kilometers from this site, we're in Chongqing, you'd find about 300 million people, so standing alone, that would be the fourth or fifth largest PC market in the world, just in terms of population.

So we inaugurated an HP facility in western China in January of this year, so that's in China, for China, HP building notebook PCs, desktop PCs, and monitors in China, for China.

The second phase of the operation is an export operation, and these are third-party ODM operations serving HP, focused in China for export. And with three principal export lanes, the first lane, which you see the inauguration of here, is a rail/sea link, so rail to the port near Shenzhen, sea to wherever, ultimately, Europe or the Americas.

The second lane is an air lane, direct air transport from Chongqing to Western Europe. Currently, we're landing in Liege in Belgium.

The third lane, which we hope to inaugurate in the first quarter of next year, is a direct rail link from Western China to Europe, right, which we're calling the land bridge. So, we're working on that, obviously, with our partners in China, (multiple speakers) through Kazakhstan and on through Russia into Europe.

So, three modes, three lanes, that we think will make western China unique in its ability to serve west Europe generally, central Asia, and the Middle East.

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We're early mover. I think you hear others now beginning to talk about this. This is a strategy we've been working on for more than two years. We think we have a great lead and we see this as a real competitive advantage. So, that is the PC supply chain.

Now I'm going to expand the picture to talk broadly about HP. So, we've done a lot to optimize the business PCs within the PC business. Similarly, the printing business has done the same. Enterprise hardware has done the same, but when you look across the business you still see significant complexity in terms of the network, the procurement practices, business processes, and IT applications as you look across the businesses.

So, our strategy, and we inaugurated this or really announced this at our analyst conference in 2009, so we've been at this for more than a year, and it's been reviewed and endorsed by our Board of Directors as well as our current CEO, is to knit those businesses together and extend our operations to leverage the business across all of HP where we see significant opportunities.

So, again, if you go back to the PC supply chain, these are those approximately 30 nodes I showed you in the PC supply chain, so it looks relatively concentrated and simplified. But when you add to that the enterprise network, you start to see more complexity. Add to that imaging and printing, and you start to see real complexity, and then add to that our distribution and services operations and you see -- really, opportunity is what we see here.

And so, in total, if you include 3Com and Palm, this is about 500 nodes. And these are not all company owned. Many of them are operated by third parties on our behalf. Some are manufacturing, some are distribution, but about 500 nodes, and our objective is to cut this about in half. To this point in the program, we've taken out about 50 of these nodes today.

So when we say that, what do we mean? Let me give you an example of what that means. For example, for a PC, if we build a PC and move it by ocean into Long Beach, we have a node there that receives that and debulks it and moves it on to Ingram or Tech Data or Wal-Mart or Synnex or -- the customers that we typically deal with in the channel. So we have a debulking node.

So does IPG. They build a printer in China and they move it by ocean. They have a debulking node. Those two nodes are 21 miles apart, and they put stuff in the truck. First of all, they take it out of the container. We could be contending for the same container. We could be bidding on the same container out of the same port. We wouldn't know it.

We put stuff in the truck. One might get less than a truckload, the other might get less than a truckload. It might be the same truck ultimately going to the same end distribution point.

We have a third node if there are notebooks coming by sea.

So, it's not just about collapsing the real estate or the labor in that node, it's about the ability to converge those physical nodes so we get better transportation economics. So the benefits are manifold, right? Better transportation economics at the origin, better transportation economics on the ground link, better real estate utilization, fewer IT connections for these unique nodes, and so our strategy is clear -- to take these nodes and consolidate them wherever possible and cut them about in half on a worldwide basis.

So, said simply, we're converging to a smaller set of nodes, we're reducing our logistics partners, we're working to consolidate our freight lanes to go from where we have less than container load or less-than-truckload move to full containers and trucks, and also to extend the systems and build control towers so we have visibility of those shipments from end to end throughout the transport time that the product is moving.

