SLOTH: Let the Hardware Do the Work!

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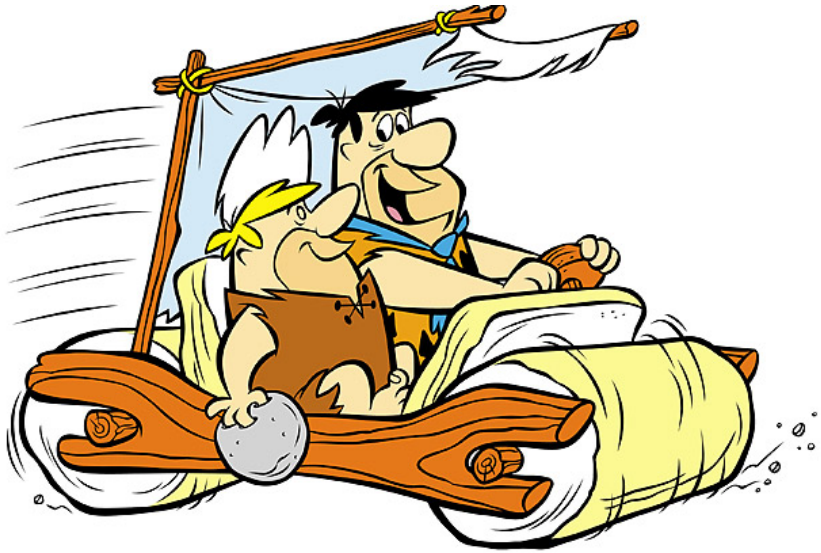
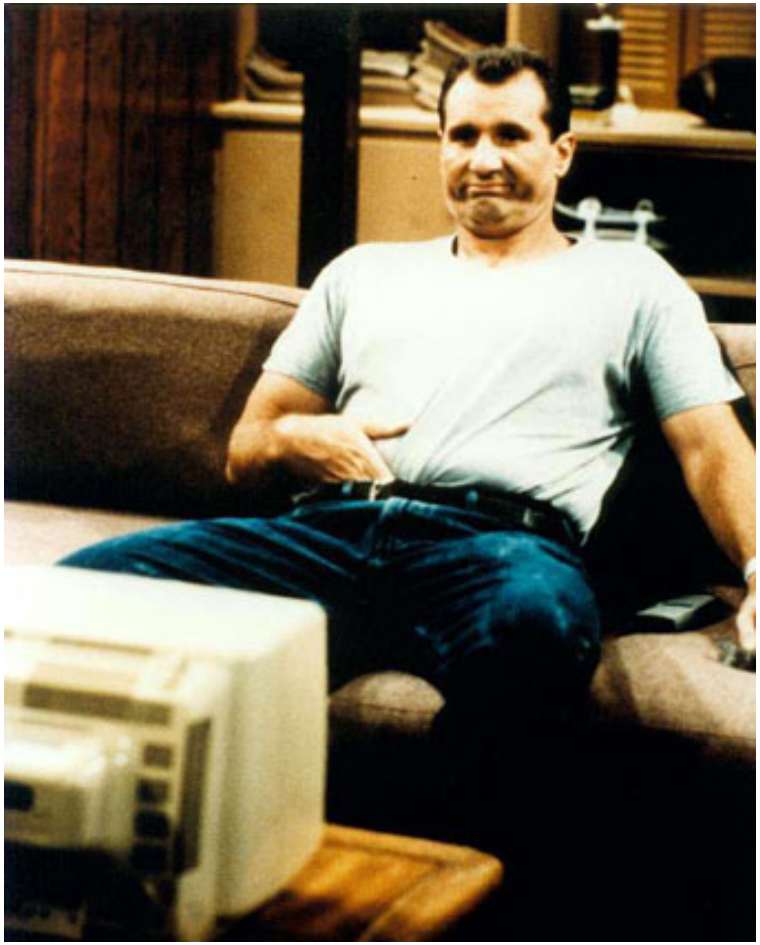
Confessions of a Slothful

How It All Began...



