

Script Documentation

Due to 3CX having long uptimes and constant transmitted data it can sometimes break the system. The following script uses Bash to print critical information to the user that the PBX relies on. This centralised report allows for an easy process for fault and bug finding. At the end of the script, it prints additional information about the memory. Sometimes due to adding more extensions the system can break as it simply does not have enough resources to host the number of extensions.

```
#!/bin/bash

clear

echo "=====
System Information Report"

echo "=====
Current uptime ====="

# Prints the up time of the Instance

uptime -p

echo "===== Memory Usage ====="

# Prints line Memory at row 4 from collum "Memory"

echo "Free Memory: $(free -h | grep 'Mem' | awk '{print $4}')"

# Assigns the Variable for easy use

usedmb=$(free -m | awk '/Mem:/ {print $3}')

if ((usedmb > 2000)); then

echo "System Requires More Memory"

else

echo "Memory is OKAY"

fi

#Calculates how much memory is being used

echo "Used Memory: $(free -h | grep 'Mem' | awk '{print $3}')"

echo "===== Network Information ====="

echo "Public IP address (WAN):"

# Easily allows for you to find your public IP address

curl -s ifconfig.me

echo ""

echo "Network Traffic(Real Time):"

# Uses vnstat to see the inbound and outbound traffic. It extracts information from the rx and tx rows and prints the 2nd
and 3rd columns (freeCodeCamp, n.d.)

echo "Inbound Traffic: $(vnstat -tr 5 | grep 'rx' | awk '{print $2, $3}')"

echo "Outbound Traffic: $(vnstat -tr 5 | grep 'tx' | awk '{print $2, $3}')
```

```
echo "=====OVERALL REPORT====="
```

Used the free -m command extracting the Mem line on the third column. It then assigns it to a variable. (Wallen, 2022)

```
usedmem=$(free -m | awk '/Mem:/ {print $3}')
```

```
if ((usedmem > 2000)); then
```

```
echo "System Requires More Memory"
```

```
else
```

```
echo "Memory is OKAY"
```

```
fi
```

Output:

```
=====
                        System Information Report
=====
===== Current uptime =====
up 1 hour, 9 minutes
===== Memory Usage =====
Free Memory: 74Mi
Used Memory: 1.3Gi
===== Network Information =====
Public IP address (WAN):
54.79.207.50
Network Traffic(Real Time):
Inbound Traffic: 192 bit/s
Outbound Traffic: 0 bit/s
=====OVERALL REPORT=====
Memory is OKAY
=====
```

References:

freeCodeCamp. (n.d.). Bash scripting tutorial – Linux shell script and command line for beginners. freeCodeCamp. <https://www.freecodecamp.org/news/bash-scripting-tutorial-linux-shell-script-and-command-line-for-beginners/>

Wallen, J. (2022, March 6). Classic SysAdmin: Linux 101: 5 commands for checking memory usage in Linux. The Linux Foundation. <https://www.linuxfoundation.org/blog/blog/classic-sysadmin-linux-101-5-commands-for-checking-memory-usage-in-linux>

Wallen, J. (2022, March 6). Classic SysAdmin: Linux 101: 5 commands for checking memory usage in Linux. The Linux Foundation. <https://www.linuxfoundation.org/blog/blog/classic-sysadmin-linux-101-5-commands-for-checking-memory-usage-in-linux>