스마일서브 CLOUD_Virtual SWAP 파티션 추가방법

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Update. 2013. 03. 18.

아래와 같은 방법으로 swap 메모리를 추가하시면 됩니다.

1. 스왑 활성화 영역확인

```
mkswap : swap 생성
swapon : swap 활성화
swapoff : swap 비활성화

[root@localhost ~]# swapon -s
Filename                        Type            Size    Used    Priority

[root@localhost ~]# free
             total       used       free     shared    buffers     cached
Mem:       1020748     945260      75488          0      20052     786928
-/+ buffers/cache:     138280     882468
Swap:            0          0          0
```

2. swap 영역 생성

```
# ex) 4G 추가 / dd 명령어를 이용해서 디스크 공간 4G 생성
[root@localhost ~]# dd if=/dev/zero of=/swapfile bs=1M count=4096
4096+0 records in
4096+0 records out
4294967296 bytes (4.3 GB) copied, 124.143 s, 34.6 MB/s


# 스왑영역 생성
[root@localhost ~]# mkswap /swapfile
mkswap: /swapfile: warning: don't erase bootbits sectors
        on whole disk. Use -f to force.
Setting up swapspace version 1, size = 4194300 KiB
no label, UUID=70d648c8-8ab1-42a6-bcef-8f0daa45107e
```

3. swap 영역 활성화

```
# 스왑영역 활성화
[root@localhost ~]# swapon /swapfile
[root@localhost ~]# swapon -s
Filename                        Type            Size    Used    Priority
/swapfile                       file            4194296 0       -1

[root@localhost ~]# free
             total       used       free     shared    buffers     cached
Mem:       1020748     947980      72768          0      20052     786944
-/+ buffers/cache:     140984     879764
Swap:      4194296          0    4194296
```

4. fstab 수정

```
# /etc/fstab 추가 파티션 등록
/swapfile       none    swap    sw      0       0
```

※ Redhat에서 말하는 권장 swap 파티션은?

참고 : https://access.redhat.com/knowledge/solutions/15244

If I add several hundred GB of RAM to a system, do I really need several hundred GB of swap space for RHEL?

Issue
• If add several hundred GB of RAM to a system, do really need several hundred GB of swap space?
• What are the recommended swap size settings for Red Hat Enterprise Linux 5 or Red Hat Enterprise Linux 6?

Environment
• Red Hat Enterprise Linux 5
• Red Hat Enterprise Linux 6

Resolution
Currently Red Hat recommends a linear increase to the amount of swap space on a system as the amount of RAM increases. Specifically, that swap space on a system be twice the amount of RAM when the system has up to 2 GB and the amount of RAM plus 2 GB when the system has more than 2GB of RAM. This is pretty much the same recommendation as upstream so the reasoning behind it is, the larger the system, the larger memory workload that system will likely encounter.
This no longer makes sense as memory sizes have increased into the hundreds of GBs. The reality is the amount of swap space a system needs is not really a function of the amount of RAM it has but rather the memory workload that is running on that system. A Red Hat Enterprise Linux 5 system will run just fine with no swap space at all as long as the sum of anonymous memory and system V shared memory is less than about 75% the amount of RAM. In this case the system will simply lock the anonymous and system V shared memory into RAM and use the remaining RAM for caching file system data so when memory is exhausted the kernel only reclaims pagecache memory.

Considering that

1. At installation time when configuring the swap space there is no easy way to predetermine the memory a workload will require, and
2. The more RAM a system has the less swap space it typically needs, a better swap space requirements rule for Red Hat Enterprise Linux 5 is:

• Systems with 4 GB of ram or less require a minimum of 2 GB of swap space
• Systems with 4 GB to 16 GB of ram require a minimum of 4 GB of swap space
• Systems with 16 GB to 64 GB of ram require a minimum of 8 GB of swap space
• Systems with 64 GB to 256 GB of ram require a minimum of 16 GB of swap space

번역요약

RHEL 계열에서의 권장 SWAP 크기는?
예전에는 물리적인 메모리에 2배를 잡아주는게 일반적이였지만 메모리양이 증가하면서 크기별로 권장하는 최소(Minimum) 공간이 나오게 되었습니다.
이는 권장 최소값이라는 의미이지 실제 그만큼만 사용한다는것은 아니므로 메모리를 많이 쓰는 환경이라면 보다 여유있게 잡아주는것이 좋습니다.
즉 swap 공간은 파티션 크기가 허용하는 한도까지 사용할실수 있다고 보시면 되겠으며 크게 잡더라도 실제 환경에서 그만큼의 대량의 데이터를 Swap in/out 한다면 성능저하가 심각하게 발생할 수 있기에 물리적인 메모리를 늘려서 해결하는것이 일반적입니다.