

Data Inconsistency in the Cube and Aggregate



Applies to:

SAP BW 3.5 & BI 7.0. For more information, visit the [Business Intelligence homepage](#).

Summary:

A query, which reads data from aggregates, sometimes displays incorrect data. The data is correct if aggregates are not used. You want to check the reason for this.

In short the scenario is, when you have a report in two different views, one summary view & the other one is detail view, based on the Cube and the aggregate is built over that cube. While you are running the summarized & detail reports, value for one of the key figure is not matching for those two reports.

This Article will explain you how to approach to such problem.

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Author Bio



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Scenario

Many times you come across a situation where the data in the cube is not in sync with the aggregate that you have defined on that cube; as a result you won't be able to see the valid data in the report. So, I would like to suggest a solution approach on such problem.

Lets assume that, we had a issue that has come in relating to discrepancy between the rebate balance amounts on the report header versus the balance on the detailed report (drill-down). This is on the Financial Checkbook report for Fiscal Year 2009/ Rebate: 23672, the aggregated value does not match up to the checkbook detailed balance (when we drill down on it). **\$460** is the right number, which corresponds to balance amount reflected in the ECC system for the rebate. There is a **\$1200** discrepancy in the Rebate Balance column. (See below Red mark).

Summary Report :(Wrong value (\$1,660) read from aggregate)

The screenshot shows the SAP Financial Checkbook interface. The 'Financial Checkbook (Revised)' report is displayed. The table below shows the summary data for Rebate Type ZC22, NACC Old Bay/GD % with Rebate Number 23672, 09 OBGD LIPARI FOODS. The 'VARIANCE' column shows a value of 1,660, which is circled in red to indicate it is incorrect.

Rebate Type	Rebate Number	ACCRUALS	ACCRUAL	EXPENSES	VARIANCE	
		Earned Actual (\$)	FSS Adj Net + / - (\$)	Settled Trade Promotions (\$)	Rebate Balance (\$)	
ZC22	NACC Old Bay/GD % 23672	09 OBGD LIPARI FOODS	3,556	604	2,500	1,660

Detailed Report. (Correct value (\$460) read from Cube)

The screenshot shows the SAP Financial Checkbook Detailed Report for the same rebate. The 'Checkbook Detail (Revised)' report is displayed. The table below shows the detailed breakdown of the rebate balance, with the final 'Result' row circled in red to show the correct value of 460.

Rebate Type	Rebate Number	Sold To	Billing document	Billing doc. date	ACCRUALS	ACCRUAL	EXPENSES	VARIANCE			
					Earned Actual (\$)	FSS Adj Net + / - (\$)	Settled Trade Promotions (\$)	Rebate Balance (\$)			
ZC22	NACC Old Bay/GD %	23672	09 OBGD LIPARI FOODS	50067793	LIPARI FOODS INC	70486356	02/23/2009	-175	-175		
						91625946	12/08/2008	172	172		
						91632171	12/15/2008	195	195		
						91652411	01/12/2009	434	434		
						91666424	01/26/2009	172	172		
						91680581	02/09/2009	100	100		
						91693896	02/23/2009	220	220		
						91701507	03/02/2009	527	527		
						91708134	03/09/2009	638	638		
						91714538	03/16/2009	236	236		
						91722325	03/25/2009		366	-366	
						91733259	04/06/2009	163		163	
						91739963	04/14/2009		180	-180	
						91752598	04/27/2009	205		205	
						91753063	04/24/2009		604	604	
						91766083	05/11/2009	142		142	
						91779240	05/26/2009	166		166	
						91780510	05/27/2009		1,384	-1,384	
						91780511	05/27/2009		570	-570	
						91791727	06/08/2009	53		53	
						91798447	06/15/2009		1,200	-1,200	
						91798746	06/15/2009	307		307	
						Result		3,556	604	3,700	460
						Result		3,556	604	3,700	460
						Result		3,556	604	3,700	460

Analysis Detail

After some investigation we have found that the discrepancy is caused by the aggregate. The summary report uses the aggregate which is missing a record that exists in the cube. We have identified the request that the record belongs to and it is rolled up in the aggregate...one record is missing in aggregate.

