COMPLETE MONITORING SYSTEM

ICINGA INSTALLATION AND CONFIGURATION PROJECT

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ICINGA

Icinga is a monitoring system checking hosts and services you specify and notifying you when things go wrong and when they recover.

It runs on multiple Linux distributions (including Fedora, Ubuntu, and openSuSE) as well as several UNIX platforms (including Solaris and HP). The systems to be monitored can be nearly anything connected to a network.

Some of the features of Icinga:

- Monitoring of network services (SMTP, POP, HTTP, PING, etc.)
- Monitoring of host resources (CPU Load, Disk Usage, Total Process, Swap Usage etc.)
- Simple plugin design that allows users to easily develop their own service checks
- Contact notifications when service or host problems occur and get resolved (via email, user-defined method)
- Automatic log file rotation
- Support for implementing redundant monitoring hosts
- Optional classic web interface for viewing current network status, notification and problem history, log file, etc.
- Easily implement service groups, host groups , contact groups for services and resources

System requirements

You may also want to have TCP/IP configured as most checks will require access via the network.

You are not required to use one of the web interfaces included with Icinga. However, if you do decide to use them, you will need additional software:

1. A Web-Server (Apache)
2. GD library development libraries
3. GCC Compiler C/C++ development libraries
4. PHP
5. Openssl (libwrap.so)

Download the Latest Version Of Icinga

http://www.icinga.org/.

Download version icinga.1.3.1.tar.gz

Download the Nagios-plugin

http://www.nagios.org/

Server Side Installation:

- Add icinga user

  [root@HostMonitor ~]# /usr/sbin/useradd -m icinga

  [root@HostMonitor ~]# passwd icinga

- On some distributions you'll need to add the group.

  [root@HostMonitor ~]# /usr/sbin/groupadd –m icinga

- For sending commands from the classic web interface to Icinga, you'll need to create a new group icinga-cmd. Add the webuser and the Icingauser to this group:

  [root@HostMonitor ~] # /usr/sbin/groupadd icinga-cmd
  [root@HostMonitor ~]# /usr/sbin/usermod -a -G icinga-cmd icinga
  [root@HostMonitor ~]# /usr/sbin/usermod -a -G icinga-cmd apache

- Untar the file

  [root@HostMonitor ~]# tar –xvf icinga.1.3.1.tar.gz

- Configure the script by using –h (for help)
  [root@HostMonitor ~]# . /configure --with-command-group=icinga-cmd

- Compile the Icinga source code.
  [root@HostMonitor ~]# make

- Install binaries, init script, sample config files and set permissions on the external command directory.

  [root@HostMonitor ~]# make install
  [root@HostMonitor ~]# make install-init
  [root@HostMonitor ~]# make install-config
  [root@HostMonitor ~]# make install-commandmode

- Sample configuration files have been installed by using

  [root@HostMonitor ~]# make install-config

- In /usr/local/icinga/etc/contact.cfg file one change is to be done just enter your email address for receiving alert from Icinga.

- Install the Icinga Classic web config file in the Apache conf.d directory.

  [root@HostMonitor ~]# make install-webconf

- Create an *icingaadmin* account for logging into the Icinga web interface. If you want to change it later, use the same command. Remember the password you assign to this account you'll need it later.

  [root@HostMonitor ~]# htpasswd -c /usr/local/icinga/etc/htpasswd.users Icingaadmin

  Note: icingaadmin is user

- Permission for Icinga folder is as:

  [root@HostMonitor local]# ll | grep icinga
  drwxrwxr-x 9 icinga icinga 4096 May 10 14:36 icinga

- Start Apache service

  [root@HostMonitor local]# Service httpd restart

- Permission For icinga folder /subdirectory

```
drwxrwxr-x   2   icinga  icinga   4096  May   7    19:46    bin
drwxrwxr-x   3   icinga  icinga   4096  May  10   14:36    etc
drwxr-xr-x   2   icinga  icinga   4096  Apr  14   10:19    include
drwxrwxr-x   2   icinga  icinga   4096  May  6    18:47    libexec
drwxrwxr-x   2   icinga  icinga   4096  Apr  14   10:17    sbin
drwxrwxr-x  12   icinga  icinga   4096  Apr  14   10:19    share
drwxrwxr-x   5 I cinga   icinga   4096  May  10   20:55    var
```

