TABLET BROWSER-OS COMPARISON

Internet Explorer[®] 10 on Windows[®] 8 Delivered the fastest touch browser experience



*Among 9 of 10 common Web tasks in which IE10 on Windows 8 was faster than Chrome on Android 4.1.2 **Among 7 of 10 common Web tasks in which IE10 on Windows 8 was faster than Safari on iOS6.0

> Each tablet on the market has its own operating system and browser and its own unique set of features. In the PT labs, we tested three tablet browsers to see how quickly they would let a user perform a set of everyday Web browsing scenarios. We found that Internet Explorer 10 on a Microsoft[®] Windows 8 tablet completed 7 out of 10 everyday Web scenarios faster than two other browser-operating system combinations. It completed the tasks up to 60.6 percent faster than Safari on an Apple iOS 6.0 tablet and up to 64.1 percent faster than Chrome on an Android 4.1.2 tablet.



NO ONE LIKES TO WAIT

Tablet browsers vary considerably in how quickly they let users perform everyday scenarios. We tested the following three tablets:

- Chrome on the ASUS-made Google Nexus 7 with Android 4.1.2
- Internet Explorer 10 on the Samsung Series 7 Slate with Microsoft Windows 8 Professional
- Safari on the Apple iPad with Apple iOS 6.0

We simulated a user performing 10 scenarios. As Figures 1 and 2 show, in seven of the scenarios, Internet Explorer 10 needed less time than both of the other browsers. Below we explain more about the scenarios and show detailed results. <u>Appendix</u> <u>A</u> provides detailed configuration information for the three tablets and <u>Appendix B</u> provides details on how we conducted the test.



Figure 1: Internet Explorer 10 completed the first five scenarios as much as 64.1 percent faster than the other browsers did. Lower times are better.



Figure 2: Internet Explorer 10 completed the second five scenarios as much as 60.6 percent faster than the other browsers did. Lower times are better.

The scenarios we performed

- Loading a Web page. A user wants to visit Amazon (<u>www.amazon.com</u>).
- Bookmarking a Web site to the Start/Home screen. A user wants to bookmark a Web site to his Start/Home screen. On the Series 7 Slate tablet, he uses the Internet Explorer "Pin to Start" feature. On the iPad, he uses the "Add to Home Screen" feature. On the Nexus 7 tablet, he must bookmark the site before it can pin the Web site to the Home screen.
- Going to a frequently visited Web site. A user wants to open a new Web page tab and go to
 a frequently visited Web site (www.amazon.com). On the Windows 8 tablet, he uses the
 "Frequent Sites" feature in Internet Explorer. Because the iPad offers no "frequently visited"
 feature, he uses Bookmarks to complete the scenario. On the Nexus 7 tablet, he uses the
 "Most Visited Sites" feature in Chrome.
- Sharing via email. A user is browsing a Web site and wants to email the link to a friend. On the Series 7 Slate, she uses Windows 8's Share Charm to share via email. On the iPad and Nexus 7 tablets, she uses the share to email feature.
- Sharing via Facebook. A user is browsing a Web site and wants to share the link to Facebook. On the Series 7 Slate, he uses Windows 8's Share Charm to share to Facebook. On the iPad and Nexus 7 tablets, he uses the share to Facebook feature.

