





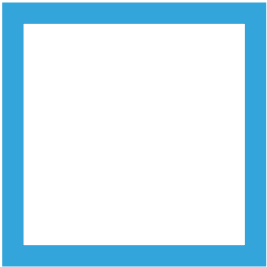


MELTDOWN & SPECTRE FOR ARMED PEOPLE

MEMORY MODEL



**PROCESS**  
**A**









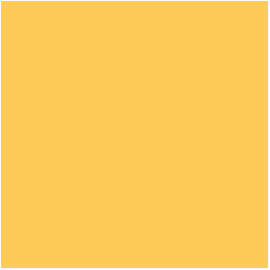








**PROCESS**  
**B**

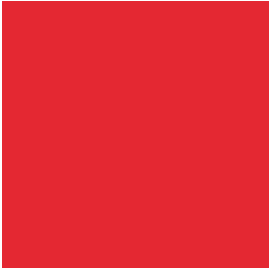


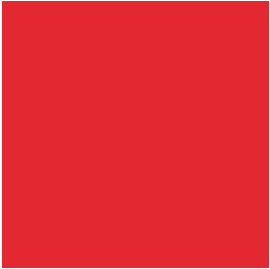




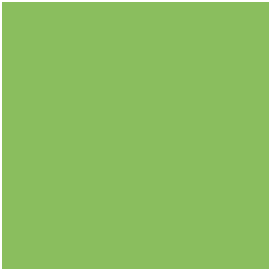


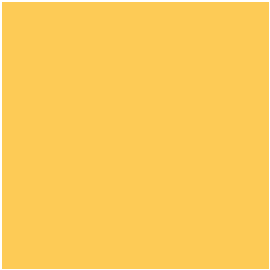


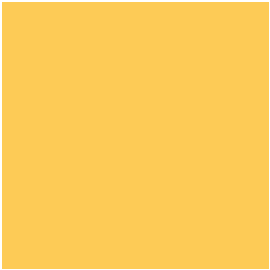












































physical

RAM

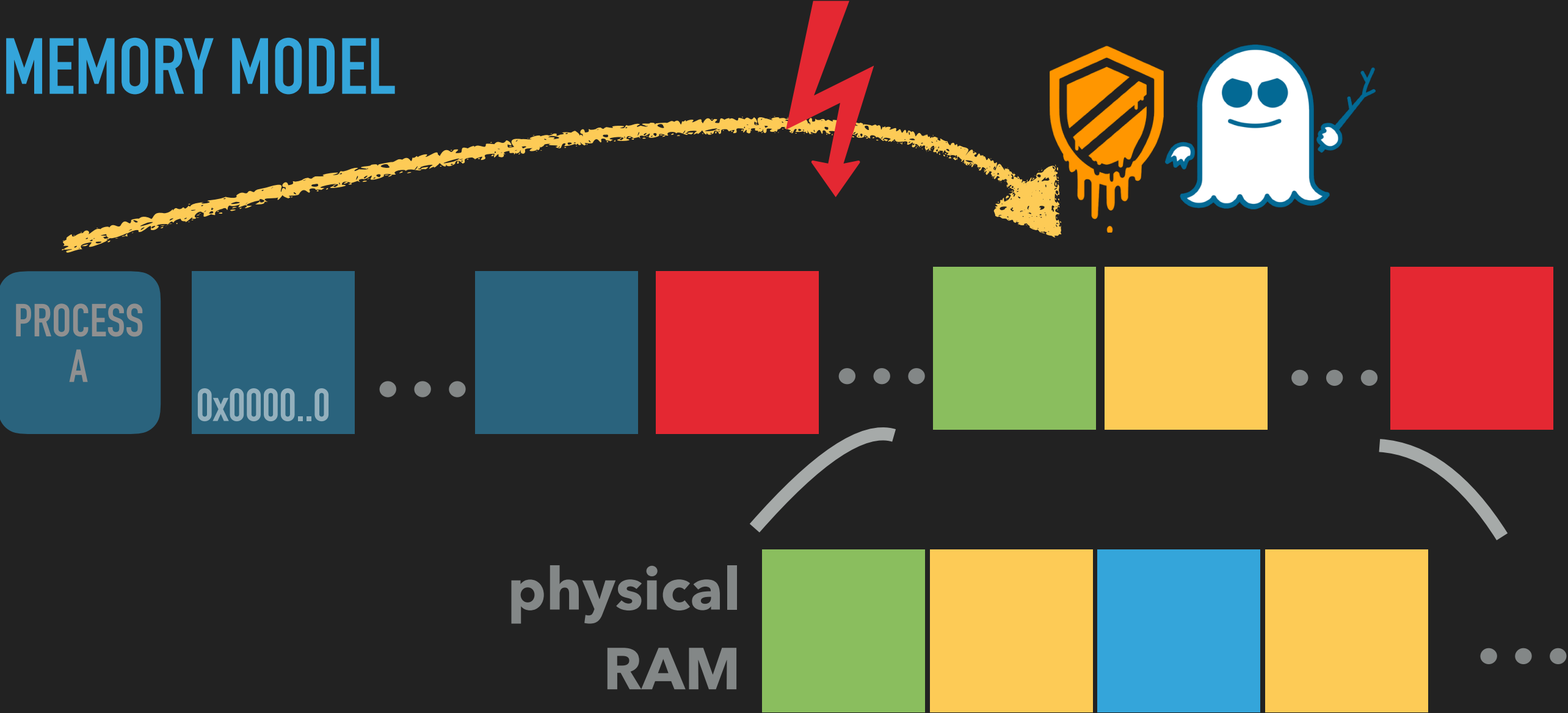




- ▶ Virtual memory is backed by physical RAM
- ▶ Virtual memory is much, much larger than physical RAM
- ▶ Not all virtual memory is backed by RAM, e.g.



MEMORY MODEL



## MEMORY MODEL

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