

SmartPTT 9.12

Report Tool Guide

Revision History

Revision	Description	Date
2.0	Second release of the document.	November 2022
1.0	Initial release of the document.	July 2022

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About This Document

This document provides information on Report Tool configuration and use.

Report Tool is a standalone utility compatible with SmartPTT used for building reports. It is intended for dispatch console administrators who configure SmartPTT Dispatcher and operators who will use it.

The document assumes that SmartPTT Radioserver is properly configured and started. The document also assumes that SmartPTT Dispatcher and SmartPTT Radioserver databases as well as the monitoring database were created.

Overview

Report Tool is a part of the SmartPTT bundle. You can select the corresponding check box to install Report Tool in the SmartPTT installation program. The Report Tool language corresponds to the operating system language. You cannot select the Report Tool language manually.

Report Tool provides the ability to generate reports using SmartPTT databases. It is particularly convenient for large databases that are processed slowly by the SmartPTT Dispatcher report feature.

Depending on the selected database, you can generate different types of reports. For SmartPTT Radioserver and SmartPTT Dispatcher databases, the following types of reports are available:

- The Event Log report can provide information on various types of events based on information stored in the SmartPTT Dispatcher or SmartPTT Radioserver Event Log. You can filter events that must be displayed in the report by such parameters as period of time, event direction/type, radioserver, channel, subscriber, and others.
- The Subscriber Locations report provides information on radio coordinates for a certain period. You can select all or specific radios and configure additional parameters of the report.
- The Subscriber Activity report contains information on the number of All Calls and group calls grouped by hours, minutes, or days.

Important

If SmartPTT Radioserver is not running, it will not be available as a data source for the SmartPTT Radioserver reports.

If you select the SmartPTT Radioserver Monitoring database, you will be able to create the Monitoring reports only. These reports provide information on the voice and data transmitted, system events, load, and other information.

Report Descriptions and Examples

2.1 Event Log Report

The Event Log report provides information based on the data stored in the SmartPTT Dispatcher or SmartPTT Radioserver Event Log. It is basically a filtered selection of Event Log entries saved as a file (TXT, XLSX, or CSV).

You can create the report by clicking the **Event Log** button in the main window.

For information on creating and configuring the Event Log report, see [Creating Event Log Report](#).

You can configure a data source by selecting the desired SmartPTT Dispatcher or SmartPTT Radioserver Event Log database, and information that will be included in the report. The following filter conditions are available:

Condition	Description
Period	Desired date and time range of the events that will be displayed in the report.
Direction	Direction of the event: <i>Incoming</i> or <i>Outgoing</i> .
Event Type	Type of the event. The following event types are available: <ul style="list-style-type: none">• <i>Registration</i> – radio registration or deregistration.• <i>Call</i> – group or private voice call (including emergency call) or voice notification or the Remote Monitor voice.• <i>Message</i> – text message.• <i>Telemetry</i> – incoming/outgoing telemetry.• <i>Alarm</i> – incoming emergency alarm.• <i>Status</i> – events related to radio status change in the SmartPTT system.• <i>Block Radio</i> – Block Radio or Unblock Radio command.• <i>Location</i> – events related to radio outdoor and indoor (iBeacon) location updates in SmartPTT.• <i>Job Ticket</i> – outgoing job tickets and incoming job ticket status updates.• <i>Tallysman Heartbeat</i> – events related to the Tallysman heartbeat data.• <i>Kilchherr Data Packet</i> – indoor (Kilchherr) location updates.• <i>Lone Worker</i> – events related to the assignment of Lone Worker profiles to a radio.• <i>BluFiPacket</i> – indoor (BluFi beacon) location updates.• <i>Radio Kill</i> – Radio Kill command.• <i>User Name Update</i> – radio user name change (Sign In / Sign Out).
Description	Text in the Additional Information column of the Event Log, for example, message text. NOTE One of the ways to use this field is to filter messages, but you can search any text that is displayed in the Additional Information column of the Event Log. You can also type several words from different entries that must be included in the report separated by comma or space.

Radio Server	Name of SmartPTT Radioserver on which the event occurred. The parameter is available only if SmartPTT Dispatcher Event Log database is selected. The list of radioservers is received from the selected database when you click the Obtain Lists of Values button. For details, see Managing Database Connections .
Channel	Name of the channel on which the event occurred. The list of channels is received from the selected database when you click the Obtain Lists of Values button. For details, see Managing Database Connections .
Subscriber	Event initiator. The list of subscribers is received from the selected database when you click the Obtain Lists of Values button. For details, see Managing Database Connections . You can type a subscriber IDs range but it slows report building. The format of a subscriber ID range is 1–22 or 1, 2, 3, 4.

The **Report Data** area provides the ability to select columns that will be displayed in the report. The following columns are available:

Column	Description
Date/Time	Event date/time.
Direction	Event direction (<i>Incoming</i> or <i>Outgoing</i>).
Event Type	Type of the event (for example, <i>Call</i> , <i>Message</i> , <i>Status</i> , and so on).
Additional Information	Additional information such as message text, job ticket title and description, group call initiator, and so on.
Not Read	Text message status: read or not read.
Operator	Name of the SmartPTT Dispatcher operator participating in the event.
Radio Server	Name of SmartPTT Radioserver that is used.
Channel	Name of the channel where the event was registered.
Subscriber	Event initiator name.
Source	Event initiator name or ID.
Talkgroup	Talkgroup that participates in the event.
Destination	Recipient ID.
Status	The particular status of the event.
Duration (ms)	Call duration.
Connection Type	Type of the network in which the event occurred.
Sound Record	Shows whether the call has a sound record or not.

Lone Worker	Shows whether the event is associated with a lone worker radio or not.
Note	Text that is added to an entry after the event occurred by a SmartPTT Dispatcher operator.
Beacon Id	ID of the beacon that supplied the latest indoor location update for the event initiator.
Beacon Time	Time of the latest indoor location update received from the beacon.
Beacon Name	Name of the beacon that supplied the latest indoor location update for the event initiator.

2.2 Subscriber Locations Report

The Subscriber Locations report contains information about subscriber outdoor location. Each line in the report corresponds to a coordinates update from a subscriber and the time when they were received.

For information on creating the Subscriber Locations report, see [Creating Subscriber Locations Report](#).

You choose the database, configure filter parameters and save the report in one of the following formats: TXT, CSV, XLSX.

The report is based on information stored in the SmartPTT Dispatcher or SmartPTT Radioserver Event Log.

You can configure the following parameters of the report:

- Data source. You can select a SmartPTT Dispatcher or SmartPTT Radioserver database.
- Time period for which to build the report.
- All subscribers or a specific subscriber whose coordinates will be included in the report.
- Address data provider.
- Whether to group entries by subscribers.
- Whether to include RSSI and address in the report.
- Whether to use UTC +00:00 or local time in the report.

Depending on the configured filter parameters, a generated report can consist of the following columns:

Column	Description
Date	Date and time when the radio coordinates are recorded in the event log.
Subscriber	Radio identifier or name of the radio user.
Latitude	Radio's latitude (North-South coordinate).
Longitude	Radio's longitude (North-South coordinate).
Speed (m/s)	Speed of radio movement.
Precision (m)	Margin of error for the radio geographic coordinates.
RSSI	Radio signal strength.
Address	Web link to the Google or OpenStreetMap geocoding service which shows the map and the address that most closely corresponds to the coordinates according to the service.

2.3 Subscriber Activity Report

The Subscriber Activity report contains information about the amount of calls and their duration. In the generated report, information is presented as diagrams, graphs, and tables.

For information on creating the **Subscriber Activity** report, see [Creating Subscriber Activity Report](#).

You choose the database, configure filter parameters, view the generated report in the preview tool, and then export the report in a variety of formats including PDF, HTML, XLSX, and more.

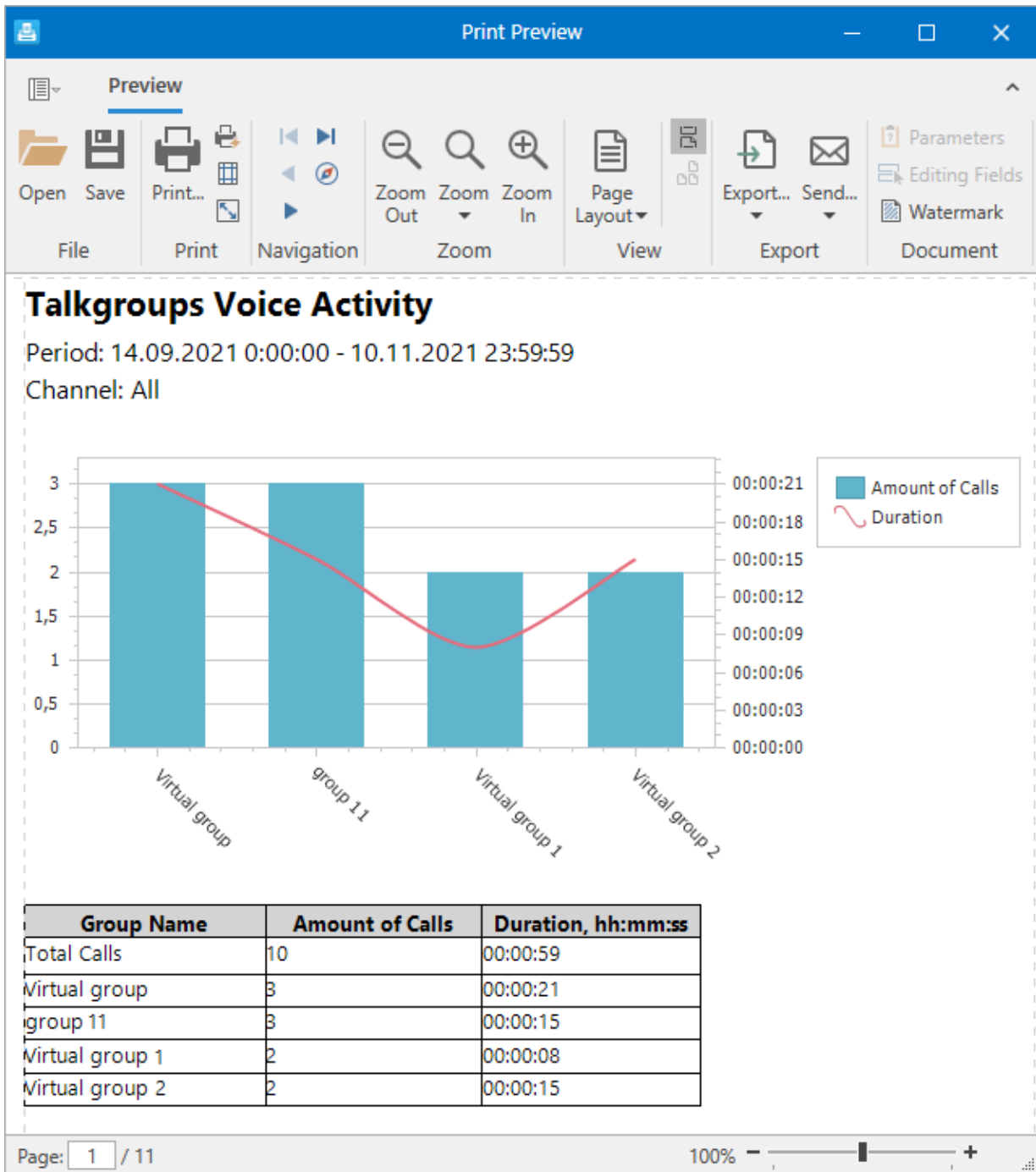
The report is based on information stored in the SmartPTT Dispatcher or SmartPTT Radioserver Event Log.

You can configure the following parameters of the report:

- Data source. You can select a SmartPTT Dispatcher or SmartPTT Radioserver database.
- Time period for which to build the report.
- Build the report about a specific network channel, control station, trunked radio system, or about all available channels.
- Break down the report information by a configurable time interval.
- Whether to use UTC +00:00 or local time in the report.

The generated report will open in the **Print Preview** window. You can export it in a variety of formats (PDF, HTML, XSLX, CSV, and more), and perform other actions.

The figure below shows the example of the created report in the **Print Preview** window.

