

FreeBSD Xen status update

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Changes in FreeBSD 10



- ▶ Vector callback for injecting event channel interrupts.
- ▶ PV timer.
- ▶ PV IPIs.
- ▶ Add Xen support into GENERIC kernel config.
- ▶ Sponsored by SpectraLogic and Citrix.

PVH DomU



- ▶ Supported guest mode since Xen 4.4.
- ▶ Builds on top of the PVHVM work introduced in FreeBSD 10.
- ▶ Half-merged into HEAD, some patches remaining.
- ▶ Same speed as PVHVM, main difference is the way it boots.
- ▶ By long not as intrusive as a traditional PV port.

PVH Dom0



- ▶ Xen side patches almost fully merged (done by Mukesh Rathor @Oracle).
- ▶ Main difference between PVH DomU and Dom0 is that on Dom0 FreeBSD needs to manage the hardware.
- ▶ Add support for PIRQ (physical interrupts routed on top of event channels).
- ▶ ACPI tables are parsed by Dom0, and Xen must be made aware of the underlying devices.
- ▶ Xen user-space control devices needed by the toolstack:
 - ▶ Privcmd: allows issuing hypercalls and mapping foreign domain memory from user-space.
 - ▶ Evtchn: allows registering and receiving interrupts by user-space applications.

Big items remaining



- ▶ Add multiboot support to the FreeBSD bootloader.
- ▶ Improve `if_xn`:
 - ▶ Doesn't work with a NetBSD backend.
 - ▶ Doesn't work properly between guests on the same host.

Q&A



Thanks
Questions?