

Rittal – RiZone

Data Centre Management Software



The efficient route to peak performance
within data centre infrastructure management

RiZone – The new link between IT and building



What can the RiZone Data Centre Management Software do?

1. RiZone is the management platform for all components in the data centre infrastructure.

- Monitoring of redundant data centres (up to Tier IV).
- Fast configuration, automatic detection of all active RimatriX5 components.
- Precise adaptation to requirements, a modular licence model.
- Efficient administration of the physical infrastructure (from the “single-enclosure data centre” through to the “maxi-data centre”), with a high level of flexibility and availability.

2. RiZone can communicate with a server management system (e.g. System Center Operations Manager from Microsoft) and exert direct influence over the availability of individual applications.

3. RiZone supports the protocols SNMP and BACnet for connecting and monitoring all equipment in the IT and building infrastructure.

At last, “isolated thinking” in IT and building management is a thing of the past.

RiZone is modular and scalable – for small companies through to large data centres

RiZone is used for administration, monitoring and control: Access, climate, power, security. Be it an individual rack, a data centre, or a company's entire IT system.



Why choose Rittal RiZone?

For the first time, RiZone forges a bridge between the two worlds of IT and building infrastructure.

By fusing these two specialist fields, it is possible to

- Optimise availability
- Reducing complexity
- Boost the efficiency of the data centre.

The high availability demands of data centre users necessitates a comprehensive, efficient security management system. The pre-requisite for this is that all components and parameters of the building, server room and data centre which are relevant for security and availability must be monitored.

The brand new feature in RiZone is that all messages, sensor values and actuators in the IT infrastructure and server environment are translated into a plausible message chain. The formulaic correlation in RiZone Editor transforms individual warnings, data or signals into logical information and actions, for absolute protection of the data centre's availability.



RiZone – From monitoring, to administration, to response

With important additional functions, RiZone is the impressive successor to the RiWatchIT software.

The key feature is to ensure maximum uptime by providing user definable control circuits that automatically take over in the event of an issue.

RiZone – the data centre management platform supports standardised protocols

The integration of RiZone into a management environment is supported by SNMP. RiZone offers the option of using the IT management protocol to forward messages.

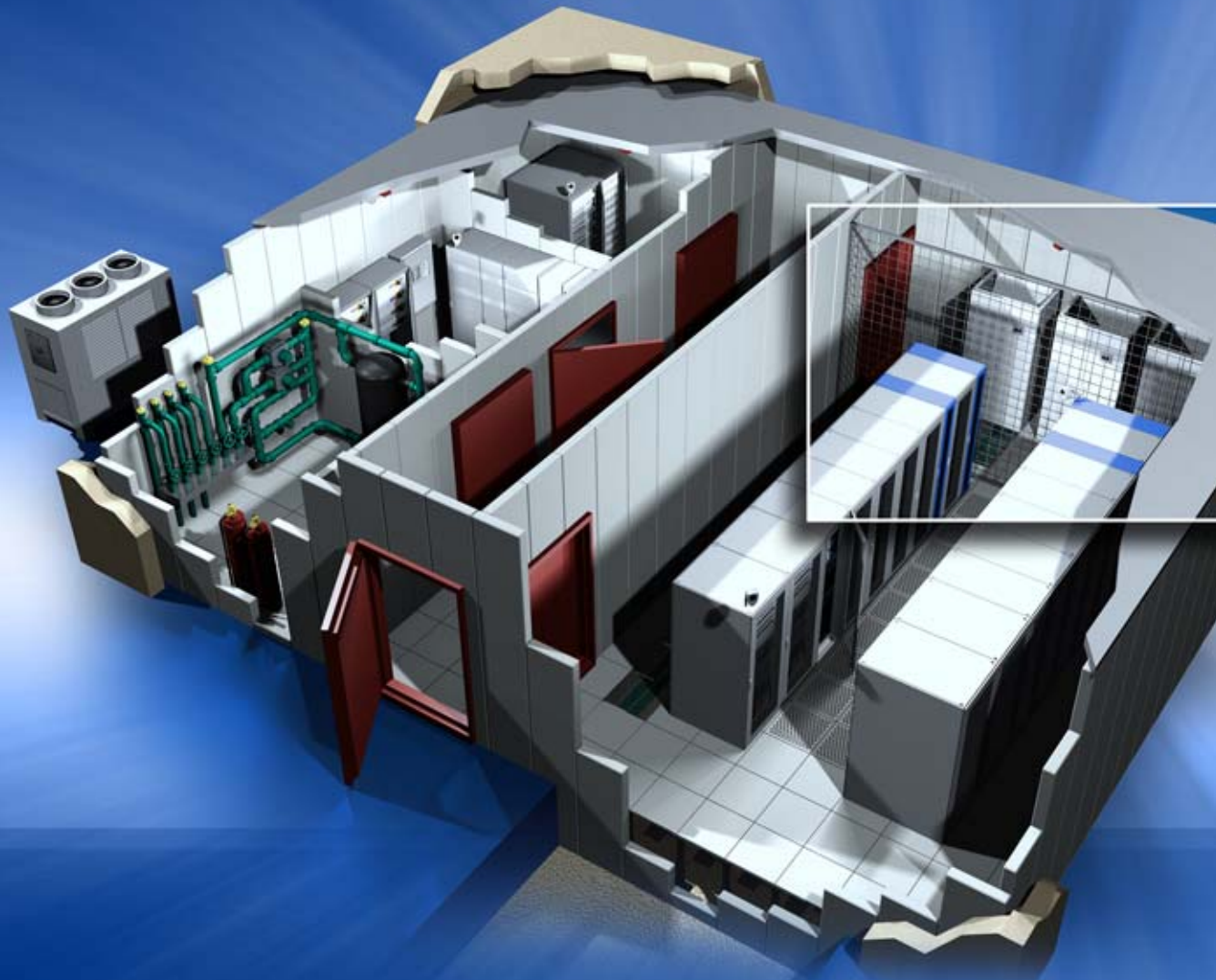
On the active component side, RiZone supports SNMP and BACnet and is capable of interpreting any MIB.

