

RRDTool and APAN Lab

RRDTool Installation

```
$ cd /home/nagios
$ gunzip rrdtool.tar.gz
$ tar -xvf rrdtool.tar
$ cd rrdtool-1.0.45/
$ su
# ./configure --enable-shared
# make install site-perl-install
# cd /usr/local/rrdtool-1.0.49/bin/
# cp * /usr/local/bin/
# su nagios
$ mkdir /usr/local/nagios/rrd
$ chmod 777 /usr/local/nagios/rrd/
```

APAN Installation

```
$ cd /home/nagios
$ gunzip apan-0.2.1.tar.gz
$ tar -xvf apan-0.2.1.tar -C /usr/local/nagios/
$ cd /usr/local/nagios/apan
```

Fix a bug on apan.sh

```
$ vi apan.sh
```

```
Change CONF = `grep "${HOST}"; ${SVCNAME}`
to
CONF = `grep "^${HOST}"; ${SVCNAME}`
```

```
$ chmod -R 755 plugins/
$ cp apan.cgi generate.cgi /usr/local/nagios/sbin/
$ chmod 775 /usr/local/nagios/sbin/apan.cgi
$ chmod 775 /usr/local/nagios/sbin/generate.cgi
$ cp graph.png /usr/local/nagios/share/images/logos/
$ cp -a libexec/* /usr/local/nagios/libexec/.
```

Adding configuration into Nangios

```
hostextinfo.cfg
# 'host0' hostextinfo definition
define hostextinfo{
    host_name                host0                ; The name of the
host this data is associated with
    icon_image                router40.gif
    gd2_image                 router40.gd2
    icon_image_alt
}
```

serviceextinfo.cfg

```
define serviceextinfo{
host_name                host0
service_description      Ping
notes_url                /nagios/cgi-bin/apan.cgi?host=host0&service=Ping
icon_image               graph.png
icon_image_alt           View graphs
}
```

```
Define serviceextinfo{
host_name                host0
service_description      bandwidth_total
notes_url                /nagios/cgi-bin/apan.cgi?host=host0&service=bandwidth_total
icon_image               graph.png
icon_image_alt           View graphs
}
```

addition to checkcommands.cfg

```
define command {
command_name             apan
command_line              /usr/local/nagios/apan/apan.sh $ARG1$
$HOSTNAME$ "$SERVICEDESC" $TIMET$ $ARG2$ $ARG3$
}
```

```
define command {
command_name             check-host-alive
command_line              $USER1$/check_ping -H $HOSTADDRESS$
-w 10000.0,100% -c 10000.0,100% -p 10
}
```

addition to service.cfg

```
# Service definition
define service{
    use                               generic-service      ;
Name of service template to use
    hostgroup_name
    service_description              Ping
    is_volatile                      0
    check_period                     24x7
    max_check_attempts               3
    normal_check_interval            5
    retry_check_interval             1
    contact_groups                   Sys-Adms
    notification_interval            0
    notification_period              24x7
    notification_options             u,c,r
    check_command                    apan!ping!600.0,40%!
1000.0,80%
}
```

addition into service.cfg for bandwidth

```
define service{
    use generic-service ;
    Name of service template to use
    host_name host0
    service_description bandwidth_total
    is_volatile 0
    check_period 24x7
    max_check_attempts 3
    normal_check_interval 5
    retry_check_interval 1
    contact_groups Sys-Adms
    notification_interval 0
    notification_period 24x7
    notification_options u,c,r
    check_command apan!snmpget!10!20
}
```

Finally create the RRD Files

```
rrdtool create /usr/local/nagios/rrd/host0_Ram-usage.rrd -s 600
DS:Ram-Free:GAUGE:1200:0:U RRA:AVERAGE:0.5:1:50400
RRA:AVERAGE:0.5:60:43800
```

```
rrdtool create /usr/local/nagios/rrd/host0_Cpu-usage.rrd -s 600
DS:usr-cpu:GAUGE:1200:0:U DS:sys-cpu:GAUGE:1200:0:U
RRA:AVERAGE:0.5:1:50400 RRA:AVERAGE:0.5:60:43800
```

```
rrdtool create /usr/local/nagios/rrd/host0_load.rrd -s 600 DS:1MIN-
Load:GAUGE:1200:0:100 DS:5MIN-Load:GAUGE:1200:0:100 DS:15MIN-
Load:GAUGE:1200:0:100 RRA:AVERAGE:0.5:1:50400
RRA:AVERAGE:0.5:60:43800
```

```
rrdtool create /usr/local/nagios/rrd/host0_disk_usage.rrd -s 600
DS:root:GAUGE:1200:0:U DS:home:GAUGE:1200:0:U DS:usr:GAUGE:1200:0:U
DS:var:GAUGE:1200:0:U RRA:AVERAGE:0.5:1:50400
RRA:AVERAGE:0.5:60:43800
```

RRD Files for Ping And Bandwidth

```
rrdtool create /usr/local/nagios/rrd/apricot-INTL_Ping.rrd -s 300
DS:ping:GAUGE:600:0:U RRA:AVERAGE:0.5:1:50400
RRA:AVERAGE:0.5:60:43800
```

```
rrdtool create /usr/local/nagios/rrd/host0_total.rrd -s 300
DS:IN:COUNTER:1200:0:U DS:OUT:COUNTER:600:0:U
RRA:AVERAGE:0.5:1:50400 RRA:AVERAGE:0.5:60:43800
```

Oid for incoming and outgoing traffic

.1.3.6.1.2.1.2.2.1.10.2 #incoming traffic on first ethernet

.1.3.6.1.2.1.2.2.1.16.2 #outgowing traffic on first ehernet

Oid for Cisco router is same

The last number is changed for Various interface

i.e .1=Ethernet0, .2=FastEthernet, .3=Serial0, .4= Serial1 etc

apan.cfg

```
host0;bandwidth_total;/usr/local/nagios/rrd/host0_total.rrd;criFOOT:
.1.3.6.1.2.1.2.2.1.10.1|criFOOT:.1.3.6.1.2.1.2.2.1.16.1;IN:LINE2
OUT:LINE2;Network throughput;Bytes/sek;
```

Nagios need to be reloaded or restarted after changes are done

Some Important OIDs

To get memory stuff:

Total Swap Size:	.1.3.6.1.4.1.2021.4.3.0
Available Swap Space:	.1.3.6.1.4.1.2021.4.4.0
Total RAM in machine:	.1.3.6.1.4.1.2021.4.5.0
Total RAM used:	.1.3.6.1.4.1.2021.4.6.0
Total RAM Free:	.1.3.6.1.4.1.2021.4.11.0
Total RAM Shared:	.1.3.6.1.4.1.2021.4.13.0
Total RAM Buffered:	.1.3.6.1.4.1.2021.4.14.0
Total Cached Memory:	.1.3.6.1.4.1.2021.4.15.0

To get incoming and outgoing octets on interface

interfaces.ifTable.ifEntry.ifInOctets.2	.1.3.6.1.2.1.2.2.1.10.2
interfaces.ifTable.ifEntry.ifOutOctets.2	.1.3.6.1.2.1.2.2.1.16.2

Useful websites

<http://nagios.org>

<http://apan.sourceforge.net>

<http://www.rrdtool.com>

<http://www.snmp.com>

<http://net-snmp.sourceforge.net>