



SNClient

Multi-OS Agent als Ersatz für NSClient und NRPE und check_by_ssh und ...

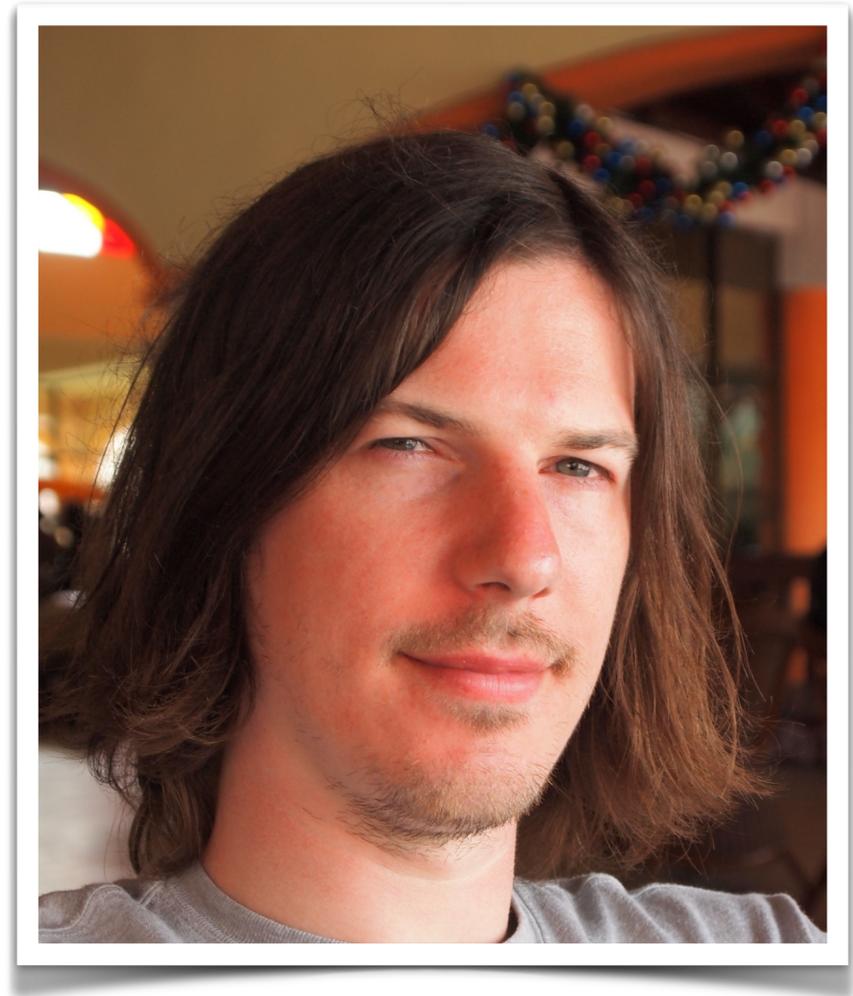
Sven Nierlein

16.05.2024

whoami

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- Location: Munich, Germany
- Work: consol.de

- Previous Workshops:
 - ...



whoami

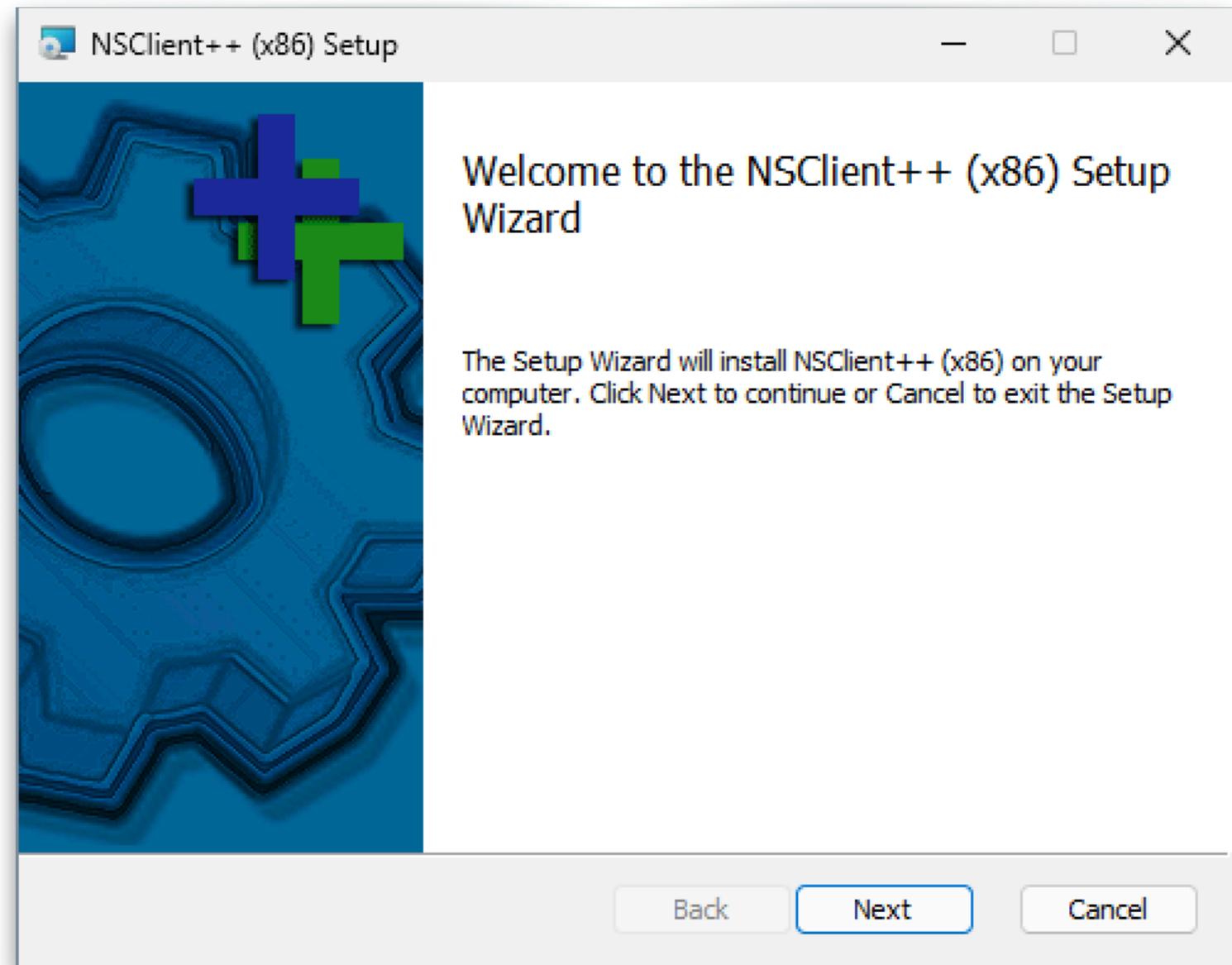
- Previous Workshops:
 - 2024: SNClient (Neckarsulm)
 - 2019: ??? München
 - 2018: ??? Braunschweig
 - 2017: ??? Düsseldorf
 - 2016: ??? Kiel
 - 2014: ??? Berlin
 - 2013: ??? Hamburg
 - 2012: ??? München
 - 2011: Mod-Gearman (Hannover)
 - 2010: Thruk (Fürth)



Introduction

Recap: NSClient++

- Windows Agent (and Linux)
- Supports several protocols
 - NRPE
 - REST
 - and more ...
- Lots of built-in checks
- Extendable
- Customisable



Status Quo

- Basically all our customers use NSClient++ in some way
- Largest setup ~15k 250k installations
- Usually happy with NSClient++



NSClient++ - So what's the issue?

- TLS \leq 1.2
- Last release was years ago

```
Testing protocols via  
SSLv2      not offered  
SSLv3      not offered  
TLS 1      not offered  
TLS 1.1    offered (C  
TLS 1.2    offered (C  
TLS 1.3    not offered  
NPN/SPDY   not offered  
ALPN/HTTP2 not offered
```



Releases 128

0.5.2.41 Latest

on Apr 27, 2018

NSClient++

- But besides that, it just works...
- Anyway, we needed a solution for the SSL issue...



Going to

- Just up

| mickem added 30 commits <u>last year</u> | | |
|---|--|---------|
|  |  Added some packages | ad76daf |
|  |  hmmm | 19a4832 |
|  |  ... | 33d261f |
|  |  q | 2658969 |
|  |  ffff | 542edfc |
|  |  Bumped minim cmake version to remove a lot of errors | 86831b6 |
|  |  random stuff from several months ago :) | a119365 |
|  |  hmmm | ad11960 |
|  |  grrr | 833c9d4 |
|  |  *sigh* | 1791e03 |
|  |  more fixes | 0a3de82 |
|  |  hmmm | 9b641c5 |
|  |  ... | 9ff4499 |
|  |  Swapped to python 3 cmake modules | ec86960 |
|  |  Fixed a bunch of compioation issues | ac52e6f |
|  |  strange | a6cdc95 |

Looking for alternatives

- There are a couple of options:
 - <https://github.com/infraweavers/monitoring-agent>
 - <https://github.com/continentale/sma-monitoring-agent/>
 - <https://github.com/continentale/monitoring-agent>
 - <https://github.com/it-novum/openitcockpit-agent-go>
 - <https://github.com/Icinga/icinga-powershell-framework>
 - Probably missed some more...



