KVM Unit Tests for Bhyve

bhyve office hours

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What are the KVM unit tests?

- An extremely minimal operating system
- Designed to exercise low-level hypervisor features
- Originally designed for Linux KVM/x86
  - Now works on most supported KVM CPU architectures
- Exec image is in multiboot format
  - Serial port and a custom ISA device required.
- [https://gitlab.com/kvm-unit-tests/kvm-unit-tests](https://gitlab.com/kvm-unit-tests/kvm-unit-tests)
KVM unit tests + bhyve

• Tests have very few dependencies:
  • multiboot format?
    • **grub2-bhyve** has support for that
  • custom ISA device?
    • simple to add to bhyve
• Support contributed to bhyve by Adam Fenn (D27130, r367762)
How is this useful?

- Targeted at low-level developers
  - Avoids having to hack a guest o/s to test a feature
  - Nearly instantaneous turnaround on test runs
  - Feature development results in regression tests
- Also useful as a general regression-test tool
  - e.g. to verify a new CPU release
- ARMv8 support
TODO

- Lots of test failures to diagnose
  - Genuine bug/Not applicable?
- Create a port for the test suite
- Upstream FreeBSD and bhyve test suite modifications
- Write bhyve-specific tests