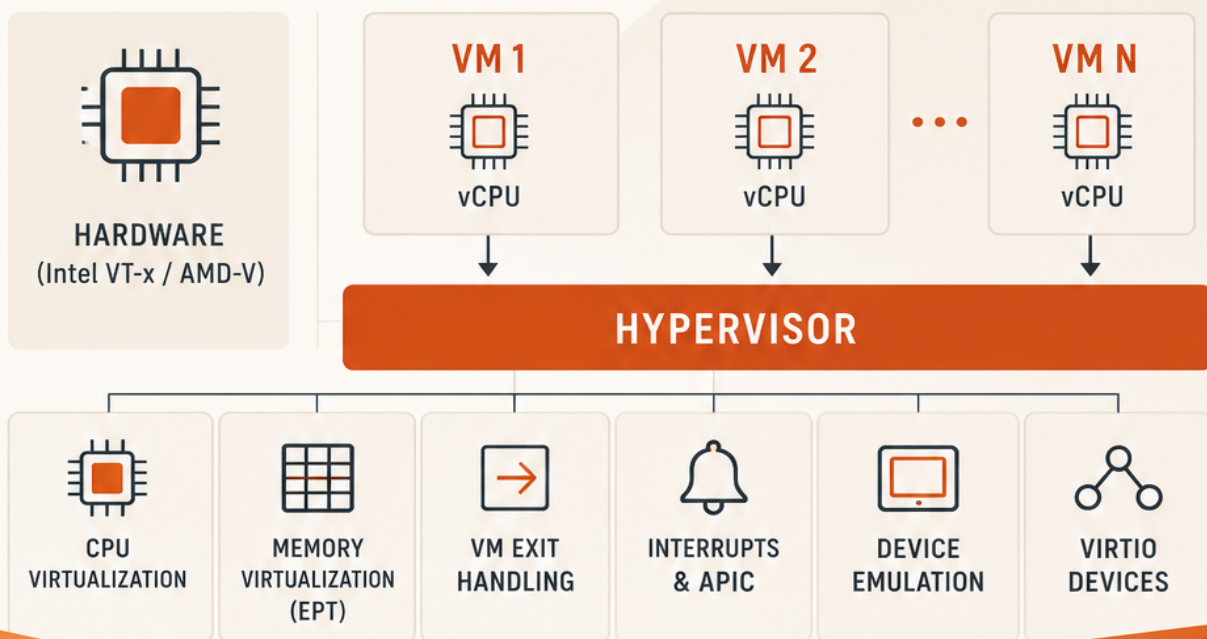


# BUILDING A HYPERVISOR IN RUST

FROM FIRST PRINCIPLES TO  
A FULL VIRTUALIZATION PLATFORM



— JAKE SULLIVAN —

# Building a Hypervisor in Rust

From First Principles to a Full Virtualization Platform

Steve T. Publications

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# Contents

|                                                                            |          |
|----------------------------------------------------------------------------|----------|
| <b>From First Principles to a Full Virtualization Platform . . . . .</b>   | <b>1</b> |
| <b>Introduction: The Virtual Machine . . . . .</b>                         | <b>2</b> |
| Why Rust? . . . . .                                                        | 2        |
| What This Book Covers . . . . .                                            | 2        |
| How to Use This Book . . . . .                                             | 2        |
| What This Book Is Not . . . . .                                            | 2        |
| <b>Chapter 1: Project Foundation – Bare-Metal Rust on x86_64 . . . . .</b> | <b>3</b> |
| Setting Up the Cross-Compilation Toolchain . . . . .                       | 3        |
| Memory Allocator for no_std . . . . .                                      | 3        |
| The Linker Script . . . . .                                                | 3        |
| The Bootloader Handoff – Multiboot2 Entry . . . . .                        | 3        |
| Entering Long Mode from Real Mode . . . . .                                | 3        |
| The Core Kernel Entry Point . . . . .                                      | 3        |
| Memory Layout and Early Allocator . . . . .                                | 4        |
| Early Console – Serial Port Output . . . . .                               | 4        |
| <b>Chapter 2: Understanding x86_64 Virtualization Hardware . . . . .</b>   | <b>5</b> |
| The Root/Non-Root Execution Mode Model . . . . .                           | 5        |
| CPUID Detection and Feature Enumeration . . . . .                          | 5        |
| Intel VT-x Architecture – VMXON, VMCS, and VM Entry/Exit . . . . .         | 5        |
| AMD-V Architecture – SVM and the VMCB . . . . .                            | 5        |
| The Virtualization Instruction Set . . . . .                               | 6        |
| Hypervisor Initialization . . . . .                                        | 6        |
| <b>Chapter 3: Guest Memory Management – Extended Page Tables . . . . .</b> | <b>7</b> |
| The Two-Level Translation Problem . . . . .                                | 7        |
| EPT Page Table Structure . . . . .                                         | 7        |
| AMD NPT – The Parallel Path . . . . .                                      | 7        |
| Building Guest RAM Mappings . . . . .                                      | 7        |

