Summary

This document introduces how to perform LSB test on target.

Definitions

PC$: The prompt of the host PC-Linux with normal user privilege
PC#: The prompt of the host PC-Linux with root user privilege
TGT#: The prompt of the target system with root user privilege

Step 1: Get the LSB test suite

You can get the LSB test suite from the following link:
http://ftp.linuxfoundation.org/pub/lsb/
The latest version is 4.1.0.
We will perform LSB on ia32, x86_64 and ppc32 architecture. So we need to download these files:
http://ftp.linuxfoundation.org/pub/lsb/bundles/released-4.1.0/dist-testkit/lsb-dist-testkit-4.1.0-5.${ARCH}.tar.gz
http://ftp.linux-foundation.org/pub/lsb/lsbdev/released-4.1.0/binary/${ARCH}/lsb-xdg-utils-4.0.0-2.${ARCH}.rpm
http://ftp.linux-foundation.org/pub/lsb/app-battery/released-4.1.0/${ARCH}/lsb-apache-2.2.14-3.lsb4.${ARCH}.rpm
http://ftp.linux-foundation.org/pub/lsb/app-battery/released-4.1.0/${ARCH}/lsb-tcl-8.5.7-6.lsb4.${ARCH}.rpm
http://ftp.linux-foundation.org/pub/lsb/app-battery/released-4.1.0/${ARCH}/lsb-expect-5.43.0-11.lsb4.${ARCH}.rpm
http://ftp.linux-foundation.org/pub/lsb/app-battery/released-4.1.0/${ARCH}/lsb-groff-1.20.1-5.lsb4.${ARCH}.rpm
http://ftp.linux-foundation.org/pub/lsb/app-battery/released-4.1.0/${ARCH}/lsb-raptor-1.4.19-3.lsb4.${ARCH}.rpm
http://ftp.linux-foundation.org/pub/lsb/app-battery/released-4.1.0/${ARCH}/lsb-xpdf-1.01-10.lsb4.${ARCH}.rpm
http://ftp.linux-foundation.org/pub/lsb/app-battery/released-4.1.0/${ARCH}/lsb-samba-3.4.3-5.lsb4.${ARCH}.rpm
http://ftp.linux-foundation.org/pub/lsb/app-battery/released-4.1.0/${ARCH}/lsb-rsync-3.0.6-3.lsb4.${ARCH}.rpm

If your target machine can not access Internet, you also need to download these files:
http://ftp.linuxfoundation.org/pub/lsb/snapshots/appbat/tests/expect-tests.tar
http://ftp.linuxfoundation.org/pub/lsb/snapshots/appbat/tests/tcl-tests.tar
http://ftp.linuxfoundation.org/pub/lsb/snapshots/appbat/tests/raptor-tests.tar
http://ftp.linuxfoundation.org/pub/lsb/snapshots/appbat/tests/test1.pdf
http://ftp.linuxfoundation.org/pub/lsb/snapshots/appbat/tests/test2.pdf

If your target machine can access Internet, you don't need to do this. It can be

downloaded from Internet automatically during LSB installation.

Step 2: Get the poky-image-lsb-sdk-rootfs
Download the poky-image-lsb-sdk-rootfs tarball, modules tarball and kernel image from autobuilder: http://autobuilder.yoctoproject.org

Step 3: Create a qemu image
With qemu, since running LSB need lots of disk space, so we need to create a 8GB lsb-sdk image. If you are running LSB on a real hardware, just skip this step.
PC$ dd if=/dev/zero of=poky-image-lsb-sdk-${ARCH}.ext3 bs=1M count=8000
PC$ sudo mkfs.ext3 poky-image-lsb-sdk-${ARCH}.ext3
PC$ mkdir lsb-mnt
PC$ sudo mount -o loop poky-image-lsb-sdk-${ARCH}.ext3 lsb-mnt
PC$ cd lsb-mnt
PC$ sudo tar pxjvf ../poky-image-lsb-sdk-${ARCH}.rootfs.tar.bz2

Running LSB need loop.ko module, you must install modules tarball.
PC$ sudo tar pxzvf ../moudles-${KERNEL_VERSION}.tgz
PC$ cd .. ; sudo umount lsb-mnt

And we also need to increase the qemu memory to 512MB.
For example, increase memory with qemux86:
PC$ sudo vim /opt/poky/1.0/sysroots/x86_64-pokysdk-linux/usr/bin/poky-qemu-internal
########
```
if [ -z "$QEMU_MEMORY" ]; then
    case "$MACHINE" in
        "qemux86")
            QEMU_MEMORY="128M"
```
########
Change "128M" to "512M"

