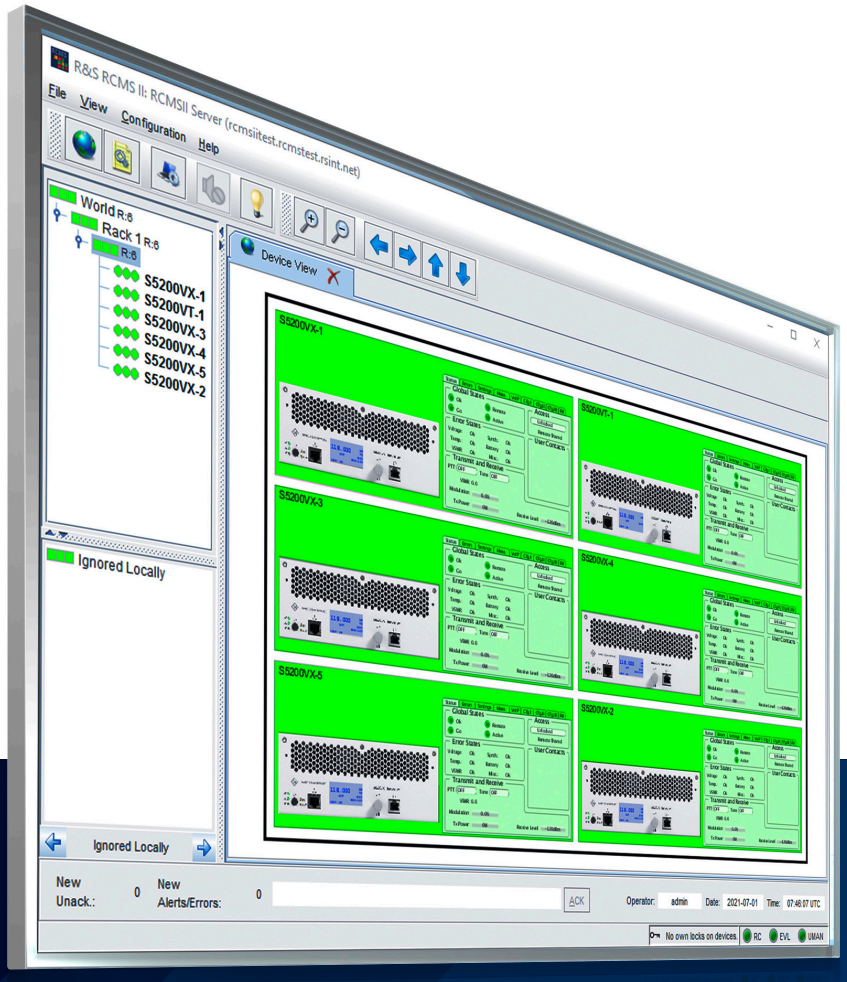
R&S®RCMS II
REMOTE CONTROL AND MONITORING SYSTEM

For ATC applications



Product Brochure
Version 10.00

ROHDE&SCHWARZ
Make ideas real

AT A GLANCE

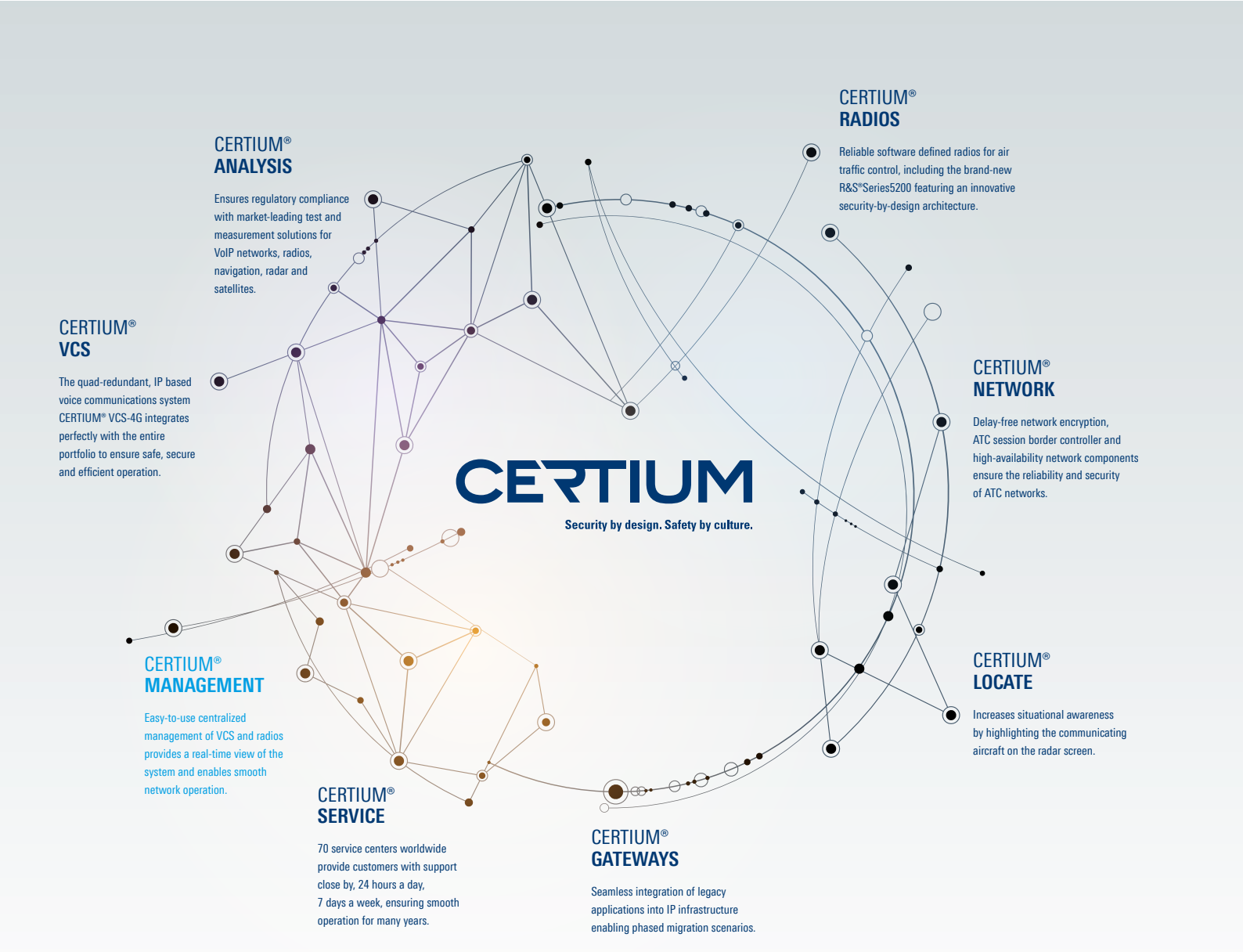
R&S®RCMS II offers comprehensive monitoring and remote-control capabilities across the complete chain of communication, from the microphone to the antenna within a communications system. It is a state-of-the-art remote control and monitoring platform that increases overall system reliability.

Centralized overview

R&S®RCMS II enables system administrators and operators to monitor all components in their voice communications network. It can keep track of essential status parameters of Rohde&Schwarz system components as well as third-party devices from one or multiple locations. R&S®RCMS II presents the communications system in such a way that it precisely reflects the actual application case.

Real-time monitoring

R&S®RCMS II immediately notifies users about potential malfunctions. This greatly helps in quickly localizing the source of any problem. Thanks to the detailed visualization, R&S®RCMS II reduces the time and effort required for troubleshooting and effectively contributes to a more reliable service.



Intuitive interface

With an easy-to-use graphical user interface (GUI), R&S®RCMS II provides users with an intuitive global overview of their system. Every system node from the controller working position all the way to the radios can be highlighted at the touch of a button for detailed inspection. Just as easily, the user can return to a global system overview for all-round monitoring. This ensures trouble-free operation and so promotes availability of the complete communications system.

Part of CERTIUM® ecosystem

CERTIUM® is an advanced ATC communications suite from a single source that increases safety and efficiency beyond existing standards. All CERTIUM® products are harmonized, integrated and extensively tested within the CERTIUM® environment for maximum operational safety and security. Although each individual CERTIUM® product is easy to integrate with third-party systems, you fully benefit from the unique features of the CERTIUM® portfolio when operating CERTIUM® products together.

