



IBM Rational Change Report Builder Help

Release 5.2

Before using this information, be sure to read the general information under [Notices \(page 10\)](#).

This edition applies to VERSION 5.2, IBM Rational Change (product number 5724V87) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Introduction

IBM® Rational® Change is a generic change request management system that is Web-based and integrated with IBM® Rational® Synergy.

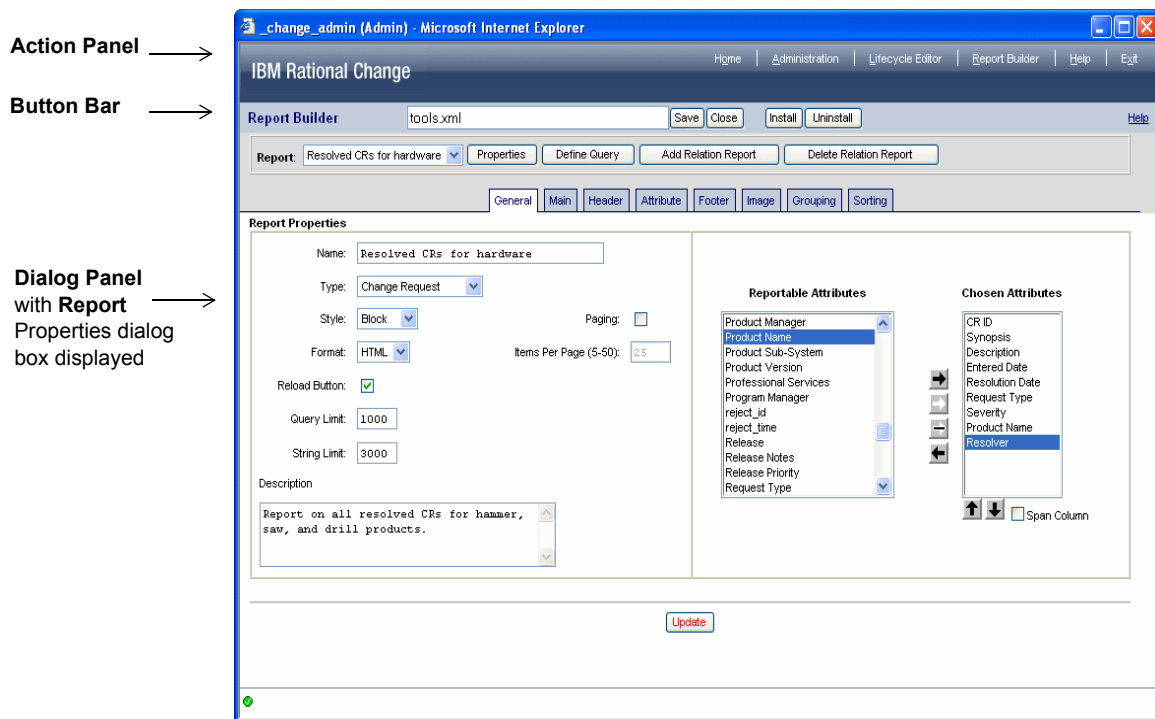
The following pages give you the basic information needed to use Rational Change in the Report Builder (*ReportBuilder*) role:

- [Taking the Rational Change Report Builder interface tour \(page 2\)](#)
- [Starting Rational Change sessions \(page 4\)](#)
- [Using Help \(page 5\)](#)

Taking the Rational Change Report Builder interface tour

The Rational Change interface consists of an [Action Panel \(page 2\)](#), a [Button Bar \(page 3\)](#), and a [Dialog Panel \(page 3\)](#) that changes when you click an Action Panel button.

The following figure shows the Rational Change window after you have clicked the **Report Builder** button and selected a report.



Action Panel

The Action Panel is the top row in the Rational Change window and is where you start any operation (for example, **Report Builder**). Clicking a button displays the action's corresponding dialog box in the Dialog Panel.

The following actions are available in the Action Panel for users in the *ReportBuilder* role:

Home button

Click to display the first Rational Change Welcome page.

Report Builder button

Click to build a Rational Change report using customizable components.

Help button

Click to display help for your role.

Exit button

Click to log out of Rational Change. This operation quits the Rational Change session and frees the session resources.

Button Bar

Help link

Click the Help link on each dialog box button bar to display context-sensitive help.

Other buttons might be visible, depending on the dialog that is displayed.

Dialog Panel

The Dialog Panel is the remaining portion of the Rational Change window and is where dialog boxes and the results of most operations are displayed.

The following graphics indicate the operation status:



A green check mark indicates success.



A red "X" indicates failure.



An "i" ("information") indicates that you should read the results dialog box to determine what happened.

If the graphic indicates failure, the accompanying text gives the reason for the failure. If you do not know how to correct the failure, contact your Rational Change administrator.

Starting Rational Change sessions

Starting a session requires the following:

- You are running a supported browser
- You have the URL for your Rational Change installation
- Your User ID has at least one of the Rational Synergy roles associated with the Rational Change login role you are using.

To start a session:

1. Display a browser.
2. Go to the URL for your Rational Change server.

The URL will be something like `http://hostname:port_number/context/user`.

For example, `http://eagle:8600/change/user`

3. In the Rational Change **Login** window, type your user ID and password.
4. Press **Login**.

Note For the steps below, you might see slightly different log on options, depending on whether you have previously logged on to Rational Change.

5. In the **Database** list, click the database you want to use.
6. In the **Role** list, click *ReportBuilder*.
7. Press **Connect**.

The Rational Change window appears. The [Action Panel \(page 2\)](#) is the small frame at the top of the window and contains links for the actions you can perform in your role. The [Dialog Panel \(page 3\)](#) is the large frame occupying the remainder of the window.

In the Dialog Panel, you see the Welcome pages. The Welcome pages give you a brief tour of Rational Change.

Using Help

Report Builder help contains information about setting up and using Rational Change when you log on using the *ReportBuilder* role. Help is in HTML format and is designed to run on any platform using the supported browsers. Help uses frames to give you a fast and persistent way of finding information in the help system.

Your browser must be enabled to use cookies for Help to store and retrieve certain settings. If cookies are disabled, the Help system will not open with the last tab page you selected nor link to the Rational Synergy Web site.

Display context-sensitive help by clicking the **Help** link on the dialog box button bar. View a different topic in this help by clicking its link in the text, in the Contents page, or in the Index.

You can also display help by clicking the **Help** button in the Action Panel.

Contacting IBM Rational Software Support

If the self-help resources have not provided a resolution to your problem, you can contact IBM® Rational® Software Support for assistance in resolving product issues.

Note: If you are a heritage Telelogic customer, a single reference site for all support resources is located at <http://www.ibm.com/software/rational/support/telelogic/>

Prerequisites

To submit your problem to IBM Rational Software Support, you must have an active Passport Advantage® software maintenance agreement. Passport Advantage is the IBM comprehensive software licensing and software maintenance (product upgrades and technical support) offering. You can enroll online in Passport Advantage from <http://www.ibm.com/software/lotus/passportadvantage/howtoenroll.html>

- To learn more about Passport Advantage, visit the Passport Advantage FAQs at http://www.ibm.com/software/lotus/passportadvantage/brochures_faqs_quickguides.html.
- For further assistance, contact your IBM representative.

To submit your problem online (from the IBM Web site) to IBM Rational Software Support, you must additionally:

- Be a registered user on the IBM Rational Software Support Web site. For details about registering, go to <http://www.ibm.com/software/support/>.
- Be listed as an authorized caller in the service request tool.

Submitting problems

To submit your problem to IBM Rational Software Support:

1. Determine the business impact of your problem. When you report a problem to IBM, you are asked to supply a severity level. Therefore, you need to understand and assess the business impact of the problem that you are reporting.

Use the following table to determine the severity level.

Severity	Description
1	The problem has a <i>critical</i> business impact: You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.
2	This problem has a <i>significant</i> business impact: The program is usable, but it is severely limited.
3	The problem has <i>some</i> business impact: The program is usable, but less significant features (not critical to operations) are unavailable.
4	The problem has <i>minimal</i> business impact: The problem causes little impact on operations or a reasonable circumvention to the problem was implemented.

