

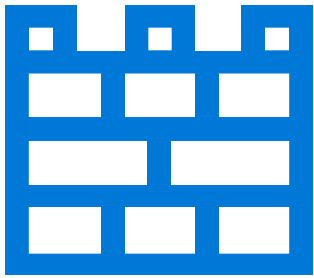
Windows 10 in S mode

Yoichiro Okada



WinHEC
Online 2018

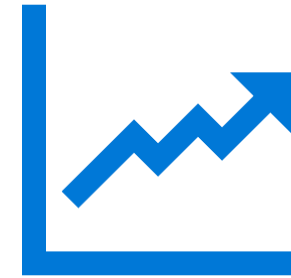
What is Windows 10 in S mode



Microsoft
Verified Security



The Windows you know



Performance
that lasts

Comparing battery life and boot performance in Microsoft Windows 10 S and Windows 10 Pro

http://www.principledtechnologies.com/Microsoft/Windows_10_S_battery_life_boot_performance_0717_v2.pdf

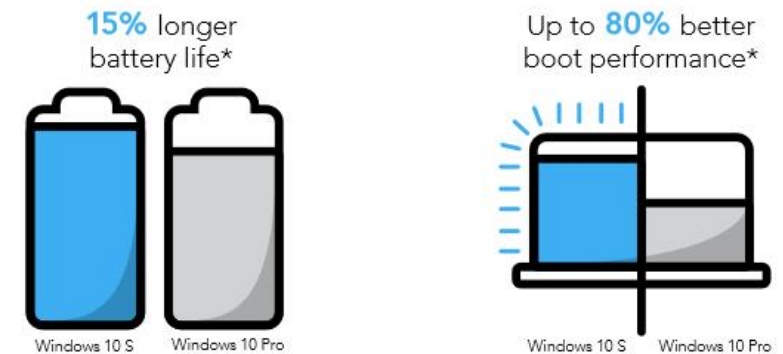


Comparing battery life and boot performance in Microsoft Windows 10 S and Windows 10 Pro

Results from the Microsoft Performance Assessment Toolkit

At Principled Technologies (PT), we compared the battery life and boot performance of two Microsoft® Windows® operating systems: Windows 10 S and Windows 10 Pro. Our test devices consisted of two pairs of identically configured laptops: a pair of Dell™ Latitude™ 3180 laptops, and a pair of HP 15-ay103dx laptops. For specific device configuration information, see [Appendix A](#).

Microsoft commissioned PT to use two tests from the Windows ADK to assess system battery life and boot performance.¹ These tests are part of the Microsoft Performance Assessment Toolkit. We ran the tests via scripts Microsoft supplied to automate the testing process. We used the scripts at three configuration points: at baseline with no applications installed, after installing a set of applications, and after uninstalling those applications. For more details on our testing methodology, see [Appendix B](#).



*on average, with applications installed

Evolution of Windows 10 in S mode

	S SKU	S mode
Goal	Introducing the best expression of Windows experience	Expanding the best expression of Windows across all of Windows editions
Release	Creators Update, Fall Creators Update	Windows 10 April 2018 Update
OS image	Separate OS image (Pro based)	A configuration of all Windows editions
Enablement	Use the separate OS image	Turn on the configuration on Home and Pro at manufacturing process
Switch	10S -> Pro (one way)	Home S -> Home (one way) Pro S -> Pro (one way) Enterprise S -> Enterprise (one way)
Upgrade	n/a	Home S -> Pro S Pro S -> Enterprise S

S mode Configuration

- The Windows you know
- The best of the cloud *and* full featured apps
- Designed for Modern devices
- Users can switch to non S mode

Configuration & Features
Non-Store applications
Domain Join on premise
Azure AD domain join
Windows Store Apps (incl. Win32 Centennial Apps)
OneDrive setup and sync automatically (req MSA)
Microsoft default apps set for default files
Windows Update for Business
Windows Store for Business
Mobile Device Management (MDM)
Bitlocker
Enterprise state roaming with Azure AD
Shared PC Configuration

