Accelerating Deployment of Touch-enabled Business Ultrabook™ Devices

- To optimize TCO, we plan to make touch-enabled devices a standard refresh option in Q2 2013

- To increase employee productivity, we are accelerating deployment of touch-enabled business Ultrabook devices while streamlining the internal development of touch-enabled applications

- We anticipate that we will deploy approximately 14,000 touch devices by the end of 2013

Intel IT is accelerating the deployment of touch-enabled business Ultrabook™ devices with Microsoft Windows* 8 ahead of the schedule we created in January 2013. This decision was based on several factors: employee demand for touch capabilities is increasing; enterprise applications are becoming more touch-enabled; and touch-enabled devices can increase employee productivity and lower the total cost of ownership (TCO).

In our survey of more than 6,000 Intel employees worldwide, 90 percent of respondents preferred a touch-enabled device (see Figure 1). Based on what we learned from this survey, a proof of concept (PoC) conducted with about 50 employees, and an early-adopter program with another 250 employees, we are adopting three business Ultrabook form factors: clamshell and two convertible styles (detachable and twist). We wanted to offer several options to meet employees' needs. All of these devices will run on Windows 8, which already enables touch functionality.

We anticipate that we will deploy approximately 14,000 touch-enabled devices by the end of 2013. The employees that select touch-enabled devices will enjoy increased productivity as enterprise touch applications become more prevalent.

Device Deployment Preference

90% Prefer Touch-enabled Business Ultrabook™ Devices

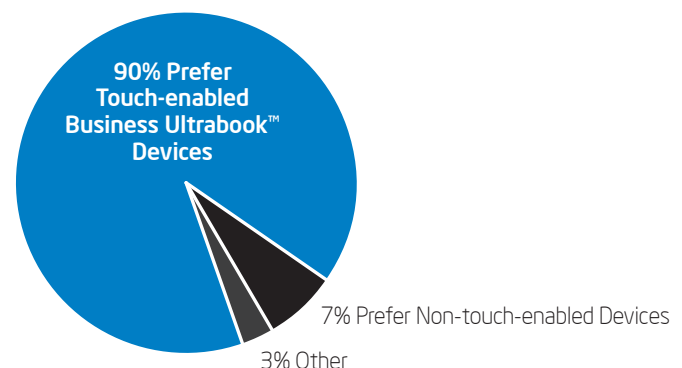7% Prefer Non-touch-enabled Devices

3% Other

Figure 1. In a recent survey, 90 percent of Intel employees preferred touch to non-touch devices.

Background

Intel IT is standardizing on Microsoft Windows* 8 as the primary OS for business Ultrabook™ devices, Intel® architecture-based tablets, desktops, and all-in-one systems. Windows 8 represents a significant shift in device interaction, focusing on touch.[1] In addition to being able to perform both touch and traditional client-based computing on a single device, business Ultrabook devices with Windows 8 offer the mobile productivity benefits of faster start times, improved battery life, better responsiveness, and more.

In order to keep pace with the rapid changes in the enterprise and IT industries, we decided to develop a long-term plan that would enable us to maintain business velocity and agility. As we began our migration to Windows 8 in late 2012, we examined how enterprise computing would incorporate touch capabilities over the next one to three years. During this examination, we realized the following:

- **Consumerization of IT will increase demand for touch capabilities.** Employees will demand touch capabilities in the workplace based on their experience with personally owned devices. Touch applications

are also demonstrating their value as evidenced by the adoption and proliferation of enterprise productivity applications on phones and tablets. Intel has embraced the consumerization of IT and is committed to delivering enterprise devices with the same flexibility that users are accustomed to in their personal devices, whenever possible.

- **Applications are increasingly taking advantage of touch interaction.** Over the next one to three years, we expect many personal/productivity and enterprise applications will become touch-enabled, and many may require touch capabilities.

- **Lack of touch capabilities can lead to lost productivity and increased cost.** We estimate that in one to three years, employees will need touch capabilities to perform their daily jobs—but about one-third of Intel employees will not have touch-enabled systems if we adhere to our original deployment schedule of touch-enabled devices. This scenario would result not only in future loss of productivity but also in premature hardware refreshes, leading to increased total cost of ownership (TCO).

These factors led us to accelerate the deployment of touch-enabled devices at Intel to prepare our environment for future demand of touch capabilities.

Accelerated Deployment Plan for Touch-enabled Devices

As shown in the upper portion of Figure 2, we originally planned to gradually deploy non-touch-enabled business Ultrabook devices while adding touch-enabled business Ultrabook devices to the environment.[2] Our original goal was to deploy about 1,000 touch-enabled business Ultrabook devices in the first half of 2013.

