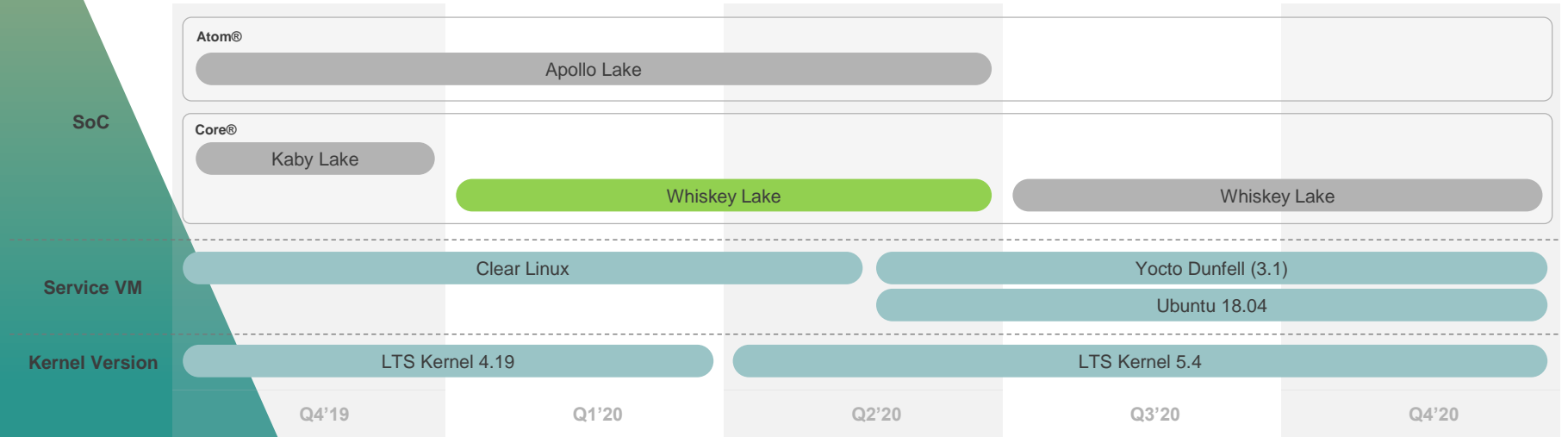


ACRN

ACRN Open Source Roadmap 2020

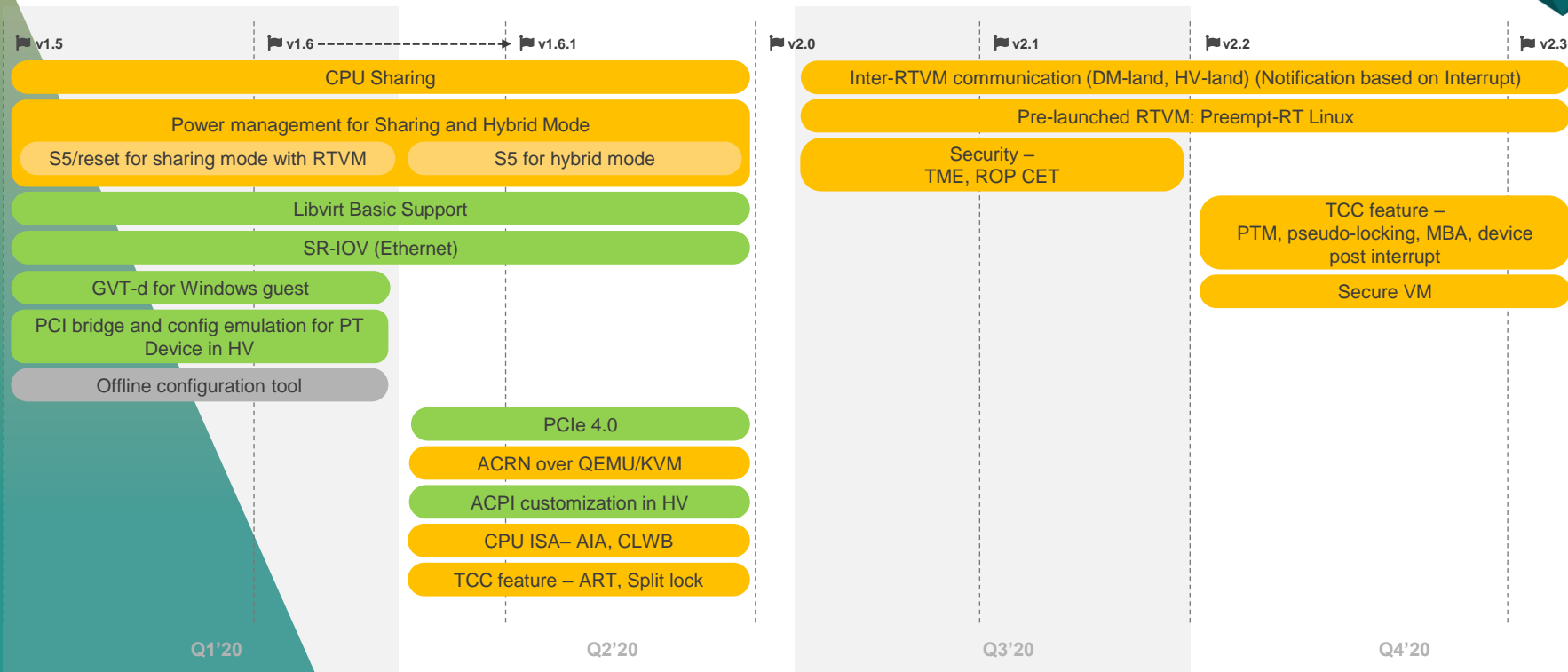
June 2020

ACRN Open Source Roadmap in 2020



*Feature and dates for reference only and subject to changes without notice

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2020 ACRN Roadmap Feature Description



CPU sharing - C/P state in HV: Support the CPU C/P state in hypervisors after CPU sharing is enabled.

S5/reset for sharing mode with RTVM: Support power transition of shutdown/reset for system or per-VM level under the sharing mode with RTVM scenario.

Libvirt basic support: ACRN and Device Model support for basic libvirt operations for VM management such as VM start/stop.

SR-IOV for Ethernet: Support Single Root I/O Virtualization (SR-IOV) for Ethernet.

GVT-d for Windows Guest: GPU passthrough (GVT-d) can be used to assign GPU to dedicated Windows Guest. The local display will be assigned to Windows Guest accordingly.

PCI bridge and config Emulation for PT Device in HV: Support PCI bridge and config space emulation for passthrough devices in the hypervisor.

Offline configuration tool: offline configuration tool for ACRN hypervisor that covers configuration items such as guest VM memory, CPU cores, HW allocation, etc.

CPU sharing - priority/credit-based scheduler: Support/improve the CPU sharing scheduler based on priority/credit.

