# Get the Full Office 365 on a Tablet with Intel Inside®

**All the features and functionality** available only in desktop versions of Word®, Excel®, PowerPoint®, and Outlook®

**Offline access** to Office applications and the ability to work on documents while offline

**Secure collaboration** and the ability to open password-protected Office documents

**All the deployment options** available to IT with Office 365

**Open documents for editing up to 88 percent faster***

*versus Office 365 on an Apple® iPad®, a representative Android™ tablet, and a representative Windows RT tablet

Microsoft is a trademark of the Microsoft group of companies

| | |
|---|---|
| **Intel® Core™ i3 processor-based tablet** (Locally installed applications) | 3s |
| **Apple iPad** (Office Web Apps) | 17s |
| **Windows RT tablet** (Office Web Apps) | 22s |
| **Android tablet** (Office Web Apps) | Did not support editing |

Average time to open documents for editing (faster is better)

What good is having a sleek and responsive tablet if you can't use it to get real work done? In our labs, we compared the Office 365 experience on a number of representative tablets in a business environment. Our findings? Unlike the Apple iPad, Android tablet, and Windows RT tablet, only the Intel Core processor-powered tablet:

- Provided all the features and functionality available in desktop versions of Word, Excel, PowerPoint, and Outlook
- Accessed Office applications and SkyDrive Pro documents while offline
- Opened password-protected documents for secure collaboration with documents stored in the cloud
- Supported all the ways IT can deploy applications with Office 365

The Intel Core processor-powered tablet also opened documents for editing up to 88 percent faster than the other tablets, to get you working with minimal wait.

## A TABLET DESIGNED WITH BUSINESS USERS IN MIND

Can you get real work done on your tablet? Does your tablet facilitate productivity and collaboration in the office? We found the Intel Core processor-powered tablet got the job done.

More business are deploying tablets and more employees are bringing them to the office from home, expecting these devices to fit seamlessly into the office environment and daily workflow. Because both employers and employees need these tablets to facilitate and not hinder productivity and collaboration, we compared the experience working with Office 365 on the Intel Core processor-powered tablet and the other test tablets.

We found a number of limitations in Office 365 on the iPad, Android tablet, and Windows RT tablet that would limit end-user productivity and collaboration in the office, including the inability to edit on the Android tablet. In comparison, we found the desktop applications available through Office 365 on the Intel Core processor-powered tablet delivered all the features and functionality likely required to get real work done:

| Only the Intel Core processor-powered tablet with Office 365 provided… | Which means… |
| --- | --- |
| Responsive Office desktop applications | You can start editing documents faster |
| Offline access to applications and documents | You can work without being connected |
| The ability to open password-protected documents | You can collaborate securely with documents stored in the cloud |
| Word documents with full formatting when editing and tracked changes when collaborating with others | You can collaborate better with others in Word |
| Support for CSV files, macros, data models, and external data connections | You get all the spreadsheet functionality you need in Excel |
| Full slide show animations and transitions support and slide show rehearsing and recording | You can create and share presentations that make the right impression |
| Custom due dates for flagged messages, calendar notifications, and PST support for archived messages | You can stay on top of email and meetings in Outlook |

Figure 1: What the advantages of the Intel Core processor-powered tablet with Office 365 mean for your business.

For details about the specific tablets we tested, see Appendix A, and for a comprehensive list of the differences in features and functionality, see Appendix C.

## DIFFERENT DEVICES, DIFFERENT EXPERIENCES

Only the Intel Core processor-powered tablet supported full Office desktop applications through Office 365.

Office 365 subscription licensing gives businesses the flexibility to provide Office applications to employees on more than one device, including company-provided devices and those that employees bring to the office. However, we found that different types of devices have different Office 365 application deployment options available. Of the representative tablets we tested, only the Intel Core processor-powered tablet supported all the deployment options Office 365 offers, including full Office desktop

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report  2

applications installed locally or delivered virtually. Figure 2 summarizes the Office application deployment methods the different tablets could support through Office 365.

| Office 365 application deployment options | Intel Core processor-powered tablet | Apple iPad | Android tablet | Windows RT tablet |
|---|:---:|:---:|:---:|:---:|
| Office desktop applications installed locally | ✓ | ✗ | ✗ | ✗ |
| Office desktop applications delivered virtually through Office on Demand or App-V | ✓ | ✗ | ✗ | ✗ |
| Office Web Apps through the browser | ✓ | ✓ | ✓ | ✓ |

Figure 2: Office 365 application deployment options supported on the test tablets.

> For the iPad, Android tablet, and Windows RT tablet, we looked at the Office Web Apps available through Office 365.

For the iPad, Android tablet, and Windows RT tablet, we looked at the Office Web Apps available through Office 365, because those tablets don't support the desktop Office applications also available through Office 365. While the Windows RT tablet ships with Microsoft Office Home & Student 2013 RT Preview, we did not include it in our analysis, as Microsoft does not officially support Office 365 on Windows RT outside of the Office Web Apps as of this report.[1] For example, we were unable to install SkyDrive Pro on the Windows RT tablet, which is required for offline access to documents stored in SkyDrive Pro.

For more info on the Office 365 application deployment methods available on the Intel Core processor-powered tablet, see Appendix D.

# MORE WORKING, LESS WAITING

> The Intel Core processor-powered tablet opened documents for editing faster, with full Office desktop applications either installed locally or streamed through Office on Demand.

No one likes waiting for the stoplight to turn green or the Web page to load, so we investigated how quickly employees could get to editing documents in Office 365. We timed how long it took each tablet to open Office documents for editing, looking at the following:

- Intel Core processor-powered tablet – Office desktop applications installed locally and streamed via Office on Demand
- Office Web Apps delivered through the Safari browser on the iPad and through the Modern UI Internet Explorer browser on the Windows RT tablet

As Figure 3 shows, the Intel Core processor-powered tablet had Office documents ready for editing much faster than the Apple iPad and the Windows RT

---

[1] http://office.microsoft.com/en-us/office365-suite-help/software-requirements-for-office-365-enterprise-and-office-365-midsize-business-HA102817357.aspx

