

OVERVIEW

The RANAdvisor Rubix is a drive test post processing optimization application providing near to real-time information regarding your RAN services and applications. The data collected by drive test is uploaded to a file server where the files are processed and the results visualized in a web dashboard.

This allows you to:

- Quickly report on network and service performance
- Quickly identify network coverage dead zones
- Streamline the workflow and hence reduce cost. Identified problems can be forwarded to skilled engineers located centrally reducing the need for expertise in the field.
- Use the current analysis of your system to determine the optimum network configurations needed to meet future demands

Rubix is a native cloud solution providing the following benefits:

- Hosted internally in a private cloud or externally in a public cloud
- One central storage of drive test log files
- Accessible anywhere from internet-enabled devices including laptops, tablets, mobile phones
- Easily scalable to meet your computing demands with improved performance and reliability

FEATURES

- Event Experience Benchmarking - provides a near real-time monitoring of the service quality perceived by the end users on your network as well as the competitor's network
 - Key Performance Indicators include; Accessibility, Retainability, Throughput and Latency of the RAN network
- Indoor/Stadium Turn-Up - provides a health check for all antennae within a DAS venue using geocoded iBwave transmitter information and log files
 - The solution provides KPI per antenna to identify issues such as antenna not transmitting, or antenna not transmitting at the right levels

RELATED DOCUMENTS

Use this Quick Start Guide to get you started using RANAdvisor Rubix and then refer to the following sources for further information:

- RANAdvisor Rubix Online Help
- RANAdvisor Rubix Installation Guide

TECHNICAL ASSISTANCE

If you need assistance or have questions related to the use of this product, go to the Customer Service Portal <http://www.viavisolutions.com/en/services-and-support/support/customer-portal>

- Submit, update, or check Technical Support requests
- Request RMA's and check orders
- Search our knowledge base

Getting Started with RANAdvisor Rubix

If you are using RANAdvisor Rubix for the first time, configure the settings as shown below to start viewing data analysis results.

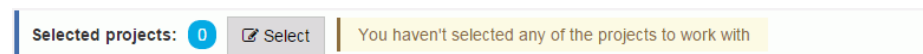
A. Logging In

The RANAdvisor Rubix application is accessible via the internet.

- 1 Open a browser and enter the server URL to launch the RANAdvisor Rubix User Interface (UI).
 - 2 In the Log In page, enter your **Username** and **Password**.
 - 3 Click **Login**.
- Your session starts and the Rubix Main Page is displayed.

B. Selecting a Project

The data collected by drive test as either CSV or AOD/AHD log files is uploaded using a direct FTP to the Rubix solution. When a new file is detected, it is processed to create a project record which is given a unique project name. The projects are stored on a datastore defined by the system administrator.



The first step is to select a project.

- 1 Click the **Select** button to display the available projects.
- 2 Select a project by:
 - Clicking on a project name in the Latest Data list and click **Select** or
 - Highlighting projects in the Browse projects window (this allows you to select multiple projects), click the **Add marked** button, then click **Select**.

Tip: You can filter the list of projects by project name or time range

- 3 After a project is selected, you can select the KPI measurements you want displayed.

C. Selecting KPI measurement widgets for display

The data collected is displayed in the dashboard widgets. The layout can be customized allowing you to focus on the most important measurements.

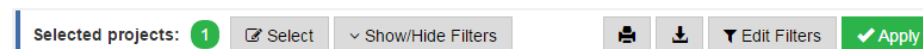
- 1 Click the Edit Layout button to open the Visible Widgets window.
- 2 Select measurement widgets by clicking on them in the list.

Tip: Selecting to display only the widgets that you are interested in can improve the speed at which the widgets are reloaded after applying any changes.

- 4 After KPIs are selected, you can define and apply filters.

D. Applying Filters

The data processed for the selected projects can be filtered to display only data from specific Time ranges, Operators, Technologies, Channels or Venues. For example you may want to see the Drop Rate for LTE only over the last 24hours.