Alternative by [Nick Youngson](#) CC BY-SA 3.0 Alpha Stock Images

Requirements

- Drop-In Replacement
 - Support nsclient.ini Format
 - Must work on Windows and Linux
 - Modern SSL/TLS
 - Checks format/arguments compatible to NSClient
 - No Change to Naemon configuration
- Bonus Points
 - Prometheus





SNClient+

Introducing SNClient+

- Rewrite NSClient++ in Go
- Compatible with nsclient.ini
- Multiplatform
 - Windows
 - Linux
 - OSX, FreeBSD...
- Dual Stack
 - NSClient++
 - Prometheus

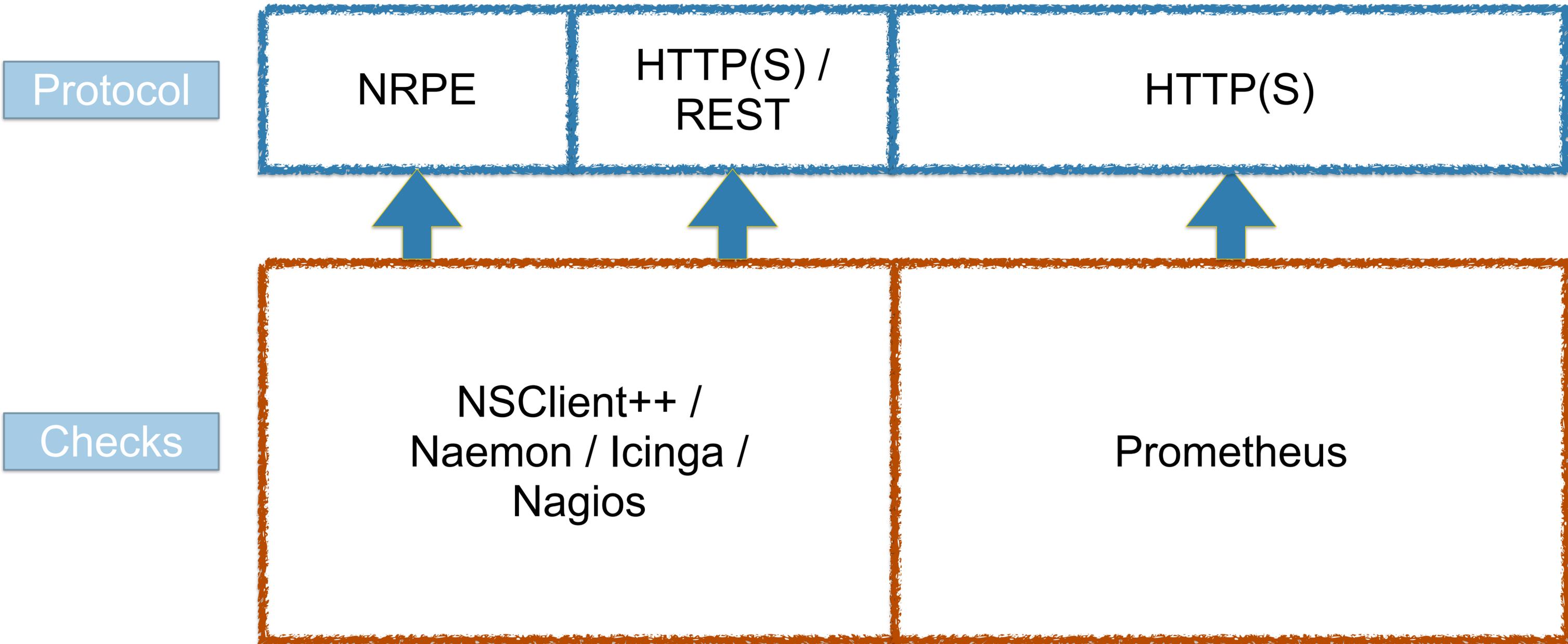


What does SNClient mean?

- Let's ask the chatbot of your choice:
 - Security/Networking Client
 - Software Name Client
 - Server Ninja Client
- The actual meaning is:
 - Secure Naemon Client



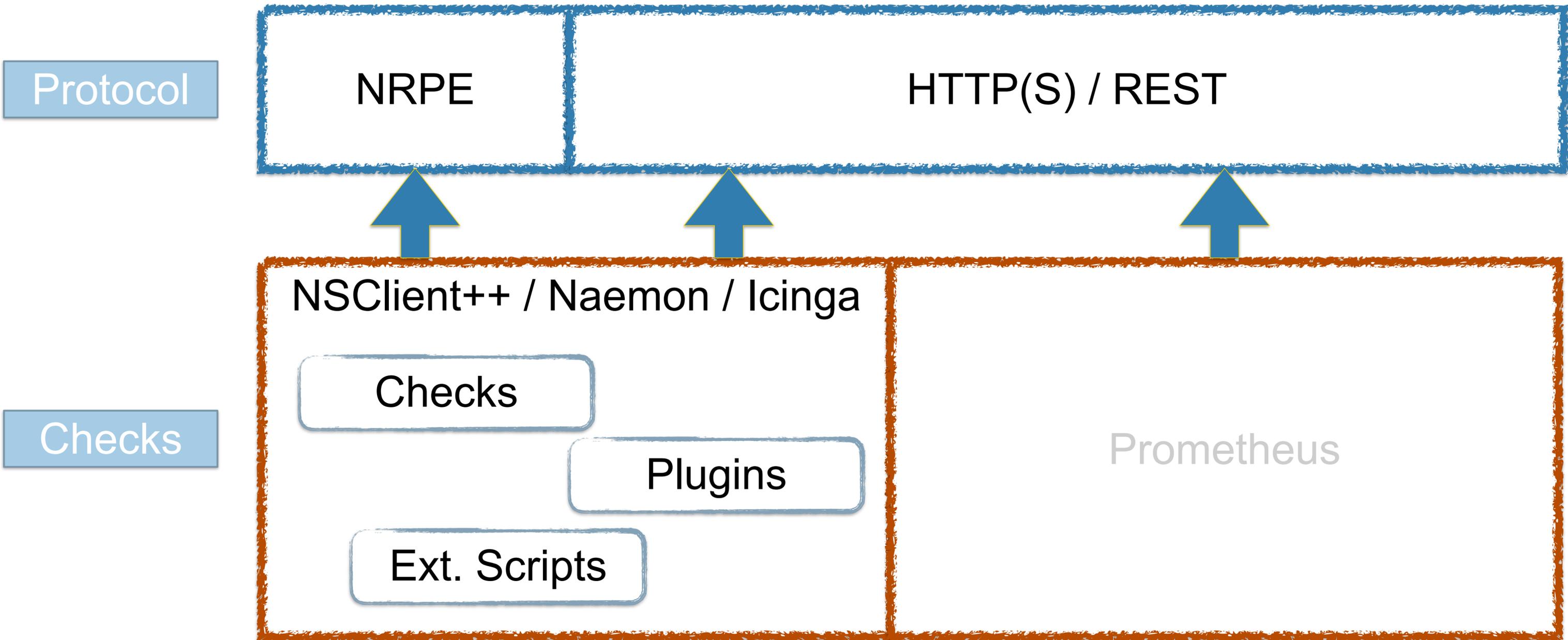
SNClient Dual-Stack





Naemon Stack

NSClient / Naemon Stack



SNClient

Current Network Status

Not Secure | <https://192.168.208.2/demo/thruk/cgi-bin/status.cgi?style=detail>

thruk

General

- Home
- Documentation
- Panorama View

Current Status

- Tactical Overview
- Hosts
- Services
- Host Groups
- Service Groups
- Mine Map
- Problems

Reports

System

Service Status Details

Hosts Services Problems In Downtime Unselect all

Display Filter < 1 > 100 per page

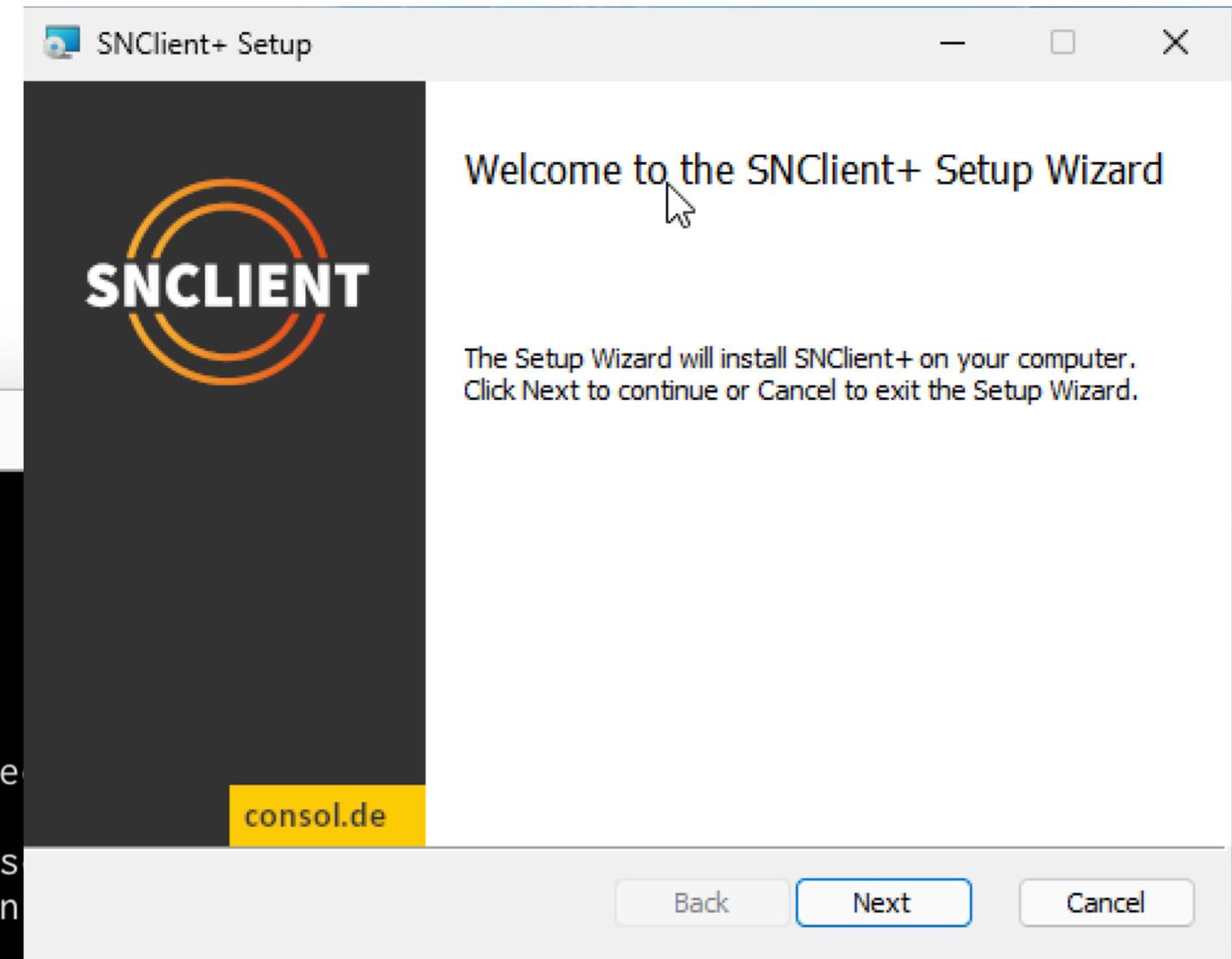
| Host | Service | Status | Last Check | Duration | Attempt | Status Information |
|-----------|------------------|---------|------------|----------|---------|--|
| localhost | agent inventory | PENDING | never | 2s+ | 1/3 | Service check scheduled for Tue Nov 7 14:45:44 CET 20... |
| | agent version | OK | 14:09:18 | 1m 43s | 1/3 | SNClient+ v0.11.0023 (Build: cc5501f) |
| | cpu | OK | 14:09:31 | 1m 30s | 1/3 | OK: CPU load is ok. |
| | disk / | OK | 14:09:30 | 1m 31s | 1/3 | OK: All 1 drive(s) are ok |
| | memory | OK | 14:09:55 | 1m 6s | 1/3 | OK: committed = 42.25 MiB, physical = 664... |
| | net enp0s1 | OK | 14:09:15 | 1m 46s | 1/3 | OK: enp0s1 >22569820 <2226142553 bps |
| | omd site demo | OK | 14:09:42 | 1m 19s | 1/3 | OK - site demo: running |
| | os version | OK | 14:09:04 | 57s | 1/3 | OK: debian 12.1 (arch: arm64) |
| | service apache2 | OK | 14:09:03 | 58s | 1/3 | OK: All 1 service(s) are ok. |
| | service mariadb | OK | 14:09:13 | 1m 48s | 1/3 | OK: All 1 service(s) are ok. |
| | service postfix | OK | 14:09:56 | 1m 5s | 1/3 | OK: All 1 service(s) are ok. |
| | service snclient | OK | 14:09:27 | 1m 34s | 1/3 | OK: All 1 service(s) are ok. |
| | service ssh | OK | 14:09:03 | 58s | 1/3 | OK: All 1 service(s) are ok. |
| | uptime | WARNING | 14:08:27 | 1m 34s | 1/3 | WARNING: uptime: 1d 05:30h, boot: 2023-11-06 07:37:5... |

