

Capture Ratio using Address Space interval records (SMF30)

Why over 100% values can be considered as normal

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In mainframe environments the capture ratio concept is universally known. Performance Analysts normally use an index (CR72 in the following) that is the ratio between the total CPU attributed to all the service classes (collected in the SMF 72 records) and the total CPU used (collected in the SMF 70 records) as a measure of the system overhead.

The system overhead is the amount of CPU used for activities (such as paging, swapping, part of the I/O operation, etc.) not directly correlated to a specific address space, transaction or enclave. The impact of these activities is not the same on all the workload types: a TSO is continuously swapped in and out while CICS and IMS regions are normally non swappable, some batch jobs do a huge amount of I/Os compared to their CPU usage while other applications work mostly in memory.

So an important characteristic of the capture ratio is its workload dependence.

A widely accepted ROT (Rule Of Thumb) is to consider as normal values between 85% and 95%.