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Test Cases by OS

Android

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- wifi-ubuntu
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- acpica
- netmap-pkt-gen-multinode
- kselftest-vm
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- perf
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- acpi-smoke-test
- sd-mmc-ubuntu
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- acpica-tools
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- fio-test
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- sysbench
- gatortests
- ovs-odp-dpdk-server-multinode
- kselftest
- network-tests-basic
- signaltest
- exec-latency
- audit-test
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- phoronix
- sata-partition-rw
- kselftest-efivarfs
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- sendme
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Test Cases by Devices

Arndale

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- <u>dmidecode</u>
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- <u>v8</u>
- iozone
- skia
- ime
- memtester
- binder
- ethernet-android

- gator-data-streaming
- <u>homescreen</u>
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- smoke-tests-basic
- bootchart
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- replay-server-multinode
- <u>native-uprobes-systemtap-test</u>
- pmqtest
- install-uprobe-kernel-on-arndale
- <u>pwrmgmt</u>
- iperf
- replay-client-multinode
- <u>rt-migrate-test</u>
- <u>gcov-collect-results</u>
- <u>netperf-server-multinode</u>
- kselftest-ptrace
- device_read_perf
- <u>Itp-network</u>
- kvm
- openssl
- nohz-isolation
- <u>libhugetlbfs</u>
- gator-data-streaming-ubuntu
- sd-mmc-ubuntu
- <u>Itp-realtime</u>
- hackbench
- sigwaittest
- kselftest-mqueue
- bootchart-install
- svsematest
- netperf-client-multinode
- latency-test
- cyclictest-basic
- kselftest-cpu-hotplug
- <u>Itp</u>
- sysbench
- gatortests

- network-tests-basic
- signaltest
- exec-latency
- usb-test-basic
- sata-partition-rw
- kselftest-efivarfs
- rcutorture
- sendme
- kselftest-memory-hotplug
- cyclictest
- openvswitch-Ing
- Imbench
- kselftest-vm
- kselftest-net
- odp-ring
- odp-shm
- device-tree
- replay-server-multinode
- iperf
- replay-client-multinode
- netperf-server-multinode
- kselftest-ptrace
- kvm
- nohz-isolation
- <u>libhugetlbfs</u>
- odp-atomic
- <u>Itp-realtime</u>
- hackbench
- alldebug-kernel
- kselftest-mqueue
- odp-packet
- netperf-client-multinode
- odp-example
- cyclictest-basic
- kselftest-cpu-hotplug
- sysbench
- kselftest-efivarfs
- kvm-benchmark

Beaglebone-Black

- <u>dmidecode</u>
- dt-selftests
- cyclictest-basic
- overlayfs
- kselftest-memory-hotplug
- kselftest-vm
- kselftest-net
- pi-stress-test
- bootchart
- ptsematest

- ebizzy
- perf
- pmqtest
- pwrmgmt
- iperf
- <u>rt-migrate-test</u>
- netperf-server-multinode
- kselftest-ptrace
- <u>sigwaittest</u>
- kselftest-mqueue
- bootchart-install
- svsematest
- netperf-client-multinode
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- audit-test
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- kselftest-vm
- kselftest-net
- iperf
- netperf-server-multinode
- kselftest-ptrace
- alldebug-kernel
- kselftest-mqueue
- netperf-client-multinode
- cyclictest-basic
- kselftest-cpu-hotplug
- sysbench
- kselftest-efivarfs

Beagle-XM

- <u>dmidecode</u>
- dt-selftests
- bootchart
- netperf-server-multinode
- bootchart-install
- netperf-client-multinode
- netperf-server-multinode
- <u>netperf-client-multinode</u>

D01

• pi-stress-test

- pwrmgmt
- fio-test
- multiple-network-interfaces
- <u>usb-test-basic</u>
- sata-partition-rw
- rcutorture

HighBank

- device-tree
- bootchart
- device read perf
- openssl
- bootchart-install
- device-tree

IFC6410

- gtest
- perf
- <u>Itp</u>
- <u>rcutorture</u>

Juno

- gator-data-streaming
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- overlayfs
- bionic libc tests
- monkey long run
- tibench
- <u>v8</u>
- cts-target
- <u>iozone</u>
- ping_dns
- ime
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- bootchart
- memtester
- <u>binder</u>
- linaro android kernel test
- ethernet-android
- boottime
- gator-data-streaming
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- piglit shader runner
- glmark2
- piglit_glslparser
- gatortest

- piglit_gles3
- bionic-benchmark
- stringbench
- sd-mmc
- <u>libc-bench</u>
- <u>devicetree-android</u>
- piglit gles2
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- media_codecs_functional_tests
- kselftest-memory-hotplug
- kselftest-vm
- kselftest-net
- pi-stress-test
- smoke-tests-basic
- ptsematest
- perf
- pmqtest
- pwrmgmt
- <u>rt-migrate-test</u>
- kselftest-ptrace
- kvm
- openssl
- nohz-isolation
- <u>libhugetlbfs</u>
- gator-data-streaming-ubuntu
- sd-mmc-ubuntu
- hackbench
- sigwaittest
- kselftest-mqueue
- svsematest
- <u>latency-test</u>
- kselftest-cpu-hotplug
- sysbench
- gatortests
- signaltest
- audit-test
- <u>usb-test-basic</u>
- kselftest-efivarfs
- rcutorture
- mmtests
- <u>sendme</u>
- kselftest-memory-hotplug
- kernel-version
- cyclictest
- openvswitch-Ing
- Ishw
- Imbench
- kselftest-vm
- kselftest-net
- odp-ring
- sdkhelloc

