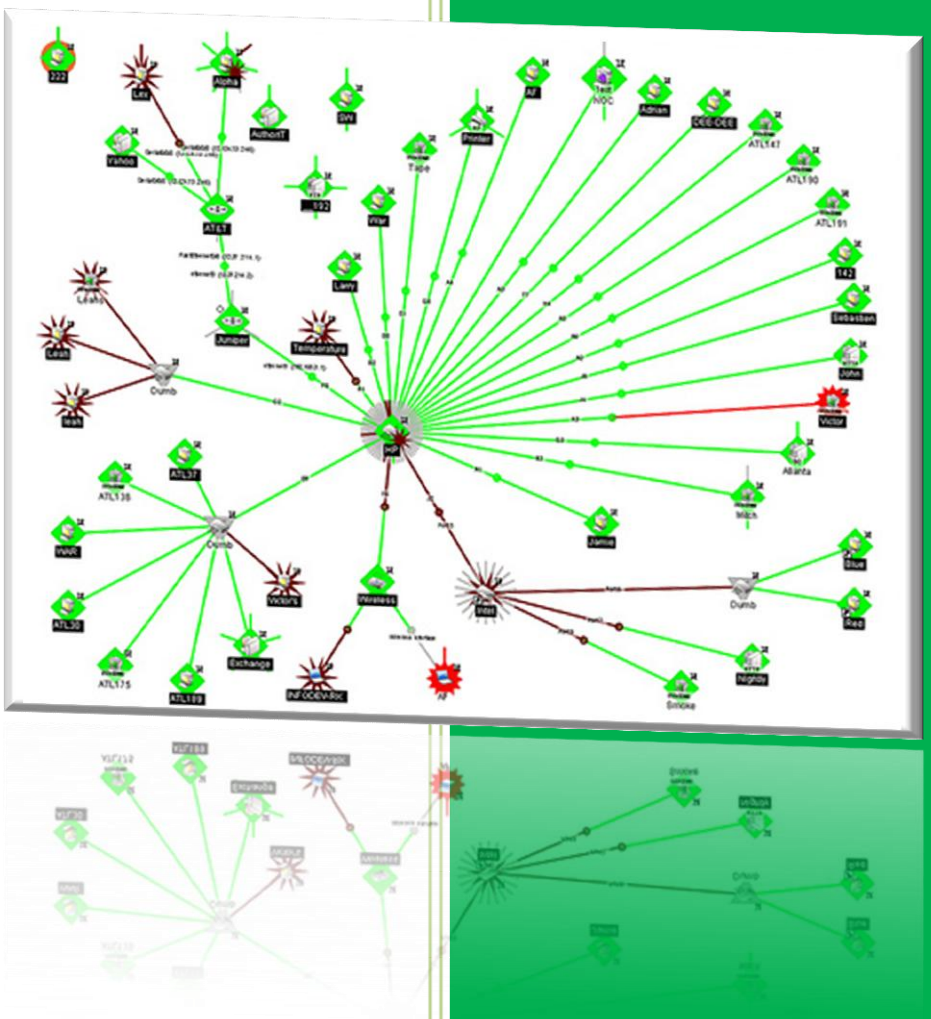
IPSWITCH WhatsUpGold

Improve your NT_Services Monitoring with NRPE



Introduction:

The performance of a monitoring solution is critical. Checks should be scheduled regularly. If the tests are not made on time, you can miss problems. Polling Engine sometimes may have a problem on computing time to schedule the test. If the server is not correctly tuned, the tests may start lately.

To monitor Windows services, WhatsUp Gold offers a specific monitor: NT Service Monitor. However, this monitor has some limitations due to WMI connection. The main drawback of this solution is the need to create one monitor to check a single NT service. We are unable to check multiple services from a single monitor. To improve the overall performance of your WhatsUp Gold console, we may use a remote agent like Nagios NRPE Monitor. This plugin allows checking multiple services from a single monitor, and it saves network resources.

