



**SPECTRE: VARIANT 2 (CVE-2017-5715)**

42

A



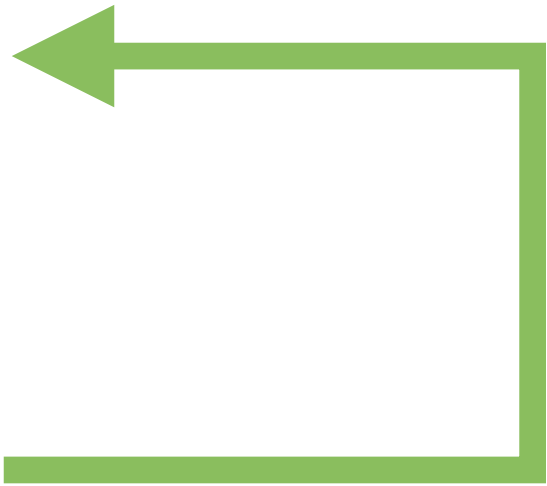
B



c

D

E



D

► The conditional jump (branch) `nbw` is an *indirect jump*.

▶ Indirect jumps use addresses stored "somewhere else".



► This can also be used to *speculatively* execute any code found in the target process (kernel).



3



counter

2

1

(1) counter > 0?



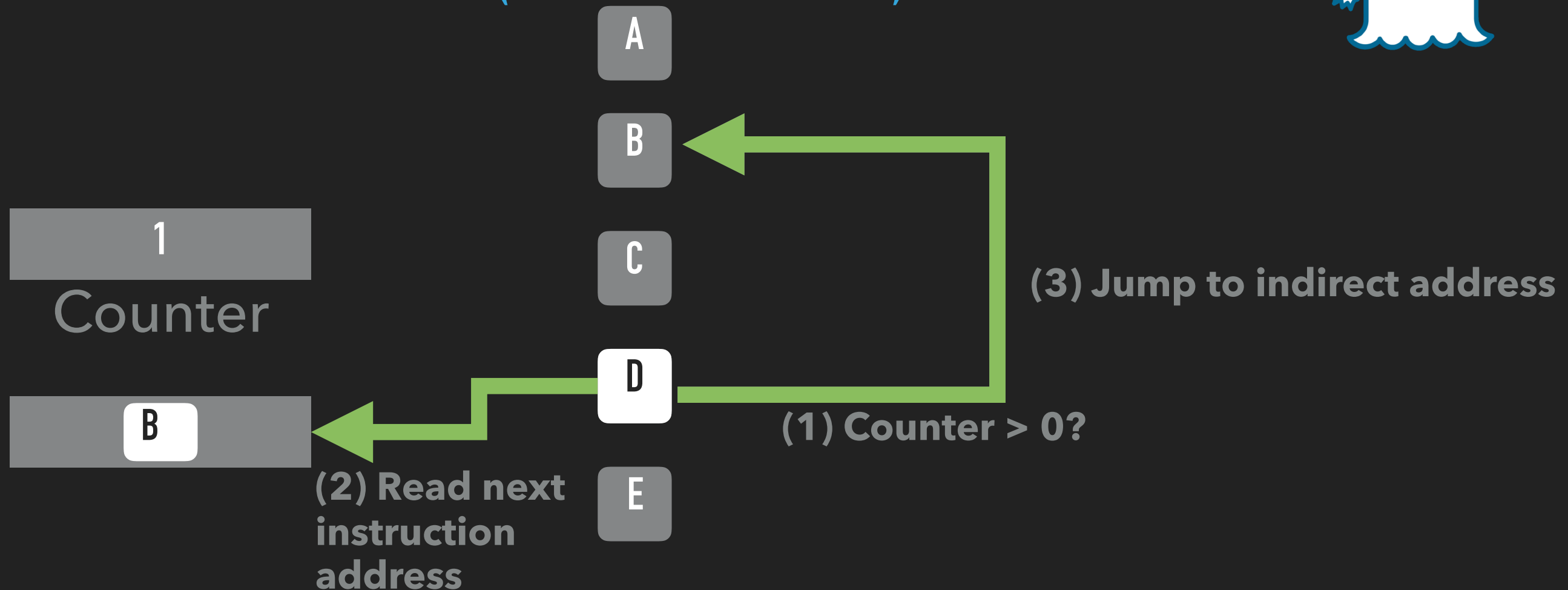
**B**

**(2) Read next  
instruction  
address**

**(3) Jump to indirect address**

**D**

## SPECTRE: VARIANT 2 (CVE-2017-5715)



- ▶ The conditional jump (branch) **D** now is an *indirect jump*.
- ▶ Indirect jumps use addresses stored "somewhere else".
- ▶ This can also be used to *speculatively* execute any code found in the target process (kernel).



MELTDOWN AND  
SPECTRE

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**CONCLUSION**