**Graph Grid**

**Test Cases and Procedures**

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# Test Cases

**Cget**

**Test Case 1**

**Test Case ID –** RBC.graph.grid.cget.1

**Test Item –** The *grid cget* function of the *graph* BLT component.

**Input Specification –** The name of a grid configure option.

**Output Specification –** The value of the given grid configure option name.

**Special Procedural Requirements –** A graph widget can be created.

**Inter-case Dependencies –**

**Configure**

**Test Case 1**

**Test Case ID –** RBC.graph.grid.configure.1

**Test Item –** The *grid configure -color* function of the *graph* BLT component.

**Input Specification –** A string representation of a color name.

**Output Specification –** The color of the grid component is set to the input value.

**Special Procedural Requirements –** A graph widget can be created.

**Inter-case Dependencies –** RBC.graph.grid.1

**Test Case 2**

**Test Case ID –** RBC.graph.grid.configure.2

**Test Item –** The *grid configure -dashes* function of the *graph* BLT component.

**Input Specification –** A list of up to 11 numbers that alternately represent the lengths of the dashes and gaps on the cross hair lines.

**Output Specification –** The dash style of the grid component is set to the input value.

**Special Procedural Requirements –** A graph widget can be created.

**Inter-case Dependencies –** RBC.graph.grid.1

**Test Case 3**

**Test Case ID –** RBC.graph.grid.configure.3

**Test Item –** The *grid configure -hide* function of the *graph* BLT component.

**Input Specification –** Any of the following: 1, 0, true, false, yes, no

**Output Specification –** The hide property of the grid component is set according to the input value (either 1 or 0).

**Special Procedural Requirements –** A graph widget can be created.

**Inter-case Dependencies –** RBC.graph.grid.cget.1

**Test Case 4**

**Test Case ID –** RBC.graph.grid.configure.4

**Test Item –** The *grid configure -linewidth* function of the *graph* BLT component.

**Input Specification –** A positive numerical value.

**Output Specification –** The linewidth of the grid component is set according to the input value.

**Special Procedural Requirements –** A graph widget can be created.

**Inter-case Dependencies –** RBC.graph.grid.1

**Test Case 5**

**Test Case ID –** RBC.graph.grid.configure.5

**Test Item –** The *grid configure -mapx* function of the *graph* BLT component.

**Input Specification –** The name of a graph axis instance or “” for no grid lines.

**Output Specification –** The x-axis of the grid is set to the given axis or no grid lines are displayed.

**Special Procedural Requirements –** A graph widget can be created, an axis component can be created.

**Inter-case Dependencies –** RBC.graph.grid.1, RBC.graph.axis.[create]

**Test Case 6**

**Test Case ID –** RBC.graph.grid.configure.6

**Test Item –** The *grid configure -mapy* function of the *graph* BLT component.

**Input Specification –** The name of a graph axis instance or “” for no grid lines.

**Output Specification –** The y-axis of the grid is set to the given axis or no grid lines are displayed.

**Special Procedural Requirements –** A graph widget can be created, an axis component can be created.

**Inter-case Dependencies –** RBC.graph.grid.1, RBC.graph.axis.[create]

**Test Case 7**

**Test Case ID –** RBC.graph.grid.configure.7

**Test Item –** The *grid configure -minor* function of the *graph* BLT component.

**Input Specification –** Any of the following: 1, 0, true, false, yes, no

**Output Specification –** The minor property of the grid component is set according to the input value (either 1 or 0).

**Special Procedural Requirements –** A graph widget can be created.

**Off**

**Test Case 1**

**Test Case ID –** RBC.graph.grid.off.1

**Test Item –** The *grid off* command of the *graph* BLT component.

**Input Specification –** None

**Output Specification –** The grid on the graph component should be hidden.

**Special Procedural Requirements –** A graph widget can be created.

**Inter-case Dependencies –** None

**On**

**Test Case 1**

**Test Case ID –** RBC.graph.grid.on.1

**Test Item –** The *grid on* command of the *graph* BLT component.

**Input Specification –** None

**Output Specification –** The grid on the graph component should be visible.

**Special Procedural Requirements –** A graph widget can be created.

**Inter-case Dependencies –** None

**Toggle**

**Test Case 1**

**Test Case ID –** RBC.graph.grid.toggle.1

**Test Item –** The *grid toggle* command of the *graph* BLT component.

**Input Specification –** None

**Output Specification –** The visibility of the grid on the graph component should be the opposite of what it was to start.