Home S	Home
	●
●	●
●	Configurable
●	Configurable
Limited	Limited

Pro S	Pro
	●
	●
●	●
●	●
●	Configurable
●	Configurable
●	●
●	●
●	●
●	●
●	●
●	●

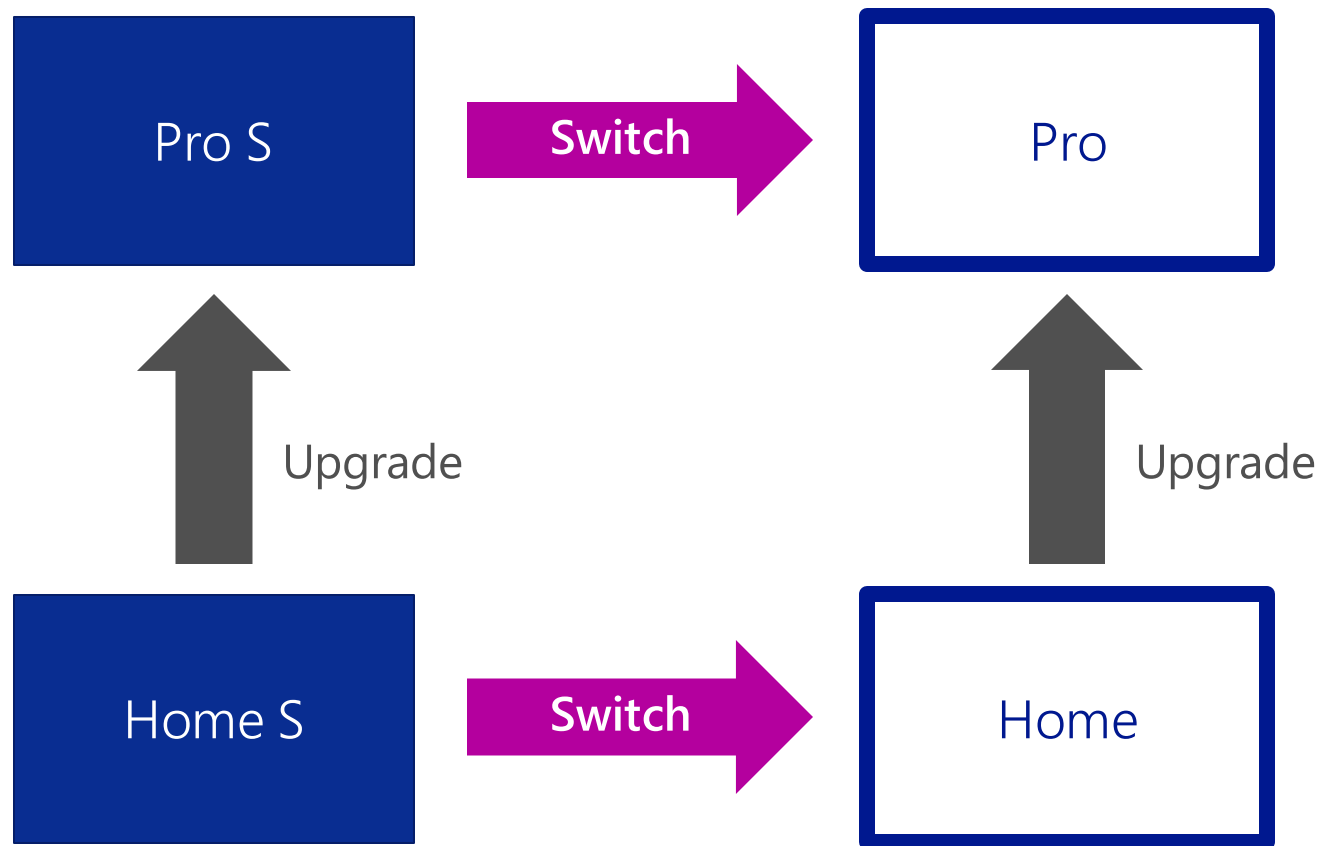
Other
Microsoft Edge/IE search default: Bing and designated regional search providers)
Switch to non S mode (through Windows Store)

Home S	Home
●	Configurable
●	Switch →

Pro S	Pro
●	Configurable
●	Switch →

*not exhaustive, illustrative to outline configuration differences

S mode: Consumer Upgrade/Switch Scenario



*For showing the engineering capability. Not for explaining the cost of each process.

