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

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Security: Everyone

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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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