
Rule WLM360: SERVICE CLASS DID NOT REFERENCE DASD

Finding: The service class that missed its performance goal was delayed for an UNKNOWN delay. In many situations, this delay will be caused by I/O operations. However, the service class did not reference DASD and CPEXpert can state that DASD delay was not a part of the UNKNOWN delay. This finding is produced only if the CPEXpert modification has been made to MXG or MICS to collect DASD information for service classes.

This finding applies only to MVS versions prior to OS/390 Release 3, and to MVS versions with OS/390 Release 3 if I/O Priority Management has **not** been specified.

Impact: This finding has NO IMPACT. The finding is produced for information purposes

Logic flow: The following rules cause this rule to be invoked:
Rule WLM300: Service Class was delayed for UNKNOWN delay
Rule WLM301: Server Service Class was delayed for UNKNOWN delay

Discussion: As described in the above rules, the UNKNOWN category of workload delay means that the Workload Manager was unable to identify the cause of the delay. The delay normally is caused by something over which the System Resources Manager has no control. This delay category potentially includes I/O delay, ENQ delay, etc.

CPEXpert estimates the amount of the delay that might have been attributed to I/O operations. The process by which CPEXpert makes the estimate is described in Rule WLM350. CPEXpert produces Rule WLM350 if the I/O activity might have caused significant delays.

If the DASD Component of CPEXpert is licensed and if the CPEXpert modification has been made to MXG or MICS to collect Type 30(DD) information for service classes, CPEXpert can focus on only the DASD devices used by the service class missing its performance goal.

CPEXpert processes the DASD30DD records created by the modification to MXG or MICS, extracting DASD device information for the service class missing its performance goal. **Please note that the Type 30 (Interval) records do not include VSAM I/O references.**

CPEXpert detects situations in which the service class did not reference DASD. The purpose of Rule WLM360 (this rule) is to advise you that the service class did not reference DASD using normal I/O operations. The service class might have referenced VSAM files (that, of course, reside on DASD). However, the SMF Type 30 (Interval) records do not include VSAM I/O references. Thus, CPEXpert has no information on the VSAM references¹ by the service class missing its performance goal.

CPEXpert produces Rule WLM360 (this rule) if the DASD I/O activity probably did not cause significant delays. The purpose of Rule WLM360 is to alert you to the possibility of other factors that may cause the UNKNOWN delay.

The following example illustrates the output from Rule WLM360:

RULE WLM360: SERVICE CLASS DID NOT REFERENCE DASD				
Service Class TPNSEVEN (Period 1) apparently did not reference DASD during the below measurement intervals, as no DASD information was in the SMF Type 30(DD) records collected by the CPEXpert modification to MXG. The SMF Type 72 records did reflect I/O activity, but the I/O activity was to non-DASD devices. This I/O activity could have caused TPNSEVEN to miss its response goal, but CPEXpert does not have sufficient information on which to base such a conclusion.				
MEASUREMENT INTERVAL	SMF TYPE 72 TOTAL EXCP COUNT	TOTAL TRANS	AVG PER	EXCP TRANS
13:02-13:07,21JUN1994	18,144	672		27

Rule WLM360 shows the total I/O activity reflected in the SMF Type 72 records. If this activity is relatively high (as is shown by the example), the service class referenced some device type other than DASD (for example, the service class referenced tape drives). At present, CPEXpert does not continue analysis of the configuration.

Suggestion: This finding is produced simply for information purposes.

¹The SMF Type 64 records do contain information about VSAM activity based on job name and VSAM catalog. The Type 64 records do not relate the information to service class. CPEXpert does not analyze the Type 64 records at present, although future code may analyze this information.