14 of 14 Items Displayed

Installation

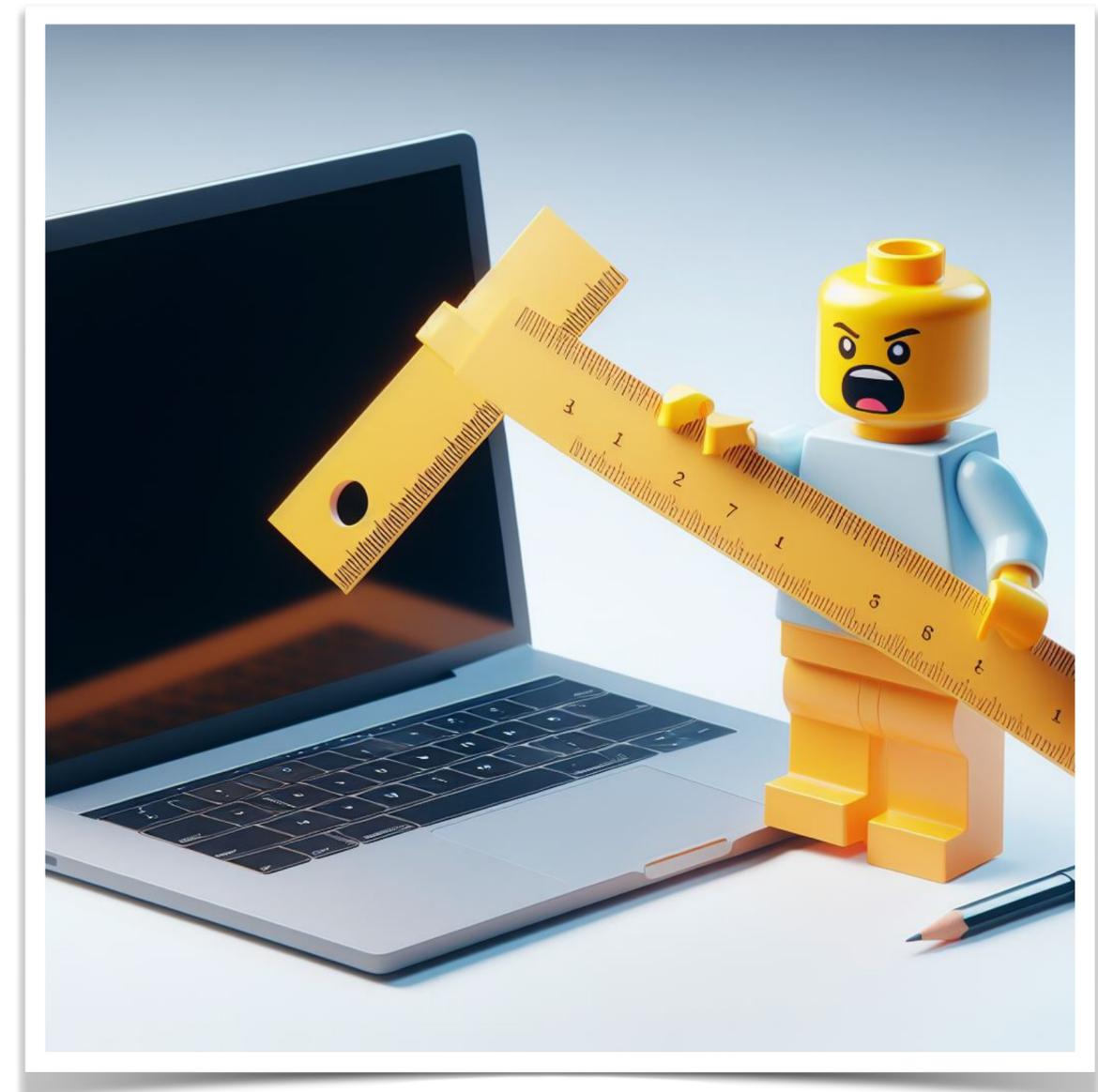
- .MSI Installer for windows
- DEB/RPM repository for linux:
<https://labs.consol.de/repo/>
- Single go binary*

```
ssh
10:46:22 root@legerarmvm:~ 9 #>apt install snclient
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
 snclient
0 upgraded, 1 newly installed, 0 to remove and 96 not upgrade
Need to get 11.8 MB of archives.
After this operation, 0 B of additional disk space will be us
Get:1 http://labs.consol.de/repo/testing/debian bookworm/main
Fetched 11.8 MB in 0s (72.9 MB/s)
Selecting previously unselected package snclient.
```



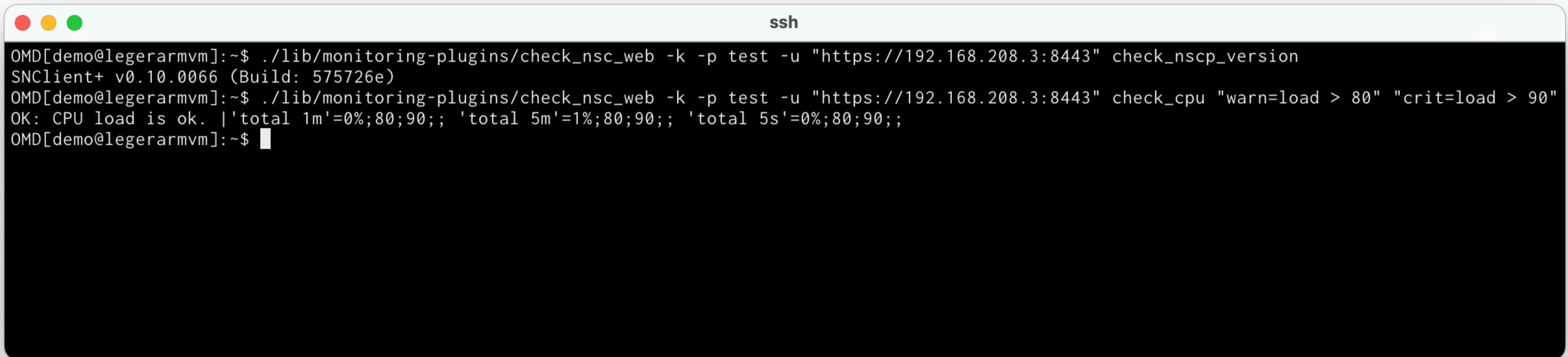
Checks

- Built in check commands, ex.:
 - check_cpu
 - check_drivesize
 - check_memory
 - check_process
 - check_service
 - ...
- Get full list with
 - `.\snclient.exe run check_index`



Checks

- Checks can be executed via `check_nsc_web` utilising the REST API.