- odp-shm
- openidk8-sanity
- sdkhellocxx
- replay-server-multinode
- ebizzy
- perf
- phpinfo
- mysql
- <u>pwrmgmt</u>
- replay-client-multinode
- netperf-server-multinode
- kselftest-ptrace
- nohz-isolation
- acpi-smoke-test
- odp-atomic
- sdkhelloc static
- <u>hackbench</u>
- kselftest-mqueue
- phpmysql
- odp-packet
- ethernet
- netperf-client-multinode
- odp-example
- kselftest-cpu-hotplug
- busybox
- sysbench
- pointer-tagging-tests
- odp-validation
- trinity
- kselftest-efivarfs
- toolchain

KVM

- cts-host
- lava-android-test-host
- replay-server-multinode
- iperf
- replay-client-multinode
- netperf-server-multinode
- netperf-client-multinode
- audit-test
- gemu-edk2-boot
- replay-server-multinode
- iperf
- replay-client-multinode
- <u>netperf-server-multinode</u>
- netperf-client-multinode

MX53LOCO

- <u>dmidecode</u>
- bootchart
- netperf-server-multinode
- bootchart-install
- netperf-client-multinode
- <u>netperf-server-multinode</u>
- netperf-client-multinode

Origen

- device-tree
- device read perf
- openssl
- device-tree

Panda

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- gator-data-streaming
- <u>dmidecode</u>
- dt-selftests
- overlayfs
- tjbench
- <u>v8</u>
- cts-target
- <u>iozone</u>
- skia
- <u>ime</u>
- gtest
- memtester
- binder
- ethernet-android
- gator-data-streaming
- <u>homescreen</u>
- glmark2
- gatortest
- 0xbench
- lava-android-test-target
- <u>busybox</u>
- sd-mmc
- devicetree-android
- cachecoherency
- mmtest
- wifi-ubuntu
- pi-stress-test
- <u>device-tree</u>
- <u>smoke-tests-basic</u>
- bootchart
- ebizzy
- perf

- <u>pwrmgmt</u>
- netperf-server-multinode
- device read perf
- <u>Itp-network</u>
- openssl
- <u>libhugetlbfs</u>
- gator-data-streaming-ubuntu
- sd-mmc-ubuntu
- <u>Itp-realtime</u>
- bootchart-install
- netperf-client-multinode
- <u>Itp</u>
- gatortests
- network-tests-basic
- <u>usb-test-basic</u>
- phoronix
- sata-partition-rw
- rcutorture
- mmtests
- device-tree
- netperf-server-multinode
- alldebug-kernel
- netperf-client-multinode

Panda-ES

RTSM_FVP_BASE-AEMV8A

- fwts
- <u>dmidecode</u>
- cyclictest-basic
- overlayfs
- devicetree-android
- kselftest-memory-hotplug
- acpica
- kselftest-vm
- kselftest-net
- aapits
- pi-stress-test
- device-tree
- ptsematest
- pmqtest
- rt-migrate-test
- kselftest-ptrace
- device read perf
- acpi-smoke-test
- sigwaittest
- kselftest-mqueue
- acpica-tools
- svsematest
- cyclictest-basic

- kselftest-cpu-hotplug
- sysbench
- signaltest
- kselftest-efivarfs
- rcutorture
- <u>sendme</u>
- kselftest-memory-hotplug
- Ishw
- kselftest-vm
- kselftest-net
- sdkhelloc
- openjdk8-sanity
- device-tree
- sdkhellocxx
- perf
- phpinfo
- mysql
- <u>pwrmgmt</u>
- kselftest-ptrace
- acpi-smoke-test
- sdkhelloc_static
- alldebug-kernel
- kselftest-mqueue
- phpmysql
- cyclictest-basic
- kselftest-cpu-hotplug
- busybox
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- skia
- <u>ime</u>
- gtest
- memtester
- binder
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- gator-data-streaming
- <u>homescreen</u>

- gatortest
- <u>0xbench</u>
- <u>lava-android-test-target</u>
- busybox
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- devicetree-android
- cachecoherency
- mmtest
- pi-stress-test
- device-tree
- smoke-tests-basic
- <u>ebizzy</u>
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- pwrmgmt
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- <u>Itp-network</u>
- openssl
- <u>libhugetlbfs</u>
- gator-data-streaming-ubuntu
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- <u>Itp-realtime</u>
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Vexpress-TC2

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- usb-test-basic
- rcutorture
- mmtests
- device-tree
- smoke-tests-basic
- ebizzy
- busybox

All Test Cases

build

Fedora builds.

iozone

IOzone is a filesystem benchmark tool. The benchmark generates and measures a variety of file operations.

fwts

Ubuntu Firmware Test Suite (fwts). The FWTS tool comprises of over fifty tests that are designed to exercise and test different aspects of a machine's firmware. More details -

https://wiki.linaro.org/LEG/Engineering/test-acpi#Ubuntu_Firmware_test_suite

coresight-test

To validate coresight source to sink writes. Coresight tracing support provides a kernel interface for the CoreSight debug and trace drivers to register themselves with. It's intended to build topological view of the CoreSight components based on a DT specification and configure the right serie of components when a trace source gets enabled. Required kernel configs CONFIG_CORESIGHT=y CONFIG_CORESIGHT_LINKS_AND_SINKS=y

gator-data-streaming

Gator Data Streaming Test checks DS5 profiling feature for Ubuntu builds. The test creates a sample session XML file called 'session.xml', this file is passed as a parameter to the gatord command to do a local capture and test results are generated depending upon output of this command.

