

DC-MONITORING

When more surveillance leads to added value

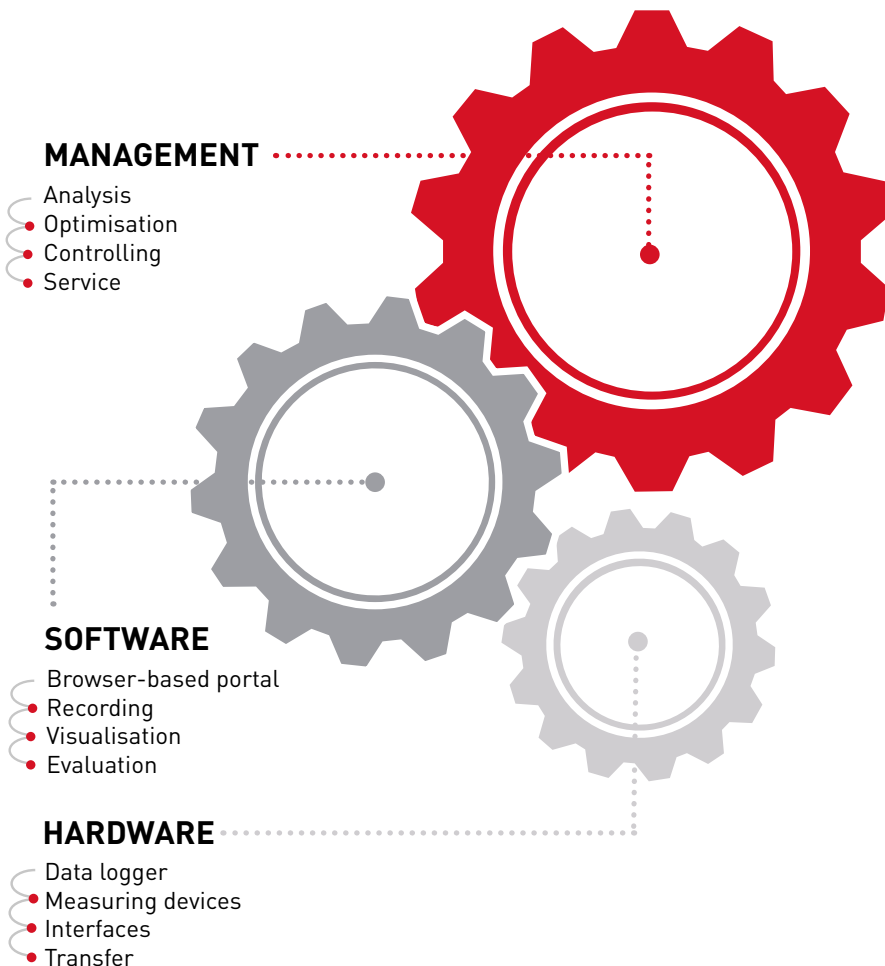


DC-MonIToring

How more surveillance leads to added value

What is your data center doing right now? No alarm does not necessarily mean optimal operation. Because alongside security and availability, efficiency is one of the core challenges of a data center. In order to operate a data center effectively and strategically, there is a basic prerequisite: comprehensive monitoring.

Constant monitoring of the data center does not just show its operating status. It makes it easier for managers from IT, facility and finances to avoid foreseeable interferences, increased energy consumption and unnecessary costs in equal measure. We fulfil all these requirements for our customers. In DC-MonIToring, our many years of experience and market knowledge are combined into a complementary solution. They monitor the data center with all its equipment, analyse and above all visualise the data amounts and raise the alarm for the relevant employees where needed. This interplay makes it possible for IT managers and facility managers to immediately identify defective equipment and rectify any damage. Secondly, processes can be adapted and improved at a glance. Last but not least, the management benefits due to the short amortisation periods in terms of the cost-effectiveness of the data center (rapid return on investment).