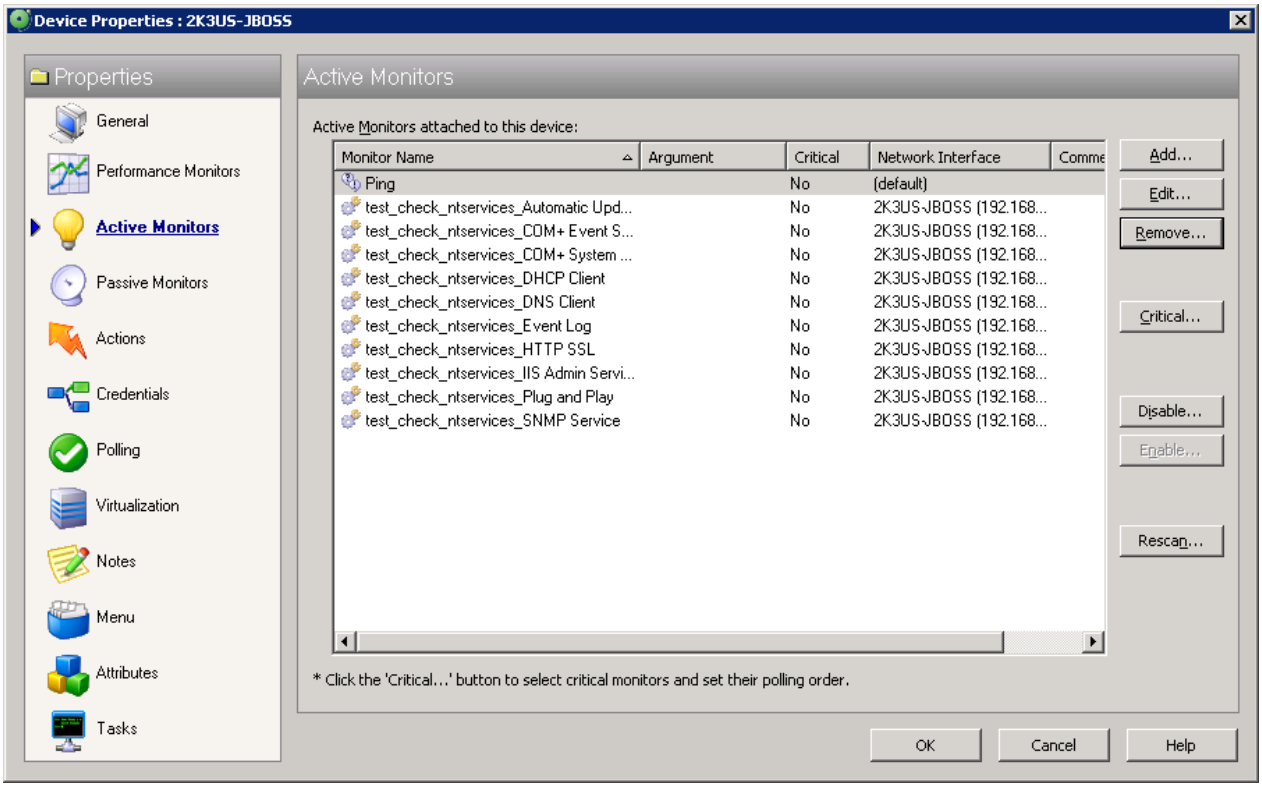
Problem:

We have 350 servers to monitor from our WhatsUp Gold console. We want to monitor, on average, 10 NT_Service per server. In other words, we want to implement about 3,500 NT_Service monitoring per minute. The question is: How could we improve our NT_Service monitoring? In this document, we will explain how Nagios-NRPE Monitor can answer this question, and how much it improves the WhatsUp Gold performances.

Performance measures:

Number of check has a real impact on the WhatsUp gold performances. The solution which is purpose is this document will allow reducing the number of check of NT_Service. In the following example, monitoring of ten NT services was established on a Windows Server. In the first case, these are check by the NT_Service Monitor, and then by the NRPE Monitor.

