Monitoring and Logging

✓ Install and configure Nagios Server
✓ Install nagios addon's and plugins

▪ **AP2V Solutions Private Limited**

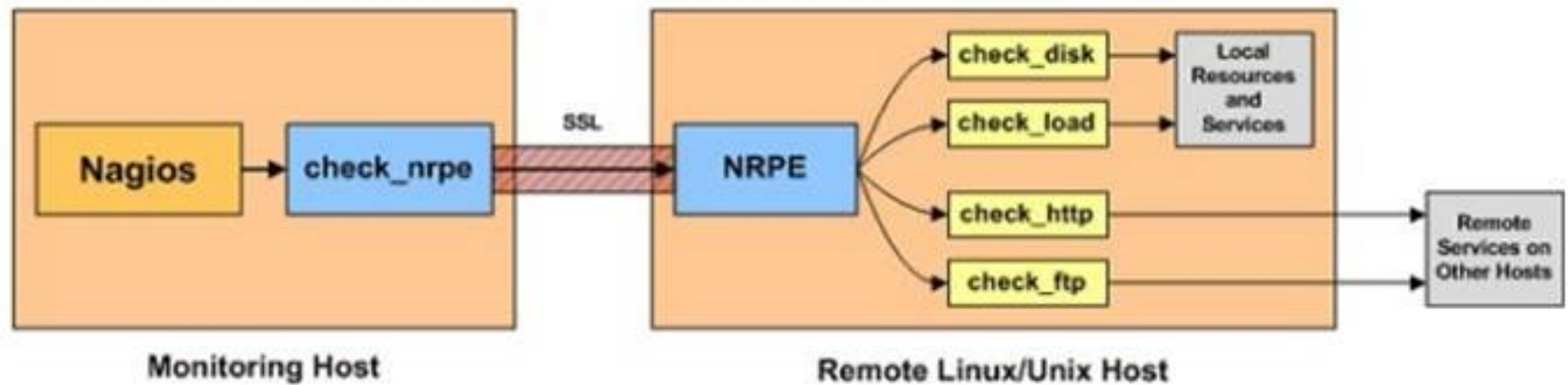# What's Nagios?

- Nagios, now known as Nagios Core

- Written in: **C**

- Stable release: 4.3.2 / May 9, 2017

- Original author(s): Ethan Galstad

- Initial release: March 14, 1999

- It is a free and open source computer-software application that monitors systems, networks and infrastructure

What's NRPE?

- Nagios Remote Plugin Executor (NRPE)

- NRPE allows you to remotely execute Nagios plugins on other Linux/Unix machines

- This allows you to monitor remote machine metrics (disk usage, CPU load, etc.)

- NRPE can also communicate with some of the Windows agent addons, so you can execute scripts and check metrics on remote Windows machines as well

- Nagios periodically polls the agent on remote system using the check_nrpe plugin

How it works?

What's NSClient++?

- This program is mainly used to monitor Windows machines.

- Being installed on a remote system NSClient++ listens to port TCP 12489

- The Nagios plugin that is used to collect information from this addon is called check_nt.

Install Nagios ..to be continued

We need to create **nagios** user and **nagcmd** group.

- *sudo useradd nagios*
- *sudo groupadd nagcmd*

Then we need to add the user "**nagios**" to the group:

- *sudo usermod -a -G nagcmd nagios*

Install Nagios ..to be continued

Update your package lists to ensure you can download the latest versions of the required packages:

- *sudo apt-get update*

Then we need to install the required packages:

- *sudo apt-get install wget libapache2-mod-php build-essential libgd2-xpm-dev openssl libssl-dev unzip apache2*

Install Nagios ..to be continued

Download Nagios

- *wget -c https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.3.4.tar.gz*

Uncompress the Nagios archive:

- *tar zxf nagios-4.3.4.tar.gz*
- *cd nagios-4.3.4*

Execute the configure script:

- *./configure --with-nagios-group=nagios --with-command-group=nagcmd*

Install Nagios ..to be continued

Compile Nagios with this command:

- *make all*

Now run the other make commands to install Nagios init scripts, configuration files, and set permissions:

- *sudo make install*

- *sudo make install-commandmode*

- *sudo make install-init*

- *sudo make install-config*

We will use Apache2 to serve Nagios' GUI

- *cp sample-config/httpd.conf /etc/apache2/sites-available/nagios.conf*

Install Nagios

Add the web server user "**www-data**" to the "**nagcmd**" group:

- *sudo usermod -G nagcmd www-data*

Install Nagios plugins ..to be continued

Download Nagios Plugins source:

