Qubix

Using Aggregates and Combining Data Sources in OBIEE

Žiga Vaupot Senior Consultant







About Qubix



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About me

- 20+ Years in IT
- 10 years working for Oracle, 4 years CIO
- MSc. in Economy, BSc. in IT
- Senior Consultant for Business Intelligence solutions
- Major work area today is Business Intelligence, currently investigating BI Cloud Services, and focusing in Data Science and Machine Learning



Qubix @ HROUG 2015

Šta	Tko	Gdje	Kada
Korištenje agregata i kombiniranje izvora podataka u Oracle Bl	Žiga Vaupot	Dv 5 Apartmani	srijeda, 14. listopad 2015., 09:00
Priprema i implementacija Karte pogleda u Oracle Bl	Žiga Vaupot	Dv 5 Apartmani	srijeda, 14. listopad 2015., 10:00
Planiranje i budžetiranje Cloud usluge!	Andrew Mason	Dv 4 Mali klub	srijeda, 14. listopad 2015., 15:00
Sklad Oracle Cloud za EPM i BI su: Baxters recepti za uspjeh	Andrew Mason	Dv 5 Apartmani	četvrtak, 15. listopad 2015., 12:30



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Aggregate Fact Tables or Cubes

• Aggregate fact tables are simple numeric rollups of atomic fact table data built solely to accelerate query performance. These aggregate fact tables should be available to the BI layer at the same time as the atomic fact tables so that BI tools smoothly choose the appropriate aggregate level at query time. This process, known as aggregate navigation, must be open so that every report writer, query tool, and BI application harvests the same performance benefits. A properly designed set of aggregate fact tables contain foreign keys to shrunken conformed dimensions, as well as aggregate facts created by summing measures from more atomic fact tables. Finally, aggregate OLAP cubes with summarized measures are frequently built in the same way as relational aggregates, but the OLAP cubes are meant to be accessed directly by the business users.

Source:

http://www.kimballgroup.com/data-warehouse-business-intelligence-resources/kimball-techniques/dimensional-modeling-techniques/aggregate-fact-table-cube/

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Agenda

- Aggregates in OBIEE
- Simplify Aggregates Management with Aggregate Persistence Wizard
- Vertical Federation Drill from Multi-Dimensional to Relational
- Ive demo between the lines





Agenda

Aggregates in OBIEE

- Simplify Aggregates Management with Aggregate Persistence Wizard
- Vertical Federation Drill from Multi-Dimensional to Relational
- ... live demo between the lines





Data schema to start with





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Business Model





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Let's now create a simple query

	Tide 🛛 🖓 🌽	×
	simple table	
Selected Columns	Table 🛛 🖓 🖉	×
Double click on column names in the Subject Areas pane to add them to the analysis. Once added, drag-	-and-drop columns to reorder	
	Customer Segment Department Brand Year Sales Revenue Units So	bld
Customers Offices Products Time Sales	Active Singles Assembled Dept. BizTech 2009 804	85
🗏 Customer Segment \Xi 🗏 Department 🚍 🗏 Brand 🚝 🗏 Year 🚍 📑 Sales Revenue 🚍	2010 86,960 8,10	.03
Se costante seducte de Se sebaranene de Se stand de Se tear de Se sares revende de	2011 93,069 7,60	66
	2012 83,620 7,02	84
	FunPod 2009 1,166 9	90
	2010 79,244 6,00	63
	2011 91,051 6,33	88
	2012 120,130 8,8, Hamplinu 2000 822	2/
∠ Filters	2009 022 2010 89 128 8 20	84
Add filters to the analysis criteria by clicking on Filter option for the specific column in the Selected Column	ns pane, or by clicking on the	27
nda melo lo ale analysis entena sy cleang off mel opasition ale specific coaminin ale selected coamin	2012 69,219 4,5	13
	Entertainment Dept. BizTech 2009 2,595 2	56
	2010 185,458 17,50	69
	2011 232,894 19,1-	41
	2012 200,775 16,50	68
	FunPod 2009 2,738 19	97
	2010 159,927 12,70	80
	2011 151,263 10,44	66
	2012 166,098 12,83	33
	HomeView 2009 2,475 2	74
	2010 190,845 17,0	75
	2011 142,085 10,85	80
	2012 148,763 10,12 Equipment Dept RisTech 2000 2,044 11	06
		90
	습 년 년 🤣 Kows 1 - 25	

