



EVE Summit Berlin 2021 State of Testing

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Goals

- Self-service: for OEMs/SIs
- Confidence: in releases and head
- Reproducibility: of issues
- Speed: of resolution
- Regression: prevention

Unit Tests

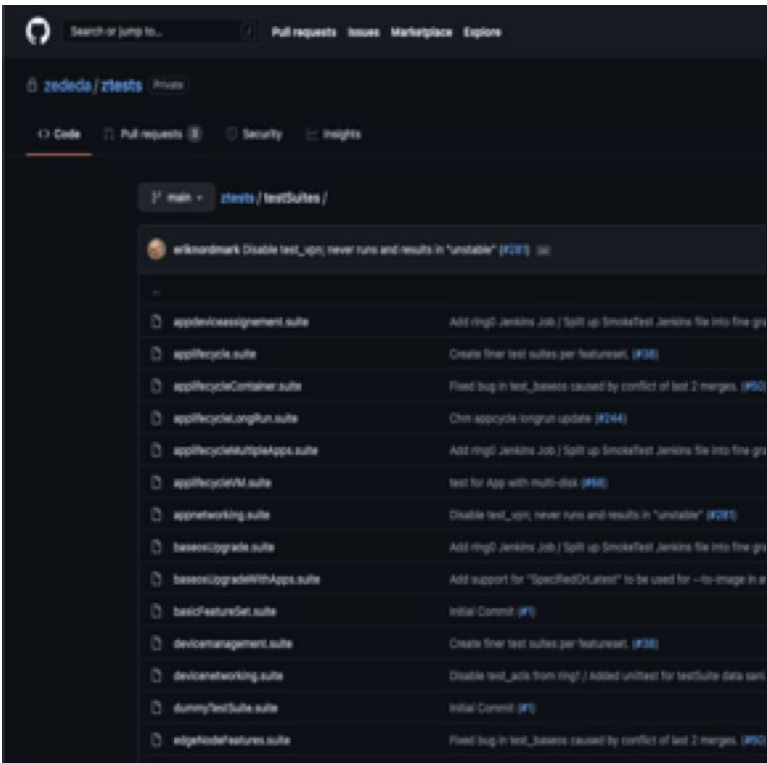
We won't talk about these much

?	github.com/lf-edge/eve/pkg/pillar/agentbase	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/agentlog	0.035s coverage: 0.0% of statements	
ok	github.com/lf-edge/eve/pkg/pillar/agenttest	39.025s coverage: 57.7% of statements	
ok	github.com/lf-edge/eve/pkg/pillar/base	0.014s coverage: 21.9% of statements	
?	github.com/lf-edge/eve/pkg/pillar/ccs	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cipher	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/baseosmgr	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/client	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/command	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/conntrack	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/flag	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/cmd/dns/mgr	0.051s coverage: 3.4% of statements	
?	github.com/lf-edge/eve/pkg/pillar/cmd/dns/loader	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/essortest	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/faultinjection	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/hardwemodal	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/tpmonitor	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/edmanager	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/rogloader	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/mis	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/nodagent	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/cmd/tpmgr	0.073s coverage: 4.0% of statements	
ok	github.com/lf-edge/eve/pkg/pillar/cmd/upgradeconverter	8.383s coverage: 21.5% of statements	
?	github.com/lf-edge/eve/pkg/pillar/cmd/vaultmgr	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/verifier	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/cmd/volumemgr	0.032s coverage: 0.5% of statements	
?	github.com/lf-edge/eve/pkg/pillar/cmd/waitforaddr	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/watcher	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/cmd/wstunnelclient	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/cmd/xdagent	0.094s coverage: 7.8% of statements	
?	github.com/lf-edge/eve/pkg/pillar/cmd/xdmanager	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/cmd/xdrouter	0.087s coverage: 0.2% of statements	
?	github.com/lf-edge/eve/pkg/pillar/cmd/zfs/mgr	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/convert	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/containerd	0.047s coverage: 25.2% of statements	
ok	github.com/lf-edge/eve/pkg/pillar/devicenetwork	0.037s coverage: 1.1% of statements	
?	github.com/lf-edge/eve/pkg/pillar/diskmetrics	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/eveetm	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/execute	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/fleximer	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/hardware	0.021s coverage: 8.4% of statements	
ok	github.com/lf-edge/eve/pkg/pillar/hypervisor	0.079s coverage: 14.2% of statements	
?	github.com/lf-edge/eve/pkg/pillar/iptables	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/metclone	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/pdfile	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/pubsab	24.004s coverage: 71.0% of statements	
?	github.com/lf-edge/eve/pkg/pillar/pubsab/legacy	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/pubsab/reverse	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/pubsab/socketdriver	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/pubsublock	0.014s coverage: 99.3% of statements	
?	github.com/lf-edge/eve/pkg/pillar/smd	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/ssh	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/testprograms/testverifier	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/tgt	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/types	0.028s coverage: 37.4% of statements	
ok	github.com/lf-edge/eve/pkg/pillar/utils	0.056s coverage: 5.4% of statements	
?	github.com/lf-edge/eve/pkg/pillar/utils/file	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/utils/logging	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/ucldpairtonum	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/ucldtonum	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/vault	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/watch	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/worker	97.028s coverage: 74.0% of statements	
?	github.com/lf-edge/eve/pkg/pillar/zboot	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/zedbox	[no test files]	
?	github.com/lf-edge/eve/pkg/pillar/zedcloud	[no test files]	
ok	github.com/lf-edge/eve/pkg/pillar/zedpac	3.704s coverage: 79.0% of statements	
?	github.com/lf-edge/eve/pkg/pillar/zfs	[no test files]	