**Special Procedural Requirements –** A graph widget can be created.

**Inter-case Dependencies –** RBC.graph.grid.off.1, RBC.graph.grid.on.1

# Automated Tests

## Cget

### Test Procedure – Graph Grid Cget: Valid Option Name

**Test Case 1**

**Purpose –** Ensure the *grid cget* command works correctly when given a valid grid configuration option name.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.1.1

### Test Procedure – Graph Grid Cget: Invalid Option Name

**Test Case 1**

**Purpose –** Ensure the *grid cget* command works correctly when given an invalid grid configuration option name.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.1.2

## Configure

### Test Procedure – Graph Grid Configure: Color – Valid Color Name

**Test Case 1**

**Purpose –** Ensure the *grid configure -color* command works correctly when given a valid color name.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.1.1

### Test Procedure – Graph Grid Configure: Color – Invalid Color Name

**Test Case 1**

**Purpose –** Ensure the *grid configure -color* command works correctly when given an invalid color name.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.1.2

### Test Procedure – Graph Grid Configure: Dashes – Valid Dash List

**Test Case 2**

**Purpose –** Ensure the *grid configure -dashes* command works correctly when given a valid dash list.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.2.1

### Test Procedure – Graph Grid Configure: Color – Empty Dash List

**Test Case 2**

**Purpose –** Ensure the *grid configure -dashes* command works correctly when given an empty dash list.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.2.2

### Test Procedure – Graph Grid Configure: Dashes – Long Dash List

**Test Case 2**

**Purpose –** Ensure the *grid configure -dashes* command works correctly when given a dash list that is too long.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.2.3

### Test Procedure – Graph Grid Configure: Dashes – Invalid Numerical Dash List

**Test Case 2**

**Purpose –** Ensure the *grid configure -dashes* command works correctly when given an invalid numerical dash list.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.2.4

### Test Procedure – Graph Grid Configure: Dashes – Dash List with Characters

**Test Case 2**

**Purpose –** Ensure the *grid configure -dashes* command works correctly when given a dash list with characters.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.2.5

### Test Procedure – Graph Grid Configure: Hide – 1

**Test Case 2**

**Purpose –** Ensure the *grid configure -hide* command works correctly when given 1.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.3.1

### Test Procedure – Graph Grid Configure: Hide – 0

**Test Case 3**

**Purpose –** Ensure the *grid configure -hide* command works correctly when given 0.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.3.2

### Test Procedure – Graph Grid Configure: Hide – True

**Test Case 3**

**Purpose –** Ensure the *grid configure -hide* command works correctly when given true.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.3.3

### Test Procedure – Graph Grid Configure: Hide – False

**Test Case 3**

**Purpose –** Ensure the *grid configure -hide* command works correctly when given false.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.3.4

### Test Procedure – Graph Grid Configure: Hide – Yes

**Test Case 3**

**Purpose –** Ensure the *grid configure -hide* command works correctly when given yes.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.3.5

### Test Procedure – Graph Grid Configure: Hide – No

**Test Case 3**

**Purpose –** Ensure the *grid configure -hide* command works correctly when given no.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.3.6

### Test Procedure – Graph Grid Configure: Hide – Invalid Input

**Test Case 3**

**Purpose –** Ensure the *grid configure -hide* command works correctly when given an invalid input value.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.3.7

### Test Procedure – Graph Grid Configure: Linewidth – Valid Integer Input

**Test Case 4**

**Purpose –** Ensure the *grid configure -linewidth* command works correctly when given an integer pixel value.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.4.1

### Test Procedure – Graph Grid Configure: Linewidth – Valid Decimal Input

**Test Case 4**

**Purpose –** Ensure the *grid configure -linewidth* command works correctly when given a decimal pixel value.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.4.2

### Test Procedure – Graph Grid Configure: Linewidth – Invalid Numerical Input

**Test Case 4**

**Purpose –** Ensure the *grid configure -linewidth* command works correctly when given an invalid numerical pixel value.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.4.3

### Test Procedure – Graph Grid Configure: Linewidth – Character Input

**Test Case 4**

**Purpose –** Ensure the *grid configure -linewidth* command works correctly when given a character as input.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.4.4

#### Test Case 5

### Test Procedure – Graph Grid Configure: Mapx – Valid Axis Name

**Purpose –** Ensure the *grid configure -mapx* command works correctly when given valid axis name as input.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.5.1

### Test Procedure – Graph Grid Configure: Mapx – Non-Existent Axis Name

**Purpose –** Ensure the *grid configure -mapx* command works correctly when given a non-existent axis name as input.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.5.2

### Test Procedure – Graph Grid Configure: Mapx – Empty String

**Purpose –** Ensure the *grid configure -mapx* command works correctly when given the empty string as input.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.5.3

### Test Procedure – Graph Grid Configure: Mapx – No Input

**Purpose –** Ensure the *grid configure -mapx* command works correctly when not input is given.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.5.4

