

# Best of Code Hub Contributions

**Danny Jung**

Code Hub Contribution Winner 2018 / 2019



ESC.de



# The Best of CheckMates!

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**PhoneBoy**

Admin

2017-05-23 07:21 PM

Welcome to Code Hub!🔗

## Welcome to Code Hub!

Do you have code you've written to work with Check Point products that you want to share with others? Getting started with the Check Point R80.x API and looking for some ideas for your project? [Code Hub](#) is the place to be!

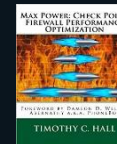
Top contributors to Code Hub will be rewarded for their efforts.



# Common Check Point Commands

by Danny Jung

<https://community.checkpoint.com/t5/General-Topics/Common-Check-Point-Commands-ccc/m-p/38488>



## Environment:

### GAiA

## Runs at:

### Bash (Expert mode)

## Result:

### System info + Interactive CLI

```
----- ccc v4.5 -----
Firewall
-----
System      Firewall Cluster Node (HA) > Active
Type        Check Point 5900
OS          R80.30 GAiA 2.6 JHF (Take 19) @ 64-bit
CPUSE       Build 1818 | Host access: Defined
CPU         8 Cores | SMT: - | Load 0.50
RAM         16 GB (Free: 1 GB) | Swapping 136 KB
SecureXL    On | Multi-Queue Interfaces 0/2
CoreXL      Off (8 Cores) | Dynamic Dispatcher: On
Core dumps  Present | Crash dumps: Present
Disk use / 17% | /var/log/ 54%
Uptime      10 days | NTP: Synced
-----
Managed by fwmgmt (IP:10.20.30.40)
Policy      Standard - Nov 20 2019 `18:25
Inspection  Stateful | Address Spoofing: Detect
Blades      FW, VPN, IPS, AppC, HTTPS-Inspect, AV, ABot
-----
IPS          Nov 20 2019 `00:06 | Prevent Mode | No Bypass
AppC        Nov 21 2019 `12:35
URLF        Nov 10 2019 `03:00
ABot        Nov 20 2019 `14:54 | Expiration
AV          Nov 21 2019 `11:54 | Expiration
-----
Serial      LR201901000000 | MAC: 00:1C:7F:AB:CD:EF
PSU         1: Up 2: Up
Interfaces  bnx2, bonding, e1000, ixgbe
SYNC Ifs   1
VLANs      Defined
SNMP       v3 Only
RAID       -
-----
MAIN MENU
-----
Firewall Management & Gateway >
Firewall Management >
Firewall Gateway >
Firewall Troubleshooting >
Performance Optimization >
VPN Troubleshooting >
VSX Troubleshooting >
MDS Troubleshooting >
QoS Troubleshooting >
Threat Emulation >
Threat Extraction >
```

## Benefits:

System-aware info screen,  
menu-driven navigation through  
available commands,  
hosts other Code Hub solutions,  
supports VSX environments

## Intended for:

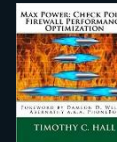
### All



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by Danny Jung

<https://community.checkpoint.com/t5/General-Topics/Common-Check-Point-Commands-ccc-m-p/38488>



## Environment:

## GAiA

## Runs at:

## Bash (Expert mode)

## Result:

## System info + Interactive C

```
----- ccc v4.5 -----
fwmgmt > 10.20.30.40

-----
System      Firewall Management
Type        VMware Virtual Platform
OS          R80.30 GAiA 3.10 JHF (Take 111) @ 64-bit
CPUSE       Build 1832 | Host access: Any
CPU         8 Cores | Load 0.11
RAM         32 GB (Free: 1 GB) | Swapping 758 MB
Core dumps  - | Crash dumps: -
Disk use / 21% | /var/log/ 47%
Uptime      24 days | NTP: Synced

-----
GUI Client  Defined
CPM Status  running and ready
ICA Name    Unlike Hostname (sk42071)
MGMT API    Started | Version 1.5
MGMT Name   Consistent
MGMT Host   Security Management defined as host

-----
Interfaces  vmxnet3
SNMP        v3 Only
RAID        -

-----
```

## Benefits:

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 supports VSX environments

## Intended for:

## All

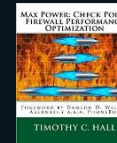
```
MAIN MENU
Firewall Management & Gateway >
Firewall Management >
Firewall Gateway >
Firewall Troubleshooting >
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# Common Check Point Commands

by Danny Jung

<https://community.checkpoint.com/t5/General-Topics/Common-Check-Point-Commands-ccc/m-p/38488>



Environment:

GAiA

Runs at:

Bash (Expert mode)

Result:

System info + Interactive

```

----- ccc v4.5 -----
Firewall
-----
MAIN < FIREWALL TROUBLESHOOTING

fw monitor FW Monitor SuperTool

-- Firewall Logs -----
tail -n 20 $FWDIR/log/fwd.elg Show last 20 entries in FWD log

-- ClusterXL -----
cphaprob stat; cpstat -f all ha; fw hastat Show ClusterXL mode & HA status
cphaprob -l list Show ClusterXL devices & status
cphaprob -a if Show ClusterXL interfaces
fw ctl pstat Show ClusterXL sync status
cphaconf cluster_id get Show Cluster ID
clish -c "show routed cluster-state detailed" Show ClusterXL failover history
clusterXL_admin down Create ClusterXL faildevice
clusterXL_admin up Delete ClusterXL faildevice

-- Address Spoofing -----
grep ipaddr $FWDIR/state/local/FWL/local.set Show Calculated Interface Topology
fw ctl zdebug drop | grep spoofing Show dropped connections with reason: Address Spoofing

-- Threat Prevention -----
cat $FWDIR/conf/malware_config Show malware policy
vi $FWDIR/conf/malware_config Edit malware policy

-- SSL Troubleshooting -----
fw ctl get int enhanced_ssl_inspection Show enhanced SSL inspection status
fw ctl get int bypass_on_enhanced_ssl_inspection Check if enhanced SSL inspection bypass is on
cat $CPDIR/registry/HKLM_registry.data | grep -i ecclhe Show ECDHE ciphers in registry

-- System Activity Report (skll2734) -----
sar Show System Activity Report
sar -u Show CPU utilization
sar -q Show load average statistics
sar -r Show memory statistics
sar -W Show swapping statistics
sar -n EDEV Show EDEV network statistics
sar -n ALL Show ALL network statistics
iostat -p ALL Show CPU statistics and input/output statistics for devices
mpstat -P ALL Show processors related statistics

-- Check Point Appliance -----
show sysenv all Show system environment (PSU, Fans, Temperature, etc.)
service ipmi start; ipmitool bmc info; service ipmi stop Show LOM firmware version

```

Benefits:

stem-aware info screen,  
iven navigation through  
available commands,  
her Code Hub solutions,  
ports VSX environments

Intended for:

All



**Comm**  
by Danny Jung

<https://community.checkpoint.com>

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-- Firewall Logs
tail -n 20 $FWDIR/log/fwd.elg Show last 20 entries in FWD log
```

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-- ClusterXL -----
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cphaprob -l list Show ClusterXL devices & status
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cat $FWDIR/conf/malware_config Show malware policy
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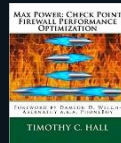
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cat $CPDIR/registry/HKLM_registry.data | grep -i ecdhc Show ECDHE ciphers in registry
```