How **DC-MonIToring** works

Alarm and energy management for your data center

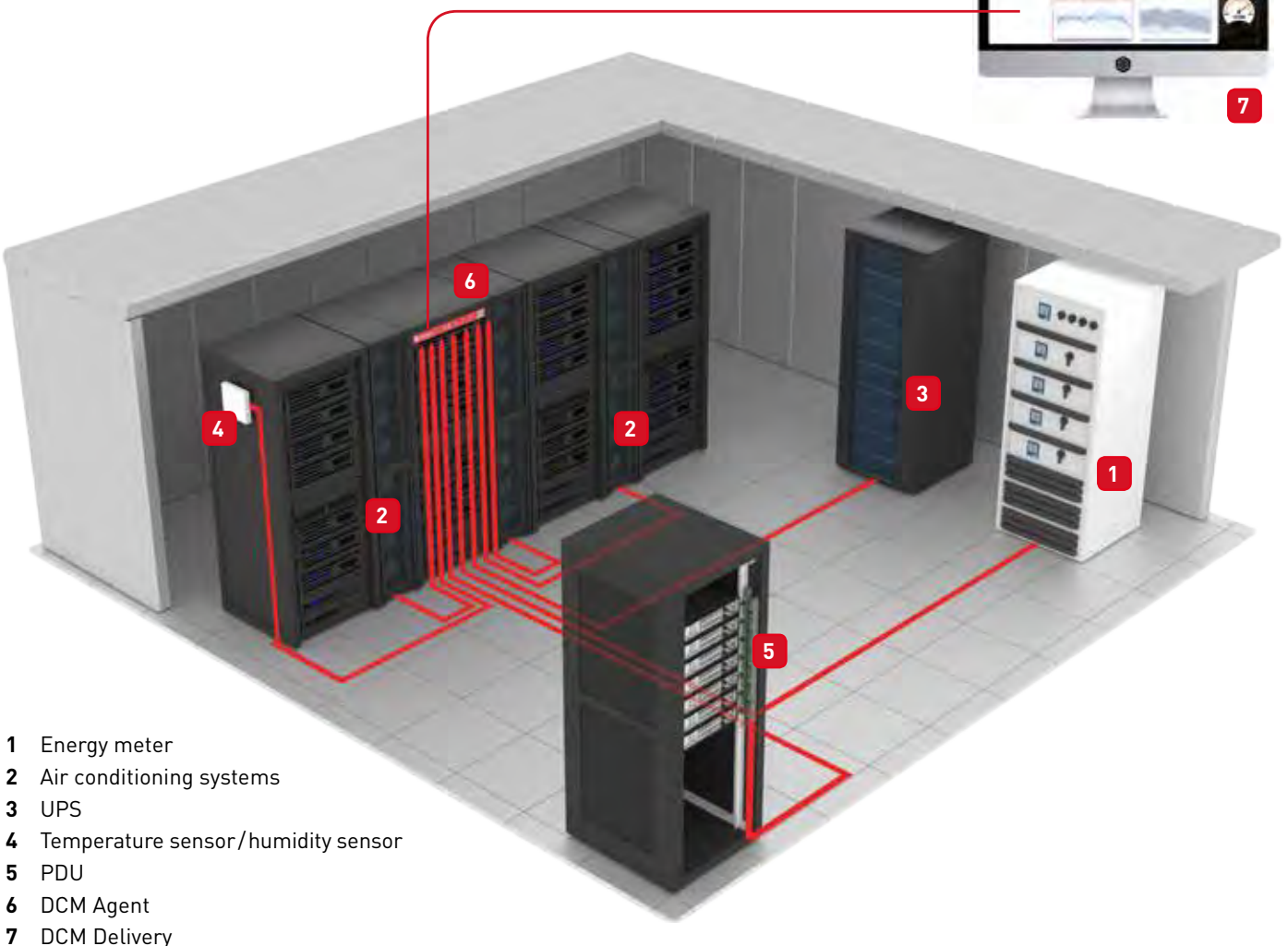
The analysis, monitoring and evaluation of alarm and energy data increase the availability and efficiency of your IT infrastructure!

The DC-MonIToring products have been developed from the knowledge of the life cycle and functional principle of data centers and offer demand-based tools for the individual phases of the alarm and energy management. For this reason, they not only selectively evaluate various systems. They also provide a

comprehensive and long-term analysis of infrastructure, such as air-conditioning systems, UPS, PDUs and much more. In this way, the data center operator quickly becomes aware of where and what potential is in their own resources and how they can operate their data center more securely and economically.

Physical Security Notification Management (PSNM)

Our Physical Security Notification Management does just that: It shows a wide variety of physical components of the data center network and evaluates them. As a result, both the data center's security and its efficiency can be managed.

