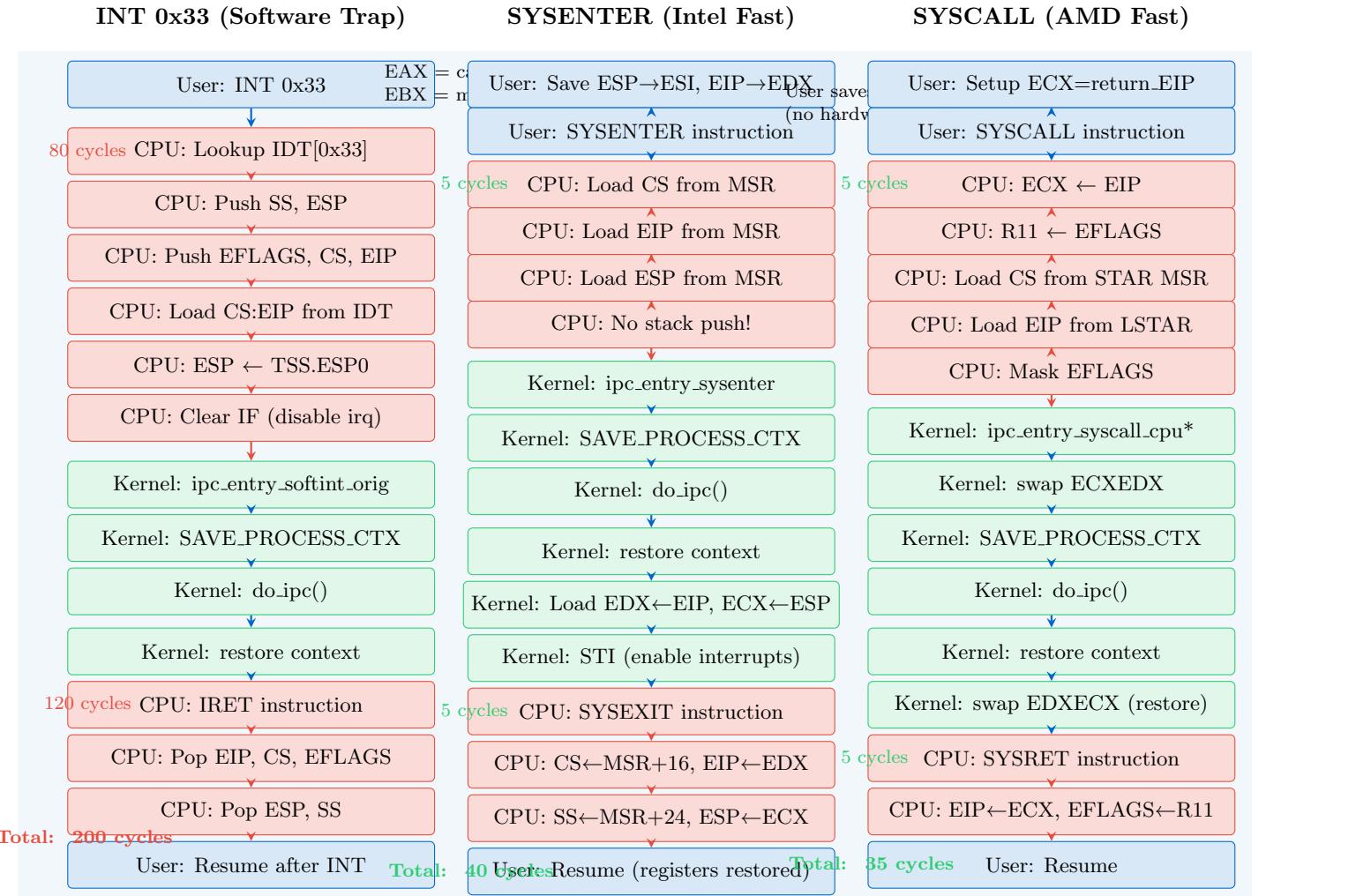


MINIX System Call Entry Mechanisms

Three CPU-level paths: INT (legacy) vs SYSENTER (Intel) vs SYSCALL (AMD)



Legend: User Space

CPU Hardware

Kernel C

Key Differences:

- INT: Full state save by hardware (slow but simple)
- SYSENTER: No state save, user manages (fast, Intel-specific)
- SYSCALL: Minimal state save to registers (fast, AMD/modern)
- INT uses IDT, fast calls use MSRs (Model-Specific Registers)
- SYSENTER requires STI before SYSEXIT (quirk)

mpx.S:265 - INT entry
mpx.S:459 - IRET return

mpx.S:220 - SYSENTER entry
mpx.S:391-412 - SYSEXIT return

mpx.S:202-209 - SYSCALL entry
mpx.S:414-432 - SYSRET return