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report  3

tablet – up to 71 percent faster when using Office on Demand application streaming and up to 88 percent faster using locally installed applications.
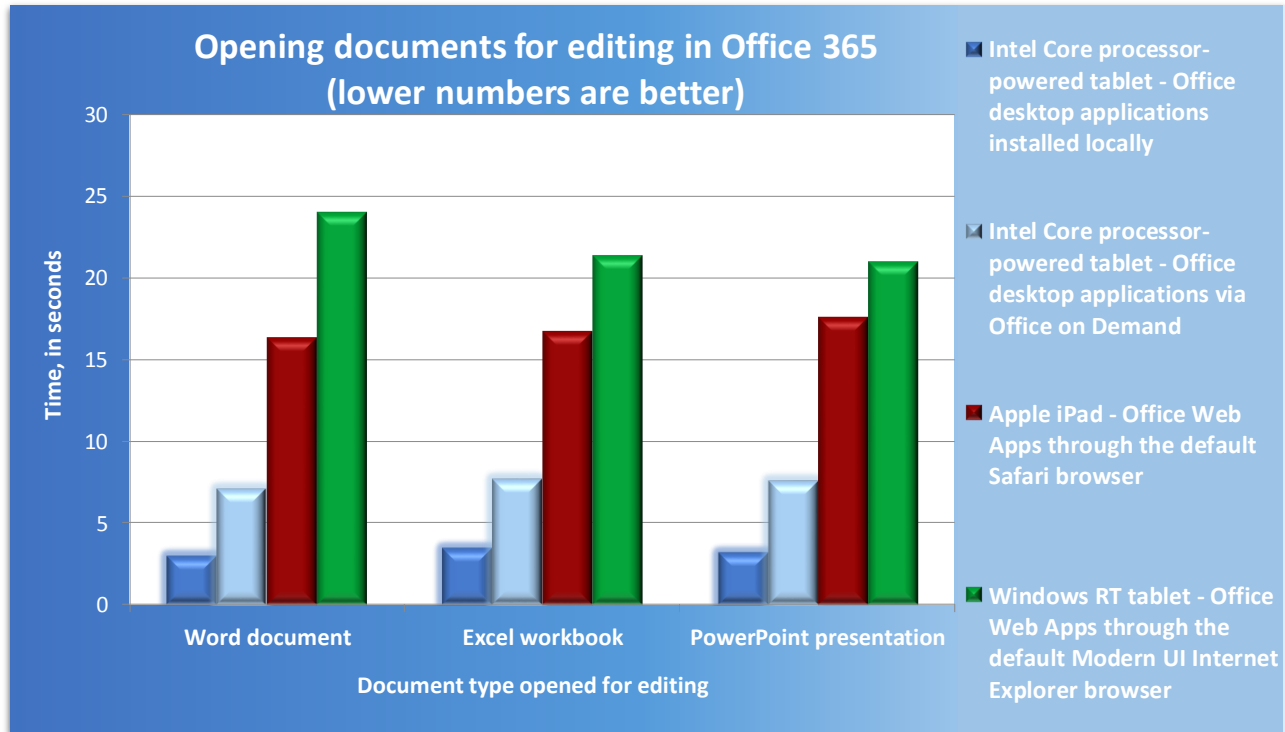


**Figure 3: Time in seconds it took the tablets to display documents for editing.**

The Android tablet we tested couldn't edit documents at all, so we didn't include it in the comparison. For the Office Web Apps on the iPad and the Windows RT tablet, we included the total of the time to load the Office document initially in Reading view and the time to then load the document in Editing view.

See Appendix B for detailed results, Appendix E for step-by-step testing details, and Appendix F for the properties of the test documents we used.

> You can also easily view and edit multiple Office applications at the same time on the Intel Core processor-powered tablet.

## GETTING WORK DONE WHEN NOT CONNECTED

You're on an airplane, on the way to a client meeting, or in a coffee shop with a spotty wireless connection. Can you still get real work done? We found that with Office 365, only the Intel Core processor-powered tablet lets you access Office desktop applications and easily edit documents while offline, whether you've saved them locally on the device or in SkyDrive Pro. With Office 365 on the other tablets, you would be searching for a wireless connection, looking for a workaround, or simply out of luck.

We started working on the Intel Core processor-powered tablet in a Word document streamed through Office on Demand, and then attempted to save our changes while offline. As Figure 4 shows, the application saved changes to the

> The Intel Core processor-powered tablet could access Office 365 applications and documents while offline.

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report  **4**

document locally, pending upload until the tablet reestablished a connection with SkyDrive Pro. As soon as we connected again to the test wireless network, the changes we made to the document were immediately synchronized with a copy of the document in SkyDrive Pro.

> Changes we made to the document while offline on the Intel Core processor-powered tablet were saved locally, and automatically uploaded to SkyDrive Pro once we were back online.



**Figure 4: Document editing on the Intel Core processor-powered tablet while offline.**

# THE SECURITY YOU NEED FOR COLLABORATION IN THE CLOUD

As more businesses move from local to cloud storage, secure collaboration becomes increasingly important. Through SkyDrive Pro, Office 365 provides cloud storage for easy access to documents on multiple devices. How did our test tablets affect document collaboration and security?

We found only the Intel Core processor-powered tablet supported encryption and the following functionality in Office 365:

> Only the Intel Core processor-powered tablet could handle password-protected documents and enable other document protection functionality, such as restricting editing or marking as final.

- Word – encrypting with password, restricting editing, restricting access, adding a digital signature, and marking as final
- Excel – encrypting with password, protecting current sheet, protecting workbook structure, restricting access, adding a digital signature, and marking as final
- PowerPoint – encrypting with password, restricting access, adding a digital signature, and marking as final

All these options aren't available through the Office 365 on the iPad, Android tablet, and Windows RT tablet. Not only does this potentially undermine document and data security, it could also disrupt document collaboration. For example, we couldn't

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report 5

add password protection while working in the Word Web App on these test tablets. What if you simply need to open an encrypted document? You couldn't do that either. We couldn't open a password-protected Word document on the iPad, Android tablet, and Windows RT tablet we tested. Figure 5 shows the alert on the iPad.
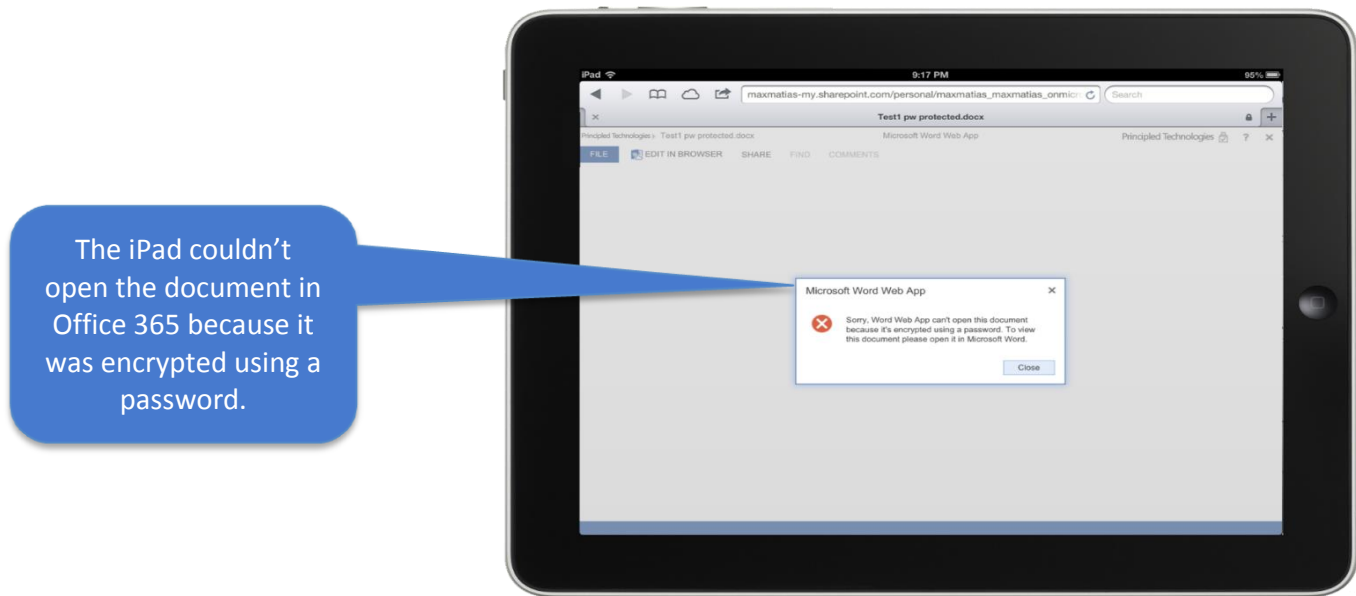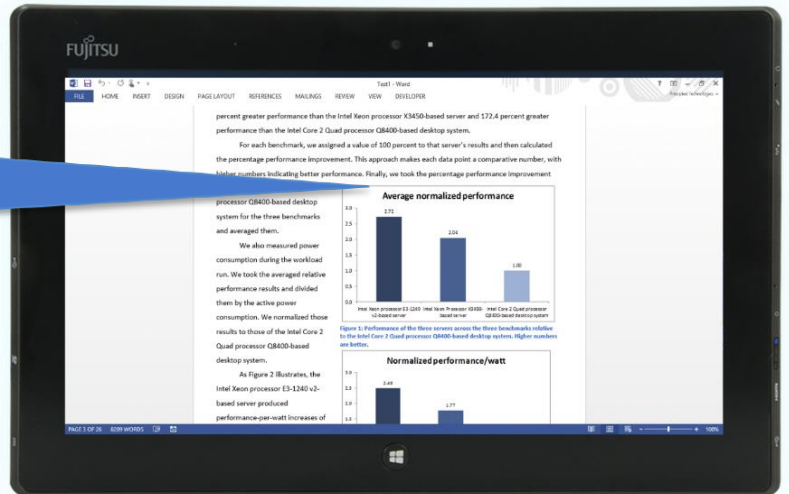