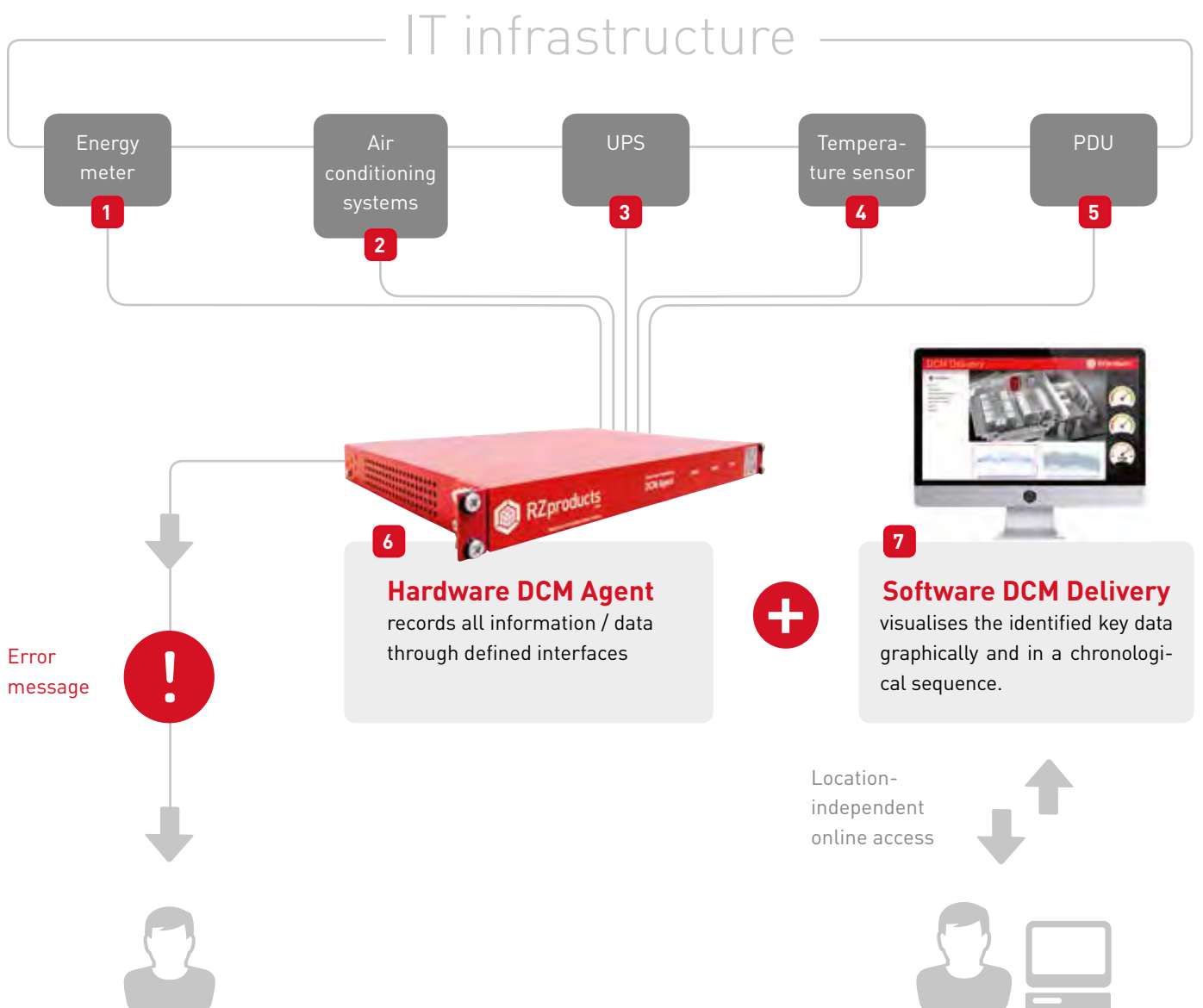


- 1 Energy meter
- 2 Air conditioning systems
- 3 UPS
- 4 Temperature sensor/humidity sensor
- 5 PDU
- 6 DCM Agent
- 7 DCM Delivery

Can more secure and efficient operation of the data center be guaranteed?
 Yes, if the monitoring architecture is adapted to that of the data center.

