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Q&A

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Exam : 156-587

Title : Check Point Certified
Troubleshooting Expert -
R81.20 (CCTE)

Version : DEMO

1. You run a free command on a gateway and notice that the Swap column is not zero. Choose the best answer.

- A. Utilization of ram is high and swap file had to be used
- B. Swap file is used regularly because RAM memory is reserved for management traffic
- C. Swap memory is used for heavy connections when RAM memory is full
- D. Its ole Swap is used to increase performance

Answer: A

Explanation:

When the free command on a Linux-based system (like a Check Point Gaia gateway) shows a non-zero value in the "Swap" column, it indicates that the system has utilized its swap space. Swap space is a portion of the hard disk designated to act as virtual RAM when the physical RAM is fully utilized.

The most direct and accurate explanation for swap usage is that the system's demand for Random Access Memory (RAM) exceeded the available physical RAM, forcing the operating system to move some less frequently used memory pages from RAM to the swap space on the disk. This frees up physical RAM for more active processes.

Let's analyze the options:

A. Utilization of ram is high and swap file had to be used: This is the correct and fundamental reason. Swap is used precisely because RAM utilization reached a point where the system needed more memory than was physically available.

B. Swap file is used regularly because RAM memory is reserved for management traffic: While Check Point gateways handle management traffic, operating systems do not typically use swap "regularly" due to a fixed reservation of RAM for such traffic in a way that would routinely force swapping under normal conditions. If management traffic is excessively high and consumes too much RAM, it would fall under the general case of high RAM utilization.

C. Swap memory is used for heavy connections when RAM memory is full: This describes a common cause for high RAM utilization on a firewall. Heavy connections can consume significant memory resources. When this consumption leads to RAM exhaustion, swap will indeed be used. However, option A is a more general and direct explanation of why swap is used, regardless of the specific cause of high RAM utilization. Option C is a specific scenario leading to the condition described in A.

D. Its ole Swap is used to increase performance: This statement is incorrect. Swapping to disk is significantly slower than accessing RAM. Therefore, swap usage generally indicates a performance bottleneck (or potential for one) rather than a performance enhancement. While virtual memory (which includes swap) allows a system to run more or larger applications than its physical RAM would normally allow, the act of swapping itself is detrimental to performance.

Conclusion: The best answer is A because it directly and accurately describes the immediate reason for swap usage: high RAM utilization necessitating the use of the swap file. Option C, while plausible as a cause of high RAM utilization, is a specific instance, whereas A is the overarching reason swap comes into play.

Reference (General Linux/System Administration Principles and supported by CCTE exam preparation materials): This understanding is based on fundamental principles of how operating systems manage memory and swap space. Check Point CCTE R81.20 exam preparation materials also affirm this understanding for similar questions. For instance, a question identical to this one appearing in CCTE exam preparation resources typically points to option A as the correct answer.

2.You modified kernel parameters and after rebooting the gateway, a lot of production traffic gets dropped and the gateway acts strangely.

What should you do"?

- A. Run command `fw ctl set int fw1_kernel_all_disable=1`
- B. Restore `fwkern.conf` from backup and reboot the gateway
- C. run `fw unloadlocal` to remove parameters from kernel
- D. Remove all kernel parameters from `fwkern.conf` and reboot

Answer: B

Explanation:

If you have modified kernel parameters (in `fwkern.conf`, for example) and the gateway starts dropping traffic or behaving abnormally after a reboot, the best practice is to restore the original or a known-good configuration from backup. Then, reboot again so that the gateway loads the last known stable settings. Option A (`fw ctl set int fw1_kernel_all_disable=1`) is not a standard or documented method for “undoing” all kernel tweaks.

Option B (Restore `fwkern.conf` from backup and reboot the gateway) is the correct and straightforward approach.

Option C (`fw unloadlocal`) removes the local policy but does not revert custom kernel parameters that have already been loaded at boot.

Option D (Remove all kernel parameters from `fwkern.conf` and reboot) might help in some cases, but you risk losing other beneficial or necessary parameters if there were legitimate custom settings. Restoring from a known-good backup is safer and more precise.

Hence, the best answer:

“Restore `fwkern.conf` from backup and reboot the gateway.”

Check Point Troubleshooting Reference

sk98339 – Working with `fwkern.conf` (kernel parameters) in Gaia OS.

sk92739 – Advanced System Tuning in Gaia OS.

Check Point Gaia Administration Guide – Section on kernel parameters and system tuning.

Check Point CLI Reference Guide – Explanation of using `fw ctl`, `fw unloadlocal`, and relevant troubleshooting commands.

3.What process monitors terminates, and restarts critical Check Point processes as necessary?

- A. CPM
- B. FWD
- C. CPWD
- D. FWM

Answer: C

Explanation:

CPWD (Check Point WatchDog) is the process that monitors, terminates (if necessary), and restarts critical Check Point processes (e.g., FWD, FWM, CPM) when they stop responding or crash.

CPM (Check Point Management process) is a process on the Management Server responsible for the web-based SmartConsole connections, policy installations, etc.

FWD (Firewall Daemon) handles logging and communication functions in the Security Gateway.

FWM (FireWall Management) is an older reference to the management process on the Management Server for older versions.

Therefore, the best answer is CPWD.

Check Point Troubleshooting Reference

sk97638: Check Point WatchDog (CPWD) process explanation and commands.

R81.20 Administration Guide – Section on CoreXL, Daemons, and CPWD usage.

sk105217: Best Practices – Explains system processes, how to monitor them, and how CPWD is utilized.

4. When dealing with monolithic operating systems such as Gaia where are system calls initiated from to achieve a required system level function?

- A. Kernel Mode
- B. Slow Path
- C. Medium Path
- D. User Mode

Answer: A

5. Which of the following commands can be used to see the list of processes monitored by the Watch Dog process?

- A. `cpstat fw -f watchdog`
- B. `fw ctl get str watchdog`
- C. `cpwd_admin list`
- D. `ps -ef | grep watchd`

Answer: C

Explanation:

To see the list of processes monitored by the WatchDog process (CPWD), you use the `cpwd_admin list` command.

Option A (`cpstat fw -f watchdog`): Shows firewall status and statistics for the "fw" context, not necessarily the list of monitored processes.

Option B (`fw ctl get str watchdog`): Not a valid parameter for retrieving the list of monitored processes; "fw ctl" deals with kernel parameters.

Option C (`cpwd_admin list`): Correct command that lists all processes monitored by CPWD, their status, and how many times they have been restarted.

Option D (`ps -ef | grep watchd`): This will list any running process that matches the string "watchd" but will not specifically detail which processes are being monitored by CPWD.

Therefore, the best answer is `cpwd_admin list`.

Check Point Troubleshooting Reference

sk97638: Explains Check Point WatchDog (CPWD) usage and the `cpwd_admin` utility.

R81.20 CLI Reference Guide: Describes common troubleshooting commands including `cpwd_admin list`.

Check Point Gaia Administration Guide: Provides instructions for monitoring system processes and verifying CPWD.