- Building embedded OSes as used in automotive industry
- Prevalent OS standard: OSEK OS
  - Event-triggered, priority-driven real-time system

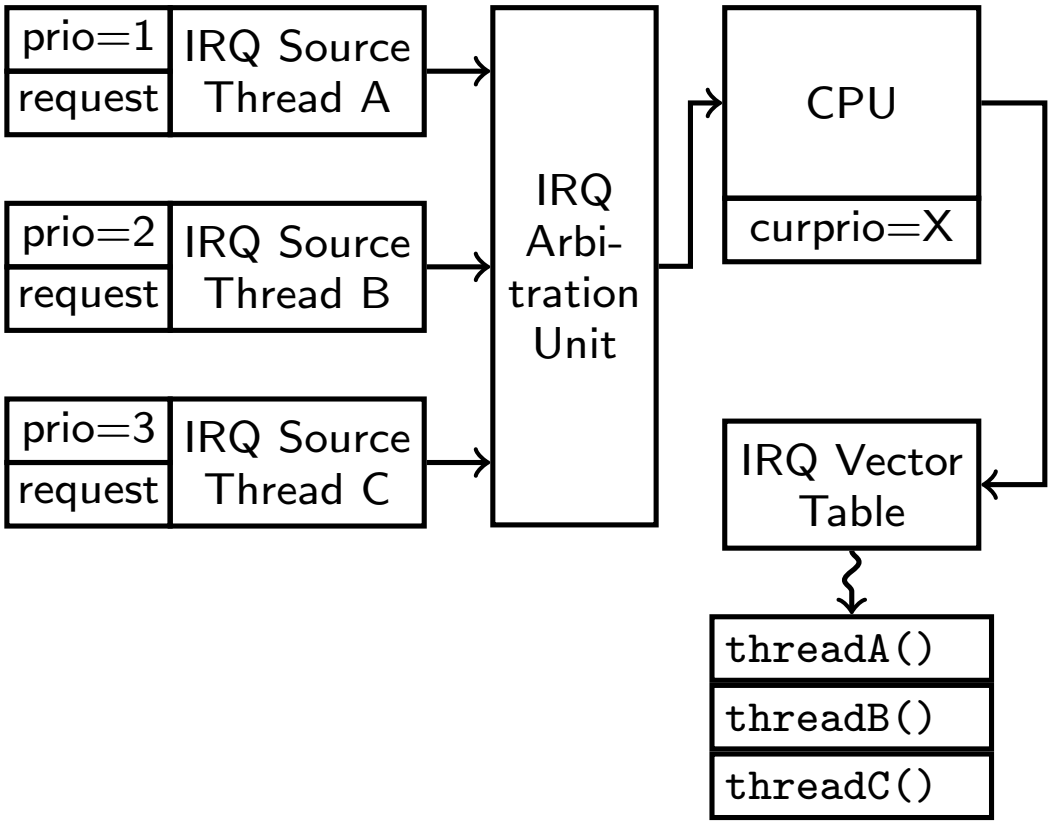
Let the Hardware Do the Work!



SLOTH: Threads as Interrupts

- Idea: Let interrupt subsystem do the scheduling and dispatching work
- New: All threads are interrupt handlers and have interrupt priorities
- New: `setReady(thread)` is implemented as an IRQ

