2021-04-15 Project Stratos Sync Meeting notes

Attendees

- Mike
- Vincent
- Bill Mills
- Don H
- Mathieu
- Stefano (Xilinx)
- Randy
- Ed (Arm)
- Peter
- Jean-Phillip
- Arnaud
- Azzedine (Qualcomm)
- Loic (ST)
- Alex
- Joakim
- Sirivatsa
- Diana (NXP)
- Srinivas Kalaga
- Bill Fletcher

- Review Action items
  - None

Discussion items

- Vincent: Should we consider static vs dynamic users of a backend

Discussion Points

Vincent Generic backend, should we have a max preallocated backend?

  SCMI backend will be connected to a number of VMs, for an SCMI channel you can make visible a different number of clocks, if it is dynamic that will be hard to do

  Alex - we have been talking static VM, you will know how many backends you need, Vincent that is what I assumed but wanted to check.

  Azzedine, clocks will be fixed, it is reasonable to assume static VMs. Vincent but can we set a maximum number, even if they come and go

  Stefano - is this just to make it easier, and make it possible to set what is visible

  BillM - we should try to make moving to a dynamic model in the future possible without a huge rewrite

  VG: have vhost user working as a backend, this is all working. On SCP firmware I am setting a fixed number of channels, OSPM0, OSPM1

  Stefano: Longer term there will be a mix of static and dynamic, you might spin up VMs as you do with containers

  VG: even for SCMI, common PLL, Stefano you can have Xilin part with accelerators coming and going

  Alex STR-10 only considers static configuration - if we want to explore dynamic setups we should scope that up even if we won't get to it straight away.

  Azzedine 1. Step in between, a set of dynamic

  VG: Demo - use SCP firmware, also available in op-tee, compile with libvhostuser, to create vhost backend. This is an intermediate step because it is Linux user space: emulated the hw resource. Have a vhost-user mailbox in SCP, to move to a pure virtio just this module changes. For the front end reused RFC from open synergy with bug fix from Viresh

  Azzedine: thinking about unicraft, VG don't expect many problems after getting multiple VM guests using zephyr or unicraft.

  AZ: how long, VG: concurrent access needs to be safe but not a big deal, push to git hub next week

  AZ: is there any crash recovery: VG: if guest crash? AZ: yes: VG, form pure SCMI server pov all the requests are independent, so perhaps recounting is an issue, think SCMI channel has a reset everything capability

  Alex: reconfiguration will clear everything

  VG: a power coprocessor does this
Srivatsa: is there a way to detect a guest VM failed: Alex: no standard way, perhaps a watchdog, enterprise uses cloud state. Srivatsa it is a standard request not just for SCMI, perhaps watchdog. Alex: we do have virtio watchdog on the list

Alex: demo

Show scmi server between two hypervisors, single binary or single source, the complication is around signalling. With binary, you would need glue code, with a src code there is a lot of difference between hypervisors, hard to have a clean abstraction.

Stefano: API called from in a guest, libraries are for Linux or freeBSD don't help with Zephyr. One set is to make calls, we have libXenZephyr but this is too big, the licence is a poor match. It is a good idea to relicense, have been talking with the community manager, most people want this done.

Azzedine: starting with a single binary approach is a good first step,

Azzedine: will this be portable to Zephyr. Stefano I would have thought a year ago we would write these from scratch, but maybe it makes sense to have a more complete library. A small library took only a few days, for a demo this is fine.

VG the main goal is to have SCMI server run standalone in zephyr, all I need is small. Stefano, this will be 5-10 hypercalls.

Alex Dom0 case is minimal bring up and down, Stefano - perhaps 20 calls, might be best to have this lib in Zephyr.

VG: Zephyr or unicraft? Stefano Unicraft should be used as domU rather than dom0. think Unicraft might be slightly easier

Azz when for demo: Alex October

Alex: we need a jailhouse

virtio-gpio - some things on the list , no spec sent to OASIS, pinged author,

virtio-i2c, have C backend and looking at Rust

virtio-rng

Diana - has not talked Peng, Alex we have been talking to Peng, if we can get Pend we can include Jailhouse

Diana - we have played with jailhouse, but this is not suited for this.

Alex : AGL are hoping to do a Jailhouse demo

Bill MI: in jailhouse, there is no concept of a scheduler, Alex, only interested due to Windrivershypervisors less environment. YOu would have Zephyr in the VM with other small tasks

Action items