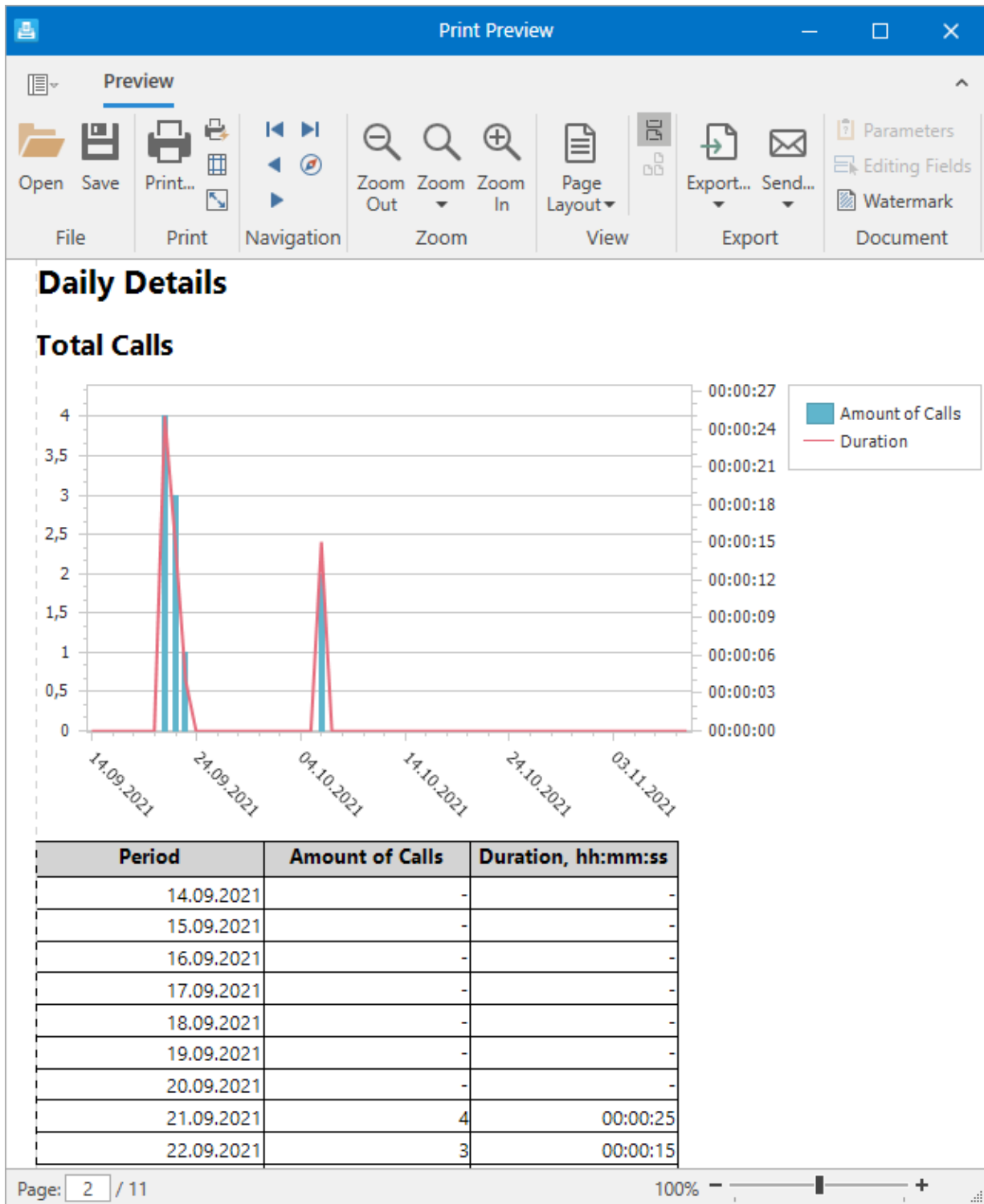


The **Subscriber Activity** report contains three sections.

The **Talkgroups Voice Activity** section presents the overall voice activity in the selected system(s) over the specified period. The section consists of three parts:

- A header that contains the time period and channel that the report covers.
- A diagram that presents the number of calls in each talkgroup as a bar graph, and the total duration of calls as a line graph.
- A table that presents the number and total duration of calls in each talkgroup as numbers.

Talkgroups Voice Activity is followed by the **Daily Details** section that breaks down the voice activity information by day (or hour, 30 minutes, 10 minutes, or minute, as configured before creating the report).



The **Daily Details** section presents the total number and duration of calls over the specified period. The section consists of two parts:

- A diagram that presents the total number and duration of calls as a line graph day by day.
- A table that presents the total number and duration of calls as numbers day by day.

Daily Details is followed by the sections for each group. Each section presents the total number and duration of calls made in each group over the specified period. The section consists of two parts:

- A diagram that presents the total number and duration of calls as a line graph in a specific group day by day.
- A table that presents the total number and duration of calls as numbers in a specific group day by day.

2.4 Monitoring Reports

The monitoring feature provides the ability to monitor the SmartPTT system events and performance as well as generate reports using this information.

2.4.1 Air Monitoring Report

The Air Monitoring report provides an overview of over-the-air activity in radio systems. The following types of events can be represented in the report: voice calls, telephone calls, radio registration/deregistration, outdoor and indoor location updates, TMS, telemetry, and system events. For a step-by-step procedure on building the report, see [Creating Air Monitoring Report](#).

To generate the report, you must select the monitoring database, configure parameters of the report and which of the columns listed below must be included in the report, and then open it.

The generated report will be displayed in the **Print Preview** window. You can save it in a variety of formats (PDF, HTML, XSLX, CSV, and more), and perform other actions.

Air Monitoring													
Period: 01.09.2021 00:00:00 - 10.01.2022 23:59:59 (UTC+07:00)													
System: All													
Site: All													
Repeater: All													
Radio station: All													
Date/Time	System ID	System	Site	Repeater	Slot	Category	Category Type	Source ID	Source	Destination ID	Destination	Duration (ms)	RSSI (dBm)
20.10.2021 12:59:41.857	17	17	0	3	0	Data	Kilchherr					422	0
20.10.2021 12:59:42.763	17	17	0	3	0	Data	Kilchherr					282	-77,36
Phone group call													
03.11.2021 12:27:40.200	3	3	0	3	1	Call	Phone group call					17875	0
24.11.2021 22:22:17.547	1	1	0	1001	0	Call	Phone group call					12656	0
24.11.2021 22:22:29.633	1	1	0	1001	1	Call	Phone group call					3594	0
24.11.2021 22:22:30.147	1	1	0	1001	0	Call	Phone group call					5469	0
Phone private call													
03.11.2021 12:31:53.427	3	3	0	3	0	Call	Phone private call					6063	-61,84
03.11.2021 12:31:59.973	3	3	0	3	0	Call	Phone private call					12485	0
03.11.2021 12:32:12.503	3	3	0	3	0	Call	Phone private call					4328	-58,83

The heading contains summary information on the report parameters selected during configuration.

Depending on configuration, the generated report can consist of the following columns:

Column	Description
Date/Time	Date and time when the event was registered in the system.
System ID	Internal radio system identifier (in SmartPTT Radioserver).
System	Radio system name.
Site	Site identifier (single site ID is 0).
Repeater	Identifier of the repeater where the event happened.
Slot	Number of the repeater time slot used to transmit data.
Category	Type of the event registered in the system: <i>Call</i> or <i>Data</i> .
Category Type	Subtype of the event. The following subtypes are available:

	<ul style="list-style-type: none"> • <i>None</i> – information not available. • <i>System</i> – system or undefined event. • <i>Alert</i> – call alert. • <i>Group call</i> – call to a talkgroup. • <i>Private call</i> – call to a radio. • <i>All call</i> – call to all radios registered on a channel or in a system. • <i>Remote monitoring</i> – listening to the radio without notifying it. • <i>Emergency alarm</i> – emergency signal. • <i>Emergency call</i> – voice call in the emergency mode. • <i>Phone group call</i> – phone call to a talkgroup. • <i>Phone private call</i> – phone call to a radio. • <i>ARS</i> – radio registration/deregistration. • <i>GPS</i> – location data, including iBeacon location updates. • <i>TMS</i> – text messages. • <i>Telemetry</i> – telemetry information and/or remote control command. • <i>Kilchherr</i> – Kilchherr beacon location updates.
Source ID	Identifier of the event initiator.
Source	Initiator name.
Destination ID	Identifier of the event recipient.
Destination	Recipient name.
Duration (ms)	Duration of the event.
RSSI (dBm)	RSSI level in decibel-milliwatts.

2.4.2 Events Report

The Events report displays various events that were registered on the radio system devices, such as repeaters and routers. For a step-by-step procedure on building the report, see [Creating Events Report](#).

To generate the report, you must select the monitoring database, configure parameters of the report and which of the columns listed below must be included in the report, and then open it.

The generated report will open in the **Print Preview** window. You can save it in a variety of formats (PDF, HTML, XSLX, CSV, and more), and perform other actions.

Events									
Period: 01.06.2021 00:00:00 - 10.01.2022 23:59:59 (UTC+07:00)									
System: Kairos									
Date/Time	Device ID	Device Type	Device Name	System	Site	Repeater	Severity	Description	
								Disconnected	
03.11.2021 12:27:28.763	rest	Repeater	rest	Kairos	0	0	OK	Repeater state become normal: Disconnected	
03.11.2021 12:31:02.197	rest	Repeater	rest	Kairos	0	0	OK	Repeater state become normal: Disconnected	
03.11.2021 12:31:40.593	rest	Repeater	rest	Kairos	0	0	OK	Repeater state become normal: Disconnected	
03.11.2021 12:55:50.590	rest	Repeater	rest	Kairos	0	0	OK	Repeater state become normal: Disconnected	
03.11.2021 13:02:54.473	rest	Repeater	rest	Kairos	0	0	OK	Repeater state become normal: Disconnected	
03.11.2021 14:15:34.733	rest	Repeater	rest	Kairos	0	0	OK	Repeater state become normal: Disconnected	
03.11.2021 14:41:07.130	rest	Repeater	rest	Kairos	0	0	Major Alarm	Repeater emergency state identified: Disconnected	

The heading contains summary information on the report parameters selected during configuration.

Depending on configuration, the generated report can consist of the following columns:

Column	Description
Date/Time	Date and time when the event was registered in the system.
Device ID	Identifier of the device where the event was registered.
Device Type	Type of the device where the event was registered.
Device Name	Name of the device where the event was registered.
System	Radio system name.
Site	Site identifier (single site ID is 0).
Repeater	Repeater identifier.
Severity	Event severity degree such as unknown, OK, critical, major, minor, information, and diagnostic.
Description	Additional information about the event.

2.4.3 System Usage Report

The System Usage report displays repeaters' load and other related information. For a step-by-step procedure on building the report, see [Creating System Usage Report](#).

To generate the report, you must select the monitoring database, configure parameters of the report, and then open it.

The generated report will open in the **Print Preview** window. You can save it in a variety of formats (PDF, HTML, XSLX, CSV, and more), and perform other actions.

The load percentage shows the ratio of working time to the selected period. You can configure the load ranges that will be considered low, average, and high load. The ratios will be highlighted in green, yellow, and red accordingly. In the report summary, you can also see sites with the highest and lowest load.

Site	Repeater	Slot	Time Period	Busy Time	%
Site 0	3	1	28.10 07:00 - 28.10 07:29	00:00:04	1%
Site 0	3	0	28.10 07:00 - 28.10 07:29	00:01:50	7%
Site 0	3	1	28.10 07:30 - 28.10 07:59	00:00:36	2%
Site 0	3	1	28.10 08:00 - 28.10 08:29	00:01:35	6%
Site 0	3	0	28.10 08:30 - 28.10 08:59	00:00:01	1%
Site 0	3	1	28.10 08:30 - 28.10 08:59	00:00:14	1%
Site 0	3	0	28.10 09:30 - 28.10 09:59	00:01:40	6%
Site 0	3	0	29.10 01:30 - 29.10 01:59	00:00:03	1%

The heading contains summary information on the report parameters selected during configuration.

Depending on configuration, the generated report can consist of the following columns:

Column	Description
Site	Site name.
Repeater	Identifier of the repeater used to transmit data.
Slot	Number of the repeater time slot used to transmit data.
Time Period	Intervals for which load rate is calculated. For example, the repeater load can be calculated for each day, hour, 30 min, or other configurable interval in the selected period.
Busy Time	The total amount of time when the repeater/slot was busy during the interval specified in the Time Period column.
%	The ratio of Busy Time to Time Period . The value is highlighted according the configured load ranges.

2.4.4 Calls Report

The Calls report provides information about voice calls in radio systems.

To generate the report, you must select the monitoring database, configure parameters of the report and which of the columns listed below must be included in the report, and then open it.

For information on creating the Calls report, see [Creating Calls Report](#).

The generated report will open in the **Print Preview** window. You can export it in a variety of formats (PDF, HTML, XSLX, CSV, Text, and others), and perform other actions.

Date, Time	System	Site	Source	Target	Call type	Call status	Waiting time (ms)	Duration (ms)	Rejection reason
20.10.21 14:09:40	17	1			Private Call	Occurred	0	2718	
20.10.21 14:09:45	17	1			Private Call	Occurred	0	531	
20.10.21 14:13:21	17	1			Private Call	Occurred	0	891	
20.10.21 14:15:42	17	1			Private Call	Occurred	0	2000	
20.10.21 14:15:48	17	1			Private Call	Occurred	0	8453	
20.10.21 14:15:57	17	1			Private Call	Occurred	0	4516	

The heading contains summary information on the report parameters selected during configuration.

Depending on configuration, the generated report can consist of the following columns:

Column	Description
Date, Time	Date and time when the call was registered in the system.
System	Name of the radio system where the call took place.
Site	Identifier of the site on which the call took place.
Source	Unique identifier of the call initiator.
Target	Unique identifier of the call recipient.
Call type	Type of the call (for example, <i>private, group</i>).
Call status	Status of the call (for example, <i>occured, rejected</i>).
Waiting time (ms)	How long the call spent in queue before it was established.
Duration (ms)	Duration of the call.
Rejected reason	Reason why the call was rejected.

2.4.5 Data Report

The Data report provides information about data transmissions in radio systems.

To generate the report, you must select the monitoring database, configure parameters of the report and which of the columns listed below must be included in the report, and then open it.

For information on creating the Data report, see [Creating Data Report](#).

The generated report will open in the **Print Preview** window. You can export it in a variety of formats (PDF, HTML, XSLX, CSV, Text, and others), and perform other actions.

Date, Time	System	Site	Source	Target	Status	Waiting time (ms)	Duration (ms)	Comment
03.11.21 13:20:57	IP Site connect	Site 1	1	601	Completed	0	360	
03.11.21 13:21:02	IP Site connect	Site 1	1	601	Completed	0	360	
03.11.21 13:21:07	IP Site connect	Site 1	1	601	Completed	0	359	
03.11.21 13:21:22	IP Site connect	Site 1	1	601	Completed	0	359	
03.11.21 13:21:27	IP Site connect	Site 1	1	601	Completed	0	359	
03.11.21 13:21:32	IP Site connect	Site 1	1	601	Completed	0	359	
03.11.21 13:21:37	IP Site connect	Site 1	1	601	Completed	0	344	

The heading contains summary information on the report parameters selected during configuration.

Depending on configuration, the generated report can consist of the following columns:

Column	Description
Date, Time	Date and time when the data transmission was registered in the system.
System	Name of the radio system where the data transmission took place.
Site	Identifier of the site on which the data transmission took place.
Source	Unique identifier of the data transmission initiator.
Target	Unique identifier of the data transmission recipient.
Status	Status of the data transmission (for example, <i>completed</i> , <i>rejected</i> , <i>in a queue</i>).
Waiting time (ms)	How long the data transmission spent in queue before it was sent.
Duration (ms)	Duration of the transmission.
Comment	Text that is added to an entry after the event occurred by a SmartPTT Dispatcher operator.