For this reason, the DCM Agent communicates via measuring stations with all sectors and components of the IT infrastructure. It collects energy-specific key data, which it continually delivers, and transfer this to the DCM Delivery when request-

ed. The data can be graphically and chronologically prepared here. In case of failure, the DCM Agent can also raise the alarm with the customer or the Network Operation Center (NOC).



Alarm management

Customer or Network Operation Center* receives an error message by SMS or email

Physical Security Notification Management (PSNM)

Customer or Network Operation Center* can access the visualised key data online.

*Information about the Network Operation Center can be found on Page 10/11

DCM Agent – The Collector

What is the basis of trade? Information.

Ultimately, information leads to knowledge in action. This also applies to data centers. However, two aspects are particularly important for procuring information. Firstly, the maximum degree of security. Secondly, flexibility, interface communication and the option to integrate with existing system and measuring technology.

For this reason, the initial basic component and central solution of DC-MonIToring is the DCM Agent. It offers countless options in the smallest space. At each of the measuring stations,

it reads and collects the functional and operational information of the entire IT infrastructure that is installed in the data center. Through predefined properties, it compares and evaluates the actual and target values. If any anomalies in the temperature, relative air humidity, water penetration, fire, smoke or motion detection were to occur in the access control or current monitor, the DCM Agent sends an error message via email or SMS to the customer or the Network Operation Center (NOC).



Technical details of the DCM Agent

16 digital inlets
12 power supplies (24 VDC for sensors)
4 analogue inlets (0 to 20 mA)
2 digital outlets
1 RS485 interface for expansion (DCM Extension)
1 RS485 interface for expansion (measuring devices)
2 mains adapter (64 W redundant supply)
Network connection (RJ45 10/100 Mbit/s)
Configuration via the browser
SNMP
Email, SMS
GPRS modem (redundant communication)
Dimensions: 44.45 (1HE) x 482.6 mm (19") x 300 mm
Working temperature: 0 to 50 °C (non-condensing)

Additional options

DCM Extension
Hybrid sensor 0 to +50 °C / 0 to 100 % air humidity
Smoke alarm
Water sensor
Door contact switch
Antenna extension (10 m)
External antenna (5 m / -40 to +80 °C)

DCM Delivery – The Compiler

But what happens with the information if no faults are reported? Benefits!

The performance data can be analysed and visualised. In other words: compiled. Using software, the visible, energy-related key figures can improve the operational procedures in the data center.

For this reason, the second basic component and central solution of DC-MonIToring is the DCM Delivery. The software makes the operational and system data transparent on a

standard browser, allowing it to be compared and interpreted. As a result, the monitoring of the data center and its IT components can be used directly to continually improve the IT infrastructure in line with requirements. As DCM Delivery is a browser-based software solution, data center operators can access the system at any time using a secure internet connection.



Range of services

User access through a standard browser (https)

Multi-client capable

SaaS (Software as a Service)

Connection via DCM Agent

Recording of equipment, such as USV, air conditioning, PDUs, energy meters via ModbusTCP and SNMP

Real and virtual data points

Individual structure of data points

Consistent saving of data

Visualisation of trends in a diagram

Historic display of notifications

Notifications if the target is deviated from via email or SMS

Acknowledgement of alarms

Reproduction of escalation processes

User-specific dashboard for rapid overview

Multilingual

DCM Extension – The Multi-Collector

DCM Extension is then used if more inlets are needed for measuring stations than the DCM Agent already provides. Designed as a slave unit, the DCM Extension connects with the DCM Agent and can collect and transmit further information or data in this way.



Technical details

16 digital inlets

12 power supplies (24 VDC for sensors)

4 analogue outlets (0 to 20 mA)

2 digital outlets

1 RS485 interface for connection to the DCM Agent

2 mains adapter (64 W redundant supply)

Configuration via the browser of the DCM Agent

Dimensions: 44.45 (1HE) x 482.6 mm (19") x 300 mm

Working temperature: 0 to 50 °C (non-condensing)

Additional options

Hybrid sensor 0 to +50 °C / 0 to 100 % air humidity

Smoke alarm

Water sensor

Door contact switch

DCM Detection – The Detector

DCM Detection offers basic monitoring of the most important equipment in the smallest space. The notifications are defined on the web interface of DCM Detection and can be forwarded via the relevant interfaces. As DCM Detection is smaller than the DCM Agent, it is suitable for use in the DC-ITSafe or in peripheral network cabinets.



