

Openwrt for vonets Build compilation environment

1. VMware Workstation 7.1.3 new build Linux virtual machine, assign disk the limit is 16G, the memory is 256M.
2. Load Linux image file: Fedora-11-i386-DVD.iso, start loading Linux system. The configured user name and password: the super user name and password: root and 123456, the normal user name and password is vonets and 123456.
3. Virtual machine bridge connects to internet, install the software build environment online.
 - 1) Install online:

```
yum install -y gcc*
yum install -y ncurses-devel
yum install -y bison
yum install -y flex
yum install -y lzma
yum install -y xz
yum install -y openssl*
yum install -y mpc
yum install -y perl-ExtUtils-MakeMaker
yum install -y python
yum install -y python-devel
```
 - 2) Install locally git:

```
#tar -zxvf git-1.8.0.1.tar.gz (Online installation version is too low, unable
to adapt to compile openwrt) ;
#cd git-1.8.0.1
#./configure
#make prefix=/usr/local all
#make install
```
 - 3) RPM package install xinetd,tftp-server,svn:

```
#rpm -ivh xinetd-2.3.14-10.el5.i386.rpm(install xinetd)
#rpm -ivh tftp-server-0.49-2.el5.centos.i386.rpm(install xinetd)
a. Modify tftp configuration file (/etc/xinetd.d/tftp)
```

```
service tftp
{
    socket_type           = dgram
    protocol              = udp
    wait                  = yes
    user                  = root
    server                = /usr/sbin/in.tftpd
    server_args           = -s /tftpboot -c
    disable               = no
    per_source            = 11
    cps                   = 100 2
    flags                 = IPv4
}
```

b.Modify tftp directory property: `chmod 777 -R /tftpboot/`

```
#rpm -ivh CollabNetSubversion-client-1.6.9-1.i386.rpm
cd /opt/ConllabNet_Subversion/bin
ln ./svn /usr/local/bin/. (Svn command configured globally available)
```

4) Close linux system security restrictions

A. Close SELinux:

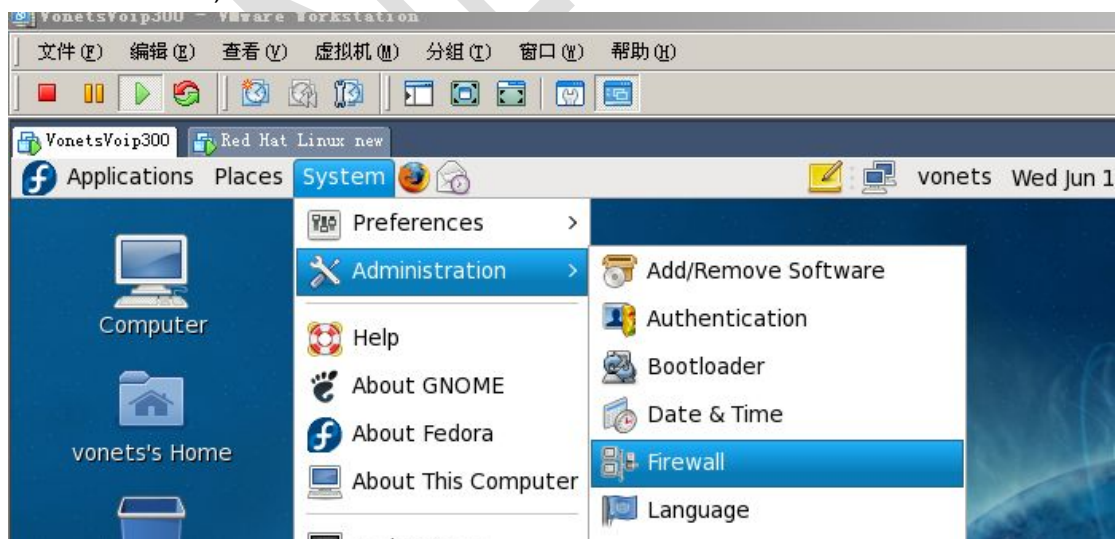
`vi /etc/selinux/config`

`#SELINUX=enforcing` Comment out this row

`SELINUX=disabled` Add this row

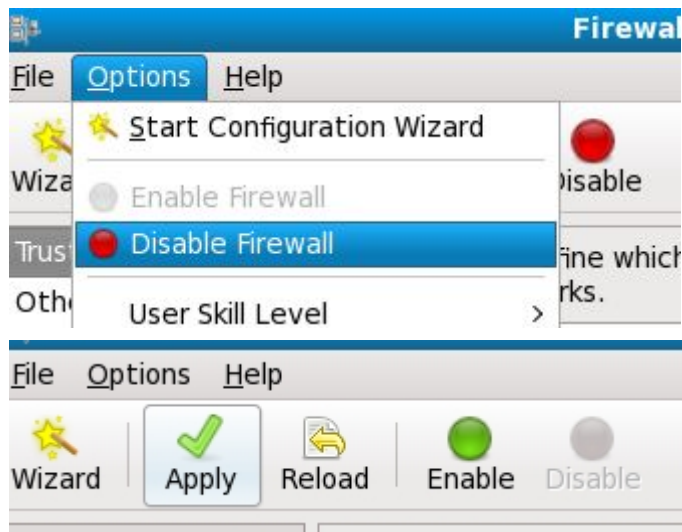
B. Permanently shut down the firewall system

