Technology Brief...

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Intel and Moto – A Breakthrough for Atom?

While relatively little noticed and reported, the recent announcement of Intel and Motorola partnering on future smart devices (phones and tablets) will have a major impact on the market, and gives Intel the potential to achieve the breakthrough it has been searching for with Atom in the mobile market. We believe that this is not just another announcement that may or may not bear fruit. We expect this to be ground breaking, provided both sides fully follow through on their commitments. This partnership effectively builds on the close relationship that Intel has already established with Google around Android, and a further step in making sure that Android runs better on the Intel architecture than on any other (see our previous research report, "Intel and Google: Who Needs Who?", Commentary and Analysis, September 15, 2011).

Motorola has been struggling to regain its luster in the phone market. But with its pending acquisition by Google, it has an inside track to become the premiere Android supplier (we do believe it will have a competitive advantage despite Google's claims that all Android licensees will be treated equal). Further, Motorola's heavy concentration on making their devices "enterprise ready" with specific enhancements (e.g., 3LM) puts it in a position to supply Android-powered devices to companies who until now have been hesitant to support Android because of its relative lack of security. We expect Motorola to become the dominant supplier of enterprise-ready Android-based devices within the next 1-2 years, once Android becomes ready for prime time enterprise use.

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Intel for its part has been trying to break into the smart device market since it launched Atom several years ago. However, it has never had a competitive (price and power-wise) product when compared to ARM based chips from Qualcomm, TI, NVIDIA, etc. With the latest incarnation of Atom (Medfield), it has finely created a chip that can compete. And with next generation Atom chips becoming available later this year, it will achieve a level of performance and power parity with ARM. Further, its work in optimizing Android for Atom makes it probable that Android will have a competitive performance edge compared to operating on run of the mill ARM chips.

This is where the partnership between Intel and Motorola/Google becomes interesting. Motorola's design expertise in phones, coupled with Google's OS efforts, and Intel's chip OS optimization and security efforts could actually lead to a breakthrough Android implementation that finally achieves the necessary measure of performance, security and manageability that many business users have been looking for. And with Intel's marketing power, it should allow increased design wins

beyond Motorola and Lenovo (also recently announced).

Bottom Line: We expect the recent announcement of the collaboration between Intel and Motorola to result in higher performance and securely manageable smart devices. This should give Motorola a boost in the highly competitive marketplace. It will also give Intel a competitive advantage for its Atom chips. Ultimately, it will result in enterprise-class Android based smart devices that companies will find more attractive than the primarily consumer oriented devices currently being offered.

Ultrabooks: Just Keeping Up With Apple?

Intel has created and "speced" a new form factor for Notebooks it is calling Ultrabooks. Many have speculated that this is a direct response to the popularity of the MacBook Air. But if all this effort is only focused on that narrow vision, it will fail. Ultrabooks represent a much bigger strategic vision (and investment) that could revolutionize the notebook market if Intel is successful.

"…The Ultrabook is not so much a new form factor as it is an evolution of current notebooks with new features driven by new chip tech and OS.. We expect Ultrabooks to capture 15%-25% of the market for notebooks by 2014-2015...."

The general PC market, and especially the notebook market, has grown somewhat stale over the past few years. Indeed, most innovation in computing has been directed at the myriad of mobile devices. Some pundits are speculating that we have moved beyond the PC era and users are switching to smart phones and tablets as primary computing platforms. We do not share this view, and believe the PC has real benefit for many use cases and will remain a predominant platform for many business and consumer users. But Intel and its ecosystem (e.g., Microsoft, notebook vendors, app vendors, user interface specialists) must stimulate and regenerate notebook interest based on the latest trends in thin, light, responsive and great user experience that users have grown accustomed to using tablets and smart phones. Intel plans to do so with its new Ultrabooks, a term it owns and will only allow to be used by vendors that meet Intel-defined minimum specs, and only by Intel-powered machines (AMD/ARM powered devices won't be able to use the Ultrabook branding).