2. Describe your problem and gather background information, When describing a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Rational Software Support specialists can help you solve the problem efficiently. To save time, know the answers to these questions:
 - What software versions were you running when the problem occurred?
To determine the exact product name and version, use the option applicable to you:
 - Start the IBM Installation Manager and select **File > View Installed Packages**. Expand a package group and select a package to see the package name and version number.
 - Start your product, and click **Help > About** to see the offering name and version number.
 - What is your operating system and version number (including any service packs or patches)?
 - Do you have logs, traces, and messages that are related to the problem symptoms?
 - Can you recreate the problem? If so, what steps do you perform to recreate the problem?

- Did you make any changes to the system? For example, did you make changes to the hardware, operating system, networking software, or other system components?
 - Are you currently using a workaround for the problem? If so, be prepared to describe the workaround when you report the problem.
3. Submit your problem to IBM Rational Software Support. You can submit your problem to IBM Rational Software Support in the following ways:
- **Online:** Go to the IBM Rational Software Support Web site at <https://www.ibm.com/software/rational/support/> and in the Rational support task navigator, click **Open Service Request**. Select the electronic problem reporting tool, and open a Problem Management Record (PMR), describing the problem accurately in your own words.
For more information about opening a service request, go to <http://www.ibm.com/software/support/help.html>
You can also open an online service request using the IBM Support Assistant. For more information, go to <http://www.ibm.com/software/support/isa/faq.html>.
 - **By phone:** For the phone number to call in your country or region, go to the IBM directory of worldwide contacts at <http://www.ibm.com/planetwide/> and click the name of your country or geographic region.
 - **Through your IBM Representative:** If you cannot access IBM Rational Software Support online or by phone, contact your IBM Representative. If necessary, your IBM Representative can open a service request for you. You can find complete contact information for each country at <http://www.ibm.com/planetwide/>.

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Building reports

Use the Report Builder to design a report that contains all the information needed to track CRs, tasks, and objects.

Reports contain information about items in a selection set. When you define a report, you must define the query used to generate the selection set, choose the attributes to show for each selection set item, and define the report layout. You can also define relation reports, which show information about associated CRs, tasks, or objects.

After you have defined a report while in the *ReportBuilder* role, the report is displayed in the **System** folder in the **Reports** dialog box for users who logged in using the User interface. The format is also added to the System folder under the report name.

The main report definition operations are as follows:

- [Building a report \(page 14\)](#)
- [Building relation reports \(page 27\)](#)
- [Installing reports \(page 30\)](#)

For a detailed example, see [Report Builder example \(page 31\)](#).

Building a report

The following steps summarize how to build reports using the Report Builder. You must perform the steps in the order shown to avoid errors.

1. Plan the report.

For example, based on the CR Process you are using, determine whether you are reporting on CRs, tasks, or objects, decide which attributes to choose for the report, and decide which, if any, values you want calculated for you. You need to define the specific information you want in the report in order to define the components of the report.

For example, you must determine if you need a subreport or a relation report. Subreports and relation reports are similar, in that both allow you to look up an item related to the context item. For instance, if the context item is a CR, you might want to look up its associated tasks. Subreports and relation reports differ in several ways:

- Defining a relation report is very similar to defining a top-level report, except that it does not have a separate query or a main template. A subreport, on the other hand, has its own query that references the context item. It is actually a separate report that was previously defined. It is merely included inside another report.
- Relation reports can be chained together in a linear fashion. That is, each item can show a single related item. Subreports enable reporting on multiple related items. This is done by including multiple subreports for the context item.

So, if you wanted to show a CR and its tasks, both relation reports and subreports can do the job. However, to show a CR with its tasks and attachments, you would need to use a subreport, because the relation report can only show one or the other (the tasks or the attachments, but not both at the same time).

2. [Starting Rational Change sessions \(page 4\)](#).

3. Install a process package, if you have not done so already.

A process package contains the list of reportable attributes for a CR Process. Unless you install one of these packages, your attribute list will be empty. *Admin Help*.

4. On the Action Panel, click **Report Builder**.

The **Report Builder** dialog box appears, with the **Select Report File** subdialog box displayed.

5. Select a report name, or create a new report by typing a new report name.

To change an existing report, click a report name in the **Available Report Files** list, and then click **Edit**.

To define a new report, type a new report name in the **New Report File** box (including the `.xml` file name extension), and then click **Create**.

If you do not type a file name, Rational Change creates a report named `csReportX.xml`, where `xx` is a number incremented whenever Rational Change creates a report using an existing report name.

6. Define the query that will generate the selection set of CRs, tasks, or objects on which you are reporting.

For steps, see [Defining queries \(page 16\)](#).

7. [Defining general report properties \(page 17\)](#). The report name you type appears in users' **System** report and format lists.
8. [Selecting templates to include \(page 18\)](#) on the report.
9. [Defining headers \(page 19\)](#), which is the information that will appear at the top of the report page.
10. [Defining report bodies \(page 20\)](#), which is the information that will appear in the body of the report.
11. [Defining footers \(page 22\)](#), which is the information that will appear at the bottom of the report page.
12. [Adding charts to reports \(page 23\)](#) that will appear at the bottom of the report.
13. [Defining grouping \(page 24\)](#). Groupings create sections on the report based on an attribute value. You can also define a graphic for each grouping.
14. [Defining sorting \(page 26\)](#). Sorting determines the order that the items appear in the report.

Note Sorting is always applied *after* grouping; therefore, the attribute selected for grouping never appears in the sorting lists.

15. [Building relation reports \(page 27\)](#) (optional).

If your selection set contains items that have associated items (such as CRs with associated tasks), you can define a relation report that will show the associated items.

16. [Installing reports \(page 30\)](#).

For a detailed example, see [Report Builder example \(page 31\)](#).

Defining queries

You must define a query for the content of the report.

1. In the **Report Builder** dialog box, click **Define Query**.

The **Define Query** dialog box appears.

2. Choose query criteria.

Select an operand, operator, and value, and the appropriate buttons. Repeat these steps until your query is completed. You can also type the entire query, or parts of the query, into the **Query String** box.

3. Click **Update**.

Related Topics

- [Defining queries \(example\) \(page 33\)](#)

Defining general report properties

You must define the general report properties, including the report name and what type of objects will be shown in the report.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **General** tab.
3. Define the general report properties.
 - a. In the **Name** box, type a report name.
Make the name meaningful because the name will be listed in **System** reports and formats.
 - b. In the **Type** list, click **Change Request**, **Task**, or **Object**. This selection determines the content of the **Reportable Attributes** list.
 - c. In the **Style** list, click **Block** or **Column**.
 - d. In the **Format** list, click the format for the generated report.
 - e. In the **Description** box, type a description of the report.
4. Set up paging (optional).
 - a. Select the **Paging** check box.
Clear the **Paging** check box if you intend to print the report or use it for bulk transitioning; otherwise, you will have to print the report or transition the CRs one page at a time.
 - b. In the **Items Per Page**, type the number of items.
5. If you want to include a reload button on HTML reports, click **Reload button**.
6. In the **Query Limit** box, type the maximum number of items to find. If the query result exceeds this limit, the report is stopped.
7. In the **String Limit**, type the maximum string length of a reported attribute value. Attribute values that exceed this limit are truncated.
8. In the **Reportable Attributes** list, select the attributes to display on the report.
The **problem_number**, **problem_synopsis**, and **problem_description** attributes are included automatically in the **Attributes in Report** list when you create a new report.
For information about arranging and setting the attributes, see *Admin Help*.
9. Click **Update**.

Related Topics

- [Defining general properties \(example\) \(page 35\)](#)

Selecting templates to include

You must choose the templates you will use to construct the report. The templates represent different report elements, such as the header, body, and footer.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Main** tab.
3. Select templates to include on the report.
 - a. Select the **Include Header Template** check box to display a header at the top of the report.
 - b. Select the **Include Attribute Template** check box to define the body of the report.
 - c. Select the **Include Footer Template** check box to display a footer at the bottom of the report.
 - d. Select the **Include Image Template** check box to display a charting graphic at the bottom of the report.
4. Click **Update**.

