
Rule DAS250: QUEUING IN IOS WAS A MAJOR CAUSE OF I/O DELAY

Finding: Queuing in the I/O Supervisor (IOSQ) was a major cause of the I/O delay with the volume.

Impact: This finding may have a MEDIUM IMPACT or HIGH IMPACT on the performance of the device.

Logic flow: The following rules cause this rule to be invoked:
DAS200: Volume with the worst overall performance

Discussion: IOSQ time is the time from the issuance of a STARTIO macro until the Start SubChannel (SSCH) instruction is issued. After the STARTIO macro is issued, the software determines whether the device is busy. If the device is not busy with this system, the SSCH instruction is issued. However, if the device is busy with this system, the I/O request is queued. Thus, IOSQ time always means that the device is unable to handle additional requests from this system. (The emphasis on "this system" is explained in the below discussion of PEND time.)

Some small IOSQ time is often unavoidable. However, large IOSQ time imply a situation that should be examined. Large IOSQ times result from (1) too many I/O operations directed to the device or (2) lengthy device response times (perhaps caused by high seeking, high RPS delays, or high PEND time).

Suggestion: Please refer to Rule DAS150 for suggestions on how to reduce high queuing in IOS.