

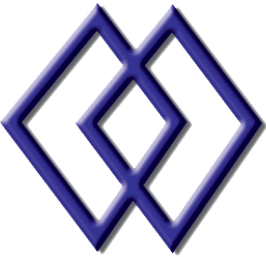


BUSINESS INTELLIGENCE **FOR A PASSIONATE COMMUNITY**

[Implementing Aggregate Awareness in SAP BusinessObjects 3.1

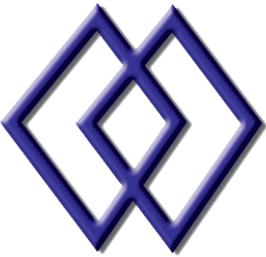
Michael Ward

Creative Technology and Training Solutions, LLC



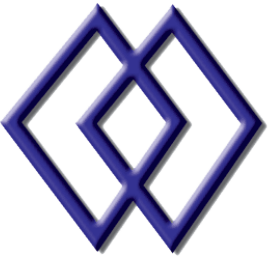
Presentation Objectives/Agenda

- ◇ The importance of Aggregate Awareness, which takes advantage of database summary tables, speeding up report queries
- ◇ Summary tables and adding them to the universe
- ◇ The @Aggregate Aware Function, how it works, and how query efficiency is improved through its use
- ◇ Redefining objects: How to apply @Aggregate Aware to the Select statement SQL
- ◇ Detecting Incompatibility and setting objects to be compatible with the Summary tables
- ◇ Testing Aggregate Awareness with the report tool



Aggregate Awareness

- ◆ What Is Aggregate Awareness?
- ◆ Summary Tables
- ◆ Use @Aggregate_Aware Function
- ◆ Detect Incompatibility
- ◆ Aggregate Awareness Testing