- *wget -c http://nagios-plugins.org/download/nagios-plugins-2.2.1.tar.gz*

Uncompress source and change to the extracted directory:

- tar vxzf nagios-plugins-2.2.1.tar.gz
- cd nagios-plugins-2.2.1

Install Nagios plugins

Configure Nagios Plugins:

- *./configure --with-nagios-user=nagios --with-nagios-group=nagios –with-openssl*

Lets compile and install the plugins

- *make*
- *make install*

Installing NRPE on Server ..to be continued

Download NRPE source

- *wget https://github.com/NagiosEnterprises/nrpe/releases/download/nrpe-3.2.1/nrpe-3.2.1.tar.gz*

Uncompress NRPE:

- *tar zxf nrpe-3.2.1.tar.gz*

Change to the extracted directory:

- *cd nrpe-3.2.1*

Configure NRPE on Server

Configure the **NRPE** plugin:

- *./configure*

Then build and install **NRPE (check_nrpe)** plugin:

- *make check_nrpe*
- *sudo make install-plugin*

Configure Nagios

Open the main Nagios configuration file in your text editor (/usr/local/nagios/etc/nagios.cfg) and uncomment below line:

- *cfg_dir=/usr/local/nagios/etc/servers*

Now create the directory which will store the configuration files:

- *sudo mkdir /usr/local/nagios/etc/servers*

Find the email directive and replace its value with your own email address and username in file /usr/local/nagios/etc/objects/contacts.cfg.

Note: *The username should be **devopsadmin** which we will use in htpasswd command in 15th slide*

Add "check_npre" in Nagios

Next, add **check_npre** command in file,
/usr/local/nagios/etc/objects/commands.cfg

define command{

    command_name check_nrpe

    command_line $USER1$/check_nrpe -H $HOSTADDRESS$ -c $ARG1$

}

Configuring Apache

Enable the Apache rewrite and cgi modules with the a2enmod command:

- *sudo a2enmod rewrite*

- *sudo a2enmod cgi*

- *sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users devopsadmin*

- *sudo ln -s /etc/apache2/sites-available/nagios.conf /etc/apache2/sites-enabled/*

Add "nagios" service

- *vim /etc/systemd/system/nagios.service*

  ```
  [Unit]
  Description=Nagios
  BindTo=network.target

  [Install]
  WantedBy=multi-user.target

  [Service]
  Type=simple
  User=nagios
  Group=nagios
  ExecStart=/usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg
  ```

- *sudo systemctl enable /etc/systemd/system/nagios.service*
- *sudo systemctl start nagios*

Congratulations !!

Nagios server is Installed and Configured.

Lets add a host now.

Install NRPE on a Host ..to be continued

Create a "**nagios**" which we will use to run nrpe agent:

- *useradd nagios*

Update the package sources and install the required packages:

- *sudo apt-get update*
- *sudo apt-get install openssl build-essential libgd2-xpm-dev libssl-dev*

Install NRPE on a Host ..to be continued

Download Nagios plugins:

- *wget -c http://nagios-plugins.org/download/nagios-plugins-2.2.1.tar.gz*

Uncompress Nagios plugin and change to the uncompressed directory:

- tar zxf nagios-plugins-2.2.1.tar.gz
- cd nagios-plugins-2.2.1

Install NRPE on a Host ..to be continued

Configure Nagios plugins:

- *./configure --with-nagios-user=nagios --with-nagios-group=nagios --with-openssl*

Compile and install Nagios plugins:

- make
- make install

Install NRPE on a Host ..to be continued

Download and uncompress NRPE source:

- *wget https://github.com/NagiosEnterprises/nrpe/releases/download/nrpe-3.2.1/nrpe-3.2.1.tar.gz*

- *tar zxvf nrpe-3.2.1.tar.gz*

- *cd nrpe-3.2.1*

Configure, compile and install Nagios plugins:

- *./configure --enable-command-args --with-nagios-user=nagios --with-nagios-group=nagios --with-ssl=/usr/bin/openssl --with-ssl-lib=/usr/lib/x86_64-linux-gnu*

- *make all*

- *sudo make install*

- *sudo make install-config*

- *sudo make install-init*

Install NRPE on a Host

Now, we need to allow Nagios server to connect with NRPE in file /usr/local/nagios/etc/nrpe.cfg:

- *allowed_hosts=127.0.0.1,<my_nagios_server_ip_address>*

Now start the service:

- *systemctl start nrpe.service*
- *systemctl status nrpe.service*

Thank you.