Enable S mode using Unattend.xml

Using DISM, set the S mode Unattend setting before booting. A sample unattend.xml with the S mode setting is below (for AMD64 processor architecture):

```
<?xml version="1.0" encoding="utf-8"?>
<unattend xmlns="urn:schemas-microsoft-com:unattend">
  <settings pass="offlineServicing">
    <component name="Microsoft-Windows-CodeIntegrity"
processorArchitecture="amd64" publicKeyToken="31bf3856ad364e35" language="neutral"
versionScope="nonSxS"
xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <SkuPolicyRequired> 1 </SkuPolicyRequired>
    </component>
  </settings>
</unattend>
```


[Please check the OPK guidance for details](#)

Switch to Home (From Home S)

✕

For security and performance, Windows 10 S only runs verified apps from the Store

This helps protect your PC and keep it running smoothly.



[Get apps from Store](#)

Still want to install apps from outside the Store? [See how](#)

Switch to Home (From Home S)



Switch to Home (From Home S)

Microsoft Store

Home


Apps

Games

Movies & TV

Books

Search



...

Switch Product for Home

This is Switch Product for Home

Get Windows 10 - S mode Switch with a genuine license for this PC.

Free

Get

[I have a Windows 10 - S mode Switch product key](#)

Features

	Before (as Home S)	After
<div>Microsoft Edge</div> <div>All-new browser that makes the web work the way you do.</div>	✓	✓
<div>Windows Store</div> <div>Get verified apps, games, movies, and more from the Windows Store to protect your PC and keep it running smoothly.</div>	✓	✓
<div>Install any app</div> <div>Install and run apps from unknown and unverified sources. To avoid malware, always download from a trusted source.</div>	✓	✓
<div>Multiple Desktops and Snap¹</div> <div>Create multiple desktops and snap up to four apps on one screen.</div>	✓	✓
<div>OneDrive</div>		

Upgrade to Pro S (From Home S)

Microsoft Store

Home Apps Games Movies & TV Books

Search

Upgrade to Windows 10 Pro

With Windows 10 Pro you get enhanced features to help you easily connect to company networks, access one PC from another, encrypt your data, and more. For advanced technical and security features, go Pro.

Get Windows 10 Pro with a genuine license for this PC.

\$99.99

Buy

Upgrade to Workstation

[I have a Windows 10 Pro product key](#)



Features

	Home	Pro
<div>Microsoft Edge</div> <div>All-new browser that makes the web work the way you do.</div>	✓	✓
<div>Windows Store</div> <div>Get verified apps, games, movies, and more from the Windows Store to protect your PC and keep it running smoothly.</div>	✓	✓
<div>Install any app</div> <div>Install and run apps from unknown and unverified sources. To avoid malware, always download from a trusted source.</div>	✓	✓
<div>Multiple Desktops and Snap¹</div> <div>Create multiple desktops and snap up to four apps on one screen.</div>	✓	✓
<div>OneDrive</div>		

Windows 10 S Driver Requirements

<https://docs.microsoft.com/en-us/windows-hardware/drivers/install/Windows10SDriverRequirements>

Hardware Dev Center

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Driver packages

> INF Files

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> Overview of Digital Signatures for Driver Installation

Windows 10 S Driver Requirements

> Managing the Signing Process

> Signing Drivers during Development and Test

> Signing Drivers for Public Release

> Troubleshooting Install and Load Problems with Signed Driver Packages

> Windows Driver Signing Tutorial

> Device Metadata Packages

> Device and Driver Installation Software

> Uninstalling Devices and Driver Packages

Updating Driver Files

> Device and Driver Installation Advanced Topics

> Best Practices for Device and Driver Installation

> Early Launch Anti

Windows 10 S Driver Requirements

05/05/2017 • 2 minutes to read • Contributors

In this article

[Driver Requirements](#)

[Blocked inbox components](#)

This section describes driver installation requirements and blocked components on Windows 10 S.