########
```
if [ -z "$QEMU_MEMORY" ]; then
    case "$MACHINE" in
        "qemux86")
            QEMU_MEMORY="512M"
```
########

Add "-m $QEMUMEMORY" to the proper line.
########
```
if [ "$MACHINE" = "qemux86" ]; then
    QEMU=qemu
    QEMU_UI_OPTIONS="$QEMU_UI_OPTIONS -vga vmware -enable-gl"
```

```
    if [ "$FSTYPE" = "ext3" ]; then
      KERNCMDLINE="vga=0          root=/dev/hda          mem=$QEMU_MEMORY
$KERNEL_NETWORK_CMD"
      QEMUOPTIONS="$QEMU_NETWORK_CMD -hda $ROOTFS $QEMU_UI_OPTIONS"
########

########
if [ "$MACHINE" = "qemux86" ]; then
    QEMU=qemu
    QEMU_UI_OPTIONS="$QEMU_UI_OPTIONS -vga vmware -enable-gl"
    if [ "$FSTYPE" = "ext3" ]; then
      KERNCMDLINE="vga=0          root=/dev/hda          mem=$QEMU_MEMORY
$KERNEL_NETWORK_CMD"
      QEMUOPTIONS="$QEMU_NETWORK_CMD -m $QEMU_MEMORY -hda $ROOTFS
$QEMU_UI_OPTIONS"
########
```

Step 4: Set environment and install LSB on target

Boot up the target.

Copy LSB test suite installation files to the target.

TGT# tar xzvf lsb-dist-testkit-${ARCH}.tar.gz -C /

Put other files to the lsb-Application directory.

TGT# mkdir /lsb-Application

TGT# mv *.rpm *.tar *.pdf /lsb-Application/

With real hardware, you also need to copy modules tarball to the target. And run the following commands:

TGT# tar pxzvf moudles-${KERNEL_VERSION}.tgz -C /

Both on qemu and hardware, you need to run the following command in order to generate the new modules.dep and map files

TGT# depmod -a

Make sure the system time is correct on your target, using 'date MMDDhhmmYYYY' to set it.

Then run the following commands to set environment and install LSB:

TGT# sh /usr/bin/LSB_Setup.sh

Note: There are 3 bugs in LSB_Setup.sh script now (this will be modified in future), so please run the following command before running this script.

1. TGT# modprobe loop
2. TGT# echo "${ARCH}-suse" >> /etc/rpm/platform
   TGT# echo "${ARCH}-noarch" >> /etc/rpm/platform
   TGT# echo "${ARCH}-pc" >> /etc/rpm/platform

TGT# echo "noarch-suse" >> /etc/rpm/platform
${ARCH} is your target architecture.
For x86: i486
For x86_64: x86_64
For ppc: ppc

3. When LSB installation finish, you need install lsb-apache manully:

TGT# rpm -ivh lsb-apache-2.2.14-3.lsb4.${ARCH}.rpm --noscripts –nodeps --force

########
This system appears to be a RPM-based distribution, such as those from
Red Hat, SuSE/Novell, Mandriva, Asianux, etc.

Is this correct? y
.....
The port '8888' will be used by the Distribution Checker's web-UI server.
The command 'sudo su -c' will be used to gain root access.
If you want to change this, run /opt/lsb/test/manager/bin/dist-checker-start.pl <port> <sudo-command>
.....
########

