



DORNERWORKS

TRUST YOUR SOFTWARE

VIRTUAL MACHINE COMPOSER

It can be challenging to build a secure system for your virtual machines (VMs) from the ground up.

The seL4 microkernel enables robust security, and its virtual machine monitor (VMM) can be used to host VMs supporting AMP, SMP, or a mix of both on a multi-core processor, enabling richer software architectures using different operating systems.

DornerWorks **Virtual Machine Composer** is the “easy button” that will help you develop virtualized high-assurance systems faster and more easily.

EASY CONFIGURATION FOR NON-EXPERTS

The VMM automatically:

- Sets up build environment
- Produces executables and file systems
- Generates essential configurations

REMOVE OBSTACLES DEVELOP CONFIDENTLY

The VMM provides:

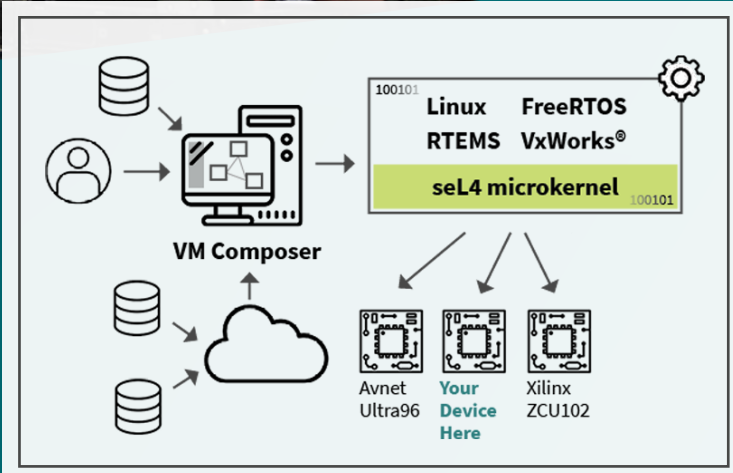
- Repository management
- Multiple VM config tracking
- Identification of components that need to be built for the specified target
- Configuration for seL4 and CAMkES
- Consistency between various software components and configuration files

SEL4 COMPOSER SDK PRODUCT FEATURES

- GUI and CLI interfaces
- System configurability
- VM configuration options
 - Execution environment
 - Software

Supported hardware targets: Ultra96, NASA HPSC, ZCU102, Raspberry Pi 4

Supported VM kernels: Linux, FreeRTOS, RTEMS, VxWorks



EMBEDDED VIRTUALIZATION SIMPLIFIED



You shouldn't have to be an expert in every software development tool to configure and build a secure VM solution.

Schedule a consultation with DornerWorks today, find a trusted foundation for your software, and get back to growing your business.

DornerWorks.com

+1.616.245.8369



I am fortunate to work with DornerWorks as a

DW STRONG SYSTEMS SOLUTION PARTNER

supporting our customers across so many disparate system architectures and technical challenges.



~Senior Project Manager



VMM MODE ON ARMv8

A DoD customer was interested in using seL4 as a hypervisor to provide robust security and isolation and they wanted to run on the latest ARMv8 platform, due to its performance and feature set.

DornerWorks ported the existing ARMv7 virtualization support to an ARMv8 implementation, and provided BSP layers for the Xilinx Zynq UltraScale+ MPSoC and the NXP i.MX8 platforms.

The prototype showed the isolation benefits that the customer required on the platform they needed.



seL4 PORT TO ZUS+ MPSoC

The Zynq UltraScale+ is a Multi-Processor System on a Chip that has a quad-core Cortex-A53, a dual-core Cortex-R5, a GPU, and an FPGA. This chip is Xilinx's most secure solution yet, with features like Secure Boot, Xilinx Memory Protection Unit (XMPU), and Xilinx Peripheral Protection Unit (XPPU).

DornerWorks ported seL4 to the MPSoC, allowing it to be run as a Hypervisor, which is another means of reinforcing the budding seL4 ecosystem, by allowing guest operating systems to run on top of seL4.



seL4 PORT TO RISC-V

Open source RISC-V hardware architecture has provided developers with a cost-effective platform on which to build products that can easily integrate with others in the rapidly-growing RISC-V ecosystem.

DornerWorks seL4 port to RISC-V hardware makes it possible to build enhanced security into those products, with the added confidence that new devices and supercharged processing platforms like Microchip's PolarFire FPGAs are yet being developed to harness the power of this technology.

GET THE VIRTUAL MACHINE COMPOSER TODAY



Connect with us now.

Together we will map out a plan that meets your product goals and helps you grow your business.

SCHEDULE A CONSULTATION

DornerWorks.com | **+1.616.245.8369**
3445 Lake Eastbrook Blvd. Grand Rapids, MI 49456