Cube V/s Aggregate by Request id:

Data record (\$1200-) present in the Cube.

"ZCP_C30", List output

Request ID	OKNART	ZREBATE	ZREB_TYP	Sold-to party	ZSOLD_TO	ZKRUEK	ZOBILLTYP	ZFISCPER3	OFISCPER3	..._CURRCY	ZKWAEH	ZKNVAL	ZKNVALCC	ZRATE
DTPR_4E4WM34XSOMZWQDV6ZBZAPYCD	ZD01	0000023672	ZC22	0050067793	0050067793		ZCB3	5	7	USD	USD	1,200.00-	1,200.00-	0.00
DTPR_4E4WM34XSOMZWQDV6ZBZAPYCD	ZD01	0000023672	ZC22	0050067793	0050067793	X	ZF2	7	7	USD	USD	245.88-	245.88-	1,008.00-
DTPR_4E4WM34XSOMZWQDV6ZBZAPYCD	ZD05	0000023672	ZC22	0050067793	0050067793	X	ZF2	7	7	USD	USD	61.48-	61.48-	252.00-

Data Record value (\$1200-) missing in Aggregate (100098) for the same Request Id & Rebate Numb.

"100098", List output

Request ID	OKNART	ZREBATE	ZREB_TYP	ZKRUEK	ZOBILLTYP	ZFISCPER3	..._CURRCY	ZKWAEH	OFACCTCOUNT	ZKNVAL	ZKNVALCC	ZRATE
DTPR_4E4WM34XSOMZWQDV6ZBZAPYCD	ZD01	0000023672	ZC22	X	ZF2	7	USD	USD	21	245.88-	245.88-	1,008.00-
DTPR_4E4WM34XSOMZWQDV6ZBZAPYCD	ZD05	0000023672	ZC22	X	ZF2	7	USD	USD	21	61.48-	61.48-	252.00-

Corrective Procedure Approached

1. We have deleted and rebuilt the aggregate numerous times by
 - a. Including the new characteristics/NavAttributes which were not present in the existing aggregate.
 - b. Excluding the present characteristics/NavAttributes from the existing characteristic but the problem still persist.
2. We have created a copy of the existing aggregate (100098) through the Program (RSDDK_AGGRCOMP_COPY) & fill the new aggregate by program (RSDDK_AGGREGATE_DIRECT_FILL). We Checked data in new aggregate but the same data issue was observed in the new aggregate also.

New Aggregate.

Template for Aggregates	Technical ...	Aggregates	Technical Name	S.	P.	S.	F.	A.	Hierarchy	H.
CRM Rebate Summarie:		Accrual Checkbook	100098							
Rebate	ZCP_C301	Properties								
Customer	ZCP_C302	Rebate	ZCP_C301							
Material	ZCP_C303	Customer	ZCP_C302							
Sales Area	ZCP_C304	Sales Area	ZCP_C304							
Miscellaneous	ZCP_C305	Miscellaneous	ZCP_C305							
Mkt Element	ZCP_C306	Mkt Element	ZCP_C306							
Broker	ZCP_C307	Broker	ZCP_C307							
Date	ZCP_C308	Plan Time	ZCP_C309							
Plan Time	ZCP_C309	Time	ZCP_C30T							
Posting Period	ZCP_C30A	Accrual Checkbook Copy of Cube	100103							
Global Broker	ZCP_C30B	Properties								
Time	ZCP_C30T	Rebate	ZCP_C301							
		Customer	ZCP_C302							
		Sales Area	ZCP_C304							
		Miscellaneous	ZCP_C305							
		Mkt Element	ZCP_C306							
		Broker	ZCP_C307							
		Plan Time	ZCP_C309							

3. Check the inconsistent aggregate: We use the report RSDDK_CHECK_AGGREGATE or the transaction RSDDAGGRCHECK to 'see' the wrong data (please refer provided temporary table /bi0/01... given in the log).