#### Test Case 6

### Test Procedure – Graph Grid Configure: Mapy – Valid Axis Name

**Purpose –** Ensure the *grid configure -mapy* command works correctly when given valid axis name as input.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.6.1

### Test Procedure – Graph Grid Configure: Mapy – Non-Existent Axis Name

**Purpose –** Ensure the *grid configure -mapy* command works correctly when given a non-existent axis name as input.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.6.2

### Test Procedure – Graph Grid Configure: Mapy – Empty String

**Purpose –** Ensure the *grid configure -mapy* command works correctly when given the empty string as input.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.6.3

### Test Procedure – Graph Grid Configure: Mapy – No Input

**Purpose –** Ensure the *grid configure -mapy* command works correctly when not input is given.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.6.4

#### Test Case 7

### Test Procedure – Graph Grid Configure: Minor – 1

**Purpose –** Ensure the *grid configure -minor* command works correctly when given 1.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.7.1

### Test Procedure – Graph Grid Configure: Minor – 0

**Purpose –** Ensure the *grid configure -minor* command works correctly when given 0.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.7.2

### Test Procedure – Graph Grid Configure: Minor – True

**Purpose –** Ensure the *grid configure -minor* command works correctly when given true.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.7.3

### Test Procedure – Graph Grid Configure: Minor – False

**Purpose –** Ensure the *grid configure -minor* command works correctly when given false.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.7.4

### Test Procedure – Graph Grid Configure: Minor – Yes

**Purpose –** Ensure the *grid configure -minor* command works correctly when given yes.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.7.5

### Test Procedure – Graph Grid Configure: Minor – No

**Purpose –** Ensure the *grid configure -minor* command works correctly when given no.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.7.6

### Test Procedure – Graph Grid Configure: Minor – Invalid Input

**Purpose –** Ensure the *grid configure -minor* command works correctly when given an invalid input value.

**Special Requirements –** None

**TclTest –** RBC.graph.grid.configure.7.7

# Manual Tests

## Off

### Test Procedure – Graph Grid Off

**Purpose –** Ensure the grid can be hidden on a graph.

**Special Requirements –** None

**Procedural Steps**

* Setup – Run the “RBC.graph.grid.off.1.tcl” file and then call the “graph.grid::RBC.graph.grid.off.1.1.Setup” Tcl command
* Pre-Condition – There is a graph with the grid currently displaying
* Body

1. Call the “graph.grid::RBC.graph.grid.off.1.1.Body” Tcl command

* Post-Condition – The grid on the graph is hidden
* Cleanup – Call the “graph.grid::RBC.graph.grid.off.1.1.Cleanup” command

## On

### Test Procedure – Graph Grid On

**Purpose –** Ensure the grid can be displayed on a graph.

**Special Requirements –** None

**Procedural Steps**

* Setup – Run the “RBC.graph.grid.on.1.tcl” file and then call the “graph.grid::RBC.graph.grid.on.1.1.Setup” Tcl command
* Pre-Condition – There is a graph with the grid currently hidden
* Body

1. Call the “graph.grid::RBC.graph.grid.on.1.1.Body” Tcl command

* Post-Condition – The grid on the graph is visible
* Cleanup – Call the “graph.grid::RBC.graph.grid.on.1.1.Cleanup” command

## Toggle

### Test Procedure – Graph Grid Toggle: Off

**Purpose –** Ensure the grid can be toggled on a graph.

**Special Requirements –** None

**Procedural Steps**

* Setup – Run the “RBC.graph.grid.toggle.1.tcl” file and then call the “graph.grid::RBC.graph.grid.toggle.1.1.Setup” Tcl command
* Pre-Condition – There is a graph with the grid currently displaying
* Body

1. Call the “graph.grid::RBC.graph.grid.toggle.1.1.Body” Tcl command

* Post-Condition – The grid on the graph is hidden
* Cleanup – Call the “graph.grid::RBC.graph.grid.toggle.1.1.Cleanup” command

### Test Procedure – Graph Grid Toggle: On

**Purpose –** Ensure the grid can be toggled on a graph.

**Special Requirements –** None

**Procedural Steps**

* Setup – Run the “RBC.graph.grid.toggle.1.tcl” file and then call the “graph.grid::RBC.graph.grid.toggle.1.2.Setup” Tcl command
* Pre-Condition – There is a graph with the grid currently hidden
* Body

1. Call the “graph.grid::RBC.graph.grid.toggle.1.2.Body” Tcl command

* Post-Condition – The grid on the graph is visible
* Cleanup – Call the “graph.grid::RBC.graph.grid.toggle.1.2.Cleanup” command