



IBM Tivoli Netcool Performance Manager for Wireless 9.1.2

Adding attribute filters to a report definition

Tivoli. software



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IBM Tivoli Netcool® Performance Manager for Wireless 9.1.2

Adding attribute filters to a report definition

Assumptions

- Before attempting this IEA, you should already be able to use Using IBM Tivoli Netcool Performance Manager for Wireless 9.1.2 software, know how to:
 - ▶ Create a basic report definition
 - ▶ Open a report result
 - ▶ Use the multiple sort option in the HTML report viewer
- If you can not perform the above tasks, you can learn how to do them by taking an IBM Tivoli Netcool Performance Manager for Wireless 9.1.2 User course:

http://www.ibm.com/software/tivoli/education/edu_prd.html#X916845N81075L22

Assumptions

You should already know the following before attempting this IEA:

Using IBM Tivoli Netcool Performance Manager for Wireless 9.1.2 software, know how to:

Create a basic report definition

Open a report result

Use the multiple sort option in the HTML report viewer

If you can not perform the above tasks, you can learn how to do them by taking the IBM Tivoli Netcool Performance Manager for Wireless 9.1.2 User course

Objectives

Upon completion of this module, you should be able to:

- Modify an existing report definition with attribute filtering
- Filter report output data to focus on either a single network element or a group of network elements
- Use logical operators and the **Value Filter** to insert network elements into the **Add Filters** section

Upon completion of this module, you should be able to:

Modify an existing report definition with attribute filtering.

Filter report output data to focus on either a single network element or a group of network elements.

Use logical operators and the **Value Filter** to insert network elements into the **Add Filters** section.

Adding attribute filters to an existing report definition

Table View

Show/Hide Settings

Show all key columns

Subselect Entities:

Selected Entities:

1-1-1-1
1-1-1-2
1-1-1-3
1-1-2-1
1-1-2-2

Sort by multiple:

Field 1: -none- Order 1: Asc

Field 2: -none- Order 2: Asc

Field 3: -none- Order 3: Asc

apply

page 1 of 2 go

| CELL_CELL_ID | T_DAY | CELL_DROP_CALLS | CELL_FAIL_BSS | CELL_FAIL_LACK |
|--------------|---------|-----------------|---------------|----------------|
| 1-1-1-1 | 3/26/08 | 46815.0 | 47146.0 | 47089.0 |
| 1-1-1-1 | 3/27/08 | | | |
| 1-1-1-2 | 3/26/08 | 50724.0 | 47089.0 | 45415.0 |
| 1-1-1-2 | 3/27/08 | | | |
| 1-1-1-3 | 3/26/08 | 51854.0 | 47081.0 | 50046.0 |
| 1-1-1-3 | 3/27/08 | | | |
| 1-1-2-1 | 3/26/08 | 50339.0 | 47201.0 | 49942.0 |
| 1-1-2-1 | 3/27/08 | | | |
| 1-1-2-2 | 3/26/08 | 44690.0 | 49266.0 | 53495.0 |
| 1-1-2-2 | 3/27/08 | | | |
| 1-1-2-3 | 3/26/08 | 42013.0 | 47234.0 | 43559.0 |
| 1-1-2-3 | 3/27/08 | | | |
| 1-2-1-1 | 3/26/08 | 45681.0 | 46050.0 | 48229.0 |
| 1-2-1-1 | 3/27/08 | | | |
| 1-2-1-2 | 3/26/08 | 46738.0 | 48055.0 | 42013.0 |
| 1-2-1-2 | 3/27/08 | | | |
| 1-2-1-3 | 3/26/08 | 53344.0 | 45672.0 | 48805.0 |
| 1-2-1-3 | 3/27/08 | | | |
| 1-2-2-1 | 3/26/08 | 49860.0 | 51447.0 | 47271.0 |
| 1-2-2-1 | 3/27/08 | | | |
| 1-2-2-2 | 3/26/08 | 48091.0 | 48093.0 | 50305.0 |
| 1-2-2-2 | 3/27/08 | | | |
| 1-2-2-3 | 3/26/08 | 47390.0 | 49842.0 | 47821.0 |
| 1-2-2-3 | 3/27/08 | | | |

Chart View

Adding attribute filters to a report definition © 2009 IBM Corporation

Attributes filters allow PMW users to focus network report results on either a group of network elements or an individual network element. This example report provides data on all cells in a network. Adding attribute filters can exclude unwanted cells from the report output. Reports run with attribute filters provide output data only for the network elements listed in the attribute filter section.