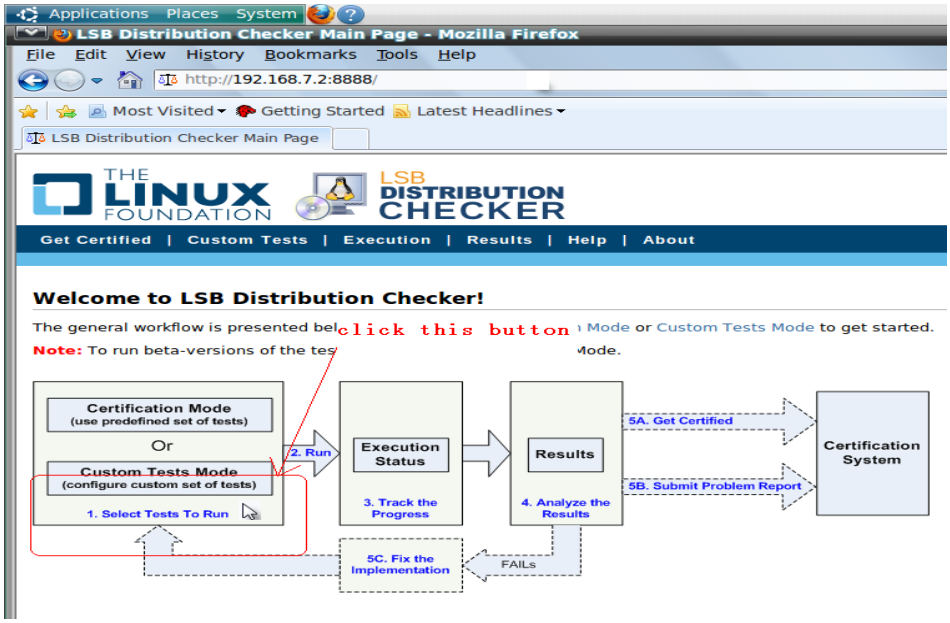
You just need to run the above script at first time. When the LSB has been installed, if you want to start it, just run the following command:
(remember insert module loop.ko first!)
TGT# /opt/lsb/test/manager/bin/dist-checker-start.pl

And if you want to stop the LSB server, just run the following command:
TGT# /opt/lsb/test/manager/bin/dist-checker-stop.pl

Step 5: Run LSB test suite

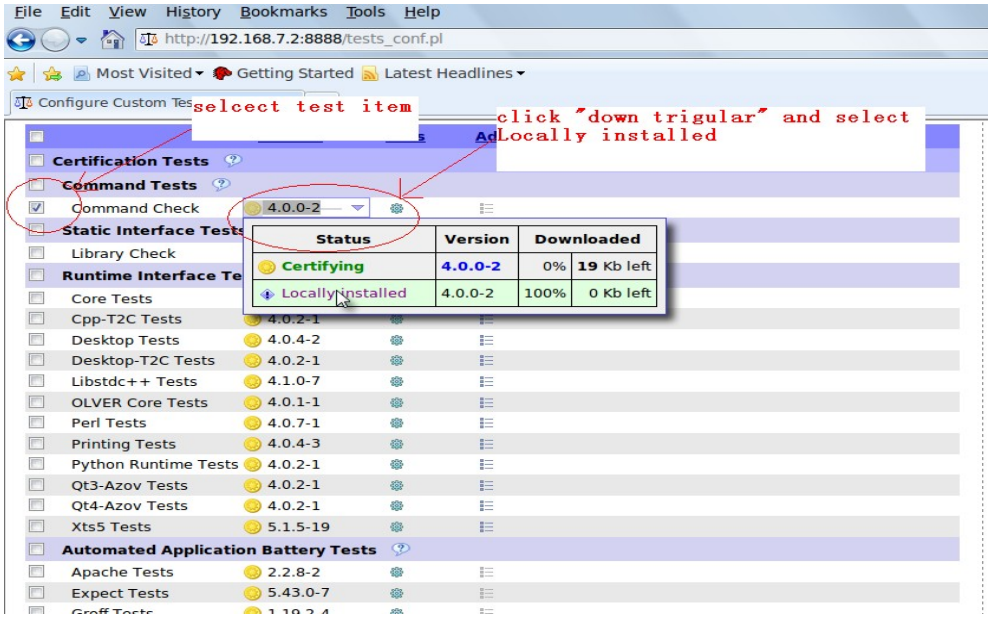
1. Open a web browser on host. Input the target IP address and port. For example: http://192.168.7.2:8888

