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1. **What is Meltdown?**

Meltdown is a hardware vulnerability affecting Intel x86 microprocessors, IBM POWER processors, and some ARM-based microprocessors. ... The Meltdown and Spectre vulnerabilities are considered "catastrophic" by security analysts.

1. **What is Spectre?**

Spectre is the name given to two of the three kinds of newly discovered attacks that hackers could use to steal confidential data from computers and mobile devices. While the third attack, known as Meltdown, only runs on Intel chips, Spectre attacks can affect devices with virtually any modern processor.

1. **How Meltdown work?**

Of the two exploits Metldown is the easier to understand, implement and apparently protect against. It stems from the way a modern processor will try to run programs faster by using speculative execution. If you know how CPUs work at the simplest level you might be surprised to discover how sophisticated a modern processor has become. For example, most modern CPUs will execute code in parallel, including code that might never be needed.

1. **How Spectre work?**

Spectre and Meltdown exploit the same flaw in the hardware but they use different routes to gather the information. What happens in both cases is that the processor is made to execute instructions it should never execute as part of its speculative execution hardware. Once the processor discovers that it shouldn't have carried out the instructions it removes all trace that the instructions were ever carried out - except of course it forgets to reset the cache back to its original state. It doesn't cache the data that should never have been accessed, but if that data is used to access some other data used as an address then that data is still in the cache.

1. **How Meltdown affects to the process?**

Meltdown affects pretty much all modern Intel processors most likely computer is vulnerable and is unsafe to use it running an unpatched operating system.

1. **How Spectre affects to the process?**

Spectre that affects pretty much every modern computer out there. Those hardware bugs allows a program to steal data that’s being processed on computer and can even be exploited from a webpage.

**7.What is the different between Melton and Spectre?**

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|  | MELTDOWN | SPECTRE |
| Architecture | Intel, Apple | Intel, Apple, ARMD, AMD |
| Entry | Must have code execution on the system | Must have code execution on the system |
| Method | Intel Privilege Escalation + speculative Execution | Branch prediction + Speculative Execution |
| Impact | Read kernel memory from user space | Read contents of memory from other users running programs |
| Action | Software patching | Software patching |