Driver Requirements

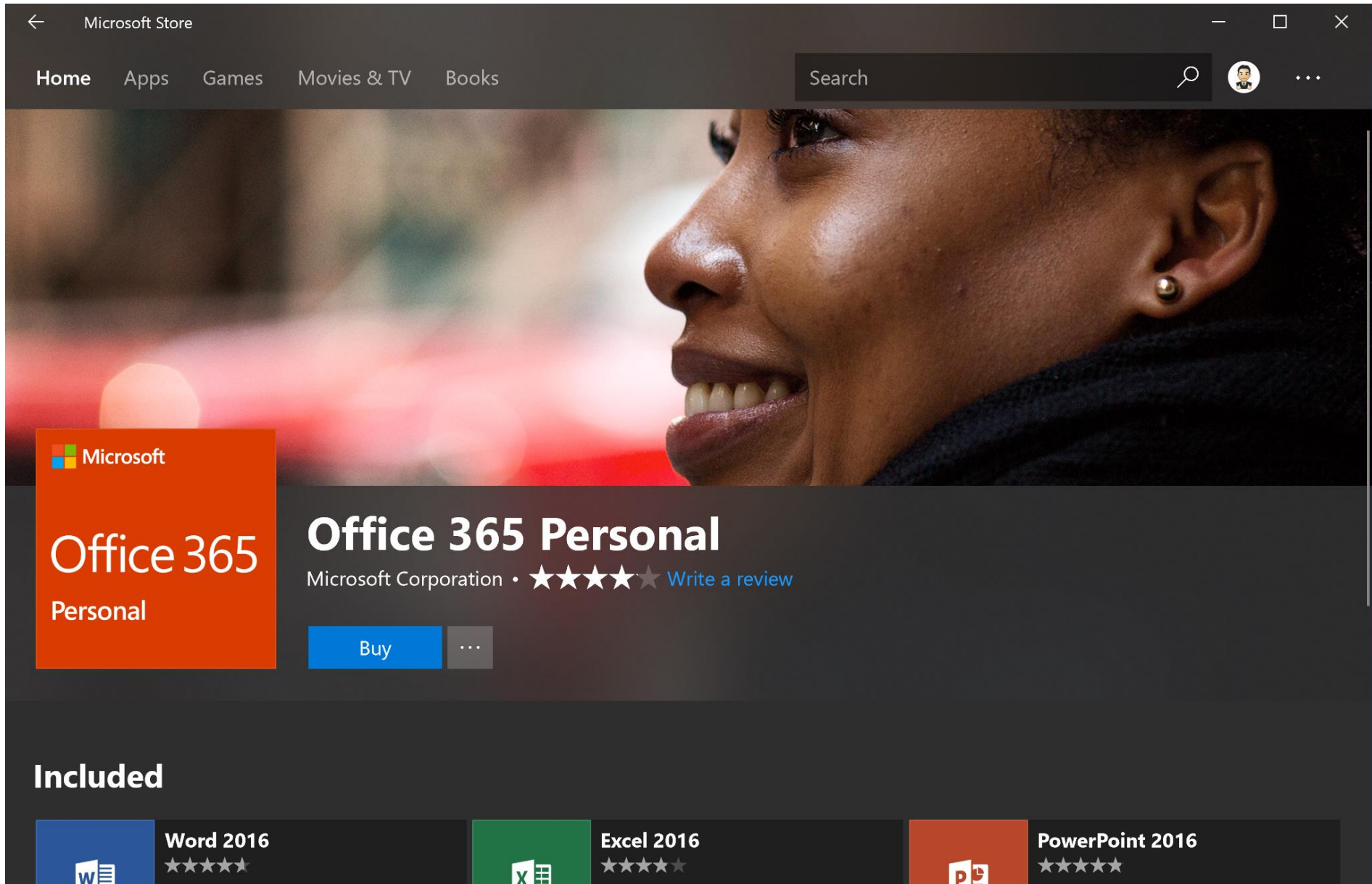
To install on Windows 10 S, driver packages must meet the following requirements:

- Driver packages must be digitally signed with a **Windows, WHQL, ELAM, or Store** certificate from the [Windows Hardware Developer Center Dashboard](#).
- Companion software must be signed with a [Microsoft Store Certificate](#).
- Does not include an *.exe, *.zip, *.msi or *.cab in the driver package that extracts unsigned binaries.
- Driver installs using only INF directives.
- Driver does not call [blocked inbox components](#).
- Drivers does not include any user interface components, apps, or settings. Instead, use Universal applications from the Microsoft Store, for example:
 - [Hardware Support Apps](#)
 - [UWP device apps](#)
 - [Centennial Apps](#)
- Driver and firmware servicing uses Windows Update and not an updater app.

Finally, we recommend using a Universal Windows driver where possible. For more info, see:

- [Getting Started with Universal Drivers](#)
- [Validating Universal Drivers](#)

Office in the Windows Store



Microsoft Edge



Longer Battery Life

Don't just stream. Binge watch. When streaming HD video, Microsoft Edge lasts up to 19% longer than Chrome.



Faster is Better

Browse with ease. Microsoft Edge is up to 48% faster than Chrome and 32% faster than Firefox. Enjoy faster page loads, your online destinations are only a blink of an eye away.



Safer than Chrome

Don't surf with sharks. Protect yourself from phishing attacks with built in Windows Security.

<https://www.microsoft.com/en-us/windows/microsoft-edge>

These numbers are based on multiple researches/benchmarks.
Please find the details at the Microsoft-Edge website above.

Resources

Resource	Detail	Links
WinHEC Session	WinHEC 2017 Session on Windows 10 S	Windows 10 S Introduction
Windows 10 S Driver Requirements	Driver installation requirements and blocked components on Windows 10 S	Windows 10 S Driver Requirements
Publish a driver to Windows Update	How to publish Windows 10 S drivers	Publish a driver to Windows Update
Introducing Windows 10 S	Windows 10 S marketing page	Introducing Windows 10 S
Test Windows 10 S for EDU	Provide self-installer for our EDU customer to try Windows 10 S	Test Windows 10 S on existing Windows 10 education devices
Windows 10 S manufacturing overview	For Windows 10 S image and deployment	Windows 10 S manufacturing overview
Test your Windows app for Windows 10 S	How to test Windows 10 S behavior on Pro system	Test your Windows app for Windows 10 S
Comparison S and Pro (by Principled Technologies)	Comparing battery life and boot performance	www.principledtechnologies.com/Microsoft/Windows_10_S_battery_life_boot_performance_0717_v2.pdf
Ignite Session	The Best Solution for First line Workers: Windows 10 S devices and Microsoft 365	https://myignite.microsoft.com/sessions/53493?source=sessions
Firstline Workers	Announcing Windows 10 S devices for Firstline Workers	https://blogs.windows.com/business/2017/09/25/announcing-windows-10-s-devices-for-firstline-workers
Microsoft Education	Microsoft Education documentation and resources	https://docs.microsoft.com/en-us/education/
WinHEC Fall 2017 Session	WinHEC 2017 Session on Windows 10 S	https://channel9.msdn.com/Events/WinHEC/WinHEC-Fall-2017-Workshop/Windows-10-S-and-Windows-10-Workstation