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SQL generated

```
WITH SAWITHO AS (select sum(T4535.UNITS) as c1,
           sum(T4535.REVENUE) as c2,
           T4488.SEGMENT DESC as c3,
           T4510.DEPARTMENT as c4,
           T4522.BRAND as c5,
           T4563.PER NAME YEAR as c6,
           T4510.DEPT_KEY as c7,
           T4522.BRAND KEY as c8,
           T4488.SEGMENT KEY as c9
From SAMP TIME DAY D T4563 /* D Time */ ,
           SAMP PRODUCTS D T4522 /* D Products */ ,
           SAMP_OFFICES_D T4510 /* D_Offices */ ,
           SAMP CUST SEGMENTS D T4488 /* D Customer segments */ ,
           SAMP_CUSTOMERS_D T4491 /* D_Customers */ ,
           SAMP REVENUE F T4535 /* F Revenue */
where (T4488.SEGMENT KEY = T4491.SEGMENT KEY and T4491.CUST KEY = T4535.CUST KEY
and T4510.OFFICE_KEY = T4535.OFFICE_KEY
and T4522.PROD KEY = T4535.PROD KEY
and T4535.ORDER_DAY_DT = T4563.CALENDAR_DATE )
group by T4488.SEGMENT_DESC, T4488.SEGMENT_KEY, T4510.DEPARTMENT, T4510.DEPT_KEY,
T4522.BRAND, T4522.BRAND KEY, T4563.PER NAME YEAR)
select ...
```

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Create Aggregates

create table samp_revenue_f_agg as select p.brand key, s.segment key, o.org key, t.per name month, sum(f.revenue) revenue, sum(f.units) units, sum(f.cost fixed) cost fixed, sum(f.cost_variable) cost_variable, count(f.ORDER NUMBER) orders from samp revenue_f f, samp_products_d p, samp customers d c, samp cust segments d s, samp offices d, samp time day d t where p.prod_key = f.prod_key and s.segment_key = c.segment_key and c.cust_key = f.cust_key and o.office key = f.office key and t.calendar date = f.order day dtgroup by p.brand_key, s.segment_key, o.org_key, t.per_name_month order by p.brand_key, s.segment_key, o.org_key, t.per name month;

create table samp_time_day_d_agg as select distinct d.per_name_month, d.per_name_qtr, d.per_name_half, d.per_name_year from SAMP_TIME_DAY_D d group by d.per_name_month, d.per_name_qtr, d.per_name_half, d.per_name_year order by 4,3,2,1;

create table samp_products_d_agg as select distinct p.brand, p.brand_key from SAMP_PRODUCTS_D p group by p.brand, p.brand_key order by p.brand, p.brand_key;

create table samp_customers_d_agg as select distinct s.segment_key, s.segment_desc from samp_cust_segments_d s order by s.SEGMENT_KEY, s.SEGMENT_DESC;

create table samp_offices_d_agg as select distinct o.organization, o.org_key, o.company, o.company_key from SAMP_OFFICES_D o group by o.organization, o.org_key, o.company, o.company_key order by o.organization, o.org_key, o.company, o.company_key;

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Import AGG tables into RPD



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Bring Base and AGG tables together



Perived from physical mappings ✓ Show all logical sources	
Logical Table Source	Mapped as
J_Customers	"SIOUG".""."SIOUG"."D_Customer_segments"."SEGMENT_KEY"
D_Customers_AGG	"SIOUG".""."SIOUG"."D_Customers_AGG"."SEGMENT_KEY"

ogical Table Source - F_Rever	nue_AGG
General Column Mapping Co	ontent Parent-Child Settings
Aggregation content, group by	/ Logical Level
Show mapped	Show unmapped
Logical Dimension	Logical Level
Logical Dimension H Products	Logical Level
Logical Dimension H Products H Customers	Logical Level Brand Customer Segment
Logical Dimension H Products H Customers H Time	Logical Level Brand Customer Segment Month
Logical Dimension H Products H Customers H Time H Offices	Logical Level Brand Customer Segment Month Organization X