Can Intel and its ecosystem revitalize the notebook market and stimulate consumer demand (and a new buying cycle)? If Ultrabooks are only thin light MacBook Air knockoffs, they won't be very successful. They need to be more. Certainly thin and light are important. And price is always an issue – the first generation of devices now coming to market are typically premium priced at $700-$900+, and not very attractive to many consumers when compared to $300-$500 mainstream notebooks. But we believe Ultrabooks will undergo some significant changes in successive generations of product over the next 1-2 years. First, with next gen Core chips from Intel (Ivy Bridge due later this year), Ultrabooks should be able to achieve 8-10 hours of battery life even in a reduced form factor necessitating a smaller battery. They will also be optimized for instant on (less than 10 seconds from sleep mode) which will solve one of the biggest complaints of PC users and make Ultrabooks much more like mobile devices. Ultrabooks will include enhanced security capabilities for protection from malware attacks, safer document/media control and web surfing. And they will include improved media creation and consumption capability to enhance the end user experience. Finally, touch interfaces and touch enhanced form factors will emerge that will allow users to interact with devices in a more natural way.

Of course, much of this functionality is dependent on the next generation of OS powering these systems. Microsoft has not yet fully specified Windows 8

availability and the functions it will allow. But we expect a version of Windows 8 that is optimized for this new form factor to be included in the general release of Windows 8 later this year, combining features of the Metro UI, enhanced boot and recover from standby capability, and specialized functions and drivers for the new Ultrabooks. And success will also be dependent on the Ultrabook OEMs creating differentiated product "fine tuned" for specific consumer classes (e.g., business users, portable gamers, media creating and consumption, social media centric, artists, etc.).

A number of first generation Ultrabooks are being announced at CES. But we expect the "real" Ultrabooks will emerge later this year with the new chips, new OS and new user functionality and performance. That is when the true value of the Ultrabook devices will be judged. And we expect a number of lower end Ultrabooks to come to market at $400-$500 (or less) by the end of 2012, making them more competitive with the mainstream notebook "bricks". We further expect to see a variety of uniquely derived form factors (some with tablet-like flip over, extended screens, connectivity (media) options, etc.). It is at this point that the Ultrabooks will move away from just being seen as a MacBook Air knock-off.

Bottom Line: In truth, the Ultrabook is really a continuation of the progressive transition notebooks have been making for several years – from bricks to sleek, user enhanced devices. The Ultrabook is not so much a new form factor as it is an evolution of current notebooks with new features driven by new chip tech and OS and heavily influenced (driven?) by the appeal of the tablet form factor and smart phone devices. We expect Ultrabooks to create a true revolution in notebook computers, and to capture 15%-25% of the market for notebooks by 2014-2015. They will have a moderating effect on the market share captured by tablet computers and the consequential displacement of PC sales.

Consumer and Enterprise 2014/2015 Tablet Market Share Predictions

The market for tablet computers continues to evolve, and we expect it to remain dynamic and changing over the next 2-3 years. We do believe that the push by Intel to make notebooks more tablet-like via its Ultrabook initiative will have some impact on tablets, but will ultimately have more impact on the notebook market. The push by phone manufacturers to "up size" their displays will have a greater impact on tablets, particularly those with display sizes of less than 7 inches, but we expect tablets to remain a distinct category primarily for consuming rich media, gaming and web interaction. We further expect that there will be many new entrants into the tablet space targeting lower end consumer devices, and that low price points (<$200) will take a large part of the market for consumer devices, while higher end (>$400) devices will remain popular with business users. The increasing pressure from Ultrabooks and tablets will essentially push Netbooks into a small niche market with shrinking market share.