S5 for hybrid mode: Support power transition of shutdown for system or per-VM level under the hybrid mode scenario (e.g. pre-launched Safety VM + Service VM + HMI + RTVM).

PCIe 4.0: Peripheral Component Interconnect Express 4.0 Standard.

ACRN over QEMU/KVM: ACRN as a nested hypervisor on top of QEMU/KVM with basic functionality.

ACPI customization in HV: Support a customized ACPI table for pre-launched and Service VMs.

CPU ISA - AIA, CLWB: CPU Instruction Set Architecture (ISA), including AIA (Accelerator Interfacing Architecture), CLWB (Cache Line Write Back).

TCC (Time Coordinated Computing) features: ART (Always Running Timer), Split Lock.

Inter-VM communication (DM-land, HV-land): Provide a high-bandwidth, low-latency communication between VMs.

Pre-Launched RTVM (Preempt-RT): Pre-launch Preempt-RT Linux as RTVM.

Security Feature: TME (Total Memory Encryption), ROP CET(Control-flow Enforcement Technology that blocks Return Oriented Programming attacks).

Inter-RTVM communication (Notification based on Interrupt): Provide a high-bandwidth, low-latency inter-VM communication between RTVM.

TCC (Time Coordinated Computing) features: pseudo-locking, PTM (Precision Time Measurement), MBA(Memory Bandwidth Allocation), Device Post Interrupt

Secure VM: Provide an isolated secure execution environment as a general TEE or for IP protection.