Related Topics

- [Selecting templates to include \(example\) \(page 37\)](#)

Defining headers

Define the header if you want to include a header in the report.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Header** tab.
3. Define the header layout.
 - a. Select the **Title** check box if you want to show the report title.
The **Title** is the name the user gives the report before running it.
 - b. Select the **Date** check box if you want to show the date.
 - c. Select the **Object Count** check box if you want to show the number of reported items.
 - d. Select the **Report Name** check box if you want to show the name of the report.
 - e. Select the **Query Name** check box if you want to show the name of the query.
 - f. Select the **Query String** check box if you want to show the query string.
4. Define header metric operations (optional).
 - a. In the **Metric Operations** area, click **Add**.
The **Available Metric Operations Definition** subdialog box appears.
 - b. In the **Select a Metric Type** list, click **Column** or **Row & Column**.
 - c. In the **Select a Metric Operation** list, click a metric operation.
The **XXX Metric** area appears under **Available Metric Operations**.
Define the metric. For more information, see [Metric operations explained \(page 54\)](#).
 - d. In the metrics definition area, click **Create**.
5. Under the **Layout** area, click **Update**.

Related Topics

- [Defining headers \(example\) \(page 38\)](#)

Defining report bodies

Define the report body, unless you want to show only a graphic.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Attribute** tab.
3. Define the body layout.
 - a. In the **Number of Columns** box, type the number of columns to use on the report.
 - b. Select the **Include Border** check box to include borders around attribute/value pairs on the report.
 - c. Select the **Include Bulk Operations** check box to allow users to transition multiple items on the report.

4. Define subreports (optional).

A subreport shows a selection of set of objects obtained from a previously defined report. Typically, the objects are attachments (unlike relation report objects, for which the objects are CRs, tasks, or objects). For more information about when to use subreports, see [Building a report \(page 14\)](#).

- a. Under the **Subreports Included on Attribute Template** list, click **Add**.

The **Add Subreport** subdialog box appears.

- b. Click **Change Request**, **Task**, or **Object**, depending on what type of subreport you want to run.

This action sets the **Select Report** list to the correct choices.

- c. In the **Select Report** list, click the report to run.

The **Define Query** dialog box appears.

- d. In the **Define Query** subdialog box, create the query for the subreport.

Be sure to include a keyword for the type of object for which the report is run. For example, include `%problem_number`, `%task_number`, or `%cvid` in the query string to run reports for each CR, task, or object, respectively.

5. Define body metric operations (optional).

- a. In the **Metric Operations** area, click **Add**.

The **Available Metric Operations Definition** subdialog box appears.

- b. In the **Select a Metric Type** list, click **Row**.

- c. In the **Select a Metric Operation** list, click a metric operation.

The **XXX Metric** area appears under **Available Metric Operations**.

Define the metric. For more information, see [Metric operations explained \(page 54\)](#).

- d. In the metrics definition area, click **Create**.
6. Under the **Layout** area, click **Update**.

Related Topics

- [Defining bodies \(example\) \(page 40\)](#)

Defining footers

Define the footer if you want to include a footer in the report.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Footer** tab.
3. Define the footer layout.
 - a. Select the **Title** check box if you want to show the report title.
The **Title** is the name the user gives the report before running it.
 - b. Select the **Date** check box if you want to show the date.
 - c. Select the **Object Count** check box if you want to show the number of reported items.
 - d. Select the **Report Name** check box if you want to show the name of the report.
 - e. Select the **Query Name** check box if you want to show the name of the query.
 - f. Select the **Query String** check box if you want to show the query string.
4. Define footer metric operations (optional).
 - a. In the **Metric Operations** area, click **Add**.
The **Available Metric Operations Definition** subdialog box appears.
 - b. In the **Select a Metric Type** list, click **Column** or **Row & Column**.
 - c. In the **Select a Metric Operation** list, click a metric operation.
The **XXX Metric** area appears under **Available Metric Operations**.
Define the metric. For more information, see [Metric operations explained \(page 54\)](#).
 - d. In the metrics definition area, click **Create**.
5. Under the **Layout** area, click **Update**.

Related Topics

- [Defining footers \(example\) \(page 42\)](#)

Adding charts to reports

Define the image template if you want to include a chart in the report.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Image** tab.
3. Under **Layout**, click **Add**.

The temporary chart name, `_New_Chart`, appears in the subdialog **Charts Included in Report** box.

4. Define the chart.
 - a. In the **Title** box, select the `_New_Chart` string, and then type the chart name.
The title appears in the **Charts Included in Report** list.
 - b. In the **Type** list, click a chart type.
 - c. In the **Tool** list, click a tool.
 - d. In the **Attribute** list, click the attribute to chart.
 - e. In the **2ND Attribute** list, click the attribute to chart, if required.
 - f. In the **Width in Pixels** box, type the graphic width, or accept the default value.
 - g. In the **Height in Pixels** box, type the graphic height, or accept the default value.
5. Click **Update**.

Related Topics

- [Adding charts to reports \(example\) \(page 43\)](#)

Defining grouping

Define attribute grouping if you want the report results to be grouped.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Grouping** tab.
3. Define the grouping layout.
 - a. In the **Group By** list, click the attribute by which to group. For example, if you query for CRs and group using the **product_name** attribute, CRs with the same product name are grouped on the report.
 - b. Select the **Include Grouping Count** check box if you want to show the number of items in the group on the report.
 - c. Select the **Include Grouping Value** check box if you want to show the attribute used to group the results on the report.
4. Select or create charts for the group (optional).

Select one or more charts, or add a chart by performing the following steps:

- a. Under **Charts Included on Grouping Template**, click **Add**.

The **Grouping Chart Layout** subdialog box appears.

The temporary chart name, `_New_Chart`, appears in the subdialog **Charts Included in Report** box.

- b. In the **Title** box, select the `_New_Chart` string, and then type the chart name.
- c. In the **Tool** list, click a tool.
- d. In the **Attribute** list, click the attribute to chart.
- e. In the **2ND Attribute** list, click the attribute to chart, if required.
- f. In the **Width in Pixels** box, type the graphic width, or accept the default value.
- g. In the **Height in Pixels** box, type the graphic height, or accept the default value.
- h. Click **Update**.

The chart title appears in the **Charts Included On Grouping Template** list.

5. Define grouping metric operations (optional).

- a. In the **Metric Operations** area, click **Add**.

The **Available Metric Operations Definition** subdialog box appears.

- b. In the **Select a Metric Type** list, click **Column** or **Row & Column**.
- c. In the **Select a Metric Operation** list, click a metric operation.

The **XXX Metric** area appears under **Available Metric Operations**.

Define the metric. For more information, see [Metric operations explained \(page 54\)](#).

- d. In the metrics definition area, click **Create**.
6. Under the **Layout** area, click **Update**.

Related Topics

- [Defining groupings \(example\) \(page 44\)](#)

Defining sorting

Define attribute sorting if you want the report results to be sorted.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Sorting** tab.
3. Choose the order in which items appear on the report, based on the values of up to three attributes.

Note The grouping attribute takes precedence over the attributes selected on this tab.

- a. In the **Attribute** list, click an attribute.
- b. In the **Sort Type** list, click the type of the attribute.
- c. In the **Direction** list, click **Ascending** or **Descending** order (for example, click **Ascending** to list items in increasing order by attribute value).

Related Topics

- [Defining sorting \(example\) \(page 45\)](#)

Building relation reports

A relation report definition determines the layout and content of information reported for associated CRs, tasks, or objects. Relation Reports are “embedded” in reports, following the parent CRs with which they are associated.

Note The **Main** and **Grouping** tabs are not available for relation reports. Also, relation reports do not have their own queries.

1. Display the **Report Builder** dialog box.
2. [Defining relation reports \(page 28\)](#).
3. In the **Report** list, click the relation report name.
4. [Defining general relation report properties \(page 29\)](#).
5. [Defining headers \(page 19\)](#), which is the information that will appear at the top of each relation report.
6. [Defining report bodies \(page 20\)](#), which is the information that will appear in the body of the relation report.
7. [Defining footers \(page 22\)](#), which is the information that will appear at the bottom of each relation report.
8. [Adding charts to reports \(page 23\)](#), which will appear at the bottom of the relation report.
9. [Defining sorting \(page 26\)](#). Sorting determines the order that the items appear in the report.
10. The report is ready to install. See [Installing reports \(page 30\)](#).

Defining relation reports

Define a relation report if you want to generate a report for associated objects.

1. On the subbutton bar, click **Add Relation Report**.
The **Define a Relation Report** dialog box appears.
2. In the **Report Name** box, type the relation report name.
3. In the **Report Type** list, click **Change Request, Task, or Object**.
4. Specify a relation. In the **Select Existing Relations** list, click the relation report items' relationship to the parent item. **Associated Tasks, Attachments, and Duplicate of** are shipped relations. You can create additional relations by creating relation attributes in the CR Process. The relation appears in the **Report Relation** box.

