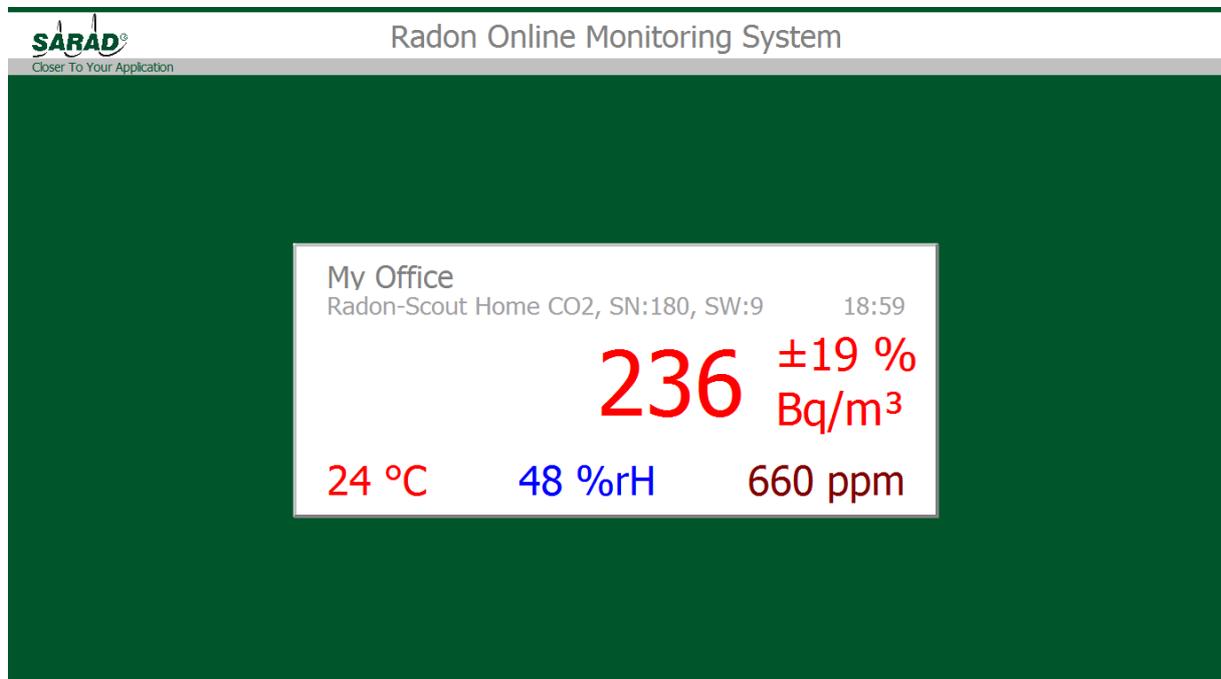# SARAD ROOMS

The software ROOMS allows the large sized presentation of recent measurement results for the instruments Radon Scout (all types), Thoron Scout and RTM1688-2 which are connected to a network. The instruments are called periodically and the results are presented within a separate box for each instrument. This solution offers a number of advantages:

- High security level because no cloud service is required - all data remain under control of the owner
- Bidirectional communication - the network connection can also be used by Radon Vision for remote control, configuration and data download.
- Plug & play - within a local network (or VPN) no network administration is required.