- 1 Click the **Edit Filters** button to display the available filters.
- 2 Define your filters by clicking on the links displayed in the Filters window:

Time Range – The time range available covers the time over which the selected projects contain data


Operators - The list of operators is dynamically refreshed according to the Time Range selected

Technologies - The list of technologies is dynamically refreshed according to the Time Range selected

Channels - The list of Channel Numbers is dynamically refreshed according to the Time Range selected

Venue, building and floor – This filter is for indoor measurements within the building or stadium where the measurements were collected

- 3 Click **Close** to return to the main window.
- 4 Click the **Apply** button to apply your filters and display the results in the dashboard.


Note: If the **no data** icon  or **no data** messages are displayed, you should either remove or edit your filters and re-apply. If there is still no data, then the project file has no collected data. You can download the project log file for further investigation as described in Section G.

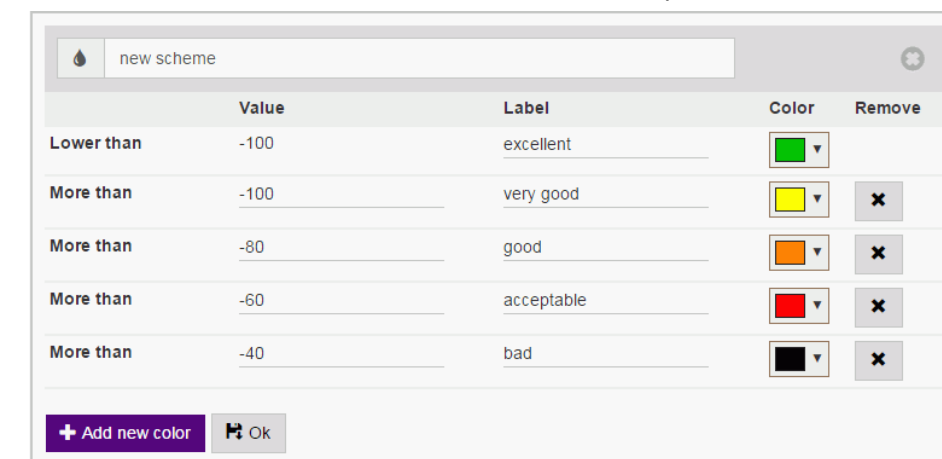
- 5 After applying the filters, you can define KPI thresholds and colors.

E. Defining KPI Thresholds

Rubix is delivered with pre-defined threshold and color schemes assigned to each KPI. These schemes define how the KPI data is displayed in the dashboard widgets.

The thresholds and colors are editable and can be customized to your preference. These settings can be saved.

- 1 Click the Settings icon  to display the KPI's Color Schemes window.
- 2 Select the **Create color schemes** tab, if not already selected.
- 3 Click the **Create** button and enter the name for the new scheme in the default field.
- 4 Enter the **Lower than Value** and **Label** for your threshold.
- 5 Add more thresholds by clicking the **+Add new color** button and entering the **More than Value** and **Label**.
- 6 Select a **color** for each defined threshold. For example::