- Permission for /usr/local/icinga/etc directory is as

```
-rw-rw-r--      1  icinga  icinga   484       Apr   14    10:18    cgiauth.cfg
-rw-rw-r--      1 icinga  icinga   15545     Apr   14    10:18    cgi.cfg
-rw-r--r--      1 icinga  icinga   26        Apr   14    10:18    htpasswd.users
-rw-rw-r--      1 icinga  icinga   46975     May   10    14:36    icinga.cfg
-r--r--r--      1 icinga  icinga   5351      May   7     19:48    nsca.cfg
drwxrwxr-x      2 icinga  icinga   4096      May   10    19:20    objects
-rw-rw----      1 icinga icinga    1304      Apr   14    10:18    resource.cfg
```

- Permission for /usr/local/icinga/etc directory is as

```
-rw-rw-r-- 1    icinga  icinga  11061    May 10      16:27    commands.cfg
-rw-rw-r—1    icinga   icinga   2594     May  10    19:20    contacts.cfg
-rw-r--r—1    icinga    icinga  1434     May 10      12:14    host.cfg
-rw-r--r-- 1    icinga    icinga     162   May 10      14:38    hostgroup.cfg
-rw-rw-r—1    icinga   icinga  3094     Apr 14       10:18    printer.cfg
-rw-rw-r-- 1    icinga   icinga  21244   May 10       16:35    service.cfg
-rw-r--r-- 1    icinga    icinga   1769   May 10      19:08    Servicegroup.cfg
-rw-rw-r—1    icinga    icinga    3263  Apr 14       10:18     switch.cfg
```

```
-rw-rw-r—1    icinga   icinga  10783   May 4     20:28    templates.cfg
-rw-rw-r—1    icinga   icinga   3169   Apr 14    10:18    timeperiods.cfg
-rw-rw-r-- 1  icinga   icinga   3989   Apr 14    10:18    windows.cfg
```

- Untar the file

  [root@HostMonitor ~]# tar –xvf Nagios-plugin1.4.14.tar.gz

- Configure Nagios plugin:

  [root@HostMonitor ~]# . /configure --with-nagios-user=icinga

- Compile the plugins
  [root@HostMonitor ~]#make
  [root@HostMonitor ~]#make install

- Add icinga in chkconfig so it automatically start when system get boot
  [root@HostMonitor ~]#chkconfig --add icinga
  [root@HostMonitor ~]#chkconfig icinga on

- Verify there is no error or warning in icinga by using this command.
  Root#/usr/local/icinga/bin/icinga –v /usr/local/icinga/etc/icinga.cfg

- **Output will be as:**

```
Reading configuration data...
Read main config file okay...
Processing object config file '/usr/local/icinga/etc/objects/commands.cfg'...
Processing object config file '/usr/local/icinga/etc/objects/contacts.cfg'...
Processing object config file '/usr/local/icinga/etc/objects/timeperiods.cfg'...
Processing object config file '/usr/local/icinga/etc/objects/templates.cfg'...
Processing object config file '/usr/local/icinga/etc/objects/host.cfg'...
Processing object config file '/usr/local/icinga/etc/objects/hostgroup.cfg'...
Processing object config file '/usr/local/icinga/etc/objects/service.cfg'...
Processing object config file '/usr/local/icinga/etc/objects/servicegroup.cfg'..
Running pre-flight check on configuration data...
```

```
Checking services...
      Checked 39 services.
Checking hosts...
      Checked 3 hosts.
Checking host groups...
      Checked 1 host groups.
Checking service groups...
      Checked 8 service groups.
Checking contacts...
      Checked 2 contacts.
Checking contact groups...
      Checked 1 contact groups.
Checking service escalations...
      Checked 0 service escalations.
Checking service dependencies...
      Checked 0 service dependencies.
Checking host escalations...
      Checked 0 host escalations.
Checking host dependencies...
      Checked 0 host dependencies.
Checking commands...
      Checked 44 commands.
Checking time periods...
      Checked 5 time periods.
Checking for circular paths between hosts...
Checking for circular host and service dependencies...
Checking global event handlers...
Checking obsessive compulsive processor commands...
Checking misc settings...

Total Warnings: 0
Total Errors:   0

Things look okay - No serious problems were detected during the pre-flight check.
```

- Change in icinga.cfg file
  Soft state dependencies = 1 (default=0)

- Now start icinga service with
  [root@HostMonitor ~]# service icinga restart

Running configuration check...OK
Stopping icinga: Stopping icinga done.
Starting icinga: Starting icinga done.

