

## 网络质量监测 Smokepings 介绍

<http://bbs.linuxtone.org>

Tomlinux 撰写

### 一、smokeping 介绍:

smokeping 是 rrdtool 的作者 Tobi Oetiker 的作品, 所以它在图形显示方面有很大优势, 也是一个很有特点的 opensource 工具: 多种探测方式, 包括 fping、echoping、dig、curl 等; 可以在多个节点收集同一个监测点的数据; 很有特色的 alert 设置, 不只是简单的设置一个阈值;

### 二、安装包下载:

<http://apache.freelamp.com/apr/apr-1.4.2.tar.bz2>

<http://apache.freelamp.com/apr/apr-util-1.3.9.tar.bz2>

<http://apache.freelamp.com/httpd/httpd-2.2.15.tar.bz2>

[http://dag.wieers.com/rpm/packages/echoping/echoping-5.2.0-1.2.el5.rf.x86\\_64.rpm](http://dag.wieers.com/rpm/packages/echoping/echoping-5.2.0-1.2.el5.rf.x86_64.rpm)

[http://dag.wieers.com/rpm/packages/fping/fping-2.4-1.b2.2.el5.rf.x86\\_64.rpm](http://dag.wieers.com/rpm/packages/fping/fping-2.4-1.b2.2.el5.rf.x86_64.rpm)

[http://dag.wieers.com/rpm/packages/perl-CGI-SpeedyCGI/perl-CGI-SpeedyCGI-2.22-1.2.el5.rf.x86\\_64.rpm](http://dag.wieers.com/rpm/packages/perl-CGI-SpeedyCGI/perl-CGI-SpeedyCGI-2.22-1.2.el5.rf.x86_64.rpm)