The iPad couldn't open the document in Office 365 because it was encrypted using a password.

Figure 5: The iPad couldn't open the encrypted document through Office 365.

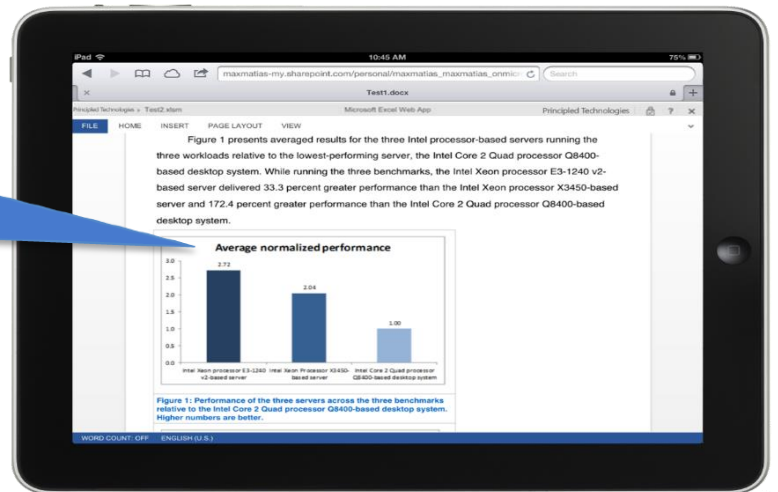## ALL THE FORMATTING WHEN YOU EDIT DOCUMENTS

What happens to Word documents when you edit them on a tablet? Using a document drafted in Word 2010, we looked at the document on the Intel Core processor-powered tablet and on the iPad, Android tablet, and Windows RT tablet. While Reading view in the Word Web App through Office 365 on the iPad and Windows RT tablet retained formatting, Editing view on those two tablets did not: only the Intel Core processor-powered tablet provided an editing experience with Office 365 that would be suitable in the office. As Figure 6 illustrates, we found:

- Editing view in the Word Web App on the iPad and Windows RT tablet removed significant document formatting, including missing headers, footers, and styles
- The one read-only view in the Word Web App on the Android tablet had even greater formatting problems, including missing images

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report 6

The original Word document retained all formatting on the Intel Core processor-powered tablet in the desktop Word application available through Office 365.

In Editing view on the iPad with the same document, the chart was no longer in the same place relative to the text. We found similar formatting loss in Editing view on the Windows RT tablet.

The same Word document lost significant formatting and functionality on the Android tablet with Office 365. The charts were gone, as were any text styles. We also couldn't edit the document.
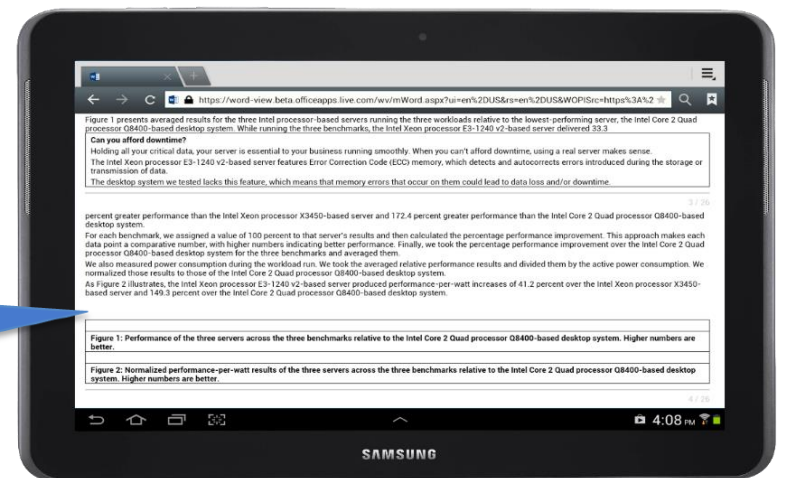
**Figure 6: Document formatting when editing on the Intel Core processor-powered tablet, iPad, and Android tablet.**

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report **7**

We also found that Office 365 on the iPad and Windows RT tablet lacked document creation and review functionality integral to working in Word. For example, the Word Web App lacked a Navigation pane, and we could not view or add comments in Editing view or view the document with markup. We could review spelling on the iPad and Windows RT tablet, but we could not check grammar or use a thesaurus. A number of common Word objects appeared as placeholders and were not editable, including charts, text boxes, and footnotes. While the iPad and Windows RT tablet could possibly be sufficient as consumption devices for Word documents with Office 365, in Editing view they fell far short of the Intel Core processor-powered tablet with the full-featured Word application through Office 365 when editing Word documents.

> Only the Intel Core processor-powered tablet displayed editable Word documents with full formatting.

## ALL THE SPREADSHEET FUNCTIONALITY YOU NEED

If you're working on spreadsheets, does it matter which tablet you use? The answer is: unequivocally, yes. We looked at the functionality supported by the Excel desktop application through Office 365 on the Intel Core processor-powered tablet and the Excel Web App through Office 365 on the iPad, Android tablet, and Windows RT tablet. Unlike the Intel Core processor-powered tablet, we found that Office 365 on the other test tablets lacked support for macros, data models, and external data connections for dynamically updated workbooks, as Figure 7 demonstrates on the iPad.

> The iPad couldn't show some features in the browser in Office 365, which means we couldn't run the macro in this Excel workbook. We found the same missing functionality on the Android tablet and Windows RT tablet.