The second major element of the transformation -- you know there's three. There's the physical network, there's the procurement activities we're doing, and then there's the business process and IT. So the second major leg of the transformation is how -- is our procurement practices.

So for many of the commodities that we buy -- for most of the commodities that we buy, we are the largest customer or the largest procurer of those products. So when you think about the folks that build memory and microprocessors and even operating systems, often we are their largest customer.

This is a rough parameter of the scale of our purchases. Even for things like freight, so if you look at air freight coming out of Shanghai, most days we are one of the largest procurers. We can have 7%, 8%, 10% of the air freight coming out of Shanghai on a given day.

So, that scale, used properly, gives us an advantage. It gives us cost advantage, insurance advantage, and relationship advantage, again, used properly.

So an important part of guarding that scale and using it properly is, one, driving standardization where appropriate, so taking the scale that we have in the PC business and driving that across the business, driving that into the enterprise side of the business. So obviously in industry standard servers, we were a leader there. That's kind of an unnatural act for a leader in units to make -- bridge the chasm and become the leader in the new paradigm of industry standard, but we are a leader there.

Obviously, very, very strong performance in blades. The ESS business was up 33%. Last year, blades were up 51%. So we've been very successful there by driving those standards, and our intent is to continue to drive that standardization where appropriate into the storage area and to the networking area. Things like power, connectors, WiFi, BlueTooth, those sorts of modules, things that are relatively standard, not to suppress innovation but to drive standards where appropriate and wherever possible to make things -- on the enterprise side, to make sure these things fit as standard modules into the same rack.

So in the procurement space, what we're doing is we're centralizing common commodities. We're moving from about 60%, 62% centralized maybe two or three years ago to approaching 85%, 87% commodity centralized. So, a single point of purchase within the Company, so you're not out buying connectors in seven or eight different places. You're buying them in one. Moving to standard contracts with fair but favorable terms for HP across the company. Improving our procurement disciplines, getting things on contracts and contracts that are not -- typically not spot-based, but more strategic, that give us favorable terms, as well as give us assurance of supply, and then extending the use of standards into the enterprise space.

The final dimension of the transformation is the process and IT dimension, and this is -- and the parameters of how we get this aren't really important. Just think about this parametrically, though. These are the (multiple speakers) the process complexity within HP.

So, for example, within PSG, the Personal Systems Group, the PC business, we have 65 ways of planning, 65 different ways of planning. How do you get 65 different ways of planning? You've got one for notebook and one for desktop, one for consumer notebook and one for commercial notebook, one in EMEA and one in Latin America, et cetera, et cetera. Dissecting the business with that many intersections breeds uniqueness, complexity, travel knowledge, and makes it difficult to move any kind of IT application or people around the world.

And so when the business is dissected like that, and you're in the PC business, you really have to diminish your scale to the scale of a white box player. A local player very focused.

So, our strategy is now to consolidate to drive scale, common practices where we have common customer categories. So, that's how you get 65 within planning in PSG. Across the whole business, we have more than 1,000 processes. More than 1,000 processes by the way that we count them.

So, likewise, 100 (multiple speakers) applications, so more than 300 IT applications that are married hand to hand with those processes. So our objective is to cut the processes by an order of magnitude and cut the IT applications by more than a third.

And clearly, the overhead, the unique connections with our partners that have the connect, both on the customer side as well as the supply side, with all those unique processes drives a lot of overhead, drives a lot of cost. It drives complexity. It creates an opaque system where you can't really see what's happening when the system is moving rapidly, and we're going to drive through a transparent, integrated, harmonized, but thoughtfully harmonized. We will still have different swim lanes for our volume businesses versus a value business, like building a server app, versus the supplies business, versus software, versus services, but it would -- among those five swim lanes, within any swim lane for the volume businesses, our objective is to have the same processes for the value businesses, et cetera.

