
Rule WLM027: Service class periods have same velocity goal and importance

Finding: More than one service class period was defined with the same execution velocity goal and the same importance.

Impact: This finding should be viewed as generally having a MEDIUM IMPACT or HIGH IMPACT on the performance of the Workload Manager and its ability to manage system resources to meet your performance goals.

Logic flow: This a basic finding. There are no predecessor rules.

Discussion: Users assign workload to a service class and specify the performance goal and goal importance of the service class. A service class can represent any collection of workload that can be classified using the workload classification schemes available with the Workload Manager. Each service class has Period 1 automatically defined. Optionally, users also may define multiple performance periods for service classes.

The Workload Manager tries to improve performance of the service class period with the worst performance at the highest goal importance. Resources may be taken from the least important service class period with the best performance. The Workload Manager will not simply remove and add resources; rather, the Workload Manager will analyze the net value of the planned action.

The Workload Manager will not add resources unless there is an appreciable net gain to the service class period receiving the resources. Within the same goal importance, the Workload Manager will not remove resources from a service class period unless the net gain to the receiver outweighs the net loss to the service class period the resources are being removed from. The overhead involved with the analysis and decision process increases as the number of service class periods becomes large.

IBM SRM/WLM developers have indicated that a small number of service class periods is desirable. They have observed that the Workload Manager algorithms typically become increasingly ineffective as the number of service class periods grows. Since the overhead increases with the number of service class periods, users should strive to minimize the service class periods defined.

CPEXpert has noticed that than one service class period was defined with the same execution velocity goal and the same importance. This definition

might be useful if at least one of the service class periods were the second or subsequent period of a service class with multiple periods. However, the service classes identified by this finding had only one period.

If service classes have only one period and if they are defined with the same execution velocity goal and the same goal importance, they are treated identically by the Workload Manager. However, the service classes exist as distinct entities and thus create more overhead for the Workload Manager.

The following example illustrates the output from Rule WLM027:

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RULE WLM027:  PERHAPS SERVICE CLASSES SHOULD BE COMBINED

CPEXPERT noticed that two or more service classes at the same Goal
Importance have been defined with an execution velocity goal, but
the actual values for the execution velocity goals were identical.  If
you have correctly specified the velocity goal and the Goal Importance,
CPEXPERT suggests that you combine the service classes into a single
service class.  Please refer to the WLM Component User Manual for a
discussion of this suggestion.

          SERVICE   EXECUTION           SERVICE   EXECUTION
          CLASS     VELOCITY            CLASS     VELOCITY
          APPCFEED      50              BATCHHI      50
```

Suggestion: CPEXPERT suggests that you review the service classes listed with Rule WLM027. If the execution velocity and goal importance for the service classes are consistent with your intent, you should consider combining the work associated with the service classes with identical execution velocity goals into a single service class.

If you wish to distinguish between the work in terms of resources or performance, you can define report classes to describe the work.

Reference: MVS Planning: Workload Management
MVS/ESA(SP 5): Chapter 8: Defining Service Classes and Performance Goals
OS/390 (V1R1): Chapter 8: Defining Service Classes and Performance Goals
OS/390 (V1R2): Chapter 8: Defining Service Classes and Performance Goals
OS/390 (V1R3): Chapter 8: Defining Service Classes and Performance Goals
OS/390 (V2R4): Chapter 8: Defining Service Classes and Performance Goals
OS/390 (V2R5): Chapter 8: Defining Service Classes and Performance Goals
OS/390 (V2R6): Chapter 8: Defining Service Classes and Performance Goals
OS/390 (V2R7): Chapter 8: Defining Service Classes and Performance Goals

OS/390 (V2R8):	Chapter 8: Defining Service Classes and Performance Goals
OS/390 (V2R9):	Chapter 8: Defining Service Classes and Performance Goals
OS/390 (V2R10):	Chapter 8: Defining Service Classes and Performance Goals
z/OS (V1R1):	Chapter 8: Defining Service Classes and Performance Goals
z/OS (V1R2):	Chapter 8: Defining Service Classes and Performance Goals
z/OS (V1R3):	Chapter 8: Defining Service Classes and Performance Goals
z/OS (V1R4):	Chapter 8: Defining Service Classes and Performance Goals

"Migrating to the MVS Workload Manager", Peter Enrico (IBM Corporation Workload Manager developer), 1995 SHARE Winter Meeting

"MVS Workload Manager Velocity Goals: What you don't know can hurt you", John Arwe, IBM Corporation, CMG'96 Proceedings.