- Change SE linux config file.
  [root@HostMonitor ~]# vi /etc/selinux/config
  SELINUX=disabled

- Now start Icinga with http://localhost/icinga

NRPE

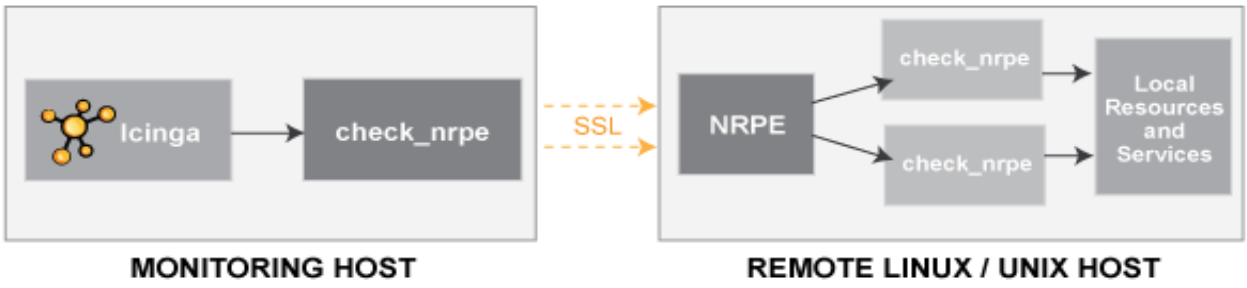
- ## INTRODUCTION TO NRPE:

  The NRPE addon is designed to execute Icinga plugin on remote Linux/Unix machines. The main reason for doing this is to allow Icinga to monitor "local" resources (like CPU load, swap usage, Root Partition, Current Users etc.) and services (like SSH, HTTP, FTP etc) on remote machines. We have to installed nrpe daemon(nrpe and nrpe.cfg) on client machine and nrpe plugin (check_nrpe) on Icinga server .

- Need to install Nagios-plugin on client server so as to check services and resources properly.

- Note: We can monitor services with check_by_ssh but with this load on both machine might increases while you monitor many server so NRPE is easy to install and configure with many other features.

- ## Design Overview



Note: If your server is secured with LSR then change its directory permission so as to compile software easily.

INSTALLATION:

Installation of Nagios-plugin:

- Create nagios user

  [root@XYZ]# /usr/sbin/useradd nagios

  [root@XYZ]# Passwd nagios

- Compile and install plugin.
  Note: If LSR is done so change dir with read & write permission and then compile

  [root@XYZ]#. /configure

  [root@XYZ]#make

  [root@XYZ]#make install

- Change the permission of directory with nagios and nagios for user and group

  [root@XYZ]#chown nagios.nagios /use/local/nagios –R

Installation of NRPE addon:

- Check the option with you can install nrpe addon

  [root@XYZ]#. /configure –h

- Configure with enable-command-args so as to monitor it properly when you installed it. It uses SSL communication which is required because check_nrpe uses it

  [root@XYZ]#. /configure –enable-command-args

[root@XYZ]# make all

- Install the NRPE plugin (for testing), daemon, and sample daemon config file.

- Go to src directory.

  [root@XYZ]# make install-plugin

  OUTPUT: It install check_nrpe to libexec directory

  /usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/libexec

  /usr/bin/install -c -m 775 -o nagios -g nagios check_nrpe /usr/local/nagios/libexec

  [root@XYZ]# make install –daemon

  OUTPUT: It install nrpe binary to bin directory

  /usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/bin

  /usr/bin/install -c -m 775 -o nagios -g nagios nrpe /usr/local/nagios/bin

- Change the directory to previous .

  [root@XYZ]# make install-daemon-config

  OUTPUT: It installed config file in etc directory

  /usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc

  /usr/bin/install -c -m 644 -o nagios -g nagios sample-config/nrpe.cfg /usr/local/nagios/etc

- To run service under xinetd

  [root@XYZ]# make install-xinetd

OUTPUT: It install nrpe.xinetd file to /etc/xinetd.d/nrpe

/usr/bin/install -c -m 644 sample-config/nrpe.xinetd /etc/xinetd.d/nrpe

- Edit the /etc/xinetd.d/nrpe file as above and enter the IP Add of Monitor server for smooth communication.