R&S®RCMS II takes its central place within the CERTIUM® MANAGEMENT branch of the cross-integrated CERTIUM® universe. As the coordination link between CERTIUM® RADIOS, NETWORK, VCS, GATEWAYS, LOCATE and ANALYSIS branches as well as additional peripheral components, R&S®RCMS II makes sure that the entire setup runs smoothly and efficiently without any bottlenecks.

BENEFITS

EFFICIENT ANALYTICS

Elevate network performance with cutting edge system analytics.

Centralized monitoring

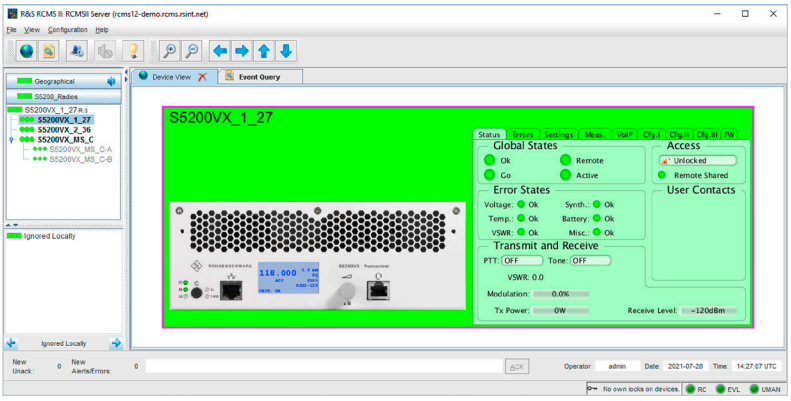
R&S®RCMS II enables comprehensive monitoring of CERTIUM® RADIOS, VCS, GATEWAYS, LOCATE, NETWORK and ANALYSIS sub-systems, including all associated operational parameters. The intuitive GUI provides an overview of the entire communications system as well as additional status updates. The user-friendly interface enables easy navigation between the countrywide system status and detailed information about each device. In this way, the user can swiftly zoom in on details regarding the status of individual modules, error messages and settings without losing sight of the global system.

Recording and analysis

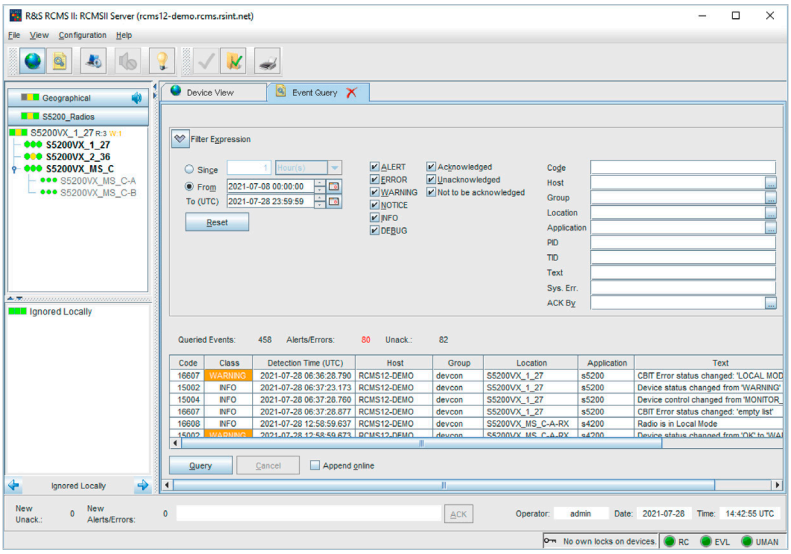
A major part of the functionality of R&S®RCMS II relates to the logging of all system events based on the real-time BITE information of the monitored devices. This includes error messages or warnings for later review or analysis. In addition, information such as user login, logout or parameter change is also logged. Thanks to an intuitive GUI, the log can easily be filtered according to particular criteria to allow the history of an individual device or the entire system to be viewed at any time.

Application-specific statistical analysis

R&S®RCMS II keeps track of the status information of individually monitored devices. It stores the incoming status messages from monitored devices in a database and can export these messages for external analysis. The user can use this data for carrying out further analysis such as determining the frequency of errors.