<http://oss.oetiker.ch/rrdtool/pub/rrdtool-1.4.3.tar.gz>

<http://oss.oetiker.ch/smokeping/pub/smokeping-2.4.2.tar.gz>

### 三、安装配置:

```
yum -y install freetype freetype-devel libpng libpng-devel gd gd-devel libxml2 libxml2-devel libiconv  
libiconv-devel pango pango-devel qpixmap qpixmap-devel glib glib-devel cairo cairo-devel libart* gettext  
gettext-devel libjpeg libjpeg-devel perl-XML-Simple.noarch perl-Crypt-SSLeay perl-Digest-HMAC
```

```
rpm -ivh echoping-5.2.0-1.2.el5.rf.x86_64.rpm
```

```
rpm -ivh fping-2.4-1.b2.2.el5.rf.x86_64.rpm
```

```
rpm -ivh perl-CGI-SpeedyCGI-2.22-1.2.el5.rf.x86_64.rpm
```

```
useradd -s /sbin/nologon apache
```

```
tar xf apr-1.4.2.tar.bz2
```

```
cd apr-1.4.2
```

```
./configure --prefix=/usr/local/apr
```

```
make
```

```
make install
```

```
tar xf apr-util-1.3.9.tar.bz2
```

```
cd apr-util-1.3.9
```

```
./configure --prefix=/usr/local/apr-util --with-apr=/usr/local/apr
```

```
make
```

```
make install
```

```
tar xf httpd-2.2.15.tar.bz2
```

```
cd httpd-2.2.15
```

```
./configure --prefix=/usr/local/apache --with-apr=/usr/local/apr --with-apr-util=/usr/local/apr-util
```

```
make
```

```
make install
```

```
tar xf rrdtool-1.4.3.tar.gz
```

```
cd rrdtool-1.4.3
sed -i 's/setlocale(LC_NUMERIC, "C")/setlocale(LC_NUMERIC, "zh_CN.UTF-8")/g' src/rrd_graph.c
./configure --prefix=/usr/local/rrdtool
make
make install
```

```
tar xf smokeping-2.4.2.tar.gz
mv smokeping-2.4.2 /usr/local/smokeping
mkdir /usr/local/smokeping/{cache,var}
```

```
sed -i 's/^User daemon/User apache/1;s/^Group daemon/Group apache/1' /usr/local/apache/conf/httpd.conf
echo "Alias /smokeping/ \"/usr/local/smokeping/\\"" >>/usr/local/apache/conf/httpd.conf
echo "<Directory \"/usr/local/smokeping/\\"" >>/usr/local/apache/conf/httpd.conf
echo -e "\tAllowOverride None" >>/usr/local/apache/conf/httpd.conf
echo -e "\tAddHandler cgi-script cgi" >>/usr/local/apache/conf/httpd.conf
echo -e "\tOptions ExecCGI" >>/usr/local/apache/conf/httpd.conf
echo -e "\tOrder allow,deny" >>/usr/local/apache/conf/httpd.conf
echo -e "\tAllow from all" >>/usr/local/apache/conf/httpd.conf
echo -e "\tDirectoryIndex smokeping.cgi" >>/usr/local/apache/conf/httpd.conf
echo "</Directory>" >>/usr/local/apache/conf/httpd.conf
```

```
rm -f /etc/init.d/httpd
/bin/cp -rp /usr/local/apache/bin/apachectl /etc/init.d/httpd
sed -i '2a #chkconfig: 2345 10 90\n#description: Activates/Deactivates Apache Web Server'
/etc/init.d/httpd
chmod 755 /etc/init.d/httpd
chkconfig --add httpd
chkconfig --level 3 httpd on
/etc/init.d/httpd start
```

```
/bin/cp -rp tr.cgi /usr/local/smokeping/htdocs/
chmod u+s /bin/traceroute
```

```
rm -f /usr/local/smokeping/bin/smokeping.dist
rm -f /usr/local/smokeping/etc/config.dist
rm -f /usr/local/smokeping/htdocs/somkeping.cgi
rm -f /usr/local/smokeping/htdocs/tr.cgi
/bin/cp -rp smokeping.dist /usr/local/smokeping/bin/
/bin/cp -rp config.dist /usr/local/smokeping/etc/
/bin/cp -rp smokeping.cgi /usr/local/smokeping/htdocs/
/bin/cp -rp smokeping /etc/init.d/
chmod 755 /etc/init.d/smokeping
chown -R apache:apache /usr/local/smokeping
chmod -R +x /usr/local/smokeping/bin
chmod -R +x /usr/local/smokeping/htdocs
```

安装完成

访问地址: <http://ip/smokeping/htdocs/smokeping.cgi>

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总结：以下三点

1、安装前 `yum -y install freetype freetype-devel libpng libpng-devel gd gd-devel libxml2 libxml2-devel libiconv libiconv-devel pango pango-devel qpixmap qpixmap-devel glib glib-devel cairo cairo-devel libart* gettext gettext-devel libjpeg libjpeg-devel perl-XML-Simple.noarch perl-Crypt-SSLeay perl-Digest-HMAC`

否则启动时会出现一些 perl 的问题

2、config.dist 的配置文件

\*\*\* Targets \*\*\*

probe = FPing

menu = Top

title = Network Latency Grapher

remark = Welcome to the SmokePing website of xxx Company. \

Here you will learn all about the latency of our network.

menuextra = <a target='\_blank' href='tr.html{HOST}' class='{CLASS}'

onclick="window.open(this.href,this

.target, 'width=800,height=500,toolbar=no,location=no,status=no,scrollbars=no'); return false;">\*/a>

3、rrdtool 让图片显示中文

rrdtools 需要 1.4 以上的版本;

安装如下:

`tar xf rrdtools.1.4.x.x && cd rrdtools.1.4.x`

`sed -i 's/setlocale(LC_NUMERIC, "C")/setlocale(LC_NUMERIC, "zh_CN.UTF-8")/g' src/rrd_graph.c`

`./configure --prefix=/usr/local/rrdtools && make && make install`

4、用 tr.html 页面报错:

用 `chmod u+s /bin/traceroute`

效果图:

## SmokePing Targets:

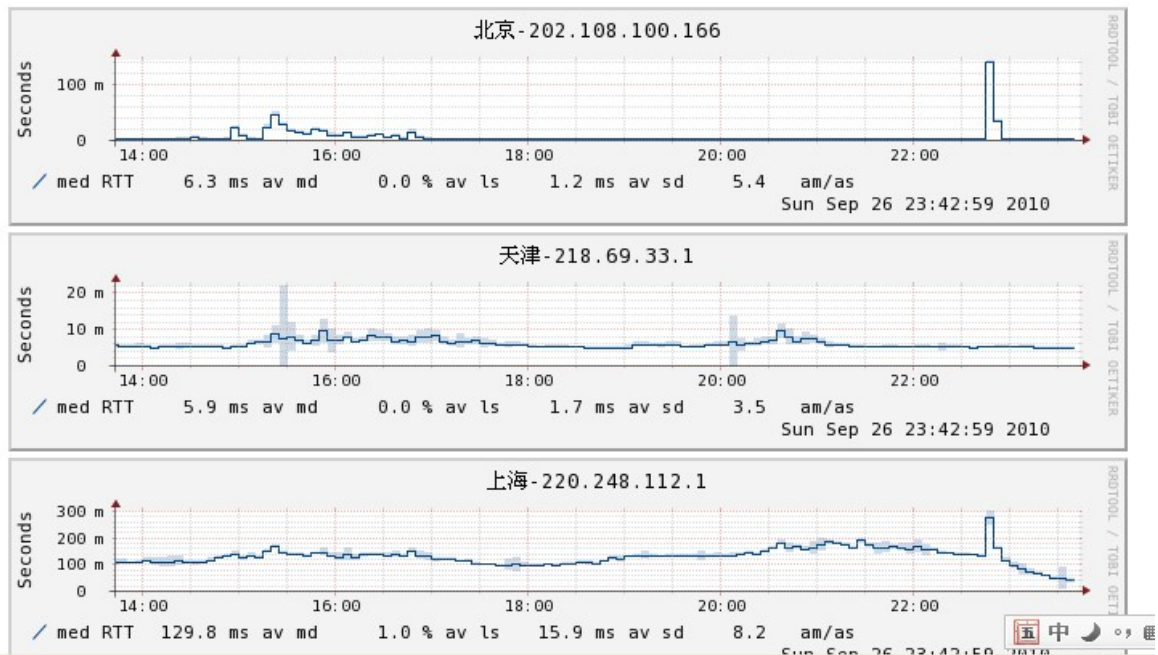
Filter:

- Charts

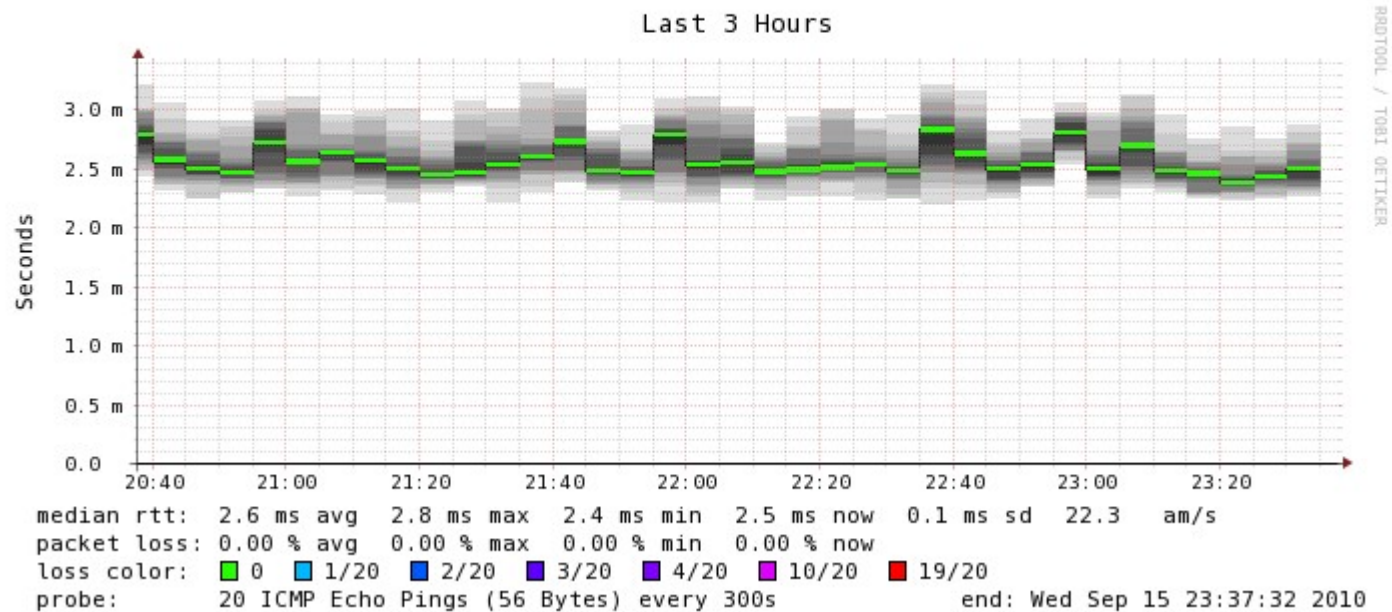
CNC

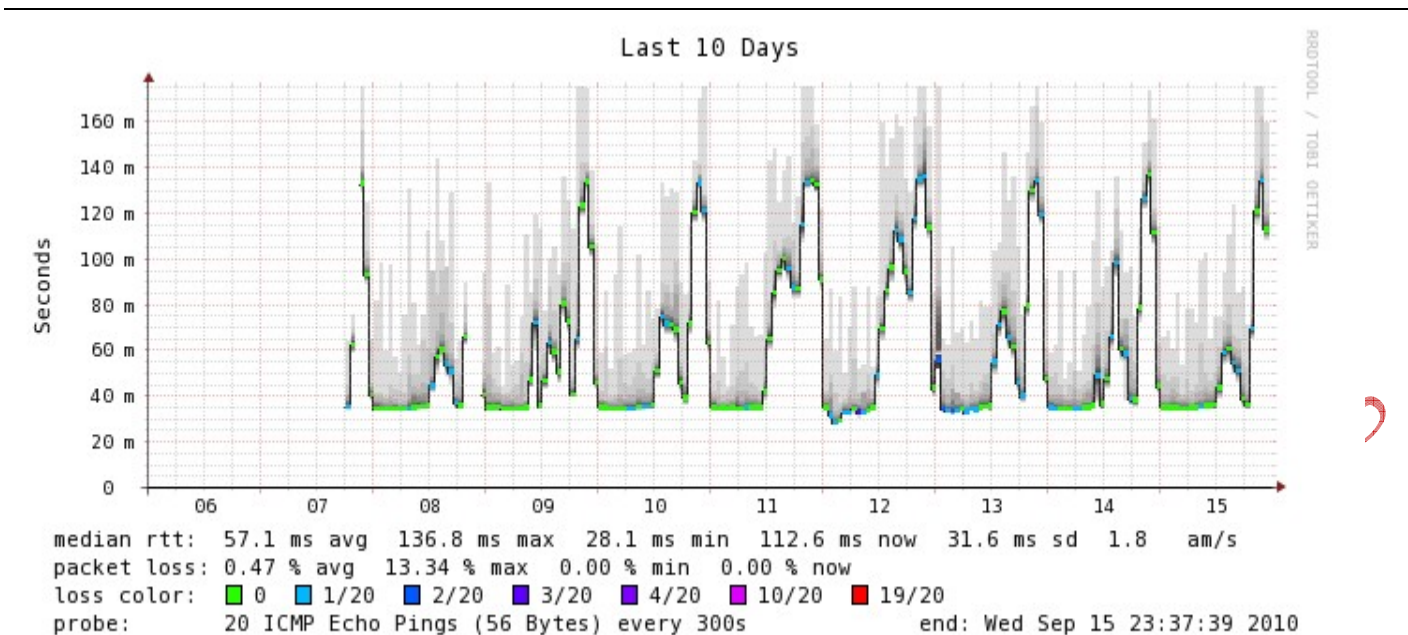
- beijing \*
- tianjin \*
- shanghai \*
- hebei \*
- shanxi \*
- neimeng \*
- liaoning \*
- jilin \*
- heilongjiang \*
- shandong \*
- heinan \*
- jiangsu \*
- zhejiang \*
- yunnan \*
- sichuan \*
- shengxi \*
- guangxi \*
- fujian \*
- chongqing \*
- changchun \*
- dalian \*
- qingdao \*
- hubei \*
- CTC