  Only_from = 127.0.0.1 <Icinga_ip_address>

- Add the following entry for the NRPE daemon to the /etc/services file.

  Nrpe 5666/tcp # NRPE

- Edit nrpe.cfg file as above
  Don't blame nrpe =1 (default=0)

- Restart the xinetd service

- Check whether nrpe running under xinetd
  [root@XYZ]# netstat -nap | grep 5666

  tcp 0 0 :::5666 :::* LISTEN 14603/xinetd

- Note: At the end it indicates service running under xinetd

- Check locally that it returns their version.
  [root@XYZ]# /usr/local/nagios/libexec/check_nrpe -H localhost
  Retrun String [root@xyz] # NRPE 2.12

  Note: complete nrpe.cfg file changes given later while you configure to monitor remote host.

Installation NRPE on Monitoring Machine:

- Compile the NRPE addon.
  [root@HostMonitor ~] #. /configure
  [root@HostMonitor ~] # make all

- Install the NRPE plugin from /src directory.
  [root@HostMonitor ~] # make install-plugin

- Now test check_nrpe (On monitoring server) can communicate with NRPE addon on remote server.(/usr/local/nagios/libexec)
  [root@HostMonitor libexec] #./check_nrpe -H remote IP
  Retrun String [root@xyz] # NRPE 2.12

  Note :
- If failed then check firewall not stoping communication between server and plugin.
- Make sure NRPE daemon runs under xinetd.
- Commit all the hard core checking command argument.
- Make entry in your hosts.allow file (IF LSR DONE)

IP Tables Creation for Icinga:

Input:

###Allow access to NRPE server from HostMonitor for authentication

$CMD -A INPUT -p tcp -s <HostMonitor IP>--d $ME -m multiport --dport 5666 -m state --state NEW -j ACCEPT

Output:

###Allow outgoing HostMonitor to other hosts on tcp

$CMD -A OUTPUT -p tcp -s $ME -d <HostMonitor IP>-m multiport --dport 5666 -m state --state NEW -j ACCEPT

Note: This configuration is only for client side server where you run nrpe daemon

- **Define the services in Icinga:**

Service.cfg

FOR LOCALHOST:

```
define service{
        host_name                       HostMonitor
        service_description             PING
        check_command                   check_ping!100.0,20%!500.0,60%
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}

define service{
        host_name                       HostMonitor
        service_description             Root Partition
        check_command                   check_local_disk!50%!25%!/
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
```

```
define service{
        host_name                       HostMonitor
        service_description             Current Users
        check_command                   check_local_users!20!50
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}


define service{
        host_name                       HostMonitor
        service_description             Total Processes
        check_command                   check_local_procs!250!400
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
```

```
define service{
        host_name                       HostMonitor
        service_description             Current Load
        check_command                   check_local_load!5.0,4.0,3.0!10.0,6.0,4.0
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}


define service{
        host_name                       HostMonitor
        service_description             Swap Usage
        check_command                   check_local_swap!20!10
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
define service{
        host_name                       HostMonitor
        service_description             HTTP
        check_command                   check_http
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
```

```
define service{
        host_name                       HostMonitor
        service_description             SSH
        check_command                   check_ssh
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
```

FOR REMOTE MONITORING

```
####################AGNI#################
define service{
        host_name                       agni
        service_description             PING
        check_command                   check-host-alive
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
```

```
define service{
        host_name                       agni
        service_description             Root Partition
        check_command                   check_root_nrpe!60!80!/
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins

}
define service{
        host_name                       agni
        service_description             Current Users
        check_command                   check_users_nrpe!20!50
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
define service{
        host_name                       agni
        service_description             Total Processes
        check_command                   check_procs_nrpe!250!300
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins

}
```

```
define service{
        host_name                       agni
        service_description             Current Load
        check_command                   check_load_nrpe!5.0,4.0,3.0!10.0,6.0,4.0
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
define service{
        host_name                       agni
        service_description             Swap Usage
        check_command                   check_swap_nrpe!20%!10%
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}

define service{
        host_name                       agni
        service_description             HTTP
        check_command                   check_http_nrpe!60!3!5!80
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval             1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins

}
```

```
define service{
        host_name                       agni
        service_description             SSH
        check_command                   check_ssh_nrpe
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admin
}
define service{
        host_name                       agni
        service_description             FTP
        check_command                   check_ftp_nrpe!21
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options             w,u,c,r,f
        contact_groups                  admins
}

define service{
        host_name                       agni
        service_description             MYSQL
        check_command                   check_mysql_nrpe
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins

}
```

```
        define service{
                host_name                       agni
                service_description             FILE SIZE
                check_command                   check_size_nrpe!/var/log/messages!10!1
                max_check_attempts              3
                normal_check_interval           1
                retry_check_interval            1
                check_period                    24x7
                notification_interval           60
                notification_period             24x7
                notification_options            w,u,c,r,f
                contact_groups                  admins

        }
define service{

                host_name                       agni
                service_description             LATEST FILE
                check_command                   check_latestfile_nrpe!180!300!/var/log/messages
                max_check_attempts              3
                normal_check_interval           1
                retry_check_interval            1
                check_period                    24x7
                notification_interval           60
                notification_period             24x7
                notification_options            w,u,c,r,f
                contact_groups                  admins
        }
```