However, as shown in the lower portion of Figure 2, we concluded that it will be more cost-efficient to reduce the purchase of non-touch-enabled device as touch-enabled business Ultrabook devices become available in sufficient quantities to meet our needs. As of Q2 2013, every new employee or employee eligible for refresh can choose a touch-enabled business Ultrabook device. Currently, we expect to deploy approximately 14,000 touch-enabled business Ultrabook devices by the end of the year. By the end of 2015, as illustrated in Figure 3 (on the next page), we expect this accelerated goal to result in a 13-percent increase in touch-enabled business Ultrabook devices deployed versus the original goal.

[1] For a discussion of alternative form factors in input methods, including touch, voice, and gesture, refer to "Preparing the Enterprise for the Impact of Alternative Form Factors," July 2011.

[2] For a detailed discussion of our original plans, refer to "Deploying Business Ultrabook™ Devices in the Enterprise," January 2013.

Original Plan: Gradual Deployment of Touch-enabled Devices

Beginning 2013 – Refresh Option
Make non-touch-enabled business Ultrabook™ devices available

Mid 2013 – Extend Availability Based on Business Needs
Introduce new business Ultrabook devices such as touch and convertible

Revised Plan: Accelerated Deployment of Touch-enabled Devices

First Half 2013 – Proof of Concept and Initial Deployment
Reduce purchasing of non-touch-enabled systems

2nd Quarter – General Availability
Make touch-enabled business Ultrabook devices available to all refresh-eligible employees

Late 2013
Approximately 14,000 touch-enabled devices deployed

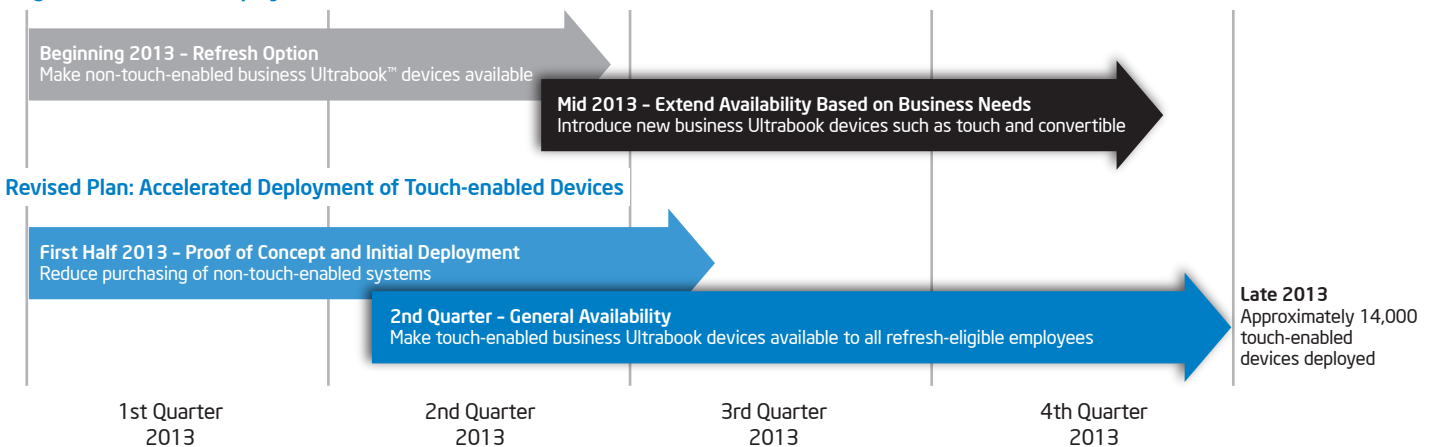1st Quarter 2013   2nd Quarter 2013   3rd Quarter 2013   4th Quarter 2013

Figure 2. We have significantly revised our plans for deploying touch-enabled business Ultrabook™ devices to prepare our computing environment for future demand for touch capabilities.

We are currently making a touch-enabled business Ultrabook device (a clamshell form factor) available through PC refresh and are also evaluating two convertible form factors—detachable and twist—which should be available to employees in Q3 2013. Our goal is to offer a variety of options to meet employees' business needs.

Our accelerated deployment of touch-enabled business Ultrabook devices began with a user survey and proof of concept (PoC) followed by a targeted deployment to select Intel employees.

We also performed an initial analysis of the TCO and return on investment (ROI) of touch-enabled devices, focusing on the initial cost of the device compared to its useful life.

EMPLOYEE SURVEY AND PROOF OF CONCEPT

In March 2013, we surveyed approximately 6,300 refresh-eligible Intel employees, which garnered a 40-percent response rate. In the survey, 90 percent of employees preferred touch-enabled devices (see Figure 1) versus non-touch business Ultrabook devices or traditional laptops.

We conducted a form factor PoC with about 50 participants. We gave these employees touch-enabled Ultrabook devices, and then we surveyed them to determine which of the three provided form factors (see Figure 4) were best for which use cases. The three form factors included a traditional clamshell and two styles of convertible: detachable and twist.

