



The system-wide behavior modeling on a network level reusing application binaries with dynamic binary translation technology.

IMA system architecture simulator

The IMA System Architecture Simulator (IMASAS) based on QEMU system simulator as an IMA Platform Simulator (IPS).

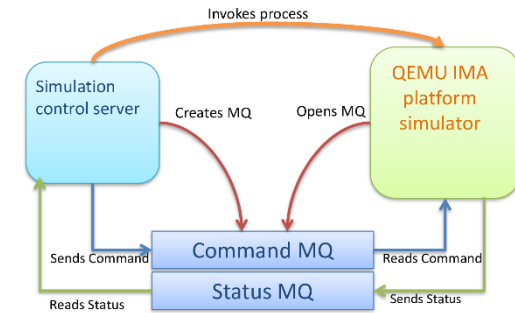
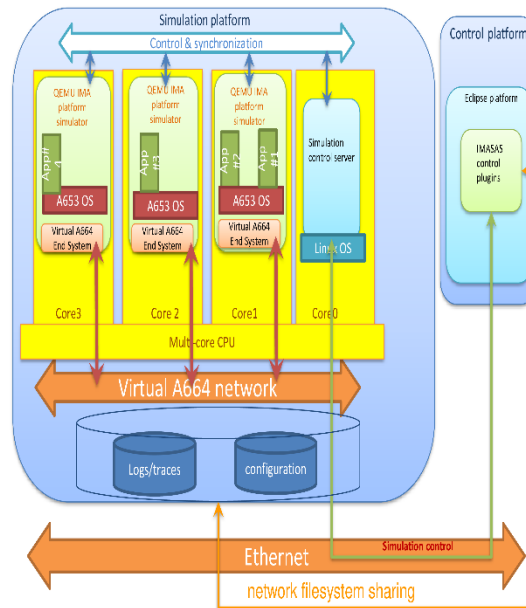
The Simulation Control Server (SCS) provides control and synchronization of IPS instances, and provide connection point for a front-end. For performance an IPS run on dedicated core of multicore simulation host.

The IPS executes target binary code providing stimulus for A664 network model provided by QEMU A664 virtual device.

Infrastructure and synchronization

The architecture description of simulated system, simulation scenario, IPS parameters and links to target payloads resides in simulation sessions repository for each simulation session.

SCS synchronizes several IPS instances to align their internal times by communicating with IPS synchronization module which stops and resume guest code execution every synchronization time step.



Outlook

- Extending functionality of the user interface.
- Integrating with design and development toolchains.
- A664P7 drivers for several A653 OS.
- Library of IPS types regarding real HW platforms.