Prerequisites to adding an attribute filter

The screenshot displays the Tivoli Netcool Performance Manager for Wireless web interface. The top navigation bar includes 'MyFavorites', 'Reporting', 'Alarm', 'Browse', 'Monitor', 'Preferences', and 'Tools'. The 'Reporting' menu is expanded, showing sub-options: 'define report', 'manage report', 'new schedule', 'manage schedule', and 'reporting help'. The 'manage report' sub-option is highlighted with a black arrow. Below the navigation bar, a 'Please select a report' dialog box is open, showing a list of report definitions. The 'Type' is set to 'Report Definition', the 'Repository' is 'personal documents', and the 'Folder' is 'sysadm'. A list of report definitions is shown, with 'PMW_Fundamentals_LO_Test_Report' selected. The dialog box has 'open' and 'delete' buttons. On the left side of the interface, a vertical list of steps is shown, all with 'None Selected' status: 'Report Name:', 'Step 1: DataSource Selection', 'Step 2: Focal Entity Type', 'Step 3: Field Selections', 'Step 4: Date-Time Selection', 'Step 5: Filtering', and 'Optional: Extended Functions'. A red banner at the bottom of the interface contains the text 'Adding attribute filters to a report definition' and '© 2009 IBM Corporation'.

To create an attribute filter for an existing report definition the desired original report must first be selected and loaded. To accomplish this prerequisite first left-click the **Reporting** heading and then left-click the **manage report** subheading.

Selecting the report definition

The screenshot displays the Tivoli Netcool Performance Manager for Wireless web interface. The main navigation bar includes 'MyFavorites', 'Reporting', 'Alarm', 'Browse', 'Monitor', 'Preferences', and 'Tools'. The 'Reporting' section is active, with sub-links for 'define report', 'manage report', 'new schedule', 'manage schedule', and 'reporting help'. On the left, a sidebar lists configuration steps: 'Report Name', 'Step 1: DataSource Selection', 'Step 2: Focal Entity Type', 'Step 3: Field Selections', 'Step 4: Date-Time Selection', 'Step 5: Filtering', and 'Optional: Extended Functions'. The central area features a yellow dialog box titled 'Please select a report'. This dialog has a 'Type' dropdown set to 'Report Definition', a 'Repository' dropdown set to 'personal documents', and a 'Folder' dropdown set to 'sysadm'. Below these, a list box contains the report name 'PMW_Fundamentals_LO_Test_Report'. At the bottom of the dialog are 'open' and 'delete' buttons. Two black arrows point from the text below to the report name in the list and the 'open' button. The footer of the interface includes a red bar with a navigation icon and the text 'Adding attribute filters to a report definition' and '© 2009 IBM Corporation'.

Select the desired existing report definition from the drop-down menu options. Click onto the desired report name found within the lower box, then click the **open** button.

Modifying the report definition

Tivoli Netcool Performance Manager for Wireless

Help About Bookmark Logout: sysadm IBM

MyFavorites Reporting Alarm Browse Monitor Preferences Tools

define report **manage report** new schedule manage schedule reporting help

Report Name
PMW_Fundamentals_ILO_Test_Report

Folder
personal documents\j. Users\sysadm

Step 1: Data Source Selection
student138.ibm.com-rs

Step 2: Focal Entity Type
Cell

Step 3: Field Selections
Cell Nokia Handovers.msc_o_cal_cr, Cell Nokia Handovers.msc_o_adj_cell_id_err_c, Cell Nokia Handovers.msc_i_fai_lock, Cell Nokia Handovers.msc_i_fai_conn, Cell Nokia Handovers.msc_i_fai_bss

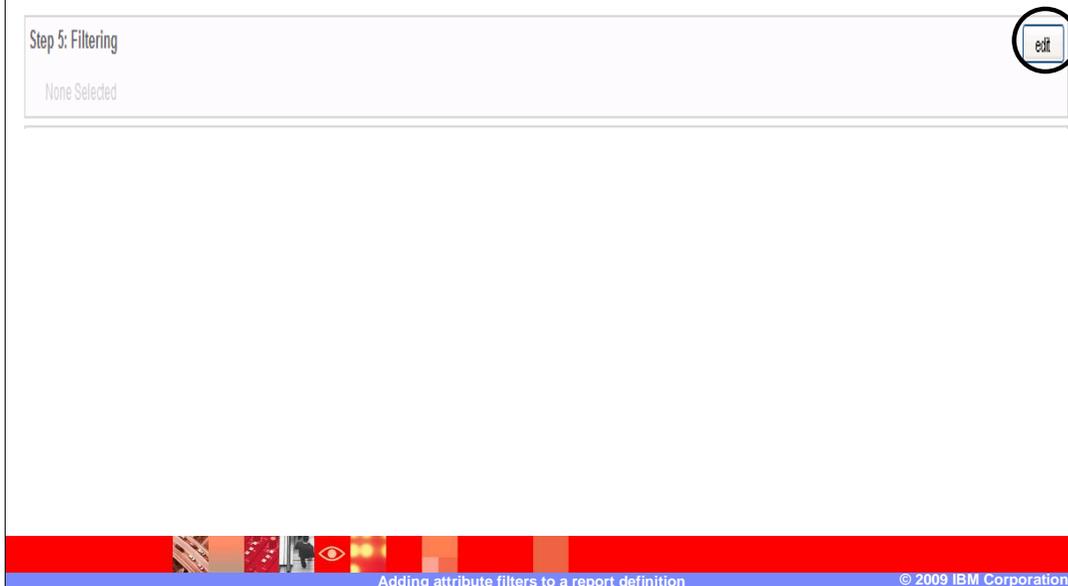
Step 4: Date-Time Selection
Selected Date-Times
3/26/08 12:27:08 00:00-24:00
Start Of Week: Default (Sunday)

Step 5: Filtering
None Selected

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At this point steps 1 through 4 will be filled with the report definition data from the existing report.