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Traceroute 图:

SmokeTrace 2.4.2 Host 60.12.193.1 Delay 2 Rounds 20 Go

| Hop  | Host            | Ip              | Loss [%] | Sent | Last [ms] | Avg [ms] | Best [ms] | Worst [ms] | StDev [ms] |
|------|-----------------|-----------------|----------|------|-----------|----------|-----------|------------|------------|
| 1.0  | 123.196.120.130 | 123.196.120.130 | 0 %      | 20   | 0.3       | 0.3      | 0.3       | 0.5        | 0.1        |
| 2.0  | 60.195.255.53   | 60.195.255.53   | 0 %      | 20   | 0.3       | 0.4      | 0.3       | 0.6        | 0.1        |
| 3.0  | 219.239.92.37   | 219.239.92.37   | 0 %      | 20   | 0.8       | 0.8      | 0.7       | 1.0        | 0.1        |
| 4.0  | 219.239.92.97   | 219.239.92.97   | 5 %      | 20   | 1.1       | 1.3      | 1.0       | 3.3        | 0.5        |
| 5.0  | 61.51.26.109    | 61.51.26.109    | 0 %      | 20   | 1.0       | 0.9      | 0.8       | 1.1        | 0.1        |
| 6.0  | 211.154.208.61  | 211.154.208.61  | 0 %      | 20   | 0.8       | 0.8      | 0.7       | 0.9        | 0.0        |
| 7.0  | 124.65.58.129   | 124.65.58.129   | 0 %      | 20   | 1.1       | 1.1      | 1.0       | 1.3        | 0.1        |
| 8.0  | 61.148.156.221  | 61.148.156.221  | 0 %      | 20   | 1.9       | 5.4      | 1.8       | 34.5       | 9.0        |
| 9.0  | 202.96.12.49    | 202.96.12.49    | 0 %      | 20   | 2.0       | 3.2      | 1.8       | 21.7       | 4.4        |
| 10.0 | 219.158.17.214  | 219.158.17.214  | 0 %      | 20   | 33.4      | 36.4     | 33.4      | 52.6       | 6.1        |
| 11.0 | 221.12.34.226   | 221.12.34.226   | 0 %      | 20   | 47.4      | 49.5     | 47.3      | 89.7       | 9.5        |
| 12.0 | 60.12.193.1     | 60.12.193.1     | 0 %      | 20   | 48.2      | 48.1     | 48.1      | 48.3       | 0.1        |

对图分析:

一、默认情况 smokeping 5 分钟 ping 20 次, 将 ping 丢包结果分别用 rrdtool 用图表示出来

■ 0 代表丢包率为 0 ■ 1/20 表示 ping 20 次丢包 1 次 ■ 2/20 ping 20 次丢包 2 次  
 ■ 4/20 ping 20 次丢包 4 次 ■ 10/20 ping 20 次丢包 10 次 ■ 19/20 ping 20 次丢包 19 次

二、查看到目的地的最大、最小、平均 ping 值

median rtt: 57.1 ms avg 136.8 ms max 28.1 ms min 112.6 ms now 31.6 ms sd 1.8 am/s

以上是 ping 值结果:

平均值: 57.1ms 最大值: 136.8ms 最小值: 28.1ms 当前值: 112.6ms

注解: sd: standard deviation of the median(英文好的翻译下)

am/s: ratio of average median vs standard deviation



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三、丢包率：

```
packet loss: 0.47 % avg 13.34 % max 0.00 % min 0.00 % now
```

从丢包的平均值、最大值、最小值

总结：从以上三点可看出网络到各地区的线路质量，一条线绿的的网络最好最稳定，碰到那种波浪形，山峰形类图，红点我蓝点比较多的地，肯定质量会很差的；是不是要考虑换机房。

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