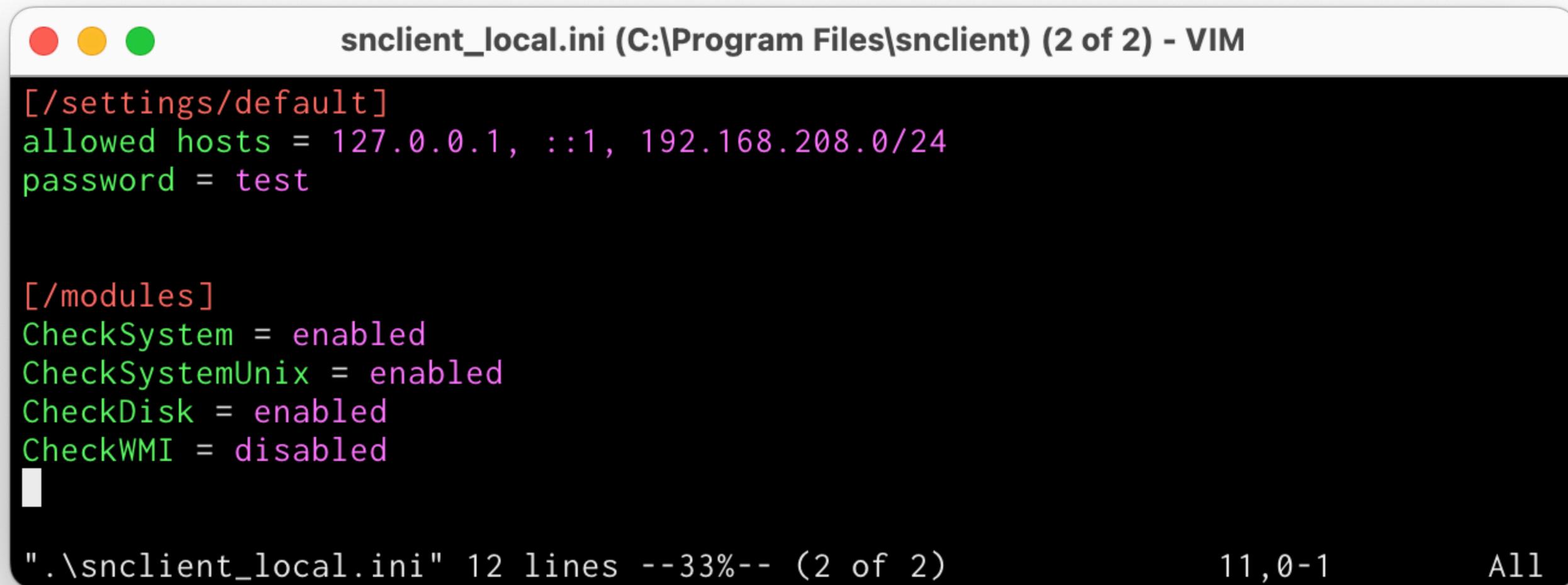
```
ssh
OMD[demo@legerarmvm]:~$ ./lib/monitoring-plugins/check_nsc_web -k -p test -u "https://192.168.208.3:8443" check_nscp_version
SNClient+ v0.10.0066 (Build: 575726e)
OMD[demo@legerarmvm]:~$ ./lib/monitoring-plugins/check_nsc_web -k -p test -u "https://192.168.208.3:8443" check_cpu "warn=load > 80" "crit=load > 90"
OK: CPU load is ok. |'total 1m'=0%;80;90;; 'total 5m'=1%;80;90;; 'total 5s'=0%;80;90;;
OMD[demo@legerarmvm]:~$
```

- NRPE is available for compatibility reasons, `check_nsc_web` is the recommended way.

https://github.com/ConSol-Monitoring/check_nsc_web

Checks

- Some checks need to be enabled in the ["/modules]" section.



```
snclient_local.ini (C:\Program Files\snclient) (2 of 2) - VIM

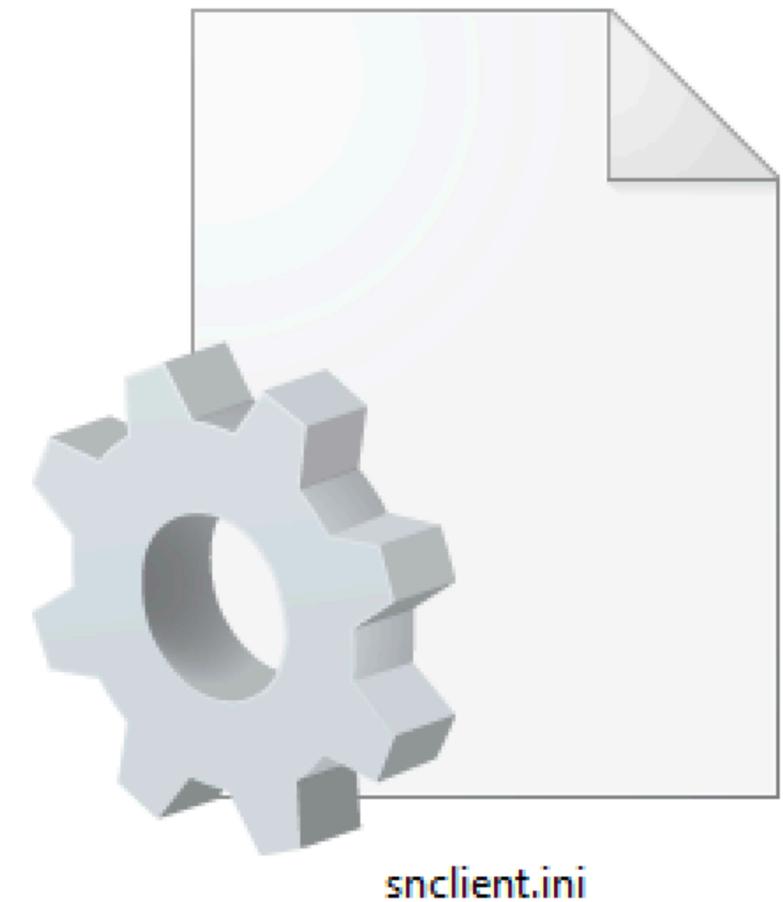
[/settings/default]
allowed hosts = 127.0.0.1, ::1, 192.168.208.0/24
password = test

[/modules]
CheckSystem = enabled
CheckSystemUnix = enabled
CheckDisk = enabled
CheckWMI = disabled

".\snclient_local.ini" 12 lines --33%-- (2 of 2) 11,0-1 All
```

Configuration

- Default snclient.ini contains all available values with their defaults
- Best practice: Put changes into a snclient_local.ini which is included by default
- Included files overwrite existing settings



Configuration - Inheritance

- The order of inheritance for the example to the right:
 - /settings/sub1/other (most significant)
 - /settings/sub1/default
 - /settings/sub1
 - /settings/default (least significant)

```
[/settings/sub1/other]  
key = value
```

```
[/settings/sub1/default]  
; fallback if the above is not set  
key = value
```

```
[/settings/sub1]  
; fallback if the above is not set  
key = value
```

```
[/settings/default]  
; fallback if the above is not set  
key = value
```


Configuration - On Demand Macros

- On demand macros can be used to access values from other sections
- Example:
[/`settings/external scripts/alias`]
`alias_allowed_hosts = check_dummy 0 "${/settings/WEB/server/allowed hosts}"`
- Those macros are only valid in the .ini file, not as check arguments.

Configuration - Macros Operators

- Use macro operators to alter existing values:
- Example:
[/settings/external scripts/alias]
alias_hostname = check_dummy 0 "host:\${hostname:lc}"

<https://omd.consol.de/docs/snclient/configuration/#macro-operators>

Configuration - Macros Operators

| Suffix | Example |
|--------------------|---------------------------------------|
| :lc | Word -> word |
| :uc | test -> TEST |
| :h | 1000 -> 1k |
| :duration | 125 -> 2m 5s |
| :age | 1700834034 -> 374 |
| :date | 1700834034 -> 2023-11-24 14:53:54 CET |
| :utc | 1700834034 -> 2023-11-24 13:53:54 UTC |
| :fmt=<fmt> | 123.45 -> 123.4 |
| :s/regexp/replace/ | C:\ % -> C |
| :ascii | C:\ % -> C |



<https://omd.consol.de/docs/snclient/configuration/#macro-operators>

Configuration - HTTPS includes

- Include ini files via HTTPSs

- Example:

```
[/includes]
```

```
remote = https://user:pass@company/snclient/default.ini
```

- Or more detailed:

```
[/includes/company]
```

```
url = https://company/snclient/default.ini
```

```
#user = test
```

```
#password = changeme
```

```
#insecure = false
```

```
#request timeout = 60
```

```
#client certificate = client1.crt
```

```
#certificate key = client1.key
```



<https://omd.consol.de/docs/snclient/configuration/#https-includes>

Configuration - Append Values

- Extend existing settings with the += operator

- Example:

```
[/settings/default]
```

```
allowed hosts = 127.0.0.1, ::1
```

```
allowed hosts += , 192.168.0.1
```

- Note: config will be concatenated as string text



<https://omd.consol.de/docs/snclient/configuration/#appending-values>

Configuration - Config File Size

- Some companies count the number of allowed hosts in MB
- There is no limit to the .ini file or a single line anymore



<https://omd.consol.de/docs/snclient/configuration/#appending-values>

Checks - Filter

- Each check builds an internal table for detail data:
.\snclient.exe run -vvv check_service filter="name=snclient"
OK: All 1 service(s) are ok.

| classification | cpu | delayed | desc | name | pid | service | start_type | state |
|------------------------|------|---------|-----------------------|--------------------------|------|--------------------------|------------|---------|
| service-shared-process | 0 % | 0 | AssignedAccessManager | AssignedAccessManagerSvc | 0 | AssignedAccessManagerSvc | demand | stopped |
| service-own-process | 1 % | 0 | Windows Audio | Audiosrv | 1700 | Audiosrv | auto | running |
| service-own-process | 0.2% | 0 | snclient | snclient | 8336 | snclient | Auto | Running |
| ... | | | | | | | | |

- Filter are simple “<key> <op> <value>” sets combined by logical operators

<https://omd.consol.de/docs/snclient/checks/filter/>

Checks - Thresholds

- Thresholds work like filter but instead of removing an entry, the according state will be set.

```
.\snclient.exe run check_service filter="name=snclient" "warn=cpu>90%" "crit=cpu>95" show-all
```

```
OK: snclient=running (auto) |'snclient'=4 'snclient rss'=32395264B 'snclient vms'=29831168B 'snclient cpu'=0.1%
```

- Use multiple warn/crit to create ranges

```
.\snclient.exe run check_drivesize drive=c: warn="used > 10% && used < 30%"
```

```
OK: All 1 drive(s) are ok |... 'c: used %'=57.9%;@10:30;90;0;100
```



Checks - Extending Thresholds And Filter

- Most checks have more or less sane default thresholds
ex.:
warning="used > 80%"
- Keep default threshold and add more:
ex.:
warning+="inodes > 50%"
- Works for filter as well:
ex.:
filter+="mounted = 1"