SE11

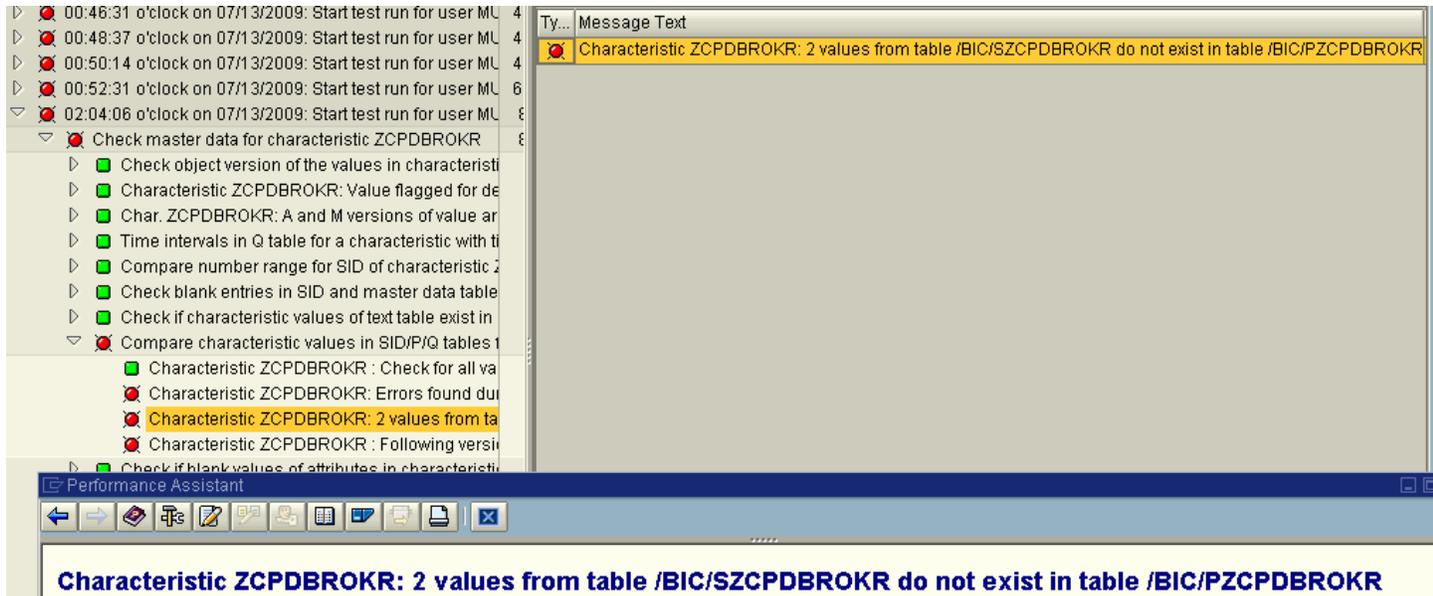
Dictionary: Display Table

Field	Key	Initi...	Data element	Data Ty...	Length	Deci...	Short Description	Group
CHAVL	✓	✓		CHAR	10		0ZCPDBROKR_ZBRK_MAST	

We got the navigational attributes which were present in the aggregate.

4. Check the view RSDDAGGR_V in transaction SE16 to look for NavAttributes and/or hierarchies used in the aggregate (they may be responsible for the wrong data):
 - a. In case the aggregate contains any navigational attributes: Please find out whether the problem occurs after these attributes have been removed as well. If not, please check the characteristic, which contains the NavAttribute, in transaction RSRV ('All Combined Tests' -> 'Master Data').
 - b. In case the aggregate contains a hierarchy: Please remove the hierarchy. If the aggregate turns out to be consistent without the hierarchy, please clear the hierarchy from the buffer by activating the hierarchy (all aggregates using this hierarchy must be refilled again) and delete the temporary /BIO/02... Table. (In our case, there was no hierarchy use in the report).

We got following test failures after running the RSRV to the characteristic ZCPDBROKR which were using NavAttributes ZCPDBROKR__ZBRK_MAST in the existing aggregate.



