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## 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](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

## **bonnie**

Bonnie++ is a benchmark suite that is aimed at performing a number of simple tests of hard drive and file system performance. If a test completes in less than 500ms then the output will be displayed as '++++'. This is because such a test result can't be calculated accurately due to rounding errors and I would rather display no result than a wrong result.

## **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 pseudo-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.

## **tjbench**

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.

## **multinode-target**

Run android test that requires host side. Target side. The value put in params section in this file is default, user can overwrite them by the values in JSON file. Test can be used with different host side tests

## **pm-qa**

pm-qa tests.

## **cts-target**

Run android test that requires host side. Target side. The value put in params section in this file is default, user can overwrite them by the values in JSON file. Test can be used with different host side tests

## **art-microbenchmarks**

The script configures the nexus9 for low variance and runs the test

## **iozone**

Iozone 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 unique 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 logcat 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](https://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 to 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**

Run android test that requires host side. Target side. The value put in params section in this file is default, user can overwrite them by the values in JSON file. Test can be used with different host side 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](https://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.

## **kseltest-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](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 l2fwd 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 l2fwd 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.

## **kseltest-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. kseltest-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.

## **perf-mmap**

Perf-mmap-test is testsuite for showing benchmarks for accessing perf hw counters from userspace with traditional way by using read syscall, and mmap way

## **kseltest-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. kseltest-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](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 Inheritance 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 default iteration is set to 1000 which can be changed via JSON file.

### **replay-server-multinode**

Basic MultiNode tcpreplay 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, cpufreq, 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 tcpreplay 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-pttrace**

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-pttrace 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).

## **ltp-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 CPUSSETS 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\_CPUSSETS=y

## **libhugetlbf**

libhugetlbf is a library that can back application text, data, malloc() and shared memory with hugepages. The test runs through libhugetlbf 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 gator 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

### **ltp-realttime**

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 synchronized 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 ACPIA ASL compiler and interpreter to the ACPI ASL grammar specification. More Details - [https://wiki.linaro.org/LEG/Engineering/test-acpi#ASLTS\\_-\\_ASL\\_Test\\_Suite](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.

## **cyclicttest-basic**

Cyclicttest tool is used to measure event latency in kernel. The test runs cyclicttest 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 receive 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\_ARCH\_COMPAT\_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 verifies 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 be changed via JSON file.

### **openvswitch-lng**

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.

### **lshw**

Lshw Test for Linaro OpenEmbedded builds. Lshw 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.

### **lmbench**

Lmbench test Suite for Linaro OpenEmbedded builds. Lmbench 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 in-memory 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, cpufreq, 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 tcpreplay 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 CPUSSETS 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\_CPUSSETS=y

## **libhugetlbf**

Run through libhugetlbf next branch tests. Runs through \$WORD\_SIZE bit libhugetlbf on target system. The default WORD\_SIZE is 64 bit to accomodate 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 libhugetlbf 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/>

## **ltp-realttime**

Run LTP test\_realttime 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 Details - <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.