Query Definition Limits

Overview

In general it is recommended to restrict the complexity of a single BW Query in order to avoid performance problems. In extreme situations very complex queries may also lead to terminations during query generation when limits are exceeded. In the following we discuss several of these limits. In RSRT you can find information about how close a certain query is already to a limit. Basically we have the following restrictions:

- **FEMS (Number Selection Group):** The number of ‘FEMSes’ is restricted to 8192. If this limit is exceeded, the error message ‘Query contains too many selection elements - Message No. BRAIN 028’ is displayed during query generation. In such a case the query probably has two structures with many ‘Selections’ (the number of selection elements is then ‘number of selection elements for structure 1’ * ‘number of selection elements for structure 2’). There is no other way than reducing the number of structure elements (selections).

- **Number of Elements in Structure:** Please note that for technical reasons, the system may internally use a significantly larger number of structure members than visible in the query, see note and the Example for further details. In RSRT (Technical Information), the ‘Number of Elements in Structure’ takes also into account these ‘internal’ structure elements.
  - Number of Elements in a single Structure is limited to 9999
    - BW74x: -> error message BRAIN_DEV 652
    - BW73x: -> System error in program SAPLRI2 and form CHECK_MAX_MEMMERS-01-
  - Combined Number of Cells (product of the number of elements from both structures) is limited to 50,000. More precisely, if one structure has more than 1,000 structure members, the combination (the Cartesian product) of both structures can only contain a maximum of 50,000 structure members.
    - BW74x: -> BRAIN_DEV 652
    - BW73x: -> System error in program SAPLRI2 and form CHECK_MAX_MEM, 2STRU-01-

- **ABAP Generation Limits:** During query generation, the query definition (saved in administration tables by the QueryDesigner) is used to create a generated ABAP program. This program is then used during the query runtime. In case of very complex queries, this generated ABAP program may reach some technical constraints. In RSRT (see picture below) you can find more information on how far the ABAP program is away from the technical limits. In case limits are exceeded, errors like the one described in note 2172744 occur.
SAP Consulting Notes

- 2172744 - Termination (GEN_TO_MANY_CBS) occurred during generation of report
- 1980004 - Extending the structure member limit
- 1908267 - Error CHECK_MAX_MEMMERS-02- when you activate a query
- 1776030 - Generation error for exception aggregation first/last value
- 1475193 - Warnings in transaction RSRT -> Technical Info
- 559116 - Error using restricted key figures in calculated key figures
- 795990 - x299 Brain in SAPLRRI2; Form CHECK_MAX_MEMMERS-01-
- 890243 - A125 Brain too many data control blocks created
- 867519 - A125 Brain Too many data control blocks created