```
-- System Activity Report (skll12734) -----
sar Show System Activity Report
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sar -r Show memory statistics
sar -W Show swapping statistics
sar -n EDEV Show EDEV network statistics
sar -n ALL Show ALL network statistics
iostat -p ALL Show CPU statistics and input/output statistics for devices
mpstat -P ALL Show processors related statistics
```

```
-- Check Point Appliance -----
show sysenv all Show system environment (PSU, Fans, Temperature, etc.)
service ipmi start; ipmitool bmc info; service ipmi stop Show LOM firmware version
```

```
Executing ? # echo; tput bold; if [[ ` $CPDIR/bin/cpprod_util FwIsFirewallModule 2>/dev/null ` != *
'1'* ]]; then echo ' Not a firewall gateway!'; tput sgr0; echo; elif [[ `grep $(hostname) /e
tc/hosts | cut -f1 -d' ' ` $FWDIR/state/local/FW/local.set | wc -l ` == "0" ]]; then echo ' Main IP
of '$(hostname)' doesn't match it's management interface IP!'; tput sgr0; echo; else echo -n ' Inte
rface Topology '; tput sgr0; echo -n '> '; tput bold; tput setaf 1; if [[ -n "$vsname" ]] && [[ $vs
name != *'unavail'* ]]; then echo $vsname' (ID: '$INSTANCE_VSID)'; else hostname; fi; tput sgr0; e
cho -n ' '; printf '%.s-' {1..80}; echo; egrep -B1 $'ifindex|ipaddr|\(\\x22<[0-9]|objtype|has_addr
info|monitor_only|external' $FWDIR/state/local/FW/local.set | sed -n '/$(if [[ -n "$vsname" ]] &
& [[ $vsname != *'unavail'* ]] && [[ $INSTANCE_VSID != '0' ]]; then echo $vsname; else grep `hostna
me` /etc/hosts | cut -f1 -d' ' ; fi)*/$,\\$ p" | tail -n +3 | sed 's/[\\x22\\t()<>|//g' | sed 's/--//g'
| sed '$!N;s/\n:ipaddr6/ IPv6;/P;D' | sed '/IPv6!/s://g' | sed 's/interface_topology/\tCalculated
Interface Topology/g' | sed '0,/ifindex 0/{/ifindex 0/d;}' | sed '/ifindex 0/g' | sed '/spoof|sca
n/d' | sed 's/has_addr_info true/\tAddress Spoofing Protection: Enabled/g' | sed 's/has_addr_info f
alse/\tAddress Spoofing Protection: Disabled/g' | sed -e '/Prot/{n;d}' | sed '$!N;s/\nmonitor_only
true/ (Detect Mode);/P;D' | sed '$!N;s/\nmonitor_only false/ (Prevent Mode);/P;D' | sed '$!N;s/\n
external false/ - Internal Interface;/P;D' | sed '$!N;s/\nexternal true/ - External Interface;/P;D'
| sed '/objtype/g' | tac | sed '/ifindex 0/I,+2 d' | sed '/Address/, $d' | tac | sed '/ifindex/d' |
sed 's/,/ -/g' | sed '$!N;s/\nipaddr/ >/;P;D' | sed '/ - /s/^ \t/' | egrep -C 9999 --color=auto $'
>|IPv6|External|Disabled|Detect'; echo; fi
```

nds



**Benefits:**

stem-aware info screen,  
even navigation through  
available commands,  
her Code Hub solutions,  
ports VSX environments

**Intended for:**

All

**Environment:**

**GAiA**

**Runs at:**

**Bash (Expert mode)**

**Result:**

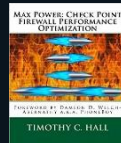
**System info + Interactive**



# One-liner(s) for Troubleshooting

by Danny Jung

<https://community.checkpoint.com/t5/Enterprise-Appliances-and-Gaia/One-liner-for-Address-Spoofing-Troubleshooting-m-p/33204>



## Environment:

## GAiA

## Runs at:

## Bash (Expert mode)

## Result:

## CLI output

**Danny Peart**

2018-06-21 01:12 PM

One-liner for Address Spoofing Troubleshooting

Code Hub [Contribution of the Year 2019!](#)

Endorsed by Check Point Support!

One-liner (Bash) to show a summary about each gateway interfaces' [calculated topology](#) and address spoofing setting. In [expert](#) mode run:

```
echo; tput bold; if [[ '$CPDIR/bin/cpprod_util FwIsFirewallModule 2>/dev/null' != '*1*' ]]; then echo ' Not a firewall gateway!'; tput sgr0; echo; elif [[ $(grep $(grep $(hostname) /etc/hosts | cut -f1 -d' ') $FWDIR/state/local/FWI/local.set | wc -l) == "0" ]]; then echo ' Main IP of $(hostname) doesn't match it's management interface IP!'; tput sgr0; echo; else echo -n ' Interface Topology '; tput sgr0; echo -n '> '; tput bold; tput setaf 1; if [[ -n "$vsname" ]] && [[ $vsname != "unavail*" ]]; then echo $vsname ' (ID: '$INSTANCE_VSID')'; else hostname; fi; tput sgr0; echo -n ' '; p rintf '%.s-' (1..80); echo; egrep -B1 '$ifindex|ipaddr|(\x22<[0-9])|objtype|has_addr_info:monitor_only:external' $FWDIR/state/local/FWI/local.set | sed -n '/$(if [[ -n "$vsname" ]] && [[ $vsname != "unavail*" ]] && [[ $INSTANCE_VSID != "0" ]]; then echo $vsname; else grep "hostname" /etc/hosts | cut -f1 -d' '; fi)%$/, $ p' | tail -n +3 | sed 's/[\\x22\\t()<>|/g' | sed 's/--/ /g' | sed '$!n;s/\\n:ipaddr6/ IPv6;/P;D' | sed '/IPv6/!s:/ /g' | sed 's/Interface_topology/\\tcalculated Interface Topology/g' | sed '0,/ifindex 0/{/ifindex 0/d;}' | sed '/ifindex 0/q' | sed '/spoof\\|scan/d' | sed 's/has_addr_info true/\\tAddress Spoofing Protection: Enabled/g' | sed 's/has_addr_info false/\\tAddress Spoofing Protection: Disabled/g' | sed -e '/Prot/{n;d}' | sed '$!n;s/\\nmonitor_only true/ (Detect Mode)/;P;D' | sed '$!n;s/\\nmonitor_only false/ (Prevent Mode)/;P;D' | sed '$!n;s/\\nexternal false/ - External Interface;/P;D' | sed '$!n;s/\\nexternal true/ - External Interface;/P;D' | sed '/objtype/q' | tac | sed '/ifindex 0/!+2 d' | sed '/Address/, $id' | tac | sed '/ifindex/d' | sed 's/, / - /g' | sed '$!n;s/\\n:ipaddr/ >/;P;D' | sed '/ - /s/ / \\t/' | egrep -C 9999 --color=auto $>|IPv6 External[Disabled]Detect'; echo; fi
```



The One-liner is IPv4 and IPv6 compatible, works on clustered and single gateway environments also within VSX, shows all interface types configured in your firewall object within SmartDashboard, **colors** specific words of the output for easier identification of important settings, adds additional information regarding Address Spoofing setting and mode as well as the topology type of each interface and is of course completely integrated within our [ccc script](#).

- Thanks to [Tim Hall](#)'s preliminary work in [this thread](#).
- Thanks to [Norbert Bohusch](#) for IPv6 support and testing.
- Thanks to [Kaspars Zibarts](#) & [Bob Zimmerman](#) for VSX support and testing.
- Thanks to [Anthony Joubaire](#) for support and testing multiple installation targets.

-- More one-liners --

[One-liner to show VPN topology on gateways](#)

[One-liner to show Geo Policy on gateways](#)

[FW Monitor SuperTool](#)

## Benefits:

Simply copy & paste to your GAiA CLI to receive detailed information

Easier troubleshooting

## Intended for:

## All



# Run a command across all VS

by Petr Hantak

<https://community.checkpoint.com/t5/Enterprise-Appliances-and-Gaia/Show-bgp-peers-across-VSX-in-CL/m-p/39929>

Environment:

VSX GAiA

Runs at:

Bash (Expert mode)

Result:

CLI output