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Bring Base and AGG tables together



	-
ieneral Column Mapping (Content Parent-Child Settings
Aggregation content, group b	y Logical Level
Show mapped	Show unmapped
Show mapped 🔽	Show unmapped Logical Level
Show mapped Show mapped Icogical Dimension H Products	Show unmapped Logical Level Brand
Show mapped Iveral Content of the second s	Show unmapped Logical Level Brand Customer Segment X
Show mapped Iveral Dimension H Products H Customers H Time	Show unmapped Logical Level Brand Customer Segment Month X

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Selected Columns Double click on column names in the Subject Areas pane to add them to the analysis. Once added, drag-and-dron columns to r Dim Customers Dim Offices Dim Products Dim Time Fact Sales 🗐 Customer Segment 🚍 🗐 Organization 🗮 📄 Brand 🗮 🗐 Year 🗮 📑 Sales Revenue 🗮 📑 Units Sold 🗮 Customer Segment Organization Year Sales Revenue Units Sold Brand 640 Active Singles Franchises Org. BizTech 2009 6,135 260,110 24,053 2010 2011 244,497 20,699 2012 262,760 21,548 EunPod 2009 3,129 259 2010 218,581 17.301 2011 259,301 18.691 2012 262,076 19.341 HomeView 2009 3,171 306 2010 228.522 20.862 2011 235,851 18,186 2012 187,867 13,905 Inbound Org. BizTech 2009 6,736 661 2010 448.882 43,448 2011 514,007 43,288 2012 452.865 37.248 FunPod 6,921 512 2009 2010 355.974 28,733 2011 349,460 24,866 2012 398.007 30,702 5,761

HomeView 2009

International Org. BizTech 2009

🗛 🏠 🕹 🛐 Rows 1 - 25

2010

2011

2012

704

41,016

29,350

24,708

443

443,140

369,992

359,044

4,398

WITH SAWITHO AS (select sum(T5346.UNITS) as c1, sum(T5346.REVENUE) as c2, T5337.SEGMENT DESC as c3, T5340.ORGANIZATION as c4, T5343.BRAND as c5, T5355.PER NAME YEAR as c6, T5337.SEGMENT KEY as c7, T5340.ORG KEY as c8, T5343.BRAND KEY as c9from SAMP TIME DAY D AGG T5355 /* D Time AGG */ , SAMP PRODUCTS D AGG T5343 /* D Products AGG */ , SAMP OFFICES D AGG T5340 /* D Offices AGG */ , SAMP CUSTOMERS D AGG T5337 /* D_Customers_AGG */ , SAMP REVENUE F AGG T5346 /* F Revenue AGG */ where T5337.SEGMENT KEY - T5346.SEGMENT KEY and T5340.ORG KEY = T5346.ORG KEY and T5343.BRAND KEY = T5346.BRAND KEY and T5346.PER NAME MONTH = T5355.PER NAME MONTH) group by T5337.SEGMENT DESC, T5337.SEGMENT KEY, T5340.ORGANIZATION, T5340.ORG KEY, T5343.BRAND, T5343.BRAND KEY, T5355.PER NAME YEAR) ...

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What happens if you drill down?