- Sharing via a blog post. A user is browsing a Web site and wants to post the link on her WordPress blog. On the Series 7 tablet, she can use Windows 8's Share Charm to share to WordPress. On the iPad, she must switch to the WordPress application. On the Nexus 7 tablet, she can use the share to WordPress button feature.
- Finding an app. A user is reading a Web article on essential tablet apps for business at <u>mashable.com/2012/08/15/tablet-mobile-apps-business/</u> and is interested in trying Evernote. She wants to search the app store for her device to see if it is available. On the Series 7 tablet, she uses Windows 8's Search Charm to search the Windows Store. On the iPad, she uses the multitasking button to switch between the browser and the App Store to perform a search. On the Nexus 7 tablet, she uses the multitasking key to switch between the browser and the Google Play Store to perform a search.
- Listening to streaming audio + searching the Web. While listening to the iHeartRADIO app, a user decides to do a Web search of the artist that is playing (Foo Fighters). On the Series 7 tablet, using Snapview on Windows 8, she has both the iHeartRADIO app and the IE browser open and can use Windows 8's Search Charm to search the Internet. On the iPad and the Nexus 7 tablet, she must use the multitasking button or key to switch from the iHeartRADIO app to the native browser search feature.
- Browsing on eBay + searching the Web. While using the eBay app, a user notices that one of the eBay "Daily Deals" is a Canon EOS 5D Mark III DSLR and wants to read a review of it. He selects a review from the site <u>www.dpreview.com</u>. On the Series 7 tablet, using Snapview on Windows 8, he can have both the eBay app and the IE browser open and can use the Windows 8 Search Charm to search. On the iPad and the Nexus 7 tablet, he must use the multitasking button or key to switch from the eBay app to the native browser search feature.
- Shopping at Amazon + accessing contacts list. A user is purchasing a gift from
 www.amazon.com that he wants shipped directly to his friend. Because he doesn't
 remember his friend's address, he must perform a combination of typing, copying, and
 pasting his friend's address from his contacts list into the Amazon site. On the Series 7
 tablet, he can use the Snapview feature in Windows 8, which lets him have both the People
 app and the Amazon page open, and can type/copy/paste the address into the correct
 fields; he doesn't have to exit applications to check the address. The iPad and the Nexus 7
 tablet require him to use the multitasking button or key to switch between the browser and
 Contact list to enter the information.

	Chrome Android 4.1.2	Internet Explorer 10 Windows 8	Percentage difference	
Loading a Web page	4.12	1.75	57.5%	
Bookmarking a site to the Start/Home screen	8.6	3.09	64.1%	
Going to a frequently visited Web site	6.22	3.15	49.4%	
Sharing via email ¹	7.53	8.27	-9.8%	
Sharing via Facebook	5.15	4.96	3.7%	
Sharing via a blog post	4.57	4.34	5.0%	
Finding an app	8.81	8.78	0.3%	
Listening to streaming audio + searching the Web	8.44	5.51	34.7%	
Browsing on eBay + searching the Web	32.18	17.04	47.0%	
Shopping at Amazon + accessing contacts list	49.01	33.06	32.5%	

Figures 3 and 4 compare the times, in seconds, it took for the tablets to complete our test scenarios.

Figure 3: Time in seconds to complete the scenarios with a Nexus 7 tablet running Chrome on Android 4.1.2 and a Samsung Series 7 Slate running Internet Explorer 10 on Windows 8. Lower times are better.

	Safari Apple iOS 6.0	Internet Explorer 10 Windows 8	Percentage difference
Loading a Web page	3.26	1.75	46.3%
Bookmarking a site to the Start/Home screen	2.57	3.09	-20.2%
Going to a frequently visited Web site	3.58	3.15	12.0%
Sharing via email ²	4.5	8.27	-83.8%
Sharing via Facebook	2.12	4.96	-134.0%
Sharing via a blog post	11.01	4.34	60.6%
Finding an app	11.33	8.78	22.5%
Listening to streaming audio + searching the Web	10.15	5.51	45.7%
Browsing on eBay + searching the Web	19.34	17.04	11.9%
Shopping at Amazon + accessing contacts list	49.05	33.06	32.6%

Figure 4: Time in seconds to complete the scenarios with an iPad running Safari-on Apple iOS 6.0 a Samsung Series 7 Slate running Internet Explorer 10 on Windows 8. Lower times are better.

¹ With Internet Explorer 10 on Windows 8, email recipients receive a preview of the page being shared along with the URL. With Chrome on Android 4.1.2, they receive only the URL.

 ² With Internet Explorer 10 on Windows 8, email recipients receive a preview of the page being shared along with the URL. With Safari on Apple iOS 6.0, they receive only the URL.

CONCLUSION

Not all tablets browsers perform equally quickly. In our tests of common Web browsing scenarios, Internet Explorer 10-Windows 8 performed everyday scenarios as much as 60.6 percent more quickly than Safari-Apple iOS and as much as 64.1 percent more quickly than Chrome-Android.