SLOTH: Design and Example



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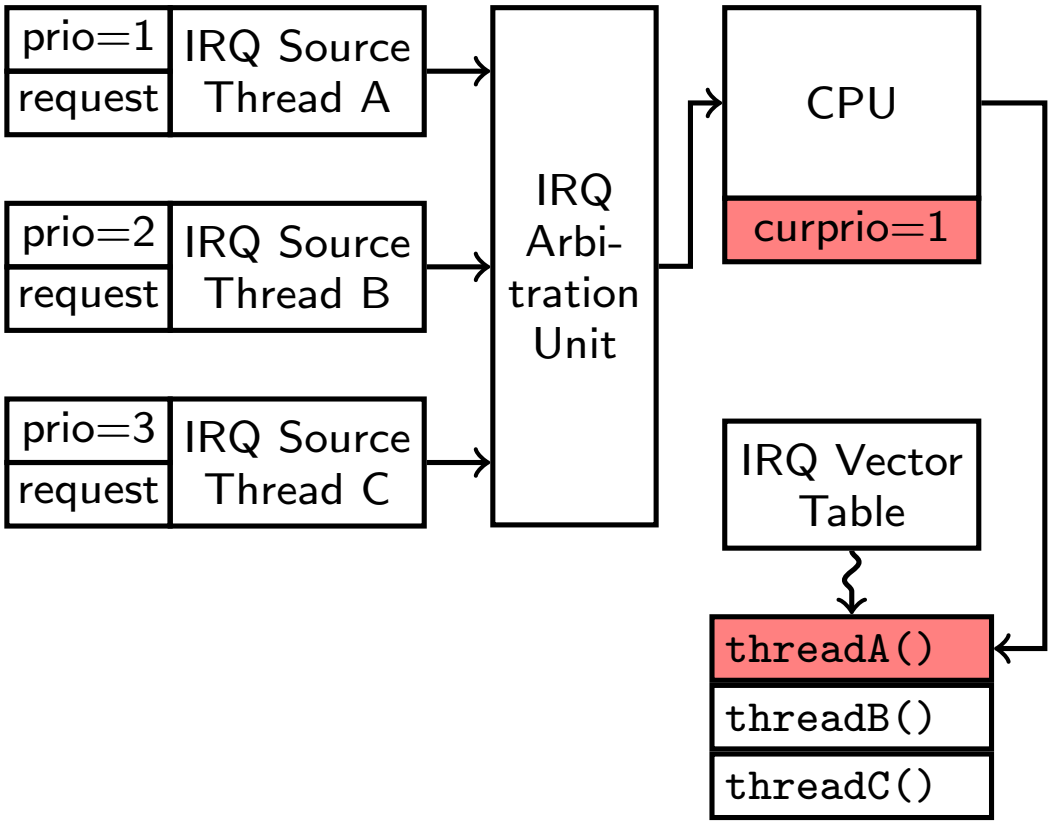

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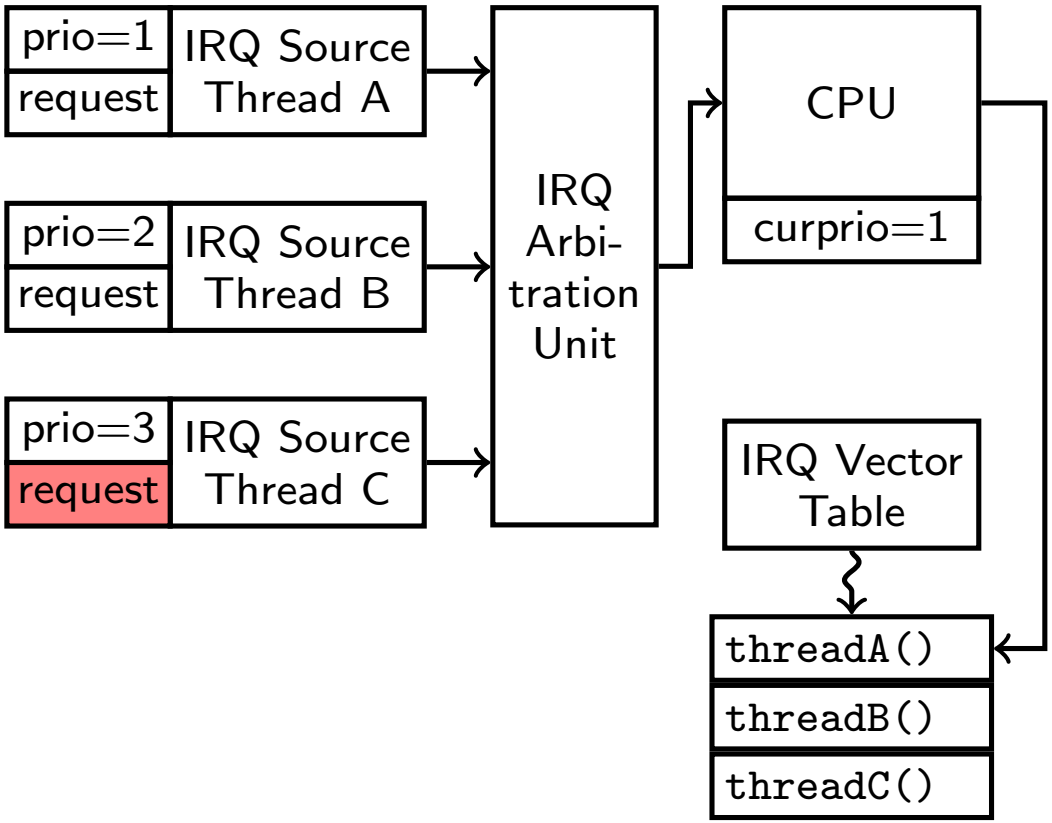