################VINDHYA################

```
define service{
        host_name                       vindhya
        service_description             PING
        check_command                   check-host-alive
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
define service{
        host_name                       vindhya
        service_description             Root Partition
        check_command                   check_root_nrpe!60!80!/
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
define service{
        host_name                       vindhya
        service_description             Current Users
        check_command                   check_users_nrpe!20!50
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
```

```
define service{
        host_name                       vindhya
        service_description             Total Processes
        check_command                   check_procs_nrpe!250!300
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options             w,u,c,r,f
        contact_groups                  admins

}

define service{
        host_name                       vindhya
        service_description             Current Load
        check_command                   check_load_nrpe!5.0,4.0,3.0!10.0,6.0,4.0
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins

}
```

```
define service{

        host_name                       vindhya
        service_description             Swap Usage
        check_command                   check_swap_nrpe!20%!10%
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
define service{
        host_name                       vindhya
        service_description             HTTP
        check_command                   check_http_nrpe!60!3!5!80
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
define service{
        host_name                       vindhya
        service_description             SSH
        check_command                   check_ssh_nrpe
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins

}
```

```
define service{
        host_name                       vindhya
        service_description             FTP
        check_command                   check_ftp_nrpe!21
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}


define service{
        host_name                       vindhya
        service_description             SMTP
        check_command                   check_smtp_nrpe
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins

}
```

```
define service{
        host_name                       vindhya
        service_description             MYSQL
        check_command                   check_mysql_nrpe
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
define service{
        host_name                       vindhya
        service_description             FILE SIZE
        check_command                   check_size_nrpe!/var/log/messages!10!1
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}

define service{

        host_name                       vindhya
        service_description             LATEST FILE
        check_command                   check_latestfile_nrpe!180!300!/var/log/messages
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins

}
```

```
define service{
        host_name                       vindhya
        service_description             IMAP
        check_command                   check_imap_nrpe!143!5!"OK"
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options             w,u,c,r,f
        contact_groups                  admins
}
define service{
        host_name                       vindhya
        service_description             DNS
        check_command                   check_dns_nrpe!31.101.1.91!30
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
define service{
        host_name                       vindhya
        service_description             LDAP
        check_command                   check_ldap_nrpe!5!10
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins

}
```

```
define service{
        host_name                       vindhya
        service_description             POPPASSD
        check_command                   check_poppassd_nrpe!106!5!10
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins

}
define service{
        host_name                       vindhya
        service_description             TELNET
        check_command                   check_telnet_nrpe!23!5!10
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
define service{
        host_name                       vindhya
        service_description             POP
        check_command                   check_pop_nrpe!110!5!10
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins

}
```

```
define service{
        host_name                       vindhya
        service_description             DNS1
        check_command                   check_nrpe_dns!31.101.1.91!30
        max_check_attempts              3
        normal_check_interval           1
        retry_check_interval            1
        check_period                    24x7
        notification_interval           60
        notification_period             24x7
        notification_options            w,u,c,r,f
        contact_groups                  admins
}
```

Command.cfg:

For localhost it is already define we have create for our remote machine ad it is as above:

FOR REMOTE MACHINE

```
define command{
   command_name         check_nrpe
   command_line         /usr/local/nagios/libexec/check_nrpe  $HOSTADDRESS$ -c $ARG1$
                        $ARG2$
   }

define command{
   command_name          check_load_nrpe
   command_line          /usr/local/nagios/libexec/check_nrpe -H $HOSTADDRESS$ -c
                        "check_load" -a $ARG1$ $ARG2$ $ARG3$ $ARG4$ $ARG5$
                         $ARG6$
   }
```

```
define command{
    command_name            check_root_nrpe
    command_line            /usr/local/nagios/libexec/check_nrpe -H
                             $HOSTADDRESS$ -c "check_disk" -a $ARG1$ $ARG2$  $ARG3$
    }
define command{
    command_name            check_users_nrpe
    command_line            /usr/local/nagios/libexec/check_nrpe -H
                            $HOSTADDRESS$ -c "check_users" -a $ARG1$ $ARG2$
    }
define command{
    command_name          check_http_nrpe
    command_line          /usr/local/nagios/libexec/check_nrpe -H $HOSTADDRESS$ -c
                          "check_http" -a $ARG1$ $ARG2$ $ARG3$ $ARG4$
}
define command{
    command_name          check_procs_nrpe
    command_line          /usr/local/nagios/libexec/check_nrpe -H  $HOSTADDRESS$ -c
                          "check_procs" -a $ARG1$ $ARG2$
    }


define command{
    command_name          check_ssh_nrpe
    command_line          /usr/local/nagios/libexec/check_nrpe -H  $HOSTADDRESS$  -c
                         "check_ssh"
    }

define command{
    command_name          check_swap_nrpe
    command_line         /usr/local/nagios/libexec/check_nrpe -H
                          $HOSTADDRESS$ -c "check_swap" -a $ARG1$ $ARG2$  $ARG3$
                          $ARG4$
    }

define command{
    command_name          check_ftp_nrpe
    command_line         /usr/local/nagios/libexec/check_nrpe -H $HOSTADDRESS$ -c
                         "check_ftp" -a $ARG1$ $ARG2$ $ARG3$
    }
```

```
define command{
    command_name        check_smtp_nrpe
    command_line        /usr/local/nagios/libexec/check_nrpe -H  $HOSTADDRESS$ -c
                        "check_smtp" $ARG1$ $ARG2$  $ARG3$ $ARG4$
     }
define command{
    command_name        check_mysql_nrpe
    command_line        /usr/local/nagios/libexec/check_nrpe -H $HOSTADDRESS$ -c
                        "check_mysql_all"
     }
define command{
    command_name        check_squid_nrpe
    command_line       /usr/local/nagios/libexec/check_nrpe -H  $HOSTADDRESS$ -c
                       "check_tcp" -a $ARG1$
   }
define command{
    command_name        check_size_nrpe
    command_line       /usr/local/nagios/libexec/check_nrpe -H  $HOSTADDRESS$ -c
                        "check_file_size" -a $ARG1$ $ARG2$ $ARG3$
   }
define command{
    command_name        check_latestfile_nrpe
    command_line       /usr/local/nagios/libexec/check_nrpe  -H $HOSTADDRESS$ -c
                      "check_latestfile" -a $ARG1$ $ARG2$ $ARG3$ $ARG4$ $ARG5$
                       $ARG6$
    }

define command{
      command_name      check_ldap_nrpe
      command_line      /usr/local/nagios/libexec/check_nrpe -H $HOSTADDRESS$ -c
                        "check_ldap" -a $ARG1$ $ARG2$ $ARG3$ $ARG4$ $ARG5$
                        $ARG6$
      }

define command{
      command_name       check_imap_nrpe
      command_line       /usr/local/nagios/libexec/check_nrpe -H  $HOSTADDRESS$ -c
                         "check_imap" -a $ARG1$ $ARG2$ $ARG3$ $ARG4$ $ARG5$

      }
```

```
define command{
        command_name        check_dns_nrpe
        command_line        /usr/local/nagios/libexec/check_nrpe -H HOSTADDRESS$ -c
                            "check_dns" -a $ARG1$ $ARG2$  $ARG3$ $ARG4$
        }
define command{
        command_name        check_telnet_nrpe
        command_line        /usr/local/nagios/libexec/check_nrpe -H $HOSTADDRESS$ -c
                            "check_tcp_telnet" -a $ARG1$ $ARG2$ $ARG3$
        }

define command{
        command_name        check_poppassd_nrpe
        command_line        /usr/local/nagios/libexec/check_nrpe -H $HOSTADDRESS$ -c
                            "check_tcp_poppassd" -a $ARG1$ $ARG2$ $ARG3$
}

define command{
        command_name        check_pop_nrpe
        command_line        /usr/local/nagios/libexec/check_nrpe -H $HOSTADDRESS$ -c
                            "check_tcp_pop" -a $ARG1$ $ARG2$ $ARG3$ $ARG4$ $ARG5$
         }


define command{
        command_name        check_nrpe_dns
        command_line        /usr/local/nagios/libexec/check_nrpe -H  $HOSTADDRESS$ -c
                            "check_dns_tcp" -a $ARG1$ $ARG2$ $ARG3$ $ARG4$
        }
```