ACCELERATING DEPLOYMENT TO LOWER TOTAL COST OF OWNERSHIP

We developed a comprehensive methodology that lets us determine the optimal PC refresh cycle based on TCO and user productivity. Based on this methodology we have established an optimal refresh-cycle goal for different user segments, ranging from two to four years.

We expect employees to be more productive using touch-enabled business Ultrabook devices as more software applications — from independent software vendors (ISVs) as well as internal application developers — will rely on touch for optimal use (see sidebar on the next page). When this happens, we will need to shorten the refresh cycle for those employees who do not have a touch-enabled device.

We have determined that despite the higher initial price of a touch-enabled business Ultrabook device (compared to a non-touch-enabled device), making an investment in a touch-enabled device now can allow us to extend the use of the device in the future.[3]

---

[3] Our analysis and estimates indicate we will reduce premature system obsolescence by purchasing a touch-enabled business Ultrabook™ device as compared to a non-touch-enabled device, thus offsetting the higher initial cost for a touch-enabled business Ultrabook device.

2015 Deployment of Touch-enabled Business Ultrabook™ Devices

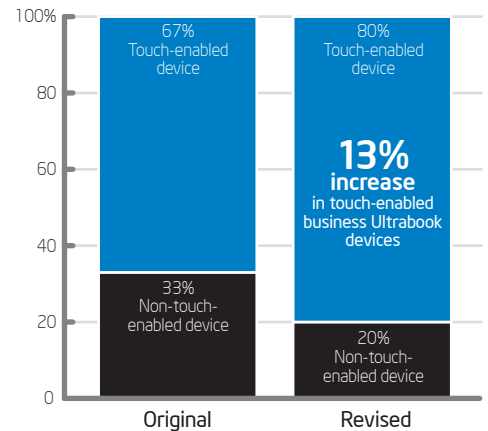| Original	Revised
67% Touch-enabled device	80% Touch-enabled device
	13% increase in touch-enabled business Ultrabook devices
33% Non-touch-enabled device	20% Non-touch-enabled device

Figure 3. Extending our outlook to the end of 2015, three years after accelerating deployment of touch-enabled business Ultrabook™ devices, we see benefits including increased employee productivity and a potentially lower total cost of ownership.

Clamshell
Screen opens and closes like a clamshell; allows for traditional keyboard and mouse input methods as well as touch

Convertible – Detachable
Starts as traditional clamshell; screen can be removed from the keyboard so the device can function like a tablet

Convertible – Twist
Starts as a traditional clamshell, but screen twists around 180-degrees to share the display with someone sitting opposite the user; also converts to tablet

Figure 4. Three Ultrabook™ device form factors.

Incorporating Touch into Intel IT Applications

Intel IT is focusing on providing greater productivity and flexibility for Intel employees by enabling seamless access to services and data from multiple devices while maintaining enterprise security—without significantly increasing IT costs. We are preparing for a future workplace that incorporates many alternative form factors, such as handhelds, tablets, and smart TVs, as well as many input methods, including touch, voice, sensor, and gesture.

We are providing some application developers with touch-enabled business Ultrabook™ devices to encourage development of touch applications and to help streamline the application development process overall. Intel IT has also created an initiative to challenge our application developers to create applications that take advantage of touch capabilities. Two applications currently in development are Intel Touch News and Intel Campus. Touch News will allow employees to consume internal news in a digital magazine format. Campus will provide views of campuses, facilities, and more so that employees can familiarize themselves with a new location prior to a visit.

Next Steps

With the advent of many alternative form factors and input methods—including not only touch but also voice and gesture—we are seeking a more flexible approach to service delivery that can support appropriate services across a range of devices. We are building the foundation for this vision now through the following methods:

- Investigating service-delivery form factors
- Preparing our infrastructure
- Developing a new, adaptive support form factor
- Encouraging the development and transformation of Intel IT applications that are secure, easy to use, cross-platform capable, and able to take advantage of device capabilities and input methods

Conclusion

We envision touch-enabled devices bringing significant gains to improve both employee productivity and enterprise efficiency. Therefore, we are accelerating the deployment of touch-enabled Windows 8 business Ultrabook devices. Employees can still select a non-touch-enabled device, but Intel IT is expecting to reduce the number of these devices we will purchase in upcoming refresh cycles.

Based on employee survey results and PoCs, we anticipate a high demand for touch-enabled devices. We are adopting up to three different form factors so that employees can choose a platform that best supports the way they work. We believe these touch-enabled devices will be best-suited to remain productive through the optimal refresh lifecycle, therefore lowering TCO.

For more straight talk on current topics from Intel's IT leaders, visit www.intel.com/it.

AUTHORS

Avi Zarfaty
IT Strategic Finance Analyst, Intel IT

Refael Mizrahi
Project Manager, Intel IT

Doron Mintz
Personal Computing Platforms Service Manager, Intel IT