<https://omd.consol.de/docs/snclient/checks/arguments/>

Checks - More Checks

- New Checks:
 - `check_os_updates`
 - `check_ntp_offset`
 - `check_temperature`
 - `check_mailq`
 - `check_mount`
 - `check_omd`



<https://omd.consol.de/docs/snclient/checks/commands/>

External Scripts

- External scripts need to be enabled in the “[/modules]” section first:

```
[/modules]
```

```
CheckExternalScripts = enabled
```

- Concise Format:

```
[/settings/external scripts]
```

```
my_check1 = check_custom.bat
```

```
my_check2 = myscripts\check_custom.bat
```

- Verbose Format:

```
[/settings/external scripts/scripts/my_check1]
```

```
my_check1 = check_custom.bat
```

```
[/settings/external scripts/scripts/my_check2]
```

```
my_check2 = myscripts\check_custom.bat
```



External Scripts

- Don't:

```
cmd /c echo scripts\check_something.ps1 $ARG1%; exit($lastexitcode) | powershell.exe -command -
```

- Instead:

```
scripts\check_something.ps1 $ARG1%
```



Plugins

- Plugins are built in checks, but work more like the official monitoring-plugins
- Currently there are:
 - `check_nsc_web`
 - `check_http`
 - `check_tcp`
 - `check_dns`
 - `check_ping`
- Plugins need to be enabled:
[`/modules`]
`CheckBuiltinPlugins = enabled`



<https://github.com/mackerelio/go-check-plugins>

Plugins

- Example: use internal `check_http` to check reachability of services:

```
.\snclient.exe run check_http -H company-service:8443 -S
```

```
HTTP OK: HTTP/1.1 307 Temporary Redirect - 202 bytes in 0.073 second response time | time=0.072689s...
```

```
.../check_nsc_web -p 123 -u https://hostname:8443 check_http -H labs.consol.de -S
```

- Example: use internal `check_nsc_web` to check other snclients:

```
.\snclient.exe run check_nsc_web -p test -u https://192.123.123.2:8443 -k check_os_version
```

```
OK: Microsoft Windows 11 Pro 10.0.22631.2428 Build 22631.2428 (arch: amd64)
```

Security

- Native SSL/TLS Support
- Strong Encryption and Security Standards
- Secure Ciphers by Default
- Hashed Passwords:
[`/settings/default`]
`password = SHA256:9f86d081...`
- “Allowed Hosts” are used for the webserver as well (all listeners)



Checks - Output Syntax

- Pimp my *-syntax

- Old: `detail-syntax="% (drive_or_name) %(used)/%(size) "`

- (%(used) already contains human readable text)
- Have a separate macro for each purpose

- New:

```
detail-syntax="% (drive_or_name) %(used)/%(size) ( %(used_pct | fmt=%.1f )% )"
```

- Macro contains raw data, use modifier to adjust for given purpose

<https://omd.consol.de/docs/snclient/checks/syntax/>



Checks - Output Syntax II



- Problem (service check):

```
detail-syntax='%(name) - memory: %(rss:h)B cpu: %(cpu:h)%'
```

- Quite useless in case of a stopped service:

Current Status

CRITICAL (for 1m 55s)

CRITICAL: systemd-networkd - memory: 0 B cpu: 0.0% - age: 54y 21w

- Solution:

```
detail-syntax='%(name) -
```

```
{{ IF state == running }}memory: %(rss:h)B cpu: %(cpu:fmt=%.1f)% - age: %
```

```
(created:age:duration)
```

```
{{ else }}service status: $(state){{ end }}'
```

CRITICAL (for 7m 34s)

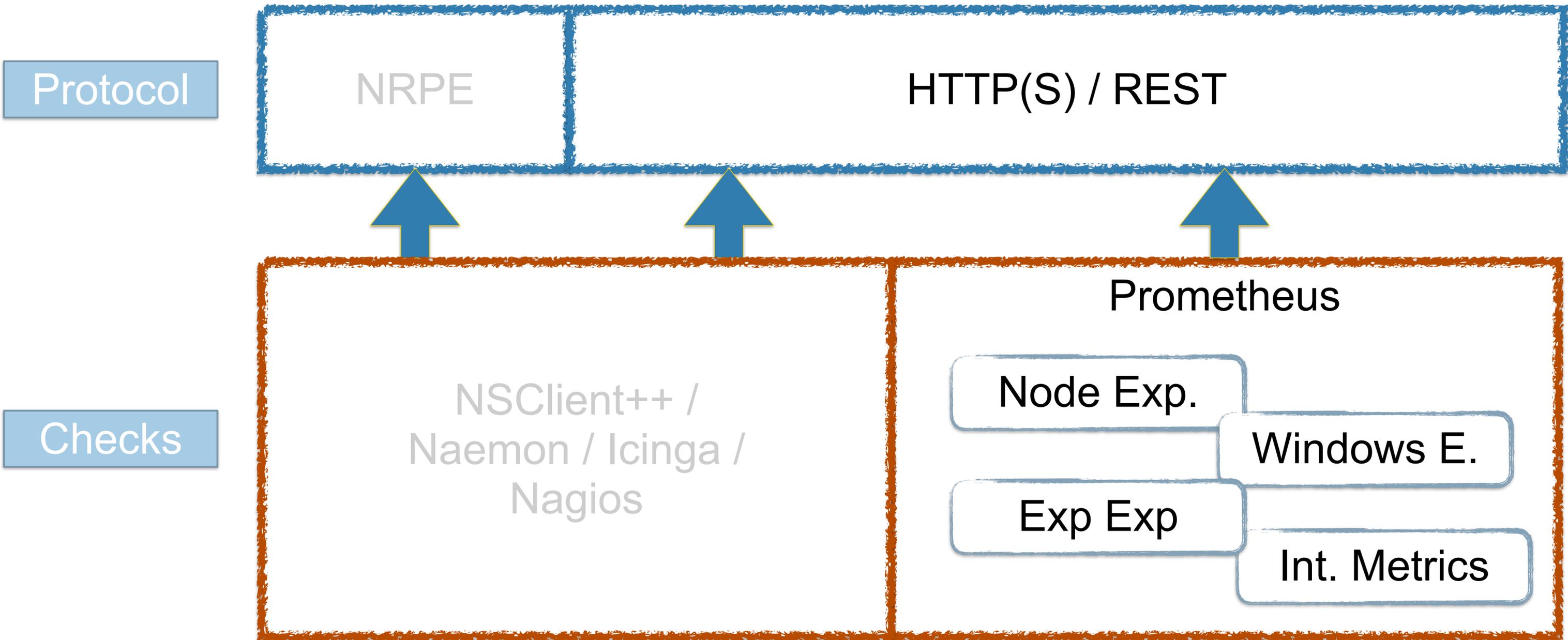
CRITICAL: systemd-networkd - service status: stopped

<https://omd.consol.de/docs/snclient/checks/syntax/>



Prometheus Stack

Prometheus Stack



Prometheus Stack

- Exporter Exporter
 - Basically a reverse proxy for prometheus exporters

```
test.ini (C:\Program Files\snclient) - VIM
[/modules]
ExporterExporterServer = enabled

[/settings/ExporterExporter/server]
; port - Port to use for exporter_exporter.
port = ${/settings/WEB/server/port}

; use ssl - This option controls if SSL will be enabled.
use ssl = ${/settings/WEB/server/use ssl}

; url prefix - set prefix to provided urls (/list & /proxy)
url prefix = /

; modules dir - set folder with yaml module definitions
modules dir = ${shared-path}/exporter_modules

; default module - set default module if no specific module is requested
default module =

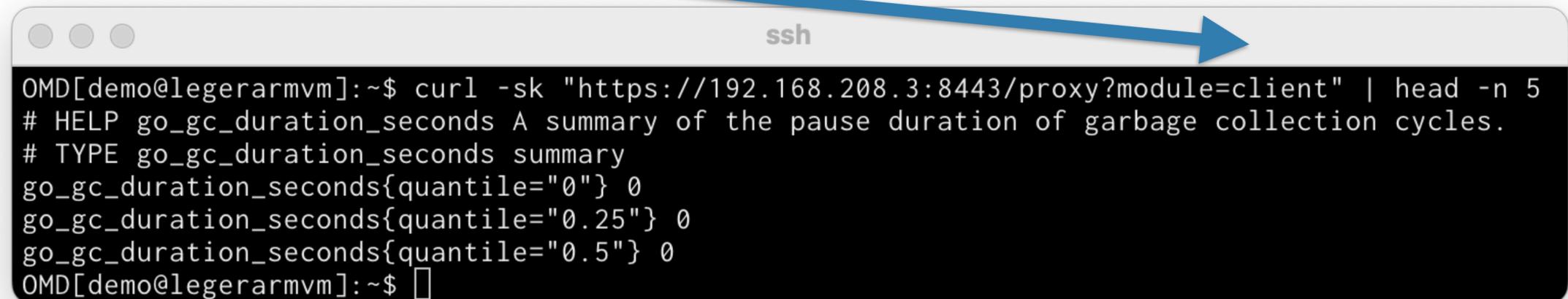
; use default web attributes here, ex.: password, allowed hosts, certificates, etc...
~
11,1 All
```

Prometheus Stack

- Exporter Exporter
 - Uses .yaml format for compatibility reasons in the “modules dir”

- Example `.\exporter_modules\client.yaml`:

```
method: http
http:
  scheme: http
  port: 9999
  path: /metrics
  tls_insecure_skip_verify: true
```