Or, type the relation name in the **Report Relation** box. For additional information on relation types you can type in, see Rational Synergy Help for the `relate` command.

5. Click **Update**.

Related Topics

- [Building relation reports \(example\) \(page 46\)](#)

Defining general relation report properties

Define the general relation report properties, including the relation report name and what type of objects will be shown in the report.

1. In the **Reportable Attributes** list, select the attributes to display on the relation report.
For information about arranging and setting the attributes, see *Admin Help*.
2. Click **Update**.

Related Topics

- [Defining general relation report properties \(example\) \(page 48\)](#)

Installing reports

Before anyone can use a system report, you must create and install the package for the report.

To install a report:

1. On the subbutton bar, click **Save**.
2. On the subbutton bar, click **Uninstall** to uninstall any previous version of this report.
This operation removes the report package from the **Installed Packages** list on the **Package Installer** tab.
3. On the button bar, click **Install**.
This operation adds the report package to the list of installed packages, and to the user list of **System** reports and formats.

Related Topics

- [Saving and Installing reports \(example\) \(page 51\)](#)

Report Builder example

The following procedures show how to build a CR report, with task relation reports, for all resolved CRs with **hammer**, **saw**, and **drill** product names. The CRs will be grouped by product name, then sorted by request type. This example uses the *dev_process* that is shipped with the product.

To try this example, you must do the following:

1. Add **hammer**, **saw**, and **drill** values to the **product_name** list box attribute.
For information about setting the attributes, see *Admin Help*.
2. Create CRs using the **hammer**, **saw**, and **drill** product names.
3. Create associated tasks for some of the CRs.
4. Complete the associated tasks.
5. Set the completed dates for the CRs.
6. Transition the CRs to the *resolved* state.

Related Topics

- [Building the report \(example\) \(page 32\)](#)
- [Building relation reports \(example\) \(page 46\)](#)
- [Saving and Installing reports \(example\) \(page 51\)](#)

Building the report (example)

Define the report for the CRs.

1. [Starting Rational Change sessions \(page 4\)](#).
2. Install a process package, if you have not done so already.
For example, install the `dev_process` CR Process. For more information, see *Admin Help*.
3. On the Action Panel, click **Report Builder**.
The **Report Builder** dialog box appears, with the **Select Report File** subdialog box displayed.
4. Create the report name.
Type a new report name in the **New Report File** box (including the `.xml` file name extension), and then click **Create**.
5. [Defining queries \(example\) \(page 33\)](#).
6. [Defining general properties \(example\) \(page 35\)](#).
7. [Selecting templates to include \(example\) \(page 37\)](#).
8. [Defining headers \(example\) \(page 38\)](#), which is the information that will appear at the top of the report.
9. [Defining bodies \(example\) \(page 40\)](#), which is the information that will appear in the body of the report.
10. [Defining footers \(example\) \(page 42\)](#), which is the information that will appear at the bottom of the report.
11. [Adding charts to reports \(example\) \(page 43\)](#).
12. [Defining groupings \(example\) \(page 44\)](#).
13. [Defining sorting \(example\) \(page 45\)](#).
14. [Building relation reports \(example\) \(page 46\)](#).
15. To deploy the report being created, see [Saving and Installing reports \(example\) \(page 51\)](#).

Defining queries (example)

Define a query for resolved CRs with product name **hammer**, **saw**, or **drill**.

1. In the **Report Builder** dialog box, click **Define Query**.

The **Define Query** dialog box appears.

2. Choose query criteria.

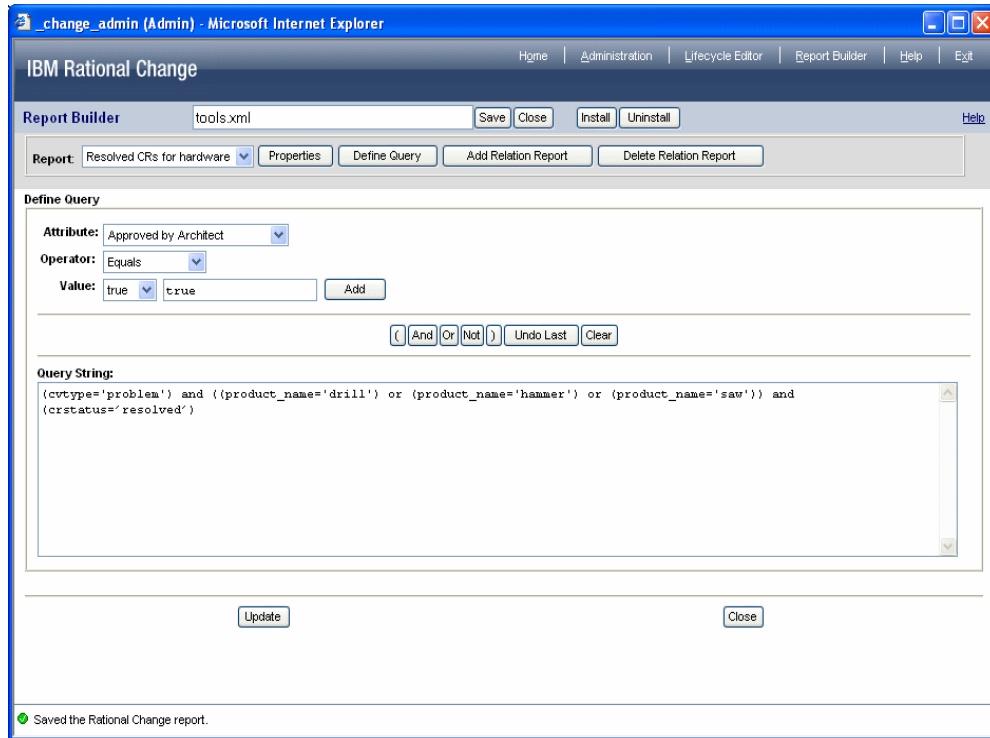
Find all resolved CRs for the **hammer**, **saw**, and **drill** products.

Select an operand, operator, and value, and the appropriate buttons. Repeat these steps until your query is completed. You can also type the entire query, or parts of the query, into the **Query String** box. Your query string should be:

```
(cvtype='problem')  
and  
((product_name='drill') or (product_name='hammer') or  
(product_name='saw'))  
and  
(crstatus='resolved')
```

3. Click **Update**.

The following figure shows the query definition.



Defining general properties (example)

Define the general report properties, including specifying that the report is for change requests and will be in an HTML format.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **General** tab.
3. Define the general report properties.
 - a. In the **Name** box, type `Resolved CRs for hardware`.
 - b. In the **Type** list, click **Change Request**.
 - c. In the **Style** list, click **Block**.
 - d. In the **Format** list, click **HTML**.
 - e. In the **Description** box, type a description of the report; for example, `Report on all resolved CRs for hammer, saw, and drill products`.
4. Select the **Reload button** checkbox, so that a reload button appears on HTML reports.
5. Accept the default values for the **Query Limit** and **String Limit**.
6. In the **Reportable Attributes** list, select the attributes to display on the report.

You will select **Include Border** on the **Attribute** tab; therefore, you need not insert lines between attributes.

The **CR ID**, **Synopsis**, and **Description** attributes are included automatically in the **Chosen Attributes** list when you create a new report.

