ACRN Open Source Roadmap 2022
2022 ACRN Open Source Roadmap

SoC

- Atom®
  - Elkhart Lake
  - Alder Lake-N
- Core®
  - Tiger Lake
  - Tiger Lake
- Xeon®
  - Ice Lake Xeon-D

Service VM

- Yocto Gatesgarth (3.2)
- Ubuntu 20.04
- Ubuntu 22.04

Kernel Version

- LTS Kernel 5.10
- LTS Kernel 5.15

*Features and dates are for reference only and subject to changes without notice

- Power On, Feature Development (Alpha)
- Stabilization (PV)
- Sustaining
2022 ACRN Open Source Roadmap

- **DX Improvements**
  - New Getting Started Guide and Config./Dev. Overview
  - Updated ACRN terminology: source & doc consistency
- **SR-IOV Based GPU Sharing**
- **TPM2.0 for post-launched VM**

**Q4'21**

**Q1'22**

**Q2'22**

**Q3'22**

**Q4'22**

- **V2.7**
  - DX Improvements
  - Configurator v1.0 design and implement Static Parameters
  - Updated Getting Started & Configurator Guides
- **Software SRAM Partition**
- **Single-core RTVM**
- **Hypervisor RTC support**
- **Device Model VirtIO socket support**
- **Display Virtualization – VirtIO GPU**
- **Debian Package Support**
- **VirtIO GPU enhancement - multi-virtual displays**
- **VirtIO GPU enhancement - performance**
- **Virtio Generic – Asynchronous Notification**
- **Build System Refinement**

**Q3/4** Features and dates are for reference only and are under TSC review to change and update accordingly.
## 2022 ACRN Roadmap Feature Description

<table>
<thead>
<tr>
<th>Timing</th>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q4’21 – Q2’22</td>
<td>Developer Experience (DX) Improvements</td>
<td>New Getting Started Guide, Configuration and Development Overview, and updated ACRN terminology for source code and documentation consistency and Developer Experience (DX) improvements. New Configuration tool designed and implemented with a new DX-improved UI that includes a reorganized and simplified presentation of configuration parameters and parameter input.</td>
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<tr>
<td>Q4’21</td>
<td>SR-IOV based GPU Sharing</td>
<td>Hypervisor support for Intel 12th Gen CPU Single Root IO Virtualization (SR-IOV) based GPU sharing to User VMs.</td>
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<td>Q4’21</td>
<td>TPM Device Passthrough</td>
<td>Hypervisor support for Trusted Platform Module (TPM) device passthrough to post-launched User VM.</td>
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<td>Q1’22</td>
<td>Software SRAM Partition</td>
<td>Hypervisor assigns software SRAM to Service VM if there is no pre-launched RTVM. Service VM partitions software SRAM and supports assigning different partitions to different User VMs.</td>
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<td>Q1’22</td>
<td>Single-core RTVM</td>
<td>Hypervisor support for Single-core RTVM, for both Preempt-RT and Xenomai.</td>
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<tr>
<td>Q2’22</td>
<td>Hypervisor RTC Support</td>
<td>Hypervisor support for virtualized PC/AT compatible RTC/CMOS device to both pre- and post-launched RTVM.</td>
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<td>Q2’22</td>
<td>Device Model Virtio Socket Support</td>
<td>ACRN Device Model support for virtio socket device with stream socket type, as specified by Virtual I/O Device Committee Specification.</td>
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<tr>
<td>Q2’22</td>
<td>Display Virtualization–Virtio GPU</td>
<td>ACRN Device Model support for virtio GPU display engine, as specified by Virtual I/O Device Committee Specification.</td>
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<tr>
<td>Q2’22</td>
<td>Debian Package Support</td>
<td>Hypervisor support for building a Debian package that contains all built hypervisor binaries and allows user to select the binary to deploy during package installation on the target system.</td>
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<td>2H’22</td>
<td>DX Improvements</td>
<td>Continue configuration tool implementation with a new DX-improved UI that includes a reorganized and simplified presentation of configuration parameters and parameter input. Baseline sample application and documentation for a common two-VM ACRN customer usage model that includes a Human Machine Interface (HMI) VM and a real-time VM.</td>
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<td>Report precise CPU frequency in CPUID</td>
<td>Provide VMs with the precise CPU frequency to avoid systematic drifts of VM clocks.</td>
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<tr>
<td></td>
<td>Update Platform RTC from Windows HMI</td>
<td>Enable updating platform RTC in scenarios where the Windows VM is the only one visible to end users.</td>
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<td>Virtio GPU Enhancement - Multi-virtual Displays</td>
<td>Support multi-virtual displays with virtio GPU.</td>
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<tr>
<td></td>
<td>Virtio GPU Enhancement - Performance</td>
<td>Improve GPU performance with virtio GPU.</td>
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<td>Virtio Generic – Asynchronous Notification</td>
<td>Optimize virtio mediator performance by implementing an ioeventfd-like mechanism.</td>
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<td>Build System Refinement</td>
<td>Refactor and optimize ACRN build system for better integration with the Configurator and an improved Developer Experience.</td>
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