```
+++++
++   BGP peers status   ++
+++++

LABFW01A (Context 0).
PeerID      AS      Routes  ActRts  State      InUpds  OutUpds  Uptime
LABFW01A_VirtualFW01 (Context 1).
PeerID      AS      Routes  ActRts  State      InUpds  OutUpds  Uptime
10.15.16.58  64570  23      23      Established 3        2        4w2d
10.15.16.59  64570  23      0        Established 15       2        4w2d
10.15.16.82  64835  1        1        Established 2        7        4w2d
10.15.16.83  64835  1        0        Established 8        7        4w2d
10.15.18.242 64865  23      23      Established 3        7        4w2d
10.15.18.243 64865  23      0        Established 15       7        4w2d

LABFW01A_VirtualFW02 (Context 2).
PeerID      AS      Routes  ActRts  State      InUpds  OutUpds  Uptime
10.16.16.109 64570  84      84      Established 7        2        4w2d
10.16.16.110 64570  85      0        Established 36       2        3w2d
10.16.16.117 64833  1        1        Established 2        9        4w2d
10.16.16.118 64833  1        0        Established 6        9        3w2d
10.16.17.186 64858  1        1        Established 2        8        4w2d
10.16.17.187 64858  1        0        Established 8        8        4w2d
10.16.17.188 64858  1        0        Established 8        8        4w2d
10.16.17.189 64858  1        0        Established 8        8        4w2d
10.16.17.190 64858  1        0        Established 8        8        4w2d
```

```
echo -e "\e[36m+++++
+++++
++   BGP peers status   ++
+++++

LABFW01A (Context 0).
PeerID      AS      Routes  ActRts  State      InUpds  OutUpds  Uptime
LABFW01A_VirtualFW01 (Context 1).
PeerID      AS      Routes  ActRts  State      InUpds  OutUpds  Uptime
10.15.16.58  64570  23      23      Established 3        2        4w2d
10.15.16.59  64570  23      0        Established 15       2        4w2d
10.15.16.82  64835  1        1        Established 2        7        4w2d
10.15.16.83  64835  1        0        Established 8        7        4w2d
10.15.18.242 64865  23      23      Established 3        7        4w2d
10.15.18.243 64865  23      0        Established 15       7        4w2d

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10.16.16.118 64833  1        0        Established 6        9        3w2d
10.16.17.186 64858  1        1        Established 2        8        4w2d
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10.16.17.188 64858  1        0        Established 8        8        4w2d
10.16.17.189 64858  1        0        Established 8        8        4w2d
10.16.17.190 64858  1        0        Established 8        8        4w2d