Also add the following attributes:

Entered Date

Resolution Date

Request Type

Severity

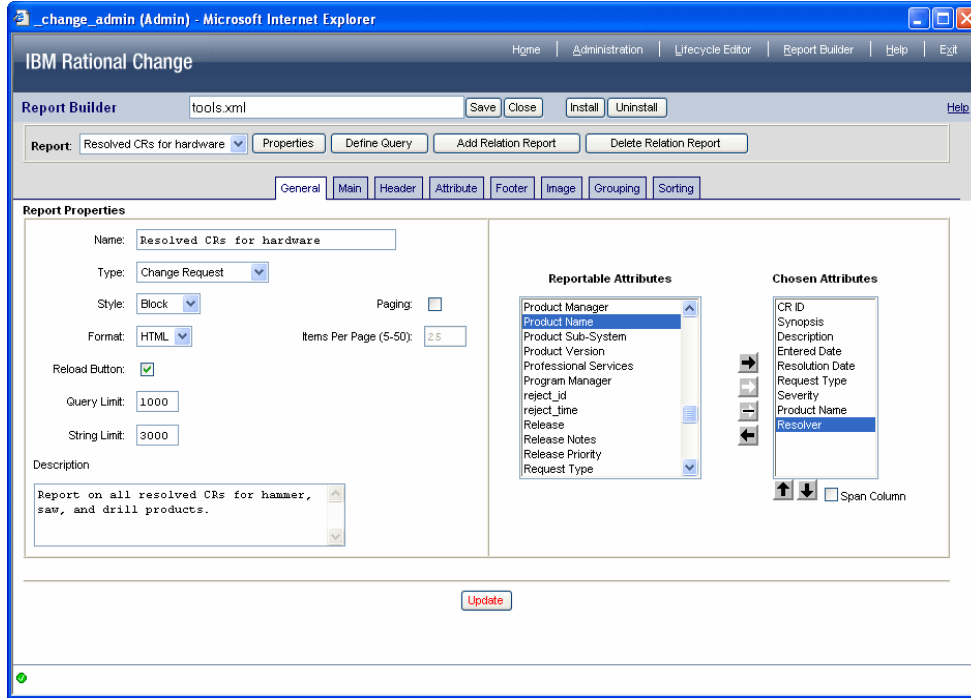
Product Name

Resolver

Select the **Span Column** check box for **problem_synopsis** and **problem_description**.

7. Click **Update**.

The following figure shows the general properties definition.

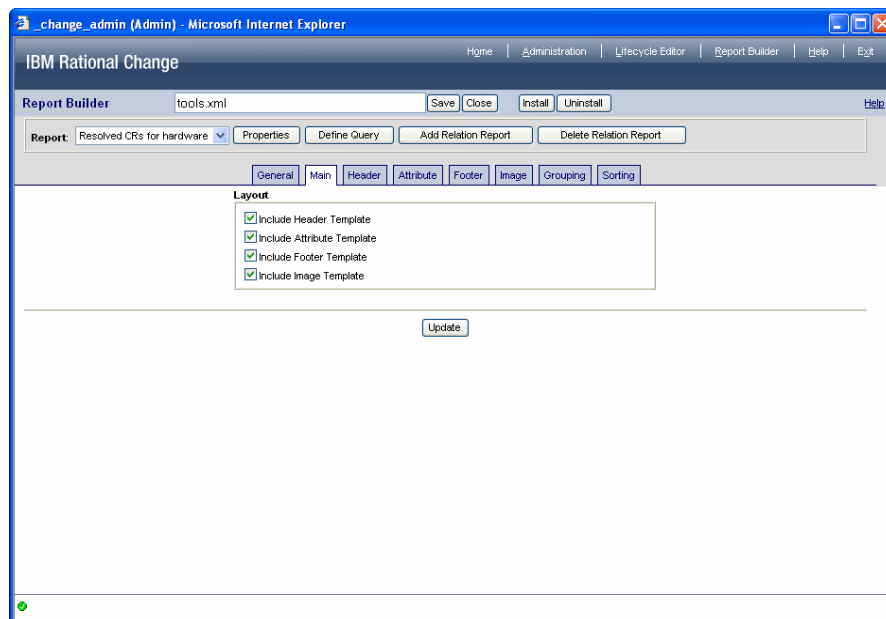


Selecting templates to include (example)

Include a header, footer, body, and image on the report.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Main** tab.
3. Select templates to include on the report.
 - a. Select the **Include Header Template** check box.
 - b. Select the **Include Attribute Template** check box.
 - c. Select the **Include Footer Template** check box.
 - d. Select the **Include Image Template** check box.
4. Click **Update**.

The following figure shows the included templates definition.



Defining headers (example)

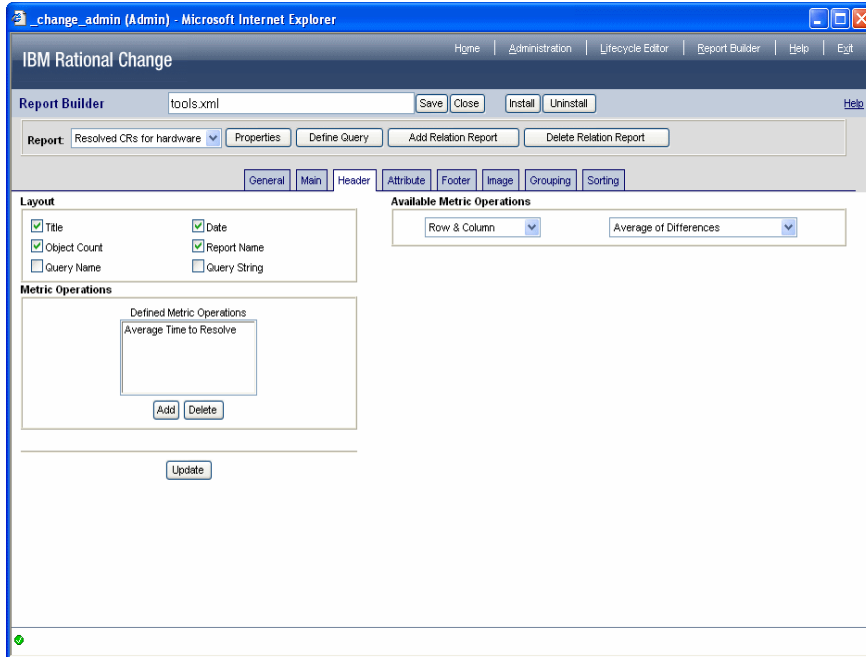
Include a title, date, object count, and report name in the header.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Header** tab.
3. Define the header layout.
 - a. Select the **Title** check box.
 - b. Select the **Date** check box.
 - c. Select the **Object Count** check box.
 - d. Select the **Report Name** check box.
4. Define the header metric operation for computing the average time, in minutes, to resolve a CR.
 - a. In the **Metric Operations** area, click **Add**.

The **Available Metric Operations Definition** subdialog box appears.
 - b. In the **Select a Metric Type** list, click **Row & Column**.
 - c. In the **Select a Metric Operation** list, click **Average of Differences**.

The **Row & Column Average of Differences Metric** area appears under **Available Metric Operations**.
 - d. In the **Label** box, type `Average Time to Resolve`.
 - e. In the **Find the Difference of** list, click **resolution_date**.
 - f. In the **minus** list, click **entry_date**.
 - g. In the **Data Type** list, click **Date**.
 - h. In the **Date Unit** list, click **Minutes**.
 - i. In the metrics definition area, click **Create**.
5. Under the **Layout** area, click **Update**.

The following figure shows the header definition.



Defining bodies (example)

In the body, show how much time is required to resolve CRs.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Attribute** tab.
3. Define the body layout.
 - a. In the **Number of Columns** box, accept the default value (2).
 - b. Select the **Include Border** check box to include borders around attribute/value pairs on the report.
 - c. Clear the **Include Bulk Operations** check box, if set.

In this example, the CRs for the report are already resolved.

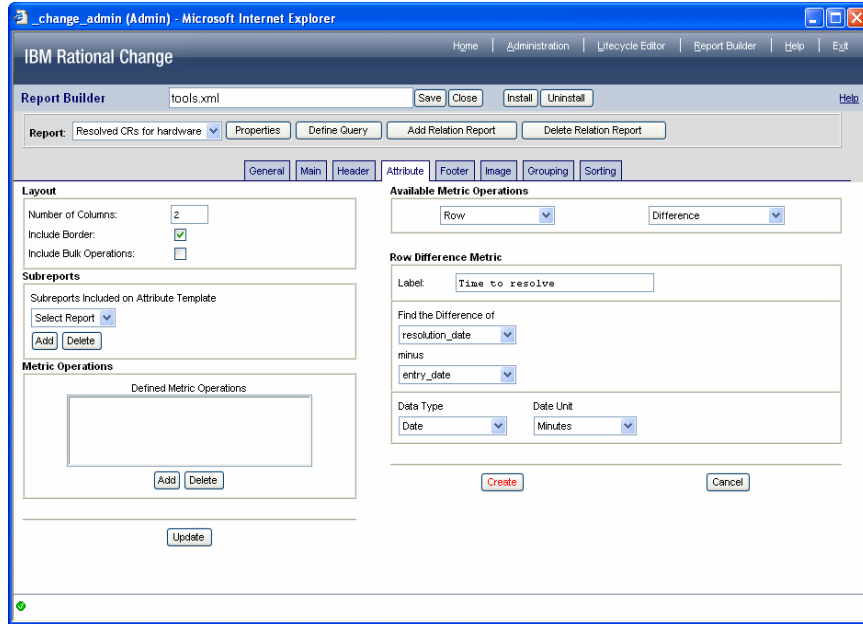
4. Define the body metric operation. For more information about metrics, see [Metric operations explained \(page 54\)](#).
 - a. In the **Metric Operations** area, click **Add**.