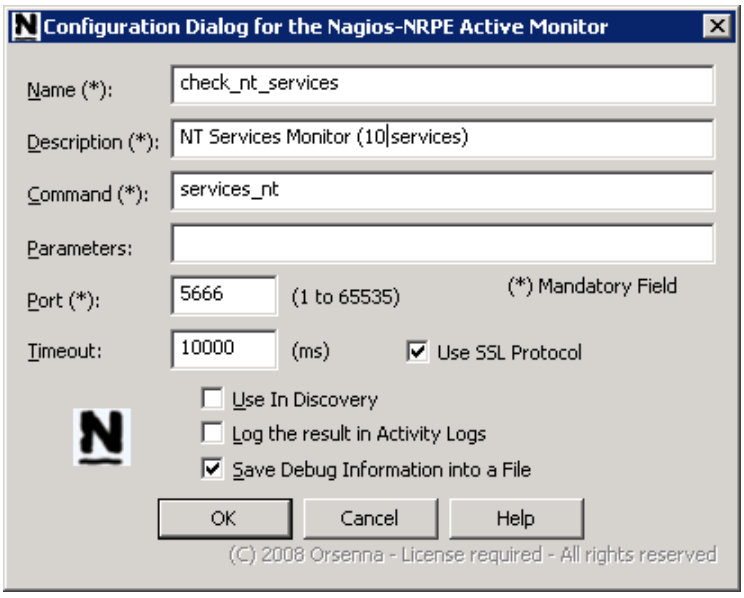
Ten NT_Service checks (NT_Service Monitor)



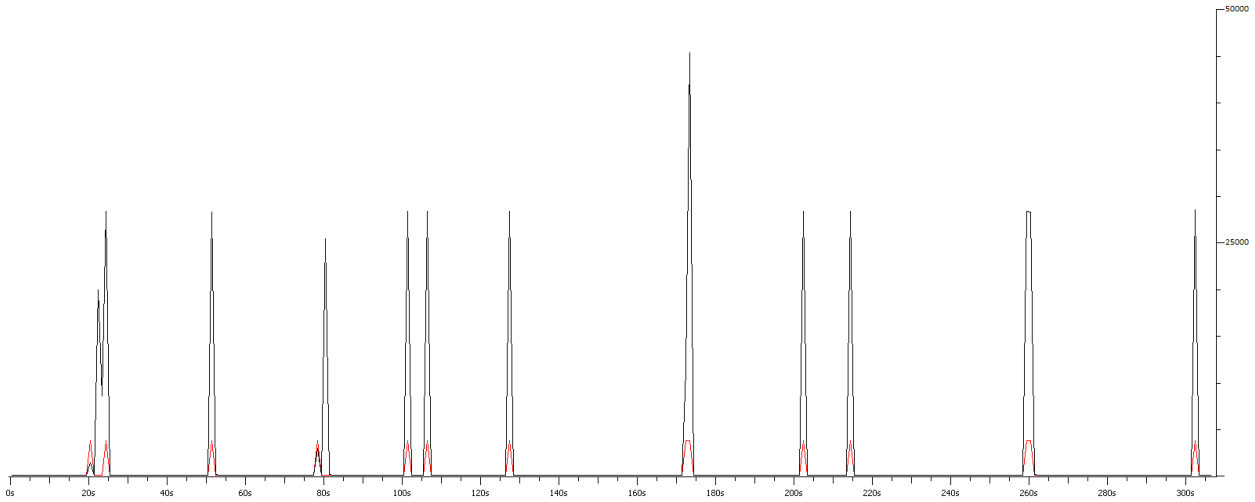
The Nagios-NRPE Monitor does not require the establishment of ten Active Monitors. In this example, a specific NT_Service command has been entered in the configuration file of the NRPE agent on the remote server. This command contains the definition of all ten NT_services, and is used by NRPE Monitor.

command[nt_services]=service_nrpe_nt.exe "<service 1>,<service 2>,…,<service 10>"

NRPE Monitor



In the following example, the NT_Service monitors and the Nagios-NRPE Monitor has been applied to a remote server. Polling period is 20 seconds, and measures of network traffic in five minutes were realized. You can see on the following graph results of the test. Black graph represent NT_Service Monitor traffic in bytes per second, and the red graph represent traffic generated by NRPE-Monitor.



