FreeBSD/Xen status update

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Tokyo – March 9th, 2017
Xen update

- Released Xen 4.7 and 4.8.

<table>
<thead>
<tr>
<th></th>
<th>Release cycle</th>
<th>Contributors</th>
<th>Changesets</th>
<th>+LOC</th>
<th>-LOC</th>
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<tbody>
<tr>
<td>Xen 4.7</td>
<td>255 days</td>
<td>102</td>
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<td>Xen 4.8</td>
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<td>68</td>
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<td>78899</td>
<td>62325</td>
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Xen 4.7 features

- 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 instruction 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).
- Import 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).
Thanks

Questions?