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**Rule CIC268:** Insufficient sessions may have been defined for modegroup

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**Finding:** CPExpert believes that insufficient sessions may have been defined for a modegroup in the CICS region. Alternatively, the application system could be issuing ALLOCATE requests too often.

**Impact:** This finding should normally have a LOW IMPACT or MEDIUM IMPACT on the performance of the CICS region.

**Logic flow:** This is a basic finding, based upon an analysis of the CICS statistics. Please refer to Rule CIC260 for a discussion of basic ISC/IRC concepts.

**Discussion:** Transactions acquire the use of a session in an ISC/IRC environment by using the ALLOCATE command. Conversations can take place between the two CICS regions or systems only after the session has been allocated. Once established, the session normally exists for a long time and can be used by many different transactions. The session normally is terminated by a FREE command.

A session must be available in order to be allocated in response to the ALLOCATE command. If a session is not available, CICS will normally queue the allocate request (and suspend the transaction) until a session is made available. Optionally (using the NOQUEUE specification), control can be returned to the transaction which can take application-dependent action based on the unavailability of a session.

The number of ALLOCATE requests which were returned by CICS to the transaction is reported as Failed Allocates Due to Sessions in Use (A20ESTAO) for specific ALLOCATE requests.

CPExpert detects a **potential** problem when the number of Failed Allocates Due to Sessions in Use (A20ESTAO) is greater than the **ALLOCQ** guidance variable in USOURCE(CICGUIDE).

The default specification is **ALLOCQ=1**, indicating that Rule CIC268 would be produced if more than one ALLOCATE request could not be satisfied because no sessions were available for a specific modegroup. **This low default value is intended only to alert you to a potential problem, and is intended to make you aware of this analysis mechanism.**

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For many installations, the default should be changed after executing the CICS Component a few times. The **ALLOCQ** variable should normally be used to cause CPExpert to signal a problem only when you wish to be informed of abnormal situations.

For example, some installations always have a few specific ALLOCATE requests which cannot be satisfied and are returned to the transaction. Occasionally, however, several hundred or even several thousand requests are queued. Analysts at these installations are not concerned about the few unsatisfied requests, but are concerned about the situations when hundreds or thousands of requests are returned.

**Suggestion:** CPExpert suggests that you consider increasing the number of sessions allocated to the modegroup identified as having too few sessions. Please refer to the above discussion to assess whether the number of sessions should be increased.

Alternatively, you may wish to examine the transaction issuing the specific ALLOCATE requests. It is possible that the transaction is reissuing the ALLOCATE request without a suitable time delay allow a session to be freed, or the transaction does not use some other mechanism which might result in a session becoming available. The result from this reissuing the ALLOCATE request might simply be a looping between CICS and the transaction.

**Reference:** *CICS/ESA Version 3.1.1 Performance Guide*: pages 76-84.

*CICS/ESA Version 3.2.1 Performance Guide*: pages 294-301.

*CICS/ESA Version 3.3.1 Performance Guide*: pages 55-56 and pages 313-320.

*CICS/ESA Version 4.1.1 Performance Guide*: Section 2.2.23 and Appendix A.1.13.

*CICS/TS Release 1.1 Performance Guide*: Section 2.2.23 and Appendix 1.1.14.

*CICS/TS Release 1.2 Performance Guide*: Section 2.2.24 and Appendix 1.1.14.

*CICS/TS Release 1.3 Performance Guide*: Section 2.2.26 and Appendix 1.1.15.

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*CICS/TS Release 1.3 Performance Guide: Section 2.2.25 and Appendix 1.1.14.*

*CICS/TS for z/OS Release 2.1 Performance Guide: Chapter 5 (ISC/IRC system and mode entry statistics) and Appendix A (Table 64).*

*CICS/TS for z/OS Release 2.2 Performance Guide: Section 2.2.27 (Interpreting ISC/IRC system and mode entry statistics) and Appendix 1.1.12.*

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