+++++
+++++
++   BGP peers status   ++
+++++
+++++"; for i in /proc/vrf/*; do
i=${i#*/vrf/}; echo -n -e "\e[93m"; vsenv $i | grep -e "Context" | sed 's/^Context is set to Virtual Device //' | sed 's/ID/Context/'; echo -n
-e "\e[0m"; echo "set virtual-system" $i > /tmp/clishcmd; echo "show bgp peers" >> /tmp/clishcmd; clish -i -f /tmp/clishcmd | grep -vi -e
"context" -e "show" -e "done" -e "flag" -e "^$"; echo; done
```

Benefits:

Easily run a command across all VSs on a VSX system simultaneously

Intended for:

Check Point SEs, Partners  
(Available to customers)





# Run a command across all gateways

by Heiko Ankenbrand

<https://community.checkpoint.com/t5/Enterprise-Appliances-and-Gaia/GAIA-Easy-execute-CLI-commands-on-all-gateways-simultaneously/m-p/50971>

## Environment:

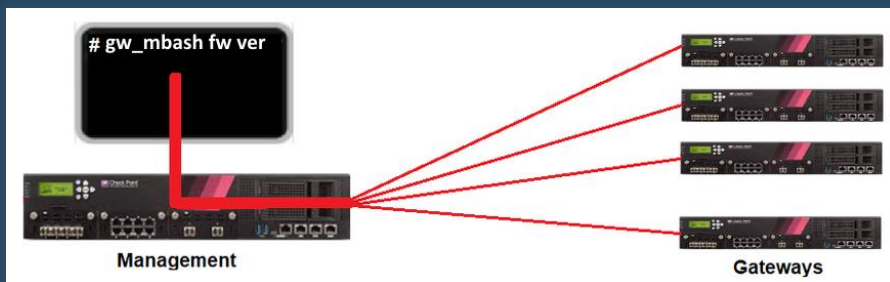
### SMS GAiA

### Runs at:

### Bash (Expert mode)

### Result:

### CLI output



Command	Description
	Detect all your gateways that support from this tool. This command only needs to be executed once or when gateways changed in topology.
<code># gw_detect</code>	All founded gateways are stored as IP address in this file <code>/var/log/g_gateway.txt</code> . All added IP addresses will be used later to execute commands on these gateways. The file can also be edit manually to add gateway IP adressess.
<code># gw_detect80</code>	The execution of this command may take a few minutes. Use this command on R80.x gateways " <code>gw_detect80</code> " is a little bit faster. Use this command on R77.x gateways " <code>gw_detect</code> ".
<code># gw_mbash &lt;command&gt;</code>	Execute expert mode command <b>on all gateway simultaneously</b>
<code># gw_mclish &lt;command&gt;</code>	Execute clish command <b>on all gateway simultaneously</b>

## Benefits:

Easily run a command across all gateways managed by a SMS simultaneously

## Intended for:

Check Point SEs, Partners  
*(Available to customers)*



# CP Viewer

by Petar Markota

<https://community.checkpoint.com/t5/Visibility-Analytics/CPViewer-visualize-your-cpview-cpinfo-files-in-5-minutes/m-p/71345>

**Environment:**

**Ubuntu VM**

**Runs at:**

**Web browser**

**Result:**

**CPinfo, CPview database  
visualization and  
GAiA health check**

Enter database to upload

http://10.8.0.15

## CP Viewer

Please attach your cpview .dat file or enter a GDrive link to it

ENTER GDRIVE LINK (OPTIONAL)

CUSTOMER NAME

VERSION

R77.xx - R80.10  R80.20+

Submit

**Benefits:**

**Easily analyze Check Point system data to identify issues**

**Supports troubleshooting by visualization**

**Intended for:**

**Check Point SEs, Partners**  
*(Available to customers)*

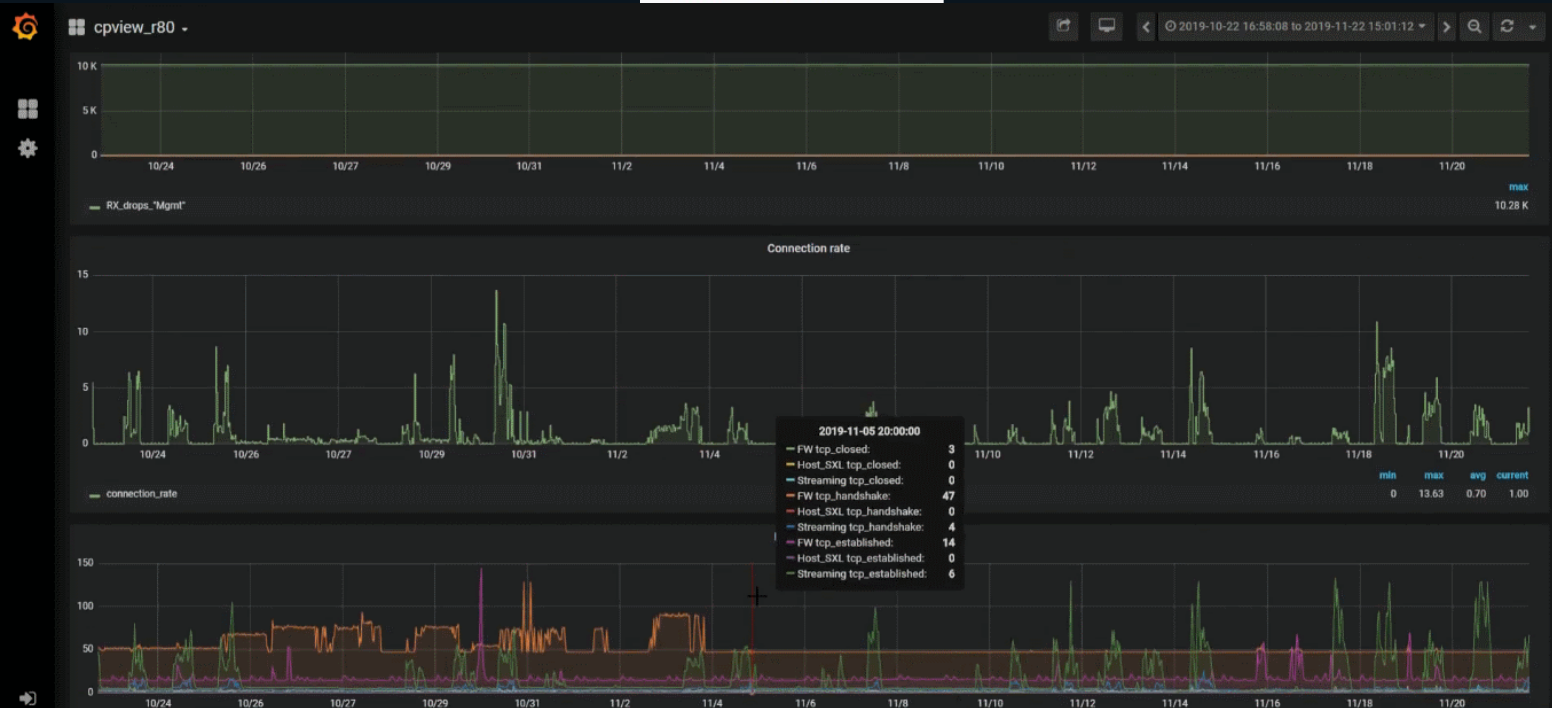


# CP Viewer

by Petar Markota

<https://community.checkpoint.com/t5/Visibility-Analytics/CPViewer-visualize-your-cpview-cpinfo-files-in-5-minutes/m-p/71345>

Enter database to upload X



Submit

## Benefits:

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ck Point SEs, Partners

(Available to customers)



# CP Viewer

by Petar Markota

<https://community.checkpoint.com/t5/Visibility-Analytics/CPViewer-visualize-your-cpinfo-cpinfo-files-in-5-minutes/m-p/71345>



Enter database to upload



Check Point  
SOFTWARE TECHNOLOGIES LTD.

Diamond Services  
Personal | Professional | Proactive

## GAIA Automated Device Health Check

2019-12-06 10:32:53  
cpviewer

### Offline Physical System Checks using CPInfo and CPViewDb files

---

**Disk Space**  
Free Disk Space - **OK**

---

**Memory**  
Physical Memory - **OK**  
Swap Memory - **OK**  
Hash Kernel Memory (hmem) - **OK**  
System Kernel Memory (smem) - **OK**  
Kernel Memory (kmem) - **OK**  
Memory 30-day Average - **OK**  
Memory 30-Day Peak - **WARNING**  
Peak memory usage was 97% over the last month.  
Please review the memory usage on this device to see if a configuration change or hardware upgrade is needed.

## Benefits:

ly analyze Check Point data to identify issues

upports troubleshooting by visualization

## Intended for:

ck Point SEs, Partners  
(Available to customers)



# Security Gateway Inventory

by Kaspars Zibarts

<https://community.checkpoint.com/t5/API-CLI-Discussion-and-Samples/Security-Gateway-Inventory/m-p/32547>

**Environment:**

**MDS GAiA**

**Runs at:**

**Bash (Expert mode)**

**Result:**

**CLI output, HTML file**

```

gw_inventory.sh
1 #!/bin/bash
2 #
3 # Security Gateway Inventory - Bash script for Check Point Multi-Domain Servers (MDS)
4 #
5 # Script Author : Kaspars Zibarts
6 # Script Source : https://community.checkpoint.com/t5/API-CLI-Discussion-and-Samples/Security-Gateway-Inventory/
7 # id-p/32547
8 #
9 if [[ -e /etc/profile.d/CP.sh ]]; then source /etc/profile.d/CP.sh; else echo "Unsupported Environment"; exit 1; fi
10 if [[ ! `echo $MDSDIR | grep mds` ]]; then echo "Not a Multi-Domain Server (MDS)!"; exit 1; fi
11
12 echo "Script started on $(date +%Y-%m-%d @ %H:%M)" >> logfile
13 if [[ -f output.html ]]; then mv output.html output_$(date +%Y-%m-%d_%H-%M-%S).html; fi
14 echo "<!DOCTYPE html>" > output.html
15 echo "<html lang=en><head><title>Gateway Versions - $(date +%Y-%m-%d @ %H:%M)"</title></head><body><font
16 size=12><table style=font-align: left; width: 100%; font-family: Helvetica,Arial,sans-serif; border=1"
17 cellpadding=5" cellspacing=2"><tbody>" > output.html
18 echo "<tr style=font-weight: bold; background-color: rgb(0, 0, 102); color: white;"><td>GW</td><td>IP</
19 td><td>MODEL</td><td>MAJOR</td><td>TAKE</td><td>MAC</td></tr>" >> output.html
20
21 for CMA_NAME in $(MDSVERUTIL ALLCMAs); do
22 mdsenv CMA_NAME; echo "CMA $CMA_NAME"; cpquerybin attr "" network_objects " (type='cluster_member' &
23 vsx_cluster_members='true' & vsx_cluster_member='true') | (type='cluster_member' & (! vsx_cluster_member='true'))
24 | (vsx_netobj='true') | (type='gateway'&cp_products_installed='true' & (! vsx_netobj='true')) &
25 connection_state='communicating'" -a __name__ ipaddr;
26 done |> logfile 2>> logfile
27
28 while read line; do
29 if [ `echo "$line" | grep -c "CMA" -gt 0` ]; then CMA_NAME=`echo "$line" | awk '{print $2}'`; mdsenv $CMA_NAME
30 else
31 GW=`echo "$line" | awk '{print $1}'`
32 IP=`echo "$line" | awk '{print $2}'`
33 MODEL=`$CPDIR/bin/cprid_util -server $IP -verbose rexec -rcmd /bin/clish -s -c 'show asset system' | grep
34 Model | awk -F: '{print $2}' | sed 's/ Check Point //'`
35 # Fix for chassis
36 if [ `x$MODEL` = "x" ]; then MODEL=`$CPDIR/bin/cprid_util -server $IP -verbose rexec -rcmd bash -c 'dmipars; <
37 System Products'`
38 if [ `x$MODEL` = "xA-40" ]; then MODEL="41000"; fi
39 fi
40 TAKE=`$CPDIR/bin/cprid_util -server $IP -verbose rexec -rcmd bash -c "grep 'was installed successfully' /opt/

```