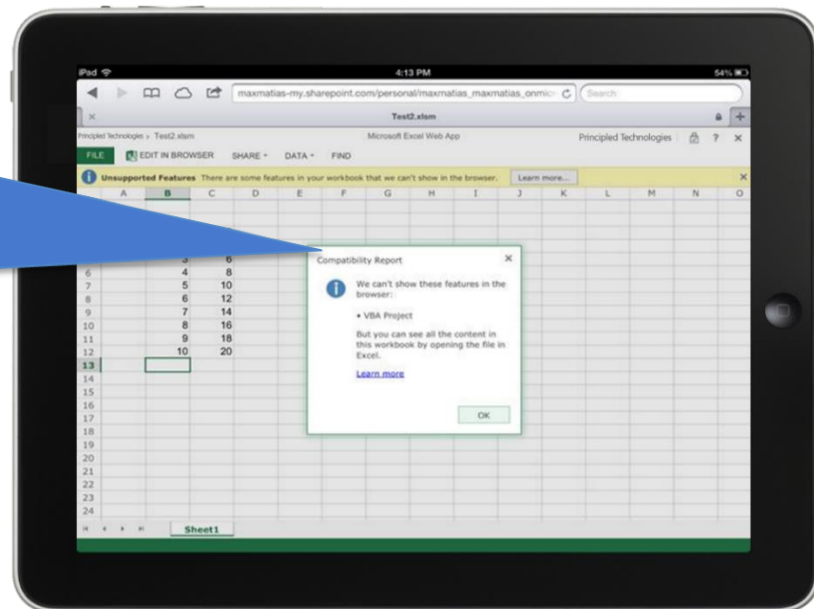**Figure 7: The iPad lacked support for macros through Office 365.**

What if you simply need to edit a workbook containing a macro? You couldn't do that either. We found that the Excel Web App requires that you save changes in a

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report 8

copy that removes any unsupported functionality. Figure 8 shows the unforgiving message that popped up on the iPad.

> When we attempted to edit the same workbook containing the macro on the iPad, we found that we could only edit a copy of the workbook that had the macro removed.
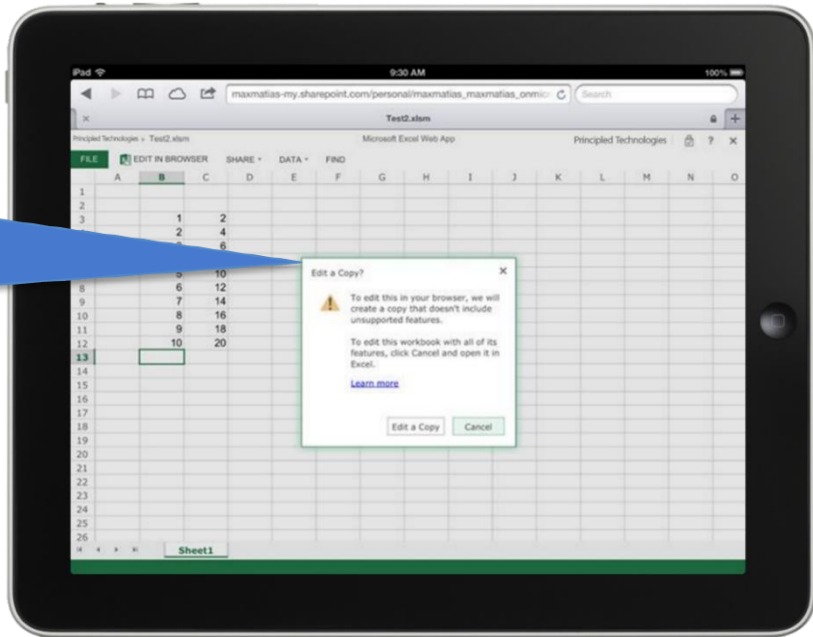


**Figure 8: The iPad wouldn't allow us to edit a workbook containing a macro.**

The Excel Web App through Office 365 on the iPad, Android tablet, and Windows RT tablet also did not support opening CSV files commonly used in consumer, business, and scientific applications. For example, if you needed to export data from a consumer banking site or enterprise database application, you may be unable to view that data using the Excel Web App on these tablets.

> We couldn't edit workbooks in Office 365 on the Android tablet, and found it difficult to navigate with a slow touch scrolling response.

With only beta support in Office 365, we found the Android tablet provided an even more limited experience for end users. This included no support for editing, and no inertial scrolling within the Excel Web App (e.g., the scrolling motion would not continue smoothly after the release of touch), which made navigating worksheets difficult.

## PRESENTATIONS THAT MAKE THE RIGHT IMPRESSION

> We found no support for slide shows or editing on the Android tablet, and missing slide show functionality in Office 365 on the iPad and Windows RT tablet.

You've prepared a PowerPoint presentation for management or your client. Which tablet is best suited for the job? If you brought your Android tablet from home to share the presentation, you'd be out of luck. We found that the representative Android tablet lacked support for slide shows in Office 365. What about the PowerPoint Web App through Office 365 on the iPad and the representative Windows RT tablet? While you would be able to share the presentation, we found that you would experience the following issues in the PowerPoint Web App on the iPad and Windows RT tablet:

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report  **9**

- No ability to record the slide show or rehearse timings
- Support for only fade and push transition styles, as Figure 9 shows, and limited animation support (e.g., unsupported animations and transitions in the presentation were simply missing)
- No support for linked pictures, so they disappeared from the slide show

The iPad only supported fade and push transitions between slides, while the Intel Core processor-powered tablet provided 47 different transition styles in the PowerPoint desktop application through Office 365.
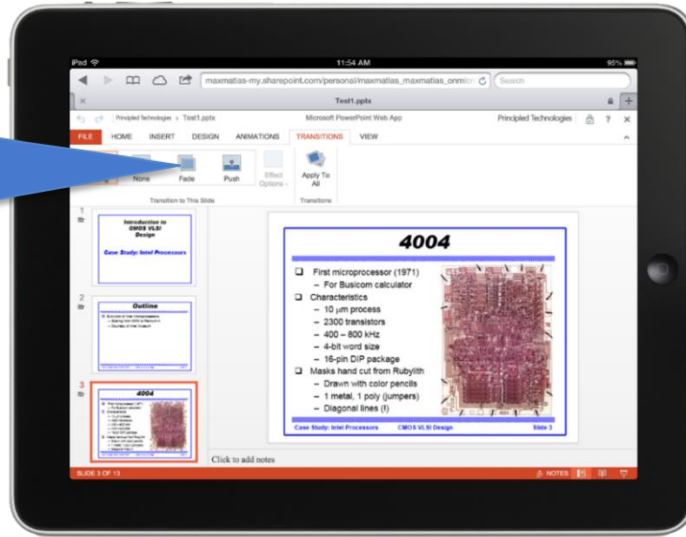


**Figure 9: The iPad supported 45 fewer transition styles.**

We found that only the Intel Core processor-powered tablet supported the full PowerPoint experience through the Office 365 desktop application, with no missing functionality when presenting slide shows or creating them. The PowerPoint Web App through Office 365 on the iPad and Windows RT tablet did not support viewing and adding comments in Editing view. The Android tablet didn't display comments at all. The iPad, Android tablet, and Windows RT tablet also did not support viewing or editing master views in Office 365.

## STAYING ON TOP OF EMAIL MESSAGES AND MEETINGS

Only the Intel Core processor-powered tablet provided PST support for archived messages, advanced insert options, and custom due date options for flagged messages.

Office 365 subscription licensing also includes hosted email with 25 GB of storage space per user. Which tablet helps you get to the meeting on time? As with the other Office applications, we found missing functionality on the iPad, Android tablet, and Windows RT tablet. In the Outlook desktop application through Office 365, only the Intel Core processor-powered tablet offered:

- PST support for archived messages
- Message management through Quick Steps
- Due date options other than the current day for flagged messages

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report  **10**

- Advanced insert options, including tables, charts, screenshots, and business cards

While the Office 365 experience for Word, Excel, and PowerPoint was similar on the iPad and Windows RT tablet, we found that the iPad supported fewer Outlook options than the Windows RT tablet through Office 365. Instead of the Outlook Web App that the Windows RT tablet supported, the iPad had access only to Outlook Mobile through Office 365, which Figure 10 shows.

Instead of the full Outlook Web App, the iPad could only access Outlook Mobile, which lacked much of the functionality available in Office 365 on the Intel Core processor-powered tablet.



