Article

Hypervisor updates

Learn about important changes to Hypervisor.

Overview

Browse notable changes in Hypervisor.

June 2025

- Support configuration of the intermediate physical address (IPA) memory granularity of a virtual machine (VM). This capability enables more efficient use of memory and allows for granularity sizes down to 4 KB, which is useful for certain specialized device drivers.

June 2024

- Build your own VM solutions with added support for nested virtualization in Apple silicon chips, and enable a Hypervisor to run inside another VM. Nested virtualization capabilities on a Mac with Apple silicon use a new exception level (EL), EL2, which the framework enables though several new methods, including `hv_vm_config_set_el2_enabled(_:_:)`, and a number of enumeration constants that describe ARM system registers.

- Add support for virtualized ARM Generic Interrupt Controller (GIC) devices and provide an efficient mechanism to manage interrupt delivery to a virtual machine. Providing a GIC device reduces the custom code you need to write to emulate an interrupt controller.

- Add support for GIC hypervisor control system registers that GIC devices provide for nested virtualization support. Support for these registers allows hypervisors running in a virtual machine to inject interrupts to their guests.

See Also

Technology updates

📄 **Accelerate updates**

Learn about important changes to Accelerate.

📄 **Accessibility updates**

Learn about important changes to Accessibility.

📄 **ActivityKit updates**

Learn about important changes in ActivityKit.

📄 **AdAttributionKit Updates**

Learn about important changes to AdAttributionKit.

📄 **App Clips updates**

Learn about important changes in App Clips.

📄 **App Intents updates**

Learn about important changes in App Intents.

📄 **AppKit updates**

Learn about important changes to AppKit.

📄 **Apple Intelligence updates**

Learn about important changes to Apple Intelligence.

📄 **AppleMapsServerAPI Updates**

Learn about important changes to AppleMapsServerAPI.

📄 **Apple Pencil updates**

Learn about important changes to Apple Pencil.

📄 **ARKit updates**

Learn about important changes to ARKit.

📄 **Audio Toolbox updates**

Learn about important changes to Audio Toolbox.

📄 AuthenticationServices updates

Learn about important changes to AuthenticationServices.

📄 AVFAudio updates

Learn about important changes to AVFAudio.

📄 AVFoundation updates

Learn about important changes to AVFoundation.