- c. Then we corrected this error by repairing these inconsistencies of ZCPDBROKR characteristic in RSRV. All aggregated that were using these characteristic were deactivated. As you see above error, 2 values from /BIC/SZCPDBROK do not exist in the table /BIC/PZCPDBROKR .Hence it realigned all the related backend table of ZCPDBROKR characteristic viz. /BIC/PZCPDBROKR, /BIC/SZCPDBROK, /BIC/XZCPDBROK after the repairing of this object.

Analysis and Repair of BI Objects

Execute Display Correct Error Delete Help

Tests in Transaction RSRV
 All Elementary Tests
 All Combined Tests
 Master Data
 Check Master Data for a Characteristic
 Transaction Data
 Hierarchies
 Database
 Aggregates
 BI accelerator
 Query
 System Information

Check master data for characteristic ZCPDBROKR

Master Data Changes Influence Aggregates

The following tables must be reconstructed for ZCPDBROKR:
 ('X' = Yes, " = No).
 o X table 'X'
 o Y table "

As a result, the data in aggregates with this characteristic is invalid. These aggregates are deactivated.

Execute Corrections?

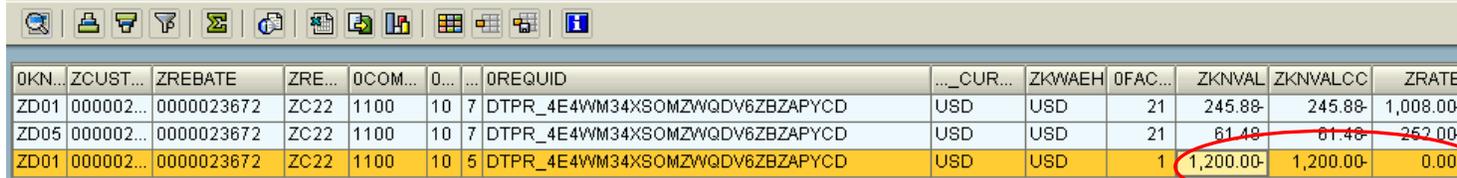
Yes No Info

Carry out the deletion of all DDIC objects (9) PB1 (5) (230) BW23 INS

- d. After that we have activated and filled the aggregate (100098) again. We got the correct value after checking data in the aggregate 100098.

Correct value (\$1200-) in the aggregate (10098) now.

"100098", List output



DKN...	ZCUST...	ZREBATE	ZRE...	DCOM...	D...	...	0REQUID	..._CUR...	ZKWAEH	0FAC...	ZKNVAL	ZKNVALCC	ZRATE
ZD01	000002...	0000023672	ZC22	1100	10	7	DTPR_4E4WM34XSOMZWQDV6ZBZAPYCD	USD	USD	21	245.88-	245.88-	1,008.00
ZD05	000002...	0000023672	ZC22	1100	10	7	DTPR_4E4WM34XSOMZWQDV6ZBZAPYCD	USD	USD	21	61.48	61.48-	252.00
ZD01	000002...	0000023672	ZC22	1100	10	5	DTPR_4E4WM34XSOMZWQDV6ZBZAPYCD	USD	USD	1	1,200.00-	1,200.00-	0.00

More Information Required

Still, if you stuck with the problem you can carry out following below analysis.

1. Are the aggregate-builds done in blocks? (Table RSADMINC: parameter 'BLOCK_SIZE', see note 653469). You can also use the "pre-analysis" feature - transaction RSDDV, button (Vice-Button). If possible, check whether the usage of blocks has an impact on your issue.
2. Please try to keep the data volume low in case of BIG aggregates (e.g. the aggregate check cannot be carried out due to memory problems, in general the analysis gets much more time consuming). It's helpful to add restrictions of unsuspecting characteristics to the aggregate definition to reduce the data volume. Furthermore, an aggregate definition, which isn't too complex (no nav. attributes, no hierarchies), eases the analysis.
3. In addition the following information might be helpful:
 - a) Are the aggregates compressed?
 - b) Are noncumulative or non-summable (max or min) key figures used in the cube?

Conclusion:

Hence, a problem was due to discrepancies of master data backend table, after repairing the object all the related tables were realigned and error was resolved.

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