Customer Segment	Organization	Brand	Year Sales Rev	/enue U	nits Sold		Customer Segment	Organization	Department	Brand	Vear	Sales Devenue	Unite Sold	
Active Singles	Franchises Org.	BizTech	2009	6,135	640		Active Singles	Eranchises Org	Operations Dept	BizTech	2000	3 282	300	
			2010 26	0,110	24,053		Active olingies	rianchises org.	operations bept.	DIZTECT	2005	166 857	15 033	
			2011 24	4,497 2 760	20,699						2010	157.048	13 132	
		FunPod	2009	3,129	259						2011	180 825	14 802	
			2010 21	8,581	17,301					FunPod	2009	1.934	149	
					\					r ann oa	2010	141,740	10,720	
		Homolijou									2010	111/7 10	10//20	
		nomeview	2010 22	8.522	20,862				WITH SAWIT	HO AS	(s	elect su	m(T45	35.UNITS) as c1,
			2011 23	5,851	18,186				sum (T4535	REVEN	UE)	as c2	Т	4488 SEGMENT DESC as c3
			2012 18	7,867	13,905				T4E10 DDDA		оц, т.,	as c2,	- 	100.0000000000000000000000000000000000
	Inbound Org.	BizTech	2009	6,736	661				14510.DEPA	RIMEN	1 a	s C4,	145	IU.ORGANIZATION as CS,
			2010 44	0,002 4.007	43,288				T4522.BRAN	D as	с6,	Т45	63.PE	R_NAME_YEAR as c7,
			2012 45	2,865	37,248				T4488.SEGM	ENT_K	EY a	as c8,	Т4	510.DEPT_KEY as c9,
		FunPod	2009	6,921	512			L I	T4522 BRAN	D KEY	as	c10		
			2010 35	5,974	28,733				f		пти		m/EC2	
			2011 34	9,460	24,866				rom	SAMP_	TIM	E_DAI_D	14565	/ ^ D_11me
		HomeView	v 2009	5,761	704				SAMP_PRODU	CTS_D	Т4.	522 /* D	_Prod	ucts */ ,
			2010 44	3,140	41,016				SAMP_OFFIC	ES_D	T45	10 /* D_	Offic	es */ ,
			2011 36	9,992	29,350				SAMP CUST	SEGME	NTS	D T4488	/* D	Customer segments */
	International Org	BizTech	2012 35	9,044	24,708					MEDO		 1101 /*	D Curr	_ouscomesegments , ,
L		Rows	1 - 25	1,000	115				SAMP_CUSTU	MERS_	<u>р</u> т	4491 /~	D_Cus	comers ~/ ,
	uru 🗸	<u> </u>	1 25						SAMP_REVEN	UE_F	T45	35 /* F_	Reven	ue */ where (
									T4488.SEGM	ENT_K	EY :	= T4491.	SEGME	NT_KEY and T4491.CUST_KEY
								Inbound Org.	= T4535.CU	ST_KE	Y a	nd T4510	.OFFI	CE_KEY = T4535.OFFICE_KEY
								Inboaria orgi	and T4522.	PROD_	KEY	= T4535	.PROD	KEY and
						L			T4535.ORDE	R DAY	DT	= T4563	.CALE	NDAR DATE) group by
									T//88 SECM	ם דאים	_ F < C	T1188	SECME.	$\underline{-}$, $\underline{-}$, $\underline{-}$, $\underline{-}$
									14400.5EGM			, 14400.		TON THE TO ODE ANTHENT,
									T4510.DEPT	_KEY,	14	510.ORGA	NIZAT	ION, T4510.ORG_KEY,
									T4522.BRAN	D, T4	522	.BRAND_K	ΕΥ, Τ	4563.PER_NAME_YEAR),
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Agenda

- Aggregates in OBIEE
- Simplify Aggregates Management with Aggregate Persistence Wizard
- Vertical Federation Drill from Multi-Dimensional to Relational
- Ive demo between the lines





Aggregate Persistence Wizard (1)

tilities	_ _ X
Replace Column or Table in Logical Table Sources Oracle BI Event Tables Externalize Strings Rename Wizard Update Physical Layer Repository Documentation Generate Metadata Dictionary Remove Unused Physical Objects Aggregate Remistence Generate Deployment File Convert Presentation Folders Generate Logical Column Type Document Compare Logical Column Types	Execute Cancel Help

regate Persistence - Select File Loca	tion		>
1 Select File Location	Use this wizard to ge When executed aga created in the metac	enerate logical SQL scripts for creating aggrega inst a running server, these aggregates will be a lata, as well as in the database. For more inform	tes in the Oracle BI Server. automatically mapped and ation about accredate
2 Select Business Measures	persistence, click He	the output script will be saved:	
3 Select Levels	opoony a no minio		
4 Select Connection Pool	Name:	create_agg_w_apw.sql	
5 Finish	Location:	D:\sioug	Browse
6 Finish Script	Generate DDL	in a separate file	
Help	1	Back Next	Finish Cancel