Adding attribute filters to a report definition



To add an attribute filter to the existing report definition make sure that all of the mandatory report parameters are properly completed in steps 1 through 4 of your report definition. Next, click the **edit** button found to the far right within the **Step 5: Filtering** section.

Setting up attribute filter options

Step 5: Filtering

Attribute Filters

Cell Browse Entities Cell_Id equals more and

add

Added Filters

Adding attribute filters to a report definition

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Under **Attribute Filters** select the report definitions focal entity. In this report the focal entity is Cell. To filter report output to exclude all but a single cell you use the cell's identifier attribute entity, Cell_Id, from the second drop-down menu. Next, click the **more** button found over to the far right. To create a similar filter for multiple cells that report to the same base station you can use the base station identifier, BS_Id.

Adding the attribute filter

Step 5: Filtering

Attribute Filters

Cell Cell_Id equals less and

Value Filter:

1-1-1-1
1-1-1-2
1-1-1-3
1-1-2-1

Added Filters

As the cell IDs appear in the **add|delete** section highlight the cell you are interested in and click the **add** button. In the example the cell 1-1-1-1 is selected.

Adding the attribute filter

Step 5: Filtering

The screenshot shows the 'Attribute Filters' dialog box. At the top, there are dropdown menus for 'Cell' and 'Cell_Id', and buttons for 'Browse Entities', 'equals', 'less', and 'and'. Below this is a 'Value Filter:' input field with an 'apply' button. A list of values is shown: 1-1-1-1, 1-1-1-2, 1-1-1-3, and 1-1-2-1. Below the list are 'add' and 'delete' buttons. A separate box contains the value '1-1-1-1' and an 'add' button. At the bottom, there is an 'Added Filters' section with an 'add' button circled in red.

Adding attribute filters to a report definition

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Cell_Id 1-1-1-1 is now in the lower box. Highlighting Cell_Id 1-1-1-1 again and clicking the lowest **add** button completes modifying the report definition to focus on presenting only Cell_Id 1-1-1-1 output data.

Added filters

Step 5: Filtering

The screenshot displays the 'Attribute Filters' configuration window. At the top, there are dropdown menus for 'Cell' and 'Cell_Id', along with operators 'equals', 'less', and 'and'. Below this is a 'Value Filter' section with a list of values: 1-1-1-1, 1-1-1-2, 1-1-1-3, and 1-1-2-1. An 'add' button is positioned below the list, and a 'delete' button is to its right. Below the list is a text input field containing '1-1-1-1' and another 'add' button. At the bottom of the window, the 'Added Filters' section shows a table with one row: 'Cell.Cell_Id = 1-1-1-1' with a checked checkbox and an 'AND' operator. A 'delete' button and an 'and/or' toggle are also present.

Adding attribute filters to a report definition

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Cell.Cell_Id 1-1-1-1 has been added to the **Added Filters** list. Checking the box is required only if it is desired to delete the added filter. Reports focus output results on any items listed in the **Added Filters** section. Once the **Added Filters** section is filled the resulting report will only show data for the listed network elements. In the example the report output will only present data for the cell with an ID of 1-1-1-1.

Running the revised report

| |
|--------------------------------------------|
| Busy Hour |
| None Selected |
| Group by |
| Attribute And Time: Cell.Cell_Id, Day |
| Ranking |
| None selected |
| FILTERED N-HIGH |
| None selected |
| REHOMING |
| true |
| CONFIDENCE FACTOR: |
| <input type="checkbox"/> Confidence Factor |

save run cancel



Now scroll to the bottom of the PMW screen and click **run**.

Report setup

MyFavorites Reporting Alarm Browse Monitor Preferences Tools

define report **manage report** new schedule manage schedule reporting help

Report Name
PMW_Fundamentals_LO_Test_Report

Folder
[personal documents] /Users/sysadm

Step 1: DataSource Selection
student138.ibm.com-rs

Step 2: Focal Entity Type
Cell

Step 3: Field Selections
Cell.Nokia.Handovers.mec_o_call_ch, Cell.Nokia.Handovers.mec_o_adj_cell_id_err_c, Cell.Nokia.Handovers.mec_i_fall_ack,
Cell.Nokia.Handovers.mec_i_fall_comm, Cell.Nokia.Handovers.mec_i_fall_bas

Step 4: Date-Time Selection
Selected Date-Times
3/26/08-3/27/08 00:00-24:00
Start Of Week: Default (Sunday)

Step 5: Filtering
Attribute Filters
Cell_Cell_Id = 1-1-1-1
Traffic Filters
Vendor Filters
None Selected

Name: PMW_Fundamentals_LO_Test_Report

Report results stored in:
[personal documents] /Users/sysadm

Auto-organize report output:
not set

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At this point the entire report setup can be seen on the left which includes the **Step 5: Filtering** for Cell.Cell_Id 1-1-1-1. Press the **run report & wait** button located in the right column to get the report output data.

