bhyve – the community at UPB

bhyvecon 2019, Tokyo, Japan

Authors
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Alexandru Elisei
Darius Mihai
Elena Mihailescu
Sergiu Weisz
About us

• Working on various BSD projects starting from 2011 (DragonFly BSD and FreeBSD)
• Focused on virtualization (x86 and ARM)
• 10+ students have worked at different design considerations and features
• Organized EuroBSDCon2018
• http://github.com/FreeBSD-UPB
About us (2)

• Mihai Carabas
  – Assistant Professor at UPB
  – I did not code in the last year :)

• Alexandru Elisei
  – former student, now engineer at ARM

• Darius Mihai, Elena Mihaiescu
  – 2nd year master student; hope to keep them at PhD :)

• Sergiu Weisz
  – 1st year master student
• bhyve on ARM and ARM64 (me and Alex)
• Save/Restore (or snapshot) feature for bhyve on x86 (Darius)
• Guest live migration (Elena)
• qcow2 implementation for bhyve (Sergiu)
bhyve on ARM

• bhyve was originally written for x86 and does not provide a generic interface
  – https://reviews.freebsd.org/D17874
• project stalled due to the fact that is un-commit-able
• very slow feedback on patch review (I still have a review opened for one year)
### Waiting on Review

<table>
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<tr>
<th>Pull Request</th>
<th>Description</th>
<th>Authors</th>
</tr>
</thead>
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<tr>
<td>D11848</td>
<td>Add timer virtualization specific bits as a prerequisite for bhyvearm</td>
<td>Oct 5 2018, 9:15 AM</td>
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<td>Reviewers: ARM, andrew</td>
<td>Author: mihai</td>
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<td>D11847</td>
<td>Add GIC virtualization bits as a prerequisites for bhyvearm</td>
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<td>D10213</td>
<td>Adding virtualization support for ARMv7 platforms</td>
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<td>Reviewers: ARM, andrew, grehan, menpages, rgrimes, bhyve, mmacy, ...</td>
<td>Author: mihai</td>
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### Waiting on Authors

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<td>D10094</td>
<td>arm: Move the code to exit hyp to hypervisor-stub.S</td>
<td>Jul 19 2018, 5:33 AM</td>
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<td>Reviewers: ARM, mihai</td>
<td>Author: andrew</td>
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bhyve on ARM - interrupts and timer

• I will present the technical implementation of interrupts and timers on bhyve ARM at AsiaBSDCon2019
• Alex helped us to find the remaining bugs here and optimized the workflow for ARM64 (he will present GICv3 at AsiaBSDCon2019)
Thank you everyone who has supported us in order to develop bhyve features at UPB!