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Aggregate Persistence Wizard (2)

regate Persistence - Select Business	Measures	
1 Select File Location	Select the measures on which you want to aggregate. Select a business model:	View Scrip
2 Select Business Measures		
3 Select Levels	🕼 Sales 🕼 Sales Essbase	
4 Select Connection Pool	Sales Federated SIOUG Business Model	
5 Finish	SIOUG Business Model AGG SIOUG Business Model PAW	
6 Finish Script		
	Select measures or a fact table:	
	Fact Sales Sales Revenue Sales Revenue Vhits Sold Sold Vised Costs Vanable Costs # of Orders	
Help	Back Next Fin	ish Cancel

regate Persistence - Select Levels			_ 🗆
1 Select File Location	Select the dimension levels of	aggregation you want to use:	View Scrip
2 Select Business Measures	Logical Dimension	Logical Level	Use Surrogate Key?
3 Select Levels	H Customers	Customer Segment	Γ
J JEIECE LEVEIS	H Offices	Company	Γ
Select Connection Pool	H Products	Brand	
	H Time	Year	Π
5 Finish			
Finish Script			
Help	•	Back Next	Finish Cancel

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Aggregate Persistence Wizard (3)

egate Persistence - Select Connec	tion Pool	_
1 Select File Location	Select a location for the aggregate table:	View Sc
2 Select Business Measures	Batters Essbase SIOUG	
3 Select Levels	Baxters XML	
4 Select Connection Pool	Catalog / Schema	
5 Finish	GG Tables	
6 Finish Script	Base Tables	
	Connection Pool	
	🗟 Demo Conn Pool	
	Aggregate Table Name	
	ag_Fac(_Sales	
Help	Back Next	Finish Cance

gregate Persistence - Finish	_ 0
1 Select File Location	The following is the logical SQL that generates the aggregate table as defined in the previous steps.
2 Select Business Measures	
3 Select Levels	"ag_Fact_Sales"
4 Select Connection Pool	for SIOUs business Model PAW - Pact Sales (Sales Revenue , Units Sole , Fixed Co at levels ("SIOUG Business Model PAW" "I customers" "Customer Segment", "SIOUG B using connection pool "SIOUG"."Demo Conn Pool"
5 Finish	n "sloug". "sloug"
6 Finish Script	
	۲
	C Define another aggregate.
	I am done.

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View the generated script

- La Computer & Land Birk (D) & view							
V V Computer + Local Disk (D:) + sloug							
Organize 🗙 📑 Open 🗶 New folder							
	<u>^</u>						
🔶 Favorites	Name	Date modified	Туре	Size			
🧾 Desktop	54.246.110.128	29.9.2015 15:05	RPD File	92 KB			
\rm Downloads	create_agg_w_apw.sql	30.9.2015 11:03	SQL File	1 KB			
🕮 Recent Places	ioug v2	30.9.2015 10:18	RPD File	103 KB			
	🖻 sioug	29.9.2015 15:08	RPD File	92 KB			
$\overline{\mathbf{\nabla}}$							
	•						

create aggregates

"ag_Fact_Sales" for "SIOUG Business Model PAW"."Fact Sales"("Sales Revenue","Units Sold","Fixed Costs","Variable Costs","# of Orders") at levels ("SIOUG Business Model PAW"."H Customers"."Customer Segment", "SIOUG Business Model PAW"."H Offices"."Company", "SIOUG Business Model PAW"."H Products"."Brand", "SIOUG Business Model PAW"."H Time"."Year") using connection pool "SIOUG"."Demo Conn Pool" in "SIOUG".."SIOUG";

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Run it using NQCMD (1)

Go to folder where NQCMD is located

C:\>cd D:\Program Files\Oracle Business Intelligence Enterprise Edition Plus Cli ent Tools\oraclebi\orahome\bifoundation\server\bin

