Xen on Cubietruck

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Agenda

cubietruck

Arm virtualization extension
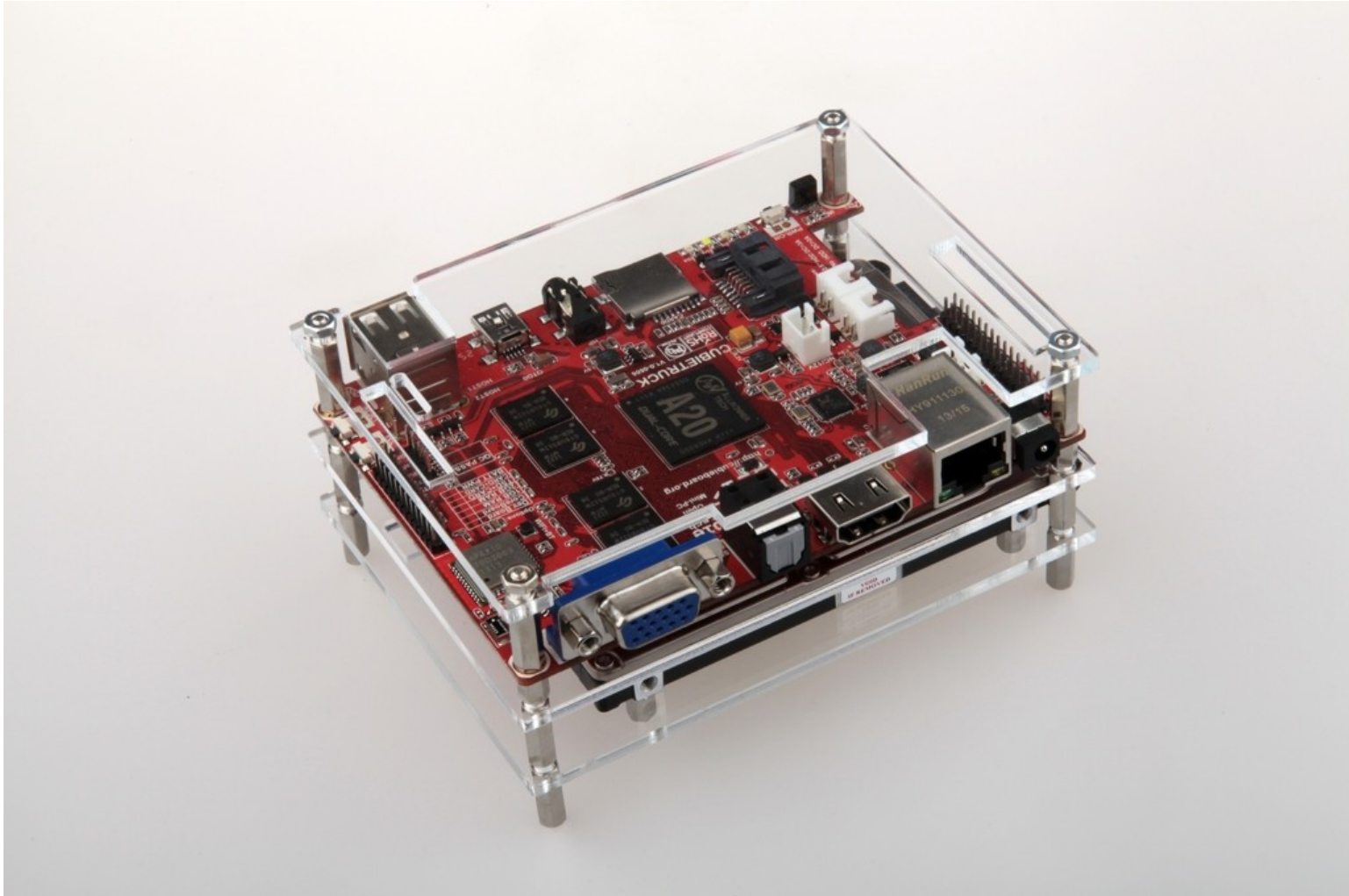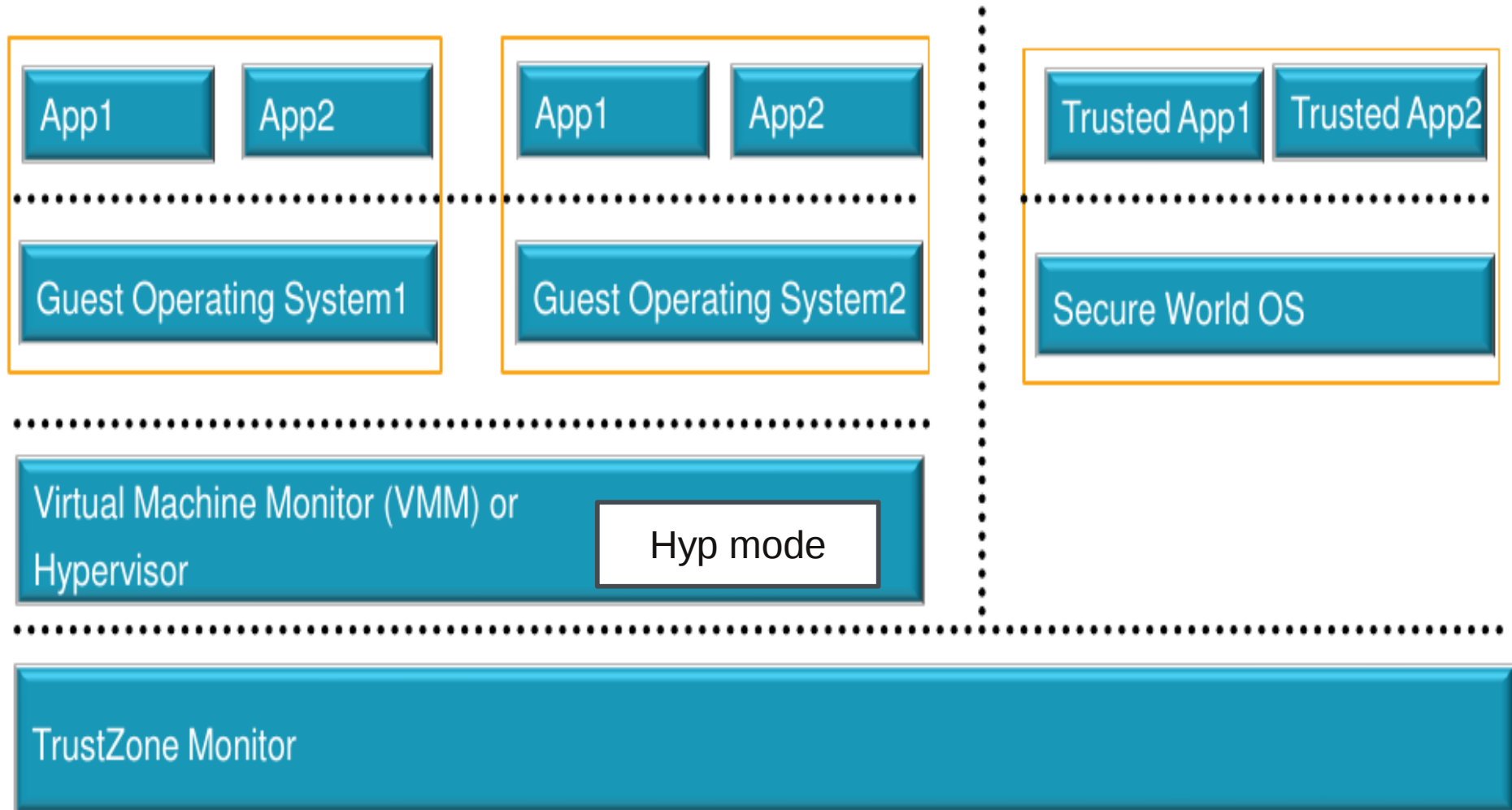
Xen on arm