Filtered report output

Tivoli Netcool Performance Manager for Wireless

Rollup level: CELL_CELL_ID.T_DAY

PMW_Fundamentals_ILO_Test_Report-sysadm-2009-Mar-12-08:32:00

Table View

page 1 of 1

| CELL_CELL_ID | T_DAY | MSC_O_CALL_CLR | MSC_D_ADJ_CELL_ID_ERR_C | MSC_I_FAIL_LACK | MSC_I_FAIL_CONVI | MSC_I_FAIL_BSS |
|--------------|---------|----------------|-------------------------|-----------------|------------------|----------------|
| 1-1-1-1 | 3/20/08 | 43101.0 | 47883.0 | 45205.0 | 46077.0 | 46771.0 |
| 1-1-1-1 | 3/27/08 | | | | | |

Selected Entity: 1-1-1-1

Sort by multiple:

Field 1: -none- Order 1: Asc

Field 2: -none- Order 2: Asc

Field 3: -none- Order 3: Asc

apply

Adding attribute filters to a report definition

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After running the revised report with the selected attribute filter the report displays the data for Cell.Cell_Id 1-1-1-1.

Using logical operators in attribute filtering

Step 5: Filtering

The screenshot shows the 'Attribute Filters' section of the PMW client GUI. It includes a dropdown menu for 'Cell', a 'Browse Entities' button, and a text input field containing 'Cell_Id'. To the right, there is a dropdown menu for logical operators, currently set to 'equals'. A dropdown menu is open, listing the following options: 'equals', 'does not equal', 'greater than', 'greater than or equal', 'less than', 'less than or equal', and 'contains'. An arrow points to the 'contains' option. Below the main filter area is an 'add' button and an 'Added Filters' section.

Adding attribute filters to a report definition

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The PMW client GUI screen offers seven types of logical operators: **equals**, **does not equal**, **greater than**, **greater than or equal**, **less than**, **less than or equal**, and **contains**. These logical operators are used to filter report data output to exclude all but either a single network element or a specific group of network elements.

Using logical operators in attribute filtering

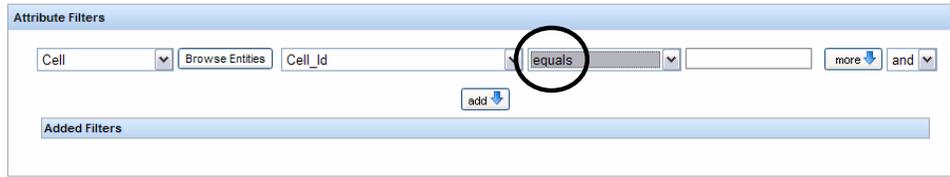
The screenshot displays the 'Reporting' configuration page in the Tivoli Netcool Performance Manager for Wireless. The interface is divided into several sections: 'Report Name', 'Folder', 'Step 1: DataSource Selection', 'Step 2: Focal Entity Type', 'Step 3: Field Selections', 'Step 4: Date-Time Selection', and 'Step 5: Filtering'. The 'Step 5: Filtering' section is the primary focus, containing an 'Attribute Filters' area with a 'Browse Entities' button and a list of 'Added Filters'. A black oval highlights the 'Attribute Entities' drop-down menu, which is open and shows a long list of network-related attributes such as Cell_Id, Cell_Name, Cell_Type, Cell_Version, Dedicated_PDCH, Defined_CCH, Defined_PDCH, Defined_TCH, Defined_TRX, GPRS_Cell_Id, LAC_Id, Max_Power, MSC_Id, Network_Id, NSVC_CN_Id, NSVC_Id, PCU_Id, Primary_Common_Pilot_Ch_Power, Primary_Scrambling_Code, Primary_Sync_Ch_Power, Region_Id, Registration_Area_Id, Routing_Area_Id, Secondary_Sync_Ch_Power, Segment_Id, SGSN_Id, Technology, UMTS_Cell_Id, UTRAN_Absolute_Radio_Freq_DL, and UTRAN_Absolute_Radio_Freq_UL. The 'Cell_Id' attribute is currently selected in the filter configuration.

Adding attribute filters to a report definition © 2009 IBM Corporation

The specific network element types that logical operations are performed on is selected by the PMW user from choices revealed within the attribute entities drop-down menu.

Using the equals logical operator

Step 5: Filtering



The screenshot shows the 'Attribute Filters' section of a software interface. It features a dropdown menu with 'Cell' selected, a 'Browse Entities' button, and a text input field containing 'Cell_Id'. To the right of the text field is a dropdown menu with 'equals' selected, which is circled in black. Further right are 'more' and 'and' buttons. Below this row is an 'add' button. Underneath is an 'Added Filters' section, which is currently empty.

Adding attribute filters to a report definition

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Equals is used when the PMW user wants to focus report output on presenting data pertaining to a single network element as opposed to a group of network elements.