Configure the firewall interface (command line mode "init 5" into Xwindows interface)



I'm a grain of sand on the beach, but I can be found in public

[HTTP://WWW.VONETS.COM](http://www.vonets.com)



C.Reboot tftp service: `service xinetd restart`

4. Working environment of openwrt has finished building, start the master code compiler

```
#tar -jxvf vonetssdk-openwrt-2.6.36-7621-20140707.mini.tar.bz2
#cd openwrt-2.6.36-7621/
#make menuconfig
```

```
[root@ht test]# cd openwrt-2.6.36-7621/
[root@ht openwrt-2.6.36-7621]# make menuconfig
Checking 'working-make'... ok.
Checking 'case-sensitive-fs'... ok.
Checking 'getopt'... ok.
Checking 'fileutils'... ok.
Checking 'working-gcc'... ok.
Checking 'working-g++'... ok.
Checking 'ncurses'... ok.
Checking 'zlib'... ok.
Checking 'gawk'... ok.
Checking 'unzip'... ok.
Checking 'bzip2'... ok.
Checking 'perl'... ok.
Checking '/usr/bin/python'... ok.
Checking 'wget'... ok.
Checking 'git'... ok.
Checking 'gnutar'... ok.
Checking 'svn'... ok.
Checking 'openssl'... ok.
Checking 'gnu-find'... ok.
Checking 'getopt-extended'... ok.
Checking 'non-root'... failed.

Build dependency: Please do not compile as root.

Prerequisite check failed. Use FORCE=1 to override.
make: *** [tmp/.prereq-build] Error 1
[root@ht openwrt-2.6.36-7621]# chmod 777 -R tmp/
[root@ht openwrt-2.6.36-7621]# su vonets
[vonets@ht openwrt-2.6.36-7621]$ make menuconfig
Checking 'working-make'... ok.
Checking 'case-sensitive-fs'... ok.
Checking 'getopt'... ok.
Checking 'fileutils'... ok.
Checking 'working-gcc'... ok.
Checking 'working-g++'... ok.
Checking 'ncurses'... ok.
Checking 'zlib'... ok.
Checking 'gawk'... ok.
Checking 'unzip'... ok.
Checking 'bzip2'... ok.
Checking 'perl'... ok.
Checking '/usr/bin/python'... ok.
Checking 'wget'... ok.
Checking 'git'... ok.
Checking 'gnutar'... ok.
Checking 'svn'... ok.
Checking 'openssl'... ok.
Checking 'gnu-find'... ok.
Checking 'getopt-extended'... ok.
Checking 'non-root'... ok.
make -s -C scripts/config all CC=gcc: build failed. Please re-run make with V=s
to see what's going on
make: *** [scripts/config/mconf] Error 1
[vonets@ht openwrt-2.6.36-7621]$ su root
Password:
[root@ht openwrt-2.6.36-7621]# make menuconfig
Collecting package info: done
```

After make menuconfig success, choose the correct configuration parameters, save and exit

```
Target System (Ralink RT288x/RT3xxx) --->
Subtarget (MT7620a based boards) --->
Target Profile (MT7620a+MT7610e) --->
Target Images --->
Global build settings --->
[ ] Advanced configuration options (for developers) --->
[ ] Build the OpenWrt Image Builder
[ ] Build the OpenWrt SDK
[ ] Build the OpenWrt based Toolchain
[ ] Image configuration --->
Base system --->
Boot Loaders --->
Development --->
Kernel modules --->
Languages --->
Libraries --->
Network --->
Ralink Properties --->
Utilities --->
```

5. For root user, make V = s (compiled with debug statements). The first compilation is about several hours. If the compiler is error, online install the appropriate library and tool according to error message

6. After successful compilation, in the bin / ramips of Openwrt appears compiled bin files and packages

```
root@ht home]# ls -l openwrt-2.6.36-7621/bin/ramips/
total 17272
-rw-r--r-- 1 root root 374 2014-07-07 15:11 md5sums
-rw-r--r-- 1 root root 5242884 2014-07-07 15:11 openwrt-ramips-mt7620a-mt7620a_mt7610e-squashfs-sysupgrade.bin
-rw-r--r-- 1 root root 3932160 2014-07-07 15:11 openwrt-ramips-mt7620a-root.squashfs
-rw-r--r-- 1 root root 1221491 2014-07-07 15:11 openwrt-ramips-mt7620a-uImage.bin
-rwxr-xr-x 1 root root 3648500 2014-07-07 15:11 openwrt-ramips-mt7620a-vmlinux.bin
-rwxr-xr-x 1 root root 3714956 2014-07-07 15:11 openwrt-ramips-mt7620a-vmlinux.elf
-rwxr-xr-x 2 root root 12288 2014-07-07 15:11 packages
```

7. Compile can refer to the documentation "MTK-OpenWrt-2.6.36-SDK-Release Notes.pdf".

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