dmidecode

DMI Decode Test for Linaro Ubuntu & OpenEmbedded builds. Dmidecode reports information about system's hardware from BIOS such as bios version dmi, id, bios version and bios date.

iks-smoke-test

IKS-Smoke-Test for Linaro Ubuntu & Android builds. The test runs IKS-smoke-tests, enables and disables big.LITTLE IKS switcher 100 times.

dt-selftests

Device Tree Runtime self tests for Linaro Ubuntu & OpenEmbedded builds. Kernel config required for this tests CONFIG_OF_SELFTEST=y or CONFIG_OF_UNITTEST=y

scheduler_testssuites

big.LITTLE Scheduler tests: This test suite generates synthetic loads to validate the scheduler task placements functionality on big and little cores according to the load of the task.

cyclictest-basic

Cyclictest tool is used to measure event latency in kernel. The test runs cyclictest command in loop and increases the number of thread after each iteration.

overlayfs

Run overlay filesystem test from unionmount testsuite on Linaro Ubuntu and OpenEmbedded

bionic_libc_tests

This test suite checks Bionic libc routines for android. NOTE: this test will be replaced with the cts test after migration.

monkey_long_run

Monkey long run performs stress testing for stability using monkey command which generates pesudo-random streams of user events such as clicks, touches, or gestures as well as some system level events. Currently, monkey long run test runs with a set blacklist packages which are known to fail.

tibench

Tjbench is used to benchmark the performance of libjpeg-turbo and libjpeg62 for android. For each test image, the tjbench program is used to measure the compression and decompression performance and the compression ratio obtained when compressing the test image as a JPEG image and then decompressing the JPEG image back to its original, uncompressed form.

bigLITTLE

This test suite covers big.LITTLE switching functionality and stress tests. The main focus is to test big.LITTLE switching while system switches its cores from A15 to A7 and vice versa.

cts-host

Run CTS on Linaro android. Host side; Get user defined CTS test command from JSON and run; The value put in params section in this file is default, user can overwrite them by the values in JSON file.

v8

V8 benchmark suite contains a number of pure JavaScript benchmarks that test JavaScript engine performance. The test suite runs following benchmarks: Richards, DeltaBlue, Crypto, RayTrace, EarleyBoyer, RegExp, Splay and NavierStokesv8. D8 shell test was also included in v8 benchmark test suite recently.

pm-qa

pm-qa tests.

cts-target

Run CTS on Linaro android. Target side. The value put in params section in this file is default, user can overwrite them by the values in JSON file.

iozone

lozone test for linaro android is a filesystem benchmark tool. The benchmark tests file I/O performance for Read, write, re-read, re-write, read backwards, read strided, fread, fwrite, random read, pread, mmap, aio read and aio write.

skia

skia test for android.

ping dns

Ping test to check dns. The test runs ping command on www.google.com to test dns with count set to 10.

ime

IME test for linaro android builds checks for all available input method editors.

gtest

Run gtest based tests on Android

bootchart

collect the bootchart data and try to analyse

memtester

Memtester for android is userspace utility to test for faulty memory subsystem or faulty memory modules. The test checks 1MB of memory and runs all tests once.

binder

Binder test's uses binderAddInts to measures the rate at which a short binder IPC operation can be performed. The test consist of a client sending a parcel containing two integers to server which in turn adds the two integers and sends the sum back to client.

linaro_android_kernel_test

Linaro Android kernel test suite comprises of kernel feature tests which are uniquie to android. The test suite runs following kernel tests: ashmem, ashmem-expanded, alarmdev, logger, binder, sync, vfat, evdev and swp-swpb.

ethernet-android

Ethernet test for Linaro Android build. This test verifies if Ethernet is enabled and checks ping and packet loss.

boottime

Checks android boot time to UI It relies on the dmesg and logical information

gator-data-streaming

Gator Data Streaming Test checks DS5 profiling feature for Android builds. The test creates a sample session XML file called 'session.xml', this file is passed as a parameter to the gatord command to do a local capture and then depending upon the output of this command, test results are generated.

homescreen

Test to check if the homescreen is up for Linaro android builds.

piglit_shader_runner

Piglit shader_runner test suite for android. The test suite runs shader tests using OpenGL shaders.

glmark2

Glmark2 test for android is an OpenGL 2.0 and ES 2.0 benchmark. The Glmark2 test suite is used to measure different aspects of OpenGL (ES) 2.0 performance like video, graphics and display.

piglit_glslparser

piglit glslparser test for android. The GLSL Parser provides a front end for parsing and operating on OpenGL Shading Language code.

gatortest

Gatortest for android checks availability of gator daemon and module on target which is required to enable profiling between host and target machines.

piglit_gles3

Piglit is a collection of automated tests for OpenGL implementations. piglit_gles3.0 runs OpenGL ES 3.0 tests.

bionic-benchmark

collect the bionic-benchmarks data and try to analyse

stringbench

Run stringbench command to benchmark the performance of string relevant feature of bionic. In the feature this test should be upstream to bionic-benchmarks. The source is here now: git://android.git.linaro.org/platform/external/stringbench

lava-android-test-host

Wrapper around lava-android-test. This is the host part. It runs on KVM device type in LAVA and installs lava-android-test on it. Tests are executed using TEST_NAME parameter. Default test tu run is 'busybox'. Optional test parameters are specified using TEST_PARAMS parameter. There is optional JAVA_PACKAGE parameter to be used in case different Java version is needed. It defaults to openjdk-6-jre-headless. This test definition should be run on Ubuntu images.