Porting

Reference

Arm SOC working by xen

- The arm32 port:
  - The Cortex A15 Real-time System Model's provided by ARM.
  - A Cortex-A15 Processor running on the Versatile Express.
  - The Arndale board.
  - The Calxeda ECX-2000 (aka Midway) server.
    - ARM in the server room faces a set back as Calxeda shuts down
  - Allwinner A20/A30 boards.
  - Google Chromebook.(in process)
- The arm64 port
  - Model
    - The AEMv8 Real-time System Models by ARM.
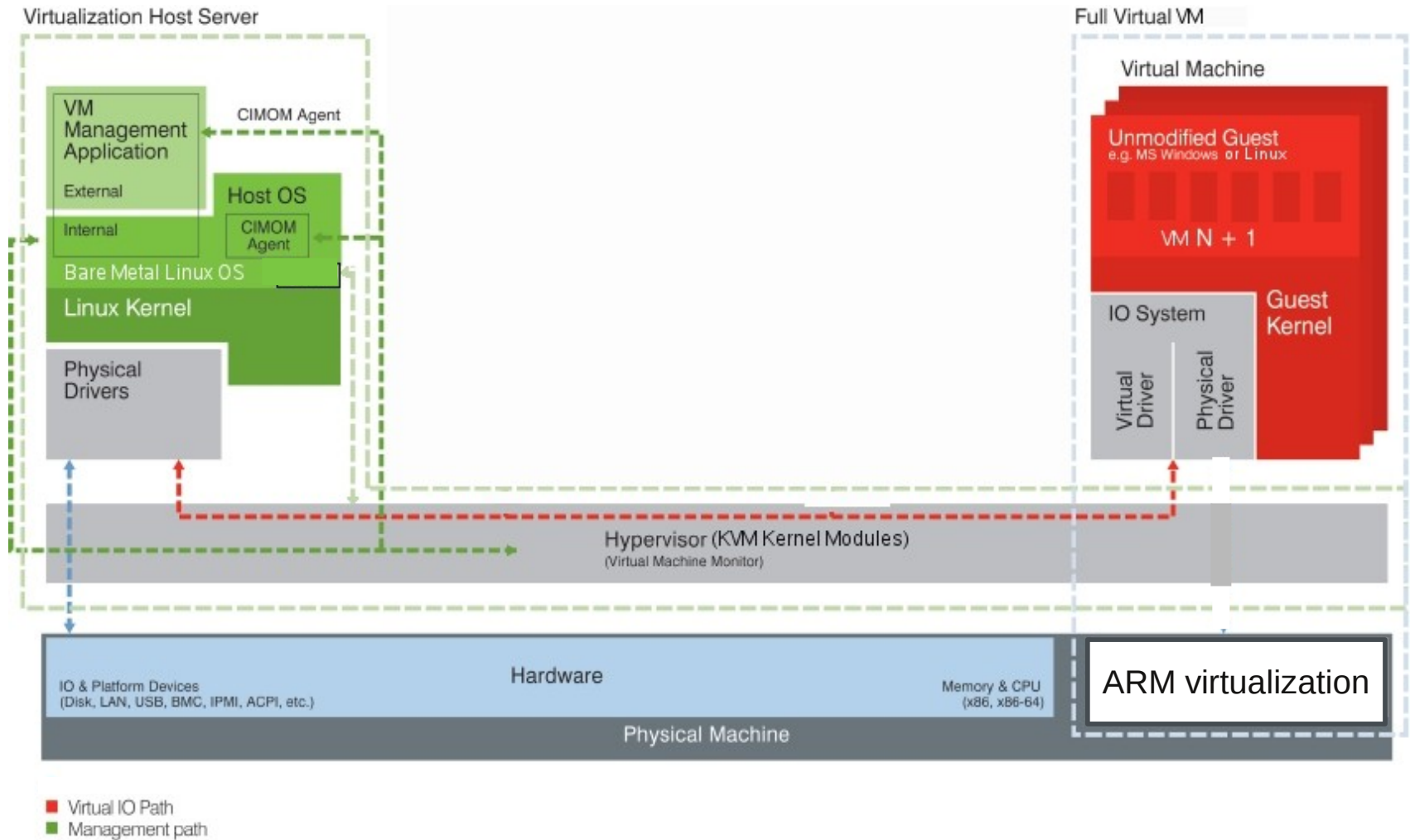   - ARM v8 Foundation Model.(in process)
  - APM "Mustang". See TBD.

Ct: dual-A7, 2G memory, 1000M, SATA

SUSE

Arm virtualization

Xen architecture(arm)

Xen arm boot requirement(arm32)

- Boot in hyp mode

- Device tree

    - Pass by r2 register, or

    - Append at the end of xen zImage

U-boot

- Hyp patch: upstreamed

- Board support patch for hyp

- Enable arm generic timer for xen

Port xen to ct

- Cpu: Cortex-A7. Upstreamed

- Serial: synopsys IP. Upstreamed

- SMP: work in process.

Know issue

- Dom0 1:1 work around.

- Dom0 config auto generation.

- How to use the memory larger than 4G in arm32?

  - [Xen-devel] [PATCH v2] xen: arm: improve handling of system with non-contiguous RAM region

- Migration would be merged at xen 4.5.