Database Management

Report Tool uses the following databases to generate reports:

- SmartPTT Dispatcher Event Log database. For details, see the “Database” section in *SmartPTT Dispatcher User Guide*.
- SmartPTT Radioserver Event Log database. For details, see the “Event Log Database” section in *SmartPTT Installation and Configuration Guide*.
- Monitoring database. For details, see the “Monitoring Database” section in *SmartPTT Installation and Configuration Guide*.

Depending on the database you select, you can build different types of reports. If the SmartPTT Dispatcher or SmartPTT Radioserver Event Log database is selected, you can build the Event Log, Subscriber Locations or Subscriber Activity reports. If the Monitoring database is selected, you can build monitoring reports.

Before creating reports, perform the following actions:

- Configure databases in SmartPTT.
- Start SmartPTT Radioserver before you add the database connection in Report Tool.
- Add database connections in Report Tool.
- Select the database whose data will be used for building reports.
- Obtain lists of values for the selected database in the following cases:
 - After you add a new database to the table.
 - If you want to create a report about a specific radio system object that was added recently.

For information on each action, see [Managing Database Connections](#).

Important

You can connect Report Tool to several databases simultaneously but you can build reports based only on one selected database.

3.1 Managing Database Connections

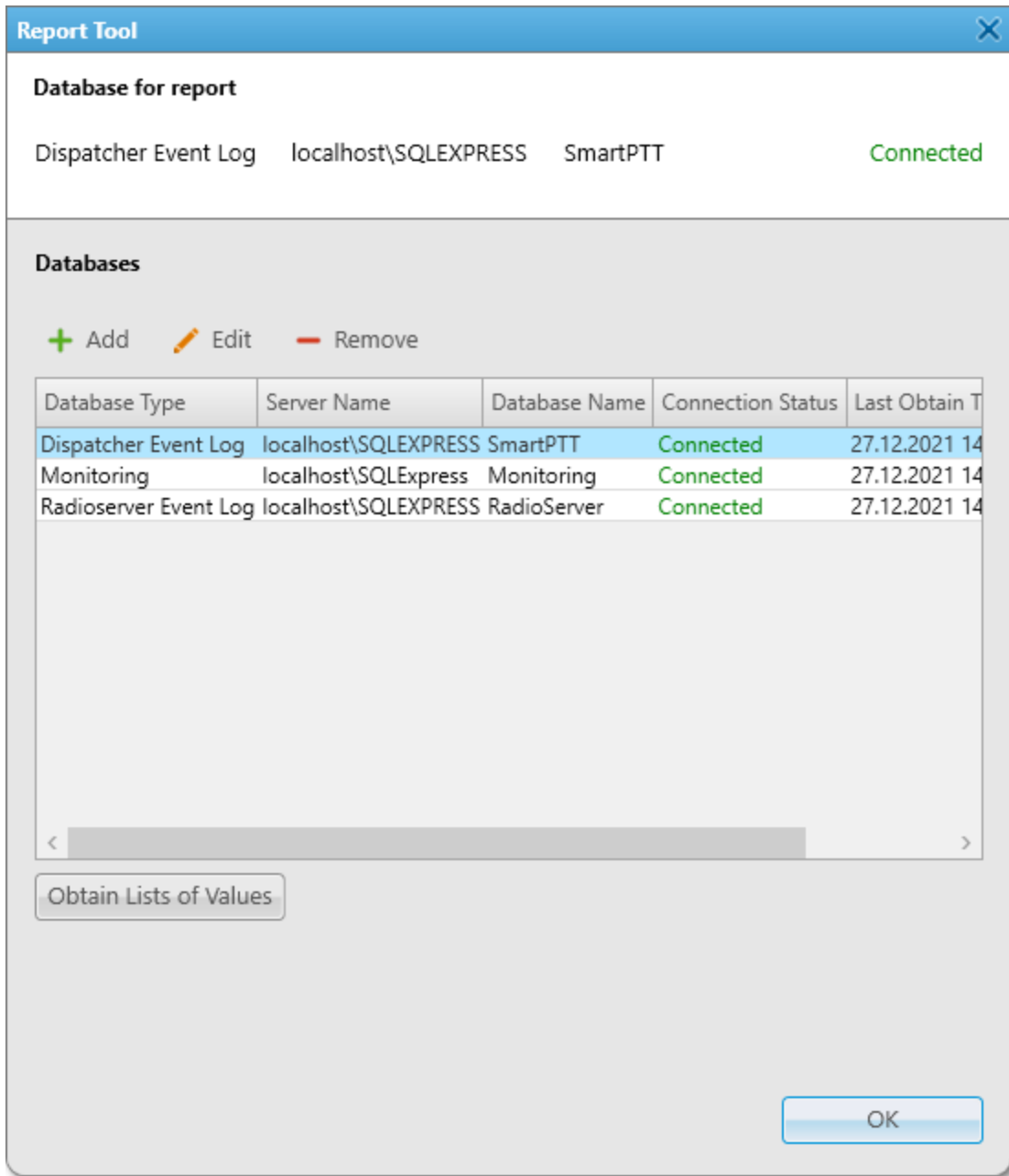
Follow the procedure to add a database connection in Report Tool.

Prerequisites:

- Ensure the desired databases are configured in SmartPTT.
- Depending on the authorization type configured in your SQL Server, log in to Windows under a user with SQL Server access rights, or obtain SQL Server credentials.

Procedure:

1. In the main window, in the **Database for report** area, click **Select / Change** (✎).
The table for managing databases appears.



2. Perform the desired action:

To add a database to the table, click **Add (+)** above the table.

To edit the existing database, perform the following actions:

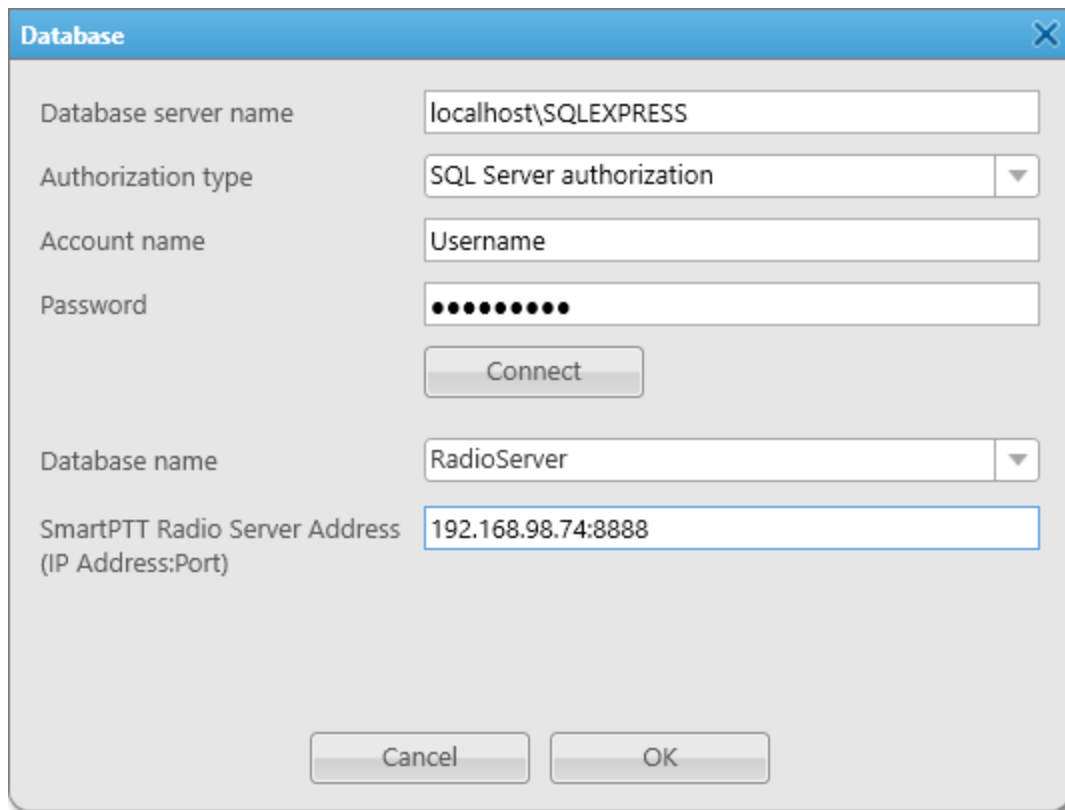
1. From the list of the existing databases, select the database you want to edit.
2. Click **Edit (✎)** above the table.
3. Proceed to the next step.

To delete the database from the table,

perform the following actions:

1. From the list of the existing databases, select the database you want to delete.
2. Click **Remove** (-) above the table.
The confirmation window appears.
3. In the confirmation window, click **Yes**.
The database will be deleted from the table.
4. Click **OK** to save changes and return to the main window.

The **Database** window appears.



3. In the window that appears, in the **Database server name** field, type the DBMS address in the following format: <Host name>\<DBMS service name>. For example, *MYCOMP\SQLExpress*.

NOTE

You can also type an IP address instead of a host name if you enable connection by IP address in *SQL Server Configuration Manager*.

NOTE

If the database server and the SmartPTT Dispatcher application are installed on the same host, you can type *localhost* as the host name.

4. Select the authorization type that is used in your SQL Server:

If Windows authorization is used,

From the **Authorization type** list, select *Windows NT authorization*.

NOTE

If you installed SQL Server together with SmartPTT and made no changes in the default authentication parameters, use *Windows NT authorization*.

To use DBMS authorization, perform the following actions:

1. From the **Authorization type** list, select the *SQL Server authorization* value.
2. In the **Account name** field, type the SQL Server account login.
3. In the **Password** field, type the SQL Server account password.

5. Click the **Connect** button to connect to the SQL Server. If connection is successful, the **Database name** list will be unlocked.
6. From the **Database name** list, select the desired database name.
If you select a SmartPTT Radioserver Event Log or Monitoring database, the **SmartPTT Radio Server Address** field appears below.
7. (*Optional*) To configure connection to the SmartPTT Radioserver Event Log or Monitoring database, in the **SmartPTT Radio Server Address** field, type the IP address and port of the SmartPTT Radioserver host in the following format: *<IP address>:<port>*.

NOTE

You can obtain the port in SmartPTT Radioserver Configurator. Open the **Settings** tab, select the **Client Connection** section, and then find the value in the **WCF Port** field.

8. In the **Database name** window, click **OK**.
The database is added to the table and the *Connected* status appears in the **Connected Status** column.
9. Select the desired database from the table, and then click the **Obtain Lists of Values** button.
Report Tool will obtain the up-to-date list of radios, talkgroups, channels, and other objects that figure in the database entries. These will populate filter lists when you create reports based on this database.
The progress bar appears. If the database contains a large amount of data, the process can take a long time.

NOTE

To create a report about a specific radio system object that was added recently, first obtain the lists of values from the corresponding database.

10. Click **OK** to save changes and return to the main window.

Creating Reports

Report Tool provides the ability to perform the following actions to generate reports:

- Select or change the database that must be used to create a report. For details, see [Selecting Database](#).
- Create the Event Log report. For details, see [Creating Event Log Report](#).
- Create the Subscriber Locations report. For details, see [Creating Subscriber Locations Report](#).
- Create the Subscriber Activity report. For details, see [Creating Subscriber Activity Report](#).
- Create monitoring reports. For details, see [Creating Air Monitoring Report](#).
- Export reports. For details, see [Exporting Reports](#).

4.1 Selecting Database

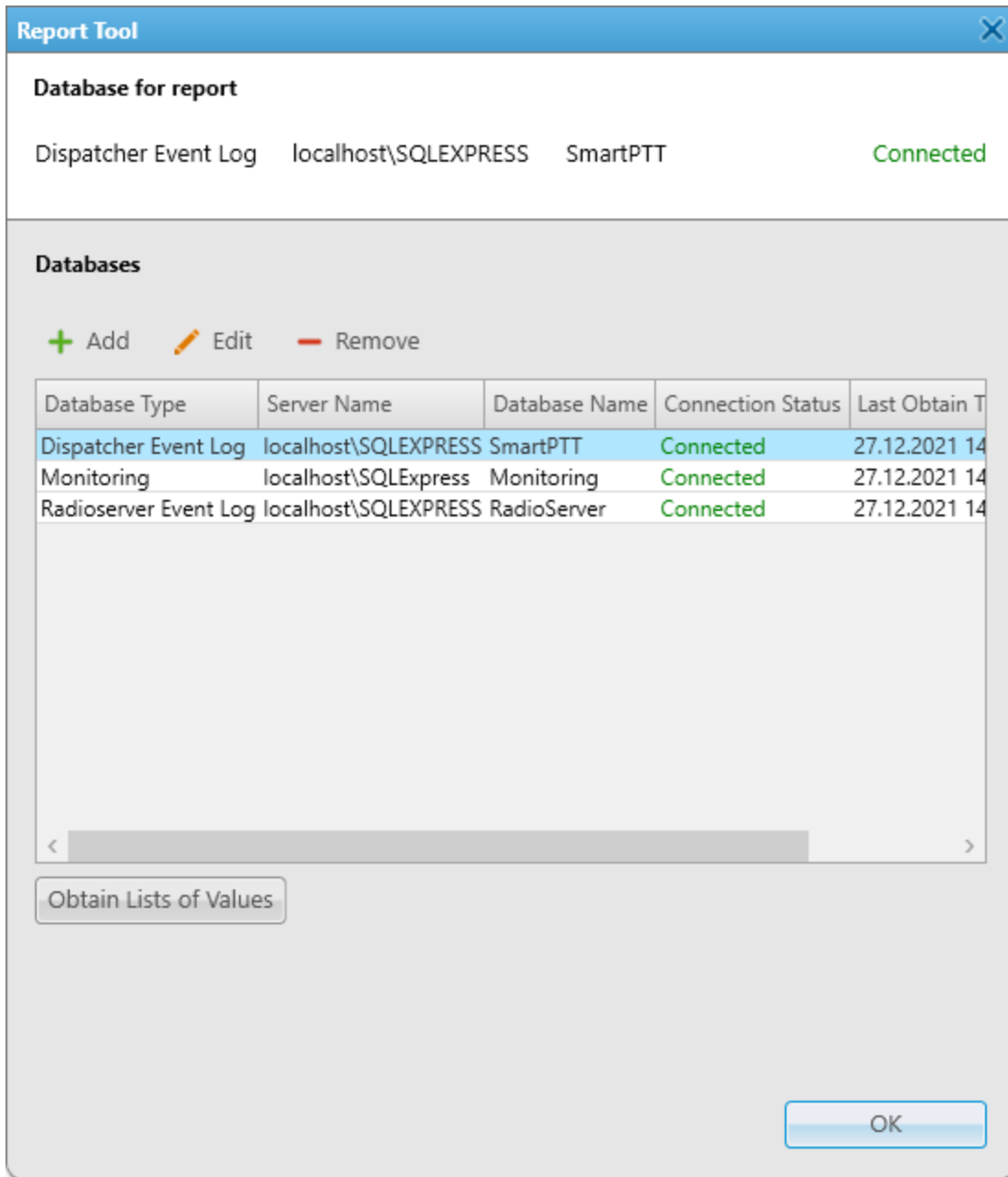
Follow the procedure to select or change a database.