APPENDIX A: DETAILED SYSTEM CONFIGURATION

System	Apple iPad (3 rd generation)	ASUS-made Google Nexus 7	Samsung Series 7 Slate		
General					
Number of processor	1	1	1		
Number of cores per	2	4	2		
processor					
Number of hardware threads per core	1	1	2		
Total number of threads	2	4	4		
System dimensions (length x width x height)	9.50" x 7.31" x 0.37"	7.81" x 4.72" x 0.41"	11.66" x 7.24" x 0.51"		
System weight	1.44 lbs.	0.75 lbs.	1.98 lbs.		
СРИ					
Vendor	Apple	NVIDIA [®]	Intel®		
Model number	A5X	Tegra 3 T30L	Core™ i5-2467M		
Core frequency (GHz)	1.00	1.2	1.60		
L1 cache	32 KB + 32 KB	32 KB + 32 KB	32 KB + 32 KB (per core)		
L2 cache	1 MB	1 MB	512 KB (256 KB per core)		
L3 cache	NA	NA	3 MB		
Memory module(s)					
Amount of RAM	1 GB	1 GB	4 GB		
Туре	DDR2-533 MHz	DDR3-667 MHz	DDR3-1333 MHz		
Hard disk					
Vendor and model number	Flash storage	Flash storage	SanDisk SSD U100		
Size (GB)	16	16	64GB SSD (mSATA)		
Operating system					
Name	Apple iOS 6.0	Android 4.1.2	Windows 8 Professional		
Graphics					
Vendor and model number	PowerVR SGX543MP4	Tegra 3 T30L	Intel HD Graphics 3000		
Resolution	2,048 x 1,536	1,280 x 800	1,366 x 768		
Display					
LCD type	LED-backlit glossy widescreen Multi-Touch display with IPS technology	WXGA	HD LED backlit		
Screen size (inches)	9.7	7	11.6		

Figure 5 presents the detailed configuration information for the three tablets we tested.

System	Apple iPad (3 rd generation)	ASUS-made Google Nexus 7	Samsung Series 7 Slate		
Battery					
Туре	A1389 integrated Li- polymer	1 cell integrated Li- polymer	4 cell integrated Li- polymer		
Rated capacity	11,560mAh (42.5Wh)	4,325mAh (16Wh)	5,520mAh (40Wh)		

Figure 5: Detailed configuration information for the three tablets we tested.

APPENDIX B: DETAILED TEST METHODOLOGY

Loading a Web page: Amazon.com

Setting up the test

- 1. Set the Series 7 Slate's homepage to <u>www.bing.com</u>. Set the iPad's homepage to <u>www.apple.com</u>. Set the Nexus 7's homepage to <u>www.google.com</u>.
- 2. On each tablet bookmark the <u>www.amazon.com</u> Web site to favorites.
- 3. On each tablet go to <u>www.amazon.com</u> 3 times.

Running the test

Samsung Series 7 Slate with Windows 8 and Internet Explorer 10

- 1. Open the Internet Explorer Web browser.
- 2. From the top of the screen, swipe down to reveal the "+" New Tab button.
- 3. Simultaneously start the timer and select www.amazon.com from favorites.
- 4. Stop the timer when the Web site has fully loaded as determined by the moving "loading dots" across the bottom of the screen disappearing.
- 5. Repeat these steps two more times and report the median run.

Apple iPad with Apple iOS 6.0 and Safari

- 1. Open the Safari Web browser.
- 2. Press the "+" to open a new tab.
- 3. Press the Bookmarks button.
- 4. Simultaneously start the timer and select <u>www.amazon.com</u>.
- 5. Stop the timer when the Web site has fully loaded, as determined by the refresh icon appearing in the address bar.
- 6. Repeat these steps two more times and report the median run.

Google Nexus 7 with Android 4.1.2 and Chrome

- 1. Open the Chrome Web browser.
- 2. Press the Web browser tab to open a new tab.
- 3. Simultaneously start the timer and select www.amazon.com.
- 4. Stop the timer when the Web site has fully loaded, as determined by the spinning circle that changes to the Web site icon.
- 5. Repeat these steps two more times and report the median run.

Bookmarking a site to the Start/Home screen

Setting up the test

1. Set the Web browser homepage to <u>http://www.cnn.com/2012/09/07/us/mars-rover-curiosity-update/index.html</u>.

Running the test

Samsung Series 7 Slate with Windows 8 and Internet Explorer 10

- 1. Open the Internet Explorer Web browser.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Swipe from the bottom of the screen to make the IE menu appear.

- b. Tap the Pin icon.
- c. Choose Pin to Start.
- d. Tap Pin to Start and stop the timer.
- 3. Repeat these steps two more times and report the median run.