The **Available Metric Operations Definition** subdialog box appears.
 - b. In the **Select a Metric Type** list, click **Row**.
 - c. In the **Select a Metric Operation** list, click **Difference**.

The **Row Difference Metric** area appears under **Available Metric Operations**.
 - d. In the **Label** box, type `Time to Resolve`.
 - e. In the **Find the Difference of** list, click `resolution_date`.
 - f. In the **minus** list, click `entry_date`.
 - g. In the **Data Type** list, click **Date**.
 - h. In the **Date Unit** list, click **Minutes**.
 - i. In the metrics definition area, click **Create**.

5. Under the **Layout** area, click **Update**.

The following figure shows the body definition.

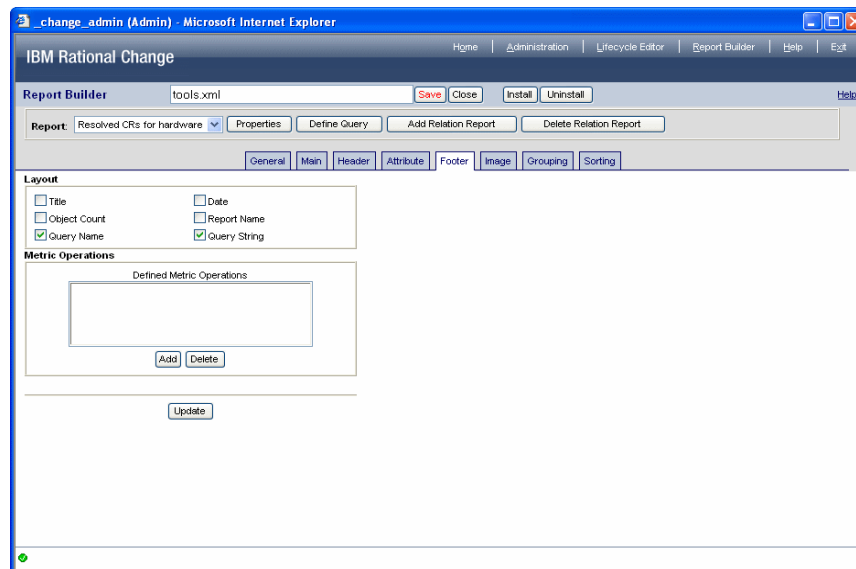


Defining footers (example)

Include the query name and query string in the footer.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Footer** tab.
3. Define the footer layout.
 - a. Select the **Query Name** check box to show the name of the query.
 - b. Select the **Query String** check box to show the query string.
4. Click **Update**.

The following figure shows the footer definition.



Adding charts to reports (example)

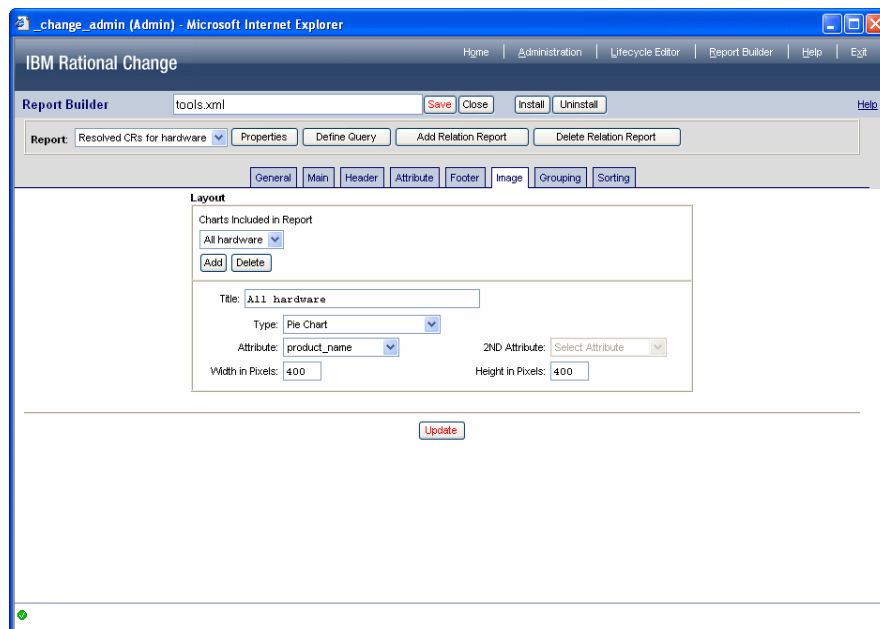
Include a chart that shows the number of resolved CRs for each product.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Image** tab.
3. Under **Layout**, click **Add**.

The temporary chart name, `_New_Chart`, appears in the subdialog **Charts Included in Report** box.

4. Define the chart.
 - a. In the **Title** box, select the `_New_Chart` string, and then type `All hardware`.
 - b. In the **Type** list, click **Pie Chart**.
 - c. In the **Attribute** list, click **product_name** to create the chart products.
 - d. In the **Width in Pixels** and **Height in Pixels** boxes, accept the default values (400 pixels).
5. Click **Update**.

The following figure shows the image definition.

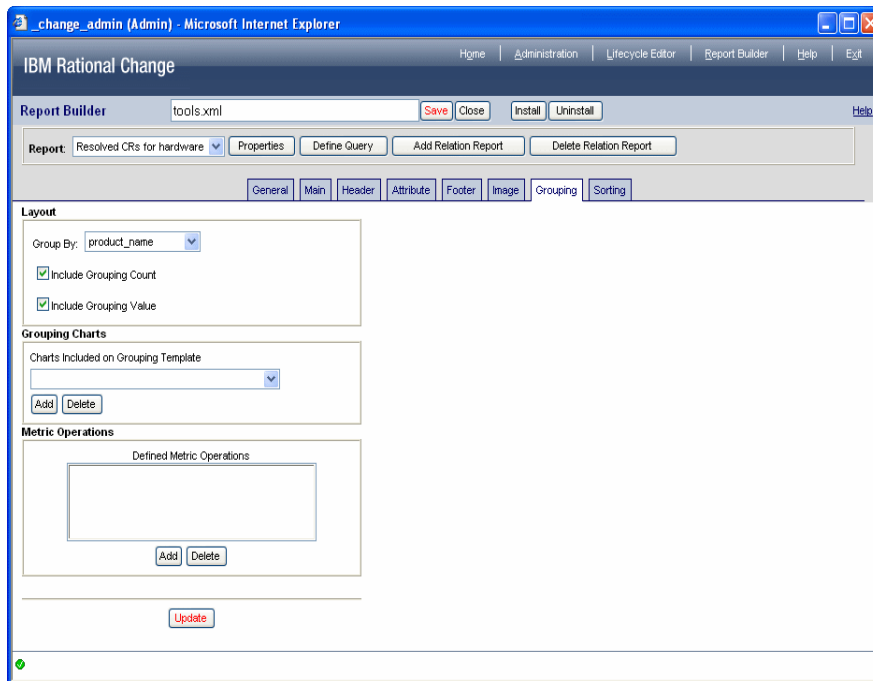


Defining groupings (example)

Group the results by product name.

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Grouping** tab.
3. Define the grouping layout.
 - a. In the **Group By** list, click `product_name`.
 - b. Select the **Include Grouping Count** check box.
 - c. Select the **Include Grouping Value** check box.
4. Click **Update**.

The following figure shows the grouping definition.