So again, said simply, our strategy is we're moving to common processes for each swim lane across the Company. We're moving to common IT applications to drive those processes, and so that to our suppliers and to our customers we look like one company. To many of our suppliers, we look like 10 or 15 different companies, and that drives overhead for them, it drives IT. It needs to connect to all those different ways of interfacing whether it's a demand signal or EDI for shipment, so our objective is to help them reduce their costs, help us reduce our costs, makes us a better partner, makes us lower cost to serve as a scale player for our supply partners, and obviously more transparent and higher velocity of information flowing with our customers.

So, our aspiration, [which is] probably no less, we want to build the industry's best supply chain. We're not there yet. We think we're well on the way. We've got a path, a strategy charted to build what we think will be a 10 out of 10 supply chain, and we're about a year into this transformation. So, Brian?

Brian Alexander - *Raymond James & Associates - Analyst*

Sure. That was a great presentation, and I think on Wall Street we try to simplify, and a lot of investors assume the recent change in CEO implies less of a focus on driving efficiency and more of a focus on driving growth, but I think your presentation overwhelmingly refutes that.

Can you talk about how long you think this journey takes? And if there is any overall savings metrics that you can share with us in terms of annual targets that you would hope to reduce supply-chain costs by x dollars per year, that would be helpful as well.

Tony Prophet - *Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group*

Sure. To your first point, we remain as focused and actually more focused on reducing this cost and using those savings, not necessarily dropping all of them, but to invest in sales coverage and to invest in R&D.

So it's a core part of the strategy, so driving cost out of the supply chain is an integral part of our strategy to invest in innovation. They're linked hand in hand, and that's how we talk about it inside the Company, and that hasn't changed at all. I can attest to it. It hasn't changed at all with the change in leadership.

In order to drive this, it's not really driven like a project. We changed the organization, so for example, when we say we centralized procurement, we just didn't do it in an ad hoc way. We took those people that did that procurement activity, we put them together and made a lasting and permanent change.

We took the authority to establish new nodes, we took that authority away from people, the people that have the tools and knowledge to make those analytics, said you people are consolidated. There's one group that has the authority to add a new node to the supply chain.

As I noted, we first discussed this in September 2009, so we're more or less about a year into the journey and we see this as a three or four year journey, and we measure the savings in billions.

Brian Alexander - *Raymond James & Associates - Analyst*

In billions cumulatively or in billions per year?

Tony Prophet - *Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group*

In billions cumulatively.

Brian Alexander - *Raymond James & Associates - Analyst*

I guess both would apply.

Tony Prophet - *Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group*

Not necessarily.

Brian Alexander - *Raymond James & Associates - Analyst*

In terms of adaptability and flexibility, building a global supply chain involves a lot of standardization. You talked about centralization. That could work against you and limit flexibility. So how capable is the supply chain in adapting to rapidly changing market trends like tablets and smartphones?

Tony Prophet - *Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group*

Sure. I'll address that specifically -- offer some backward-looking examples in terms of adaptability.

So, if you look back, those of you that have tracked the industry over the last four or five years, I mean you've seen huge, huge disruptions in the supply chain. You saw battery factories literally burn to the ground. Memory excursions in a fab where all of a sudden X percent of the memory just was no longer available.

And you saw, and it probably wasn't as apparent to folks outside the industry, the volcano in Iceland was a huge disruption. When you ship 60%, 70% of your notebooks to Europe by air, and all of a sudden all the air lanes into Europe are shut down at the end of a quarter, right, those are some of the things that we -- where we've had to demonstrate and to deliver our adaptability and our flexibility, and I think the record of the company, the PC company, speaks for itself. Through all of those disruptions, what's happened to our margins and our ability to deliver quarters, backward looking, has been clear.

Now looking ahead, clearly there is a growing interest in a real category, in the tablet space. If you look at the suppliers of the components of tablets, they are the same suppliers, the same suppliers implicitly that we talk about when we say we have this substantial share and we are the scale buyer. Those are the same suppliers that provide many, not all but many, of the components for a tablet.