Xen dom0 kernel

- At least kernel 3.8.
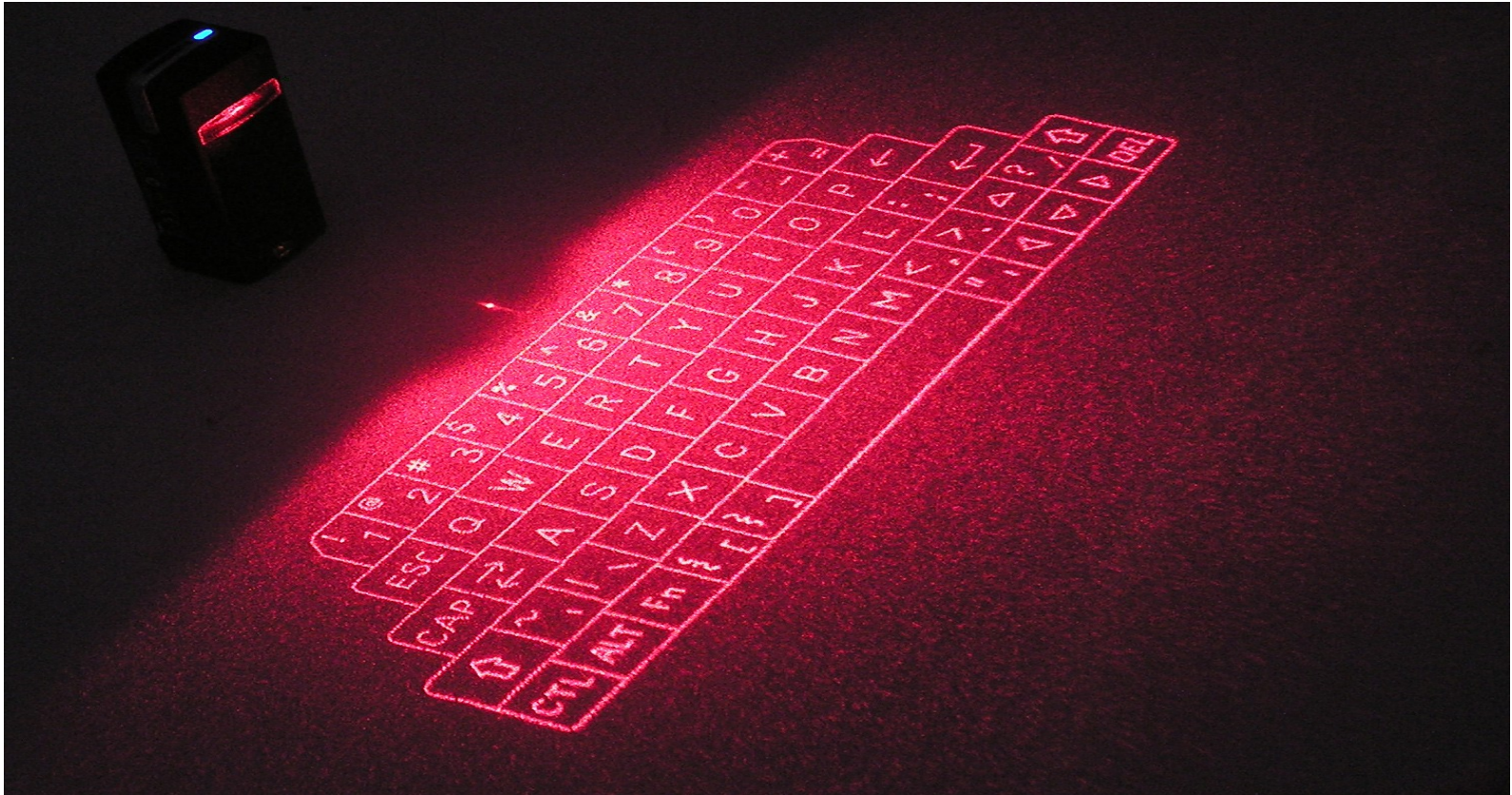   - Compatablity?
- enable xen backend driver.

Xen domU kernel

- At least kernel 3.8.
    - Compatablity?
- enable xen frontend driver.

Wiki and my work tree

- http://wiki.xen.org/wiki/Xen_ARMv7_with_Virtualization_Extensions/Allwinner

- https://github.com/bjzhang/u-boot-sunxi

- https://github.com/bjzhang/linux-allwinner

Q & A

reference

1, ARM Virtualization Extension

http://www.linaro.org/documents/download/d7fe510d

8eb46775afc3953d217b15224fbb93086598a

2, arm hypervisor

http://www.xenproject.org/developers/teams/arm-hypervisor.html

3, xen-on-arm-xen-summit-2013

http://www.slideshare.net/xen_com_mgr/xen-on-arm-xen-summit-2013-v2?ref=http://w

ww.slideshare.net/slideshow/embed_code/27891570?rel=0

4, docs/misc/arm/booting.txt