Apple iPad with Apple iOS 6.0 and Safari

- 1. Open the Safari Web browser.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Tap the Share button.
 - b. Choose Add to Home Screen.
 - c. Tap Add and stop the timer.
- 3. Repeat these steps two more times and report the median run.

Google Nexus 7 with Android 4.1.2 and Chrome

- 1. Open the Chrome Web browser.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Tap the "star" icon located in the address bar.
 - b. Tap Save, to add it to bookmarks.
 - c. Tap the Customize and control Google Chrome icon located to the right of the address bar.
 - d. Choose Bookmarks.
 - e. Press and long hold the test Web site bookmark.
 - f. Tap Add to home screen and stop the timer.
- 3. Repeat these steps two more times and report the median run.

Going to a frequently visited site

Setting up the test

- 1. Set each the Windows tablet homepage to <u>www.bing.com</u>. Set the iPad's homepage to <u>www.apple.com</u>. Set the Nexus 7's homepage to <u>www.google.com</u>.
- On each tablet, bookmark <u>www.amazon.com</u> to favorites and visit the Web site 4 times. This allows IE 10 to recognize that this is a frequent Web site and allows Chrome to recognize it as a "Most visited" Web site.

Running the test

Samsung Series 7 Slate with Windows 8 and Internet Explorer 10

- 1. Open the Web browser to a blank page.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. From the top of the screen, swipe down to reveal the "+" Tab Tools button.
 - b. Press the "+" Tab Tools button.
 - c. Select <u>www.amazon.com</u> from Frequent.
 - d. Stop the timer when the Web site has fully loaded as determined by the moving "loading dots" across the bottom of the screen disappearing.
- 3. Repeat these steps two more times and report the median run.

Apple iPad with Apple iOS 6.0 and Safari

- 1. Open the Web browser to a blank page.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Press the "+" tab to open a new tab.

- b. Press the Bookmarks button.
- c. Select <u>www.amazon.com</u>.
- d. Stop the timer when the Web site has fully loaded, as determined by the refresh icon appearing in the address bar.
- 3. Repeat these steps two more times and report the median run.

Google Nexus 7 with Android 4.1.2 and Chrome

- 1. Open the Web browser to a blank page.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Press the "+" button to open a new tab.
 - b. Select <u>www.amazon.com</u>.
 - c. Stop the timer when the Web site has fully loaded, as determined by the spinning circle that changes to the Web site icon.
- 3. Repeat these steps two more times and report the median run.

SHARING VIA EMAIL

Setting up the test

- 1. Set the Web browser page to <u>http://www.cnn.com/2012/09/07/us/mars-rover-curiosity-update/index.html</u>.
- 2. Set up each native email client account. For the iPad we used Apple Mail. For the Nexus 7 we used Gmail. For the Series 7 Slate we used Windows Mail.

Running the test

Samsung Series 7 Slate with Windows 8 and Internet Explorer 10

- 1. Open the Internet Explorer Web browser.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Swipe from the right bezel of the screen to make the Charms menu appear.
 - b. Press the Share button.
 - c. Choose Mail.
 - d. Begin to type in the person's name of the email address that the link will be sent to. Select it when autofill lists it.
 - e. Press the Send button and stop the timer.
- 3. Repeat these steps two more times and report the median run.

Apple iPad with Apple iOS 6.0 and Safari

- 1. Open the Safari Web browser.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Press the Share button.
 - b. Choose Mail Link to this Page.
 - c. Begin to type in the person's name of the email address that the link will be sent to. Select it when autofill lists it.
 - d. Press Send and stop the timer.
- 3. Repeat these steps two more times and report the median run.

- 1. Open the Chrome Web browser.
- 2. Simultaneously start the timer and begin performing the following steps:

- a. Press the customize and control Google Chrome icon located to the right of the address bar.
- b. Choose Share.
- c. Choose Gmail.
- d. Begin to type in the person's name of the email address that the link will be sent to. Select it when autofill lists it.
- e. Press Send and stop the timer.
- 3. Repeat these steps two more times and report the median run.

SHARING VIA FACEBOOK

Setting up the test

- 1. Set the Web browser page to <u>http://www.cnn.com/2012/09/07/us/mars-rover-curiosity-update/index.html</u>.
- 2. Set up each Facebook account. For the iPad and Nexus 7 we used the Facebook applications. For the Series 7 Slate we used the Windows People application.