Prerequisites:

Add the desired database. For details, see [Database Management](#).

Procedure:

1. In the main window, in the **Database for report** area, click **Select / Change** (✎).
The database table appears.



2. In the table, double-click the desired database. In the *Connection Status* column, the status must change to *Connected*.

NOTE

If you select the Monitoring database, you will be able to create Air monitoring, Events, System Usage, Calls, and Data reports. All other databases provide the ability to create any report except these reports.

Postrequisites:

Generate the desired report. For details, see the sections below.

4.2 Creating Event Log Report

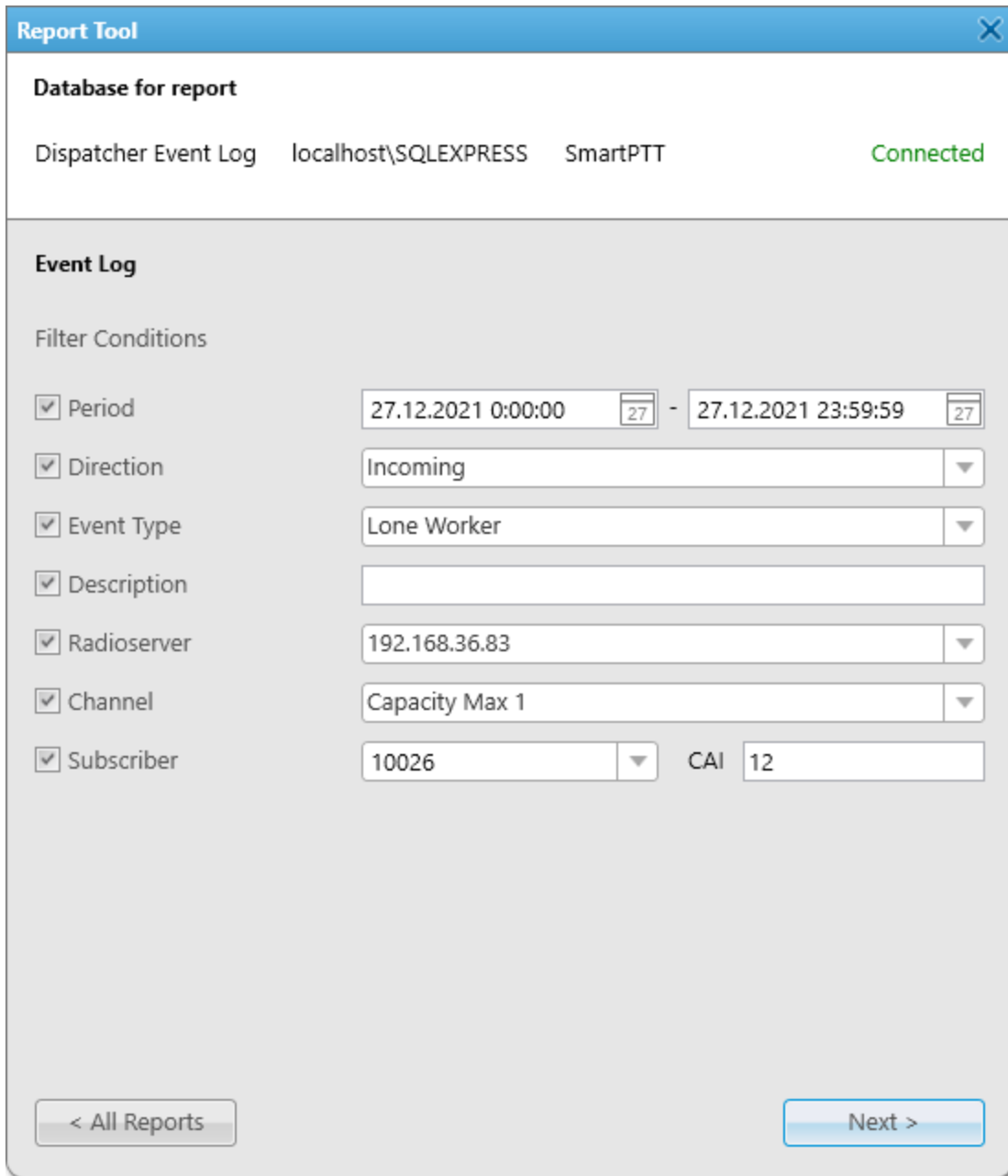
Follow the procedure to create a report based on the SmartPTT Dispatcher or SmartPTT Radioserver Event Log. For information on the Event Log report, see [Event Log Report](#).

Prerequisites:

- Select the desired SmartPTT Dispatcher or SmartPTT Radioserver Event Log database. For details, see [Selecting Database](#).
- For the SmartPTT Radioserver Event Log report, ensure that the desired SmartPTT Radioserver is running.

Procedure:


1. In the **Reports** area of the main window, click **Event Log**.
The **Event Log** area appears.



2. In the area that appears, configure conditions to filter the events that must be included in the report:

To include only events that occurred within a specific time period,

perform the following actions:

1. Select the **Period** check box.
2. In the **Period** fields, specify the desired date and time range by typing or using the Calendar () button.

To include only incoming or outgoing events,

perform the following actions:

1. Select the **Direction** check box.
2. From the **Direction** list, select the desired event direction: *Incoming* or *Outgoing*.

To include only events of a specific type,

perform the following actions:

1. Select the **Event Type** check box.
2. From the **Event Type** list, select the desired event type. For details, see [Event Log Report](#).

To include only events that match a specific text,

perform the following actions:

1. Select the **Description** check box.
2. In the **Description** field, type the desired text to filter events.

NOTE

To filter for events that contain at least one of several words, type the desired words separated by commas or spaces.

NOTE

One of the ways to use this field is to filter messages, but you can search for any text that is displayed in the **Additional Information** column of the Event Log.

To include only events that occurred on a specific radioserver,

perform the following actions:

1. Select the **Radioserver** check box.
2. From the **Radioserver** list, select the desired radioserver.

NOTE

The **Radioserver** list is only available if the SmartPTT Dispatcher database is selected. The list of radioservers is received from the selected database when you click the **Obtain Lists of Values** button. For details, see [Managing Database Connections](#).

To include only events that occurred on a specific channel,

perform the following actions:

1. Select the **Channel** check box.
2. From the **Channel** list, select *All* or the desired channel.

NOTE

The list of channels is received from the selected database when you click the **Obtain Lists of Values** button. For details, see [Managing Database Connections](#).

To include only events that occurred to a specific radio,

perform the following actions:

1. Select the **Subscriber** check box.
2. From the **Subscriber** list, select the desired radio.

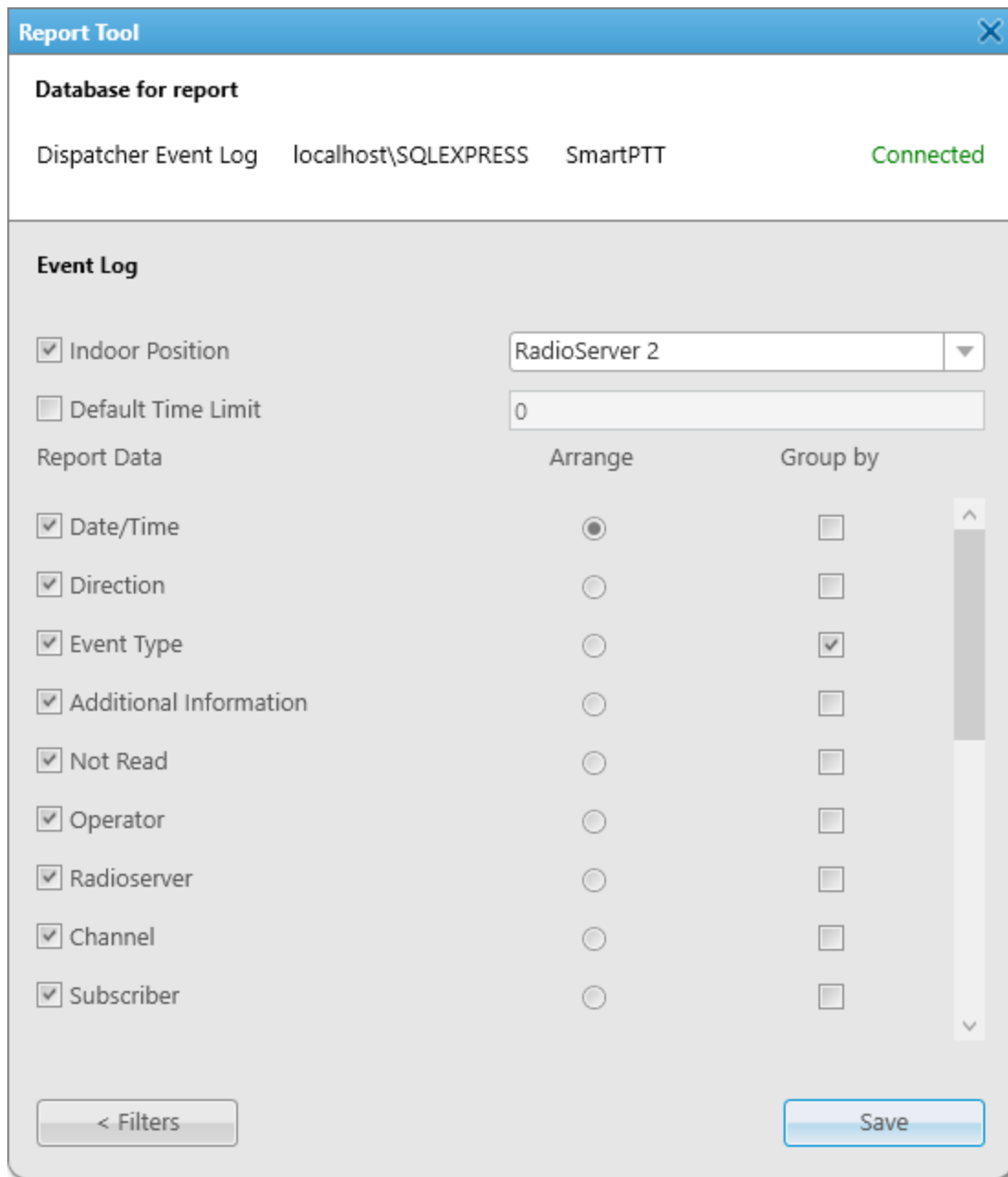
NOTE

The list of subscribers is received from the selected database when you click the **Obtain Lists of Values** button. For details, see [Managing Database Connections](#).

3. In most cases, leave the default **CAI ID** value – 12.

3. Click **Next**.

In the area that appears configure what information must be displayed in the report.



4. (Optional) To add indoor data to the report, perform the following actions:

- a. To enable the feature, select the **Indoor Position** check box.
 - b. From the list, select the desired SmartPTT Radioserver database from which to draw indoor location data.
 - c. In the **Default Time Limit** field, enter maximum time in seconds for indoor location data to be considered valid.
5. In the **Report Data** column, select the desired check boxes to include the corresponding columns in the report.
For information on the available columns, see [Event Log Report](#).
 6. In the **Arrange** column, select by which column to sort the entries in the report.
 7. (*Optional*) To group entries by specific data type, in the **Group by** column, select the desired check box.

NOTE

If you configure **Arrange** and **Group by** parameters as on the screenshot above, information in the report will be grouped by the event type, and for each category type, the entries will be sorted by date/time.

8. Click **Save** to save the report in the TXT, CSV or XLSX format.

Important

If you try to generate the report using radioserver database when you are not connected to SmartPTT Radioserver, an error appears. For details, see [No Connection to Radioserver Problem](#).

4.3 Creating Subscriber Locations Report

Follow the procedure to create a report that displays radio coordinates.