NRPE configuration file

nrpe.cfg:

- We have to define this configuration in remote server nrpe.cfg file. The above is sample file you can change as per your requirement. You can add monitor more service by plugin with increasing in commands.

command[check_users]=/usr/local/nagios/libexec/check_users -w $ARG1$ -c $ARG2$

command[check_load]=/usr/local/nagios/libexec/check_load -w $ARG1$ -c $ARG2$

command[check_disk]=/usr/local/nagios/libexec/check_disk -w $ARG1$ -c $ARG2$ -p $ARG3$

command[check_procs]=/usr/local/nagios/libexec/check_procs -w $ARG1$ -c $ARG2$ -s $ARG3$

command[check_http]=/usr/local/nagios/libexec/check_http -H 31.101.1.6 -t $ARG1$ -w $ARG2$ -c $ARG3$ -p $ARG4$

command[check_ssh]=/usr/local/nagios/libexec/check_ssh -H 31.101.1.6

command[check_swap]=/usr/local/nagios/libexec/check_swap -w $ARG1$ -c $ARG2$

command[check_ping]=/usr/local/nagios/libexec/check_ping -H 31.101.1.6 -w $ARG1$ -c $ARG2$

command[check_procs]=/usr/local/nagios/libexec/check_procs -w $ARG1$ -c $ARG2$

command[check_ftp]=/usr/local/nagios/libexec/check_ftp -H 31.101.1.6 -p $ARG1$

command[check_smtp]=/usr/local/nagios/libexec/check_smtp -H 127.0.0.1

command[check_mysql_all]=/usr/local/nagios/libexec/check_mysql_all -K connect -H localhost -u root -p barc123

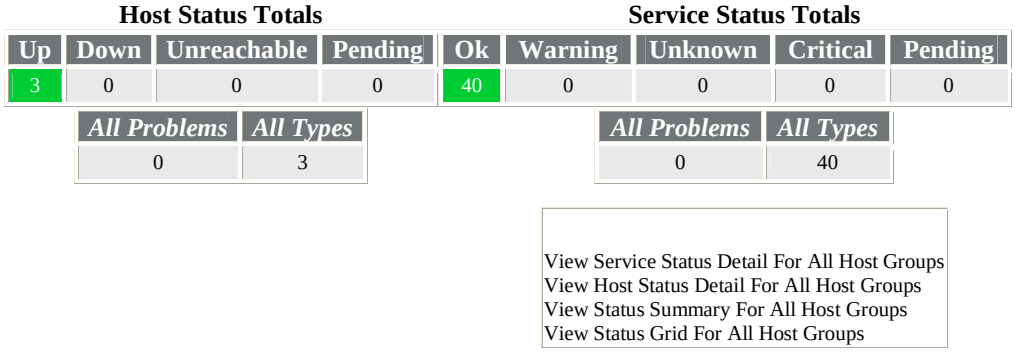
command[check_tcp_pop]=/usr/local/nagios/libexec/check_tcp -H 31.101.1.6 -p $ARG1$

command[check_file_size]=/usr/local/nagios/libexec/check_file_size -f $ARG1$ -w $ARG2$ -c $ARG3$

command[check_latestfile]=/usr/local/nagios/libexec/check_latestfile -w $ARG1$ -c $ARG2$ $ARG3$

- ## Define Host Group:

It is important task to check host when you are monitoring more servers or devices with icinga. It gives the hosts status and how many services are up or down



Host Status Totals

Up	Down	Unreachable	Pending
3	0	0	0

All Problems	All Types
0	3

Service Status Totals

Ok	Warning	Unknown	Critical	Pending
40	0	0	0	0

All Problems	All Types
0	40

View Service Status Detail For All Host Groups
View Host Status Detail For All Host Groups
View Status Summary For All Host Groups
View Status Grid For All Host Groups

Service Overview For All Host Groups

Linux (linux-server)

Host	Status	Services	Actions
HostMonitor	UP	8 OK	
agni	UP	12 OK	
vindhya	UP	20 OK	

- ## HOST GROUP CONFIGRATION:

```
define hostgroup{
      Hostgroup_name       linux-server
      alias                Linux
      members              HostMonitor,agni,vindhya
}
```

In above example you can add your server in members so you can monitor it well. You can give any name to hostgroup and alias but mention this where you define host.cfg file.