Integration Tests

Closed ZEDCloud Controller, Comprehensive

Open EVE Controller, Limited



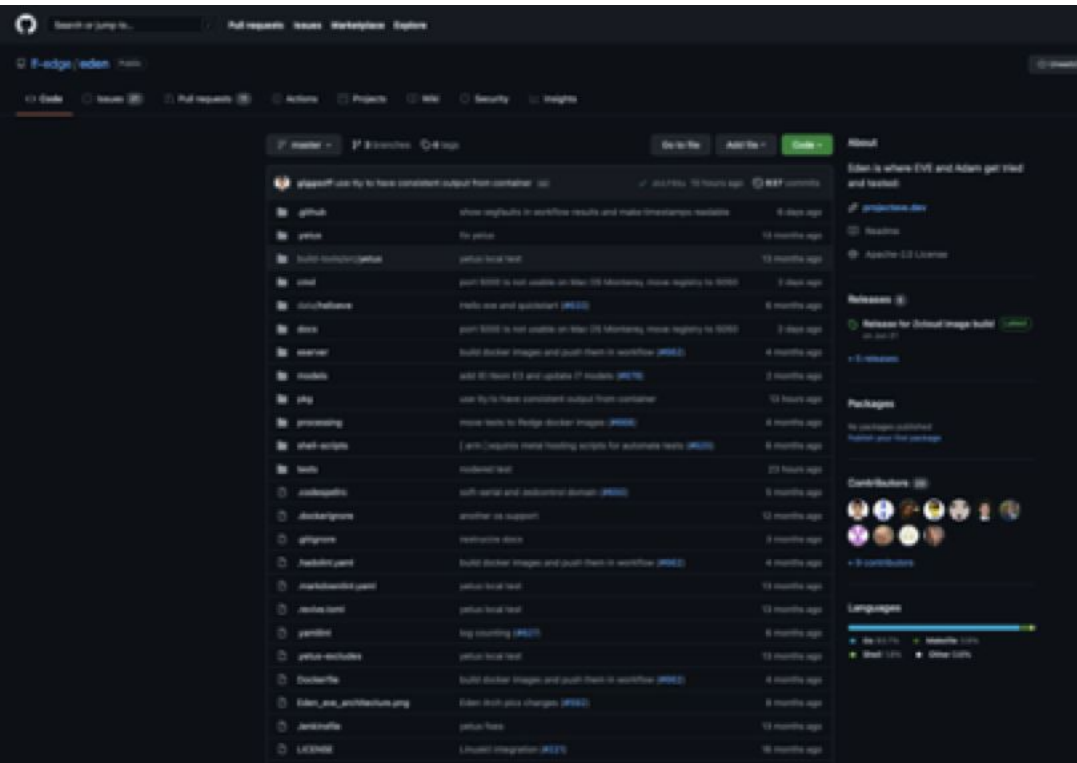
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main ztests / testSuites /

- wikibenchmark Disable test_act, never runs and results in "unstable" (#237) (C)
- appdevassignment.suite Add ring0 Jenkins job / Split up SmokeTest Jenkins file into fine-grained jobs (#190)
- appdevcycle.suite Create finer test suites per feature-set (#236)
- appdevcycleContainer.suite Fixed bug in test_bases caused by conflict of test 2 merges (#190)
- appdevcycleLongrun.suite Chm appcycle longrun update (#244)
- appdevcycleOutfileApps.suite Add ring0 Jenkins job / Split up SmokeTest Jenkins file into fine-grained jobs (#190)
- appdevcycleVM.suite test for App with multi-disk (#196)
- appnetworking.suite Disable test_act, never runs and results in "unstable" (#237)
- baseosupgrade.suite Add ring0 Jenkins job / Split up SmokeTest Jenkins file into fine-grained jobs (#190)
- baseosupgradeWithApps.suite Add support for "SpecifiedOrLater" to be used for --no-image in a workflow (#190)
- basicFeatureSet.suite Initial Commit (#1)
- devicemanagement.suite Create finer test suites per feature-set (#236)
- devicenetworking.suite Disable test_act from ring0 / Added unittest for test suite data set
- dummyTestSuite.suite Initial Commit (#1)
- edgeNodeFeatures.suite Fixed bug in test_bases caused by conflict of test 2 merges (#190)