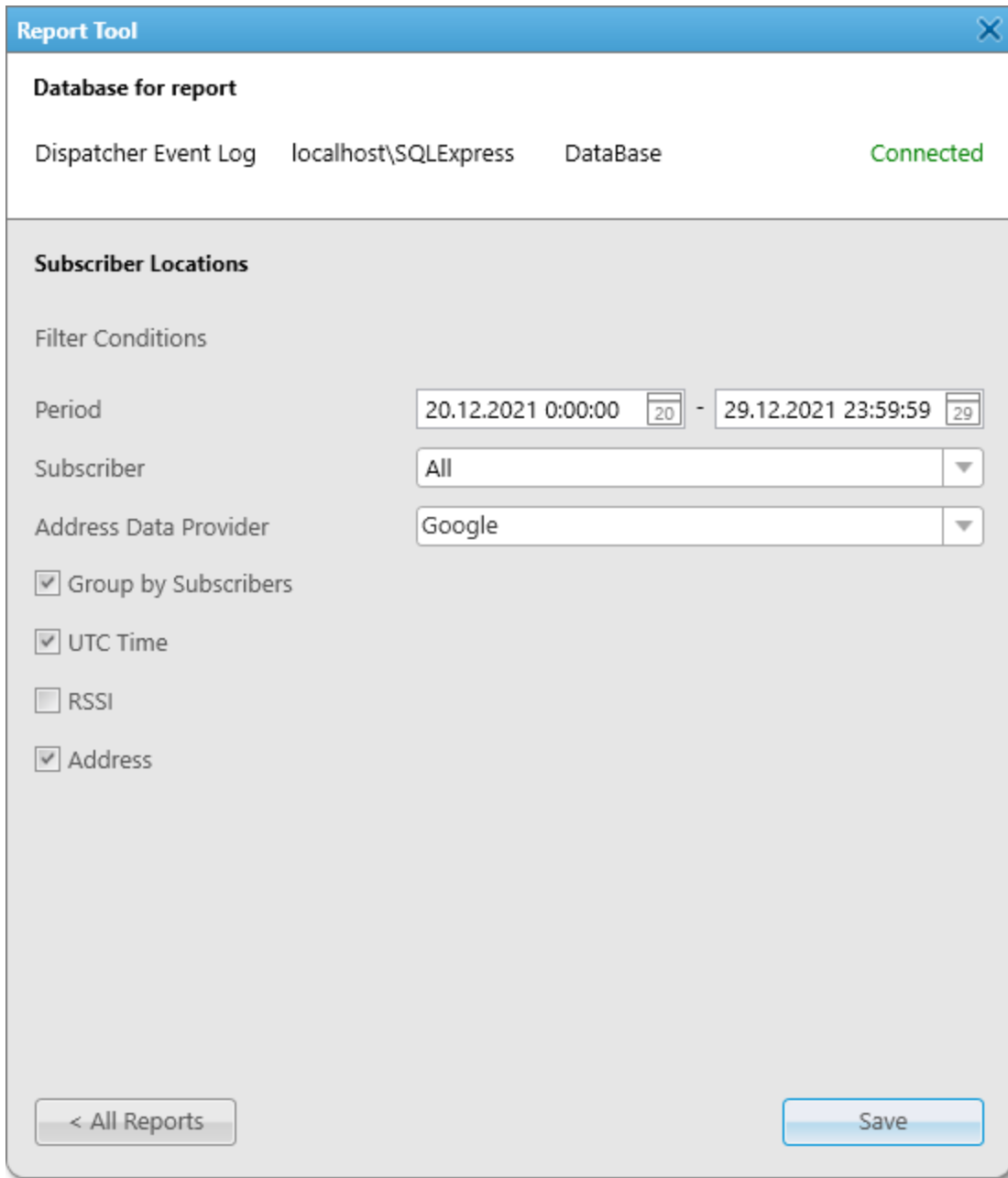
For information on the Locations Report, see [Subscriber Locations Report](#).


Prerequisites:

- Select the desired SmartPTT Dispatcher or SmartPTT Radioserver Event Log database. For details, see [Selecting Database](#).
- For the SmartPTT Radioserver report, ensure that the desired SmartPTT Radioserver is running. Otherwise it will be unavailable for creating a report.

Procedure:

1. In the **Reports** area of the main window, click **Subscriber Locations**.
The **Subscriber Locations** area appears.



2. In the **Period** fields, specify the desired date and time range by typing or using the Calendar () button.
2. From the **Subscriber** list, select the desired radios for the report:

To include information on a specific radio, _____ select the desired radio.

To include information on all radios, _____ select *All*.

NOTE

If you don't see the desired subscriber in the list, update the list of values for the selected database. For details, see [Managing Database Connections](#).

3. From the **Address Data Provider** list, select the geocoding source: *Google* or *OpenStreetMap*. By default, *Google* is selected.

4. (Optional) Configure additional parameters of the report:

To group entries of the report by radios,

select the **Group by Subscribers** check box.

To use the time of the coordinates registration in the Coordinated Universal Time standard (UTC+00:00),

select the **UTC Time** check box.

NOTE

If you clear the check box, the report will display event time in the time zone of the computer running Report Tool.

NOTE

If you select the **UTC Time** check box, the **Period** fields are also treated as UTC+00:00.

To display the RSSI signal level in decibels at the time of coordinates reception,

select the **RSSI** check box.

To display the address that corresponds to the coordinates,

select the **Address** check box.

6. Click **Save**, then select a folder for the report, enter a file name and select the desired format. You can save the report in the TXT, CSV, or XLSX format.

4.4 Creating Subscriber Activity Report

Follow the procedure to create a report based on activity data of the radios

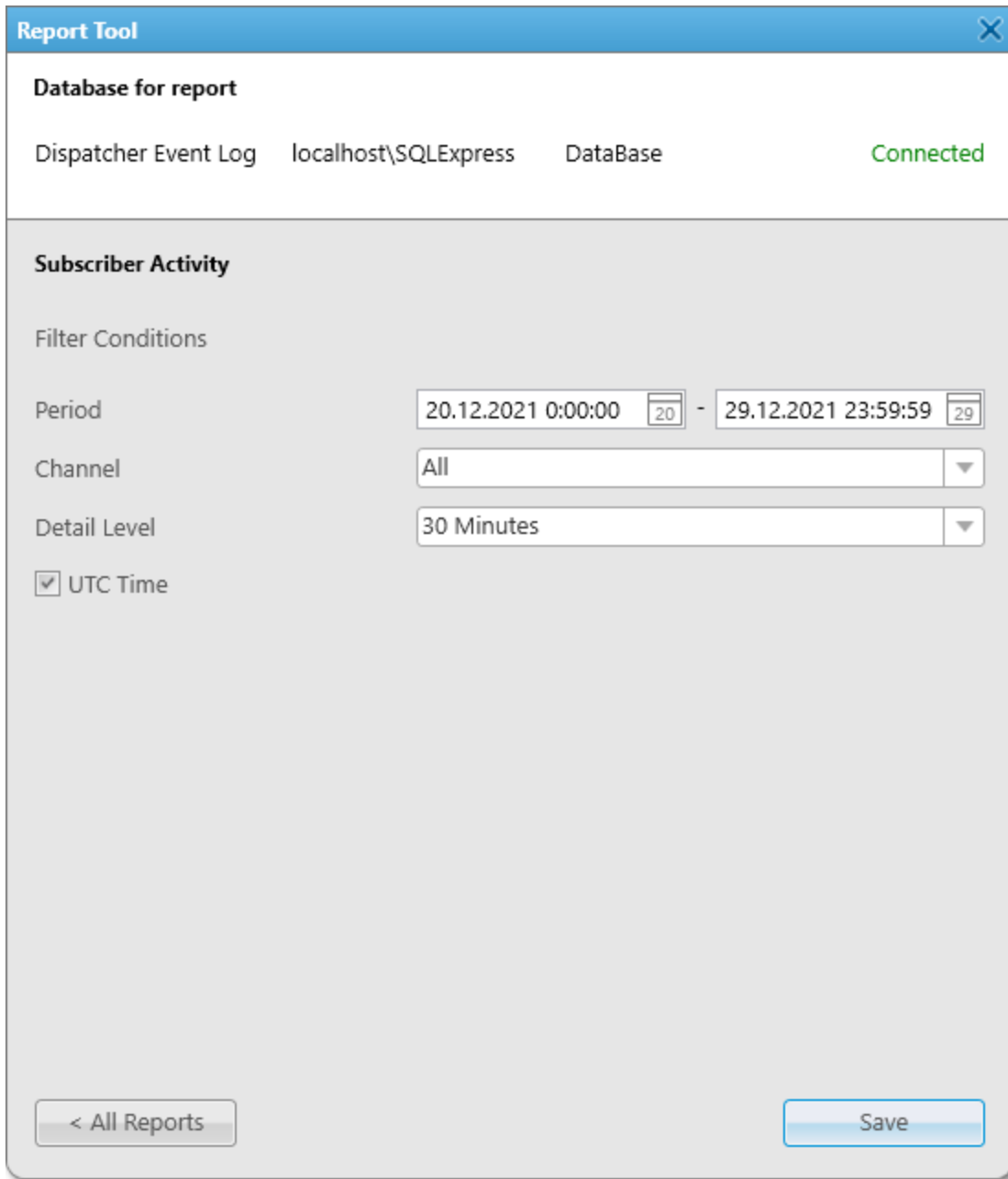
For information on the Subscriber Activity report, see [Subscriber Activity Report](#).


Prerequisites:

- Select the desired SmartPTT Dispatcher or SmartPTT Radioserver Event Log database. For details, see [Selecting Database](#).
- For the SmartPTT Radioserver report, ensure that the desired SmartPTT Radioserver is running. Otherwise it will be unavailable for creating a report.

Procedure:

1. In the **Reports** area of the main window, click **Subscriber Activity**.
The **Subscriber Activity** area appears.



2. In the **Period** fields, specify the desired date and time range by typing or using the Calendar () button.

2. From the **Channel** list, select the desired radio network channel, control station or trunked radio systems:

To create a report about subscriber activity on a specific channel, station or system, select the desired channel, station or system.

To create a report about subscriber activity on all available channels, stations and systems, select *All*.

NOTE

If you don't see the desired channel in the list, update the list of values for the selected database. For details, see [Managing Database Connections](#).

4. From the **Detail Level** list, select an option to break down information in the report:

To break down information by days,	select <i>Days</i> .
To break down information by hours,	select <i>Hours</i> .
To break down information by 30-minute intervals,	select <i>30 minutes</i> .
To break down information by 10-minute intervals,	select <i>10 minutes</i> .
To break down information by minutes,	select <i>Minutes</i> .

5. (Optional) To use the Coordinated Universal Time standard (UTC+00:00) in the report, select the **UTC Time** check box. Otherwise, event time will be given for the time zone of the computer running Report Tool.

Important

If you select the **UTC Time** check box, the **Period** fields are also treated as UTC+00:00.

6. Click **Save**.
7. (Optional) Click **Open** to preview and export the report to the desired format.

Important

If you try to generate the report using radioserver database when you are not connected to SmartPTT Radioserver, an error appears. For details, see [No Connection to Radioserver Problem](#).

4.5 Creating Monitoring Reports

Report Tool provides the ability to create the following types of monitoring reports:

- The Air Monitoring report that displays information about voice calls and data transmissions. For details, see [Creating Air Monitoring Report](#).
- The Events report that displays information on events and alarms registered on the radio system devices, such as repeaters and routers. For details, see [Creating Events Report](#).
- The System Usage report that displays information on the system load, uptime, downtime, and other related radio system parameters. For details, see [Creating System Usage Report](#).
- The Calls report that displays detailed information on calls. For details, see [Creating Calls Report](#).
- The Data report that displays information on data transmissions and commands. For details, see [Creating Data Report](#).

4.5.1 Creating Air Monitoring Report

Follow the procedure to create a report that provides information on voice and data transmissions in the system. For information on the Air Monitoring report, see [Air Monitoring Report](#).

Prerequisites:

Select the SmartPTT Radioserver Monitoring database. For details, see [Selecting Database](#).

Procedure:

1. In the **Reports** area of the main window, click **Monitoring** → **Air Monitoring**.
The **Air Monitoring** area appears.

Report Tool

Database for report

Monitoring localhost\SQLEXPRESS Monitoring **Connected**

Air Monitoring

Filter Conditions

Period 01.09.2021 0:00:00 - 10.01.2022 23:59:59

System NAI- Linked Capacity Plus 1

Site Site 1

Repeater All

Radio 55

UTC Time

<< All Reports < Monitoring Next >

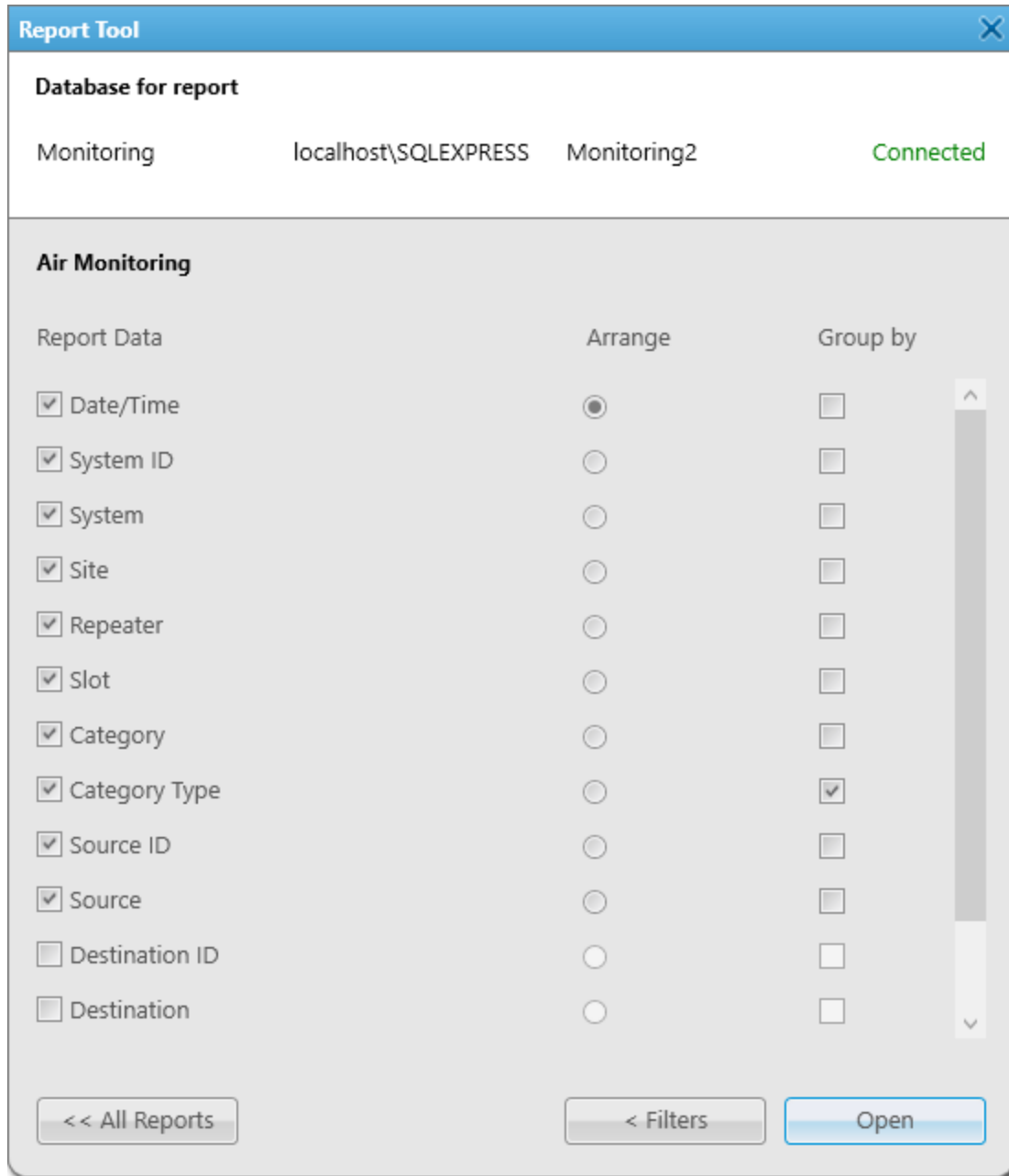
2. In the **Period** fields, specify the desired date and time range by typing or using the Calendar () button.
3. Configure which information on voice and data transmissions to include in the report:
 - a. From the **System** list, select the desired radio network or all available networks.