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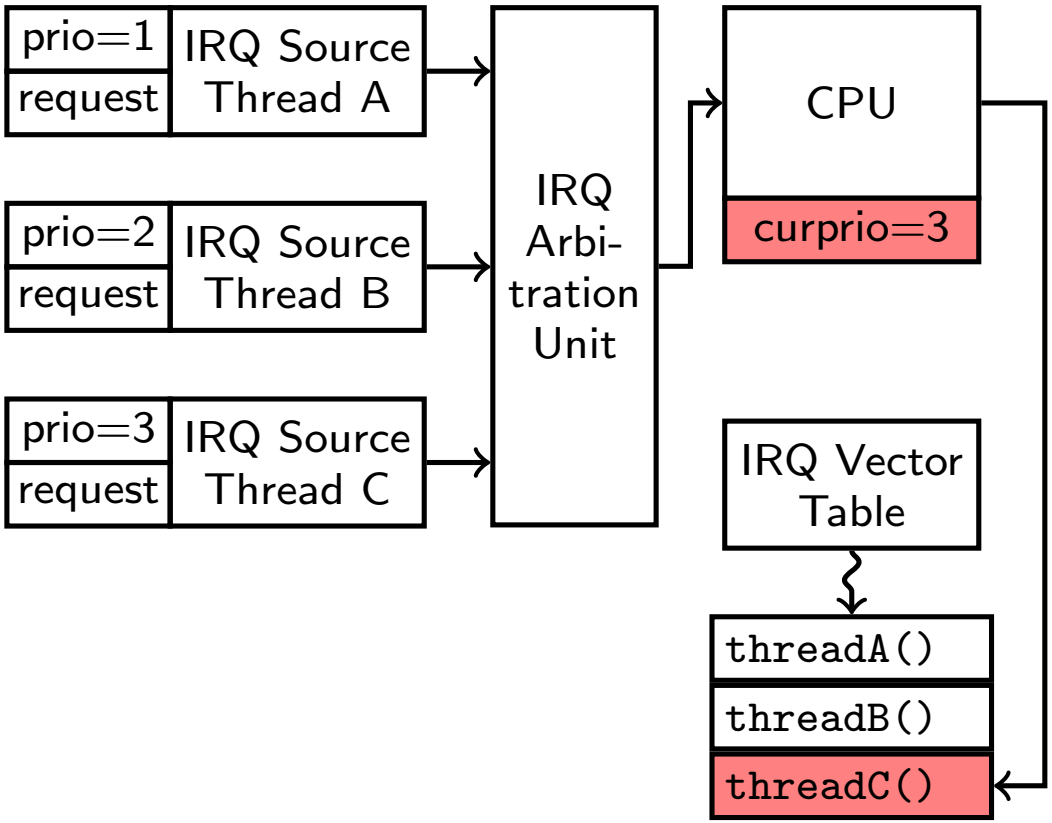

