

This manual is representative of our work, but it is an outdated document.
If you are looking for information on QA Café or CDRouter, please go to www.qacafe.com.



Cable/DSL Router Test Suite

User's Guide

cdrouter
Release 1.3.1
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Writing Sample from
Moon & Star
www.moon-and-star.com



Chapter 2 Configuration

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You are now ready to run the test suite. The cdrouter test suite requires root access in order to use pktsrc. You can either run the test suite directly as root or setup sudo for buddy. However, before you begin, you must edit the configuration file 'local.conf' to match your test environment.

Basic Configuration

cdrouter can be run on a standard linux PC with 2 ethernet interfaces. The interfaces selected should not be connected to a 'real' network. These interfaces must be configured 'up', but they should not have any IP configuration.

Finding available interfaces

You can find the available network interfaces on your system using the 'ifconfig' command. From this list of interfaces, you can select 2 available network interfaces.

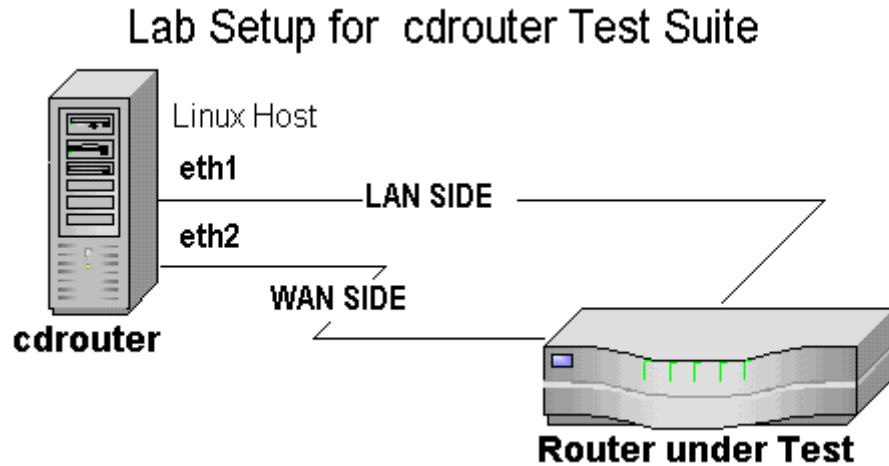
```
# -- example of interface configuration
# ifconfig eth2

eth2      Link encap:Ethernet  HWaddr 00:D0:B7:79:8C:DE
          UP BROADCAST PROMISC MULTICAST  MTU:1500  Metric:1
          RX packets:755666 errors:0 dropped:0 overruns:0 frame:6
          TX packets:39955 errors:0 dropped:0 overruns:201 carrier:0
          collisions:0 txqueuelen:100
          Interrupt:9 Base address:0xdd00
```

Cabling the test setup

The networks connecting the cdrouter linux PC to the router should be isolated networks with no other network devices. Generally, the ports can be directly cabled together using an Ethernet cross-over cable or cabled into a hub/switch so that other sniffer tools can be used.

The following is the typical configuration:



Configuring 'local.conf'

The 'local.conf' file lives in the top level directory of the cdrouter test suite. This file contains all the configuration information needed by the test suite to test the router. The configuration must match your actual test setup and configuration of your Cable/DSL Router.

The LAN and WAN sides of your test setup must be configured in the local.conf file.

LAN Interface Configuration

lanInterface

This is the name of the physical device attached to the LAN network. This should be one of the devices displayed using ifconfig such as eth0, eth1, etc. Note, this device should be configured up, but it should not have its own IP address configured.

Chapter 4

End to End Testing



Normally, the cdrouter test suite is used to test a single IP device. However, the test suite can be configured to test through a network that contains additional IP devices. Typically, this is used to test a Cable/DSL router connected to a DSLAM device through a cable/xDSL modem.



If multiple IP routers are connected between the Cable/DSL Router and the WAN interface on the test host, the WAN mode can be configured to 'static' or 'DHCP'. The DHCP mode will only work if one of the devices in the topology is configured as a DHCP-relay agent.

Static Mode

The wanIspIp and wanIspAssignIp addresses should be set based on the IP address of the first router connected to the WAN side of the test suite. In the topology above, 'wanIspAssignIp' would be set to router 1's IP address on the WAN side and 'wanIspIp' would be set to an available IP address on the same network.

DHCP-Relay Mode

To run in DHCP-relay mode, two additional configuration parameters are needed. The wanIspIp and wanIspGateway addresses should be set based on the IP address of the first router connected to the WAN side of the test suite.

The 'wanIspAssignIp' and 'wanIspAssignGateway' should be configured to an IP host and gateway addresses that should be assigned to the Cable/DSL router.

The 'wanNatIP' variable should be set to the expected WAN side address of the Cable/DSL router.

The distribution includes an example DHCP-relay configuration local.conf-dhcp-relay

Configuring the number of IPv4 hops

Since the additional IP routers change the expected IPv4 hop count between the LAN and WAN interfaces, the 'IPv4HopCount' variable should be set to the number of IPv4 hops. Normally, this is set to 1.

Getting More out of the cdrouter test suite

There are several techniques that can be used to increase your testing mileage with the cdrouter test suite.

Repeat a single test or repeat multiple tests

You can setup a test run that repeats a single test or collection of tests. This is helpful to verify that the router continues to function correctly over time.

Example.

```
# -- repeat all the nat tests until one fails.
# buddy -module nat.tcl -repeat -until-fail
```

Skip individual tests or test modules

During your testing, you may run into problems where the router gets into a state where it can not recover. If this becomes a road block to additional testing, you can skip these tests or modules in order to setup long duration test runs. The -skip-test and -skip-module options provide this type of control.

