
Rule WLM057: Multiple local page data sets are on same volume

Finding: CPEXpert has determined that multiple local page data sets are defined on the same volume.

Impact: This finding can have a LOW impact, MEDIUM impact, or HIGH impact on performance of your computer system. The level of impact depends upon the amount of page delay being experienced.

Logic flow: The following rule causes this rule to be invoked:
Rule WLM400: Page-in from auxiliary storage significantly delayed the service class

Discussion: The delay time experienced by individual page fault resolution will increase significantly if there is more than one local page data set on the same volume. This is because the device must perform seeks between the page data sets, and seek time is significant.

Additionally, if you place more than one page data set on the same volume, the Auxiliary Storage Manager (ASM) will be unable to implement the suspend/resume function. Each I/O request for one page data set will interrupt the suspended I/O for the other data set. The suspended I/O end, and must be restarted through the I/O Supervisor STARTIO function. Consequently, all potential performance gains resulting from the suspend/resume function will be lost.

CPEXpert produces Rule WLM057 only if a service class missed its performance goal and (1) page-in delay from auxiliary storage a major performance problem or (2) swap-in delay from auxiliary storage was a major performance problem.

The following example illustrates the output from Rule WLM057:

```
RULE WLM057: MULTIPLE LOCAL PAGE DATA SETS ARE ON THE SAME VOLUME
```

```
CPEXpert has determined that multiple local page data sets are defined on VOLSER PG3041. In most environments, allocating multiple page data sets on the same volume will result in overall poor performance of the paging subsystem.
```

Suggestion: CPExpert suggests that you separate the local page data sets onto different volumes, preferably on different paths.

It is **not** necessary that the local page data sets be on dedicated paths, nor is it necessary that the paths to which they are assigned be lightly used. It is far better to split the local page data sets onto separate devices and paths and have their I/O operations compete with other system I/O, than it is to have the local page data sets reside on the same device!

Reference: MVS Initialization and Tuning Guide, MVS/ESA SP5.1
Section 2.4 (Performance recommendations)

Please note that while this reference applies to MVS/ESA SP5 (Compatibility Mode), the finding is applicable to MVS/ESA SP5 (Goal Mode), OS/390 (Goal Mode), and z/OS (Goal Mode).