**Figure 10: Outlook Mobile splash screen on the Apple iPad.**

With Outlook Mobile, the iPad lacked support for the following integral functionality:

The iPad didn't have integral message composition functionality, such as text formatting and bulleted lists, while the Android tablet did not support push message delivery.

- Text formatting (e.g., italics)
- Paragraph options (e.g., bulleted lists)
- Access to the local file system for attachments, which limited insertion options to signatures and images in the camera roll
- Notifications for reminders for calendar appointments or meetings

On the Android tablet, we were able to view only the traditional Outlook Web Access through Office 365, which we found to be even more limited in functionality than Outlook Mobile on the iPad. For example, the Android tablet lacked push message delivery, and did not support creating reminders or viewing notifications for calendar appointments or meetings.

## FOR A TABLET THAT'S UP FOR THE JOB, CHOOSE INTEL INSIDE®

A business tablet needs to be more than just a pretty screen – it also needs to handle common tasks with Office 365 without workarounds and error messages, and do

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report  **11**

it quickly. A tablet powered by an Intel Core processor provided the full functionality of Office 365, both online and offline, which means you could be productive and collaborate securely wherever you happened to be working. As Figure 11 shows, the Intel Core processor-powered tablet gave the green light to get real work done in the office.

| Office 365 business experience | Intel Core processor-powered tablet | Apple iPad | Android tablet | Windows RT tablet |
|---|---|---|---|---|
| More working, less waiting | Green | Red | Red | Red |
| Getting work done when not connected | Green | Red | Red | Red |
| The security you need for collaboration in the cloud | Green | Red | Red | Red |
| All the formatting when you edit documents | Green | Yellow | Red | Yellow |
| All the spreadsheet functionality you need | Green | Yellow | Red | Yellow |
| Presentations that make the right impression | Green | Yellow | Red | Yellow |
| Staying on top of email messages and meetings | Green | Yellow | Red | Yellow |
| All the Office 365 application deployment options | Green | Red | Red | Red |

Figure 11: Office 365 business experience on the test tablets.

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report 12

# APPENDIX A – SYSTEM CONFIGURATION INFORMATION

Figure 12 provides configuration information for the representative tablets: an Intel Core i3-3217U processor-based Fujitsu® STYLISTIC Q702 Hybrid Tablet PC, an Apple iPad (4th generation), a Samsung Galaxy Tab 2 10.1 running Android 4.1.1, and a Microsoft Surface® RT running Windows RT. The available keyboard dock for the Fujitsu STYLISTIC Q702 Hybrid Tablet PC adds a four-cell Lithium-ion battery with a rated capacity of 45 Wh, two UBS 2.0 ports, and both VGA and LAN interfaces.

| System | Intel Core processor-powered tablet | Apple iPad (4th generation) | Representative Android tablet | Representative Windows RT tablet |
|---|---|---|---|---|
| **General** | | | | |
| Number of processor packages | 1 | 1 | 1 | 1 |
| Number of cores per processor | 2 | 2 | 2 | 4 |
| Number of hardware threads per core | 2 | 1 | 1 | 1 |
| Total number of threads | 4 | 2 | 2 | 4 |
| System dimensions (length x width x height) | 11.9" x 7.7" x 0.5" | 9.5" x 7.3" x 0.4" | 10.1" x 6.9" x 0.4" | 10.8" x 6.8" x 0.4" |
| System weight | 1.9 lbs. | 1.5 lbs. | 1.3 lbs. | 1.5 lbs. |
| **CPU** | | | | |
| Vendor | Intel | Apple | Texas Instruments | NVIDIA® |
| Model number | Core i3-3217U | A6X | OMAP 4430 | Tegra® 3 |
| Core frequency (GHz) | 1.8 | 1.4 | 1.0 | 1.3 |
| L1 cache | 32 KB + 32 KB (per core) | 32 KB + 32 KB | 32 KB + 32 KB | 32 KB + 32 KB (per core) |
| L2 cache | 512 KB (256 KB per core) | 1 MB | 1 MB | 1 MB (256 KB per core) |
| L3 cache | 3 MB | N/A | N/A | N/A |
| **Memory** | | | | |
| Amount of RAM (GB) | 4 | 1 | 1 | 2 |
| Speed (MHz) | 1,600 | 533 | 400 | 1,500 |
| Type | DDR3 | DDR2 | DDR2 | DDR3 |
| **Hard disk** | | | | |
| Vendor and model number | Samsung MZMPC064HBDR | Integrated flash storage | Integrated flash storage | Integrated flash storage |
| Size (GB) | 64 | 64 | 16 | 64 |
| **Operating system** | | | | |
| Name | Microsoft Windows 8 Pro | Apple iOS 6.1.3 | Android 4.1.1 | Microsoft Windows RT |

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report **13**

| System | Intel Core processor-powered tablet | Apple iPad (4th generation) | Representative Android tablet | Representative Windows RT tablet |
|---|---|---|---|---|
| **Stock browser** | | | | |
| Name and version number | Modern UI Internet Explorer® (IE) 10.0.9200.16540 | Mobile Safari® 6.0 8536.25 | Internet 4.1.1-P5113UECLK7 | Modern UI Internet Explorer (IE) 10.0.9200.16540 |
| **Graphics** | | | | |
| Vendor and model number | Intel HD Graphics 4000 | PowerVR SGX554MP4 | PowerVR SGX540 | NVIDIA Tegra 3 |
| Resolution | 1,366 x 768 | 2,048 x 1,536 | 1,280 x 800 | 1,366 x 768 |
| **Wireless** | | | | |
| Vendor and model number | Qualcomm® Atheros AR938x 802.11abgn | 802.11a/b/g/n | 802.11a/b/g/n | Marvell® AVASTAR® Wireless-N |
| **Ethernet** | | | | |
| Vendor and model number | Intel 82579V Gigabit | N/A | N/A | N/A |
| **Ports** | | | | |
| USB type | 1 x USB 2.0, 1 x USB 3.0 | N/A | N/A | 1 x USB 2.0 |
| Other | HDMI, media card reader, headphone jack, microphone jack | Headphone jack | Micro SD, headphone jack | Micro HDMI, Micro SD, headphone jack |
| **Display** | | | | |
| Type | LED-backlit AH-IPS anti-glare LCD display | LED-backlit Multi-Touch display with IPS technology | LED-backlit PLS TFT touchscreen display | LED-backlit ClearType HD Display |
| Screen size | 11.6" | 9.7" | 10.1" | 10.6" |
| **Battery** | | | | |
| Type | 3-Cell Li-polymer | Apple A1389 integrated Li-polymer | Built-in Lithium Ion | Built-in Lithium Ion |
| Rated capacity | 34 Wh | 42.5 Wh | 7,000 mAh | 31.5 Wh |

**Figure 12: Configuration information for the tablets we tested.**

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report  **14**

# APPENDIX B – TIME TO OPEN DOCUMENTS FOR EDITING RESULTS

Figure 13 presents the detailed results of our testing.

| Time to open for editing | Intel processor-powered tablet (Local applications) | Intel processor-powered tablet (Office on Demand) | Apple iPad (Office Web Apps) | Windows RT tablet (Office Web Apps) |
|---|---|---|---|---|
| Word document | 00:02.93 | 00:07.02 | 00:16.33 | 00:23.98 |
| Excel workbook | 00:03.41 | 00:07.65 | 00:16.70 | 00:21.32 |
| PowerPoint presentation | 00:03.15 | 00:07.51 | 00:17.56 | 00:20.96 |

Figure 13: Time, in seconds, for the tablets to open documents for editing.