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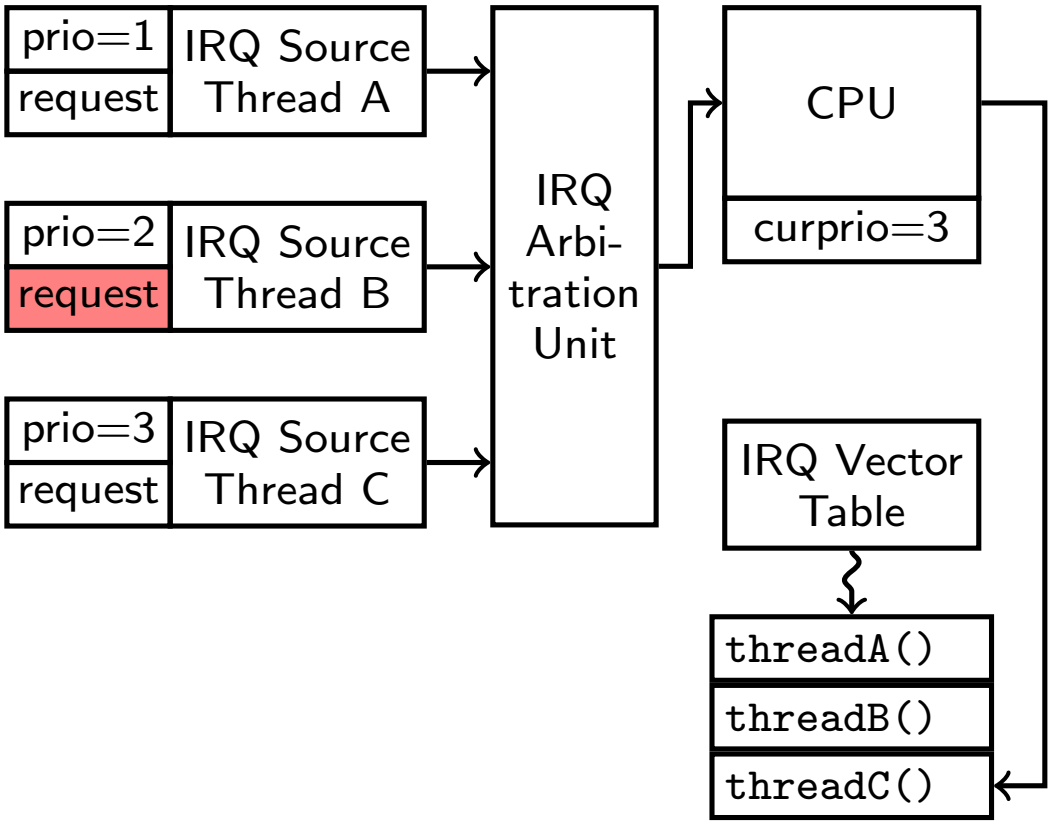

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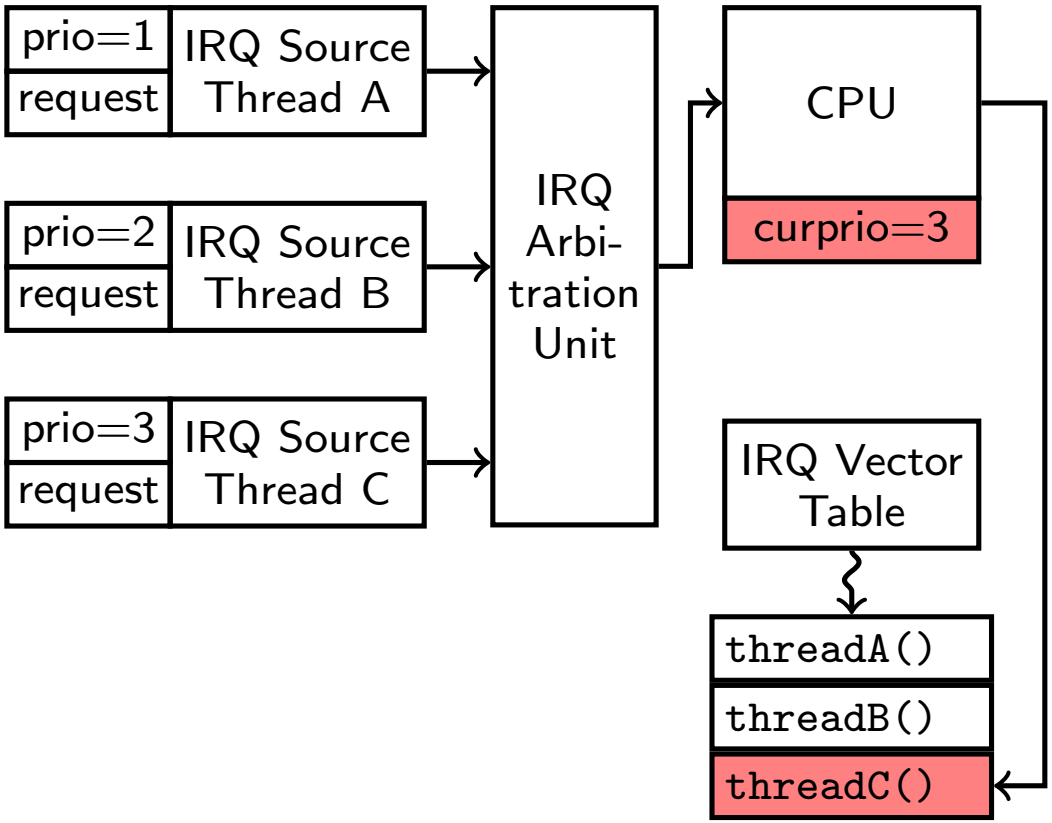