Running the test

Samsung Series 7 Slate with Windows 8 and Internet Explorer 10

- 1. Open the Internet Explorer Web browser.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Swipe from the right bezel of the screen to make the Charms menu appear.
 - b. Press the Share button.
 - c. Choose Post to Facebook.
 - d. When the link loads, press the Send button and stop the timer.
- 3. Repeat these steps two more times and report the median run.

Apple iPad with Apple iOS 6.0 and Safari

- 1. Open the Safari Web browser.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Press the Share button.
 - b. Press the Facebook button.
 - c. Press Post and stop the timer.
- 3. Repeat these steps two more times and report the median run.

- 1. Open the Chrome Web browser.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Press the customize and control Google Chrome icon located to the right of the address bar.
 - b. Choose Share.
 - c. Choose Facebook.
 - d. Press Share and stop the timer.
- 3. Repeat these steps two more times and report the median run.

Blogging a site to WordPress

Setting up the test

1. Set the Web browser page to <u>http://www.cnn.com/2012/09/07/us/mars-rover-curiosity-update/index.html</u>.

Running the test

Samsung Series 7 Slate with Windows 8 and Internet Explorer 10

- 1. Open the Internet Explorer Web browser.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Swipe from the right bezel of the screen to make the Charms menu appear.
 - b. Tap the WordPress button.
 - c. Tap the Publish button and stop the timer.
- 3. Repeat these steps two more times and report the median run.

Apple iPad with Apple iOS 6.0 and Safari

- 1. Open the Safari Web browser.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Tap the Share button.
 - b. Choose Copy.
 - c. Close the Safari browser by tapping the Home button and tap the WordPress app.
 - d. Tap the + to add a blog post.
 - e. Press and hold on the screen to paste the saved URL.
 - f. Minimize the keyboard so that the Publish button appears.
 - g. Tap Publish and stop the timer.
- 3. Repeat these steps two more times and report the median run.

Google Nexus 7 with Android 4.1.2 and Chrome

- 1. Open the Chrome Web browser.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Tap the Customize and control Google Chrome icon located to the right of the address bar.
 - b. Choose Share.
 - c. Choose WordPress.
 - d. Tap Publish and stop the timer.
- 3. Repeat these steps two more times and report the median run.

Searching for an app

Setting up the test

- 1. Set the Web browser to <u>http://mashable.com/2012/08/15/tablet-mobile-apps-business/</u>.
- 2. Set the iPad to have the two most recent apps opened be Safari and the App Store.
- 3. Set the Nexus 7 to have the two most recent apps opened be Chrome and Play Store.

Running the test

Samsung Series 7 Slate with Windows 8 and Internet Explorer 10

- 1. Open the Web browser to <u>http://mashable.com/2012/08/15/tablet-mobile-apps-business/</u>.
- 2. Simultaneously start the timer and begin performing the following steps:

- a. Swipe from the right bezel of the screen to make the Charms menu appear.
- b. Press Search.
- c. Type Evernote, and Store, so that the search will be performed in the Windows Store.
- d. Stop the timer when the Evernote app result appears.
- 3. Repeat these steps two more times and report the median run.

Apple iPad with Apple iOS 6.0 and Safari

- 1. Open the Web browser to <u>http://mashable.com/2012/08/15/tablet-mobile-apps-business/</u>.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Double-press the Home button, and select the App Store application.
 - b. Type Evernote in the Search Store field and press the Search Key.
 - c. Stop the timer when the Evernote app result appears.
- 3. Repeat these steps two more times and report the median run.

Google Nexus 7 with Android 4.1.2 and Chrome

- 1. Open the Web browser to <u>http://mashable.com/2012/08/15/tablet-mobile-apps-business/</u>.
- 2. Simultaneously start the timer and begin performing the following steps:
 - a. Press the Multitasking button, and select the Play Store application.
 - b. Type Evernote in the Search Store field and press the Search Key.
 - c. Stop the timer when the Evernote app result appears.
- 3. Repeat these steps two more times and report the median run.

