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Contents

1 Wireless Supervision **5**
1.1 What can you do in Wireless Supervision? **5**
1.2 What is a summary view? **5**
1.3 What is a supervision group? **6**
1.4 How do I create supervision groups? **6**
1.5 What is the Matrix View? **7**
1.6 What is the Group Alarms View? **7**
1.7 What is the eNodeBs View? **7**
1.8 What is the LteCells View **8**
1.9 What is the Sites View? **8**
1.10 How to customize views? **8**
1.11 What tools are available in the Wireless Supervision views? **8**
1.12 How do I configure the browser path for Wireless Supervision? **9**
1.13 How do I start Wireless Supervision? **9**
1.14 How do I configure a summary view in the NFM-P? **10**
1.15 How do I configure a supervision group in the NFM-P ? **11**

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1 Wireless Supervision

1.1 What can you do in Wireless Supervision?

The NSP Wireless Supervision application provides an at-a-glance view of LTE RAN network fault status in a dynamic web-based GUI. In Wireless Supervision, you can

- view full and regional network status quickly and efficiently
- view network KPIs and prioritize network problems accordingly
- investigate network alarms and view fault correlation
- perform alarm management tasks such as alarm acknowledgement and clearing
- launch the NFM-P GUI to perform more detailed troubleshooting tasks such as node and cell reset
- drill down to MR BTS objects for detailed status information

1.2 What is a summary view?

The first time you open Wireless Supervision, the application prompts you to select a summary view to populate the group matrix. Choose a view from the Select a Summary View list box. In most cases, this is the Default Wireless Summary View. See 1.14 “How do I configure a summary view in the NFM-P?” (p. 10).

A summary view is a collection of one or more supervision groups, and provides a summarized, high-level view of a group of network objects. There is no limit to the number of summary views that a supervision group can belong to.

The view of MR BTS nodes in Wireless Supervision is based on the currently selected summary view. You can populate summary views with managed MR BTS nodes either automatically or manually.

After you selected a view, the application displays the Summary View (collapsed), and the Matrix View.

The collapsed Summary View appears as a list of folder icons on the left side of the Wireless Supervision window. Each folder represents an MR BTS supervision group and displays a number that stands for the number of MR BTS nodes that are part of the supervision group. To expand the Summary View, click the Expand Summary View icon button.

Note: After you expanded the Summary View, the icon button label changes to Collapse.

The expanded Summary View panel shows a set of supervision groups of managed MR BTS nodes with the following KPI details for each group:

- Number of unacknowledged critical alarms
- Percentage of non-operational eNodeBs—percentage of MR BTS nodes with an Operational State other than “onAir”

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- Percentage of non-operational LteCells—percentage of LTE cells with an Administrative State of “unlocked” and an Operational State of “disabled”

Hover over a group in the Summary View to display a tooltip summary of the KPIs for that group.

Click a KPI number to open a view for the KPI type in table format: Group Alarms View, eNodeBs View, or LteCells View. To return to the Summary View, click the All Groups button.

The KPI details are colored as follows:

- alarms—red when at least one unacknowledged critical alarm is present on an MR BTS in the group, otherwise green
- eNodeB—red for 10% or more non-operational, orange for 5%-9%, green for below 5%
- LteCell—same color code as for eNodeB

New supervision groups are automatically added to the Summary View at the end of each polling period.

Note: For supervision groups that are automatically created, Wireless Supervision takes into account and computes the dedicated LTE OMS and BTSMED alarms, even though the number of these nodes is not taken into account.

1.3 What is a supervision group?

A supervision group displayed in the application is a logical set of NEs that is specified by user-defined filters. You can use supervision groups to partition NEs into distinct categories. Supervision groups are associated with summary views. There is no limit to the number of supervision groups that an MR BTS node can belong to.

Note: For performance reasons, do not exceed 500 MR BTS nodes in a supervision group.

1.4 How do I create supervision groups?

You can populate summary views with managed MR BTS nodes automatically using the “Create Automatically by Using Topology Group” option in the Supervision Group Settings menu of Wireless Supervision. This option creates a supervision group for each equipment group in the NFM-P and adds the supervision groups to the Default Wireless Summary View. This option also provides a view of all MR BTS nodes in the managed network organized by equipment group. After you applied the “Create Automatically by Using Topology Group” option, the automatic creation mechanism does not take subsequent equipment group changes into account and must be re-applied.

