

Virtualization infrastructure enhancements

Join Zoom Meeting

<https://zoom.us/j/4417312160>

Meeting ID: 441 731 2160

One tap mobile

+16465588656,,4417312160# US (New York)

+16699009128,,4417312160# US (San Jose)

Dial by your location

+1 646 558 8656 US (New York)

+1 669 900 9128 US (San Jose)

+1 253 215 8782 US (Tacoma)

+1 301 715 8592 US (Germantown)

+1 312 626 6799 US (Chicago)

+1 346 248 7799 US (Houston)

877 853 5247 US Toll-free

888 788 0099 US Toll-free

Meeting ID: 441 731 2160

Find your local number: <https://zoom.us/u/abnZD70EUF>

New Meeting time and day discussion on the ML now.

Current Defined work

Summary	Assignee	Status
Hypercall Standardization	Unassigned	OPEN
VMM with safety island	Unassigned	OPEN
hypervisor boot orchestration (type-1)	Unassigned	OPEN
Implement Optimized VirtIO interfaces	Alex Bennée	IN PROGRESS

Prototype a minimal memory profile virtio backed with front end changes	Unassigned	TODO
Create a common virtio library for use by programs implementing a backend	Unassigned	OPEN
VirtIO SMMUv	Unassigned	OPEN
VirtIO RPMB	Alex Bennée	IN PROGRESS
VirtIO SCMI and other resource management approaches	Unassigned	OPEN
VirtIO SPI	Unassigned	OPEN
VIRTIO Watchdog	Unassigned	TODO
VIRTIO Audio	Unassigned	TODO

Agenda 9th July 2020

Attendees

- Mike
- Jens
- Randy
- Alex
- Mark O
- Vincent
- Ed Doxat
- Stefano
- Matt
- Azzedine
- Don
-

Agenda

- Reduce to two calls a month
- Project Stratos lives!
 - <https://projects.linaro.org/projects/STR/issues/STR-8?filter=allopenissues>
 - Need to associate members with the four initiatives to further refine them into Epics
 - Need to sketch out how to staff the Epics
 - Mailing list <https://op-lists.linaro.org/mailman/listinfo/stratos-dev>
- How do we measure performance ?

- Which interfaces do we care to check, just those we work on ?
- AGL Demo prospects
 - Board shipped to Alex
 - What are we going to show
- AGL Prospects for Member HW as an AGL collaboration platform
 - 96Boards - timeline ?
- AGL
 - How integrated with this effort do we want to get, they have an RC2 in December and interfaces we are working on could be targeted for then I assume, but I suspect it would be a later release.
 - Do we need to plan to meet these deadlines ?
- Matt Opensynergy
 - Using virtio as the standard
 - Safety certified
 - Good overlap
 - Stefano - the spec is not ready, Matt google want this to be performant.
 -

Agenda 25 June 2020

Attendees

- Mike
- Stefano
- Alex
- Randy
- Jens
- Matt
- Joakim
- Mnalajal
- Vincent
- Ed Doxat
- David
- Francois
- Trilok
- David Brazdil

Actions

- Low hanging fruit
 - Azzedine - can add things to the list, some can be parallel, will comment on LBI-40 -- Slides

Agenda

- Stefano: Finalize on first three deliverables
 - Suggestion that we need we need to make a choice between Rust-VMM or Zephyr
 - Can we approve the work items by email

- Stefano: Slides on deliverable four to allow a decision on whether it is ready to be promoted to the backlog
 - Need to attach slides
 - Needed to take Xen to safety certified
 - Xen may never be 100% certifiable out of the box, but lowers cost to down stream
 - A document for cert needs to be extremely details, including all hypercalls etc
 - Common for team writing tests != to write tests, then should just read the docs to clean room test the doc
 - If we do this work let's write a standard
 - Opinion: Stefano we have enough to generate a work item
 - Alex: like RST format
- Azzedine: Slides
- Mike: Would like to get agreement or commitment for final input to promote at least one deliverable to a backlog item in time for Linaro Plan of Record voting
 - This enables generating a project in list for this work - a suitable name is needed for the work. "Virtualization" is a bit lose and vague
 - We can add backlog items, we don't have to start them now
- Mike: Is there mileage in making a large roadmap that has bullet points describing the items on this agenda, and those being done in relation to it by members in other forums to help the community understand what is in flight ?

Agenda 11 June 2020

- Alex
- Jens
- Mark
- Jens
- Bogdan Vlad (NXP)
- Vicky
- Stefano Stabellini (Xilinx)
- Don
- Matt Spencer (Arm)
- David Brazdil (Google)
- Francois
- Bill
- Vincent
- Randy
- Srivatsa (QC)
- Ed Doxat (Arm)
- Azzedine (QC)
- Joakim

- Goals

- Ensure members are aware of the work being done generally
- Try to single out an area that can be defined into a work item that could be staffed in the next cycle from <https://projects.linaro.org/browse/LBI-40>
- Stefano
 - Had discussion on type 1 hypervisor - QC, Xilinx, Arm
 - Secure - EL1, System Device Tree
 - Collaborate - VMM for type 1 with virtio backends, better real time constraints, boot real time OS
 - Other area - hyper calls, safety certification
- Azzedine
 - Have had discussions with this group
 - Virtio one building block
 - Big thing - championing ensure we don't get stuck in one vertical market, mobile, laptops,
 - Multiple approaches:
 - Standardized tree(?)
 - Safety in context of auto is good
 - Low hanging fruit
 - Azzedine - can add things to the list, some can be parallel, will comment on LBI-40
 - Standardization - what does this mean ?
 - In linaro - released code = standard, lacks precision
 - How do we do the standardisation ? Arm is working on this
 - FF virtio in oasis
 - South & north there is no home for this, better to add to oasis or with rust-vmm
 - Steffano - agree with AZ, year, red tape etc. What we mean is a few groups set up repo and write the doc that those entities do adopt.
- Next call 2 weeks time
 - Who and what
 -
- Alex: Standardization for Type 1 Hypervisors only or wider?
 - FF: more generic - not just type 1. Need i/f's regardless
 - Stefano : can run with no hypercalls, in reality you do need hypercalls, should we make some common, monitoring other vms
 - Azzedine - tend to agree, QC bias is type 1, others prefer type 2, agree on small component and use FF proposal
- Azzedine: good work by Arm on SCMI, SPCI etc, it filled void
- Bogdan
 - Just jumped on the call need to study <https://projects.linaro.org/projects/LBI/issues/LBI-40?filter=allopenissues>
- Alex
 - What did Steffano mean by the term hypercall?
 - E.g. setting up shared memory
 - But not already well defined interfaces (e.g. PSCI)

- The sort of API that both the guest (or controller) and hypervisors agree on that is specific to setting up a virtual machine and its environment.
 - i.e. not just a straight device emulation...
- Stefano
 - For the next time, review LBI-40, look and not just at standardization
 - Zephyr
 - Rust
- FF
 - High Level pitch and there are then the details
 - Key: LBI is not to decide what will be done quickly, but to find the big areas, the exact work is defined by the members that gather to do the work.

D1 System device Tree, quick solution for virt

D2 more interfaces, that hype offer to the VM, part in Trustzone, part non trusted

D3 related to virt-366

D4 standardization for all the aspects, not code line (D1,2,3)

- Alex
 - Queried that D1/4 would feed into how D2 might develop
 - Stefano points out we can't wait for everything set in stone
 - Parallel development and PoC code will inform final standard
 - The standardisation will always be a longer term activity