
Rule CIC191: The DLTHRED specification may be too high

Finding: CPExpert believes that the DLTHRED specification in the System Initialization Table (SIT) may be too high. Alternatively, the AMXT specification in the SIT is too low. In either case, there is a potentially serious performance problem caused by the two specifications.

Impact: This finding should normally have a MEDIUM IMPACT or HIGH IMPACT on the performance of the CICS region. This rule does not apply to CICS Version 4.1 and subsequent versions of CICS.

Logic flow: This is a basic finding, based upon an analysis of the CICS System Initialization Table.

Discussion: The DLTHRED operand in the SIT specifies the number of concurrent DL/I threads that can be allocated for IMS/VS data bases. The number of concurrent DL/I threads limits the number of tasks concurrently scheduled for use of IMS/VS resources.

The AMXT operand in SIT limits the total number of concurrent **active** tasks in the CICS region. All new and resumed tasks must pass the AMXT limit before CICS dispatches the tasks. Tasks are selected for dispatching only if fewer than AMXT tasks are already active. (The AMXT value actually specifies how far down the active chain CICS will scan, searching for a task to dispatch. Please refer to Rule CIC102 for additional information about the functioning of AMXT.)

If an active task waits for an IMS I/O operation, it may be inactive. If the number of DL/I threads is greater than the number of active tasks, the waiting task may not be dispatched when the IMS I/O operation completes because the number of active tasks may be at the AMXT threshold. This situation can arise even though only lower priority tasks are active. The response of the waiting task could be considerably lengthened in this event, particularly if VSAM control area splits can occur in the IMS/VS data base.

CPExpert produces Rule CIC191 if the value of the DLTHRED operand is not less than the value of the AMXT operand.

Suggestion: CPExpert suggests that you either decrease the DLTHRED value or increase the AMXT value. The DLTHRED value be less than the AMXT value in the SIT. Serious system degradation can occur if the DLTHRED

value is not less than the AMXT value.

Reference: *CICS/OS/VS Version 1.7 Performance Guide*: pages 255-256.

CICS/MVS Version 2.1.2 Performance Guide: pages 180-181.

CICS/ESA Version 3.1.1 Performance Guide: pages 249-250.

CICS/ESA Version 3.2.1 Performance Guide: pages 170-171.

CICS/ESA Version 3.3.1 Performance Guide: page 181.

CICS/ESA Version 4.1.1: not applicable.

CICS/TS: not applicable.

CICS/TS for z/OS: not applicable.