--- NT_Service
--- NRPE

Details of generated packets on a five minutes period

NT_service Monitor

Packet Lengths with filter: (ip.addr == 192.168....

Topic / Item	Count	Rate (ms)	Percent
Packet Lengths	1808	0,005920	
0-19	0	0,000000	0,00%
20-39	0	0,000000	0,00%
40-79	1322	0,004329	73,12%
80-159	1	0,000003	0,06%
160-319	165	0,000540	9,13%
320-639	0	0,000000	0,00%
640-1279	320	0,001048	17,70%
1280-2559	0	0,000000	0,00%
2560-5119	0	0,000000	0,00%
5120-	0	0,000000	0,00%

Close

NRPE Monitor

Packet Lengths with filter: (ip.addr == 192.168....

Topic / Item	Count	Rate (ms)	Percent
Packet Lengths	238	0,000780	
0-19	0	0,000000	0,00%
20-39	0	0,000000	0,00%
40-79	110	0,000361	46,22%
80-159	48	0,000157	20,17%
160-319	48	0,000157	20,17%
320-639	0	0,000000	0,00%
640-1279	32	0,000105	13,45%
1280-2559	0	0,000000	0,00%
2560-5119	0	0,000000	0,00%
5120-	0	0,000000	0,00%

Close

To show traffic differences between the two methods, we measure on a single polling period.

1 polling period	NT_Services Monitor	NRPE Monitor
Nb packets	142	16
Nb bytes	29840	3784
Response Time	472 ms	126 ms

As we can see in these examples, monitoring multiple NT_services by Nagios-NRPE allows improving network traffic and therefore general WhatsUp Gold performances. In average, ***response time is three times lower for NRPE Monitor, and traffic generated is eight times lower***. We can see in this example a real impact on network resources. On some monitoring, this change may seem insignificant, but in our case, with 3,500 checks per minute, the difference is huge.

We use a Nagios NRPE Monitor available at **http://www.orsenna.com/store/boutique.php**

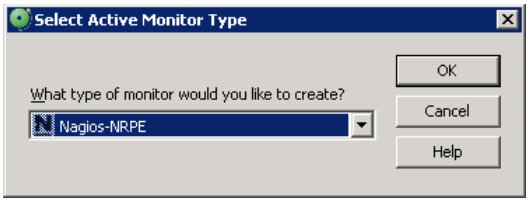
Extra : Install and Configure NRPE:

After installing WhatsUp Companion, you can find in following path: *"<WhatsUp path>/tools/NRPE"* a NRPE agent for Windows (winrpe). You must install it on your remote windows device and allows your WhatsUp console to access it. For this, enter the WhatsUp IP address in the nrpe.cfg file on the line *'Allow hosts'*.