0xbench

0xbench integrates a series of benchmarks for Android system into the comprehensive benchmark suite. The test suite constitutes of OpenGL|ES, 2D Canvas, 3D graphics, C library and System call.

lava-android-test-target

Wrapper around lava-android-test. This is the target part. It sends the IP address of the target to host and than waits for the host to execute tests.

busybox

BusyBox combines tiny versions of many common UNIX utilities into a single small executable Test. Busybox for android covers test's like mkdir, touch, ls, ps, whoami, which, basename, cp, rm, dmesg and grep.

sd-mmc

Test SD MMC on Linaro Android. The test checks for availability of external storage device, runs df command to check partition and tries to write on sd card.

libc-bench

Run libc-bench command to benchmark the performance of bionic. The source is here now: git://android.git.linaro.org/platform/external/libc-bench

devicetree-android

This test checks for Flattened Device Tree blob for Android builds. The test verifies that device-tree is available and contains model name of the board.

cachecoherency

Cachecoherency test for android tries to maximize randomized traffic to memory from processor and I/O using stressapptest.

piglit_gles2

Piglit is a collection of automated tests for OpenGL implementations. piglit_gles2.0 runs OpenGL ES 2.0 tests.

mmtest

Multimedia Framework Test for android. The test downloads sample audio, video and videoeditor media into sdcard and runs all instrumentation framework test under com.android.mediaframeworktest package with downloaded media.

media_codecs_functional_tests

Media functional codecs test suite for linaro android verifies arm based audio/video software codecs available in Android AOSP release. These codecs are used in implementation of SW based OMX decoders. Some of these codecs are developed by Google like VP8/VP9 and some others by third parties like PacketVideo for mp3.

wifi-ubuntu

Test WiFi on Linux Linaro ubuntu. SSID and PASSWORD are possible to be set in JSON.

kselftest-memory-hotplug

The kernel contains a set of 'self tests' under the tools/testing/selftests/ directory. These are intended to be small unit tests to exercise individual code paths in the kernel. This test runs memory-hotplug tests. Memory-hotplug allows to increase/decrease the amount of memory required by highly virtualized environments or required by hardware which supports memory power management.

gcov-start

Experimental implementation of GCOV for arndale. Make sure gcov is enabled in the kernel. Run tests in separate lava-test-shell without reboot. This definition should be used together with gcov-collect-results

acpica

ACPI ASL on ARMv7/ARMv8. Testing is performed in 'hardware-independent' mode to check functionality of ACPICA which is first initiated and then verified from inside the test modules coded in ASL. ACPICA test can be run in 4 test modes (n32, n64, s32, s64) and default is set to n64. More Details - https://wiki.linaro.org/LEG/Engineering/test-acpi#ASLTS_-_ASL_Test_Suite

netmap-pkt-gen-multinode

The netmap-pkt-gen-multinode can be used to measure the performance of a simple I2fwd application in a multinode setup. A typical setup is two machines connected back to back through a pair of interfaces (usually intel server DPDK dual NICs like the 82599 dual port 10GB interface) where the I2fwd runs on one machine and netmap runs on the other. The test launches a pkt-gen instance to send packets on one interface and another one to receive packets and count them on the other interface.

kselftest-vm

The kernel contains a set of 'self tests' under the tools/testing/selftests/. These are intended to be small unit tests to exercise individual code paths in the kernel. kselftest-vm tests huge page memory in a user application using the mmap and Sys V shared memory system calls. It also tests selecting other page sizes for mmap/shmget and stress test for transparent huge pages, memory compaction and migration.

kselftest-net

The kernel contains a set of 'self tests' under the tools/testing/selftests/. These are intended to be small unit tests to exercise individual code paths in the kernel. kselftest-net is a basic test of packet socket fanout and socket's TPACKET_V1/TPACKET_V2/TPACKET_V3 behavior.

aapits

ACPI API test suite. AAPITS verifies, in emulating mode, conformity of the ACPICA API implementation to the definitions in ACPI Component Architecture Programmer Reference. More details - https://wiki.linaro.org/LEG/Engineering/test-acpi#AAPITS_-_ACPICA_API_Test_Suite

pi-stress-test

PI-Stress-test for POSIX Priority Inheritance mutexes. It's a stress test that checks Priority Inheritence Mutexes and their ability to avoid Priority Inversion from occurring by running groups of threads that cause Priority Inversions.

device-tree

Device tree test to check the folder structure. The test verifies that device-tree is available and contains model name of the board.

smoke-tests-basic

Basic system test command for Linaro Ubuntu images. The test runs basic commands like pwd, uname, vmstat, ifconfig, lscpu, lsusb and lsb_release.

bootchart

Test case that measures the boot time

ptsematest

Ptsematest measures the latency of interprocess communication with POSIX mutex. The test starts two threads that are synchronized via pthread_mutex_unlock()/pthread_mutex_lock() and measures the latency between releasing and getting the lock. The dafault iteration is set to 1000 which can be changed via JSON file.