Technical details

4 digital inlets

4 digital outlets

2 sensor connections (RJ45)

Wall power supply

Network connection (RJ45 10/100 Mbit/s)

Configuration via the browser

SNMP

Email, SMS

Dimensions: 104 x 104 x 28 mm

Working temperature: 0 to 50 °C (non-condensing)

Additional options

GSM modem

Smoke alarm

Water sensor

Door contact switch

Antenna extension (10m)

External antenna (5 m/-40 to +80 °C)

DC-MonIToring in practice

Analysis, optimisation and controlling – these are the three important points to guarantee a significant increase in the security and profitability of a data center. The PDCA cycle (Plan-Do-Check-Act): analysis (plan), optimisation (do) and controlling (check) are subject to a continual improvement process and integrate the energy management into the day-to-day business of the data center operator.



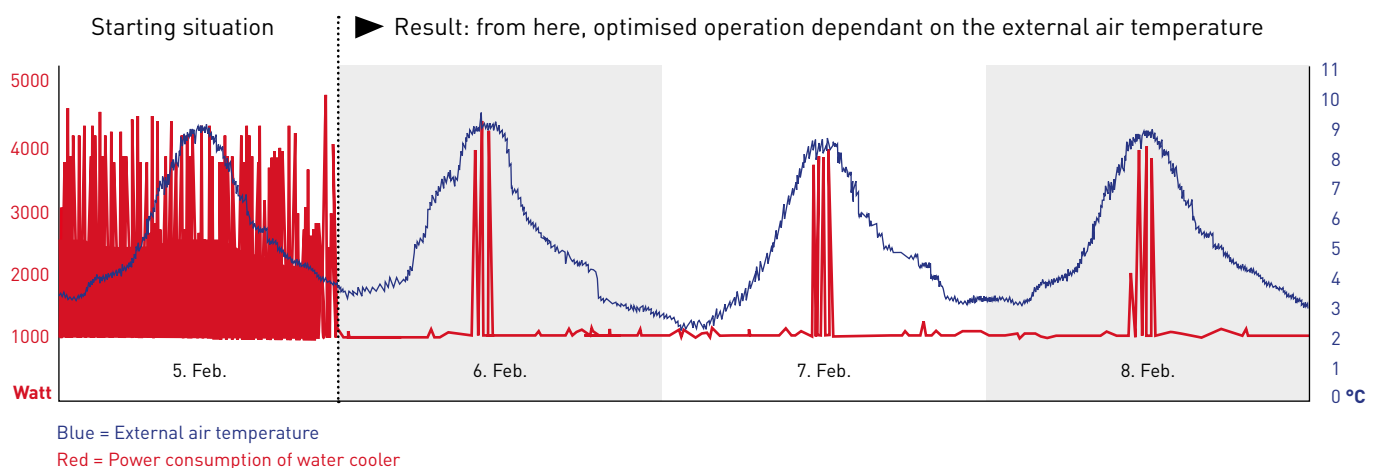
The use of DC-MonIToring creates added value

Example of a customer from the public services sector

Starting situation:

Upon the initial analysis with DC-MonIToring, it is clear to see that the performance of the cooling plant is extremely high despite the low external air temperature. The refrigeration should work in an operating state of indirect free cooling with the existing external air temperatures. The plant operation mode found here is very inefficient, but remains unnoticed as there are no measurements or visualisation.

Optimisation of the operation of a cooling plant



Result:

By integrating DC-MonIToring, the customer is able to make the operation and interrelationship of his data center components considerably more effective and efficient in terms of the operating and life cycle costs, with very few resources.

After the optimisation is before the optimisation

With the support of the RZservices specialists, the customer can continue to optimise and control his IT infrastructure using the PDCA cycle, so continually saving energy and maintenance costs.

A professional system must be used professionally

By making the decision to integrate DC-MonIToring, an important step towards transparent and effective data center operation is taken. It makes no difference whether this is integrated into an existing IT environment or into one that is currently in planning.

RZservices (a sister company of RZproducts) offers professional services for individual data center operational management systems. These mainly consist of special maintenance strategies and operational services that are tailored to the requirements. DC-MonIToring creates the compulsory transparency and supplies reliable data for secure and efficient data center operation.

