

## SPECTRE



- ▶ **Result:** Programs can read all memory
- ▶ **Affects:** All modern CPU/OS
- ▶ **Vector:** Uses *speculative execution* to read forbidden memory and *cache timing* to exfiltrate data
- ▶ **How bad:** Very bad
- ▶ **Fixes:** Needs changes in CPU and/or changes in programs. Performance impact varies and depends on CPU and workload type.

## THREAT-0-METER

*Threat - 0 - Meter*

### LOW RISK

Exploit unlikely or  
running  
untrusted code already  
worst case

### MEDIUM RISK

Exploit possible but  
needs another  
successful attack to run  
attackers code

### HIGH RISK

Exploit possible and  
runs untrusted code "by  
design"