Using the equals logical operator: Selecting the attribute entity

Step 5: Filtering

The screenshot shows the 'Attribute Filters' configuration window. It contains a dropdown menu set to 'Cell', a 'Browse Entities' button, a text field containing 'Cell_Id', a dropdown menu set to 'equals', a text field containing '1-1-1-1', a 'more' button with a downward arrow, and an 'and' dropdown menu. Below this configuration is an 'add' button with a downward arrow. At the bottom of the window is an 'Added Filters' section, which is currently empty.

Adding attribute filters to a report definition

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In this example we filter for attribute entity Cell_Id 1-1-1-1 with the **equals** logical operator. This will program the report definition to exclude data pertaining to all other network elements types. We further filter for output data presentation only related to network element Cell_Id 1-1-1-1.

Using the equals logical operator: Adding the filter

Step 5: Filtering

Attribute Filters

Cell Cell_Id equals 1-1-1-1

Added Filters

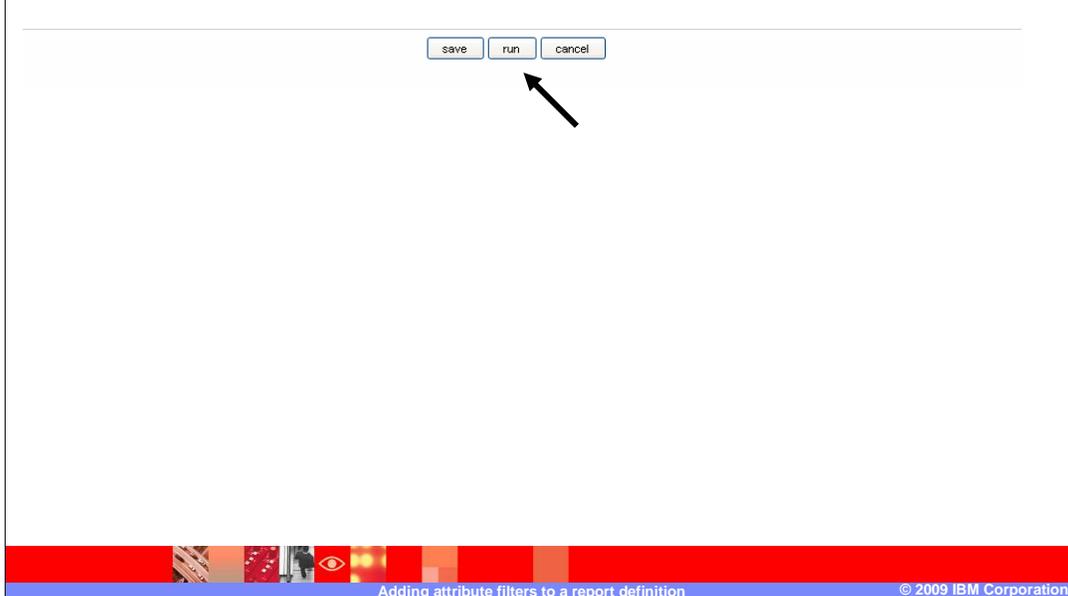
Cell.Cell_Id = 1-1-1-1 AND

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Upon clicking the **add** button Cell_Id 1-1-1-1 is moved to the **Added Filters** box.

Using the equals logical operator: Generating the report



With the report definition attribute filtering set for Cell_Id 1-1-1-1 we scroll to the bottom of the PMW client GUI screen and click the **run** button to start report generation.

Using the equals logical operator: Run choices

The screenshot displays the Tivoli Netcool Performance Manager for Wireless interface. The main window is titled "Report Name: PMW_Fundamentals_ILO_Test_Report". The interface is divided into two main columns. The left column contains configuration steps: Step 1: DataSource Selection (student138.ibm.com/rs), Step 2: Focal Entity Type (Cell), Step 3: Field Selections (Cell Nokia Handovers.msc_o_cal_cr, Cell Nokia Handovers.msc_o_adj_cell_id_err_c, Cell Nokia Handovers.msc_i_fai_lock, Cell Nokia Handovers.msc_i_fai_conn, Cell Nokia Handovers.msc_i_fai_bss), Step 4: Date-Time Selection (Selected Date-Times: 3/26/08-3/27/08, 00:00-24:00; Start Of Week: Default (Sunday)), and Step 5: Filtering (Attribute Filters: Cell_Cel_Id = 1-1-1-1; Traffic Filters: None Selected; Vendor Filters: None Selected). The "Step 5: Filtering" section is circled in red. The right column shows the report name, "Report results stored in: [personal documents]:/Users/sysadm", "Auto-organize report output: not set", and three buttons: "run report & wait", "run report in background", and "cancel". These buttons are also circled in red. The bottom of the interface features a red banner with the text "Adding attribute filters to a report definition" and "© 2009 IBM Corporation".

After pressing the **run** button on the previous screen we see that **Step 5: Filtering** in the lower left column has Cell_Id 1-1-1-1 listed as an **Attribute Filter**. This instructs PMW to run the report and to only output data for network element Cell_Id 1-1-1-1. In the lower part of the right column we can either click to **run report & wait**, **run report in background**, or **cancel** the report run.