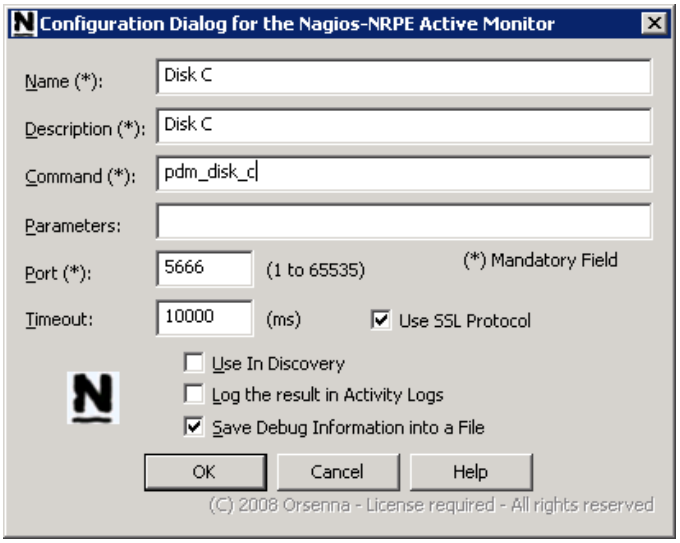
After installing and configuring agent, you can configure your NRPE monitor. In the nrpe.cfg file on the remote agent, you can add pre-configured commands, and then, use these in the WhatsUp Gold console, like on the following example:

```
# The following examples use hardcoded command arguments...

command[pdm_disk_c]=check_pdm.exe --disk --drive C: -w 90 -c 95
command[pdm_disk_d]=check_pdm.exe --disk --drive D: -w 90 -c 95
command[pdm_cpuload]=check_pdm.exe --processor -w 50 -c 80
command[pdm_memload]=check_pdm.exe --memory -w 95 -c 99
command[nt_services]=service_nrpe_nt.exe "Event Log,DNS Client"
command[memory_nonpaged]=wincheck_counter.exe -C "Memory" -P "Pool Nonpaged Bytes" -f "Nonpaged memory pool is %.0f bytes." -w 73400320 -c 943718
command[nt_eventlog]=eventlog_nrpe_nt.exe -m 30 -s "Service Control Manager"


# The following examples allow user-supplied arguments and can
# only be used if the NRPE daemon was compiled with support for
# command arguments *AND* the dont_blame_nrpe directive in this
# config file is set to '1'.  This poses a potential security risk, so
# make sure you read the SECURITY file before doing this.

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 $ARG3$
```

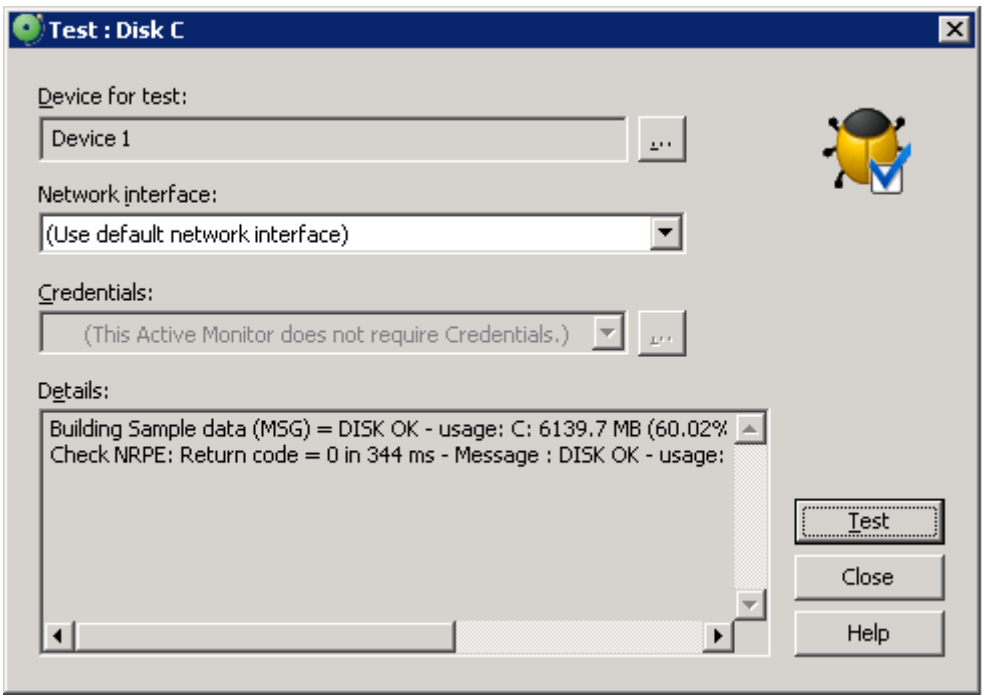
After, go to your WhatsUp console, and add a NRPE Monitor.



Enter a name and a description, and entre the 'nt_services' command. The default port is 5666, and your agent is default configured to use SSL encryption, so check the 'Use SSL Protocol' box.



You can, now, test the monitor.



If you wish to obtain additional information on the establishment of a NRPE monitor, you can go to this address to watch a video:

http://www.youtube.com/watch?v=jdnYBjqudkw