replay-server-multinode

Basic MultiNode topreplay test on server side

ebizzy

Running ebizzy tool

bL_iks_tests

This test suite covers big.LITTLE switching functionality and stress tests. The main focus is to test big.LITTLE switching while system switches its cores from A15 to A7 and vice versa

perf

Perf is a profiler tool for Linux and is used to collect and analyze performance and trace data. This test runs following perf commands: record(record events for later reporting), report(break down events by process, function, etc), stat(obtain event counts) and test(Run sanity tests).

native-uprobes-systemtap-test

Run uprobes systemtap tests. Pre-requirement is install-uprobe-kernel-on-arndale.yaml

pmqtest

Pmqtest measures the latency of interprocess communication with POSIX messages queues. The test starts pairs of threads that are synchronized via mq_send/mw_receive() and measures the latency between sending and receiving the message. The default iteration is set to 1000 which can be changed via JSON file.

install-uprobe-kernel-on-arndale

Build and install uprobes kernel on arndale. Pre-requirement of native-uprobes-systemtap-test.yaml

pwrmgmt

Test power management (PM-QA). Currently, the test runs cpufreq, cpuidle, cpuhotplug, thermal and cputopology by default and individual test can be run via JSON file too. Test case documentation available in wiki:

https://wiki.linaro.org/WorkingGroups/PowerManagement/Resources/TestSuite/PmQaSpecification

iperf

Basic MultiNode iperf test on server/client side. The roles in the test job must be server & client

replay-client-multinode

Basic MultiNode topreplay test on client side

rt-migrate-test

RT-MIGRATE-TEST verifies the RT threads scheduler balancing. The number of iterations to run is set to 1000 by default and can be changed via JSON file.

gcov-collect-results

Experimental implementation of GCOV for arndale. Make sure gcov is enabled in the kernel. Run tests in separate lava-test-shell without reboot. This definition should be used together with gcov-start

netperf-server-multinode

Basic MultiNode netperf/ping test on server side

kselftest-ptrace

The kernel contains a set of 'self tests' under the tools/testing/selftests/. These are intended to be small unit tests to exercise individual code paths in the kernel. kself-ptrace uses ptrace or process trace system call that provides a means by which one process can observe and control the execution of another process and examine and change the tracee's memory and registers.

device_read_perf

Device read perf test for Ubuntu. The test performs device timings for block devices using 'hdparm' command to test device read timings (hdparm -t) and cache read timings (hdparm -T).

Itp-network

Run LTP network tests

kvm

Test KVM

openssl

OpenSSL is an open source tool for using the Secure Socket Layer (SSL) and Transport Layer Security (TLS) protocols for Web authentication and offers cryptographic functions to support SSL/TLS protocols. This test case measures openssl speed benchmark using md5, sha1, sha256 and sha512 as parameters.

nohz-isolation

Test CPU Isolation with NOHZ and CPUSETS on Linaro Ubuntu and OpenEmbedded builds. The test can isolate upto (N-1) CPU's from list of N CPU's isolating it from other background kernel activities and run user provided task (default 'stress') on the isolated CPU(s) and figures out if CPU's are isolated or not by reading 'cat /proc/ interrupts' for all interrupts. ISOL_CPU, ITERATIONS and ISOL_MIN are set to 1, 5 and 10 respectively by default which can be changed via JSON file. NOTE: Kernel configuration needed to run this test +CONFIG_NO_HZ_FULL=y +CONFIG_NO_HZ_FULL_ALL=y +CONFIG_CGROUPS=y +CONFIG_CPUSETS=y

libhugetlbfs

libhugetlbfs is a library that can back application text, data, malloc() and shared memory with hugepages. The test runs through libhugetlbfs next branch tests and currently supports 32bit ubuntu system.

gator-data-streaming-ubuntu

Gator Data Streaming Test checks DS5 profiling feature for Ubuntu builds. The test creates a sample session XML file called 'session.xml', this file is passed as a parameter to the gatord command to do a local capture and test results are generated depending upon output of this command.

acpi-smoke-test

ACPI smoke test verifies presence of acpi and DSDT under /sys/firmware. It also checks for decompilation of DSDT under /sys/firmware/acpi/tables/DSDT if iasl is installed.

sd-mmc-ubuntu

SD MMC test on Linux Linaro ubuntu. The test checks if SD card is available and no IO error is observed in dmesg output.

openssl-bsaes

Test to verify correctness of the NEON bit sliced AES code in OpenSSL

Itp-realtime

Run LTP realtime tests

hackbench

Test hackbench (rt-tests version) on Ubuntu. Hackbench works by creating multiple pairs of threads or processes, that pass data between themselves over pipes.

sigwaittest

Sigwaittest measure interthread signal latency. The test sigwaittest starts two threads or, optionally, forks two processes that are synchonized via signals and measures the latency between sending a signal and returning from sigwait().

kselftest-mqueue

The kernel contains a set of 'self tests' under the tools/testing/selftests/. These are intended to be small unit tests to exercise individual code paths in the kernel. kselftest-mqueue tries to open a posix message queue and reports whether it fails or passes.