Using the contains logical operator

Step 5: Filtering



The screenshot shows the 'Attribute Filters' section of a report definition tool. It features a search bar with a dropdown menu set to 'Cell', a 'Browse Entities' button, and a text input field containing 'Cell_Id'. A dropdown menu for logical operators is open, with 'contains' selected and circled in black. To the right of the operator dropdown is an empty text input field, followed by 'more' and 'and' buttons. Below the search bar is an 'add' button. Underneath is an 'Added Filters' section, which is currently empty.

Adding attribute filters to a report definition

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In this example we will demonstrate using the contains logical operator. The contains logical operator is always utilized when the PMW user wants to add more than one network element to the report definition.

Using the contains logical operator: Selecting network elements

Step 5: Filtering

The screenshot shows the 'Attribute Filters' section of a software interface. It features a search bar with a dropdown menu set to 'Cell', a 'Browse Entities' button, and a text input field containing 'Cell_Id'. To the right of the input field is a dropdown menu set to 'contains', followed by a text input field containing '1-1-1-1, 1-1-1-2'. This input field is circled in black. To the right of the circled field are 'more' and 'and' buttons. Below the search bar is an 'add' button with a downward arrow. Below the search bar is an 'Added Filters' section, which is currently empty.

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In this example we filter for Cell_Id names 1-1-1-1 and 1-1-1-2. We use a comma and a space to separate the two network element entries.

Using the contains logical operator: moving IDs to add filters box

Step 5: Filtering

Attribute Filters

Cell Cell_Id contains 1-1-1-1, 1-1-1-2 more and

add

Added Filters

| | | | |
|---------------------------------------|----|------------------|-----|
| <input type="checkbox"/> Cell.Cell_Id | IN | 1-1-1-1, 1-1-1-2 | AND |
|---------------------------------------|----|------------------|-----|

delete and/or

Adding attribute filters to a report definition

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Then click on the **add** button to move the desired Cell_Ids to the **Add Filters** box.

Using the contains logical operator: generating report

save run cancel



With the report definition attribute filtering set for Cell_Id 1-1-1-1 and Cell_Id 1-1-1-2 we scroll to the bottom of the PMW client GUI screen and click on **run** to start report generation.

Using the contains logical operator: Run choices

The screenshot displays the Tivoli Netcool Performance Manager for Wireless interface. The main content area is divided into two columns. The left column contains configuration steps: Step 1: Data Source Selection (student138.ibm.com-rs), Step 2: Focal Entity Type (Cell), Step 3: Field Selections (listing various Nokia Handovers fields), Step 4: Date-Time Selection (3/26/08-3/27/08), and Step 5: Filtering (with Attribute Filters containing 'Cell_Cell_Id N 1-1-1-1, 1-1-1-2'). The right column shows report details: Name: PMW_Fundamentals_ILLO_Test_Report, Report results stored in: [personal documents] /Users/sysadm, and Auto-organize report output: not set. At the bottom of the right column, three buttons are visible: 'run report & wait', 'run report in background', and 'cancel'. A black oval highlights these buttons. Another black oval highlights the 'Attribute Filters' section in Step 5. The footer of the interface includes the text 'Adding attribute filters to a report definition' and '© 2009 IBM Corporation'.

Now we can see that **Step 5: Filtering** in the lower left column has Cell_Id 1-1-1-1 and 1-1-1-2 listed as **Attribute Filters**. In the lower box of the right column we can either click to **run report & wait**, **run report in background**, or **cancel** the report run.

Using the value filter

Step 5: Filtering

The screenshot shows the 'Attribute Filters' configuration window. At the top, there are dropdown menus for 'Cell' and 'Cell_Id', and a 'Browse Entities' button. Below these are operators: 'equals', 'less', and 'and'. The main area is titled 'Value Filter' and contains a text input field with an asterisk (*) entered. To the right of the input field is an 'apply' button. Below the input field is a list box containing the following items: 1-1-1-1, 1-1-1-2, 1-1-1-3, and 1-1-2-1. Below the list box are 'add' and 'delete' buttons. At the bottom of the window, there is an 'Added Filters' section with an 'add' button.

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The Value Filter is used to limit the number of elements displayed. First the asterisk (*) wildcard value is entered in the **Value Filter** box. Next the **apply** button is clicked. The combination of settings produces a list of all Cell_Id network elements.

Using the value filter: Modifications

Step 5: Filtering

The screenshot shows the 'Attribute Filters' interface. At the top, there are dropdown menus for 'Cell' (set to 'Cell_Id'), 'Browse Entries', 'equals', 'less', and 'and'. Below this is the 'Value Filter' section, which contains a text input field with '1-1-1-3' and an 'apply' button. An arrow points to the 'apply' button. Below the input field are 'add' and 'delete' buttons, with the 'add' button circled. At the bottom of the interface is an 'Added Filters' section, which is currently empty. The 'add' button in this section is also circled.

Adding attribute filters to a report definition

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In this example modification is made. First entry of Cell_Id 1-1-1-3 is made into the **Value Filter** box. Next click the **apply** button. We then see that all Cell_Id names are eliminated except for Cell_Id 1-1-1-3. Now we can use the **add** buttons to drop Cell_Id 1-1-1-3 to the **Added Filters** area.

