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**Meltdown and Spectre**

Meltdown and Spectre is a hardware vulnerability that allow cyber criminals to steal sensitive information from almost any computer, mobile devices or even from the clouds. New Patches of software have been published to protect many affected systems. But these fixes might slow down computer performance a little bit. Meltdown slows computers between 5-30 percent in certain specialized workloads. To understand how they works, we need to understand speculative execution. Its lets device do some work ahead of time to speed up routine tasks. But this can create security vulnerabilities. Whenever computer performs calculations that aren’t actually needed, the results are thrown away. This data stored in a computer cache memory which is unsecured. So unauthorized user access this data by a side channel. Computers, mobile devices share their resources and the speculative execution ends up in a shared memory where cybercriminals sneak in through a side channel. In the future system design will change to block meltdown and spectre. Promptly adopting software updates, avoiding unrecognized hyperlinks and websites, not downloading files or applications from unknown sources will help protect home computers and related devices from the Meltdown and Spectre.