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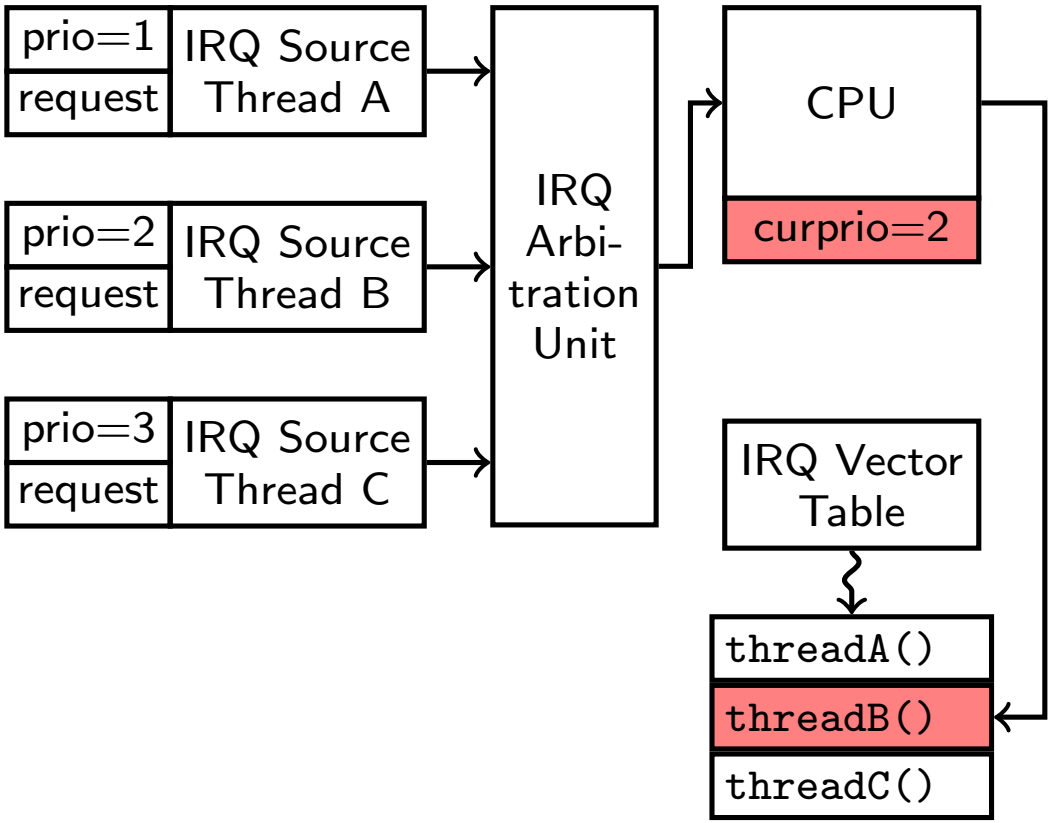