Using the value filter: Add process

Step 5: Filtering

The screenshot shows the 'Attribute Filters' configuration window. At the top, there are dropdown menus for 'Cell' and 'Cell_Id', followed by 'Browse Entries', 'equals', 'less', and 'and'. Below this is a 'Value Filter' section with a text input field containing '1-1-1-3' and an 'apply' button. A red circle highlights the '1-1-1-3' text. Below the input field are 'add' and 'delete' buttons. An arrow points to the 'add' button. At the bottom of the window, there is an 'Added Filters' section with an 'add' button.

Adding attribute filters to a report definition

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Highlight Cell_Id 1-1-1-3 and click the **add** button.

Using the value filter: Added filters

Step 5: Filtering

Attribute Filters

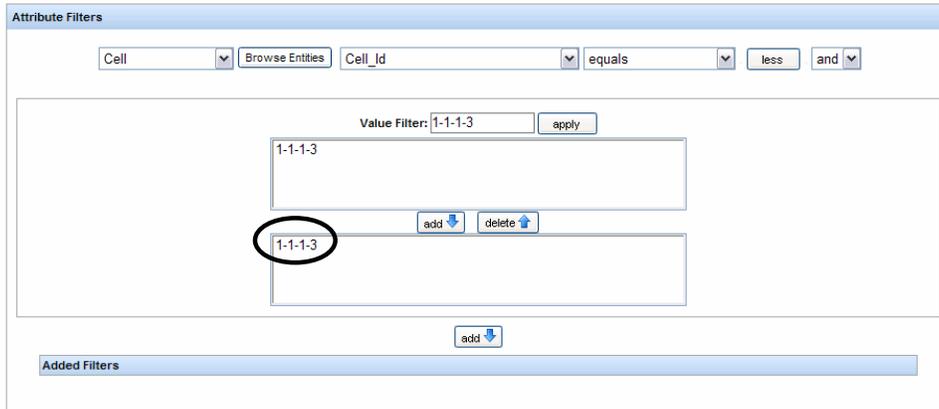
Cell Browse Entities Cell_Id equals and

Value Filter:

1-1-1-3

1-1-1-3

Added Filters



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Cell_Id 1-1-1-3 is now dropped to the lower box.

Using the value filter: Confirming addition

Step 5: Filtering

The screenshot displays the 'Attribute Filters' configuration window. At the top, there are dropdown menus for 'Cell' and 'Cell_Id', and buttons for 'Browse Entities', 'equals', 'less', and 'and'. Below this is a 'Value Filter' section with a text input containing '1-1-1-3' and an 'apply' button. A list below shows two entries of '1-1-1-3'. The bottom entry is highlighted with a black circle. To the right of this entry are 'add' and 'delete' buttons. Below the list is another 'add' button. An arrow points from this 'add' button to the 'Added Filters' section at the bottom of the window.

Attribute Filters

Cell Browse Entities Cell_Id equals less and

Value Filter: 1-1-1-3 apply

1-1-1-3

1-1-1-3

add delete

add

Added Filters

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First, highlight Cell_Id 1-1-1-3 in the lower box. Next, click the lower **add** button.

Using the value filter: Summary

Step 5: Filtering

The screenshot displays the 'Attribute Filters' configuration window. At the top, there are dropdown menus for 'Cell' and 'Cell_Id', a 'Browse Entities' button, and operators 'equals', 'less', and 'and'. Below this is the 'Value Filter' section, which includes a text input field containing '1-1-1-3' and an 'apply' button. Two lists of '1-1-1-3' are shown, each with 'add' and 'delete' buttons. At the bottom, the 'Added Filters' section is circled in black. It contains a table with one row: a checkbox, the text 'Cell_Cell_Id', an equals sign, the value '1-1-1-3', and the word 'AND'. There are also 'delete' and 'and/or' buttons next to the filter entry.

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To summarize we used **Value Filter** to select Cell_Id 1-1-1-3 from a list of available Cell_Id network elements. Then we dropped Cell_Id 1-1-1-3 to the **Added Filters** section.

Using the value filter: Wildcard example

Step 5: Filtering

Attribute Filters

Cell Browse Entries Cell_Id equals less and

Value Filter: 2-*

Added Filters

This example shows another use of **Value Filter**. The Value Filter has a wildcard asterisk (*) option that allows the PMW user to make multiple network elements available for selection. Here we enter the character string 2- with the asterisk. Next, click the **apply** button.

Using the value filter: Elements displayed

Step 5: Filtering

The screenshot shows the 'Attribute Filters' dialog box. At the top, there are dropdown menus for 'Cell' and 'Cell_Id', and a text input field containing 'Browse Entries'. Below this, there are radio buttons for 'equals', 'less', and 'and'. The main area contains a 'Value Filter' input field with the text '2.*'. An arrow points to an 'apply' button next to it. Below the input field is a list box containing the following items: 2-3-1-1, 2-3-1-2, 2-3-1-3, and 2-3-2-1. The first three items are circled. Below the list box are 'add' and 'delete' buttons. At the bottom of the dialog, there is an 'Added Filters' section with an 'add' button.