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main Pull requests Commits

Go to file Add file Create new file

Eden is where EVE and Adam get tried and tested.

proprietor dev

Releases

Release for Official Image build (C)

Packages

Contributors

Languages

- github where you go to track consistent output from container (C) 10 hours ago 617 commits
- python fix python 13 months ago
- build-container build docker images and push them in workflow (#202) 13 months ago
- test port 5000 is not visible on host OS Monday, those registry to 5000 7 days ago
- docker-helm helm use and guidelines (#222) 8 months ago
- docs port 5000 is not visible on host OS Monday, those registry to 5000 7 days ago
- swanier build docker images and push them in workflow (#202) 4 months ago
- modules add 10 more CI and update CI modules (#212) 3 months ago
- pkg use pkg to have consistent output from container 13 hours ago
- provisioning move tests to Hedge docker images (#202) 4 months ago
- shell-scripts [work] Update shell hooking scripts for automatic tests (#222) 8 months ago
- tests network test 23 hours ago
- zookeeper self-start and autodownload domain (#202) 8 months ago
- abxmanagement another vs support 12 months ago
- gitignore restrictive docs 3 months ago
- hadoop-yarn build docker images and push them in workflow (#202) 4 months ago
- marketplace-yarn java test test 13 months ago
- modules-test java test test 12 months ago
- yamllint log linting (#222) 8 months ago
- python-excludes java test test 13 months ago
- Dockerfile build docker images and push them in workflow (#202) 4 months ago
- Eden_dev_architecture.png Eden dev arch changes (#202) 8 months ago
- jenkinsfile java test test 12 months ago
- LICENSE Linux integration (#222) 8 months ago

Testing... and a Wee Bit More

- Tests
- Test harness
- Utility library
- Infrastructure deployment & management

Target

- Tests: Open, comprehensive, experience-driven
- Extended: Anyone can add in any language
 - Shared
 - Private
- Self-service
- Single harness
- Multiple infrastructures

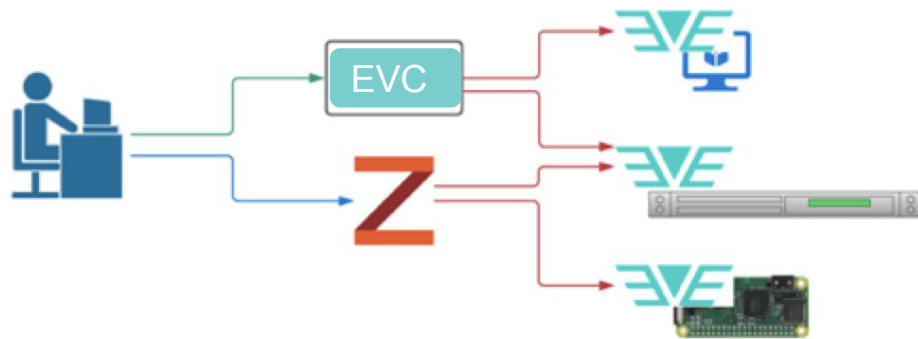
Comparison

	Ztests (closed)	EVE tests (open)
Library	Python	Go
Tests	Python	Go (mostly)
Controller supported	ZEDCloud	EVE Controller (OSS)
Suites and tests	21 suites 33 tests	18 test groups 1-3 tests per group
Infrastructure	GCP, Equinix Metal, fixed hw lab	qemu

Unification Challenges

- Incompatible infrastructure management
- Incompatible languages
- Duplication of effort
- **Incompatible controllers**

Left-Right APIs



Plans

Long-Term - Unify

- Single OSS EVE controller API, standardized
- Multiple libraries (1 / language)
- Single harness, runs any tests
- Single infra manager, supports any provider

Short-Term - Bridge

- Zededa dedicated controller instance
- Org registers edge devices
- EVE-OS “iPXE onboarder app” to simplify onboarding additional nodes
- Request Zededa to run full test suite
- Zededa runs and returns report
- Considering: automating process