Structure of the network

The network connection with one or more instruments is realized by the small and inexpensive IP-Box or alternatively by an already available computer. On this hardware runs the Instrument Server software. Another server-software, the so-called Registration Server must run on one computer within the network. All instrument servers call the registration server periodically to tell their addresses. The registration server holds a list of all instrument servers with connected instruments. ROOMS fetches this list from the registration server to get the addresses for requesting the recent results through the instrument server. Instrument Server, Registration Server and ROOMS may run on different computers or on one computer.
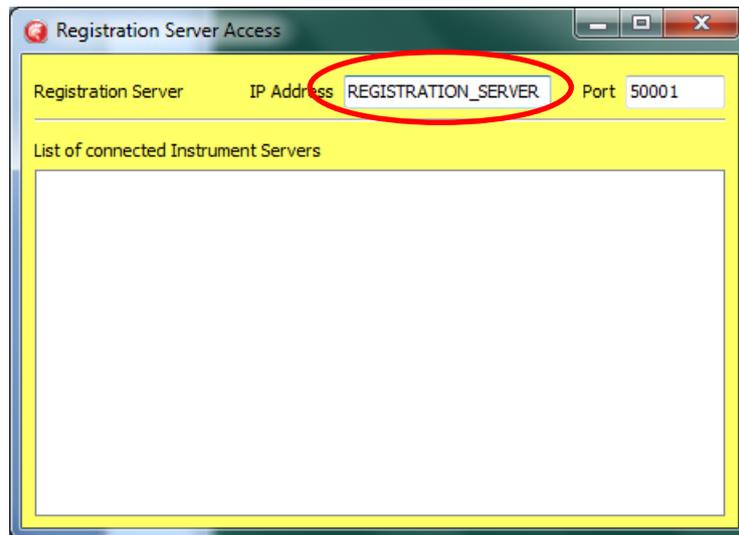
Get started

The server software and ROOMS must be installed on the desired computers (in case of the IP-Box the software is already installed). **The registration server must be started at first of all.** Within a local
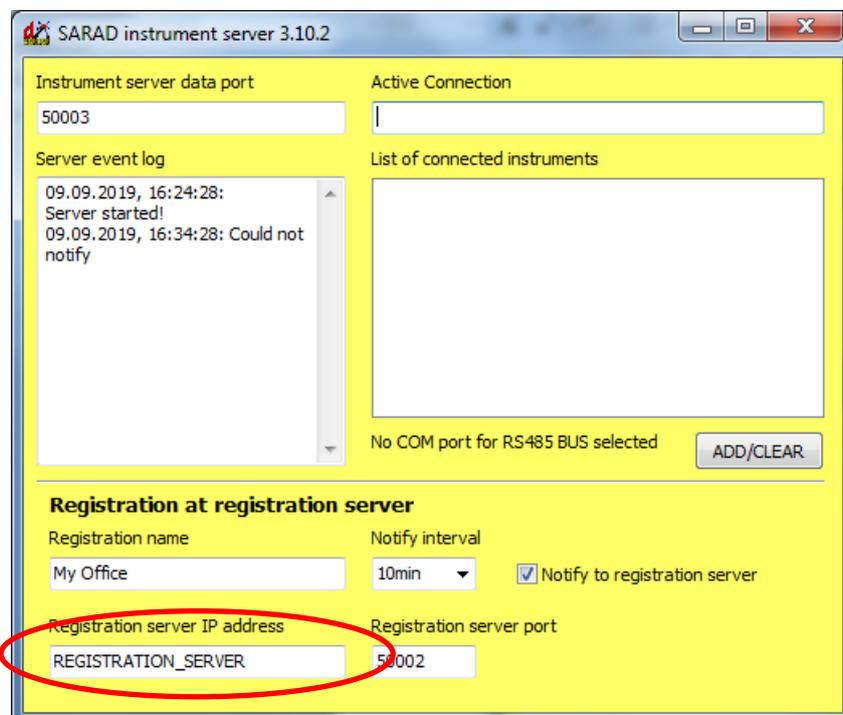
network only the knowledge of the network-name of the computer is required where the registration server is running. This network-name (in the shown example "REGISTRATION_SERVER") must be entered into related input lines of all instrument servers and ROOMS (red circled).

ROOMS:

After clicking the menu item "Configuration → Registration Server", a dialog window with an input line for the registration server name will appear.
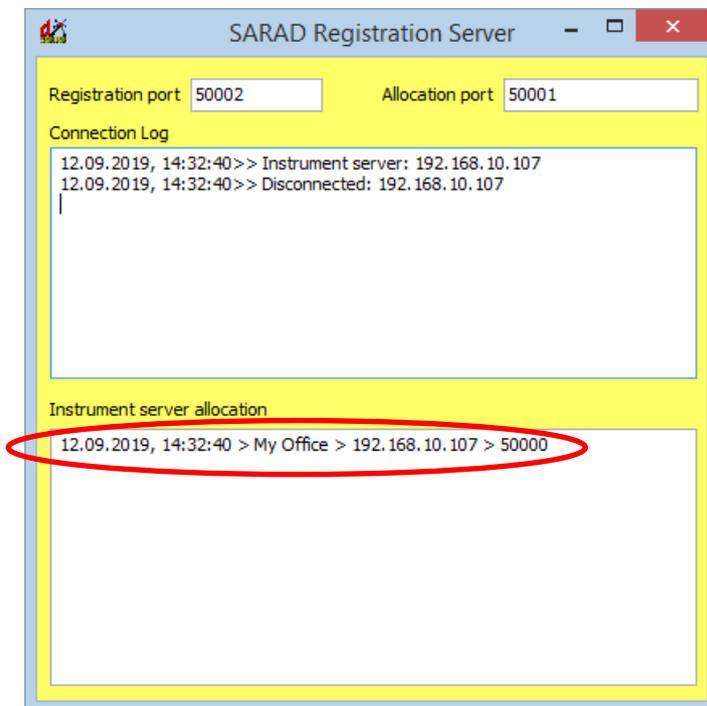

Instrument Server:

The text entered into the field "Registration name" (in the graphic "My Office") will appear later on as place of measurement in the result box.

To register an instrument server immediately, the hook in the check box "Notify to registration server" can be removed and inserted again (otherwise the registration is carried automatically after

ten minutes). The phrase "could not notify" appears in the text box "Server event log" if the network-name of the registration server is not valid or the registration server was not yet started. If all settings made correctly, the list view within the registration server should contain the instrument server:

The instruments are connected to the instrument server computer (or IP-boxes) through USB or RS232 interfaces. **Please note that the USB driver (SARAD website) must be installed and the assigned port numbers must be in the range from COM1 to COM30** (see also manual Radon Vision). To check whether an instrument is connected, the instrument server can be closed and restarted again. After that all detected instruments will be appear in a list box.

Now, the periodical call for data can be started clicking the item "Start" in the menu of ROOMS. It can take a certain time until the results appear at the screen depending on the number of instrument servers and connected instruments.

Additional instruments which will be connected later to a running instrument server will be detected automatically during the next call by ROOMS. It is possible to add new instrument servers at any time. It is just necessary to enter the name of the registration server like already described above.

Summary start-up sequence
1. Start registration server
2. Start instrument servers and enter the network name* of the registration server (name must be entered only the first time – it may appear a message pointing to a failed connection because no valid registration server name has been entered before)
3. Remove and set again the hook in the "Notify to registration server" check box
4. Start ROOMS and enter the name of the registration server (name must be entered only the first time)
5. Click onto "Start" in the ROOMS menu

*) The network name of a computer will be displayed in the Windows system control panel under the item system.

ROOMS functionality

The result boxes of the connected instrument will be scaled and arranged automatically. The number of shown boxes is limited only by the resolution and size of the used display.

ROOMS can be toggled between full screen and window mode by a double click onto the green window background. The menu disappears in the full screen mode.

It is possible to define a global alert threshold for the Radon concentration. If a measurement result exceeds the limit the value will be shown in red numbers. Click onto menu item "Configuration →Alert Threshold" to enter the threshold.

The refresh interval can be changed by the menu item "Configuration → Refresh Interval". The shortest possible setting is one minute. If a large number of instrument servers and instruments is integrated in the network one minute may be not a sufficient period to call all instrument. Use a larger interval in this case.

All settings made by the user will remain valid after re-starting of the software.

The periodical call for results can be started and stopped by the menu items "Start" and "Stop"

Easy testing

To become familiar with the functionality of the system it is recommended to test the system on one local computer. All three parts, Registration Server, Instrument Sever and ROOMS should run on that computer. Enter "localhost" Instead of the network-name.

Connections through the internet

In case of internet connections the used ports must be forwarded by the router to the various network clients. This should be done by the network administrator. Because global internet addresses are changed periodically it is required to provide at least one static internet address for the registration server. More detailed information is available in our application note AN-008 "Internet based measurement networks for SARAD instruments" (website).