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After clicking on the **apply** button the lower box reveals all of the Cell Id network elements that start with 2.

Using the value filter: Selecting multiple elements

Step 5: Filtering

The screenshot shows the 'Attribute Filters' dialog box. At the top, there are dropdown menus for 'Cell' and 'Browse Entities', followed by 'Cell_Id', 'equals', 'less', and 'and'. Below this is a 'Value Filter' field containing '2-*' and an 'apply' button. A list of network elements is shown: 2-3-1-1, 2-3-1-2, 2-3-1-3, and 2-3-2-1. The first two elements are selected. Below the list are 'add' and 'delete' buttons. At the bottom, there is an 'Added Filters' section with an 'add' button.

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Now you can select two of the listed Cell Id network elements by holding down the Ctrl key while clicking to select them.

Using value filter: Moving selected IDs

Step 5: Filtering

The screenshot shows the 'Attribute Filters' window. At the top, there are dropdown menus for 'Cell' (set to 'Cell'), 'Browse Entities', 'Cell_Id', 'equals', 'less', and 'and'. Below this is a 'Value Filter' section with a text input containing '2-*' and an 'apply' button. A list of IDs is shown: 2-3-1-1, 2-3-1-2, 2-3-1-3, and 2-3-2-1. An arrow points to the 'add' button below this list. Below the 'add' button is a lower box containing the IDs 2-3-1-1 and 2-3-1-2, which are circled in red. An 'add dimension' button is located below this lower box. At the bottom of the window, there is an 'Added Filters' section with an 'add' button.

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After clicking on the upper **add** button Cell_Id 2-3-1-1 and Cell_Id 2-3-1-2 are moved to the lower box.

Using the value filter: Setting logical operator

Step 5: Filtering

The screenshot shows the 'Attribute Filters' configuration window. At the top, there is a dropdown menu for 'Cell' and a 'Browse Entities' button. Below this, the 'Cell_Id' field is set to 'equals'. The 'Value Filter' is set to '2-*'. A list of values (2-3-1-1, 2-3-1-2, 2-3-1-3, 2-3-2-1) is shown, with 'add' and 'delete' buttons. The 'Added Filters' section is empty.

If more than one network element is desired for report output we must change the logical operator to **contains**.

Using the value filter: Using contains

Step 5: Filtering

The screenshot shows the 'Attribute Filters' dialog box. At the top, there is a dropdown menu for 'Cell' and a 'Browse Entities' button. Below that, the 'Cell_Id' attribute is selected, and the logical operator is set to 'contains', which is circled in black. To the right of the operator are 'less' and 'and' buttons. The main area of the dialog is divided into two sections. The top section is labeled 'Value Filter: 2*' and contains a list of IP addresses: 2-3-1-1, 2-3-1-2, 2-3-1-3, and 2-3-2-1. Below this list are 'add' and 'delete' buttons. The bottom section contains a list of IP addresses: 2-3-1-1 and 2-3-1-2, with an 'add' button below it. At the bottom of the dialog, there is an 'Added Filters' section with an 'add' button.

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Here we have changed the logical operator from **equals** to **contains**. In order to select more than one network element for report output filtering the logical operator box must be set to **contains**

Using the value filter: Confirmation

Step 5: Filtering

The screenshot shows the 'Attribute Filters' dialog box. At the top, there are dropdown menus for 'Cell' and 'Cell_Id', and buttons for 'Browse Entities', 'contains', 'less', and 'and'. Below this, there is a 'Value Filter' section with a text input containing '2-*' and an 'apply' button. A list of values is displayed: 2-3-1-1, 2-3-1-2, 2-3-1-3, and 2-3-2-1. The first two values are highlighted. Below the list are 'add' and 'delete' buttons. At the bottom, there is an 'Added Filters' section with an 'add' button. An arrow points to this 'add' button.

Adding attribute filters to a report definition

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Again hold down the **Ctrl** key and click to highlight the two desired Cell_Id network elements. Next click the lower **add** button.

Using the value filter: Moving to added filters

Step 5: Filtering

Attribute Filters

Cell contains and

Value Filter:

2-3-1-1
2-3-1-2
2-3-1-3
2-3-2-1

2-3-1-1
2-3-1-2

Added Filters

Cell.Cell_Id IN 2-3-1-1, 2-3-1-2 AND

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After clicking the lower **add** button the two desired Cell_Ids are moved to the **Added Filters** section. When the report is run it will only give output data pertaining to Cell_Id 2-3-1-1 and Cell_Id 2-3-1-2.

Summary

You should now be able to:

- Modify an existing report definition with attribute filtering
- Filter report output data to focus on either a single network element or a small group of network elements
- Use logical operators and the Value Filter to insert the network elements into the **Add Filters** section

You should now be able to:

Modify an existing report definition with attribute filtering.

Filter report output data to focus on either a single network element or a small group of network elements.

Use logical operators and the Value Filter to insert the network elements into the **Add Filters** section

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