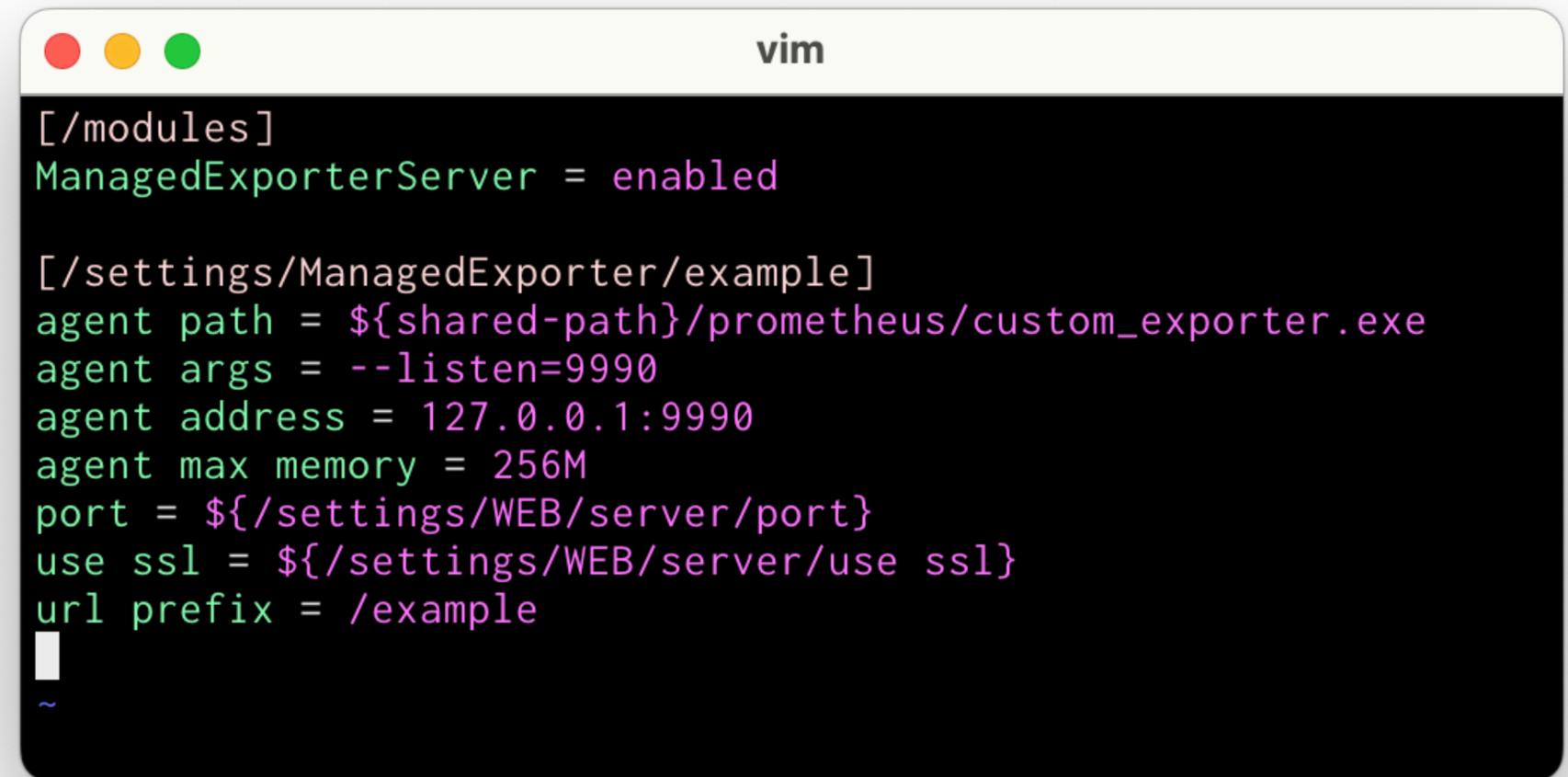
```
ssh
OMD[demo@legerarmvm]:~$ curl -sk "https://192.168.208.3:8443/proxy?module=client" | head -n 5
# HELP go_gc_duration_seconds A summary of the pause duration of garbage collection cycles.
# TYPE go_gc_duration_seconds summary
go_gc_duration_seconds{quantile="0"} 0
go_gc_duration_seconds{quantile="0.25"} 0
go_gc_duration_seconds{quantile="0.5"} 0
OMD[demo@legerarmvm]:~$
```

- Does not verify metrics and just passes through

https://github.com/QubitProducts/exporter_exporter

Prometheus Stack

- Managed Exporter
 - Starts and controls exporters
 - Controls memory usage
 - Restarts exporter in case of errors
 - Enable with
“ManagedExporterServer = enabled”
in the modules section
 - URL Prefix /example usually results in
/example/metrics as path to metrics

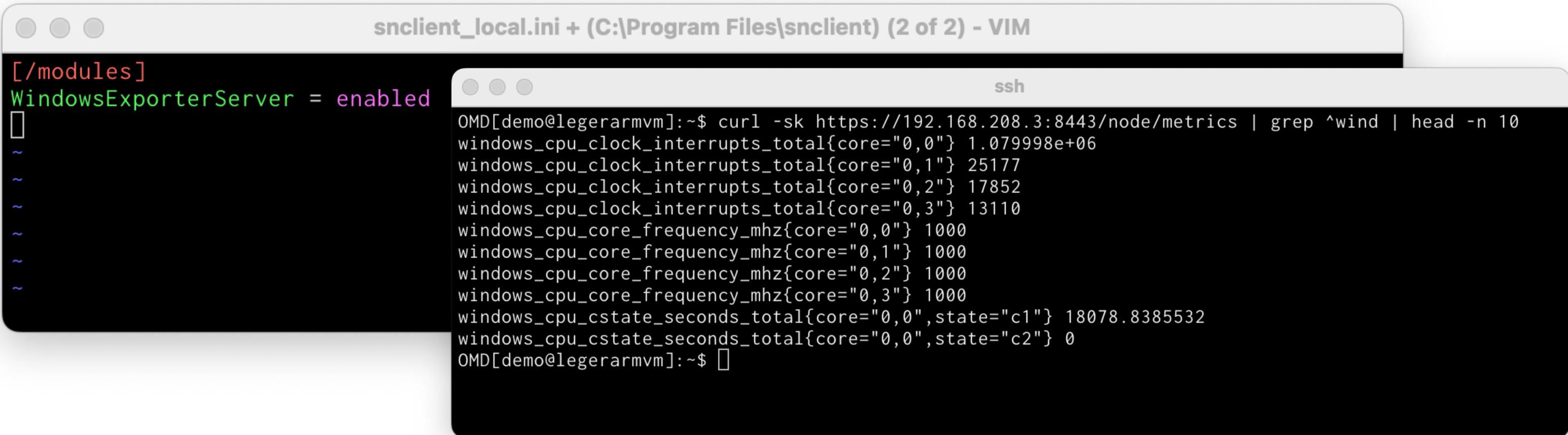


```
vim
[/modules]
ManagedExporterServer = enabled

[/settings/ManagedExporter/example]
agent path = ${shared-path}/prometheus/custom_exporter.exe
agent args = --listen=9990
agent address = 127.0.0.1:9990
agent max memory = 256M
port = ${/settings/WEB/server/port}
use ssl = ${/settings/WEB/server/use ssl}
url prefix = /example
```

Prometheus Stack

- Windows Exporter
 - Managed Exporter
 - Started and controlled by SNClient+
 - Checks memory usage and restarts the exporter