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report **15**

# APPENDIX C – OFFICE APPLICATION FEATURES FUNCTIONALITY

Figure 14 gives a detailed feature and functionality comparison of the full-featured versions of Word, Excel, and PowerPoint on the Intel Core processor-powered tablet and the respective Office Web Apps on the Apple iPad and representative Windows RT tablet. Because the Android tablet did not support editing, we did not include it here.

| Office desktop applications on the Intel Core processor-powered tablet through Office 365 | Office Web Apps on the Apple iPad and representative Windows RT tablet through Office 365 |
|---|---|
| **Office 365 Word desktop application** | **Office 365 Word Web App** |
| All formatting retained | Significant formatting loss in Editing View (formatting retained in Reading view) |
| Track changes support | No viewing markups or tracking changes |
| View and add comments in Editing and Reading View | View and add comments in Reading View only |
| View, edit, and save .doc and .docx formats | View .doc but only edit and save .docx format |
| Full RTF, HTML, MHTML, and PDF support | No RTF, HTML, MHTML, and PDF support |
| Print Layout, Full Screen, Web Layout, Outline, and Draft document views | Only Print Layout View supported |
| Advanced ruler and grid line support | No ruler or grid line support |
| Navigation pane with heading shortcuts | No document navigation pane available |
| Editing of margins, page breaks, cover pages,  headers, and footers | Page formatting features not displayed in Edit View |
| Advanced format options for pasted text | No paste format options, must be done afterwards |
| Create and edit styles | Cannot create or edit styles |
| Adjustable line spacing | Cannot adjust line spacing |
| Find and replace in both Edit and Reading Views | Find function only available in Reading View, no replace function available |
| Page layout options including page margins, page orientation, and columns | Page layout options cannot be edited |
| Page break insertion and view | Page breaks are not indicated |
| Theme and document background editing | Theme and document background cannot be edited |
| Insert and edit tables | Display only, no editing or insertion functions |
| Picture cropping and editing support | No editing functions available |
| Insert and edit headers and footers | Displayed only in Reading View, no editing or insertion functions |
| Insert and edit charts, equations, ink, WordArt, shapes, text boxes, and symbols. | Display only, no editing or insertion functions |
| Create and edit table of contents, footnotes, and endnotes | Placeholders for existing features, no editing capabilities |
| Create and edit signature line | Signature line editing not available |
| Spell and Grammar check | Spell check only |
| Thesaurus and Translate support | No Thesaurus or Translate support |
| Password encryption support | No password encryption, cannot open files |
| View and edit documents that require a password to edit | Can view these documents in Reading View, but not edit them |
| Integrated document version history | Must use external document version history |

| Office desktop applications on the Intel Core processor-powered tablet through Office 365 | Office Web Apps on the Apple iPad and representative Windows RT tablet through Office 365 |
|---|---|
| **Office 365 Excel desktop application** | **Office 365 Excel Web App** |
| View, edit, and save .xls and .xlsx formats | View .xls but only edit and save .pptx format |
| Full CSV file format support | CSV file format is generally not supported |
| ActiveX and form tool bar controls | Spreadsheets with this functionality will not open |
| Data validation and digital signature support | Spreadsheets with these functionality will not open |
| Shapes and XML support | Spreadsheets with these functionality will not open |
| Password encryption support | No password encryption, cannot open files |
| NOW and TODAY values based on local time zone | NOW and TODAY values based on server time zone |
| INFO function support | INFO function displays #VALUE! error |
| Integrated shared workbook management | Shared workbooks disable Undo and Redo functions |
| Full macro creation and editing support | Macros disabled in all workbooks |
| External data dynamically linked | No external data support |
| Data modeling | No data modeling support |
| **Office 365 PowerPoint desktop application** | **Office 365 PowerPoint Web App** |
| View, edit, and save .ppt and .pptx formats | View .ppt but only edit and save .pptx format |
| RTF and PDF support | No RTF and PDF support |
| Normal, Slide Sorter, Notes page, Reading, and all three Master views | Normal and Reading views |
| Over 30 slide animation and transition options | Only two transitions supported – wipe and fade |
| Password encryption support | No password encryption, cannot open files |
| Spell and Grammar check | Spell check only |
| Thesaurus and Translate support | No Thesaurus or Translate support |
| View and add comments in reading and editing mode | View and add comments in reading mode only |
| Advanced format options for pasted text | No paste format options, must be done afterwards |
| Text find and replace functions | No text find and replace function |
| Create and modify presentation themes | Cannot create or modify themes |
| Edit slide master and layout options | Cannot edit slide master and layout options |
| Insert and edit ActiveX controls and OLE objects | Display only, no editing or insertion functions |
| Playback, edit, and add new audio and video content | Playback only, cannot edit or add new content |
| Insert and edit tables | Display only, no editing or insertion functions |
| Full linked picture support | Linked pictures are preserved, but not displayed |
| Insert and edit headers and footers | Display only, no editing or insertion functions |
| Insert and edit charts, equations, ink, WordArt and symbols. | Display only, no editing or insertion functions |

**Figure 14: Functionality comparison for Word, Excel, and PowerPoint through Office 365.**

Figure 15 gives a detailed functionality comparison of Outlook on the Intel Core processor-powered tablet, Outlook Mobile on the Apple iPad, and the Outlook Web App on the representative Windows RT tablet. Note: The Apple iPad has access only to Outlook Mobile, which has less functionality than the Outlook Web App on the representative Windows RT tablet.

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report 17

| Outlook desktop application on the Intel Core processor-powered table through Office 365 | Outlook Mobile on the Apple iPad through Office 365 | Outlook Web App on the representative Windows RT tablet through Office 365 |
|---|---|---|
| PST support | No PST support | No PST support |
| Rich text, HTML, Plain text, or Rich text | HTML only | HTML or Plain text |
| Quick Steps support | No Quick Steps support | No Quick Steps support |
| Text styles, underline, bold, and italics | Plain text only | Text styles, underline, bold, and italics |
| Bullets, numbering, indent, and lists | No paragraph options | Bullets, numbering, indent, and lists |
| View, Create, and edit Task items | No Task pane | View, Create, and edit Task items |
| Spell and Grammar check | Spell check only | Spell check only |
| Thesaurus and Translate support | No Thesaurus or Translate support | No Thesaurus or Translate support |
| Message spelling and Grammar review upon send | No message review available | No message review available |
| Attach files | Attach files | Attach files |
| Insert images, signature, business card, table, and shapes | Insert camera roll or photo stream images and signature only | Insert images and signature only |
| Full message status flagging and color categorization | Flagging for follow up only | Full message status flagging and color categorization |
| Set and receive calendar reminders | Set calendar reminders only | Set and receive calendar reminders |
| Send and receive meeting invites | Receive meeting invites | Send and receive meeting invites |
| Organize messages by Date, Sender, Recipient, Flag, Category, Size, Subject, Type, Attachments, and Importance | Organize messages by Sender, Recipient, and Conversation | Organize messages by Date, Sender, Recipient, Flag, Category, Size, Subject, Type, Attachments, and Importance |
| Categorize appointment priority | No appointment categorization | Categorize appointment priority |

**Figure 15: Outlook functionality comparison through Office 365.**

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report 18

# APPENDIX D – OFFICE 365 APPLICATION DEPLOYMENT OPTIONS

On the Intel Core processor-powered tablet, Office 365 licensing gives you multiple options to use Office desktop applications with full features and functionality, including local install, Office on Demand streaming, and Microsoft Application Virtualization. For more detail on Office 365 plans for business, visit http://office.microsoft.com/en-001/business/compare-office-365-for-business-plans-FX102918419.aspx.

