ABS Tech Note: DAL02 VTAM Memory (6/92)

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TOPIC --

The following information can be used to help you to plan and manage
storage (memory) requirements for the DAL server for MVS/VTAM, Version
1.3.5.

DISCUSSION ---

Limitations

The DAL MVS/VTAM Server does not currently support 31-bit addressing and
thus cannot run above the 16M "line" on MVS. Therefore, when coding the
REGION parameter in the server run JCL, a size no larger than 16M can be
utilized. The actual amount of real memory available to the server (as an
MVS address space) will depend on the host system tuning parameters and
workload.

Server Component Memory Requirements

The base server requires 892K with no sessions connected. Each connected
session utilizes a minimum of 260K. Actual session usage is dependent upon
the number and size of the queries executed. For any given region size, a
larger number of concurrent sessions will be possible when the query sizes
are smaller. Conversely, large queries will limit the number of concurrent
sessions. Therefore, the number of maximum concurrent sessions can vary
for any given region size.

Avoiding Out-of-Memory Conditions

Beginning with Version 1.3.5 of the DAL MVS/VTAM Server, a memory
verification is made before allowing a new session to connect. The server
will check if a minimum of 300K is available for the new session. If a
minimum of 300K is available, the session will be established. If less
than 300K is available, an error message (F000000116) will be generated by
the host and the session will not be established. In addition, an error
code of -10628(116) will be returned to the client. However, this
verification does not prevent out-of-memory conditions for every situation.
For example, several sessions may attempt to execute large queries at the
same time, resulting in more than the available memory being requested.

Out-of-Memory Errors

If the server is unable to obtain memory when required by large queries
and/or numerous concurrent sessions (as described above), the symptoms can
be manifested by appearance of one or more of the following:

• Error message(s) logged as a result of a GETMAIN macro failure.
• The server abnormally terminates with MVS system code 0C4.
• Following one or more 0C4 abends, a 0C1 abend can occur if a third-party
  system dump analysis tool is installed.

Using the Trace Facilities

The trace facilities should not be enabled under normal circumstances.
Severe degradation in server response time, as well as a decrease in
available memory, will be observed if these facilities are in use. Comment
out or remove the DD statement for DSNTRACE (if it is present) to ensure
that tracing is not enabled. Using the "DD DUMMY" method of removing
reference to this dataset will not be effective; it must be commented out
or removed. For more information on the trace facilities, refer to
Appendix A in the "Data Access Language Server for MVS/VTAM Installation
and Operation Guide".
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