Listening to streaming audio + searching the Web

Setting up the test

- 1. Install the iHeartRADIO app and select the Foo Fighters custom station.
- 2. The Series 7 Slate using "Snapview" had both the iHeartRADIO app and Internet Explorer open side by side.
- 3. Set the Series 7 Slate to have the two most recent apps opened be Internet Explorer and iHeartRADIO.
- 4. Set the iPad to have the two most recent apps opened be Safari and iHeartRADIO.
- 5. Set the Nexus 7 to have the two most recent apps opened be Chrome and iHeartRADIO.

Running the test

Samsung Series 7 Slate with Windows 8 and Internet Explorer 10

- 1. Simultaneously start the timer and begin performing the following steps:
 - a. With the iHeartRADIO music streaming, swipe from the right bezel of the screen to make the Charms menu appear.
 - b. Press the Search button.
 - a. Start typing "Foo Fighters".
 - b. When the autocomplete shows Foo Fighters, select Foo Fighters.
 - c. When the search results appear, stop the timer.
- 2. Repeat these steps two more times and report the median run.

Apple iPad with Apple iOS 6.0 and Safari

- 1. Simultaneously start the timer and begin performing the following steps:
 - a. With the iHeartRADIO music streaming, double-press the Home button, and select the Safari application.

- b. Start typing "Foo Fighters" into the Search box.
- c. When the autocomplete shows Foo Fighters, select Foo Fighters.
- d. When the search results appear, stop the timer.
- 2. Repeat these steps two more times and report the median run.

Google Nexus 7 with Android 4.1.2 and Chrome

- 1. Simultaneously start the timer and begin performing the following steps:
 - a. With the iHeartRADIO music streaming, press the Multitasking button, and select the Chrome application.
 - b. Start typing "Foo Fighters" into the Chrome URL search/address bar.
 - c. When the autocomplete shows Foo Fighters, select Foo Fighters.
 - d. When the search results appear, stop the timer.
- 2. Repeat these steps two more times and report the median run.

Browsing on eBay + searching the Web

Setting up the test

- 1. Install the eBay app. Open the eBay app and search for Canon EOS 5D Mark III.
- 2. The Series 7 Slate using "Snapview" had both the eBay app and Internet Explorer open side by side.
- 3. Set the Series 7 Slate to have the two most recent apps opened be Internet Explorer and eBay.
- 4. Set the iPad to have the two most recent apps opened be Safari and eBay.
- 5. Set the Nexus 7 to have the two most recent apps opened be Chrome and eBay.

Running the test

Samsung Series 7 Slate with Windows 8 and Internet Explorer 10

- 1. Simultaneously start the timer and begin performing the following steps:
 - a. With the eBay app open, swipe from the right bezel of the screen to make the Charms menu appear.
 - b. Press the Search button.
 - c. Type "5D Mark III review" and press Search.
 - d. Select the Canon EOS 5D Mark III dpreview article listed.
 - e. Stop the timer when the Web site review has fully loaded as determined by the moving "loading dots" across the bottom of the screen disappearing.
- 2. Repeat these steps two more times and report the median run.

Apple iPad with Apple iOS 6.0 and Safari

- 1. Simultaneously start the timer and begin performing the following steps:
 - a. With the eBay app open, double-press the Home button, and select the Safari application.
 - b. Type "5D Mark III review" and press Search.
 - c. Select the Canon EOS 5D Mark III dpreview article listed.
 - d. Stop the timer when the Web site review has fully loaded, as determined by the refresh icon appearing in the address bar.
- 2. Repeat these steps two more times and report the median run.

- 1. Simultaneously start the timer and begin performing the following steps:
 - a. With the eBay app open, press the Multitasking button, and select the Chrome application.
 - b. Type "5D Mark III review" and press Go.

- c. Select the Canon EOS 5D Mark III dpreview article listed.
- d. Stop the timer when the Web site review has fully loaded, as determined by the spinning circle that changes to the Web site icon.
- 2. Repeat these steps two more times and report the median run.

Shopping at Amazon + accessing contacts list

Setting up the test

- 1. Set the Web browser to http://www.amazon.com.
- 2. Sign in to an Amazon.com account.
- 3. Add an Amazon.com Gift Card In a Gift Box to the cart.
- 4. Go to the shopping cart section where it is necessary to type in a shipping address.
- 5. Add a contact with address information on each system. The Series 7 Slate and Nexus 7 used the People app. The iPad used the Contacts app.
- 6. The Series 7 Slate using "Snapview" had both the People app and Internet Explorer open.
- 7. Set the Series 7 Slate to have the two most recent apps opened be Internet Explorer and People.
- 8. Set the iPad to have the two most recent apps opened be Safari and Contacts.
- 9. Set the Nexus 7 to have the two most recent apps opened be Chrome and People.