You can also populate summary views with managed MR BTS nodes manually using the NFM-P client GUI. You can configure supervision groups that contain MR BTS-specific inclusion filters, and associate the groups with a summary view. This method allows the creation of a targeted view of a specific subset of managed MR BTS nodes. See 1.15 “How do I configure a supervision group in the NFM-P ?” (p. 11).

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1.5 What is the Matrix View?

The Matrix View displays at-a-glance KPIs for each supervision group. Each group shows three colored bars that contain the number of nodes and LTE cells in that group, as well as the same KPI details about alarms, percentage of non-operational eNodeBs and percentage of non-operational LteCells as the Summary view. Click a KPI icon to open a view for the KPI type in table format: Group Alarms View, eNodeBs View, or LteCells View.

The group icons in the Matrix View and Summary View are colored to reflect the combined overall KPI status as follows:

- red—more than 75% of KPIs are not green
- orange—all but one KPI are not green, or one KPI is red
- yellow—one KPI is not green
- green—all KPIs are green

The Matrix View displays the supervision group in the order of their KPI status, and starting with the group with the worst KPI status. You can hover over a group to display a tooltip summary of the KPIs for that group.

The Matrix View features a group navigation menu in the top right corner of a group icon. The group navigation menu allows you to choose one of the following views: Group Alarms, eNodeBs, LteCells, Sites.

1.6 What is the Group Alarms View?

The Group Alarms View contains an alarm list in table format, with columns for alarm details such as severity, last time detected, alarmed object ID, alarmed object name and alarm name. This is a filterable list of alarms currently raised against the selected supervision group, eNodeB, or LteCell. The Alarm List is also displayed (collapsed by default) at the bottom of the eNodeBs, LteCells, and Sites views, and displays the alarms raised against the selected object.

You can expand alarms to view specific alarm fields, and perform right-click actions including:

- view alarm impacts, root causes, object impacts and object point of view diagrams
- acknowledge and unacknowledge alarms, assign severity to alarms, assign administrative states to alarmed objects, edit alarm custom text, delete and clear alarms
- navigate to the affected object in the NFM-P GUI
- view alarm history and object alarm history in the NFM-P GUI
- display alarm information in a new window that allows you to copy alarm details to the clipboard

Wireless Supervision features an Auto Refreshing toggle button in the bottom-left corner of the Group Alarms View. This button enables or disables alarm polling, which takes place every 30 seconds by default. The Auto Refreshing is turned on by default, and you can pause it, as required.

1.7 What is the eNodeBs View?

The eNodeBs View shows a filterable list of MR BTS nodes in table format, with columns for node details, such as site ID, BTS name, operational state, OAM link status, software version and active software release version.

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You can launch the Wireless NE Views application from the eNodeB View: right-click an MR BTS and choose Show in Wireless NE Views from the contextual menu.

The contextual menu also contains a second option: Open in Copy Window. This option copies all the information in the node row to a separate window that allows you to copy selected content (node details) to the clipboard.

1.8 What is the LteCells View

The LteCell View displays a filterable list of LteCells in table format, with columns for LTE cell details such as cell ID, name, admin state and operational state.

You can launch the Wireless NE Views application from the LteCells view: right-click an LteCell and choose Show in Wireless NE Views from the contextual menu.

The contextual menu also contains a second option: Open in Copy Window. This option copies all the information about the LTE cell to a new window that allows you to copy selected content (LTE cell details) to the clipboard.

1.9 What is the Sites View?

The Sites View displays a filterable list of MR BTS nodes, RMODs and SMMs in table format, with columns for object details such as object name and type, site name, admin state, operational state, and software version. The Sites View shows objects that share a site name with another component. Objects associated with unique site names are not displayed.

You can display the properties of an object in the NFM-P client from the Sites View features: right-click the object and choose View object properties from the contextual menu.

The contextual menu also contains the options to launch the SMM management interface and to copy the object to a new window that allows you to copy selected content (object details) to the clipboard.

1.10 How to customize views?

You can add, remove, sort, and autofit columns in the Wireless Supervision views. Right-click a column header and select the options in the Columns list. You can reposition columns by clicking and dragging.

Wireless Supervision features an Auto Refreshing toggle button in the bottom-left corner of the window. The Auto Refreshing is turned on by default and you can pause it, as required.

1.11 What tools are available in the Wireless Supervision views?

Each Wireless Supervision view provides tools designed to help you process the displayed information efficiently:

- **Filters**
  You can create and save advanced filters to display objects that meet specific criteria. A filter is available only in the view in which it was created.
- **Search**

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You can search/refresh the view content.