Created by Sagar and Chandrakant
BCCA Computer Centre
Thursday, May 12, 2011

- ## Define Service Group:

  It is important when you monitor no of server and their services. If you are monitoring 50 server and their HTTP service so it's imp to you to bring the data in service group so as to monitor it properly and well in short time.

Host Status Totals

Up	Down	Unreachable	Pending
3	0	0	0

All Problems	All Types
0	3

Service Status Totals

Ok	Warning	Unknown	Critical	Pending
40	0	0	0	0

All Problems	All Types
0	40

View Service Status Detail For All Service Groups
View Status Summary For All Service Groups
View Service Status Grid For All Service Groups

Service Overview For All Service Groups

Linux (ALL HTTP)

Host	Status	Services	Actions
HostMonitor	UP	1 OK	
agni	UP	1 OK	
vindhya	UP	1 OK	

Linux (ALL PING)

Host	Status	Services	Actions
HostMonitor	UP	1 OK	
agni	UP	1 OK	
vindhya	UP	1 OK	

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Linux (ALL SSH)

Host	Status	Services	Actions
HostMonitor	UP	1 OK	
agni	UP	1 OK	
vindhya	UP	1 OK	

Linux (ALL SWAP USAGE)

Host	Status	Services	Actions
HostMonitor	UP	1 OK	
agni	UP	1 OK	
vindhya	UP	1 OK	

Service Group Configuration:

```
define servicegroup {
servicegroup_name                ALL PING
alias                            Linux
members                          HostMonitor,PING,agni,PING,vindhya,PING
}

define servicegroup {
servicegroup_name                ALL HTTP
alias                            Linux
members                          HostMonitor,HTTP,agni,HTTP,vindhya,HTTP
}
```

Note :- Different path of services need to be manually define in icinga.cfg file as are follows

#########START- BCCA#########################

cfg_file=/usr/local/icinga/etc/objects/host.cfg

cfg_file=/usr/local/icinga/etc/objects/hostgroup.cfg

cfg_file=/usr/local/icinga/etc/objects/service.cfg

cfg_file=/usr/local/icinga/etc/objects/servicegroup.cfg

#########END#########################

ERROR AND SOLUTIONS WHILE INSTALLING ICINGA AND NRPE .

1. Icinga.cmd file is not read and unable to write result to /usr/local/icinga/var/rw/icinga.cmd.

Ans: Check whether you add icinga user and apache user to icinga group.
Check whether your icinga.cmd has rw permission to root and group and check their ownership.
Check rw has set sticky bit and has rwx for root and rx for user and group.

2. Could not complete SSL Handshake.

Ans: It means you did not configure nrpe properly so use (--enable-command-args) and may you compile nrpe without ssl so as to plugin on Monitoring server try with SSL but remote server has no SSL compiled deamon available so it drop packets. To check this you can use option (–n) for do not use SSL communication.

3. Connection refused.

Ans: Check you firewall tables on both machine remote and monitoring server so as to refused connection from anyone them.

4. Received 0 bytes from server (This error basically occurred on remote machine when you test daemon)

Ans: Check whether you made an entry in hosts.allow of remote machine (localhost 127.0.0.1)

5. Socket time out after 10 sec.
   Ans: make an entry of IP of monitoring server in your remote server in hosts.allow file.

6. Commands not define.

Ans. Check whether you may not define command in service.cfg file, command.cfg file or nrpe.cfg file.

7. Could not perse argument
   Ans. You may not compiled nrpe with –enable-command-args or not giving arguments properly

8. Null

Ans. Forget to install nagios-plugin so it unable to check services and resources

9. Nrpe unable to return output

Ans. Check your nrpe.cfg file and check whether you made don't blame nrpe 1 (default=0)

10. NRPE is not running under the xinetd daemon.

Ans. Check whether you compiled and install xinetd properly and nrpe file should be creating in xinetd.d.