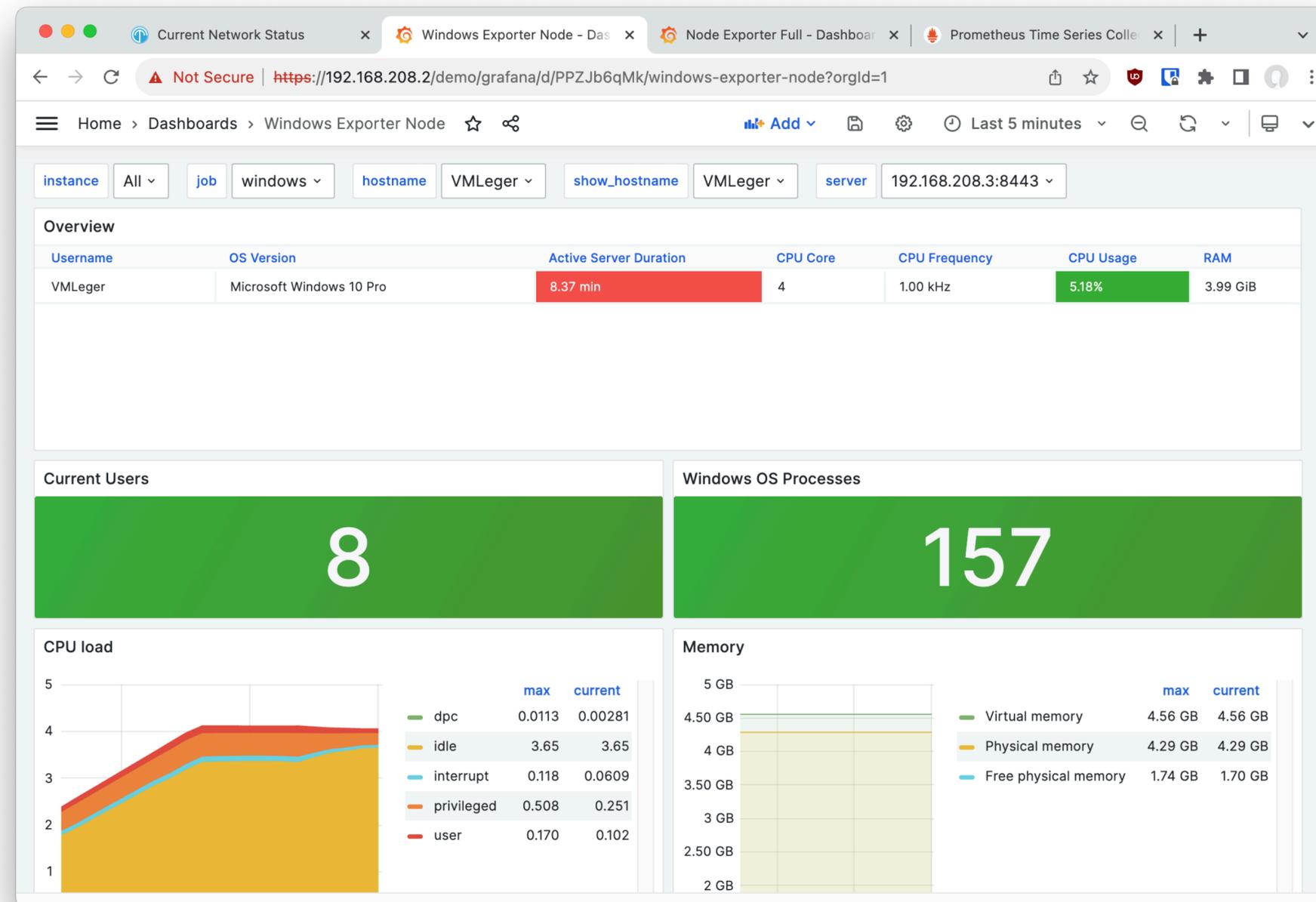


The image shows two overlapping terminal windows. The top window is a VIM editor editing the file `snclient_local.ini`. The current mode is `[/modules]` and the text `WindowsExporterServer = enabled` is visible. The bottom window is an SSH terminal with the title `ssh`. It shows the command `curl -sk https://192.168.208.3:8443/node/metrics | grep ^wind | head -n 10` and its output, which lists various Windows metrics such as `windows_cpu_clock_interrupts_total` and `windows_cpu_core_frequency_mhz`.

```
snclient_local.ini + (C:\Program Files\snclient) (2 of 2) - VIM
[/modules]
WindowsExporterServer = enabled
~
~
~
~
~
~
~
~
~
~

ssh
OMD[demo@legerarmvm]:~$ curl -sk https://192.168.208.3:8443/node/metrics | grep ^wind | head -n 10
windows_cpu_clock_interrupts_total{core="0,0"} 1.079998e+06
windows_cpu_clock_interrupts_total{core="0,1"} 25177
windows_cpu_clock_interrupts_total{core="0,2"} 17852
windows_cpu_clock_interrupts_total{core="0,3"} 13110
windows_cpu_core_frequency_mhz{core="0,0"} 1000
windows_cpu_core_frequency_mhz{core="0,1"} 1000
windows_cpu_core_frequency_mhz{core="0,2"} 1000
windows_cpu_core_frequency_mhz{core="0,3"} 1000
windows_cpu_cstate_seconds_total{core="0,0",state="c1"} 18078.8385532
windows_cpu_cstate_seconds_total{core="0,0",state="c2"} 0
OMD[demo@legerarmvm]:~$
```

Prometheus Stack



Prometheus Stack

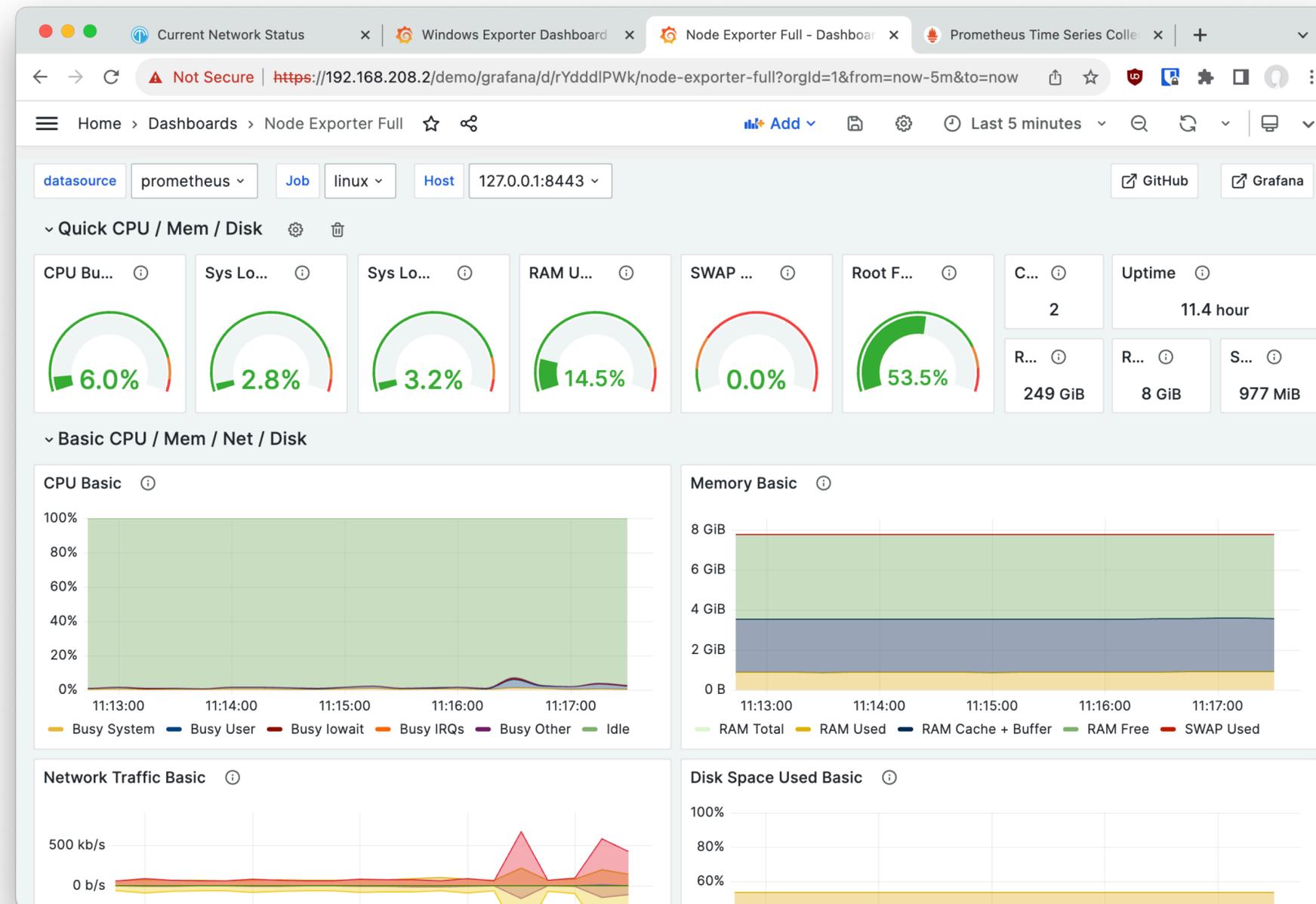
- Node Exporter
 - Same as windows exporter but for linux

```
test.ini + (C:\Program Files\snclient) - VIM
[/modules]
NodeExporterServer = enabled

[/settings/NodeExporter/server]
agent path = ${shared-path}/prometheus/node_exporter
agent args =
agent address = 127.0.0.1:9990
agent max memory = 256M
port = ${/settings/WEB/server/port}
use ssl = ${/settings/WEB/server/use ssl}
url prefix = /node
█
```

12,0-1 All

Prometheus Stack



Prometheus Stack

- Like every good tool in the prometheus eco system
 - Provides internal metrics
 - Must be enabled with “PrometheusServer” in the modules section.

```
snclient_local.ini + (C:\...\snclient) (2 of 2) - VIM
[/modules]
PrometheusServer = enabled

[/settings/Prometheus/server]
password =
~
~
```

```
ssh
OMD[demo@legerarmvm]:~$ curl -s "http://192.168.208.3:9999/metrics" | head
# HELP go_gc_duration_seconds A summary of the pause duration of garbage collection cycles.
# TYPE go_gc_duration_seconds summary
go_gc_duration_seconds{quantile="0"} 0
go_gc_duration_seconds{quantile="0.25"} 0
go_gc_duration_seconds{quantile="0.5"} 0.0002037
go_gc_duration_seconds{quantile="0.75"} 0.0014989
go_gc_duration_seconds{quantile="1"} 0.0078413
go_gc_duration_seconds_sum 0.0217468
go_gc_duration_seconds_count 13
# HELP go_goroutines Number of goroutines that currently exist.
OMD[demo@legerarmvm]:~$
```



Updates

Updates

```
snclient_local.ini + (C:\Program Files\snclient) (2 of 2) - VIM
[/settings/updates]
automatic updates = disabled
automatic restart = disabled
channel = stable
pre release = false
insecure = false
update hours = 0-24
update days = mon-sun

[/settings/updates/channel]
stable = https://api.github.com/repos/ConSol-monitoring/snclient/releases
dev = https://api.github.com/repos/ConSol-monitoring/snclient/actions/artifacts

; custom - Any other url works as well.
; custom - https://company-server.local/snclient/snclient-${goos}-${goarch}

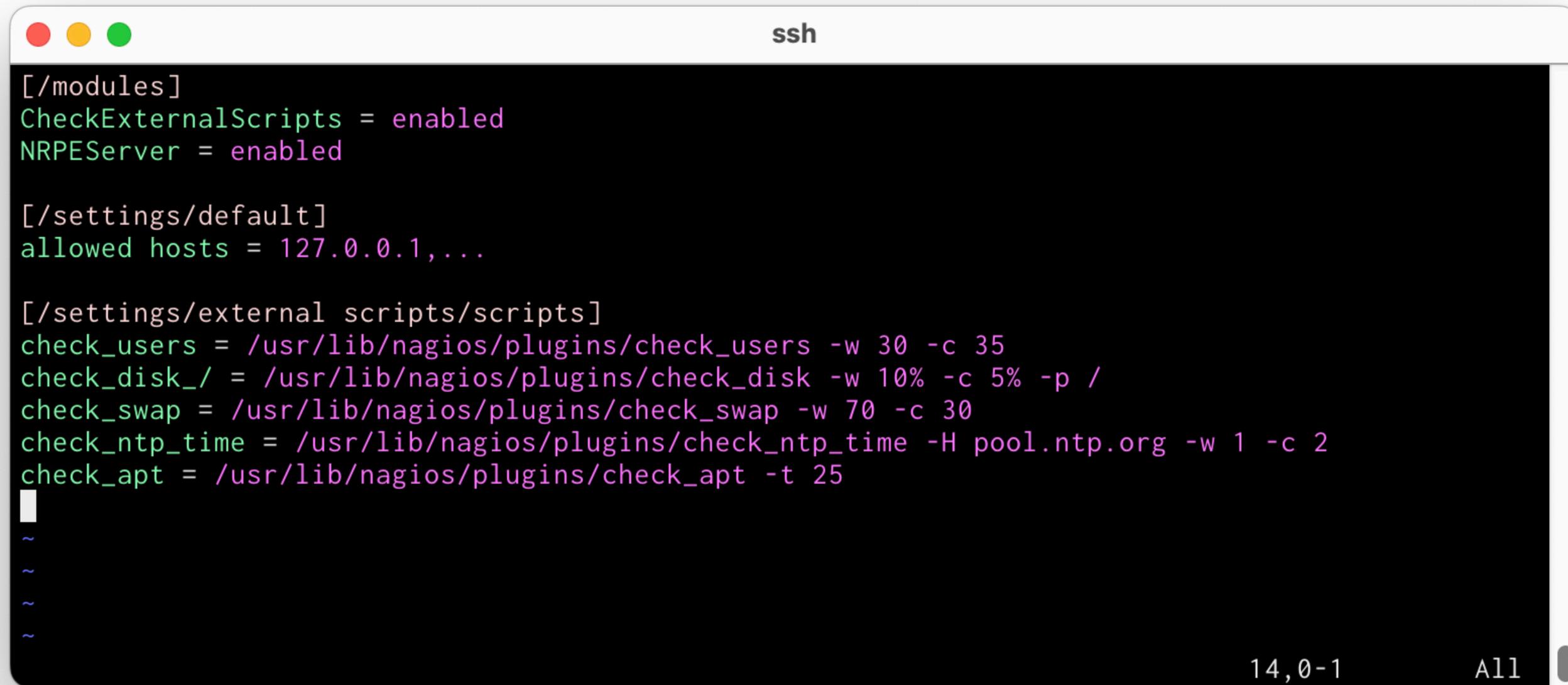
; local - Even local files can be checked.
; local - file://z:\updates\snclient-${goos}-${goarch}

[/settings/updates/channel/dev]
; github token - the dev channel requires a github token to download the update
;github token = <GITHUB-TOKEN>
~
23,0-1 All
```