- **Export**
  You can export information to a csv file.

1.12 How do I configure the browser path for Wireless Supervision?

You can start Wireless Supervision in two ways:

- from the NSP Launchpad
- from the NFM-P client GUI

Before you launch Wireless Supervision from the NFM-P client GUI, you must configure the path to the browser in which you want to open the application. If you do not specify a browser path, the NFM-P opens Wireless Supervision in your default browser.

1

Choose Application→User Preferences from the NFM-P main menu. The User Preferences form opens.

2

Scroll to the bottom of the form and specify the Browser Path by performing one of the following:

- Click Browse, navigate to the web browser executable file on the local workstation, and click Open. The Browser Path is updated.
- Click Reset and manually specify the path to the web browser executable file.

3

Save the changes and close the form.

END OF STEPS

1.13 How do I start Wireless Supervision?

1

You can start Wireless Supervision in two ways:

a. from the NFM-P client GUI—go to Step 2.

b. from the NSP Launchpad—go to Step 3.

2

Choose Application→Wireless Supervision from the NFM-P main menu. The NFM-P opens the specified web browser and launches Wireless Supervision.

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3

Open a compatible web browser on your local workstation and perform the following tasks:

1. Navigate to the NSP Launchpad: https://*Server_IP*.

   where *Server_IP* is the IP address of the NSP server
2. Enter your login credentials and click Login. The NSP Launchpad opens.
3. Click the Wireless Supervision icon.

END OF STEPS

1.14 How do I configure a summary view in the NFM-P?

1

Choose Administration→Supervision Settings from the NFM-P main menu. The Supervision Settings (Edit) form opens.

2

Click the Summary Views tab.

3

Click Create. The Supervision View (Create) form opens.

4

Configure the view parameters:

- Displayed Name
- Description

5

For the Application parameter, select “Wireless Supervision”.

If “Wireless Supervision” is not specified as the Application, the summary view is not available in Wireless Supervision.

6

Click the Supervision Groups tab.

7

Click Add. The Select form opens.

8

Configure the filter criteria, if required, and click Search. A list of supervision groups in displayed.

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9

Select one or more supervision groups from the list and click OK. The Select form closes and the Supervision View (Create) form reappears with the selected supervision group(s) in the list.

10

Add more supervision groups to the summary view, as required.

11

Save the changes and close the form.

END OF STEPS

1.15 How do I configure a supervision group in the NFM-P ?

A supervision group contains NEs based on inclusion filters. The inclusion filters used to specify the MR BTS nodes in a supervision group must exclude pre-provisioned NEs and all other non-MR BTS node types to prevent misleading alarms and KPI numbers. You can create supervision groups in the NFM-P client GUI.

1

Choose Administration→Supervision Settings from the NFM-P main menu. The Supervision Settings (Edit) form opens.

2

Click the Supervision Groups tab.

3

Click Create. The Supervision Group (Create) form opens.

4

Configure the required parameters:

- Displayed Name
- Description
- Category—must be set to “NE Access” for MR BTS supervision

The Supervised Alarms Severities parameter does not apply to MR BTS supervision. All MR BTS alarms are displayed in the Wireless Supervision application regardless of severity.

5

Click the Inclusion Filters tab.

6

Click Add. The Select form opens.

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7

Perform one of the following:

a. To create an inclusion filter, go to Step 8.

b. To apply an existing inclusion filter, go to Step 15.

8

Click Inclusion Filter. The Inclusion Filter Creation form opens.

Configure the filter properties.

1. Choose an item from the Attribute drop-down menu.
2. Choose an item from the Function drop-down menu.
3. Configure the Value parameter.
4. Choose a Boolean Operator from the Operators drop-down menu, if applicable.
5. Click Add.

9

To add a filter that excludes pre-provisioned NEs:

1. Select “General: Network Element (Network)→State” as the Attribute.
2. Set the Function to “NOT EQUAL” and the Value to “Pre-provisioned”.
3. Click Add.

10

Perform one of the following:

a. To filter additional properties, repeat Step 9.

b. If you are finished filtering properties, go to Step 11.

11

Click Save. The Save Filter form opens.

12

Configure the filter parameters:

- Filter Name
- Description
- Public

13

Click Save. The application saves the filter.

14

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Close the Inclusion Filter Creation form.

15

Click Search in the Supervision Group form. A list of inclusion filters is displayed.

16

Choose an inclusion filter in the list and click OK. The filter is added to the supervision group.

17

Add additional filters, as required.

18

Save the changes and close the forms.

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