## Office 365 desktop applications installed locally

Unlike the other tablets we tested, the Intel Core processor-powered tablet has the processing power to provide users with a traditional desktop application experience in tablet form. By installing Office desktop applications directly on the system, you can easily work with full Office desktop applications while offline through Office 365. You can save files locally on the Intel Core processor-powered tablet or in the cloud through SkyDrive Pro.

## Office 365 desktop applications through Office on Demand

Office on Demand lets you stream full Office desktop applications to the Intel Core processor-powered tablet, and as with locally installed desktop applications, work with documents that you save locally or in the cloud on SkyDrive Pro. Streaming means that you always have the latest Office application version without managing updates and security patches. Once Office on Demand streams the application, it supports offline document editing. When working offline with documents stored in SkyDrive Pro, any changes that you make are stored locally and then synchronized with SkyDrive Pro once you are back online. For details about Office on Demand, visit http://office.microsoft.com/en-us/office365-sharepoint-online-enterprise-help/use-office-on-demand-HA103337813.aspx.

## Office 365 desktop applications through Microsoft Application Virtualization (App-V)

Office 365 also lets you deploy full Office desktop applications on the Intel Core processor-powered tablet using App-V without installing them locally. You can deploy custom Office desktop application packages using either a standalone App-V server or through integration with Microsoft System Center Configuration Manager 2012 SP1. These virtual Office applications offer a similar experience to locally installed applications, including the ability to work offline. For more on App-V, visit http://www.microsoft.com/en-us/windows/enterprise/products-and-technologies/virtualization/app-v.aspx.

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report  **19**

# APPENDIX E - HOW WE TESTED

We applied all available operating system updates and browser updates prior to our feature and functionality analysis and timing how long it took to open documents for editing. We uploaded all test documents to the SkyDrive Pro document library for access on the test systems, and set up SkyDrive Pro synchronization on the Intel Core processor-powered tablet, which created a local folder that served as a mapped drive of the SkyDrive Pro document library. For Office on Demand on the Intel Core processor-powered tablet, we installed the required Internet Explorer add-on.

For timing how long it took to open documents for editing, we followed the steps outlined below. For Office on Demand on the Intel Core processor-powered tablet, we used the stock Modern UI Internet Explorer browser. For the Office Web apps on the iPad and the representative Windows RT tablet, we used the stock Safari and Modern UI Internet Explorer browsers, respectively. We did not include the representative Android tablet in this comparison, since the Office Web Apps did not support editing in the stock Android or Chrome browsers on the Android tablet.

## Opening documents on the Intel Core processor-powered tablet using locally installed Office desktop applications

### Opening Word document – time to open Word document for editing
1. Reboot the system, and wait 5 minutes at the Start screen.
2. Tap the Desktop tile.
3. Tap to open Windows Explorer from the taskbar.
4. Tap to open the SkyDrive Pro folder under Favorites.
5. Tap to highlight Test1.docx, and long-press to bring up the right-click menu.
6. Simultaneously start the timer and tap Open.
7. Stop the timer when the Microsoft Word document is fully displayed.
8. Close the document.
9. Repeat steps 1 through 8 two more times, and report the median of the three runs.

### Opening Excel workbook – time to open Excel workbook for editing
1. Reboot the system, and wait 5 minutes at the Start screen.
2. Tap the Desktop tile.
3. Tap to open Windows Explorer from the taskbar.
4. Tap to open the SkyDrive Pro folder under Favorites.
5. Tap to highlight Test1.xlsx, and long-press to bring up the right-click menu.
6. Simultaneously start the timer and tap Open.
7. Stop the timer when the Microsoft Excel workbook is fully displayed.
8. Close the workbook.
9. Repeat steps 1 through 8 two more times, and report the median of the three runs.

### Opening PowerPoint presentation – time to open PowerPoint presentation for editing
1. Reboot the system, and wait 5 minutes at the Start screen.
2. Tap the Desktop tile.
3. Tap to open Windows Explorer from the taskbar.
4. Tap to open the SkyDrive Pro folder under Favorites.
5. Tap to highlight Test1.pptx, and long-press to bring up the right-click menu.
6. Simultaneously start the timer and tap Open.
7. Stop the timer when the Microsoft PowerPoint presentation is fully displayed.
8. Close the presentation.
9. Repeat steps 1 through 8 two more times, and report the median of the three runs.

## Opening documents on the Intel Core processor-powered tablet using Office desktop applications streamed via Office on Demand

### Opening Word document – time to open Word document for editing

1. Reboot the system, and wait 5 minutes at the Start screen.
2. Tap the Internet Explorer tile.
3. Swipe up from the bottom of the screen to bring up the address bar and list of active tabs.
4. Tap to close the active Internet Explorer tab.
5. Tap the address bar, type `login.microsoftonline.com` and tap Go.
6. Enter the username and password, and tap Enter.
7. Tap SkyDrive.
8. Tap USE OFFICE ON DEMAND, and tap Word.
9. Tap Open Other Documents.
10. Tap Computer, and tap Browse.
11. Tap to open the SkyDrive folder under Favorites.
12. Tap to highlight Test1.docx.
13. Simultaneously start the timer and tap Open.
14. Stop the timer when the Microsoft Word document is fully displayed.
15. Close the document.
16. Repeat steps 1 through 15 two more times, and report the median of the three runs.

### Opening Excel workbook – time to open Excel workbook for editing

1. Reboot the system, and wait 5 minutes at the Start screen.
2. Tap the Internet Explorer tile.
3. Swipe up from the bottom of the screen to bring up the address bar and list of active tabs.
4. Tap to close the active Internet Explorer tab.
5. Tap the address bar, type `login.microsoftonline.com` and tap Go.
6. Enter the username and password, and tap Enter.
7. Tap SkyDrive.
8. Tap USE OFFICE ON DEMAND, and tap Excel.
9. Tap Open Other Workbooks.
10. Tap Computer, and tap Browse.
11. Tap to open the SkyDrive folder under Favorites.
12. Tap to highlight Test1.xlsx.
13. Simultaneously start the timer and tap Open.
14. Stop the timer when the Microsoft Excel workbook is fully displayed.
15. Close the workbook.
16. Repeat steps 1 through 15 two more times, and report the median of the three runs.

### Opening PowerPoint presentation – time to open PowerPoint presentation for editing

1. Reboot the system, and wait 5 minutes at the Start screen.
2. Tap the Internet Explorer tile.
3. Swipe up from the bottom of the screen to bring up the address bar and list of active tabs.
4. Tap to close the active Internet Explorer tab.
5. Tap the address bar, type `login.microsoftonline.com` and tap Go.
6. Enter the username and password, and tap Enter.
7. Tap SkyDrive.
8. Tap USE OFFICE ON DEMAND, and tap PowerPoint.

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report **21**

9. Tap Open Other Presentations.
10. Tap Computer, and tap Browse.
11. Tap to open the SkyDrive folder under Favorites.
12. Tap to highlight Test1.pptx.
13. Simultaneously start the timer and tap Open.
14. Stop the timer when the Microsoft PowerPoint presentation is fully displayed.
15. Close the presentation.
16. Repeat steps 1 through 15 two more times, and report the median of the three runs.