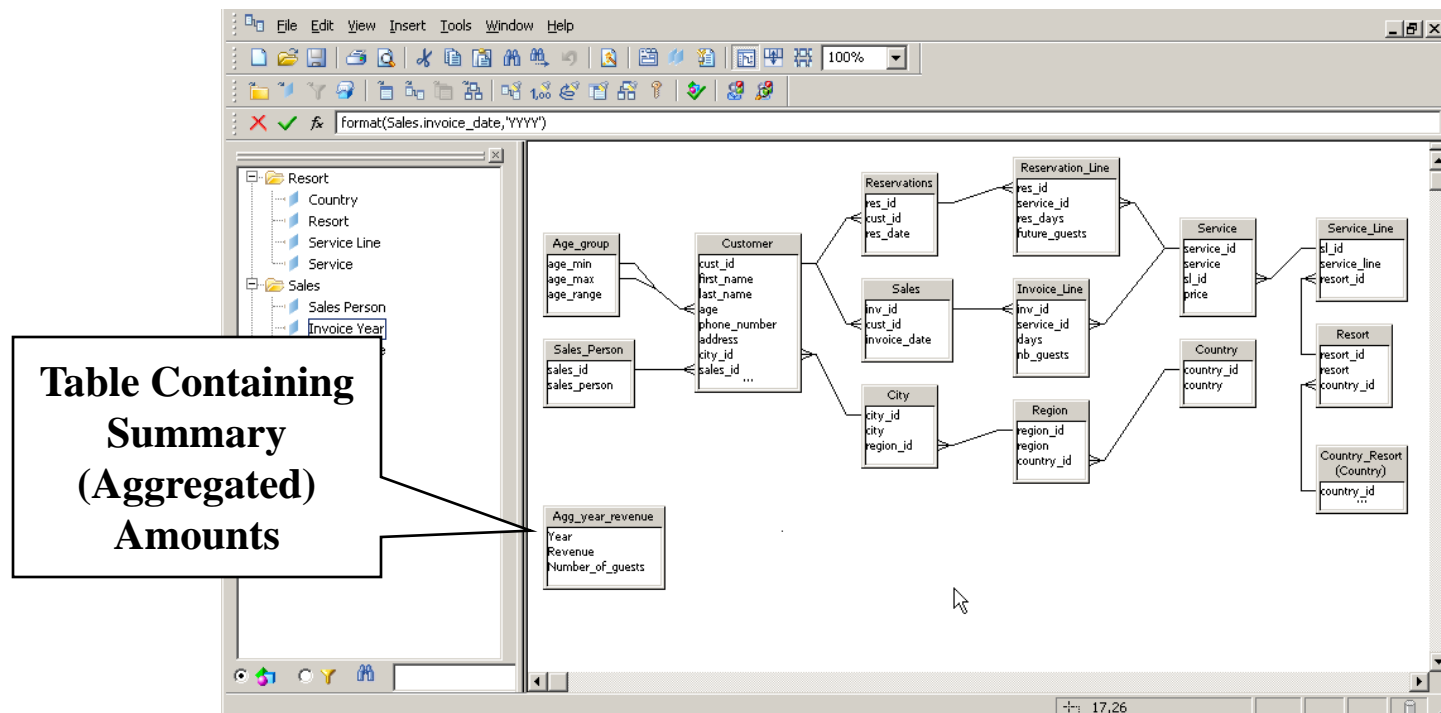
Aggregate Awareness

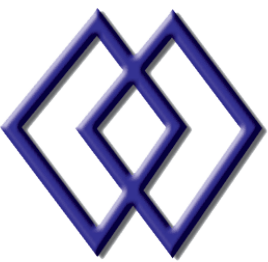
- ◆ Process That Incorporates Higher Level Aggregation (Summary Tables) into Universe
- ◆ Speeds up Queries That Contain Statistics Reported at Higher Levels (i.e. Year)

Aggregate Awareness

◆ Summary Tables

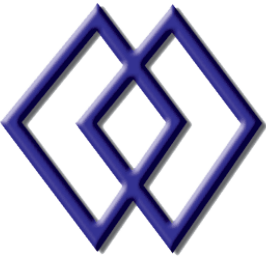
◇ May or May Not Actually Be Joined to Detail Tables in Universe





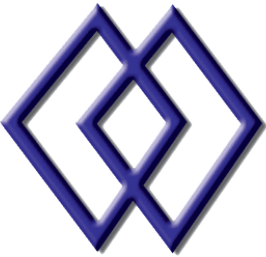
Summary Tables

- ◆ Store Data at Higher Level Than Detail (Fact) Tables
- ◆ Increase Processing Efficiency
 - ◇ Fewer Rows Retrieved
 - ◇ Few If Any Calculations Required
 - ◇ Few or No Joins



Apply Aggregate Awareness

- ◆ Insert Summary Tables into Universe
- ◆ Add Joins, Set Cardinality (If Needed)
- ◆ Redefine or Create Objects Using @Aggregate_Aware
- ◆ Define Compatible/Incompatible Objects Using Aggregate Navigation



@Aggregate_Aware

- ◆ Can Be Used with Aggregates (Measures) and Dimensions
- ◆ Selects Information from Most Aggregated to Least Aggregated (Summary to Detailed)

`@Aggregate_Aware(sum(aggregate table1),...,sum(aggregate tableN))` Defines a measure object using precalculated aggregate tables.