When they look at customers like us, they're interested, obviously, in that growth and in the tablet space, but they're also interested in the enterprise space. And there's very few companies that handle all of it, from the tablet, handset, PC, thin client, et cetera, et cetera, printers, all the way up to servers, and often for those companies, as you can appreciate, the enterprise market is -- it tends to be higher margin for them, so they want the whole portfolio.

And there's very few companies that can come to a supplier and say, look, here, you have the whole portfolio, and HP does, and we try to work with them on a portfolio basis and take the good with the bad on both sides. So I think we're -- I believe we're well positioned to adapt to the emerging realities.

Brian Alexander - *Raymond James & Associates - Analyst*

Can you talk about the arrival of Leo and what he brings to the table? In your early discussions with him, what impresses you and just the overall early impressions, and kind of compare and contrast his leadership style with his predecessor.

Tony Prophet - *Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group*

Yes, I'm probably not going to compare or contrast with the predecessor. I think what happened with the predecessor speaks for itself.

It's a superb company, a great operating machine. Our track record is clear, and -- but the point I made earlier, we made structural changes. This wasn't a single individual driving this. We structurally changed things. We put rigorous processes in place to make these things happen. So it wasn't a personality or an individual driving it. It's a company driving it, 300,000 people strong.

I have been super-encouraged by Leo's arrival and his early engagement. I've spent a lot of time with him personally, five or six engagements thus far. I know he's been very engaged with the supply base, very engaged with customers.

Given his background, the thing you probably wouldn't appreciate, is that when you think about what SAP does, I mean SAP, that software engine, because we're a big SAP user, and the convergence that we're doing is largely on SAP APO, that they're solving big business problems for people that build hardware, so he brings an understanding and appreciation of software, obviously, in that ecosystem, but also solving problems for people that built hardware like us in any -- automotive, et cetera, all of the discrete partner -- manufacturing industries as well. So he brings that knowledge and expertise.

Obviously, or maybe it wouldn't be obvious to you, has the relationships with our key supply partners. He's been very good at listening to what we're currently doing, not too quick to jump to conclusions, but studying it, making informed early decisions, very engaged, and I'm quite encouraged.

Brian Alexander - *Raymond James & Associates - Analyst*

We have a couple of minutes left, and I want to give the audience an opportunity to ask Tony some questions. Right here in the front.

Unidentified Audience Member

(Inaudible - microphone inaccessible)

Tony Prophet - *Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group*

So, I don't know if you could hear the question. The first part of the question was, what areas are we focusing on the most?

It's a little bit counterintuitive because for things like memory and hard disk drive, panels, microprocessors, those were already centralized, right, so really it's the increment that we're now centralizing, so think about WiFi and Bluetooth and connectors, power, those things that previously were very decentralized. There's more opportunity there. The core commodities were previously centralized.

We're not going to offer any forecasts for memory or any other specific commodities, but what I would say is we have a track record of making pretty good calls, and one of the strategies that we've been talking about for years now is our strategy to make strategic investments in inventory, and to do that at the right time. So when we think prices are at a peak, we'll tend to deplete our inventories, and when we think prices are at a low, we'll tend to let those inventories rise.

And I think our track record of making good calls there is quite clear, as you can see it in our margins, because when we make a bad call, it drops right to the bottom line. For example, backward looking, in calendar Q2 of this year, a lot of people were nervous. They saw memory prices running, and that was a point where we chose to say, this looks curious to us that memory prices are running on a nonseasonal basis. A lot of people were putting stuff on the [seat] they hadn't previously, and we took a call and said, we're going to stand pat. We're not going to run up our memory inventories.

Historically, we would have run them up. In calendar Q2, we didn't. We took a counterview to the rest of the industry, and I think you saw what happened. And you saw our margins last quarter, and indicate that we made a decent call here.

So, that doesn't mean all our calls in the future are going to be great, but -- and I think you saw also our discipline was apparent and backward looking for our fiscal Q4 in the PC business. Our discipline in pricing of how much of that we dropped was also clear in the margins that we delivered.