acpica-tools

ACPI ASL test suite on ARMv8. ASLTS verifies, in 'hardware-independent' mode, conformity of ACPICA ASL compiler and interpreter to the ACPI ASL grammar specification. More Details - https://wiki.linaro.org/LEG/Engineering/test-acpi#ASLTS - ASL Test Suite

bootchart-install

Test if bootchart is installed (first step to run bootchart.yaml test which measures the boot time)

svsematest

Svsematest measures interthread SystemV semaphore latency. The test svsematest starts two threads or, optionally, forks two processes that are synchronized via SYSV semaphores and measures the latency between releasing a semaphore on one side and getting it on the other side.

netperf-client-multinode

Basic MultiNode netperf/ping test on client side

latency-test

latency-test sets up and runs one or two real-time threads. Each time a thread is started by the scheduler, the code set up by latency-test gets the time and subtracts from it the previous time the same thread started. latency-test determines the maximum deviation (both larger and smaller) of this difference compared to the selected period, compares the absolute values of the two deviations, and reports the larger absolute value as the max jitter.

fio-test

FIO or Flexible IO is a versatile IO workload generator Test on Linux Linaro ubuntu. The target Device ID required to run this test is set to '/dev/sda/' by default and it is possible to set Device ID through JSON file as well.

cyclictest-basic

Cyclictest tool is used to measure event latency in kernel. The test runs cyclictest command in loop and increases the number of thread after each iteration.

multiple-network-interfaces

Multiple network interfaces test for Linaro Ubuntu images. rp_filter is set to 1 by default on Ubuntu to turn on Source Address Verification in all interfaces to prevent some spoofing attacks. For network testing, we set rp_filter to 0 so that Ubuntu send and accept packets through the specified ethernet interface

kselftest-cpu-hotplug

Linux kernel Selftest. The kernel contains a set of 'self tests' under the tools/testing/selftests/ directory. These are intended to be small unit tests to exercise individual code paths in the kernel. This test runs full range of cpu-hotplug tests.

ltp

Run LTP test suite on Ubuntu

sysbench

SysBench is a modular, cross-platform and multi-threaded benchmark tool for evaluating OS parameters that are important for a system running a database under intensive load. The test runs sysbench test in loop and increase the number of thread after each iteration.

gatortests

Gatortest checks availability of gator daemon and module on target.

ovs-odp-dpdk-server-multinode

OVS on top of ODP-DPDK - this runs as part of a multinode setup and tests the performance of odp-ovs. This initial effort covers simple PHY-to-PHY forwarding in a setup with two machines connected back to back trough two network interfaces. The other machine will usually run netmap-pkt-gen-multinode to generate packets and measure the rate of packets forwarded by odp-ovs.

kselftest

Kernel Self Test

network-tests-basic

Basic network test commands for Linaro Ubuntu images

signaltest

Signaltest measures the round trip for a signal. The test creates N threads and measures the minimum, maximum and average time taken for any thread to recieve a signal after it sent one. The number of iterations to run is set to 1000 by default and can be changed via JSON file.

exec-latency

Run latency test

audit-test

The Linux audit framework provides a CAPP-compliant (Controlled Access Protection Profiles) auditing system that reliably collects information about any security-relevant(or non-security-relevant) event on a system. It can help you track actions performed on a system. Required kernel configs CONFIG_AUDIT=y CONFIG_HAVE_ARCH_AUDITSYSCALL=y CONFIG_AUDITSYSCALL=y CONFIG_AUDIT_WATCH=y CONFIG_AUDIT_TREE=y CONFIG_INTEGRITY_AUDIT=y CONFIG_AUDIT_GENERIC=y CONFIG_AUDIT_COMPAT_GENERIC=y

usb-test-basic

Basic USB test for Linaro Ubuntu images. The test examines all available USB devices and prints supported USB protocols and speed.

phoronix

Run a sub-set of phoronix test suite on Linux Linaro ubuntu

sata-partition-rw

SATA Partition, Read and Write Test on Linux Linaro ubuntu. 1) The target Device ID is possible to be set in JSON. 2) This script is using dd with iflag and oflag set to direct to test read and write performance. In this way it can provide the real output without cache involved. 3) For more information, please refer to dd GNU web page.

kselftest-efivarfs

The kernel contains a set of 'self tests' under the tools/testing/selftests/ directory. These are intended to be small unit tests to exercise individual code paths. This test runs efivarfs(a (U)EFI variable filesystem). Variables can be created, deleted and modified with the efivarfs filesystem.

rcutorture

RCU or Read-Copy Update Torture test for Linux Kernel. The default torture time is set to 600 which can be changed via JSON file.

qemu-edk2-boot

Setup and run a test on Aarch64 QEMU System Image, with networking.

mmtests

Run tests from mmtests suite on Ubuntu

sendme

Sendme measures time intervals by sending a signal from driver to user. The test, sendme uses the backfire driver to send a signal from driver to user. It then reads the timestamp from the driver and calculates the time intervals to call the driver and to receive the signal from the driver.

lkp

Run LKP test suite on Linaro Ubuntu

kselftest-memory-hotplug

Linux kernel Kselftest-memory-hotplug test for Linaro OpenEmbedded builds. The kernel contains a set of 'self tests' under the tools/testing/selftests/ directory. These are intended to be small unit tests to exercise individual code paths. This test runs memory-hotplug test. Memory-hotplug allows to increase/decrease the amount of memory required by highly virtualized environments or required by hardware which supports memory power management.

kernel-version

Kernel-version test for Linaro OpenEmbedded builds. The test verfies available kernel version.

cyclictest

Cyclictest Suite for Linaro OpenEmbedded builds. Cyclictest is a high-resolution test program for measuring the Linux kernel latencies. The MAX, AVG and RTIME is set to 15000, 50 and 7200 respectively by default which can chabged via JSON file.

openvswitch-Ing

OVS test suite for Linaro OpenEmbedded builds. Open vSwitch is a multilayer software switch licensed under the open source Apache 2 license. Open vSwitch is well suited to function as a virtual switch in VM environments. In addition to exposing standard control and visibility interfaces to the virtual networking layer, it was designed to support distribution across multiple physical servers. Open vSwitch supports multiple Linux-based virtualization technologies including Xen/XenServer, KVM, and VirtualBox.