Examples

Replace NRPE

A terminal window titled 'ssh' with standard macOS window controls (red, yellow, green buttons). The terminal displays Nagios configuration for NRPE. The configuration is organized into sections: [/modules], [/settings/default], and [/settings/external scripts/scripts]. The first section shows 'CheckExternalScripts = enabled' and 'NRPEServer = enabled'. The second section shows 'allowed hosts = 127.0.0.1,...'. The third section lists several external scripts with their respective paths and options: 'check_users', 'check_disk_', 'check_swap', 'check_ntp_time', and 'check_apt'. The terminal ends with a cursor and four tilde characters (~). In the bottom right corner, there is a status bar showing '14,0-1' and 'All' with a scrollbar icon.

```
ssh  
[/modules]  
CheckExternalScripts = enabled  
NRPEServer = enabled  
  
[/settings/default]  
allowed hosts = 127.0.0.1,...  
  
[/settings/external scripts/scripts]  
check_users = /usr/lib/nagios/plugins/check_users -w 30 -c 35  
check_disk_/ = /usr/lib/nagios/plugins/check_disk -w 10% -c 5% -p /  
check_swap = /usr/lib/nagios/plugins/check_swap -w 70 -c 30  
check_ntp_time = /usr/lib/nagios/plugins/check_ntp_time -H pool.ntp.org -w 1 -c 2  
check_apt = /usr/lib/nagios/plugins/check_apt -t 25  
~  
~  
~  
~  
14,0-1 All
```



Performance

Performance

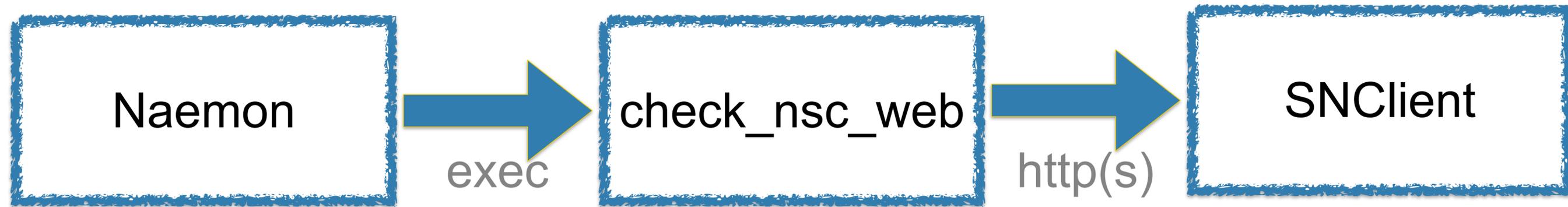
- Best practice:
 - Naemon Core
 - check_nsc_web
 - Mod-Gearman (Go) Worker

- But everything else is fine as well



Performance

Classical Approach:



Mod-Gearman:



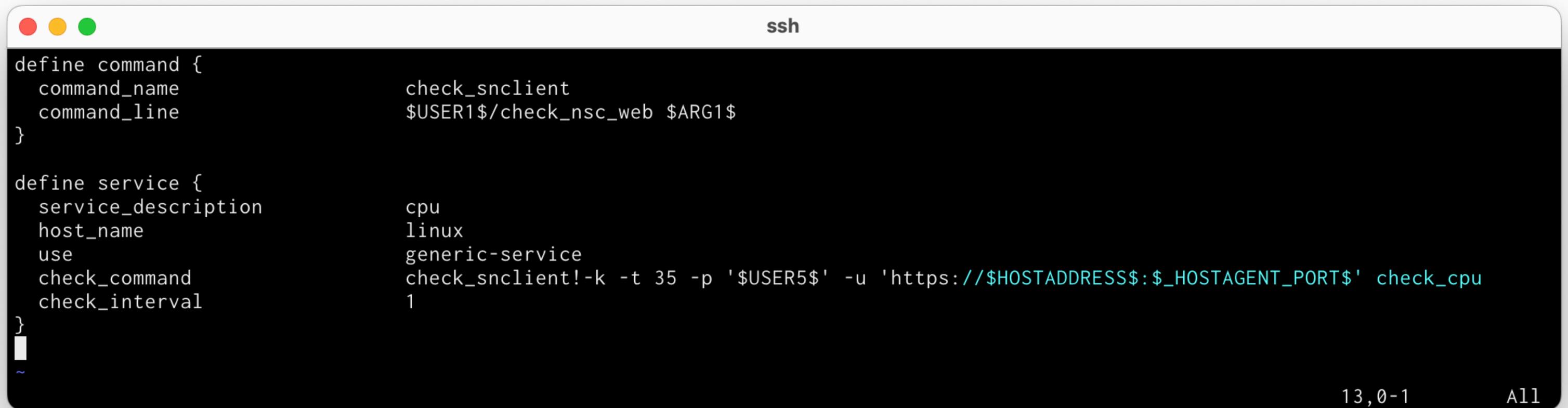
The Mod-Gearman Go Worker uses a builtin check_nsc_web



Thruk Agents

Thruk Agents

- This is fine, but...



```
ssh
define command {
  command_name      check_snclient
  command_line      $USER1$/check_nsc_web $ARG1$
}

define service {
  service_description  cpu
  host_name            linux
  use                  generic-service
  check_command        check_snclient!-k -t 35 -p '$USER5$' -u 'https://$HOSTADDRESS$:$_HOSTAGENT_PORT$' check_cpu
  check_interval       1
}
~
13,0-1 All
```

Thruk Agents

The screenshot shows the Thruk Agents web interface. The browser address bar indicates the URL is `https://192.168.208.2/demo/thruk/cgi-bin/agents.cgi`. The interface includes a sidebar with navigation options: General, Current Status, Reports, and System. The 'Agents' page is active, displaying a table of agents. The table has columns for Section, Hostname, Status, Site, Agent, and Version. Two agents are listed: one for 'linux' and one for 'windows', both with a status of 'OK'. A '+ add new host' button is visible in the top right of the table area.

| Section | Hostname | Status | Site | Agent | Version | |
|---------|----------|--------|------|----------|-----------------------------|--|
| | linux | OK | demo | snclient | v0.11.0023 (Build: cc5501f) | |
| | windows | OK | demo | snclient | v0.10.0066 (Build: 575726e) | |

2 of 2 Items Displayed

Thruk Agents

Agents | Windows Exporter Node - Das | Node Exporter Full - Dashboard | Prometheus Time Series Collector

Not Secure | <https://192.168.208.2/demo/thruk/cgi-bin/agents.cgi?action=edit&hostname=linux&backend=48f1c>

thruk

General | Current Status | Reports | System

Edit Agent [Activate Changes]

Hostname: linux Section: []

IP Address: 127.0.0.1 Port: 8443

Password: password set, enter new one to change

Discover Services Save Changes

Add New (0) **Active Checks (14)** Obsolete Checks (0) Unwanted Checks (32)

| | | | | | |
|------------------|----------|-----|---|----|-----|
| agent version | OK | [] | SNClient+ v0.11.0023 (Build: cc5501f) | On | Off |
| cpu | OK | [] | OK: CPU load is ok. | On | Off |
| memory | OK | [] | OK: committed = 0 B, physical = 939.01 MiB | On | Off |
| uptime | CRITICAL | [] | CRITICAL: uptime: 14:04h, boot: 2023-11-07 22:50:47 (UTC) | On | Off |
| os version | OK | [] | OK: debian 12.1 (arch: arm64) | On | Off |
| net enp0s1 | OK | [] | (info) OK: enp0s1 >40517685 <254150204 bps | On | Off |
| disk / | OK | [] | (info) OK: All 1 drive(s) are ok | On | Off |
| service apache2 | OK | [] | (info) OK: All 1 service(s) are ok. | On | Off |
| service mariadb | OK | [] | (info) OK: All 1 service(s) are ok. | On | Off |
| service postfix | OK | [] | (info) OK: All 1 service(s) are ok. | On | Off |
| service snclient | OK | [] | (info) OK: All 1 service(s) are ok. | On | Off |

Delete



Roadmap

Roadmap

- Improve defaults for builtin checks
- Add more builtin checks
- Add configuration validator
- Improve builtin help
- Maybe add support for opentelemetry



<https://github.com/ConSol-Monitoring/snclient#roadmap>

Thanks



- <https://github.com/ConSol-Monitoring/snclient>
- <https://omd.consol.de/docs/snclient/>
- <mailto:sven.nierlein@consol.de>