Standard RCMS configuration for R&S®Series5200.



Standard RCMS event list.

SYSTEM FLEXIBILITY

No matter how challenging your network may be, R&S®RCMS II makes monitoring easy.

Custom-tailored implementation

The CERTIUM® ecosystem is designed so that customers can flexibly and efficiently choose relevant system modules to best fit the requirements of their specific use case. Extending that design principle down to individual modules such as R&S®RCMS II increases the customizability potential of the portfolio even further. On the one hand, prioritizing scalability and configurability gives the user more choice when setting up a particular configuration. On the other, it leaves more scope for extension or customization.

Remote control

R&S®RCMS II extends the scope of a communications network by enabling quick and uncomplicated parameter setting through the network itself. In this way, R&S®RCMS II effectively facilitates remote control of CERTIUM® RADIOS and paves the way for fully remote operation. This also includes remote firmware upgrades for selected radios, saving a significant amount of time. A game-changer for running unmanned radio sites, i.e. for redundancy or geo-redundancy purposes. R&S®RCMS II supports the entire CERTIUM® RADIOS line-up: R&S®Series5200, R&S®Series4200 and R&S®Series4100 as well as other radio systems from Rohde&Schwarz.

CERTIUM® RADIOS: R&S®Series5200 monitored by R&S®RCMS II.

Flexible user management

The R&S®RCMS II role and user management features enable straightforward assigning of access rights to users. This can be done on multiple levels for a clear, well-structured hierarchy. The administrator has full control over the authorized clearance and scope of access of each user. In addition, the administrator can also load user-specific alarm or warning sounds via the R&S®RCMS II system and each user can individually define the duration of the alarm or warning.

Future-ready

A key benefit of R&S®RCMS II is how easily it adapts to an upgrade in a communications system. When the network topology needs to be expanded, R&S®RCMS II can accept a new radio site or new radios at an existing site or any other new component with minimal additional configuration efforts.

CERTIUM® RADIOS: R&S®Series4100 HF system monitored by R&S®RCMS II.

OUT-OF-THE-BOX EXPERIENCE

Standardized solutions mean a wide range of components work seamlessly together for control and monitoring.

Universal solution

R&S®RCMS II has been designed as a geographically distributed solution, consisting of RCMS application servers and RCMS workstations. Thanks to the way in which the R&S®RCMS II system has been conceptualized, the software solution can be installed on a readily available commercial off-the-shelf (COTS) laptop, computer or server running a Windows operating system. This speeds up delivery time and makes for an easier, less complicated installation process.

IP technology

R&S®RCMS II uses the existing IP infrastructure to connect to the monitored devices. It supports IPv4 and IPv6 technology for communications between R&S®RCMS II workstations, servers and monitored devices. Using standard protocols, R&S®RCMS II has been optimized to have a minimal impact on network performance. The system time on the R&S®RCMS II server can be synchronized with the central time provisioning system by means of NTP. The precise timestamp means that events in the R&S®RCMS II database can be compared with other events in the communications system much more conveniently.