Ishw

Lshw Test for Linaro OpenEmbedded builds. Ishw is a small tool to extract detailed information on the hardware configuration of the machine. It can report exact memory configuration, firmware version, mainboard configuration, CPU version and speed, cache configuration and bus speed etc.

Imbench

Lmbench test Suite for Linaro OpenEmbedded builds. Imbench is a suite of simple, portable,

ANSI/C microbenchmarks for UNIX/POSIX. In general, it measures two key features: latency and bandwidth.

kselftest-vm

Linux kernel Kselftest-vm test for Linaro OpenEmbedded builds. The kernel contains a set of 'self tests' under the tools/testing/selftests/ directory. These are intended to be small unit tests to exercise individual code paths. kselftest-vm tests huge page memory in a user application using the mmap and Sys V shared memory system calls. It also tests selecting other page sizes for mmap/shmget and stress test for transparent huge pages, memory compaction and migration.

kselftest-net

Linux kernel Kselftest-net test for Linaro OpenEmbedded builds. The kernel contains a set of 'self tests' under the tools/testing/selftests/ directory. These are intended to be small unit tests to exercise individual code paths. kselftest-net is a basic test of packet socket fanout and socket's TPACKET_V1/TPACKET_V2/TPACKET_V3 behavior.

odp-ring

ODP-RING or OpenDataPlane Ring test for Linaro OpenEmbedded builds. The test checks for watermark and default bulk enqueue/dequeue.

sdkhelloc

Test for C compiler in Linaro OpenEmbedded builds. NOTE: This test works only on builds with this layer http://layers.openembedded.org/layerindex/recipe/3611/

odp-shm

ODP_SHM or Opendata plane shared memory test for Linaro OpenEmbedded builds. The test check Shared memory block info and tests shared data.

openjdk8-sanity

Openjdk8-sanity test for Linaro OpenEmbedded builds. The test validates that the OpenJDK 8 java binary can run and matches version 1.8

device-tree

Device tree test to check the folder structure. The test verifies that device-tree is available and contains model name of the board.

sdkhellocxx

Test for C++ compiler in Linaro OpenEmbedded builds. NOTE: This test works only on builds with this layer http://layers.openembedded.org/layerindex/recipe/3611/

smoke-tests-basic

Basic system test command for Linaro OpenEmbedded images

replay-server-multinode

Basic MultiNode tcpreplay test on server side for Linaro OpenEmbedded builds. Please check replay-client-multinode for more info.

ebizzy

Ebizzy test for Linaro OpenEmbedded builds. Ebizzy test is designed to generate a workload resembling common web application server workloads. It is highly threaded, has a large inmemory working set, and allocates and deallocates memory frequently.

perf

Performance tests for Linaro OpenEmbedded builds. Perf is a profiler tool for Linux and is used to collect and analyze performance and trace data. This test runs following perf commands: record (record events for later reporting), report(break down events by process, function, etc), stat(obtain event counts) and test(Run sanity tests).

phpinfo

Test for phpinfo() in Linaro OpenEmbedded builds. NOTE: This test works only on OE builds with this layer http://layers.openembedded.org/layerindex/recipe/3611/

mysql

MYSQL test for Linaro OpenEmbedded builds. The test runs 'show databases' command to check for available databases.

pwrmgmt

Test power management (PM-QA). Currently, the test runs cpufreq, cpuidle, cpuhotplug, thermal and cputopology by default and individual test can be run via JSON file too. Test case documentation available here wiki:

https://wiki.linaro.org/WorkingGroups/PowerManagement/Resources/TestSuite/PmQaSpecification

iperf

Basic MultiNode iperf test on server/client side. The roles in the test job must be server & client

replay-client-multinode

Basic MultiNode topreplay test on client side for Linaro OpenEmbedded builds. The test replays packages to IP address at a given rate (packet/sec) and loops through the capture file 'REP' times. 'REP' is set to 100 by default which can be changed via JSON file.

netperf-server-multinode

Basic MultiNode netperf/ping test on server side for Linaro OpenEmbedded builds. Please check netperf-multinode-client test for more info.

kselftest-ptrace

Linux kernel Kselftest-ptrace test for Linaro OpenEmbedded builds. The kernel contains a set of 'self tests' under the tools/testing/selftests/ directory. These are intended to be small unit tests to exercise individual code paths. kself-ptrace test uses ptrace or process trace system call that provides a means by which, one process can observe and control the execution of another process and examine and change the tracee's memory and registers.

kvm

Test kvm on openembedded.