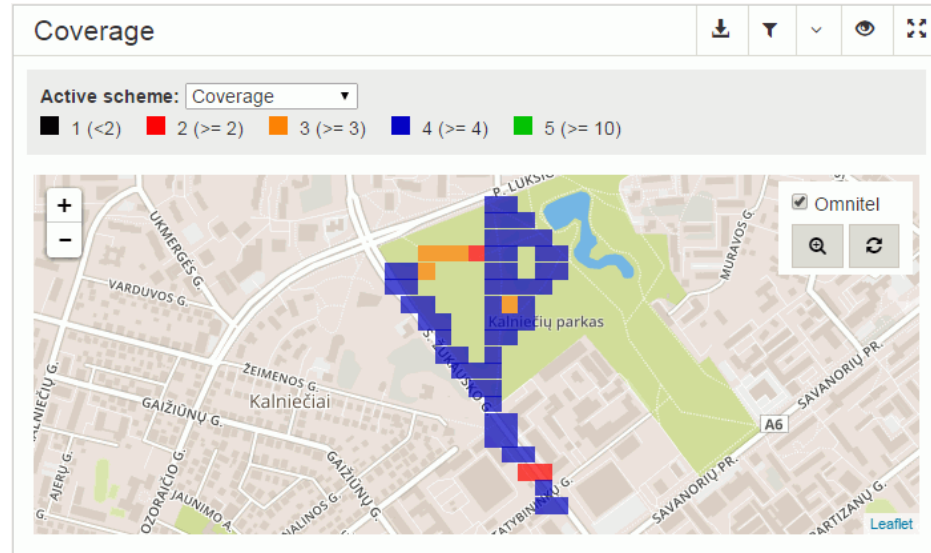






- 7 Click the **OK** button to confirm your settings for the new scheme and display it in the list of available schemes. You can continue to create and edit schemes and assign them to selected KPIs.

- 8 To assign a scheme to a KPI, select the **Assign color schemes** tab, if not already selected.
- 9 The KPIs are grouped into **Dashboard KPIs**, **VoLTE KPIs**, **eMBMS KPIs** and **WiFi KPIs**. Select a link to view the KPIs.
- 10 Open the dropdown list for the KPI and select the scheme you want to assign to it.
- 11 Click the **Save** button to save all your changes to the KPI schemes.
- 12 Click the **Close** button to apply your thresholds and display the results on the dashboard.

F. Viewing the Dashboard Data

The processed data is aggregated and displayed as color-coded square bins on top of the map.




- The Zoom to Data button  focuses the view on the actual data present
- Additional data is displayed if you click on a bin
- The Automatic bin size changes button  enables you to automatically change the size of Bins on a map when zooming in or out based on the map scale
- Clicking the view icon  allows you to switch the view to either a Line chart or Pie chart if data is available
- The full screen icon  allows you to view the map in full screen
- For the data collected indoors with a corresponding iBwave file loaded, an image of selected floor level indoor plan is drawn over a map.

G. Downloading Project Log Files

If the KPI results show any poor performance indicators, you can download the associated log files for further analysis using a 3rd party tool

- 1 Click the Download project files icon  to download the original log files for the selected project(s).

H. Managing Documents

The Manage Documents icon  allows you to save the state of the Rubix Application in a document. It saves all the settings for selected projects, chosen filters, the state of widgets (map/chart).

- 1 Click the Manage Documents icon and select **Save as** and enter a name to save your settings.
- 2 To retrieve a saved document, click the Manage Documents icon and select **Open** to select a document from a list of your saved documents.

I. Antenna Validation

The Antenna Validation Report provides a health check for all antennae within a DAS venue using geocoded iBwave transmitter information and AHD log file. This report is generated for LTE and UMTS technologies.

The Report table comprises of the Header, the Antenna details column and separate report columns for the Handset and Scanner.

Update button updates report after changes made in Technology, Number of Samples or Percentile

Show Problems Only button filters data from ranges colored in orange and red. If at least one value is "red" in a row, the whole corresponding row is shown.

J. eMBMS

If available in the project data, you can view KPIs regarding to evolved Multimedia Broadcast Multicast Services eMBMS. The data is displayed on the eMBMS dashboard and can be viewed as:

- SINR eMBMS Line Chart
- Delta eMBMS Line Chart
- Table

K. VoLTE

If available in the project data, you can view KPIs regarding to Voice over LTE. The data is displayed on the VoLTE dashboard and can be viewed as:

- Map
- Line Chart
- Pie Chart
- Table

L. WiFi

If available in the project data, you can view KPIs regarding to WiFi. The data is displayed on the WiFi dashboard and can be viewed as:

- Map
- Line Chart
- Pie Chart
- Table



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