Running the test

Samsung Series 7 Slate with Windows 8 and Internet Explorer 10

- 1. Simultaneously start the timer and begin performing the following steps:
 - a. Type the recipient's name into the Amazon.com Full Name field.
 - b. In the People app window, press and hold the address , and select Copy.
 - c. In IE window, select the Amazon.com street address field, and press Ctrl+V to Paste.
 - d. Type the city in the City field.
 - e. Type the state in the State field.
 - f. Type the zip code in the Zip code field.
 - g. In the People app window, press and hold the Phone number, and select Copy.
 - h. In the IE window, select the Amazon.com phone number field, and press Ctrl+V to Paste.
 - i. Press the Ship to this address button and stop the timer.
- 2. Repeat these steps two more times and report the median run.

Apple iPad with Apple iOS 6.0 and Safari

- 1. Simultaneously start the timer and begin performing the following steps:
 - a. Type the recipient's name into the Amazon.com Full Name field.
 - b. Double-press the Home button, and select the Contacts application.
 - c. Press and hold the address listed in Contacts, and select Copy.
 - d. Double-press the Home button, and select the Safari application.
 - e. Press and hold the Amazon.com street address field, and select Paste.
 - f. Type the city in the City field.
 - g. Type the state in the State field.
 - h. Type the zip code in the Zip code field.
 - i. Delete the city, state, and zip code information that was copied into the street address field.
 - j. Double-press the Home button, and select the Contacts application.
 - k. Press and hold the phone number listed in Contacts, and select Copy.
 - I. Double-press the Home button, and select the Safari application.
 - m. Press and hold the Amazon.com phone number field, and select Paste.

- n. Press the Ship to this address button and stop the timer.
- 2. Repeat these steps two more times and report the median run.

- 1. Simultaneously start the timer and begin performing the following steps:
 - a. Type the recipient's name into the Amazon.com Full Name field.
 - b. Press the Multitasking button, and select the People application.
 - c. Press and hold the address listed in People, and select Copy to clipboard.
 - d. Press the Multitasking button, and select the Chrome application.
 - e. Press and hold the Amazon.com street address field, and select Paste.
 - f. Type the city in the City field.
 - g. Type the state in the State field.
 - h. Type the zip code in the Zip code field.
 - i. Delete the city, state, and zip code information that was copied into the street address field.
 - j. Press the Multitasking button, and select the People application.
 - k. Press and hold the phone number listed in People, and select Copy to clipboard.
 - I. Press the Multitasking button, and select the Chrome application.
 - m. Press and hold the Amazon.com phone number field, and select Paste.
 - n. Press the Ship to this address button and stop the timer.
- 2. Repeat these steps two more times and report the median run.

ABOUT PRINCIPLED TECHNOLOGIES



Principled Technologies, Inc. 1007 Slater Road, Suite 300 Durham, NC, 27703 www.principledtechnologies.com We provide industry-leading technology assessment and factbased marketing services. We bring to every assignment extensive experience with and expertise in all aspects of technology testing and analysis, from researching new technologies, to developing new methodologies, to testing with existing and new tools.

When the assessment is complete, we know how to present the results to a broad range of target audiences. We provide our clients with the materials they need, from market-focused data to use in their own collateral to custom sales aids, such as test reports, performance assessments, and white papers. Every document reflects the results of our trusted independent analysis.

We provide customized services that focus on our clients' individual requirements. Whether the technology involves hardware, software, Web sites, or services, we offer the experience, expertise, and tools to help our clients assess how it will fare against its competition, its performance, its market readiness, and its quality and reliability.

Our founders, Mark L. Van Name and Bill Catchings, have worked together in technology assessment for over 20 years. As journalists, they published over a thousand articles on a wide array of technology subjects. They created and led the Ziff-Davis Benchmark Operation, which developed such industry-standard benchmarks as Ziff Davis Media's Winstone and WebBench. They founded and led eTesting Labs, and after the acquisition of that company by Lionbridge Technologies were the head and CTO of VeriTest.

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