C:∖>d:

D:\Program Files\Oracle Business Intelligence Enterprise Edition Plus Client Too ls\oraclebi\orahome\bifoundation\server\bin>dir nqcmd.* Volume in drive D has no label. -Volume Serial Number is 1E2P-5942

Directory of D:\Program Files\Oracle Business Intelligence Enterprise Edition F lus Client Tools\oraclebi\orahome\bifoundation\server\bin

24.02.2015 16:21 28.672 ngcmd.exe 1 File(s) 28.672 bytes 0 Dir(s) 12.297.543.680 bytes free

D:\Program Files\Oracle Business Intelligence Enterprise Edition Plus Client Too ls\oraclebi\orahome\bifoundation\server\bin>



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Run it using NQCMD (2)

nqcmd -d training_obiee -u weblogic -p Admin123 -s d:\sioug\create_agg_w_apw.sql -utf16

):\Program Files\Oracle Business Intelligence Enterprise Edition Plus Client 1 ls\oraclebi\orahome\bifoundation\server\bin>nqcnd -d training_obiee -u weblog: -p Admin123 -s d:\sioug\create_agg_w_apw.sql -utf16	loo ic
Oracle BI ODBC Client Copyright (c) 1997-2013 Oracle Corporation, All rights reserved	
sql script file is utf8 create aggregates	
'ag_Fact_Sales" for "SIOUG Business Model PAW"."Fact Sales"("Sales Revenue","Units Sold","Fiz Costs","Variable Costs","# of Orders") at levels ("SIOUG Business Model PAW"."H Customers"."Customer Segment", "SIOU Susiness Model PAW"."H Offices"."Company", "SIOUG Business Model PAW"."H Produ s"."Brand", "SIOUG Business Model PAW"."H Time"."Year") using connection pool "SIOUG"."Demo Conn Pool" in "SIOUG"."SIOUG" create aggregates	ked JG Lot
'ag_Fact_Sales" for "SIOUG Business Model PAW"."Fact Sales"("Sales Revenue","Units Sold","Fix Costs","Variable Costs","# of Orders") at levels ("SIOUG Business Model PAW"."H Customers"."Customer Segment", "SIOU Business Model PAW"."H Offices"."Company", "SIOUG Business Model PAW"."H Produ s"."Brand", "SIOUG Business Model PAW"."H Time"."Year") using connection pool "SIOUG"."Demo Conn Pool" in "SIOUG""SIOUG"	ked JG Jot
Statement execute succeeded Processed: 1 queries	

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Now, let's check what has happened!

- There should be changes in:
 - database where new tables should be created
 - RPD where all required objects should be created in both, physical and business, layers/models





New tables



	OLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	<pre> { COLUMN_ID } </pre>	
1	CUSTOMER_S000015B4	NUMBER	Yes	(null)	1	(null)
2	COMPANY_ID000015B7	NUMBER	Yes	(null)	2	(null)
3	BRAND_ID000015C0	NUMBER	Yes	(null)	3	(null)
4	YEAR000015C8	VARCHAR2(255 BYTE)	Yes	(null)	4	(null)
5	SALES_REVE000015CF	NUMBER	Yes	(null)	5	(null)
6	UNITS_SOLD000015D0	NUMBER	Yes	(null)	6	(null)
7	FIXED_COST000015D1	NUMBER	Yes	(null)	7	(null)
8	VARIABLE_C000015D2	NUMBER	Yes	(null)	8	(null)
9	Z_OF_ORDER000015D3	NUMBER	Yes	(null)	9	(null)

Ζ	<pre> COLUMN_NAME </pre>	DATA_TYPE	NULLABLE	DATA_DEFAULT	<pre> COLUMN_ID </pre>	
1	BRAND_000015EFSK	NUMBER	Yes	(null)	1	(null)
2	ALL_AW_LEVEL_KEY	NUMBER	Yes	(null)	2	(null)
3	BRAND000015BF	VARCHAR2(255 CHAR)	Yes	(null)	3	(null)
4	BRAND_ID000015C0	NUMBER	Yes	(null)	4	(null)



New objects in physical layer of RPD



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New objects in business model of RPD





Ok. Everything what is needed is created. But what about refreshing data?