- b. From the **Site** list, select one of the available sites or all sites.
 - c. From the **Repeater** list, select the desired repeater or all available repeaters.
 - d. From the **Subscriber** list, select the desired radio or all available radios. If you select a specific subscriber, the report will contain information on data and voice sent by this subscriber only.
4. (Optional) To use the Coordinated Universal Time standard (UTC+00:00) in the report, select the **UTC Time** check box. Otherwise, event time will be given for the time zone of the computer.

NOTE

If you select the **UTC Time** check box, the **Period** fields are also treated as UTC+00:00.

- 5. Click **Next**.
The window appears where you can configure what information must be displayed in the report.



- 6. In the **Report Data** column, select the desired check boxes to include the corresponding columns in the report. For details, see [Air Monitoring Report](#).

7. In the **Arrange** column, select by which column to sort entries in the report.
8. (*Optional*) To group entries by specific data type, in the **Group by** column, select the desired check box.

NOTE

If you configure **Arrange** and **Group by** parameters as on the screenshot above, information in the report will be grouped by the category type, and for each category type, the entries will be sorted by date/time.

9. Click **Open** to open the window where you can preview, save, and print the report.

4.5.2 Creating Events Report

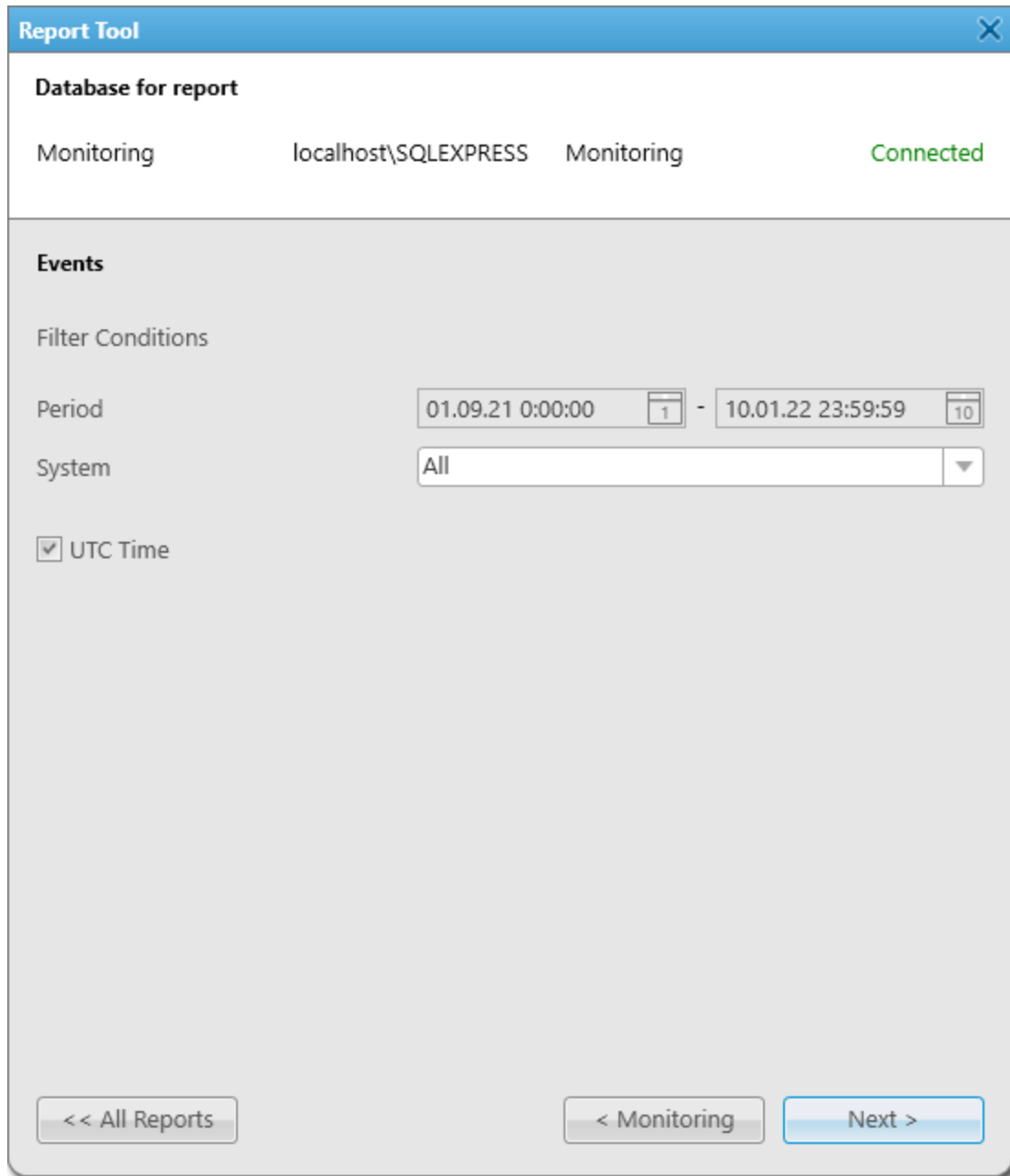
Follow the procedure to create a report that provides information on network device monitoring events, such as alarms. For information on the Events report, see [Events Report](#).

Prerequisites:

Select the SmartPTT Radioserver Monitoring database. For details, see [Selecting Database](#).


Procedure:

1. In the **Reports** area of the main window, click **Monitoring** → **Events**.
The **Events** area appears.



The screenshot shows the 'Report Tool' dialog box with the following configuration:

- Database for report:** Monitoring, localhost\SQLEXPRESS, Monitoring, Connected
- Events:**
 - Filter Conditions:**
 - Period:** 01.09.21 0:00:00 (Calendar icon 1) - 10.01.22 23:59:59 (Calendar icon 10)
 - System:** All (Dropdown arrow)
 - UTC Time
- Navigation:** << All Reports, < Monitoring, Next >

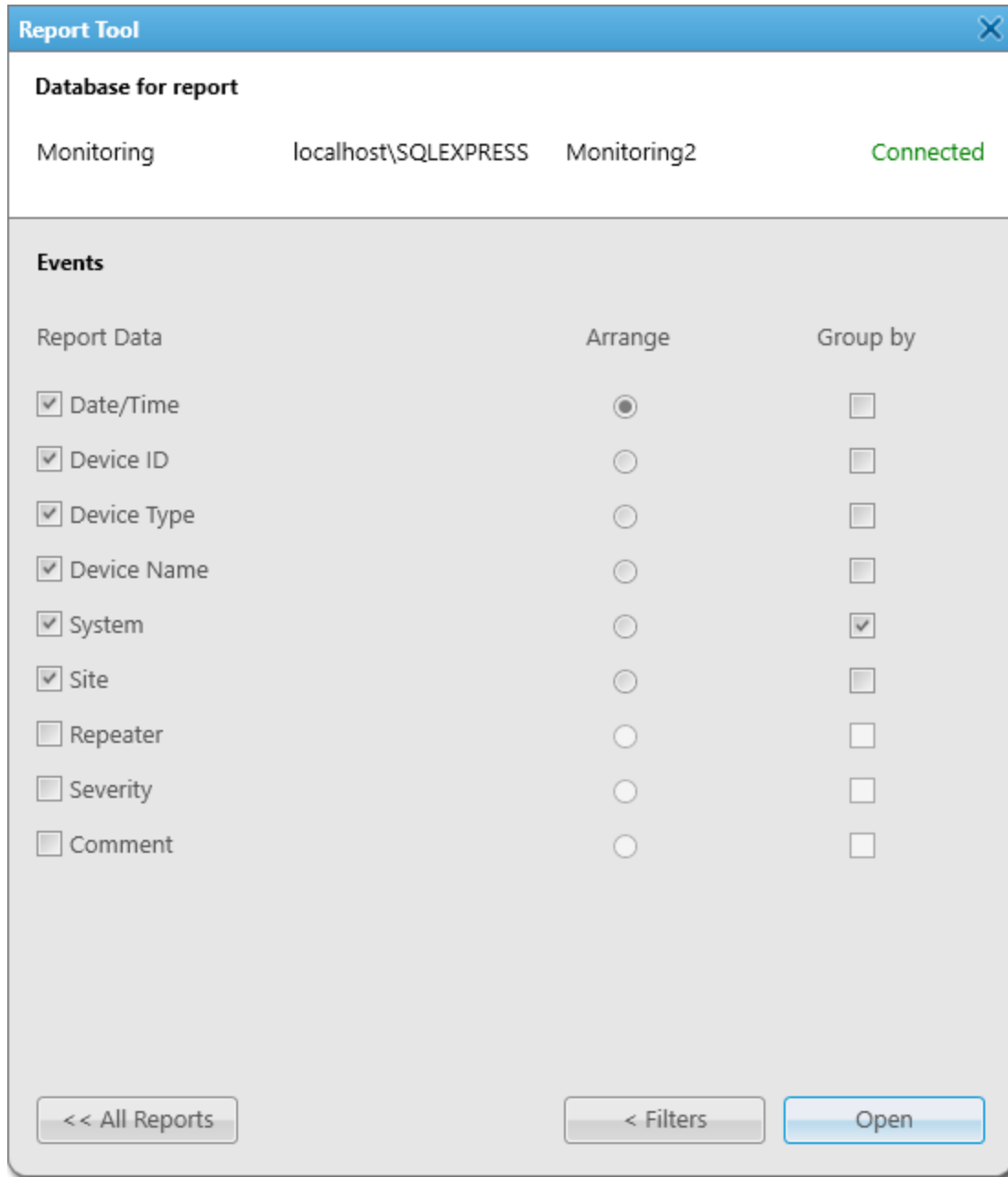
2. In the **Period** fields, specify the desired date and time range by typing or using the Calendar () button.
3. From the **System** list, select the desired radio network or all available networks to configure which events to include in the report.

- (Optional) To use the Coordinated Universal Time standard (UTC+00:00) in the report, select the **UTC Time** check box. Otherwise, event time will be given for the time zone of the computer.

NOTE

If you select the **UTC Time** check box, the **Period** fields are also treated as UTC+00:00.

- Click **Next**.
The window appears where you can configure what information must be displayed in the report.



- In the **Report Data** column, select the desired check boxes to include the corresponding columns in the report. For details, see [Events Report](#).
- In the **Arrange** column, select by which column to sort entries in the report.
- (Optional) To group entries by specific data type, in the **Group by** column, select the desired check box.

NOTE

If you configure **Arrange** and **Group by** parameters as on the screen above, information in the report will be grouped by system, and for each system, the entries will be sorted by date/time.

9. Click **Open** to open the window where you can preview, save, and print the report.

4.5.3 Creating System Usage Report

Follow the procedure to create a report that provides information on repeaters' load.

For information on the System Usage report, see [System Usage Report](#).

Prerequisites:

Select the SmartPTT Radioserver Monitoring database. For details, see [Selecting Database](#).

Procedure:

1. In the **Reports** area of the main window, click **Monitoring** → **System Usage**.
The **System Usage** area appears.