nohz-isolation

Test CPU Isolation with NOHZ and CPUSETS on Linaro Ubuntu and OpenEmbedded builds. The test can isolate upto (N-1) CPU's from list of N CPU's isolating it from other background kernel activities and run user provided task (default 'stress') on the isolated CPU(s) and figures out if CPU's are isolated or not by reading 'cat /proc/ interrupts' for all interrupts. ISOL_CPU, ITERATIONS and ISOL_MIN are set to 1, 5 and 10 respectively by default which can be changed via JSON file. NOTE: Kernel configuration needed to run this test +CONFIG_NO_HZ_FULL=y +CONFIG_NO_HZ_FULL_ALL=y +CONFIG_CGROUPS=y +CONFIG_CPUSETS=y

libhugetlbfs

Run through libhugetlbfs next branch tests. Runs through \$WORD_SIZE bit libhugetlbfs on target system. The default WORD_SIZE is 64 bit to accommodate 64 bit systems but for 32 bit systems the WORD_SIZE value should be set to 32 from the json file passed to the scheduler. One needs to run with a kernel that supports huge pages, also the OpenEmbedded system needs to have the libhugetlbfs test suite pre-installed. (Which is the case for recent OpenEmbedded builds).

acpi-smoke-test

ACPI smoke test verifies presence of acpi and DSDT under /sys/firmware. It also checks for decompilation of DSDT under /sys/firmware/acpi/tables/DSDT if iasl is installed.

odp-atomic

ODP-ATOMIC or OpenDataPlane Atomic test for Linaro OpenEmbedded builds. The test performs basic atomic operation like add/sub/increment/decrement operation.

sdkhelloc_static

Test for C compiler (static linking) in Linaro OpenEmbedded builds. NOTE: This test works only on OE builds with this layer http://layers.openembedded.org/layerindex/recipe/3611/

Itp-realtime

Run LTP test realtime on OpenEmbedded.

hackbench

Hackbench test for Linaro OpenEmbedded builds. Hackbench is both a benchmark and a stress test for the Linux kernel scheduler. It's main job is to create a specified number of pairs of

schedulable entities (either threads or traditional processes) which communicate via either sockets or pipes and time, how long it takes for each pair to send data back and forth.

alldebug-kernel

This test will parse the kernel self debug test log

kselftest-mqueue

Linux kernel Kselftest-mqueue test for Linaro OpenEmbedded builds. The kernel contains a set of 'self tests' under the tools/testing/selftests/ directory. These are intended to be small unit tests to exercise individual code paths. kselftest-mqueue test tries to open a posix message queue and reports whether it fails or passes.

phpmysql

Test for php/mysql in Linaro OpenEmbedded builds. NOTE: This test works only on OE builds with this layer http://layers.openembedded.org/layerindex/recipe/3611/

odp-packet

ODP-PACKET or OpenDataPlane Packet test for Linaro OpenEmbedded builds. odp_packet is a basic packet IO loopback test application.

ethernet

Ethernet Test for Linaro OpenEmbedded builds. The test checks if Ethernet is up and prints IP address.

netperf-client-multinode

Basic MultiNode netperf/ping test on client side for Linaro OpenEmbedded builds. This test measures the performance using netperf/ping/tcreplay for throughput and end-to-end latency.

odp-example

Run odp-example test on Linaro OpenEmbedded builds. NOTE: This test is deprecated from ODP and will be dropped soon.

cyclictest-basic

Cyclictest tool is used to measure event latency in kernel. The test runs cyclictest command in loop and increases the number of thread after each iteration.

kselftest-cpu-hotplug

Linux kernel Selftest for Linaro OpenEmbedded builds. The kernel contains a set of 'self tests' under the tools/testing/selftests/ directory. These are intended to be small unit tests to exercise individual code paths in the kernel. This test runs full range of cpu-hotplug tests.

busybox

Busybox test for Linaro OpenEmbedded builds. BusyBox is software that provides several stripped-down Unix tools in a single executable file. Busybox test runs mkdir, touch, ls, ps, whoami, which, basename, cp, rm, dmesg and grep commands.

ltp

Run LTP test suite on OpenEmbedded.

sysbench

Sysbench test for Linaro OpenEmbedded builds. SysBench is a modular, cross-platform and multi-threaded benchmark tool for evaluating OS parameters that are important for a system running a database under intensive load. The test runs sysbench test in loop and increases the number of threads after each iteration.

pointer-tagging-tests

Tagged pointer test for Linaro OpenEmbedded builds. This test suite is designed to verify if AArch64 tagged-addressing feature is properly supported.

odp-validation

Run ODP API validation tests on Linaro OpenEmbedded builds. Note that this depends on both the odp and odp-ptest packages being installed in the target rootfs.

kselftest

Kernel Self Test

trinity

Trinity Test for Linaro OpenEmbedded builds. It tests syscalls randomly with random arguments, If the kernel didn't crash or taint, it passes the test and fails otherwise. NOTE: THE TEST MIGHT DAMAGE THE PLATFORM, SO IT'S BETTER TO RUN IT ON EMULATOR. More Detils - http://codemonkey.org.uk/projects/trinity/

kselftest-efivarfs

Linux kernel Kselftest-efivarfs test for Linaro OpenEmbedded builds. The kernel contains a set of 'self tests' under the tools/testing/selftests/ directory. These are intended to be small unit tests to exercise individual code paths. This test runs efivarfs(a (U)EFI variable filesystem). Variables can be created, deleted and modified with the efivarfs filesystem.

kvm-benchmark

kvm benchmark.

toolchain

Test to verify toolchain version installed in Linaro OpenEmbedded builds.