Navigate to log folder

Location: /app/oracle/biee/instances/instance1/diagnostics/logs/OracleBIServerComponent/coreapplication obis1

Search for "BEGIN: Create Aggregates"

[2015-09-30T05:26:04.000-04:00] [OracleBIServerComponent] [TRACE:5] [USER-40] [] [ecid: 0058FE53RugFw000jzwkno0002KR00001n,0] [tid: 70497700] [requestid: fffe0002] [sessionid: fffe0000] [username: weblogic] ------- Aggregate Manager: *******BEGIN: Create Aggregates******* [[

Find log entry where data is appended to fact table ag Fact Sales ...

SET VARIABLE DISABLE CACHE HIT=1, DISABLE CACHE SEED=1, DISABLE SUMMARY STATS LOGGING=1, INACTIVE SCHEMAS='': populate "ag Fact Sales" mode (create table connection pool "SIOUG". "Demo Conn Pool") as select business model "SIOUG Business Model PAW". "Dim Customers". "Customer Segment ID" as "Customer S000015B4","SIOUG Business Model PAW"."Dim Offices"."Company ID" as "Company ID000015B7","SIOUG Business Model PAW"."Dim Products"."Brand ID" as "Brand ID000015C0", "SIOUG Business Model PAW". "Dim Time". "Year" as "Year000015C8", "SIOUG Business Model PAW". "Fact Sales". "Sales Revenue" as "Sales Reve000015CF", "SIOUG Business Model PAW". "Fact Sales". "Units Sold" as "Units Sold000015D0", "SIOUG Business Model PAW". "Fact Sales". "Fixed Costs" as "Fixed Cost000015D1", "SIOUG Business Model PAW". "Fact Sales". "Variable Costs" as "Variable Co00015D2", "SIOUG Business Model PAW". "Fact Sales"."# of Orders" as "Z of Order000015D3" from "SIOUG Business Model PAW";





If you take that part of log and modify it a bit, then you can use it in ETL process

SET VARIABLE DISABLE_CACHE_HIT=1, DISABLE_CACHE_SEED=1, DISABLE_SUMMARY_STATS_LOGGING=1, INACTIVE_SCHEMAS='': populate "ag_Fact_Sales" mode (**append** table connection pool "SIOUG"."Demo Conn Pool") as select_business_model "SIOUG Business Model PAW"."Dim Customers"."Customer Segment ID" as "Customer_S000015B4","SIOUG Business Model PAW"."Dim Offices"."Company ID" as "Company_ID000015B7","SIOUG Business Model PAW"."Dim Products"."Brand ID" as "Brand_ID000015C0","SIOUG Business Model PAW"."Dim Time"."Year" as "Year000015C8","SIOUG Business Model PAW"."Fact Sales"."Sales Revenue" as "Sales_Reve000015CF","SIOUG Business Model PAW"."Fact Sales"."Units Sold" as "Units_Sold000015D0","SIOUG Business Model PAW"."Fact Sales"."Fixed Costs" as "Fixed_Cost000015D1","SIOUG Business Model PAW"."Fact Sales"."Variable Costs" as "Variable_C000015D2","SIOUG Business Model PAW"."Fact Sales"."# of Orders" as "Z_of_Order000015D3" from "SIOUG Business Model PAW".

Where "SIOUG Business Model PAW"."Dim Time"."Year" = `2015';

- This is just example which you need of course adopt to your requirements, but that's the idea how you could setup incremental refresh.
- Of course, you would need to use some scheduler etc., but guess what,
- ³³ **□**ØBEE has one too Job Manager.