The screenshot shows the 'Report Tool' dialog box with the following configuration:

- Database for report:** Monitoring, localhost\SQLEXPRESS, Monitoring, Connected
- System Usage:**
 - Filter Conditions:**
 - Period:** 01.09.21 0:00:00 (1) - 14.01.22 23:59:59 (14)
 - System:** All
 - Site:** Site 0
 - Repeater:** All
 - Group by:** Entire period
 - Ranges:** 0 % (green), 40 % (orange), 80 % (red), 100 %
 - UTC Time
- Navigation:** << All Reports, < Monitoring, Next >

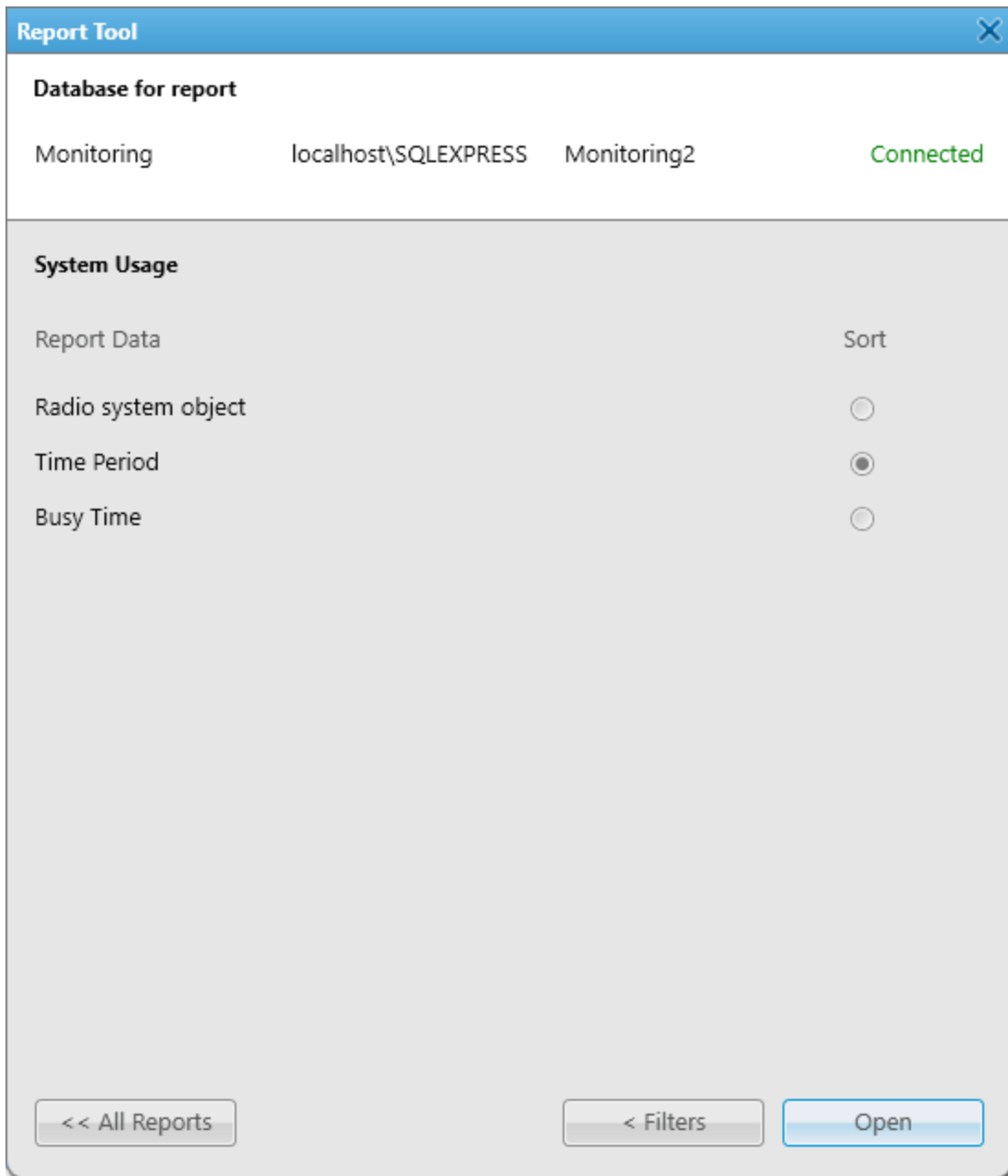
2. In the **Period** fields, specify the desired date and time range by typing or using the Calendar ([15](#)) button.
3. Configure which information on the system load to include in the report:
 - a. From the **System** list, select the desired radio network or all available networks.

- b. From the **Site** list, select one of the available sites or all sites.
 - c. From the **Repeater** list, select the desired repeater or all available repeaters.
 - d. From the **Group by** list, select the period for which to display load ratio.
For example, if you select *Hour*, the report will list the repeater load for each hour in the selected period.
4. In the **Ranges** fields, configure load range for each color. The highest load will be highlighted red and the lowest load will be green.
 5. (Optional) To use the Coordinated Universal Time standard (UTC+00:00) in the report, select the **UTC Time** check box. Otherwise, event time will be given for the time zone of the computer.

NOTE

If you select the **UTC Time** check box, the **Period** fields are also treated as UTC+00:00.

6. Click **Next**.
The window appears where you can configure how information must be arranged in the report.



7. In the **Arrange** column, select by which column to sort entries in the report.

- Click **Open** to open the window where you can preview, save, and print the report.

4.5.4 Creating Calls Report

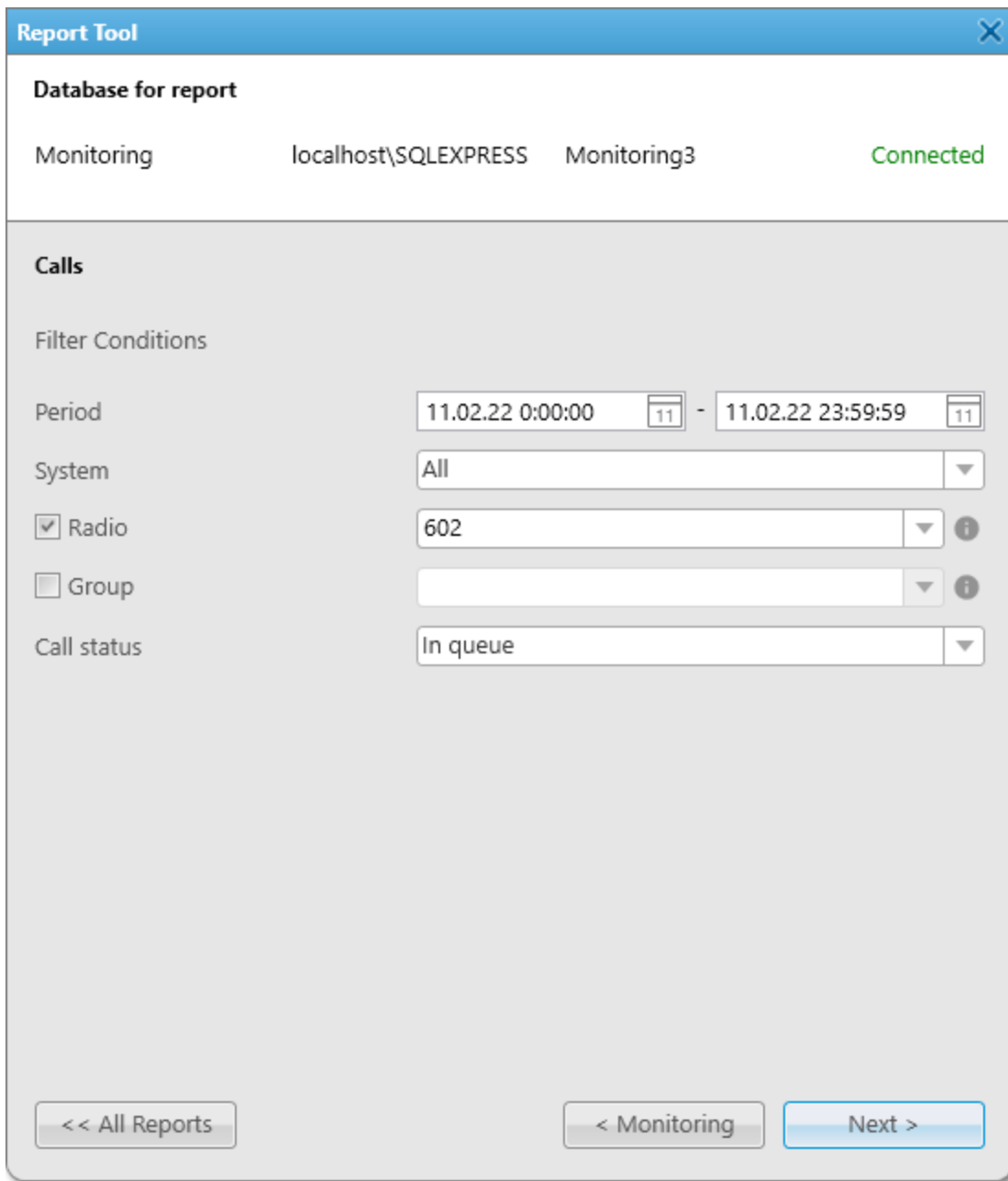
Follow the procedure to create a report that provides information on calls in the system. For information on the Calls report, see [Calls Report](#).


Prerequisites:

Select the SmartPTT Radioserver Monitoring database. For details, see [Selecting Database](#).

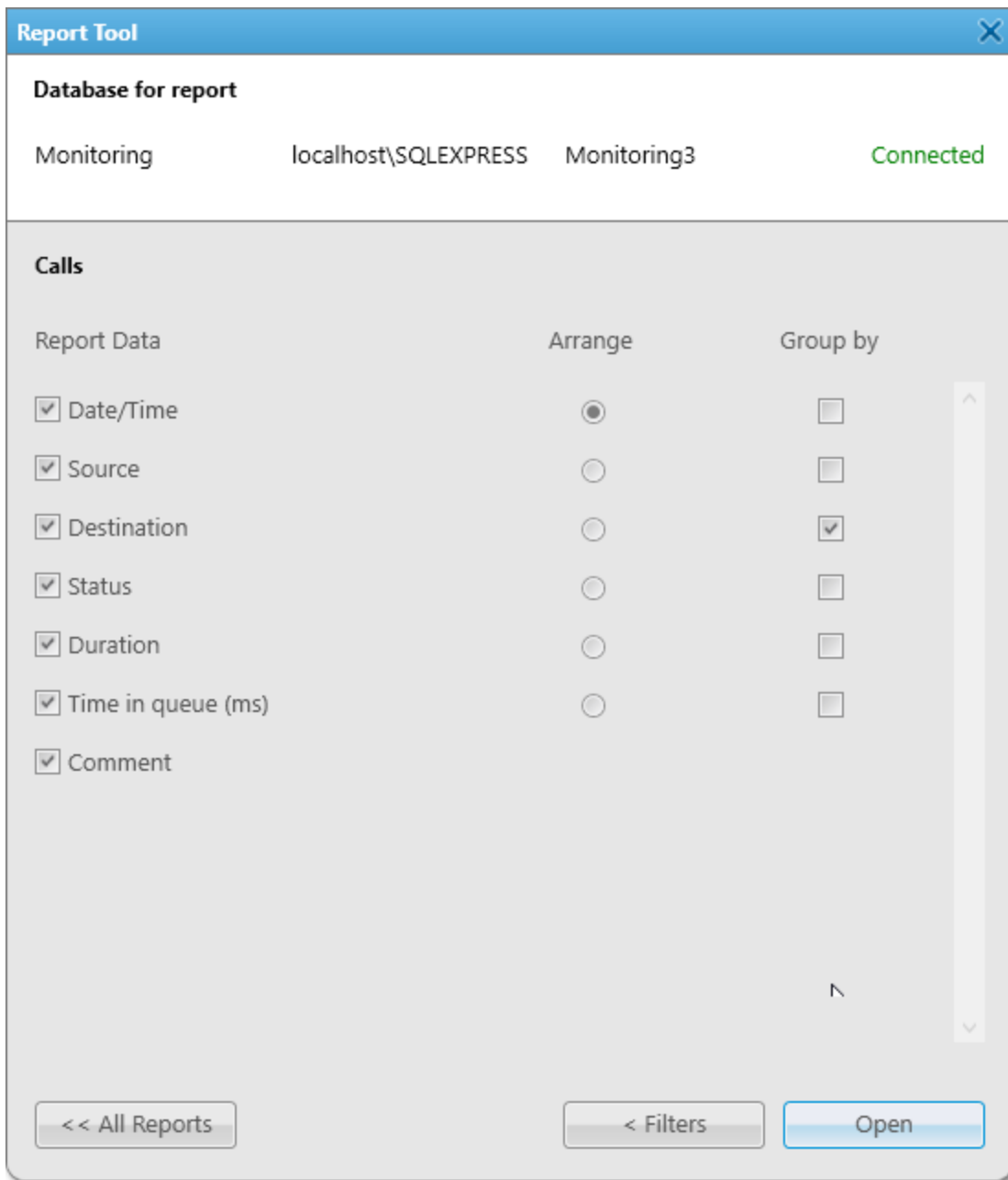
Procedure:

- In the **Reports** area of the main window, click **Calls**. The **Calls** area appears.



- In the **Period** fields, specify the desired date and time range by typing or using the Calendar () button.

3. Configure which information on voice calls to include in the report:
 - a. From the **System** list, select the desired radio network or all available networks.
 - b. *(Optional)* Select the **Radio** check box and select one of the available subscribers or *All* to select all available subscribers.
 - c. *(Optional)* To include group call in the report, select the **Group** check box and select one of the available talkgroups or *All* to select all available talkgroups.
 - d. From the **Call status** list, select the desired call type or all available types.
4. Click **Next**.
 In the window that appears, configure what information must be displayed in the report.



5. In the **Report Data** column, select the check boxes to include the corresponding columns in the report. For details, see [Calls Report](#).
6. In the **Arrange** column, select by which column to sort entries in the report.
7. *(Optional)* To group entries by specific data type, in the **Group by** column, select the desired check box.

NOTE

If you configure **Arrange** and **Group by** parameters as on the screenshot above, information in the report will be grouped by destination, for each destination, the entries will be sorted by date/time.

8. Click **Open** to open the window where you can preview, save, and print the report.

4.5.5 Creating Data Report

Follow the procedure to create a report that provides information on data transmissions in the system.

For information on the Data report, see [Data Report](#).

Prerequisites:

Select the SmartPTT Radioserver Monitoring database. For details, see [Selecting Database](#).


