SIZE ANALYSIS USING THE DESIGNER/2000 REPOSITORY

Jeffrey M. Stander
ANZUS Technology International
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Table and index sizing for a physical database is supported in the Repository Reports. I prefer a more dynamic method of doing size analysis and have developed some custom views on the Designer/2000 repository and an Excel spreadsheet to accomplish this.

The custom repository views directly access the information the database designer has entered into the Property Sheets using the Repository Object Navigator (RON). For example, a particular table has starting and ending row counts, and each character (VARCHAR2) type column has a volume percentage. This information is used to calculate Initial and Final byte counts per rows as well as a Maximum Size (assuming each character column is completely filled).

The views therefore directly provide the initial calculations of overhead and sizing required for a spreadsheet analysis of Table and Index sizes. The more technical reader will want to study the source code. There is a view for Index Sizing and a view for Table Sizing. The data returned be each view is shown below:

VIEW COLUMN: SZ_TAB_V	MEANING	VIEW COLUMN: SZ_IDX_V	MEANING
APP_NAME	Application System Name	APP_NAME	Application System Name
APP_VER	Application System Version	APP_VER	Application System Version
TAB_NAME	Table Name	TAB_NAME	Table Name
TS_NAME	Tablespace Name	TS_NAME	Tablespace Name
COLUMNS	Number Of Columns	INDEX_NAME	Index Name
INIT_RECORDS	Start Records	IDX_TYPE	Index Type (Unique, Primary Key, Index)
MAX_RECORDS	End Records	TAB_INIT_ROWS	Start Records
INIT_ROW_DATA	Start Column Size (bytes)	TAB_MAX_ROWS	End Records
FINAL_ROW_DATA	End Column Size (bytes)	FINAL_INDEX_ENTRY_SIZE	End Entry Size (bytes)
MAX_ROW_DATA	Max Column Size (bytes)	MAX_INDEX_ENTRY_SIZE	Max Entry Size (bytes)
TAB_PCT_FREE	Pct Free		

The maximum and final values will differ because MAXIMUM assumes all VARCHAR2 fields are filled. MAXIMUM is the maximum number of rows as set in the RON, but using the volume percentage estimate for each column. For some items (e.g. PCT FREE) a default is assumed. Note that a Tablespace entry in the RON property sheet is required for tables, indexes, and primary keys for the view to return any data on that item. Also, the CREATE flag must be set in the RON for an item.

The custom views calculate column overheads and sizing. The view results are loaded into an Excel spreadsheet using a custom add-in called ORAXCEL. This handy tool is shareware, and is included in the software package for this utility.

The spreadsheet computes rows/block, number of blocks, and initial, final and maximum megabytes required. The first page of a size analysis is reproduced below. Once in the spreadsheet form it is possible to see the impact of changing such parameters such as BLOCK SIZE (global), or PCT FREE (individual tables). Sometimes setting the PCT FREE value to 1 for tables which row but do not get updated can save many megabytes.

Using standard Excel functions (SUM_IF, COUNT_IF) it was also possible to generate a summary table of usage by tablespace.

This set of software may prove useful to your design and development tasks, but it is also an example of how you can use the Designer/2000 repository directly to extract useful information on your Application Systems. There is nothing sacred about the Designer tables and views, and the on-line documentation contains complete descriptions of all the pre-defined views.

To use this tool you will need to get the components from the ANZUS Technology International (www.anzustech.com). The file is called **sizing.zip.** Unzip the file, load the spreadsheet, and follow the instructions therein. The package and views need to be compiled by the repository owner and permissions granted, or by the repository user. Any comments, or email requests for the software, may be addressed to me at jeff@anzustech.com.

(NB: This software will no longer work with the newer data model in Designer, however the concepts remain valid and perhaps will be useful in working with any database design tool – JS)

Designer/2000 Table Sizing for MOD3B_BDC(1)

Summary by Tablespace (in mb)	*Tables*	*Initial*	*Final*	*Max*
&&DCD	1	716.7	1433.4	52083
&&DCDX	0	0	0	0
&&MOD3B_DW	5	37.25	75.19	232.7
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
Total	**6**	**754**	**1509**	**52316**

Constants

ORABlockSize	8192
InitTrans	1
Transaction Entry	23
Default PCTFree	10
Table Entry	4

Table Volume Summary

Tables with Initial Volume	5
Tables with Zero Initial Volume	1

Application Name **MOD3B_BDC**

Application Version **1**

Derived Values

Block Header	136
DataSpace	8029

TABLES	COLS	ROWS		COLUMN SIZE			PCT Free	ROWS / BLOCK			BLOCKS			MEGABYTES		
		Initial	Final	Initial	Final	Max		Initial	Final	Max	Initial	Final	Max	Initial	Final	Max
EDW_BDC_INGOT	12	5000	10000	35	35	128	10	206	206	56	24	49	179	0.19	0.38	1.40
EDW_BDC_INGOT_SUMMARY	11	600000	1200000	57	57	146	10	127	127	49	4724	9449	24490	36.91	73.82	191.33
EDW_BDC_PROD_DETAIL	9	10000000	20000000	72	72	2114	2	109	109	3	91743	183486	6666667	716.74	1433.48	52083
EDW_BDC_WAFER_SCRAP	6	5000	10000	21	21	84	5	363	363	86	14	28	116	0.11	0.22	0.91
EDW_DC_ITEM	9	64	100	27	27	183	10	268	268	39	3	3	3	0.02	0.02	0.02
EDW_ERRORLOG	6	0	10000	76	76	4092	2	104	104	2	3	96	5000	0.02	0.75	39.06