|                                                                       |           |
|-----------------------------------------------------------------------|-----------|
| <b>Chapter 4: VMCS Configuration and Guest CPU State</b>              | <b>8</b>  |
| VMCS Layout and Field Encoding                                        | 8         |
| Guest-State Area Configuration                                        | 8         |
| Host-State Area Configuration                                         | 8         |
| VMCS Validation and Error Codes                                       | 8         |
| <b>Chapter 5: Virtual CPU Lifecycle – Launch, Resume, and Exits</b>   | <b>9</b>  |
| The vCPU Data Structure                                               | 9         |
| VMLAUNCH vs VMRESUME – The First Entry Problem                        | 9         |
| VM Entry Failures and Recovery                                        | 9         |
| <b>Chapter 6: Interrupts, Exceptions, and the APIC</b>                | <b>10</b> |
| The x86 Interrupt Model Recap                                         | 10        |
| Virtualizing the IDT – Exception Bitmap Control                       | 10        |
| Local APIC Virtualization                                             | 10        |
| I/O APIC and Interrupt Routing                                        | 10        |
| Event Injection – Delivering Interrupts to Guests                     | 10        |
| <b>Chapter 7: I/O Virtualization – MMIO, PIO, and PCI Passthrough</b> | <b>12</b> |
| Memory-Mapped I/O via EPT Intercepts                                  | 12        |
| Port I/O Interception – IN/OUT Instructions                           | 12        |
| PCI Configuration Space Access                                        | 12        |
| MSI and MSI-X Virtualization                                          | 12        |
| Device Passthrough Fundamentals                                       | 12        |
| <b>Chapter 8: Virtual Devices – Serial, RTC, and PIT Emulation</b>    | <b>14</b> |
| The VirtIO Framework – Paravirtualized Device Standard                | 14        |
| Serial Port Emulation (COM1)                                          | 14        |
| RTC and PIT Emulation                                                 | 14        |
| HPET – High Precision Event Timer                                     | 14        |
| ACPI Tables Construction                                              | 14        |
| <b>Chapter 9: Storage and Block Device Virtualization</b>             | <b>15</b> |
| VirtIO Block Device Specification                                     | 15        |
| Building the VirtIO Block Backend                                     | 15        |
| VirtIO Console – Character Device Virtualization                      | 15        |
| Raw Disk Access and Backing Store Management                          | 15        |
| <b>Chapter 10: Networking Virtualization</b>                          | <b>16</b> |
| VirtIO Net Device Specification                                       | 16        |

|                                                                      |           |
|----------------------------------------------------------------------|-----------|
| Building the VirtIO Net Backend . . . . .                            | 16        |
| TAP Device Integration on Linux . . . . .                            | 16        |
| MAC Address and VLAN Handling . . . . .                              | 16        |
| Network Performance Considerations . . . . .                         | 16        |
| <b>Chapter 11: Guest Boot – BIOS/UEFI Firmware Loading . . . . .</b> | <b>17</b> |
| BIOS vs UEFI Boot Paths . . . . .                                    | 17        |
| Loading SeaBIOS – The Simple Path . . . . .                          | 17        |
| Loading OVMF – UEFI Firmware . . . . .                               | 17        |
| Guest Kernel Direct Boot (no firmware) . . . . .                     | 17        |
| Debugging the First Guest Boot . . . . .                             | 17        |
| <b>Chapter 12: Multi-vCPU Systems and Scheduling . . . . .</b>       | <b>18</b> |
| vCPU Pinning and Host Thread Mapping . . . . .                       | 18        |
| Inter-Processor Interrupts (IPIs) . . . . .                          | 18        |
| vCPU Scheduling Strategies . . . . .                                 | 18        |
| SMP Boot Sequence – Waking APs . . . . .                             | 18        |
| Cross-vCPU State and Communication . . . . .                         | 18        |
| <b>Chapter 13: Performance, Debugging, and Security . . . . .</b>    | <b>19</b> |
| Profiling VM Exit Overhead . . . . .                                 | 19        |
| TSC Scaling and Clock Virtualization . . . . .                       | 19        |
| GDB Stub and Hypervisor Debugging . . . . .                          | 19        |
| Security Hardening – Isolation and Sandboxing . . . . .              | 19        |
| Error Handling and Recovery Patterns . . . . .                       | 19        |
| Benchmarking Methodology . . . . .                                   | 19        |
| Troubleshooting Common Failures . . . . .                            | 20        |
| Cross-Platform Considerations . . . . .                              | 21        |
| Production Deployment Checklist . . . . .                            | 21        |
| <b>Conclusion: What We Built and Where to Go Next . . . . .</b>      | <b>22</b> |
| <b>References . . . . .</b>                                          | <b>23</b> |

# From First Principles to a Full Virtualization Platform

This book teaches you how to implement a complete x86\_64 hardware-assisted hypervisor entirely in Rust. Starting from an empty project, you will build every component: CPU virtualization using Intel VT-x (with AMD-V parallels), extended page tables for memory isolation, VM exit handling, interrupt and APIC virtualization, device emulation, VirtIO paravirtualized devices for storage and networking, ACPI table generation, guest firmware loading, and multi-vCPU scheduling. Every concept is grounded in working, compilable Rust code with line-by-line explanations. No placeholders, no pseudocode, no hand-waving. If you have systems programming experience and want to understand how virtualization really works at the hardware level, this book will take you there.

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