```

fwfi ;10.5 ;98;5900;R80.10;Take 112;00:1C:7F:87
fwnl ;10.3 ;0;5900;R80.10;Take 112;00:1C:7F:84:
fwnl ;10.3 ;1;5900;R80.10;Take 112;00:1C:7F:84:
fwnl ;10.5 ;24;5900;R80.10;Take 112;00:1C:7F:84
fwnl ;10.5 ;25;5900;R80.10;Take 112;00:1C:7F:83
fwth ;10.5 ;32;5900;R80.10;Take 112;00:1C:7F:87
fwhk 0.3.3 ; ;4600;R77.30;Take 286;00:1C:7F:3B:2
fwhk 0.3.3 ; ;4600;R77.30;Take 286;00:1C:7F:3B:2
fwfr ;10.3 ;8;5900;R80.10;Take 142;00:1C:7F:84:
fwfr ;10.3 ;9;5900;R80.10;Take 142;00:1C:7F:84:

```

GW	IP	MODEL	MAJOR	TAKE	MAC
fwfi	10.5.98	5900	R80.10	Take 112	00:1C:7F:87:8
fwnl	10.3.8	5900	R80.10	Take 112	00:1C:7F:84:1
fwnl	10.3.8	5900	R80.10	Take 112	00:1C:7F:84:1
fwnl	10.5.24	5900	R80.10	Take 112	00:1C:7F:84:1
fwnl	10.5.25	5900	R80.10	Take 112	00:1C:7F:83:8
fwth	10.5.25	5900	R80.10	Take 112	00:1C:7F:87:8
fwhk	10.3.35	4600	R77.30	Take 286	00:1C:7F:3B:2
fwhk	10.3.35	4600	R77.30	Take 286	00:1C:7F:3B:2
fwfr	10.3.8	5900	R80.10	Take 142	00:1C:7F:84:1
fwfr	10.3.9	5900	R80.10	Take 142	00:1C:7F:84:1

**Benefits:**

**Live inventory listing of all CP gateways managed by a MDS**

**Output easily modifiable**

**Intended for:**

**Check Point SEs, Partners**

*(Available to customers)*



# Office 365 Object Creation

by Stuart Green (Python) / Daniel Meier (Bash)

<https://community.checkpoint.com/t5/API-CLI-Discussion-and-Samples/Can-we-create-custom-updatable-objects-in-R80-20/m-p/47914/highlight/true#M3190>  
<https://community.checkpoint.com/t5/API-CLI-Discussion-and-Samples/Basic-script-for-importing-IP-Address-objects-from-feed-here/m-p/40842/highlight/true#M2759>

**Environment:**  
**Management API**

**Runs at:**

**Bash (Expert mode)**

**Result:**

**O365 object group**

**Benefits:**

**Alternative to MS Office 365 object  
Overcomes R80.20 limitation (*sk131852*)  
Can be re-used for similar needs**

**Intended for:**

**All**

```
README.md

IPaddressFeed2CheckPointAPI

Adding a IP Address feed (CIDR) into Checkpoint Objects (here Office 365)

How to use: Copy Script to file system (e.g. create a folder under root "scripts" or so) - Edit script at the header (only) (most important: upper half, lower half can remain, as this are temporary files only – created during script runtime and deleted at the end)

In GAIa Web UI just add Job Schedule for this example: sh /scripts/o365-api | /usr/bin/tee -a /scripts/o365_logging 2>&1 | /usr/sbin/sendmail --domain=(mail domain) -f (sender address) -v (recipient address) --host=(mail relay) 2>&1 Adds logging entries to a file "o365_logging" and sending a mail with the content

Adapting Script can be used for any other feed, where network addresses are in CIDR format. i.e. the newer one planned API feed from Microsoft - described here: https://support.office.com/de-de/article/verwalten-von-office-365-endpunkten-99cab9d4-ef59-4207-9f2b-3728eb46bf9a?ui=de-DE&rs=de-DE&ad=DE#ID0EACAAA=4\_Web\_service

As the script already does a diff between existing objects and those downloaded, the full list should be used... Objects are automatically removed from group and from Check Point management, when they are not part of the feed.
```



# Automatic hosts discovery and creation

by Nicolas Boissé

<https://community.checkpoint.com/t5/API-CLI-Discussion-and-Samples/R80-10-Hosts-Discovery-and-creation/m-p/38708>

**Environment:**

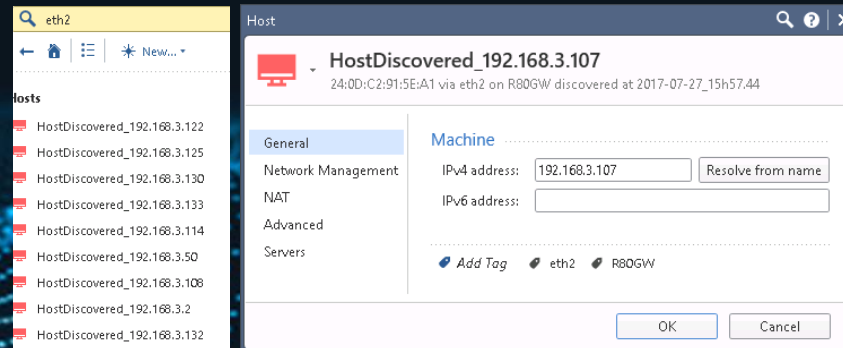
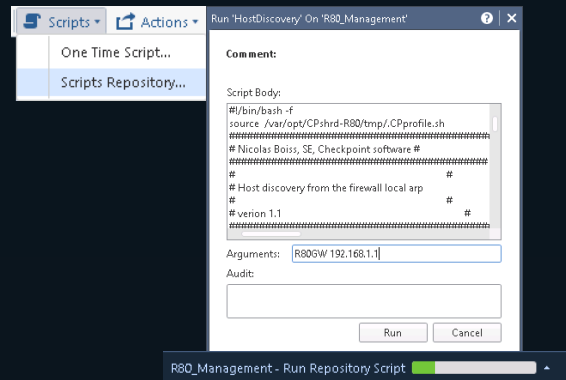
SMS GAiA /  
SmartConsole

**Runs at:**

Bash (Expert Mode) /  
Scripts repository

**Result:**

Hosts within group objects



**Benefits:**

Easy hosts discovery and  
creation during initial setup of  
Security Mangement  
configuration

**Intended for:**

All



# Automatic objects tagging

by Jozko Mrkvicka

<https://community.checkpoint.com/t5/General-Management-Topics/How-to-count-objects-of-a-group/m-p/21558/highlight/true#M4185>

**Environment:**

**SMS GAiA /  
SmartConsole**

**Runs at:**

**Bash (Expert Mode) /  
Scripts repository**

**Result:**

**Tagged group objects**