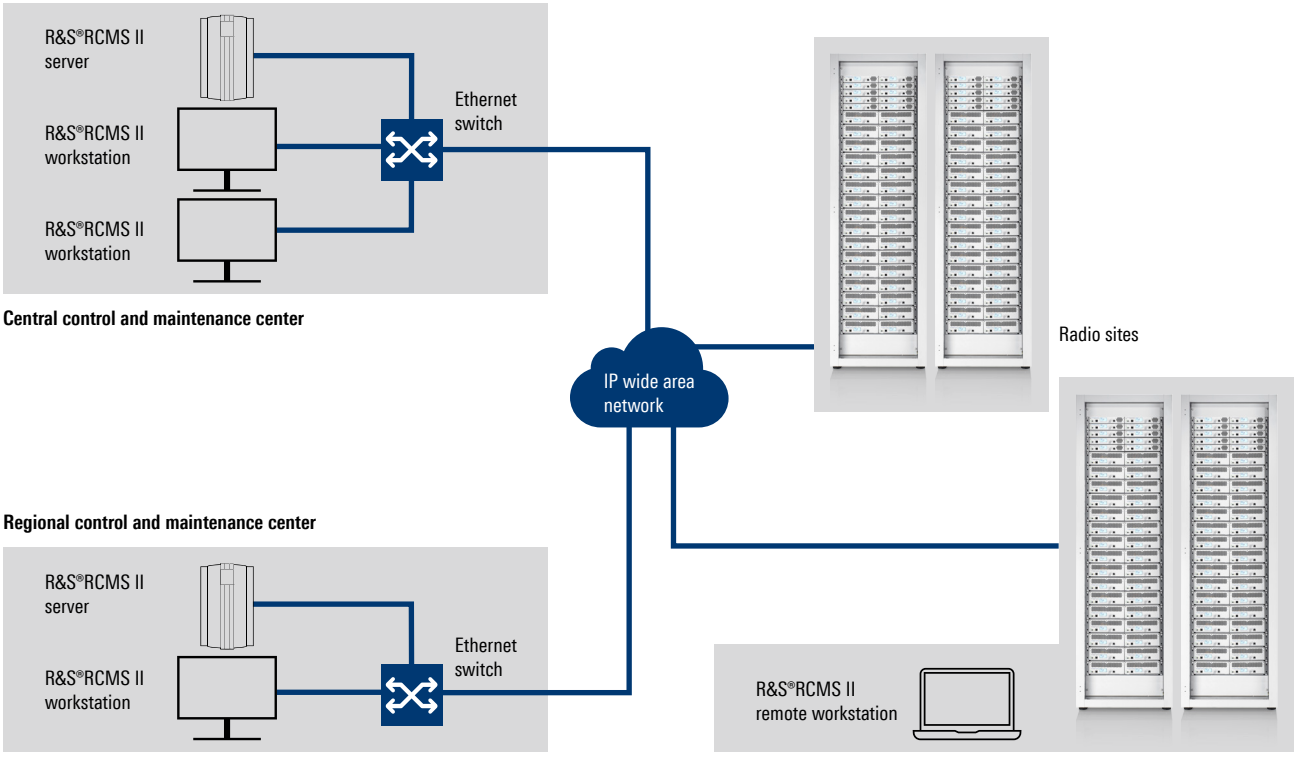
Integration of third-party devices

The R&S®RCMS II monitoring system supports SNMP integration of third-party devices. SNMP-capable devices from other manufacturers can be monitored via their SNMP MIB. Furthermore, off-the-shelf SNMP-capable sensors can also be integrated and monitored. This allows a single monitoring system to be used for monitoring the entire chain of communication, thereby saving both time and money.

Status report for higher-level monitoring

The role of a central monitoring center is to collect and display an overview of the status information for all applications and active devices within an ATM system. R&S®RCMS II supports this by sending a status summary for the communications system to the central monitoring center via SNMP. The details and the status of the individual devices are available in the R&S®RCMS II system.

Connecting radio sites using IP technology



DEPLOYMENT SCENARIOS

Suitable for both big and small systems.

High level of scalability

R&S®RCMS II is based on a distributed architecture, using servers and workstations. The system can be dimensioned to support a single airport, a region or an entire country in accordance with the specific requirements. The R&S®RCMS II architecture permits the operation of systems distributed across various locations. An example of this would be an R&S®RCMS II server operated at a central location, using workstations distributed in regional centers and radios at remote sites.

Single server

The R&S®RCMS II single server solution is intended for small and mid-sized ATC network setups. It operates on a single laptop or computer, which takes on the role of a server and workstation. This is a perfect example of the system's modular nature – it can be downsized to a smaller scale operation, while retaining full functionality. In addition to that, the R&S®RCMS II single-server based setup supports additional R&S®RCMS II workstations via IP.