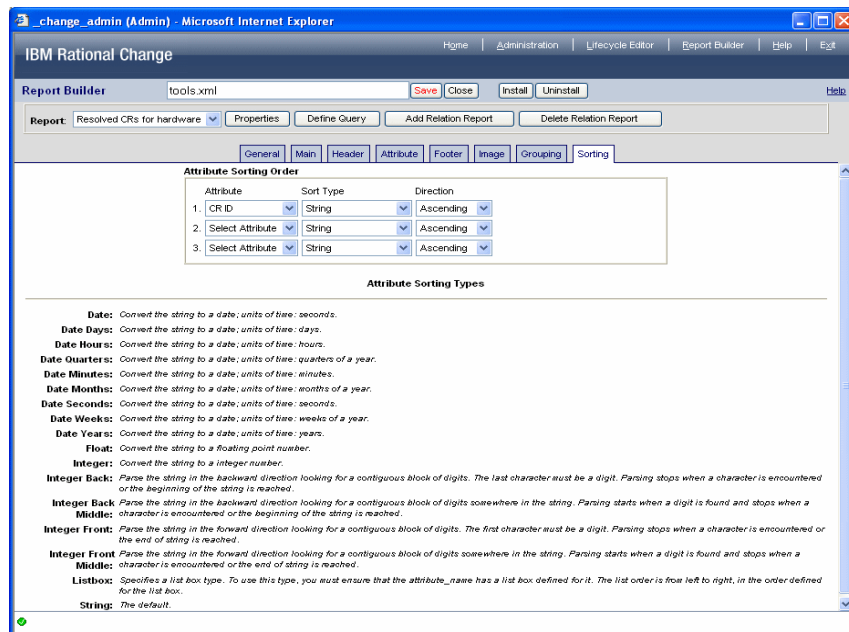


Defining sorting (example)

Sort the results by request type (after the results have been grouped).

1. In the **Report Builder** dialog box, click **Properties**.
2. Click the **Sorting** tab.
3. Choose the order in which items appear on the report.
 - a. In the **Attribute** list, click **request_type**.
 - b. In the **Sort Type** list, click **String** or **listbox** to maintain the listbox order.
 - c. In the **Direction** list, click **Ascending** to list items alphabetically by product name.

The following figure shows the sorting definition.



Building relation reports (example)

Define the relation report for the associated tasks.

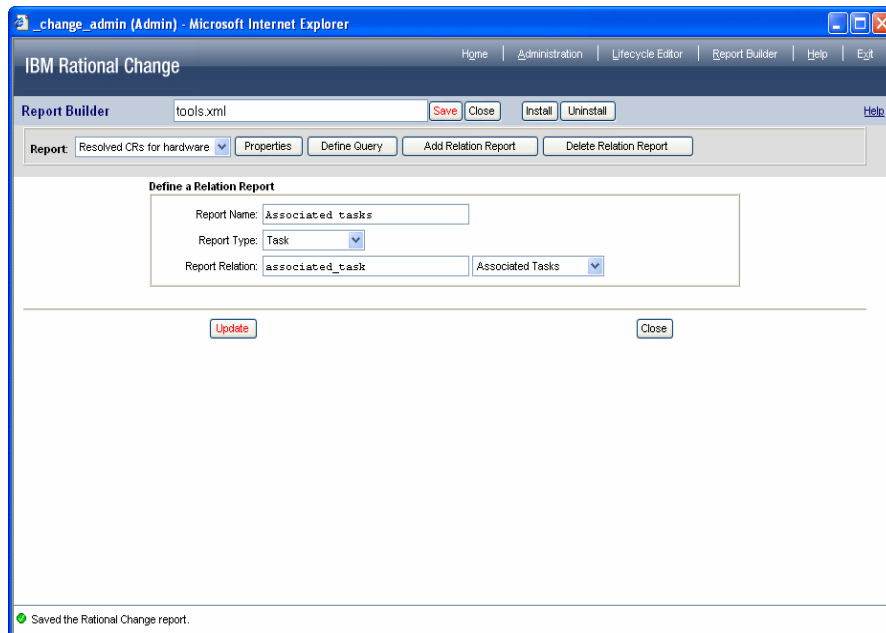
1. Display the **Report Builder** dialog box.
2. [Defining relation reports \(example\) \(page 47\)](#).
3. In the **Report** list, click the relation report name.
4. [Defining general relation report properties \(example\) \(page 48\)](#).
5. [Defining relation report headers \(example\) \(page 49\)](#), which is the information that will appear at the top of each relation report.
6. Define the information that will appear in the body of the relation report.
For steps, see [Defining relation report bodies \(example\) \(page 50\)](#).

Defining relation reports (example)

Define a relation report that shows associated tasks.

1. On the subbutton bar, click **Add Relation Report**.
The **Define a Relation Report** dialog box appears.
2. In the **Report Name** box, type `Associated Tasks`.
3. In the **Report Type** list, click **Task**.
4. In the **Existing Relations** list, click **Associated Tasks**.
The relation appears in the **Report Relation** box.
5. Click **Update**.

The following figure shows the relation report general properties definition.



Defining general relation report properties (example)

Define the general properties of the relation report, including the task attributes to show.

1. In the **Report** list, click the new relation report name.

The **General** tab appears. The **Relation Report Properties** are defined already.

2. In the **Reportable Attributes** list, select the attributes to display on the relation report.

Add the following attributes:

Task ID

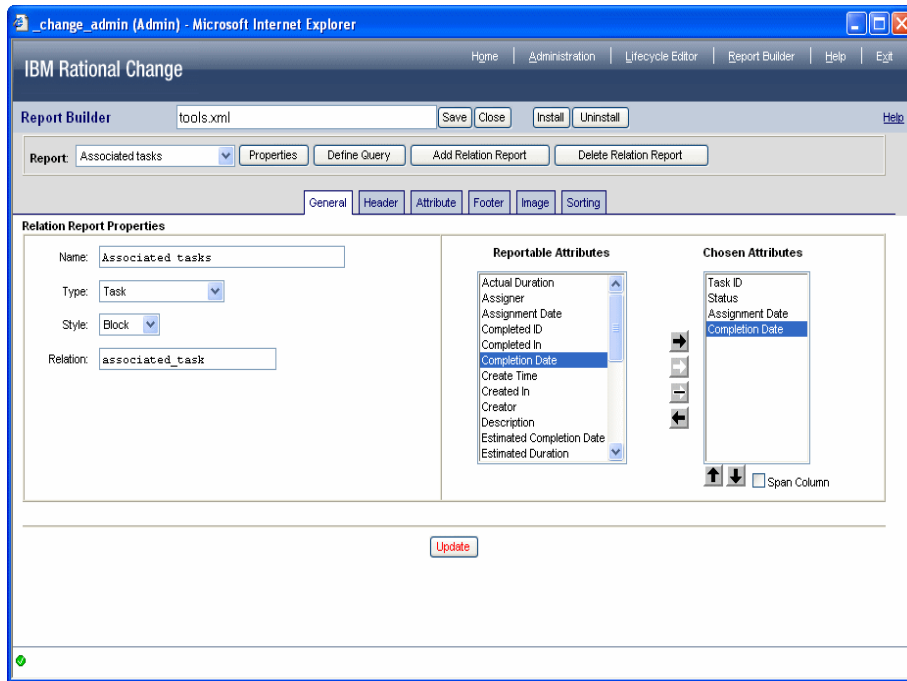
Status

Assignment Date

Completion Date

3. Click **Update**.

The following figure shows the relation report general properties definition.

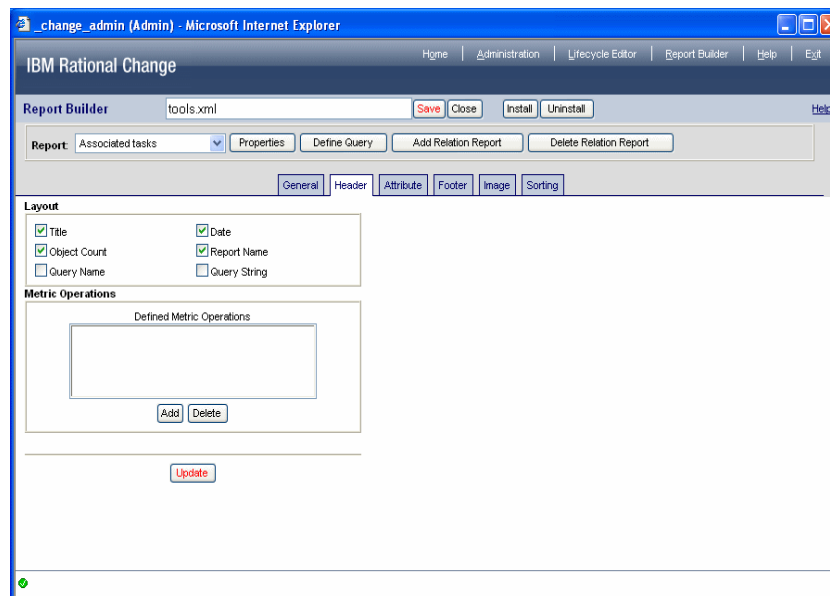


Defining relation report headers (example)

Include a title, date, object count, and report name in the header.