```
#!/bin/bash
#-----#
# This script will add tag to the all Network Groups which will consist of total number of members inside every single Network Group #
# #
# Created by: Jozko Mrkvicka #
# Verion: 1.1 #
# Last modification: 27.09.2018 #
#-----#

#Login credentials to
echo "Please enter your login credentials"
read -p "User: " USER
read -s -p "Password: " PASSWORD
read -p "Domain (Optional): " DOMAIN

if [ -n "${DOMAIN}" ]; then
else mgmt_cli login user $USER password $PASSWORD domain $DOMAIN

#Checking if session is active
if [ ! -s sid.txt ]; then

#Checking if credentials are correct
if grep -i -q 'error\|'; then

#Get all information about network groups
echo -e "query network-groups"

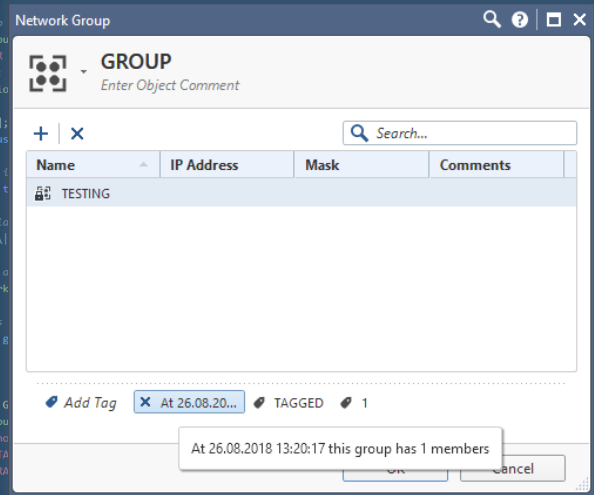
#Get only group names
cat GROUPS_ALL.tmp | grep -o 'GROUP_NAME'

#Let's the fun begin
while read GROUP; do
OCCURRENCES=$(cat GROUP_NAMES.tmp | grep -c $GROUP)
echo "Network group: $GROUP, occurrences: $OCCURRENCES"
TAGS=$(mgmt_cli show network-groups $GROUP | grep -o 'TAGS')
while read -r TAG; do
if [[ $TAG_SEPARATOR == $TAG ]]; then
then
echo "Removing old (not actual) tag '$TAG_SEPARATOR' from network group '$GROUP' ..."
mgmt_cli set group name "$GROUP" tags.remove "$TAG_SEPARATOR" -s sid.txt
fi
done <<< "TAGS"
echo "Adding tag '$OCCURRENCES' as total number of members for network group '$GROUP' ..." ; printf '%.s' $(1..60)
mgmt_cli set group name "$GROUP" tags.add "$OCCURRENCES" -s sid.txt
done < GROUP_NAMES.tmp

echo "Publishing changes ..."
mgmt_cli publish -s sid.txt > /dev/null 2>&1
echo "Publishing done."
mgmt_cli logout -s sid.txt > /dev/null 2>&1

#Remove all temporary files
rm GROUPS_ALL.tmp GROUP_NAMES.tmp sid.txt

exit 2
```



**Benefits:**

**Easy tagging of groups for various needs. Here: Adding the number of grouped hosts**

**Intended for:**

**All**





# MDSM Demo Environment

by Jim Öqvist

<https://community.checkpoint.com/t5/API-CLI-Discussion-and-Samples/Sample-batch-script-to-deply-MDSM-environment-for-lab-purposes/td-p/39874>

## Environment:

### Multi-Domain Security Management

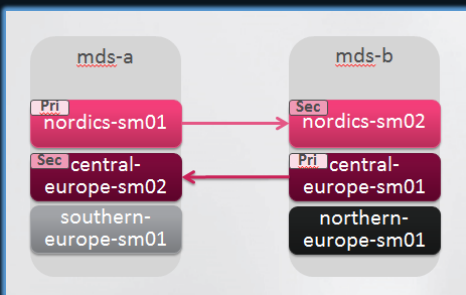
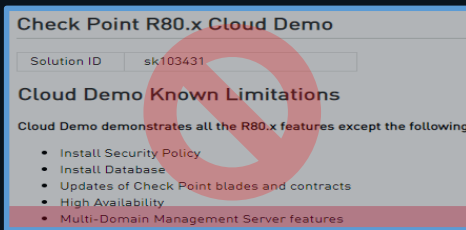
### Runs as:

### Windows Batch script

## Result:

### MDSM demo environment

single / redundant