## Opening documents on the Apple iPad using Office Web Apps through the default Safari browser

### Opening Word document – time to open Word document for editing
1. Reboot the system, and wait 5 minutes at the Home screen.
2. Tap the address bar, type `login.microsoftonline.com` and tap Go.
3. Enter the username and password, and tap Go.
4. Tap SkyDrive.
5. Simultaneously start the timer and tap Test1.docx to open the document.
6. Stop the timer when the Microsoft Word document is fully displayed.
7. Simultaneously restart the timer and tap EDIT IN BROWSER to display the document in Editing View.
8. Stop the timer when the Microsoft Word document is fully displayed.
9. Tap to close the active Safari tab.
10. Press the Home button to exit Safari, and tap the Settings icon.
11. Tap Safari under Settings.
12. Tap Clear History, and tap Clear Cookies and Data.
13. Press the Home button to exit Settings.
14. Repeat steps 1 through 13 two more times, and report the median of the three runs.

### Opening Excel workbook – time to open Excel workbook for editing
1. Reboot the system, and wait 5 minutes at the Home screen.
2. Tap the Safari icon.
3. Tap the address bar, type `login.microsoftonline.com` and tap Go.
4. Enter the username and password, and tap Go.
5. Tap SkyDrive.
6. Simultaneously start the timer and tap Test1.xlsx to open the workbook.
7. Stop the timer when the Microsoft Excel workbook is fully displayed.
8. Simultaneously restart the timer and tap EDIT IN BROWSER to display the workbook in Editing View.
9. Stop the timer when the Microsoft Excel workbook is fully displayed.
10. Tap to close the active Safari tab.
11. Press the Home button to exit Safari, and tap the Settings icon.
12. Tap Safari under Settings.
13. Tap Clear History, and tap Clear Cookies and Data.
14. Press the Home button to exit Settings.
15. Repeat steps 1 through 13 two more times, and report the median of the three runs.

### Opening PowerPoint presentation – time to open PowerPoint presentation for editing
1. Reboot the system, and wait 5 minutes at the Home screen.
2. Tap the Safari icon.
3. Tap the address bar, type `login.microsoftonline.com` and tap Go.
4. Enter the username and password, and tap Go.

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report 22

5. Tap SkyDrive.
6. Simultaneously start the timer and tap Test1.xlsx to open the workbook.
7. Stop the timer when the Microsoft PowerPoint presentation is fully displayed.
8. Simultaneously restart the timer and tap EDIT IN BROWSER to display the presentation in Editing View.
9. Stop the timer when the Microsoft PowerPoint presentation is fully displayed.
10. Tap to close the active Safari tab.
11. Press the Home button to exit Safari, and tap the Settings icon.
12. Tap Safari under Settings.
13. Tap Clear History, and tap Clear Cookies and Data.
14. Press the Home button to exit Settings.
15. Repeat steps 1 through 14 two more times, and report the median of the three runs.

## Opening documents on the representative Windows RT tablet using Office Web Apps through the default Modern UI Internet Explorer browser

### Opening Word document – time to open Word document for editing
1. Reboot the system, and wait 5 minutes at the Start screen.
2. Tap the Internet Explorer tile.
3. Swipe up from the bottom of the screen to bring up the address bar and list of active tabs.
4. Tap to close the active Internet Explorer tab.
5. Tap the address bar, type `login.microsoftonline.com` and tap Go.
6. Enter the username and password, and tap Enter.
7. Tap SkyDrive.
8. Simultaneously start the timer and tap Test1.docx to open the document.
9. Stop the timer when the Microsoft Word document is fully displayed.
10. Tap EDIT DOCUMENT.
11. Simultaneously restart the timer and tap Edit in Word Web App to display the document in Editing View.
12. Stop the timer when the Microsoft Word document is fully displayed.
13. Swipe up from the bottom of the screen to bring up the address bar and list of active tabs.
14. Tap to close the active Internet Explorer tab.
15. Swipe in from the right to bring up the charms bar, and tap the Settings charm.
16. Tap Delete Browsing History.
17. Swipe down from the top of the screen to close Internet Explorer.
18. Repeat steps 1 through 17 two more times, and report the median of the three runs.

### Opening Excel workbook – time to open Excel workbook for editing
1. Reboot the system, and wait 5 minutes at the Start screen.
2. Tap the Internet Explorer tile.
3. Swipe up from the bottom of the screen to bring up the address bar and list of active tabs.
4. Tap to close the active Internet Explorer tab.
5. Tap the address bar, type `login.microsoftonline.com` and tap Go.
6. Enter the username and password, and tap Enter.
7. Tap SkyDrive.
8. Simultaneously start the timer and tap Test1.xlsx to open the workbook.
9. Stop the timer when the Microsoft Excel workbook is fully displayed.
10. Tap EDIT WORKBOOK.
11. Simultaneously restart the timer and tap Edit in Excel Web App to display the workbook in Editing View.
12. Stop the timer when the Microsoft Excel workbook is fully displayed.
13. Swipe up from the bottom of the screen to bring up the address bar and list of active tabs.
14. Tap to close the active Internet Explorer tab.

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report  **23**

15. Swipe in from the right to bring up the charms bar, and tap the Settings charm.
16. Tap Delete Browsing History.
17. Swipe down from the top of the screen to close Internet Explorer.
18. Repeat steps 1 through 17 two more times, and report the median of the three runs.

**Opening PowerPoint presentation – time to open PowerPoint presentation for editing**
1. Reboot the system, and wait 5 minutes at the Start screen.
2. Tap the Internet Explorer tile.
3. Swipe up from the bottom of the screen to bring up the address bar and list of active tabs.
4. Tap to close the active Internet Explorer tab.
5. Tap the address bar, type `login.microsoftonline.com` and tap Go.
6. Enter the username and password, and tap Enter.
7. Tap SkyDrive.
8. Simultaneously start the timer and tap Test1.pptx to open the presentation.
9. Stop the timer when the Microsoft PowerPoint presentation is fully displayed.
10. Tap EDIT PRESENTATION.
11. Simultaneously restart the timer and tap Edit in PowerPoint Web App to display the presentation in Editing View.
12. Stop the timer when the Microsoft PowerPoint presentation is fully displayed.
13. Swipe up from the bottom of the screen to bring up the address bar and list of active tabs.
14. Tap to close the active Internet Explorer tab.
15. Swipe in from the right to bring up the charms bar, and tap the Settings charm.
16. Tap Delete Browsing History.
17. Swipe down from the top of the screen to close Internet Explorer.
18. Repeat steps 1 through 17 two more times, and report the median of the three runs.

# APPENDIX F – TEST DOCUMENT PROPERTIES

Figure 16 details properties of the Office documents we used for timing how quickly each tablet could open documents for editing.

| File type | File name | File size |
|---|---|---|
| Word document | Test1.docx | 1,692 KB |
| Excel workbook | Test1.xlsx | 2,569 KB |
| PowerPoint presentation | Test1.pptx | 2,294 KB |

**Figure 16: Test document properties.**

Tablets for business: Working with Office 365 on the Intel Core
processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report **25**

# ABOUT PRINCIPLED TECHNOLOGIES

![Principled Technologies logo]

Principled Technologies, Inc.
1007 Slater Road, Suite 300
Durham, NC, 27703
www.principledtechnologies.com

We provide industry-leading technology assessment and fact-based 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.

Tablets for business: Working with Office 365 on the Intel Core processor-powered tablet vs. iPad, Android, and Windows RT tablets

A Principled Technologies test report  26