Apply Aggregate Awareness

◆ Redefine Objects

4. Click OK

1. Edit Object to Redefine

Last Definition for @Aggregate_Aware Function Must Be Valid for All Queries

2. Redefine Select Statement Using @Aggregate_Aware Function, Summary Column First, Detail Column Second

3. Parse to Check Syntax

5. Click OK

Apply Aggregate Awareness

◆ Defining Compatible Objects

1. Select Tools →
Aggregate
Navigation

2. Select
Summary Table

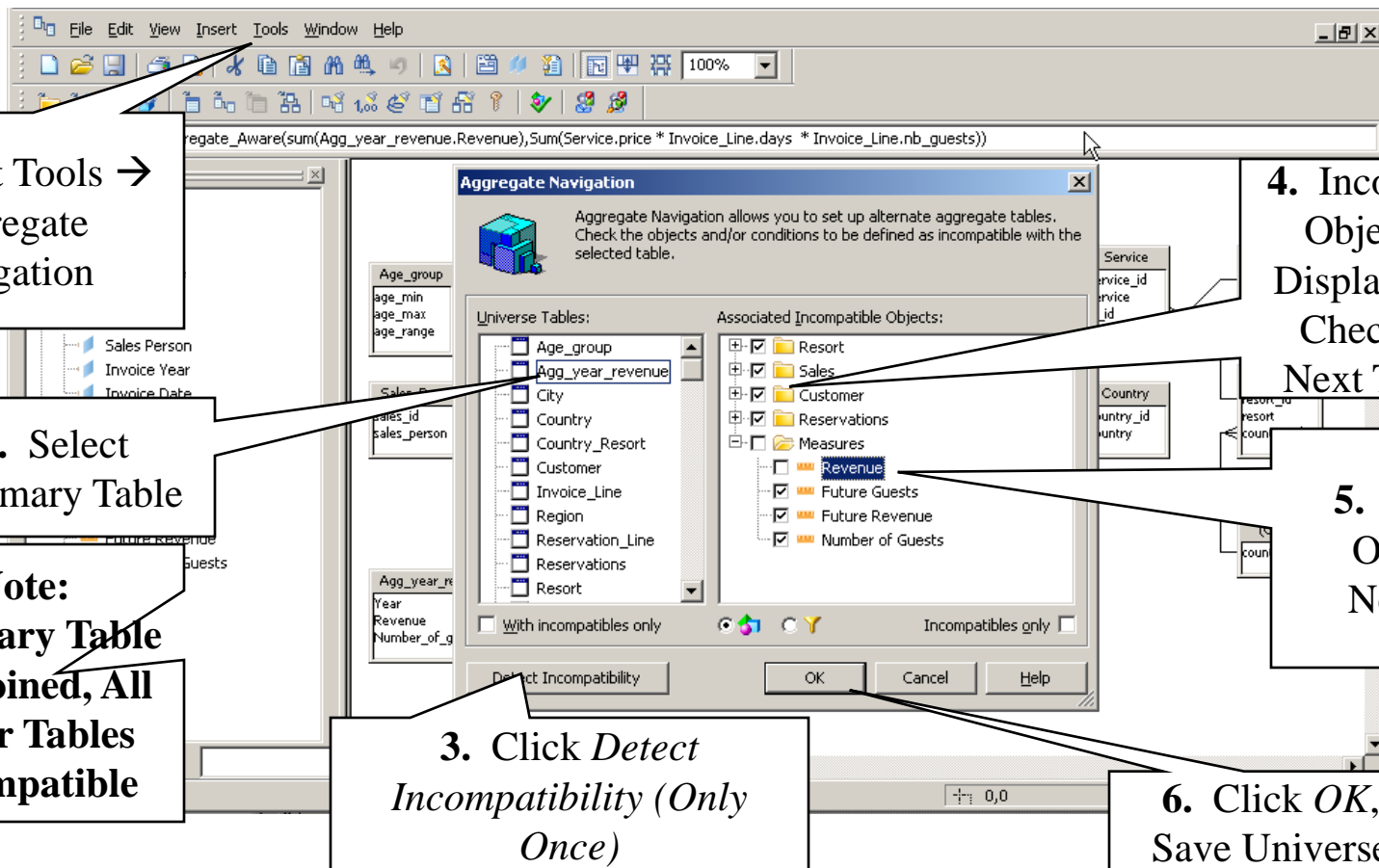
Note:
Summary Table
Not Joined, All
Other Tables
Incompatible

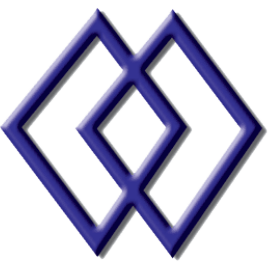
3. Click *Detect*
Incompatibility (Only
Once)

4. Incompatible
Objects Are
Displayed With
Check Mark
Next To Them

5. Uncheck
Objects if
Necessary

6. Click *OK*,
Save Universe





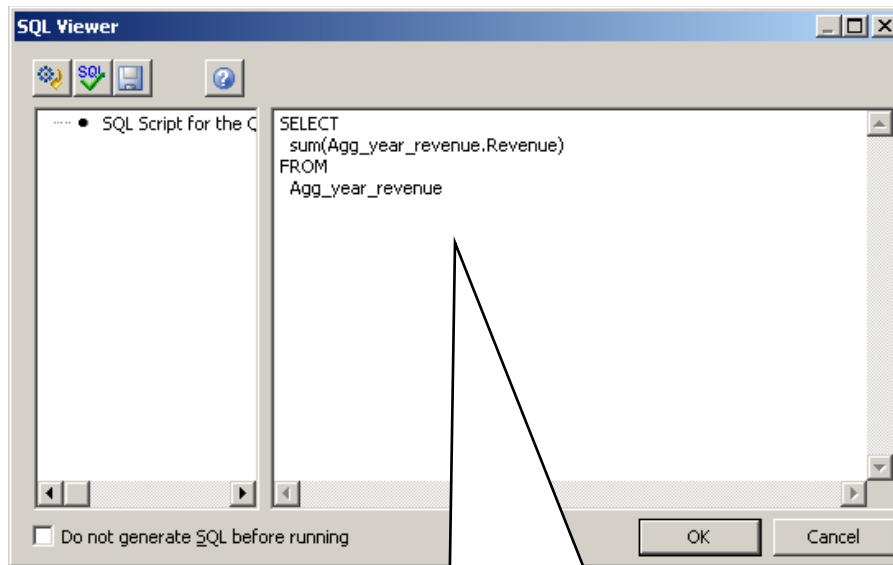
Detect Incompatibility

- ◆ Checks SQL Statement for Columns from Selected Table
- ◆ Check Incompatible Settings at least once
- ◆ Set On or Off Manually as Necessary
- ◆ Check All Necessary Tables

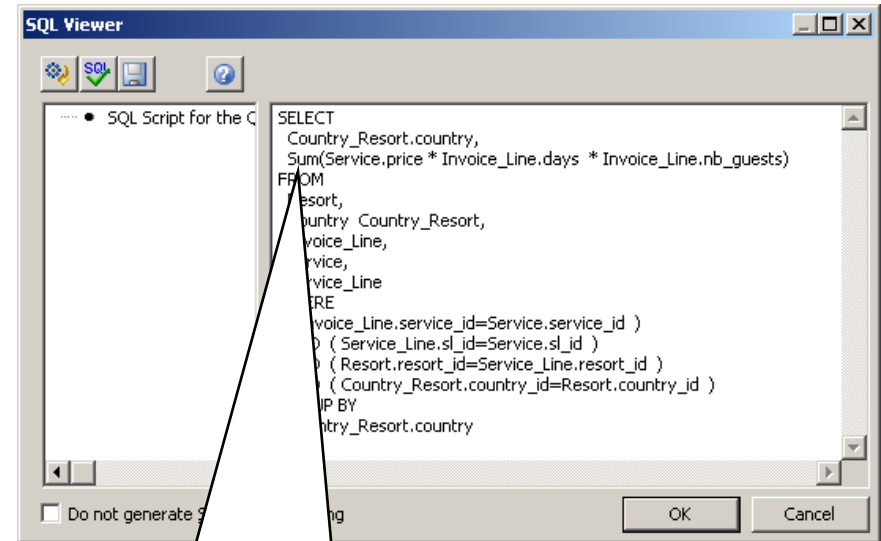


Aggregate Awareness

◆ Testing Using Desktop Intelligence™



**Only Revenue Selected,
Business Objects™ Uses
Summary Table**

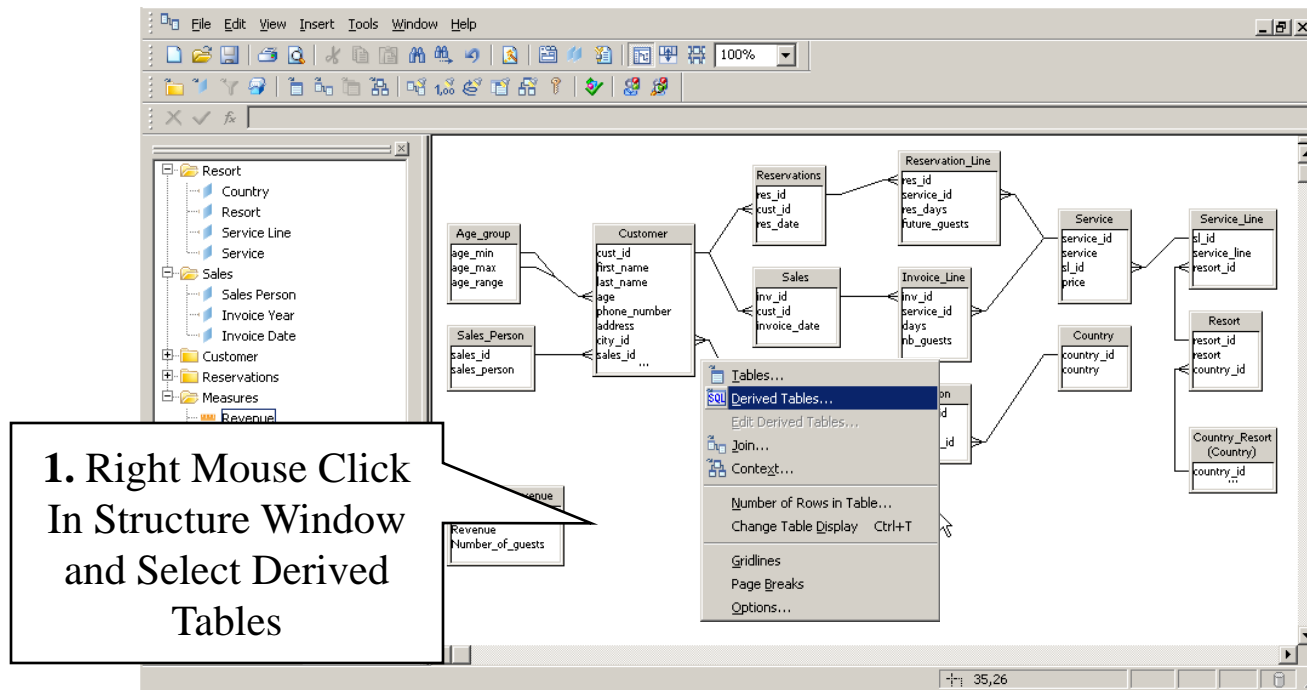


**Resort and Revenue Selected,
Business Objects™ Uses
Detail Tables**

Aggregate Awareness

◆ Derived Tables

◇ SQL Used to Create View Like Table



Aggregate Awareness

◆ Derived Tables

2. Name the Table

3. Enter the SQL or Copy SQL From File Using Copy/Paste

4. Check Syntax

5. Click OK

Derived Table: AGG_YEAR_QTR_MONTH

Enter SQL Expression:

```
SELECT
  Format(Sales.invoice_date,'YYYY') AS Year,
  'Q' + format(Sales.invoice_date,'Q') as Quarter,
  format(Sales.invoice_date,'MM') as Month,
  Sum(Service.price * Invoice_Line.days * Invoice_Line.nb_guests) as Revenue,
  Sum(Invoice_Line.nb_guests) AS Number_of_Guest
```

SQL Expression Editor

Tables and Columns:

- C:\BOClass(ClassData)\club
- Age_group
- Agg_Year_Qtr_Revenue
- Agg_year_revenue
- City
- Country

Operators:

- <
- <=
- >
- >=
- AND
- BETWEEN AND

Functions:

- Number
- Charact
- Date
- @Funct

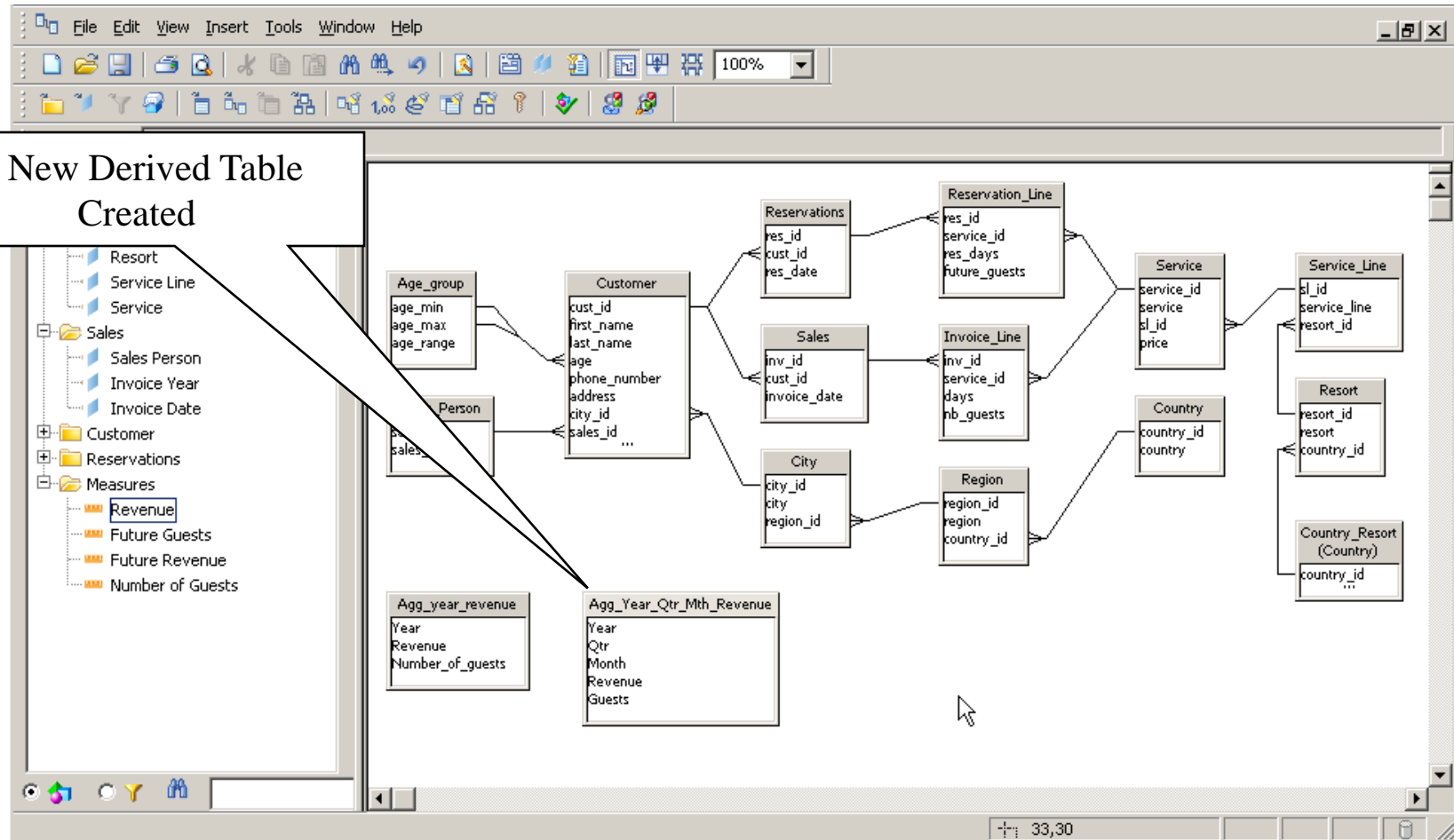
Description:

OK Cancel Help

Aggregate Awareness

◆ Adding to Aggregate Awareness

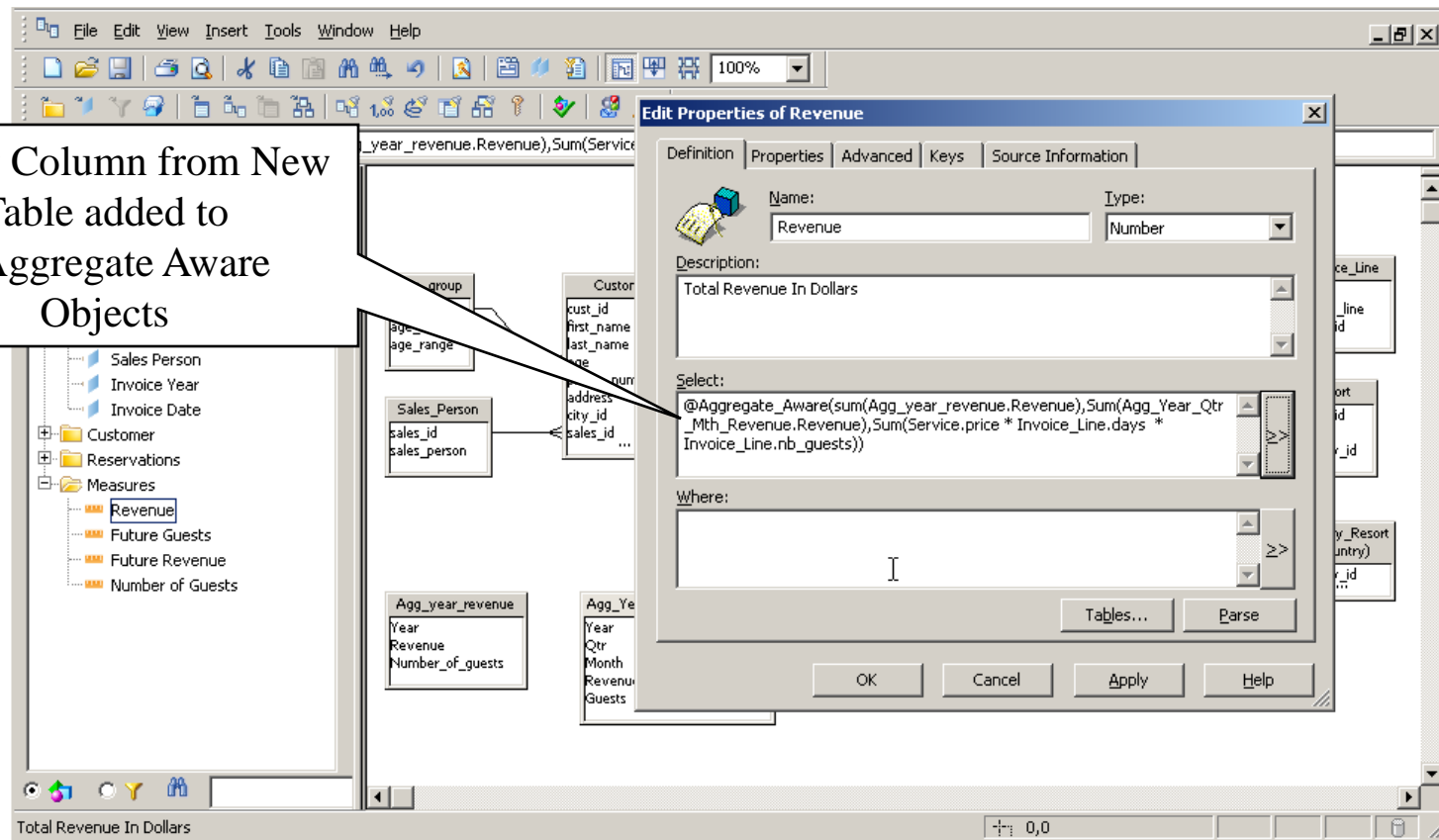
6. New Derived Table Created



Aggregate Awareness

◆ Adding to Aggregate Awareness

7. New Column from New Table added to @Aggregate Aware Objects



Aggregate Awareness

◆ Setting Aggregate Navigation

8. Select Tools / Aggregate Navigation

9. Select New Derived Table

10. Click *Detect Incompatibility (Only Once)*

11. Uncheck Columns if Necessary

12. Click OK

The screenshot shows the 'Aggregate Navigation' dialog box with the following content:

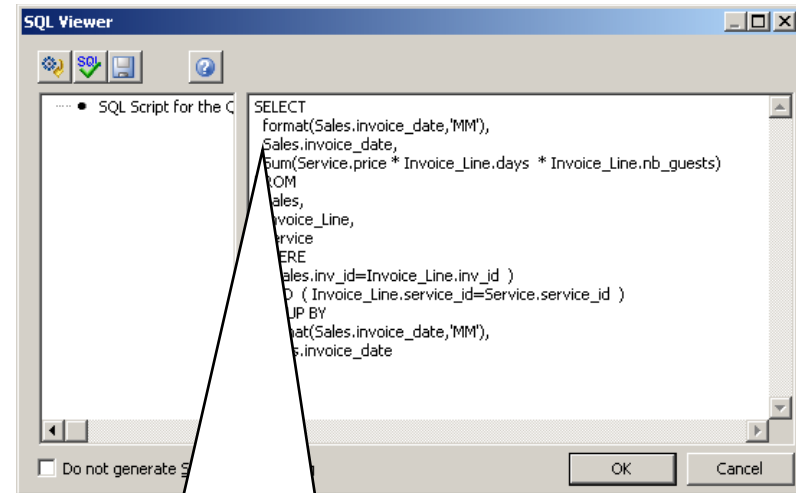
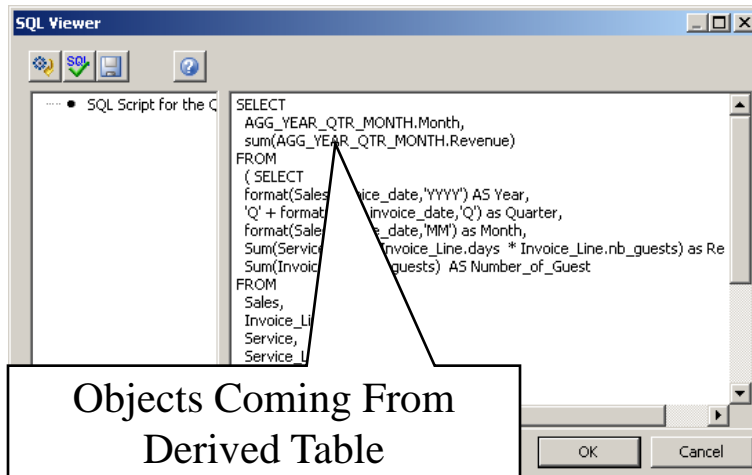
- Universe Tables:**
 - ☐ Age_group
 - ☐ Agg_Year_Qtr_Mth_Revenue
 - ☐ Agg_year_revenue
 - ☐ City
 - ☐ Country
 - ☐ Country_Resort
 - ☐ Customer
 - ☐ Invoice_Line
 - ☐ Region
 - ☐ Reservation_Line
- Associated Incompatible Objects:**
 - ☒ Resort
 - ☒ Sales
 - ☒ Customer
 - ☒ Reservations
 - ☐ Measures
 - ☒ Revenue
 - ☒ Future Guests
 - ☒ Future Revenue
 - ☒ Number of Guests

Buttons at the bottom: Detect Incompatibility, OK, Cancel.

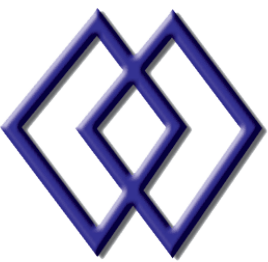


Aggregate Awareness

◆ Test Using Desktop Intelligence

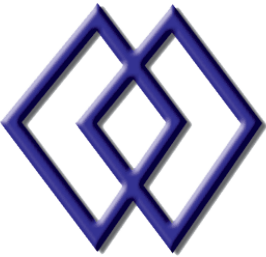


Note: Test Done
After Invoice Month
had been Made
Aggregate Aware
Using the New
Derived Table



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5004**