



# CHAPTER12 USING DECISION SUPPORT COMPONENTS

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# Introduction

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- ❑ The decision support components help you create cross-tabulated—or, crosstab— tables and graphs
- ❑ You can then use these tables and graphs to view and summarize data from different perspectives.





## 12.1 Overview

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□ The decision support components appear on the Decision Cube page of the Component palette:

- The decision cube, ***TDecisionCube***, is a multidimensional data store.
- The decision source, ***TDecisionSource***, defines the current pivot state of a decision grid or a decision graph.
- The decision query, ***TDecisionQuery***, is a specialized form of ***TQuery*** used to define the data in a decision cube.





## 12.1 Overview

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- The decision pivot, *TDecisionPivot*, lets you open or close decision cube dimensions, or fields, by pressing buttons.
- The decision grid, *TDecisionGrid*, displays single- and multidimensional data in table form.
- The decision graph, *TDecisionGraph*, displays fields from a decision grid as a dynamic graph that changes when data dimensions are modified.





## 12.1 Overview

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- Figure 12.1 shows all the decision support components placed on a form at design time.





## 12.2 About crosstabs

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- ❑ You can use the decision support components to set up crosstabs in forms. *TDecisionGrid* shows data in a table, while *TDecisionGraph* charts it graphically. *TDecisionPivot* has buttons that make it easier to display and hide dimensions and move them between columns and rows.

- ❑ Crosstabs can be one-dimensional or multidimensional.





## One-dimensional crosstabs

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- ❑ One-dimensional crosstabs show a summary row (or column) for the categories of a single dimension.
- ❑ For example, if Payment is the chosen column dimension and Amount Paid is the summary category, the crosstab in Figure 12.2 shows the amount paid using each method.





# One-dimensional crosstabs

## One-dimensional crosstab

	Terms	Country	ShipVIA	Payment
+				
+				AmEx
				Cash
				Check
				COD
				Credit
				MC
				\$134,753.40
				\$164,003.65
				\$270,492.15
				\$33,776.55
				\$1,332,430.25
				\$250,163.25





## Multidimensional crosstabs

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- ❑ **Multidimensional crosstabs use additional dimensions for the rows and/or columns. For example, a two-dimensional crosstab could show amounts paid by payment method for each country.**
- ❑ **A three-dimensional crosstab could show amounts paid by payment method and terms by country, as shown in Figure 12.3.**





# Multidimensional crosstabs

## Three-dimensional crosstab

SUM OF AmountPaid	Terms	Country	ShipVIA	Payment		
			Check	COD	Credit	MC
	FOB	Algeria	\$2,577.85		\$1,400.00	\$13,814.05
		America			\$356,816.20	\$20,881.35
		Canada			\$24,485.00	\$3,304.85
		China	\$61,936.90		\$6,641.55	





## 12.3 datasets with decision support components

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### Creating decision datasets with TQuery or Ttable

- ❑ If you use an ordinary *TQuery* component as a decision dataset, you must manually set up the SQL statement, taking care to supply a GROUP BY phrase which contains the same fields (and in the same order) as the SELECT phrase.

- ❑ The SQL should look similar to this:





## 12.3 datasets with decision support components

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```
SELECT ORDERS."Terms",  
ORDERS."ShipVIA",  
ORDERS."PaymentMethod",  
SUM( ORDERS."AmountPaid")  
FROM "ORDERS.DB" ORDERS  
GROUP BY ORDERS."Terms",  
ORDERS."ShipVIA",  
ORDERS."PaymentMethod"
```





## 12.3 datasets with decision support components

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- ❑ The ordering of the **SELECT** fields should match the ordering of the **GROUP BY** fields.
- ❑ With *TTable*, you must supply information to the decision cube about which of the fields in the query are grouping fields, and which are summaries.





## 12.4 Creating and using decision grids

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- ❑ Decision grid components, *TDecisionGrid*, present cross-tabulated data in table form. These tables are also called crosstabs.





## 12.5 Creating and using decision graphs

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- ❑ Decision graph components, *TDecisionGraph*, present cross-tabulated data in graphic form.
- ❑ Each decision graph shows the value of a single summary, such as Sum, Count, or Avg, charted for one or more dimensions.
- ❑ For illustrations of decision graphs at design time, see Figure 12.1 and Figure 12.4.





## Using decision graphs

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- The decision graph component, *TDecisionGraph*, displays fields from the decision source (*TDecisionSource*) as a dynamic graph that changes when data dimensions are opened, closed, dragged and dropped, or rearranged with the decision pivot (*TDecisionPivot*).





# Using decision graphs

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- ❑ Graphed data comes from a specially formatted dataset such as *TDecisionQuery*.
- ❑ By default, the first row dimension appears as the x-axis and the first column dimension appears as the y-axis.





# Using decision graphs

Decision graphs bound to different decision sources

