FreeBSD/Xen status update

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Xen update

▶ Released Xen 4.7 and 4.8.

	Release cycle	Contributors	Changesets	+LOC	-LOC
Xen 4.7	255 days	102	1887	106606	37160
Xen 4.8	161 days	68	1245	78899	62325

Xen 4.7 features

- ▶ Live Patching
  (https://www.youtube.com/watch?v=hPcgrGaeyL4).
- ▶ Kconfig support.
- ▶ Increased the limits of PV guests (512 vCPUs, >1TB of RAM).
- ▶ Improvements to Credit2 and RTDS schedulers.
- ▶ vGIC-v3 support on ARM.
- ▶ VT-d posted interrupts on Intel hardware.
- ▶ Hypervisor and tools compile with clang.

Xen 4.8 features

- ▶ Improved live patching, now supports hooks in the payload and ARM.

- ▶ Performance improvements for domain creation.

- ▶ Support for Intel AVX-512 instructions.

- ▶ Support for ACPI on ARM64.

- ▶ Integration of XTF (Xen Test Framework).

- ▶ Focus on security, afl used against the x86 intruction emulator (and it found XSA-195).

New FreeBSD/Xen features

- Added multiqueue support to netfront (Wei Liu).
- Merged the gntdev from GSoC (Akshay Jaggi).
- Port of OpenStack to work with FreeBSD/Xen (Alexander Nusov).
- Imported Xen 4.7.
- Now xen-tools/kernel fully compiled with clang (except for SeaBIOS, which only support GCC).
- Enabled Live Patching support on the FreeBSD xen-kernel port.

FreeBSD/Xen Gntdev

- Allows mapping/sharing memory from user-space applications with other Xen guests.
- Mainly used in Dom0 in order to run the PV backends in user-space.
- This adds us support for Qdisk disk backend, that supports: qcow, qcow2, vhd... image formats.

Xen PVHv2 development

▶ Going to introduce some disruption to FreeBSD, as PVHv1 is removed.

▶ Less Xen-specific code in FreeBSD, more similar to bare-metal.

▶ Probably not finished until the end of the year.

GSoC 2017

- ▶ Import the busdma grant-table abstraction from OpenBSD.
- ▶ Add FreeBSD support to osstest (Xen CI system).

Q&A

Thanks

Questions?