1. In the **Report** list, click the new relation report name.
2. In the **Report Builder** dialog box, click **Properties**.
3. Click the **Header** tab.
4. Define the header layout.
 - a. Select the **Title** check box.
 - b. Select the **Date** check box.
 - c. Select the **Object Count** check box.
 - d. Select the **Report Name** check box.
5. Click **Update**.

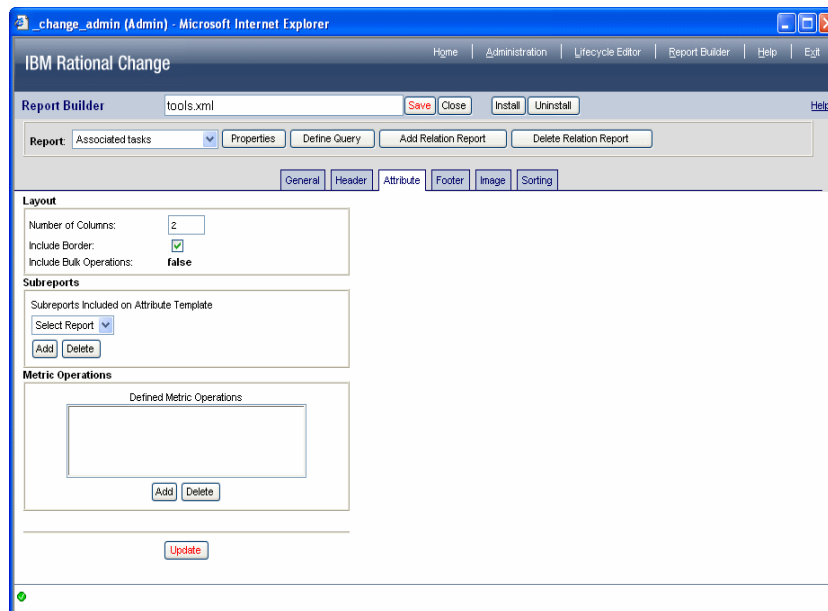
The following figure shows the relation report header definition.



Defining relation report bodies (example)

Define the layout for showing the tasks.

1. In the **Report** list, click the new relation report name.
2. In the **Report Builder** dialog box, click **Properties**.
3. Click the **Attribute** tab.
4. Select **Include border**.
5. Click **Update** to save the settings.



Saving and Installing reports (example)

Before anyone can use the custom report, you must create a package for the report, and then install it.

1. On the button bar, click **Save**.
2. On the button bar, click **Install**.

This operation adds the report package to the list of installed packages, and to users' lists of **System** reports and formats.

3. Run the report.
 - a. Start a session as a user.
 - b. On the Action Panel, click **Reports**.
 - c. In the **Reports** folder, click **System**.
 - d. In the **System** report list, click the new report, then click **Run**.
 - e. View the report.

The following figures show the top and bottom of a custom report generated using this procedure.

(User): csdb1 - Microsoft Internet Explorer

Reload Print Save As...

Title: **The title is not defined.**
 Count: **4**
 Date: **2005/02/25 3:11:10 PM**
 Report: **Resolved CRs for hardware**

Metric Operations	
Average time to resolve	70.5 minutes

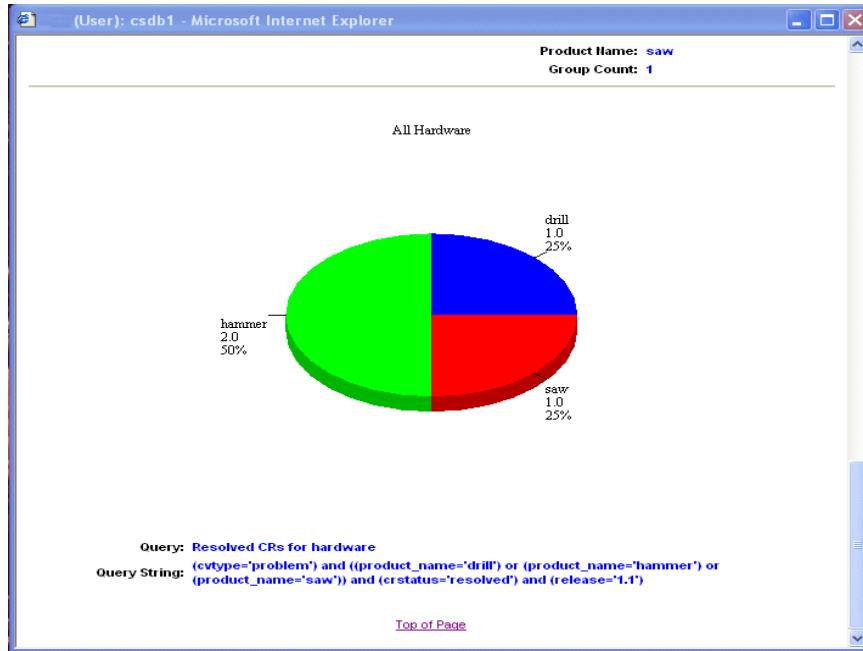
CR ID	57	Status	resolved
Synopsis	drill bit falls off		
Description	Need to fasten drill bit more securely - it fall off after a few minutes of drilling.		
Entered Date	2005/02/25 11:59:59 AM	Resolution Date	2005/02/25 1:12:23 PM
Request Type	Defect	Severity	Severe
Product Name	drill	Resolver	tom

Metric Operations	
Time to Resolve	73.0 minutes

Product Name: **drill**
 Group Count: **1**

CR ID	60	Status	resolved
Synopsis	label on hammer has incorrect information		
Description	Label on hammer gives incorrect usage information		
Entered Date		Resolution Date	2005/02/25 12:59:25 PM
Request Type	Defect	Severity	Medium
Product Name	hammer	Resolver	tom

Metric Operations



More reporting information

Metric operations explained

Metric operations are computations performed with attribute values. The results of the computations, or *metrics*, are included in your report.

Metric operation options are available only on the **Header**, **Footer**, **Attribute**, and **Grouping** tabs.

The metric operation type is either **Row** or **Row & Column**. Rational Change performs Row operations on the specified attributes of each item (CR, task, or object) in a selection set, and performs Row & Column operations first on each item attributes, then across all items.

The following table shows a Rows and Columns example for a set of tasks. The last column, **Attribute_M**, represents the amount of time required to complete the task.

Item	Attribute 1	Attribute 2	Attribute 3	...	Attribute_M
1	Task # 1	Assigned Date 1	Completion Date 1	...	<i>attribute_M 1</i>
2	Task # 2	Assigned Date 2	Completion Date 2	...	<i>attribute_M 2</i>
...
<i>N</i>	Task # <i>N</i>	Assigned Date <i>N</i>	Completion Date <i>N</i>	...	<i>attribute_M N</i>

The following are examples of Row and Row & Column metric operations based on the above table:

- *Difference (Row)*
Compute the time to complete a task -- the difference between the assigned date/time (**Assigned Date**) and completion date/time (**Completion Date**) for each task.
- *Maximum (Column)*
Determine which task was completed last -- had the latest completion date (**Attribute 3**).
- *Average of Differences (Row & Column)*
Compute the average time to complete all tasks -- differences between **Attribute 3** and **Attribute 2**, then averaged)

The list of available metric operations depends on which tab is displayed. **Header** and **Footer** tabs define the content of sections at the top and bottom of each report, for all items in the report; therefore, Column and Row & Column metric operations are available on these tabs because they are performed across all items. The **Attribute** tab defines content for the body of the report, where each item is listed individually; therefore, only Row metric operations are available on this tab. The **Grouping** tab defines item groupings based on their attribute values; therefore, Column and Row & Column metric operations are available on this tab.

Header and **Footer** tabs can group metric operations, thus spanning rows. An **Attribute** tab looks at individual rows only.

Note If the attributes do not exist for the computation you want to perform, you must define the attributes and make them reportable in your CR Process; save, create, and install the updated CR Process; and then add the attributes to the **Attributes in Report** list on the Report Builder **General** tab.

The Report Builder has more than 30 metric operations. For more information about these operations, see the “PTRReport” Wslets section in the *IBM Rational Change Customization Reference*.

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