IoT: Client Devices

Client Emulation and Virtual Machines

IoT Clients

Linux

‣ Embedded linux, old Linux versions, standard services

Busybox, Buildroot

‣ https://www.busybox,net ; https://buildroot.org

Application Software

‣ Standard C application running in linux system

Emulating Workflow

VIRTUALBOX / VMWARE / QEMU

‣ Develop on Linux Workstation

‣ Deploy to stripped Linux image

‣ Both on host

BUILD ROOT

‣ Deployment target's x86 (We'll pretend it's MIPS or ARM)

LINUX WORKSTATION

‣ Gcc tools

‣ Cross-compilation

VMWare or Virtualbox?

VIRTUALBOX

‣ Open source, free to use

‣ https://www.virtualbox.org

VMWARE

‣ Not free, not exactly cheap either

‣ commercial support, more robust

WHICH ONE?

‣ VMWare is more stable and robust

‣ VIrtualbox is more picky

QEMU?

PROCESSOR EMULATOR

‣ Emulates different processor types

VIRTUALIZATION TOO

‣ We're not using it for that though

RUNS IoT CLIENT

‣ Copy and run programs on client