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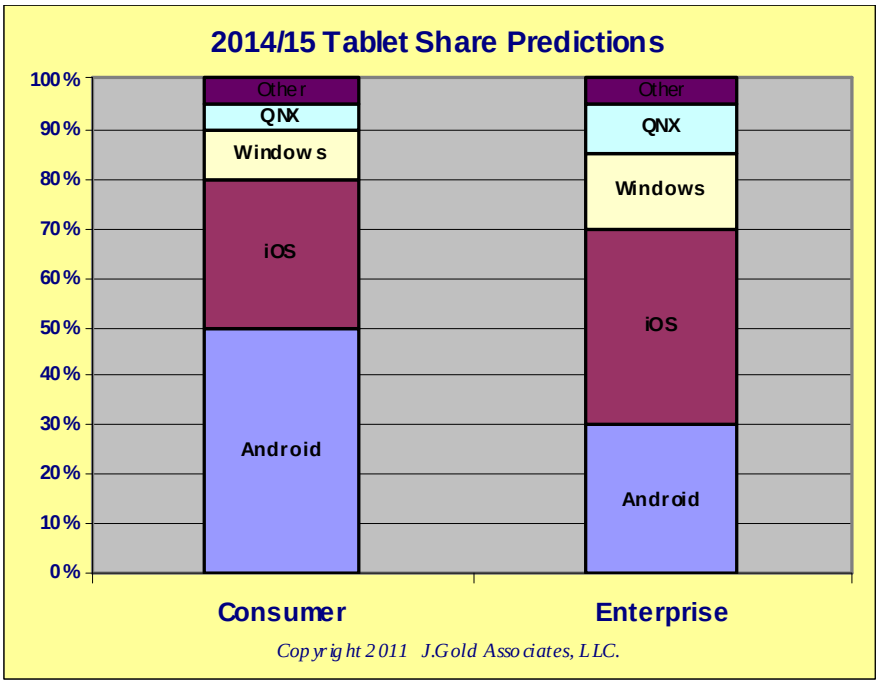
Although iPads will continue to dominate the tablet market in the short term, by 2014-15 we expect Android tablets to acquire a majority share of the consumer market as the number of vendors and variety of models overwhelm the iPad. But iPad will continue to hold the largest share of the enterprise market where specialized features built into some Android tablets will be valued but which will take longer to gain share. Windows-powered tablets will primarily make inroads in enterprises over this period of time, but will eventually be a viable third choice for the consumer marketplace as well. RIM's QNX (BlackBerry 10/PlayBook OS) will

take a reasonable share of the enterprise market especially in security conscious industries and governments (while also being embedded in automotive and other products), while other primarily Linux-derived and/or HTML5-centric OSes (e.g., Tizen, Chrome) will claim a minor share of the market.

Below we provide a graphic representation of what we expect the market share of the various tablet platforms to be in the 2014/2015 timeframe.



These projections are predicated on current product directions and roadmaps, but could be impacted dramatically by unknown factors (e.g., security flaws, hardware platform performance, supply disruptions, regulations, wireless carriers).

Recent Research

Contact us to obtain any of the following research:

15 Emerging Technology Trends
- Highlights our key emerging trends for the next 2-3 years

Commentary and Analysis
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- Nokia's New Phones- Not Raising The Bar Enough?
- Intel and Google – Who Needs Who?
- Microsoft's Can't Lose Mobile Strategy
- Dramatic Changes Coming in Endpoint Security

Technology Insights
- Mobile Chip Wars – The Changing Competition
- BlackBerry's Jam and RIM's Transformation

Technology Reports
- Keeping Notebooks Past Their Prime: A Study of Failures and Costs

Whitepapers
- A Heuristic Approach to Mobile Security
- MDM- Where Do We Go From Here?

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Research, Analysis, Insight, Strategy

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J.Gold Associates provides advisory services, syndicated research, strategic consulting and in-context analysis to help its clients make important technology choices and to enable improved product deployment decisions and go to market strategies. We work with our clients to produce successful new product strategies and deployments through workshops and reviews, business and strategic plan coaching and reviews, assistance in product selection and vendor evaluations, needs analysis, competitive analysis, and ongoing expertise transfer.

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