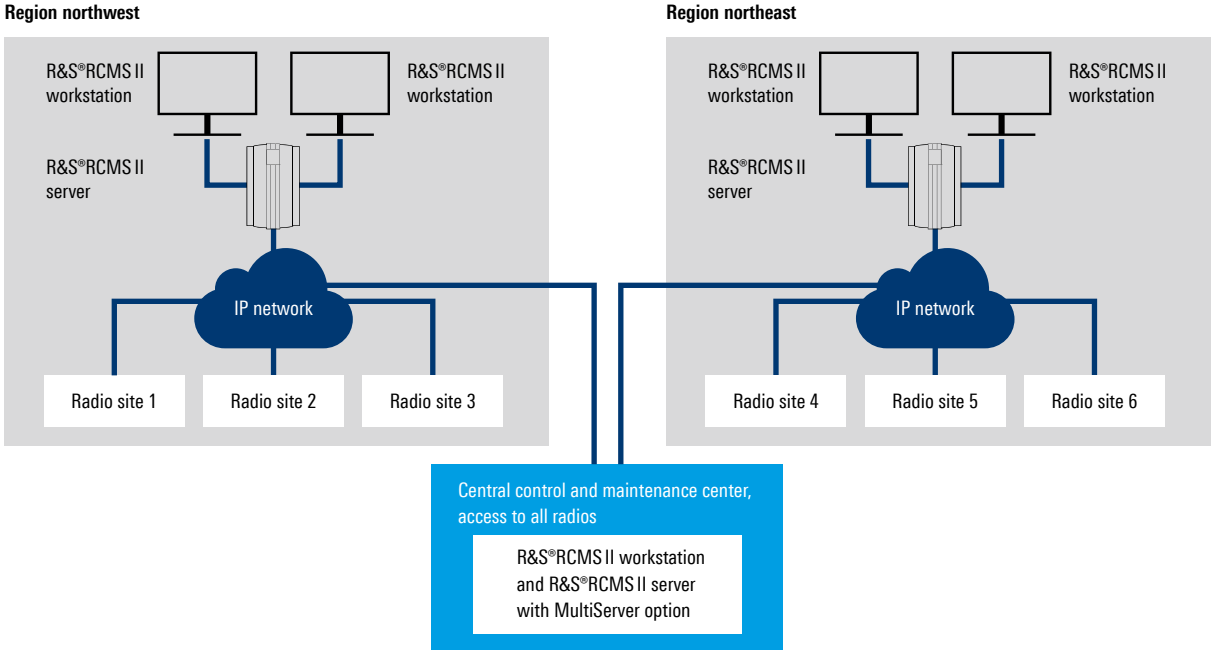
MultiServer

Large-scale countrywide customers often establish regional structures for their communications systems in the form of regional management centers. A regional center is responsible for a specific region and operates autonomously with its own R&S®RCMS II server and multiple workstations. Thanks to its modular design, the R&S®RCMS II rises to the challenge and scales up to cover a network of that magnitude. In addition to that, the overall status of the devices in the regions can be monitored from a central location. In this case, the monitoring activities are handled by an auxiliary R&S®RCMS II server equipped with the MultiServer option in the central maintenance center, retrieving summarized device status information from each regional R&S®RCMS II server.

High availability

Voice and data transmission remains unaffected in the unlikely event that the R&S®RCMS II becomes unavailable. It is possible to increase system availability for monitoring and controlling the CERTIUM® universe by expanding the R&S®RCMS II to accommodate a secondary, redundant server. The latter provides an essential backup and can be used for monitoring and control activities in the case of primary server failure.

Example of MultiServer solution



Service that adds value

- Worldwide
- Local and personalized
- Customized and flexible
- Uncompromising quality
- Long-term dependability

Rohde&Schwarz

The Rohde&Schwarz technology group is among the trailblazers when it comes to paving the way for a safer and connected world with its leading solutions in test&measurement, technology systems, and networks&cybersecurity. Founded more than 85 years ago, the group is a reliable partner for industry and government customers around the globe. The independent company is headquartered in Munich, Germany and has an extensive sales and service network with locations in more than 70 countries.

www.rohde-schwarz.com

Sustainable product design

- Environmental compatibility and eco-footprint
- Energy efficiency and low emissions
- Longevity and optimized total cost of ownership

Certified Quality Management
ISO 9001

Certified Environmental Management
ISO 14001

Certified Quality Management
AQAP-2110

Certified Information Security Management
ISO 27001

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Rohde&Schwarz customer support

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R&S®RCMS II Remote Control and Monitoring System
Data without tolerance limits is not binding | Subject to change

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