Let's test again

Selected Columns					
Double click on column names in the Subject Areas pane to add them to the analysis. Once added, drag-and-drop columns t					drop columns t WITH SAWITHO AS (select distinct T5907.Units_Sold000015D(
12	102	102		12	as c1, T5907.Sales_Reve000015CF as c2,
Dim Customers	Dim Offices	Dim Products	Dim Time	Fact Sales	T5876.Customer_S000015B3 as c3, T5883.Company000015B
	BE company		a rear		as c4, T5890.Brand000015BF as c5,
					T5897.Year000015C8 as c6, T5876.Customer S000015B4 a:
	Table			La 🖊 🗙	C7. T5883.Company ID000015B7 as c8.
					T5890 Brand $D00001500$ as c9
	Customer Seg	ment Company	Brand	Year Sales Revenue Units Sold	
	Active Singles	Genmind Corp	BizTech	2009 6,272 662	
				2010 506,717 47,866 2011 468,139 39,709	
				2012 505,950 41,637	<u>7</u> SA_Company000015EA T5883,
			FunPod	2009 4,885 391 2010 410,177 32,578	SA_Custome000015E5 T5876
				2011 451,338 31,998	ag_Fact_Sales T5907
			HomeView	2012 531,847 39,012	where (T5883.Company_ID000015B7 =
			nomenen	2010 447,235 38,746	$\frac{1}{6}$ T5907.Company ID000015B7 and T5876.Customer S000015B4 =
				2011 427,714 33,250	T5907 Customer S000015B4 and T5890 Brand ID000015C0 =
		Stockplus Inc.	. BizTech	2009 11,135 1,104	T507 Brand ID0001500 and T507 Voar0001500 -
				2010 756,426 72,370	
				2011 798,913 67,305 2012 781,786 63,987	$\frac{5}{7}$ 1590/.Year000015C8)),
			FunPod	2009 13,089 1,066	
				2010 589,838 47,287	
				2012 643,927 48,426	
			HomeView	2009 7,509 914	4
				2010 712,810 64,048	
				2012 614,796 41,870	
		Tescare Ltd.	BizTech	2009 12,290 1,233	3
		t t	V V 100		
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Continue with drill down ...





Agenda

- Aggregates in OBIEE
- Simplify Aggregates Management with Aggregate Persistence Wizard
- Vertical Federation Drill from Multi-Dimensional to Relational
- Ive demo between the lines





First findings

- The way how you bring Essbase into RPD is a bit different than in case of relational database
- Once you import it you could "almost instantly" start using it!
- When combining Essbase with other data sources, you should treat it as any other data source, like aggregates for example.
- The bottom line: Essbase is just another database!

And since it is just another database you can simply include it into your business model



Repeat this for all dimensions ...

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... for example for Dim Customers dimension



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And lat's test again	Customer Segment	Product	Month	Sales Revenue
And let s test again	Active Singles	/ Megapixel Digital Camera	2010/01	9,771
0			2010/03	12,431
elected Columns			2010/04	15,915
le dick on column names in the Subject Areas name to add them to the analysis. Once			2010/05	28,330
			2010/06	32,043
Oustomers Dim Products Dim Time Fact Sales			2010/07	35,338
			2010/08	26,555
			2010/09	21,508
			2010 / 10	28,249
			2010 / 11	14,8//
	_		2010 / 12	11,202
			2011/01	11 421
	\wedge		2011/02	15,016
· · · · · / /			2011/04	16,179
			2011/05	21,716
·			2011/06	43 051
<pre>with set [_Months5] as 'Generate([Months].Generations(2).me [Months].Generations(6), leaves))' set [_Customers2] as '[Customers].Generations(2).membe set [_Products5] as 'Generate([Products].Generations(2) [Products].Generations(5), leaves))' select { [Measures].[Gross Revenue] } on columns, NON EMPTY {crossjoin({[_Months5]},crossjoin({[_Customers]. GEN_NUMBER, [Customers].[Default], [Customers].[MEMBER_UN [Products].[Default], [Products].[MEMBER_UNIQUE_NAME] on</pre>	mbers, Descenda rs').members, Desc s2]},{[_Product IQUE_NAME], [Mc rows from [BISA	nts([Months].cu eendants([Produc .s5]}))} propert nths].[Default] MPLE.Sample]	arrents ets].co cies MM	member, urrentmembe EMBER_NAME,
Just a second. A MDX query!				
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And if I drill on a month?







Qubix after SIOUG 2015/HROUG 2015

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