- 1 Security technology
- 2 Air conditioning systems
- 3 Emergency standby systems
- 4 Patch / cable management
- 5 Electrical engineering
- 6 Cleaning
- 7 Relocations



Service hotline
Available 24 hours
a day



Troubleshooting
24 hours
7 days a week
365 days a year



Cost transparency
through defined services
and prices

DC-MonIToring is as individual as every data center.

Information management

- Delivery and assembly of DCM components
- Connection of the signal contacts
- Set-up of the customer's internal alarm process
- System introduction

Information management PLUS

- Delivery and assembly of DCM components
- Connection of the signal contacts
- Definition of the SLAs (Service Level Agreements)
- Set-up of the alarm process to the NOC (Network Operation Center)
- System introduction

Physical Security Notification Management

- Delivery and assembly of DCM Agent and/or DCM Extension
- Connection of the signal contacts, energy meters and operating data
- Use of DCM Delivery with location-independent online access
- Set-up of the customer's internal alarm process
- System introduction

Physical Security Notification Management PLUS

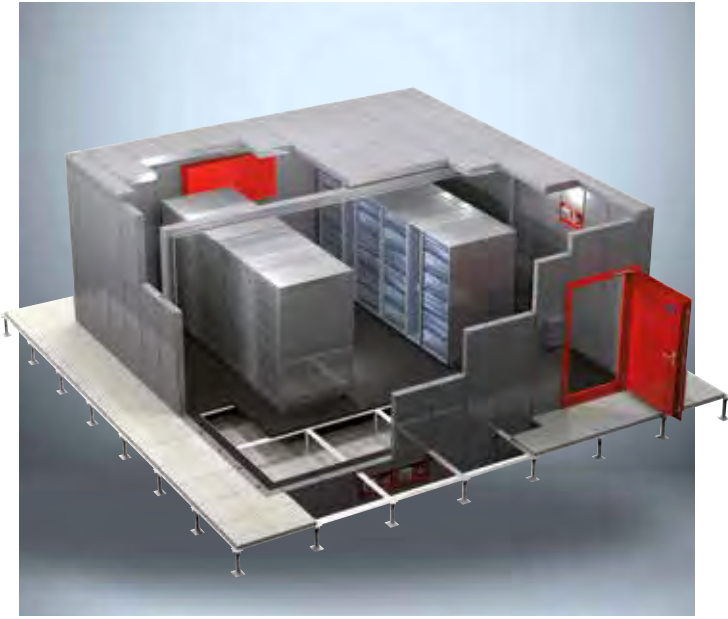
- Delivery and assembly of DCM Agent and/or DCM Extension
- Connection of the signal contacts, energy meters and operating data
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- Definition of the SLAs (Service Level Agreements)
- Set-up of the alarm process to the NOC (Network Operation Center)
- System introduction

The Network Operation Center (NOC) of RZservices is available 24 hours a day, 365 days a year. The team of specialists continually monitor and manage alarm and procedural messages. This occurs on the basis of the agreed Service Level Agreements and the defined processes.

In addition to the PSNM modules, RZservices offers services to evaluate and analyse the collected operating data. This includes the analysis of energy supply, key energy figures and the mode of operation of infrastructure components such as refrigeration and cooling distribution, etc. Regular energy efficiency reports, training and workshops to maintain and increase operational quality are also part of the service.

Ask for a tailored tender and create the basis for a professional data center operational management system.

Premium protection for your **IT**



DC-ITRoom: Customised protection for your IT!

Resistance against external influences and risks is one of the decisive factors for IT security rooms. The DC-ITRoom solutions – depending on the design and requirement – are available in different protective categories and can be adapted individually to the specific practical requirements.

DC-ITSafe: for the security of your IT infrastructure

DC-ITSafe is a mini data center, which offers individual racks a high level of security and can be expanded at any time. It withstands all fundamental physical risks, is quick and easy to disassemble and reassemble due to its size and can also be used in any location. Its space-saving properties make it possible to use it in very small IT locations.

DATA CENTER GROUP



DC-Datacenter-Group GmbH
In der Aue 2 | 57584 Wallmenroth | Germany
Phone +49 2741 9321-0
Fax +49 2741 9321-111
info@datacenter-group.com
datacenter-group.com
rz-products.com