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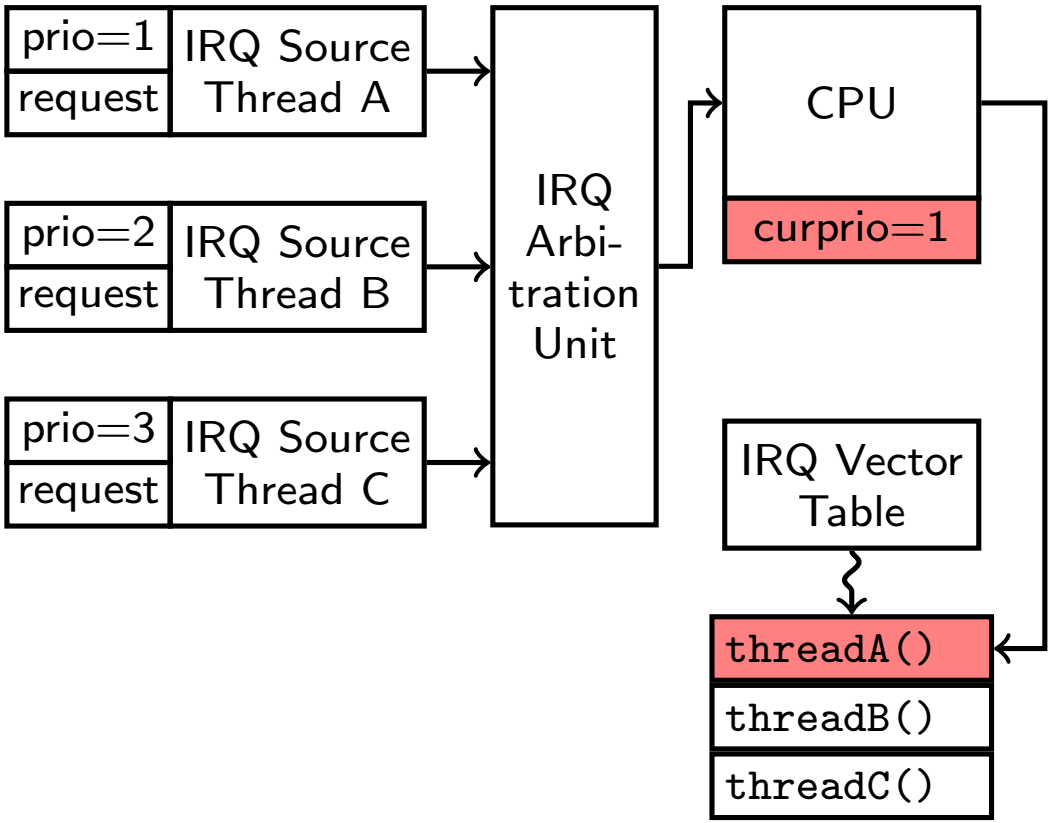

SLOTH: Advantages

- Simple
- Small
- Fast (2–20x)
- Cool

SLOTH: One of the Seven Deadly Sins

David Fincher, Se7en (1995)

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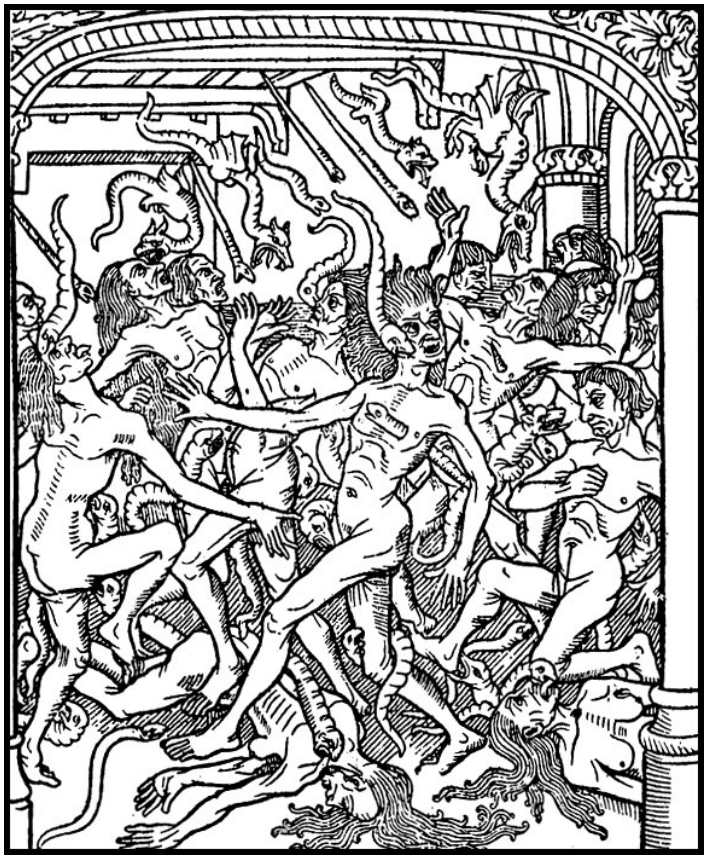

Nicolas le Rouge, Le Grant Kalendrier Des Bergiers (1496)

More About Being a SLOTH

1. Talk to me!
2. `http://www4.cs.fau.de/Research/Sloth/`