Procedure:

1. In the **Reports** area of the main window, click **Data**.
The **Data** area appears.

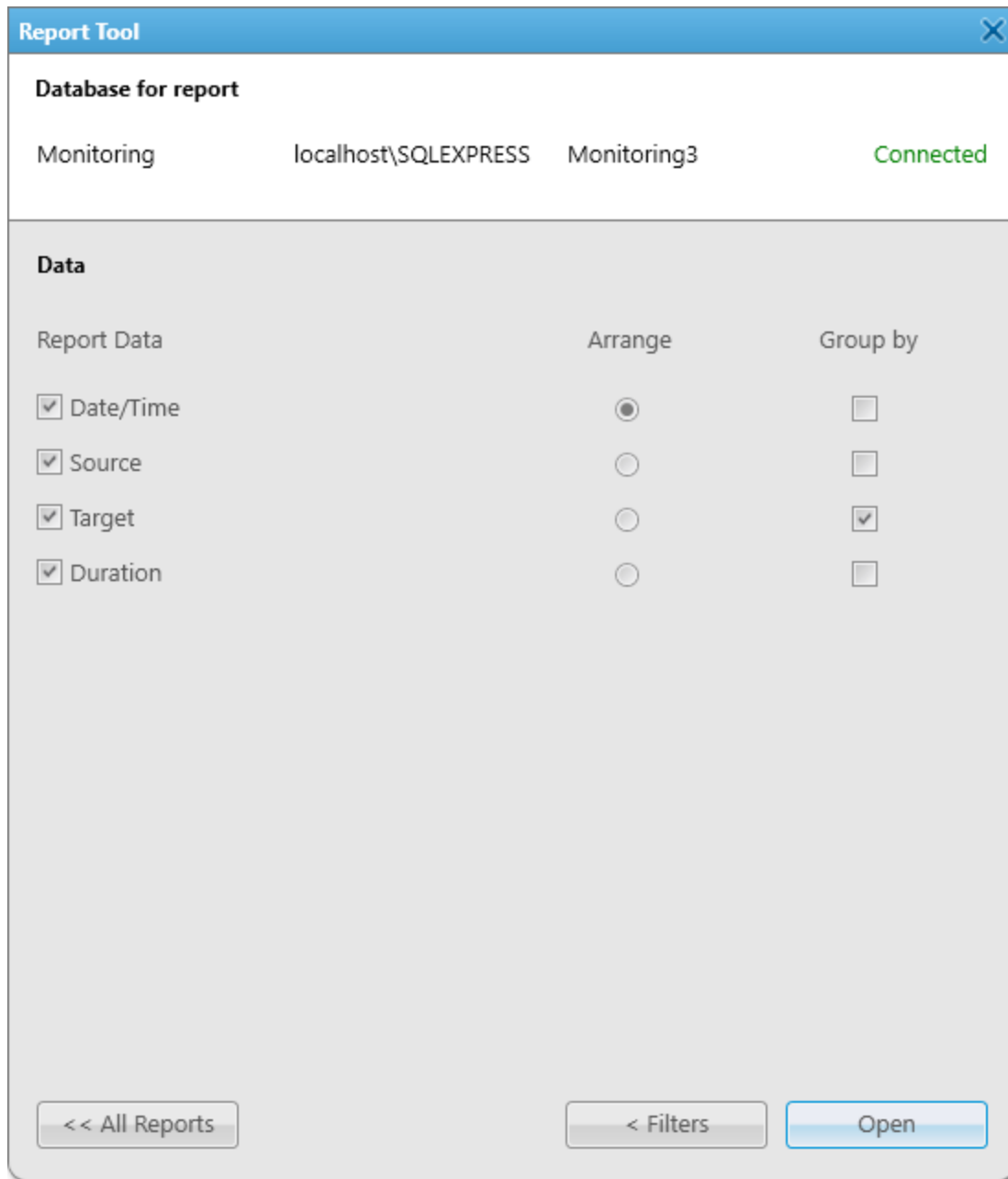
The screenshot shows the 'Report Tool' dialog box with the 'Data' section selected. The 'Database for report' section shows 'Monitoring' selected, 'localhost\SQLEXPRESS' as the server, 'Monitoring3' as the database, and a 'Connected' status. The 'Data' section includes 'Filter Conditions' with the following settings:

- Period:** 01.09.21 0:00:00 (with a calendar icon) - 12.01.22 23:59:59 (with a calendar icon)
- System:** All (dropdown menu)
- Radio:** 602 (dropdown menu with an info icon)
- Group:** (dropdown menu with an info icon)
- Transmission status:** Successful (dropdown menu)

At the bottom of the dialog, there are three buttons: '<< All Reports', '< Monitoring', and 'Next >'.

2. In the **Period** fields, specify the desired date and time range by typing or using the Calendar () button.
3. Configure which information on data transmission to include in the report:
 - a. From the **System** list, select the desired radio network or all available networks.

- b. (Optional) Select the **Radio** check box and select one of the available subscribers or all of them from the list.
 - c. (Optional) Select the **Group** check box and select one of the available groups or all groups from the list.
 - d. From the **Transmission status** list, select the desired call status or all available statuses.
4. Click **Next**.
In the window appears configure what information must be displayed in the report.



- 5. In the **Report Data** column, select the check boxes to include the corresponding columns in the report. For details, see [Data Report](#).
- 6. In the **Arrange** column, select by which column to sort entries in the report.
- 7. (Optional) To group entries by specific data type, in the **Group by** column, select the desired check box.

NOTE

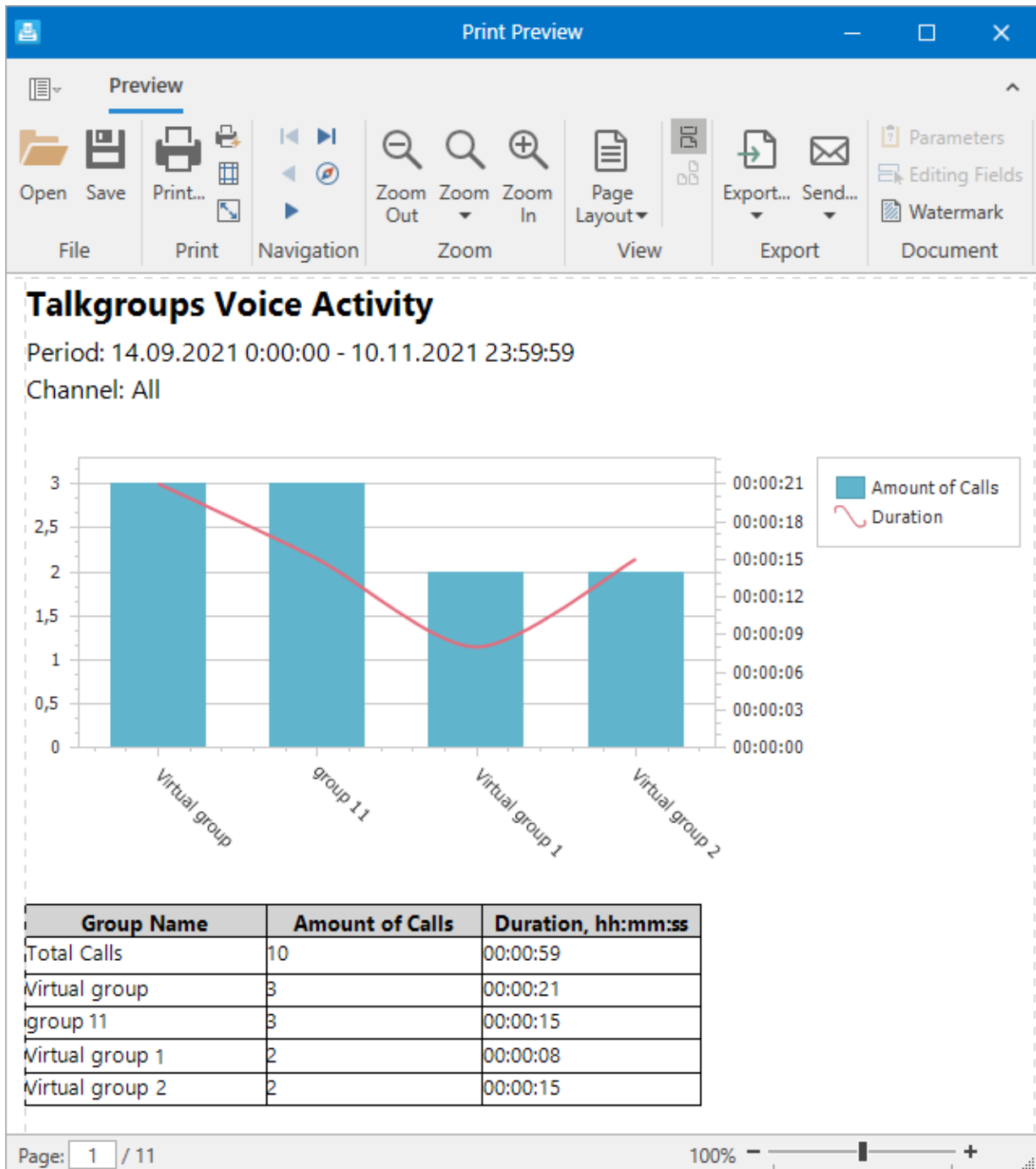
If you configure **Arrange** and **Group by** parameters as on the screen above, information in the report will be grouped by destination, and for each destination, the entries will be sorted by date/time.

- Click **Open** to open the window where you can preview, save, and print the report.


4.6 Exporting Reports

After generating the Event Log and Subscriber Location reports, you can view them only after you save the report as a file in the TXT, CSV, or XLSX format.

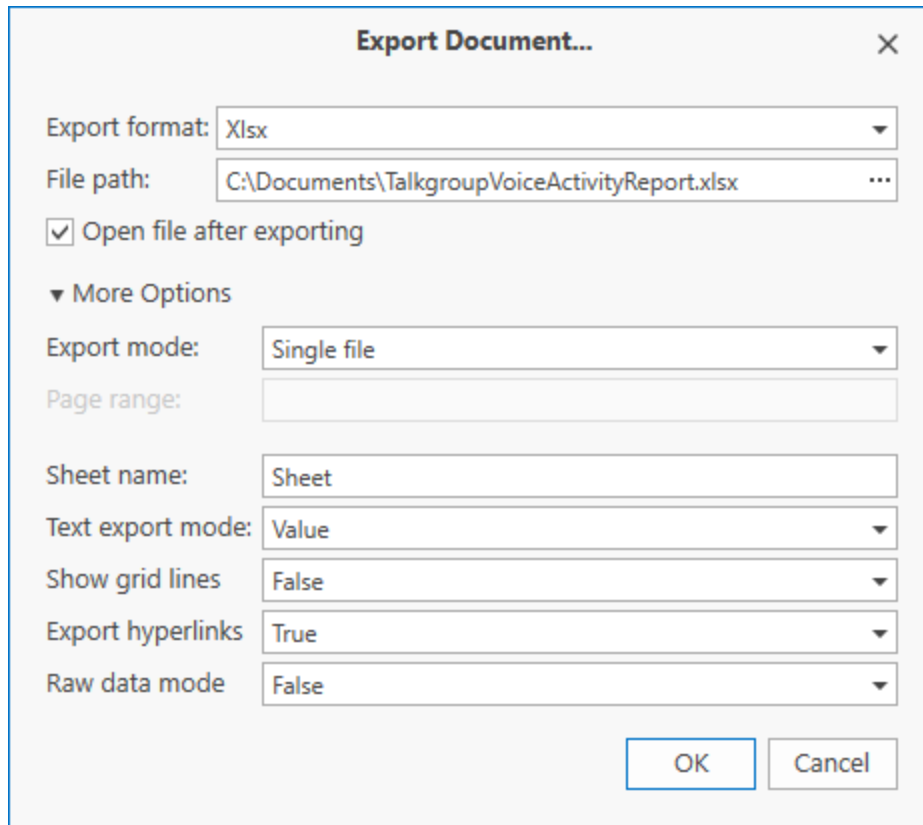
After generating the Subscriber Activity and Monitoring reports, you can view them in the **Print Preview** window that appears after you click the **Open** button. In this window, you can export the report in the desired format, and perform other actions.



In the **Print Preview** window, you can export the created report in the following formats: PDF, HTML, MHT, RTF, DOCX, XLS, XLSX, CSV, TXT, BMP, GIF, JPEG, PNG, TIFF, EMF, and WMF.

To export the report to a file, on the tool bar, click **Export** ().

In the **Export Document** window that appears, specify the desired export format, the name and path of the file. Configure other options if necessary, and then click **OK**.



The image shows a dialog box titled "Export Document...". It contains the following fields and options:

- Export format:** A dropdown menu with "Xlsx" selected.
- File path:** A text field containing "C:\Documents\TalkgroupVoiceActivityReport.xlsx" and a browse button (three dots).
- Open file after exporting**
- More Options:** A collapsed section containing:
 - Export mode:** A dropdown menu with "Single file" selected.
 - Page range:** An empty text field.
 - Sheet name:** A text field containing "Sheet".
 - Text export mode:** A dropdown menu with "Value" selected.
 - Show grid lines:** A dropdown menu with "False" selected.
 - Export hyperlinks:** A dropdown menu with "True" selected.
 - Raw data mode:** A dropdown menu with "False" selected.
- Buttons:** "OK" and "Cancel" buttons at the bottom right.


Troubleshooting

5.1 General Recommendations

Report Tool supports only databases of the SmartPTT version that was provided with this tool. If you try to generate report using a database that was created in a different version of SmartPTT, Report Tool may fail to build a report.

5.2 No Connection to Radioserver Problem

If you try to generate the Event Log or Subscriber Activity report using radioserver database when you are not connected to SmartPTT Radioserver, an error appears.

In the database selection window, select the desired database and click **Edit** (). In the window that appears, configure connection to SmartPTT Radioserver by entering IP address and port number. For details, see [Managing Database Connections](#).

Make sure that the SmartPTT Radioserver is running and you can connect to it.

Contact Information

If you have a request or want to learn more about our solutions, please contact our sales managers via email sales@smartptt.com.

Customer support is provided by SmartPTT Technical Support Center. You can contact a support engineer via email support@smartptt.com or by submitting a request on the official support website support.smartptt.com.

SmartPTT Technical Support Center does not consult on deployment and maintenance of Motorola Solutions products except on settings related to SmartPTT connection and data communication.

For technical support on Motorola Solutions products, please contact an authorized Motorola Solutions representative in your region.



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