2. Select tests mode



3. Click button “Refresh List”

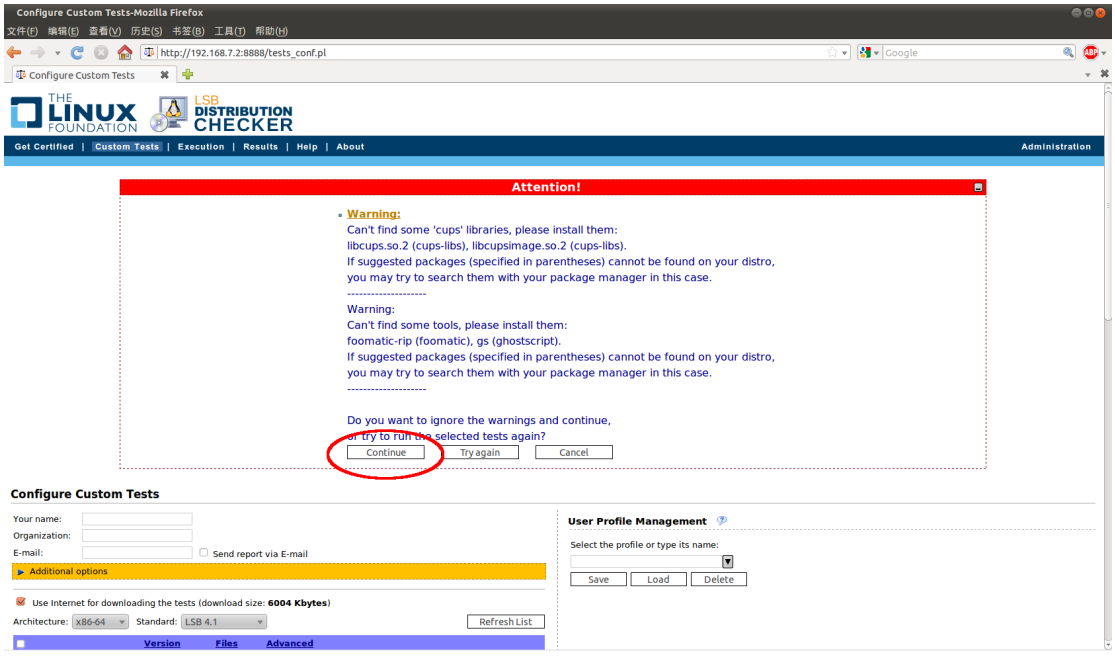
4. Select test item. Now we can select the following tests:
Command Tests
Static Interface Tests
Runtime Interface Tests
Automated Application Battery Tests
Note: Make sure the “Status” must be marked as “Locally installed” in every test item.



5. Run test item

If you encounter an error message with some test items, just disselect these items and run test again.

If you encounter a warning message with some test items, you can ignore these message and click 'Continue' button.

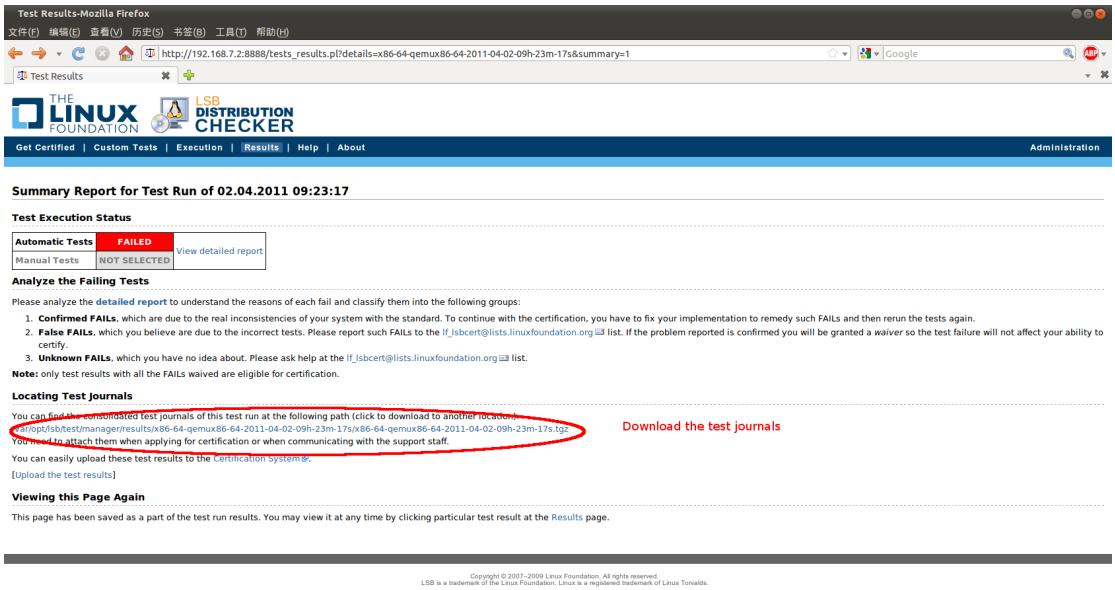


Note: Running the entire LSB test will take a long time, maybe more than 2 days, please be patient.

6. Get the result

When the LSB test finished, you can get the result. You can download the test

journals to the location and send it to the developer.



If you want to see the detailed report, just click the “View detailed report”.

The detailed report will be shown like blow: