IBM TRIRIGA Application Platform 3.7.0

Graphics User Guide





IBM Corp.

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Chapter 1. Web graphics in IBM TRIRIGA Application Platform graphics sections

Graphics sections use a vector graphics engine to render published computer-aided design (CAD) drawings as web graphics. You can configure the TRIRIGA Application Platform graphics section to provide real-time graphic reporting.

If you use IBM TRIRIGA CAD Integrator/Publisher, you can publish your CAD drawings as Drawing Exchange Format (DXF) files. When you publish a CAD drawing in DXF format, the file is processed and stored with the geometry data that the graphics section uses to render the drawing.

If you have Scalable Vector Graphics (SVG) or Design Web Format (DWF) graphics, republish your SVG or DWF graphics in DXF format. You can use batch process or command-line LISP routines in TRIRIGA CAD Integrator/Publisher to republish SVG or DWF format graphics.

If you use Microsoft Internet Explorer as your browser, you must have the Microsoft Silverlight browser add-on to render web graphics in TRIRIGA Application Platform graphics sections.

Labels, themes, layers, and hatches for web graphics

Depending on your role, security level and access within the company, you can set up and manage labels, themes, layers, and hatches that control how web graphics are displayed in graphics sections.

To set up and control labels, themes, layers, and hatches for your web graphics, click the links in the **Tools** > **Administration** > **Graphics** page.

Label Filter, Label Style

Labels display data from records that are associated with entities such as arcs, lines, and circles that are represented in graphic format in a web graphic.

Themes

Themes control the appearance of web graphics. You can also set a default theme to apply to all web graphics.

Layer Configuration

You can use layer configuration to control the display and filtering of drawing layers and drawing entities in a web graphic.

Hatch Patterns

The hatch patterns that you configure in the IBM TRIRIGA CAD Integrator/Publisher can be displayed in the graphics section.

Related concepts

Graphic reports

You can use a graphic report to query and access information from web graphics that are based on computer-aided design (CAD) drawings. Graphic reports display information that is extracted from the business objects that are associated with web graphics.

Linked sections

Bidirectional links between a graphics section and a query section or an availability section automate the selection of items across the linked sections. For example, when a Move Planner selects a space in the graphics section, the corresponding space is also selected in the linked query section.

Graphics section logs

System administrators can set the properties for client-side logging to record all events, warnings and error messages, or only errors messages for graphics sections.

Related reference

Identifiers for entities in drawings

Entities are drawing objects such as arcs, lines, and circles that are represented in graphic format. Entities are named according to Autodesk AutoCAD naming conventions. When you publish a computer-aided design (CAD) drawing in Drawing Exchange Format (DXF) format, identifiers are associated with entities to comply with the DXF specification.

Graphics section labels

Labels are a type of report that shows real-time data from records or associate records that are linked to an entity in a drawing. For example, you can create a label with the space business object to show data from the **Name**, **Current Use Space Class**, and **Area** fields.

The positions of labels in a drawing are derived from the label positions that are published from IBM TRIRIGA CAD Integrator/Publisher. The labels also use other properties of the published labels, such as the orientation of the labels. If no label is published for an entity, the label in a graphics section is displayed as close to the center of the entity as possible.

In a graphics section, you can apply labels to the drawing by style or by filter.

Label style

Label styles define the fields that you want to report on for each entity that is linked to a record. When you choose to apply labels by style, you can apply only a single label style. The label style that you choose applies to all entities that are linked to records that match the selected module. The records must also match the business object and form if specified in the label style.

On the Label Style page, you can view, add, modify, or delete label styles.

In a graphics section, you can select a label style to apply to linked entities.

For each label style that you add, you must specify a name and a module to which the label style applies. You can choose to specify an ID or an ID is automatically generated for your label style. You must specify a set of definitions that control line spacing, height, and color for each label style. You can specify the main business object that is linked to the drawing, and you can specify the form. When you specify the main business object, you can select the fields that you want to display.

Label filter

Label filters define a label style or set of label styles to apply to the results of a report based on report criteria. You can use a single label filter to apply multiple label styles simultaneously to a single drawing.

On the Label Filter page, you can view, add, modify, or delete label filters.

In a graphics section, you can select a label filter to apply to the drawing.

For example, you can run a space report that filters for an occupancy status of Occupied. The space report returns the set of spaces that are occupied. You can create a label filter to show one label style for a floor boundary and a different label style for a space boundary. Your label filter can apply one label style to the space boundary that is associated to the sales organization. Your label filter can apply a different label style to the space boundary that is associated to the accounting organization. When you apply the report, the occupied spaces in the report result use the label styles that you specified in your label filter.

You can add more criteria to your filter and you can assign an order to your criteria. An order of 1 is the highest priority criterion. The label style from the priority 1 criterion is applied to the records that are returned by the first criterion. If there is a second set of criteria, the label filter applies the label style to records that are returned by the second criterion. Lower priority criteria are applied only to records that are not returned by higher criteria.

Related concepts

Graphics section themes

Themes apply a set of specifications to control the display of data and the rendering of a drawing in a graphics section. You can use themes to control the labels, report, display preferences, and legend preferences for a drawing.

Graphics section layers

You can turn on and off layers for a graphics section drawing to show or hide the items in the drawing. For example, you can simplify your view of a drawing by hiding the layers that are not relevant to your current task.

Graphics section hatches

IBM TRIRIGA CAD Integrator/Publisher users can configure hatch patterns that display in the Graphics section.

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Themes apply a set of specifications to control the display of data and the rendering of a drawing in a graphics section. You can use themes to control the labels, report, display preferences, and legend preferences for a drawing.

On the Theme page, you can add, modify, and delete themes. When multiple themes are defined, you can select a global default theme that applies to drawings in all of the graphics sections without a set theme.

In the graphics section, you can select the theme to apply to a drawing.

For example, you can define a theme to highlight the occupancy information from a drawing. When you define the theme, you can specify personnel labels to display the names of the people that are in the spaces. You can run an occupancy status report to color the spaces in the drawing based on the occupancy status of the spaces. You can also define color and legend preferences for your theme, and you can save this theme for future use.

If the graphics section theme is not locked by an administrator, you can choose to apply your theme to any drawing in a graphics section.

Administrators can set a form-specific default theme that overrides the global default theme. Administrators can also use the Form Builder application to lock the theme in a graphics section to prevent other users from changing the theme and related fields.

Related concepts

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When you open a graphics section drawing, the layers are shown or hidden depending on whether the layers were shown or hidden when the drawing was published. In the graphics section, you can select the layers that you want to show or hide in the drawing by using the Layer Manager.

On the **Layer Configuration** page, you can define layer filters to show layers, hide layers, exclude layers, or override the color of entity strokes in layers. These filters can be triggered by the layer name or on the

entity count. You can also define layer filters to access layer data for layers that were hidden when the drawing was published. To add layer configurations, select **Tools** > **Administration** > **Graphics** > **Layer Configuration**. After you create a new layer configuration, save the draft, and select **Activate**. Layer configurations with a draft status do not apply.

IBM TRIRIGA Application Platform includes two layer configuration records that are active. These layer configuration records turn off reference file layers and any layer with an entity count greater than 1000.

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IBM TRIRIGA CAD Integrator/Publisher users can configure hatch patterns that display in the Graphics section.

Configuring layer security

CAD drawings contain many layers. You can set layer security in the layer configuration record so that some layers are restricted to specific user groups.

About this task

In a CAD drawing, you might need to limit access to layers for a defined group. For example, facilities administrators need a way to limit access to certain information on floor plan graphics for a specific group of users.

Procedure

- 1. Go to the Criteria section.
- 2. Select Set Layer State To > Visible by Group.
- 3. Find security groups that are allowed to see layers that fit the layer filter criteria.

Graphics section hatches

IBM TRIRIGA CAD Integrator/Publisher users can configure hatch patterns that display in the Graphics section.

For more information, see the *Integrating, publishing, and reporting on CAD drawing information* topics in the IBM TRIRIGA 10 product documentation.

Related concepts

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Graphic reports

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In the graphics section, you can select the graphic report that you intend to use to query the web graphic.

To work with graphic reports that you can apply from a graphics section, click **Tools** > **Builder Tools** > **Report Manager** > **System Reports**.

If you use IBM TRIRIGA CAD Integrator/Publisher, you can create a graphic report on the **My Reports** page.

When you define a graphic report, you select a primary business object. If you do not define the business object properly, the query does not return any results.

Related concepts

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Linked sections

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Graphics section logs

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Related reference

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Graphic report options

When you define a Graphic report, you can specify options for the standard report characteristics, the column display, and the legend properties.

General section options

You can provide the following general information.

Header (Title)

Enter a header for this Graphic report. This header also provides the Graphic report legend title.

Type

Select the **Graphic** report type.

Data Scope

Select how to limit the records that are accessible to the standard report.

Options sub tab options

In the **Options** sub tab, you can select the following preferred options for your Graphic report legend.

Color By

Select how the Graphic report legend should group the results that it colors: **Unique Record** or **Unique Value**.

Unique Record (default)

The legend groups its colored rows by each unique record found in the report result. The values of the grouped fields are inconsequential.

Unique Value

The legend groups its colored rows by each unique value of a field. This option provides the ability to group by a field value directly on the primary business object, as well as unique values on associated data. For example, two organizations named "Development" under two different parent objects would be grouped and colored as a single row in the legend.

In the **Options** sub tab, you can select the following preferred options for your Graphic report when it is run as a standard report.

Show in Web Graphics

Check this box to display the standard report to users of Graphics sections in IBM TRIRIGA. If a Graphic report does not need to be displayed to all of your IBM TRIRIGA users, you can uncheck this box. Reports that uncheck this box display for IBM TRIRIGA CAD Integrator/Publisher users only.

Sum All for Color By

Check this box to enable the sum aggregation. Sum aggregation sums fields on a **Color By** graphic report even when multiple **Group By** resolves to the same record for the same space, which is the same behavior as **Group By** in normal reports. This check box is applicable only when a **Sum** field is specified in the graphic report.

Fixed Column Count

Enter the number of columns on the left to be fixed in the standard report.

Result Size

Select the default size for the results that are displayed in the standard report.

Excel Template

Use the **Select** icon to choose a template from the **Document Manager** and display the standard report in a Microsoft Excel spreadsheet format.

Prompt Before Query

Check this box to allow users to enter runtime filters and specify initial criteria before the standard report is executed.

Editable

Select whether users can edit the displayed values directly in the standard report.

Column tab options

In the **Columns** tab, you can select the columns to display in your Graphic report legend and Graphic report when it is run as a standard report. While the **Columns** tab on Graphic reports is similar to the **Columns** tab on the other report types, each column added for display also contains options for configuration and display within the Graphic report legend.

In the **Report Label** column, you can enter the labels for the column headers when the Graphic report is run as a standard report. These labels also provide the column header titles in the Graphic report legend.

In the **Legend** column, you can select the following preferred options for your Graphic report legend.

Empty (default)

If this selection is left empty, this field does not appear in the legend, but still displays if the Graphic report is run as a standard report.

Color By

This property can be selected for one display field only. This field acts as a "group by" in the legend, and is used as the display value for each color group in the legend.

Color Field

If the **Color By** property is chosen, you can specifically select the color field for your **Color By** grouping with this property. The **Color Field** must be from the same business object as the **Color By**. If no **Color Field** is specified, the system generates a random color for each unique **Color By** group. This property can only be selected when coloring by **Unique Record** (via the **Options** sub tab).

Count

This property can be selected only when the **Color By** field is also selected. This property indicates that the number of results for this field value for each **Color By** group should be counted with the total count displayed but with the field value itself not displayed. If **Show Total** is on under **Preferences**, a **Total** row appears at the bottom of the legend and it displays the total count for all rows. In graphic reports, Count works similar to Sum, except instead of aggregating the value of the field, it counts the number of records. When picking a field to Count by, it is best to select a field that will have unique values for each record result to enable correct aggregation.

Display

This property indicates that the field value displays "as is" in the legend. A display field can be pulled from the **Color By** business object only.

Hatch

This property can be selected for locator fields only. This property defines the hatch pattern that you want IBM TRIRIGA CAD Integrator/Publisher to display when a report is applied. The hatch pattern is displayed for IBM TRIRIGA CAD Integrator/Publisher users only. For more information, search for "CAD hatch" in the IBM TRIRIGA 10 product documentation.

Sum

This property can be selected for number fields only when a **Color By** field is also selected. This property sums the field values for each **Color By** group. If **Show Total** is on under **Preferences**, a **Total** row appears at the bottom of the legend and it displays the total sum for all rows. The sum aggregation does not count **Group By** results that resolve to the same record on the same space, unless the **Sum All for Color By** check box is checked in the graphic report options.

Additional options

In the remaining tabs, you can specify further selections. While the remaining tabs on Graphic reports are identical to the tabs on the other report types, consider the following items.

Group By

Grouping does not apply to the Graphic report legend, but still influences the Graphic report when run as a standard report.

Order By

Ordering determines the order of the items that are displayed in the Graphic report legend.

Related tasks

Defining graphic reports

Only Graphic reports defined in **System Reports** can be applied to Graphics sections. **My Reports** are not intended for use in Graphics sections.

Applying graphic reports via a graphics section

For forms with Graphics sections, you can apply a defined Graphic report to the Graphics section. Only Graphic reports defined in **System Reports** can be applied to Graphics sections. **My Reports** are not intended for use in Graphics sections.

Defining graphic reports

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Before you begin

The primary business object must be the attached graphic entity against which this Graphic report is run. If the business object is not defined properly, no results are found when the Graphic report is run against the graphic, even though running the Graphic report as a standard report might still return results.

For a more complete discussion on **My Reports**, and other reports beyond Graphic reports, see the *IBM TRIRIGA Application Platform 3 Reporting User Guide*.

Procedure

- 1. From the **System Reports** tab, select **New**.
- 2. In the Report form, provide the information in the General section.
- 3. In the Business Objects sub tab, select Add Business Object to add your business objects.
- 4. Save your Graphic report. New actions appear.
- 5. In the **Options** sub tab, select the preferred options for your Graphic report legend.
- 6. Select the preferred options for your Graphic report when it is run as a standard report.
- 7. In the **Columns** tab, select the columns to display in your Graphic report legend and Graphic report when it is run as a standard report.
- 8. Review the Display Columns section. In the **Report Label** column, enter the labels for the column headers when the Graphic report is run as a standard report. These labels also provide the column header titles in the Graphic report legend.
- 9. In the **Legend** column, select the preferred options for your Graphic report legend.
- 10. In the remaining tabs, specify any further selections.
- 11. Save your Graphic report.
 - a) If necessary, select **Run Report** to run your Graphic report as a standard report.
 - b) If you selected **Run Report**, review your standard report. Select **Cancel** to close the report.
 - c) Continue to make any changes. As needed, select **Save** and select **Run Report**.
- 12. When the Graphic report is set the way you want, select **Save & Close**. The Report form closes, and the Graphic report appears in the **System Reports** tab.

What to do next

At a later time, you can also run existing Graphic reports as a standard report. Select the **Run Report** icon for the Graphic report you want to run as a standard report. The standard report opens. Select **Cancel** to close the report.

Related concepts

Graphic report options

When you define a Graphic report, you can specify options for the standard report characteristics, the column display, and the legend properties.

Related tasks

Applying graphic reports via a graphics section

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About this task

In cases where a single entity yields multiple results, the resulting colors are represented as a gradient fill. For example, if two organizations are allocated to the same space, the fill color is a linear gradient of the two organization's colors.

Procedure

- 1. Open the record whose Graphics section you want to view.
- 2. Select **Menu** to open the ribbon menu.
- 3. For the **Report** field, select the preferred Graphic report. The system applies the selected Graphic report to the re-rendered drawing.
- 4. Review the drawing.

Related concepts

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Related tasks

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Linked sections

Bidirectional links between a graphics section and a query section or an availability section automate the selection of items across the linked sections. For example, when a Move Planner selects a space in the graphics section, the corresponding space is also selected in the linked query section.

Query section links

When you select a space in the linked graphics section, the corresponding space is automatically selected in the query section.

Linked entities that are part of the linked query results show the highlight color.

If the linked query returns multiple records, you can select the appropriate parent record from a drop-down list in the graphics section toolbar.

A query section with a query type of Reserve filters out the entities that are not available. When the graphics section is linked to a query section with a query type of Reserve, the availability criterion is not applied.

Availability section links

When you select a space that is available and reservable in the linked graphics section, the corresponding reservable space is automatically selected in the availability section.

Linked entities that are part of the linked availability results render with the selectable color if the entities are available. Linked entities that are part of the linked availability results render with the highlight color if the entities are unavailable.

Linked availability sections do not apply filters that you apply to a query section.

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Graphics section logs

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Graphics section logs

System administrators can set the properties for client-side logging to record all events, warnings and error messages, or only errors messages for graphics sections.

When information is logged, you can click the **Messages** action or the **Errors** action in the graphics section to open the **Console** window. In the **Console** window, you can copy the log information or clear the log.

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Setting log information levels

In the TRIRIGAWEB.properties file, system administrators can specify the level of logging detail in the **GRAPHICS_SECTION_LOGGING_LEVEL** property.

Procedure

- 1. Open the *install_home*/config/TRIRIGAWEB.properties file.
- 2. Specify the value for the **GRAPHICS_SECTION_LOGGING_LEVEL** property.

The following values are valid values for the property.

INFO

Log all messages from all events

WARN

Log only warning and error messages

ERROR

Log only error messages

- 3. Save the file.
- 4. Restart the server.

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Drawing entity identifiers

The following table shows the identifiers that are associated with drawing entities according to the DXF specification.

Drawing entity	Identifier
Arc	AcDbArc
Block/X-Reference Insert - includes SeqEnd handling	AcDbBlockReference
Circle	AcDbCircle
Ellipse	AcDbEllipse
Line	AcDbLine
MText - Multi-line text	AcDbMText
Point	AcDbPoint
Polyline/LWPolyline	AcDbPolyline, AcDb2dPolyline, AcDb3dPolyline
Spline	AcDbSpline
Text	AcDbText
Vertex - part of a Polyline	AcDbVertex, AcDb2dVertex, or AcDb3dVertex
Attribute blocks	'AttDef', 'Attribute'
3DFace	AcDbFace

The Graphics section can control the layer visibility of block inserts only from the layer on which the block is inserted, not the layers on which the individual entities within the block reside.

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