So I'm not going to offer any forward-looking forecasts, but we made some good calls and we have a lot of clients behind how we do it, the analytics behind it, and good market intelligence on where we think these things are going, not that we won't ever make a mistake in the future, but we have done pretty good historically.

Unidentified Audience Member

(Inaudible question - microphone inaccessible)

Tony Prophet - *Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group*

I don't drive the pricing decisions, but what we're looking for is profitable growth, profitable growth. So there's not -- we're not driving for market share, we're driving for profitable growth.

In the notebook business particularly, there's always bad business to chase. And so, we've been disciplined in not chasing some of that bad business and driving for profitable growth where we see it.

Unidentified Audience Member

Can you touch base on the introduction of Sandy Bridge coming from Intel? How much leverage will you get on bill of materials, compression on components, supply, or gross margins basically? Is that going to be a tailwind for you (multiple speakers) (inaudible question - microphone inaccessible)

Tony Prophet - *Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group*

When you say compression on components supply.

Unidentified Audience Member

I mean just an integrated GPU with a processor (inaudible question - microphone inaccessible). Is there any leverage you can reap on bill of material or gross margin (multiple speakers)

Tony Prophet - *Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group*

Again, I won't be specific, but that obviously, in certain segments, it kind of takes where you would apply discrete graphics, it takes it up a notch, so it probably makes that segment -- your point might be well taken there, but I think as you can appreciate, initially the Sandy Bridge stuff will be at a little bit of a premium, which will kind of limit, I think, its penetration availability because they're trying to phase in those two -- the old with the new.

And the other thing not to be taken lightly is AMD is also coming out with their bulldozer processors which also have the integrated graphics, so there is still tension there, competitive tension there, and we're excited -- as excited about what AMD is doing with bulldozer as we are -- we're likewise excited about Sandy Bridge. Obviously, it's pretty exciting technology for us.

Brian Alexander - *Raymond James & Associates - Analyst*

One final one. We have Bob in the back.

Unidentified Audience Member

(Inaudible question - microphone inaccessible)

Brian Alexander - *Raymond James & Associates - Analyst*

The question is just the general direction of component prices.

Tony Prophet - *Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group*

So from memory, obviously you've seen from a peak in April or May, I mean, you guys have seen from -- I think you've seen a precipitous decline in memory. From April to May to now in memory, you've seen a precipitous decline.

We don't think that is quite over yet, but we don't make a business of really trying to pick a bottom or a top in terms of how we make our strategic decisions. So memory -- likewise panels. We're going through a seasonal consumer-driven peak, so what does calendar Q1 look like? We'll see, but we don't think things are going to run up, non-seasonally. We don't see anything that is going to drive things up nonseasonally in calendar Q1, and I don't know if your question was longer term about flash versus DRAM, but we see -- I'm sorry, flash versus HDD --

Unidentified Audience Member

(Inaudible question - microphone inaccessible)

Tony Prophet - *Hewlett-Packard Development Company, L.P. - SVP Operations, Personal Systems Group*

I would say, just generally, I think you heard of an event, so it hasn't necessarily played true in a NAND space and in someone's fab recently. That's not a big issue for us. It might be for other folks, right?

For -- I think for HDD and DRAM in general, you've seen the prices really come down. You've seen this in the guidance others have offered and the iSuppli DRAM exchange data out there, and there might be a little bit more left in that. We're not banking on that happening, but we certainly don't see a nonseasonal run-up.

Because we're at a seasonal peak in volumes now, so you get in calendar Q1, other than Chinese New Year, we don't see anything that's going to drive demand up dramatically, so we feel pretty good about where prices are, and we're trying to maintain pricing discipline and not chase bad business just to drive share, unnaturally drive the topline. We're trying to drive it through profitable growth where we see it.

Brian Alexander - *Raymond James & Associates - Analyst*

I think we're out of time. I want to thank Tony for his insightful comments. Thank you.