How slow is Meltdown and Specter, which is Microsoft's explanation

Bad news for Windows 7 and Windows 8 here.

This article is in the series: Overview of vulnerabilities on Intel, AMD, ARM chips: Meltdown and Specter. Please read all the articles in the series to get information as well as take steps to protect your device against these two serious security holes.

Before two Meltdown and Specter vulnerabilities appeared on Intel, AMD, and ARM chips last week, many technology companies quickly released patches to protect their customers from the possibility of being attacked. Comes with that rumor that these updates will slow down the device.

While many people still guessed it, companies were reassuring, just recently, Microsoft provided detailed information about how the updates would affect. Accordingly, Windows 10 will not see much change but the old OS, especially Windows 7 or Windows 8 will see significant changes.

According to Microsoft, Intel Haswell processors will be the most affected when updating the firmware to combat Specter errors. Intel is still working with PC makers to update the firmware, which will affect the PC depending on the old or new device and the tasks it performs. Microsoft also said that the benchmarks that we see 'haven't updated OS and chips' yet.

The post by Terry Myerson, head of Windows, said Windows 10 running Skylake, Kaby Lake or newer microprocessors will only be affected 'one number' and 'most users won't notice because it's only takes place in milliseconds'. Windows 10 running older chips like Haswell, for example, 'will be much slower', Myerson said.

Old Windows machines will be affected more than new Windows

Haswell on Windows 7 or Windows 8 machine, most users will recognize. Windows 7 and Windows 8 are also affected the most because OS has features like kernel-level font rendering, which will be affected by the impact of Specter and Meltdown.

On Skylake or newer chips' Intel has revised the script to disable more specific branch prediction to indirect branches, reducing the impact when correcting Specter.

1. Windows 10 runs Skylake, Kaby Lake or newer CPUs will be delayed by 'one number' but most users don't realize it.
2. Windows 10 runs Haswell or older CPUs 'are slower' and 'some users will recognize'.
3. Windows 7 or Windows 8 runs Haswell or older CPUs, 'most users will find the device slow'.

Microsoft also warned that Windows Server running any chip, especially when running multiple I / O-related tasks, would see the device significantly affected when using a means to minimize vulnerability to prevent it. Unreliable code enters Windows Server 'instance (instance). Users must choose between security and speed.

Rarely, Microsoft advises administrators not to patch server systems but Meltdown and Specter are very special cases. If the server runs only controllable code, does not open in the browser or other code on the system, it is advisable to avoid updating the firmware, but there will be risks in the short term and it is also unlikely to be updated. Security firmware in the future.

Microsoft said that the firmware update is only needed when it comes to protecting the Specter variant 2. With Meltdown and Specter variant 1, Microsoft has separated the kernel and data structure in User Mode, Edge and Internet Explorer 11 modes. Also updated to avoid JavaScript exploitation. Windows 41 version has been updated, Microsoft hopes the remaining 4 versions will also be patched soon.

It is understandable that Microsoft is very clear about the impact of PC slowdown on users. Apple has faced similar problems on the iPhone and looking at it, Microsoft also learned something. Will Google, Apple and other companies offer similar explanations for Android, Mac and iPhone devices? Currently many browsers and OS have been patched but there is no firmware update yet to protect the chip.

Apple has not yet responded on whether they have firmware updates for iPhone A-Series chips before Specter variant 2. With Android it depends on the phone manufacturer, it is not clear how many of them need to update the firmware. Microsoft has been ahead of transparency that other companies will know need to follow.

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1. Google's CPU patch will not have much impact on the device thanks to new technology
2. Intel will fix Meltdown and Specter on 90% of new products within 1 week
3. Error on CPU seriously affects cloud storage services