```
Administrator: C:\Windows\System32\cmd.exe - makeRedundantMDSDemo.bat
C:\Backup\2018>Check Point\NGSM\API\jino>makeRedundantMDSDemo.bat
Enter full path to mgmt_cli executable (for example c:\temp\mgmt_cli): "C:\Check Point\SmartConsole_R80_10_jumbo_HF_B029_Win_Portable\mgmt_cli.exe"
Enter Check Point object name of Primary MDS (For example mds-a): MyLabMDS01
Enter Check Point object name of Secondary MDS (For example mds-b): MyLabMDS02
Enter IP or hostname of primary MDS: 1.1.1.1
Enter IP or hostname of secondary MDS: 2.2.2.1
Enter username: admin
Enter password: vpn123
""
"Three Domain management Servers will be created on the primary MDS: MyLabMDS01. Where the last digit in the ip address will range from 1-3"
"If you for exnample enter 192.168.233.11 the first DMS will be deployed with IP 192.168.233.111 and the last DMS will be deployed with ip 192.168.233.113 "
Enter the ip address to use for primary MDS DMS's: 1.1.1.1
""
"Three Domain management Servers will be created on the secondary MDS: MyLabMDS02. Where the last digit in the ip address will range from 1-3"
"If you for exnample enter 192.168.233.21 the first DMS will be deployed with IP 192.168.233.211 and the last DMS will be deployed with ip 192.168.233.213 "
Enter the ip address to use for secondary MDS DMS's: 2.2.2.1
"Building demo environment...."
"Create admin user: Skyler"
```

## Benefits:

### Overcome DemoPoint limitation

### Save time setting up MDSM lab environment

## Intended for:

### Check Point SEs, Partners

*(Available to customers)*



# Apple Siri Shortcuts + MGMT API

by Adam Forester

<https://community.checkpoint.com/t5/API-CLI-Discussion-and-Samples/iOS12-Siri-Shortcuts-and-MGMT-API/m-p/40448>

## Environment:

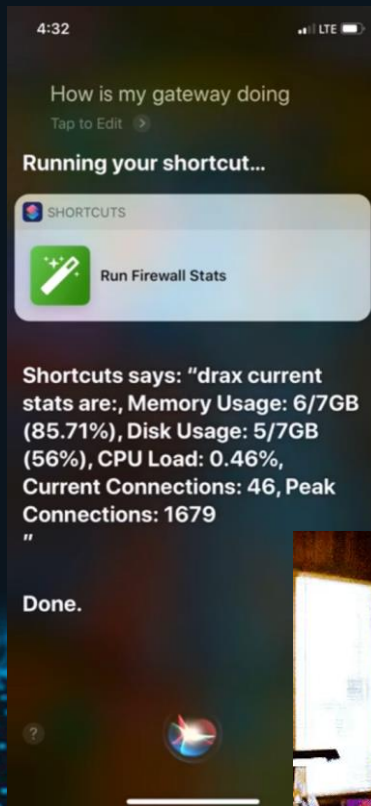
Apple iOS + Shortcuts App  
SMS GAiA

## Runs as:

Siri command, Bash script

## Result:

Output on iPhone screen



## Benefits:

Voice control of your firewall  
Quick checks on your mobile

## Intended for:

Testing purposes





# Multi-Factor Auth w/ Google Authenticator

by Vladimir Yakovlev

<https://community.checkpoint.com/t5/General-Topics/MFA-with-Google-Authenticator/m-p/55703>

Alternative: MFA with Microsoft Authenticator by Rodrigo Silva

## Environment:

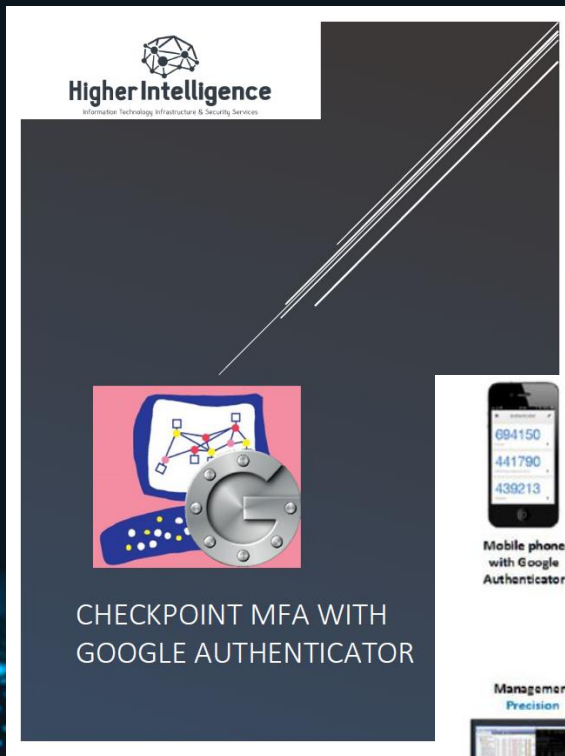
Android Phone with  
Google Auth App / Radius

## Provided as:

PDF tech doc

## Result:

Step-by-step guide for all required  
commands and settings

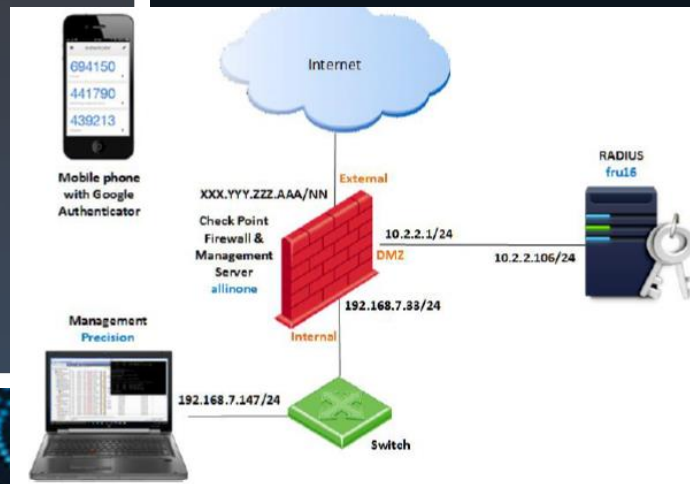


## Benefits:

Google MFA usage with CP

## Intended for:

All





# Access rule creation via HTML

by Charles Currier

<https://community.checkpoint.com/t5/API-CLI-Discussion-and-Samples/What-the-Management-API-can-do-for-you/m-p/44420>

**Environment:**

**Management API**

**Runs as:**

**Python script**

**Result:**

**HTML-based access rule creation**

The screenshot shows a web browser window titled "Add Access Rule to Policy" with a URL of "192.168.10.61/add-rule-simple.html". The form contains the following fields:

Source IPv4 Address	2.4.5.6
Destination IPv4 Address	1.4.5.6
Port/Service	http
Action(Accept-on/Deny-off)	FW1_cintauth_http

A dropdown menu is open for the Action field, showing options: http (80), HTTP\_and\_HTTPS\_proxy (8080), HTTP\_proxy (8080), https (443), and HTTPS\_proxy (8080).



Source IPv4 Address	2.4.5.6
Destination IPv4 Address	1.4.5.6
Port/Service	http
Action(Accept-on/Deny-off)	<input checked="" type="checkbox"/>
	Submit

**Benefits:**  
Simple creation of rules within your web browser  
**Intended for:**  
Testing purposes



# DAIP VPN IP Change Tracker

by Daniel Scebera

<https://community.checkpoint.com/t5/API-CLI-Discussion-and-Samples/Checkpoint-DAIP-VPN-get-Peer-Names/m-p/35633/highlight/true#M2197>

Environment:

MGMT GAIa

Runs as:

Bash (Expert mode)

Result:

output.txt with all IP changes

```
#!/bin/bash
today=$(date +%s)
outputfile="/home/admin/output.txt"
touch $outputfile

if [ -r /etc/profile.d/CP.sh ]; then
. /etc/profile.d/CP.sh; else echo "Could not source /etc/profile.d/CP.sh"; exit 1
fi

rs_db_tool -operation list 2>&1 | tail -n +8 | head -n -2 | \
grep -v -- '-----' | awk '/ / {print $3, $5, $7}' | \

#cleans up rs_db_tool output to what we need and pipes it to awk
while read fwName ipAddress age ; do \

if grep -Fwq "$fwName" "$outputfile"; then
#checks if the object names already exists in the output file
echo "Object Already Exists"
existingIPAddress=$(grep $fwName $outputfile | awk '{print $(NF-1)}')
#compares the devices previous ip address with the latest checked IP address,
#if different it records the new address and time.
if [ "$existingIPAddress" != "$ipAddress" ]; then
#echo "IP address does not matches"
sed -i "\,${fwName}, s,$$, ${ipAddress}," $outputfile
sed -i "\,${fwName}, s,$$, ${today}," $outputfile
fi
else
#echo "Object Does not exist"
echo "$fwName" "$ipAddress" "$today" >> "$outputfile"
fi
done
exit 0
```

Benefits:

Scripted use of  
*rs\_db\_tool -operation list*  
for easy tracking of IP changes

Intended for:

All

```
[Expert@fwmgmt:0]# rs_db_tool -operation list
```

```
-----
Daip modules database - entries list
-----
```

Entry #	Object name	IP	TTL
1	Firewall_DAIP	10.20.30.40	1855

```
Operation status: Success
```



# VPN IPsec Tunnel w/ Raspberry Pi WiFi AP

by Stuart Green

<https://community.checkpoint.com/t5/CloudGuard-SaaS/CloudGuard-Connect-Demo-with-Raspberry-Pi/m-p/71571>

**Environment:**

**Raspbian OS**

**Runs as:**

**Bash, Python script**

**Result:**

**NSaaS CloudGuard Demo  
for VPN IPsec tunnel with  
Raspberry Pi**

```
pi@raspberrypi: ~  
pi@raspberrypi:~$ sudo ipsec statusall  
Status of IKE charon daemon (strongSwan 5.7.2, Linux 4.19.57-v7+, armv7l):  
uptime: 20 hours, since Sep 03 13:39:12 2019  
malloc: sbrk 1347584, mmap 0, used 625712, free 721872  
worker threads: 11 of 16 idle, 5/0/0/0 working, job queue: 0/0/0/0, scheduled: 3  
loaded plugins: charon aes rc2 sha2 sha1 md5 mgf1 random nonce x509 revocation constraints pubkey pkcs1 pkcs7 pkcs8 pkcs12 pgp dnskey sshkey pem openssl fips-prf gmp agent xcbc hmac gcm attr kernel-netlink resolve socket-default conmark stroke updown counters  
Listening IP addresses:  
192.168.124.159  
192.168.200.1  
Connections:  
local-connections: %any...%any IKEv1/2  
local-connections: local: uses public key authentication  
local-connections: remote: uses public key authentication  
local-connections: crl: status must be GOOD  
local-connections: child: 192.168.200.0/24 === 192.168.200.0/24 PASS  
local-to-cgnsaas: %any...g-2194-49d87846a4aae70778fdc6504b1eb463.checkpoint.cloud IKEv1/2  
local-to-cgnsaas: local: uses pre-shared key authentication  
local-to-cgnsaas: remote: [g-2194-49d87846a4aae70778fdc6504b1eb463.checkpoint.cloud] uses pre-shared key authentication  
local-to-cgnsaas: child: 192.168.200.0/24 === 0.0.0.0/0 TUNNEL  
Shunted Connections:  
local-connections: 192.168.200.0/24 === 192.168.200.0/24 PASS  
Security Associations (1 up, 0 connecting):  
local-to-cgnsaas[1]: ESTABLISHED 20 hours ago, 192.168.124.159[192.168.124.159]...18.195.203.168[g-2194-49d87846a4aae70778fdc6504b1eb463.checkpoint.cloud]  
local-to-cgnsaas[1]: IKEv2 SPIs: 3adc29d0865f7949_i* 060a33592d3118c4_r, pre-shared key reauthentication in 3 hours  
local-to-cgnsaas[1]: IKE proposal: AES_CBC_256/HMAC_SHA1_96/PRF_HMAC_SHA1/MODP_1024  
local-to-cgnsaas[28]: INSTALLED, TUNNEL, reqid 1, ESP in UDP SPIs: c22fea18_i ad41b018_o  
local-to-cgnsaas[28]: AES_CBC_256/HMAC_SHA1_96, 11741 bytes_i (72 pkts, 10s ago), 11505 bytes_o (99 pkts, 10s ago), rekeying in 31 minutes  
local-to-cgnsaas[28]: 192.168.200.0/24 === 0.0.0.0/0  
pi@raspberrypi:~$
```

**Benefits:**

**Step-by-step  
Raspi config and  
VPN setup guide**

**Purpose:**

**Demo**



# VPN IPsec Tunnel w/ Raspberry Pi WiFi AP

by Stuart Green

<https://community.checkpoint.com/t5/CloudGuard-SaaS/CloudGuard-Connect-Demo-with-Raspberry-Pi/m-p/71571>

The screenshot displays the Check Point CloudGuard Connect web interface. On the left, a navigation sidebar includes 'Account Settings', 'Admins', 'Audits', 'Contracts', 'API Keys', and 'Events Export'. The main content area is titled 'API Keys' and contains a table with columns for 'Status' and 'Module'. A modal window titled 'CREATE NEW API KEY' is open, showing a success message and fields for 'Client ID' (180d732486a04c) and 'Secret Key' (e77b3f1e59e845). A Python script in a Notepad++ window, named 'ip\_update.py', is shown with red arrows pointing from the script's variables to the values in the modal. The script uses the 'http.client' module to request an authorization token and a site ID from the Check Point API.

	Status	Module
<input type="checkbox"/>	✖	CloudGuard Connect
<input type="checkbox"/>	✔	CloudGuard Connect
<input type="checkbox"/>	✔	CloudGuard Connect

```
1 import http.client, json
2
3 # Connection info
4 API_ENDPOINT = "cloudinfra-gw.portal.checkpoint.com" # << Don't change this
5 NSAAS_SITE_NAME = "EDIT ME" # << Your EXACT site name
6 NSAAS_CLIENT_ID = "EDIT ME" # << Your NSaaS Client ID
7 NSAAS_SECRET_KEY = "EDIT ME" # << Your NSaaS Secret Key
8
9 # Request authorization token
10
11 conn = http.client.HTTPSConnection(API_ENDPOINT)
12
13 payload = "{\n  \"clientId\": \"\" + NSAAS_CLIENT_ID + \"\", \n  \"accessKey\": \"\"
14 headers = { 'content-type': \"application/json\" }
15 conn.request(\"POST\", \"/auth/external\", payload, headers)
16
17 res = conn.getresponse()
18 data = res.read()
19 auth_token = json.loads(data)['data']['token']
20 conn.close()
21 res.close()
22 # Request Site ID
23
```



# Update Dynamic IP via Management API

by Luca Famà

<https://community.checkpoint.com/t5/API-CLI-Discussion-and-Samples/Using-R80-10-APIs-to-update-dynamic-public-IP-address/td-p/39413>

**Environment:**

**SMS GAiA**

**Runs as:**

**Bash (Expert mode)**

**Result:**

**Auto-updated IP and  
topology of gateway object**

```
updateDynamicIP.sh Update updateDynamicIP.sh 2 years ago
README.md

UpdateDynamicIP

A very simple bash script that uses Check Point R80.10 APIs in order to check and update your dynamic public IP address.

Overview

If you are using a dynamic public IP address, this can change without knowing in advance (due to ISP configuration change, device reboot, etc.) especially when using ADSL Internet connection with PPPoE interface.
If your public IP address changes, you will not be able to perform some operation properly (manual NAT rules, VPN remote access, etc.).

This script checks if the object representing your public IP address is the actual public dynamic IP address you received from your ISP. If it's different, it means the IP changed, so the scripts uses several APIs in order to update the object IP address, update the gateway topology and install the policy.

Running this script as a cron job can be useful to continuously check if the public IP address changed, so that it can be updated with the newly assigned. The script prints some useful information while running, so you can easily redirect the output to a log file and keep track of the operations.
```

**Benefits:**

**Removes many annoyances that are caused by dyn. GW IPs**

**Purpose:**

**Branch / Home offices**



# Thank YOU!

## Danny Jung

CTO at Check Point 4-Star Partner ESC



ESC.de