RiZone teams up with Microsoft SCOM (System Center Operations Manager)

A RiZone Management Pack module ensures the optimum integration of RiZone into the System Center Operations Manager from Microsoft.

This enables bidirectional interaction between servers (application level) and the data centre infrastructure.

RiZone – Outstanding benefits for users



RiZone – Easy to use, comprehensive and profitable

- All active **RimatriX5 components are automatically detected** and administered in the user interface.
- Any **components that support the protocol SNMP or BACnet** may be incorporated via the configuration manager. This means that all RiZone functions are then available to these components.
- A **workflow editor represents all mathematical operations and configures components across the board**, facilitating optimum interconnection between all parameters. This opens up brand new opportunities to optimise the entire infrastructure.
- The architecture is easily adapted to customer requirements. All potential applications – from the small server room to the large data centre – may be represented.
- Configured as a high-MTBF application, **the individual RiZone servers monitor one another** to ensure availability. If one server fails, the second server assumes full functioning and alerts the administrator. If the RiZone server is disconnected from the network, the RimatriX5 components are capable of maintaining data centre operation.
- Individual **messages or results from the sensors and the workflow may be transmitted, e.g. to a server management system**. This opens up the opportunity of responding directly at server level if malfunctions occur in the data centre, which in turn significantly enhances the availability of each application.



Rittal RiZone – See your IT in context

Mindful of availability, rationalisation and future orientation, the physical infrastructure of the IT landscape must be viewed in context. RiZone offers this context in a new, user-friendly format.

Key for security: Take preventive action

RiZone identifies hot spots on servers or pending phase overloads early on. Immediate changes to the climate control or power supply ensure a considerably enhanced level of reliability in day-to-day operation.

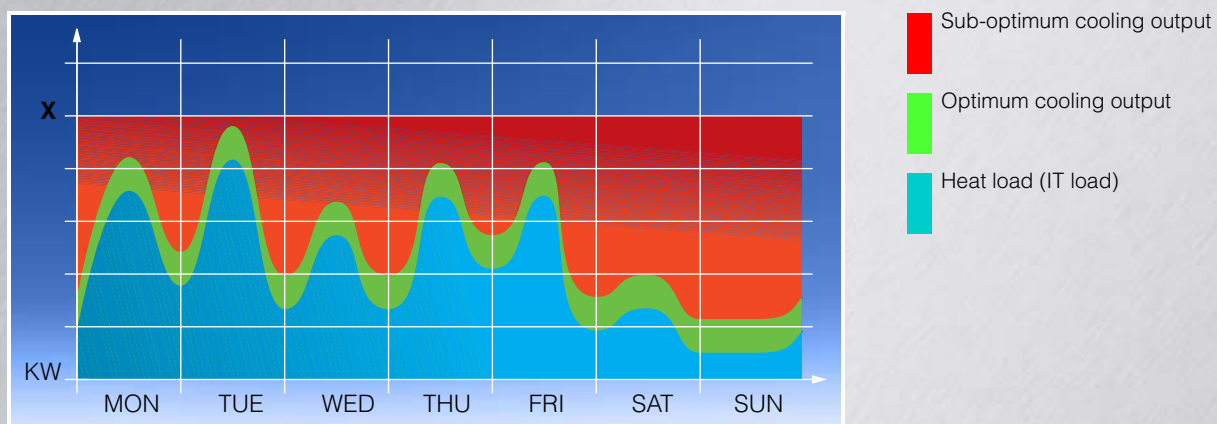
Key for resource planning: Identifying trends

Extensions to IT may be implemented transparently using RiZone. Permanent monitoring supplies clear data on any trend developments, enabling the user to respond promptly to any bottlenecks, and reliably plan the expansion or improvement of the IT infrastructure.

Key for energy efficiency: Optimise functions

RiZone represents the energy consumption of individual racks right through to complete data centres. Consumption is related to the corresponding infrastructure. RiZone supplies the PUE (Power Usage Efficiency) of all components in the IT infrastructure as the basis for energy optimisation of the data centre.

Efficiency example: cooling



Assume the servers in your data centre have a maximum power consumption of X kW. Correspondingly, the cooling output must be designed for this maximum output in unfavourable ambient temperatures.

As this diagram of weekly operation shows, unless properly managed, a typical cooling system is oversized most of the time.

Here, RiZone saves energy by intelligently adapting the cooling output of all components in the "cooling chain" (free cooling, chillers, UKS, LCP) to power consumption, airflow and ambient temperature.

RiZone – Simple incorporation of all components



The low-voltage main distributor is monitored by RiZone. Parameters such as voltage, current and power are depicted and used by RiZone for further processing.



Uninterruptible power supply (UPS)
The UPS reports measurements to RiZone. By actively responding to these messages, the availability of the IT infrastructure can be enhanced.



Air/water heat exchanger Liquid Cooling Package (LCP)
RiZone supports the entire LCP family. Control of the LCP cooling output can be coordinated precisely and optimised on the basis of energy consumption.



Chillers for IT cooling
RiZone ensures that Rittal IT chillers provide the optimum cooling output for the data centre infrastructure. RiZone is able to define the operating points in such a way that maximum use is made of free cooling.

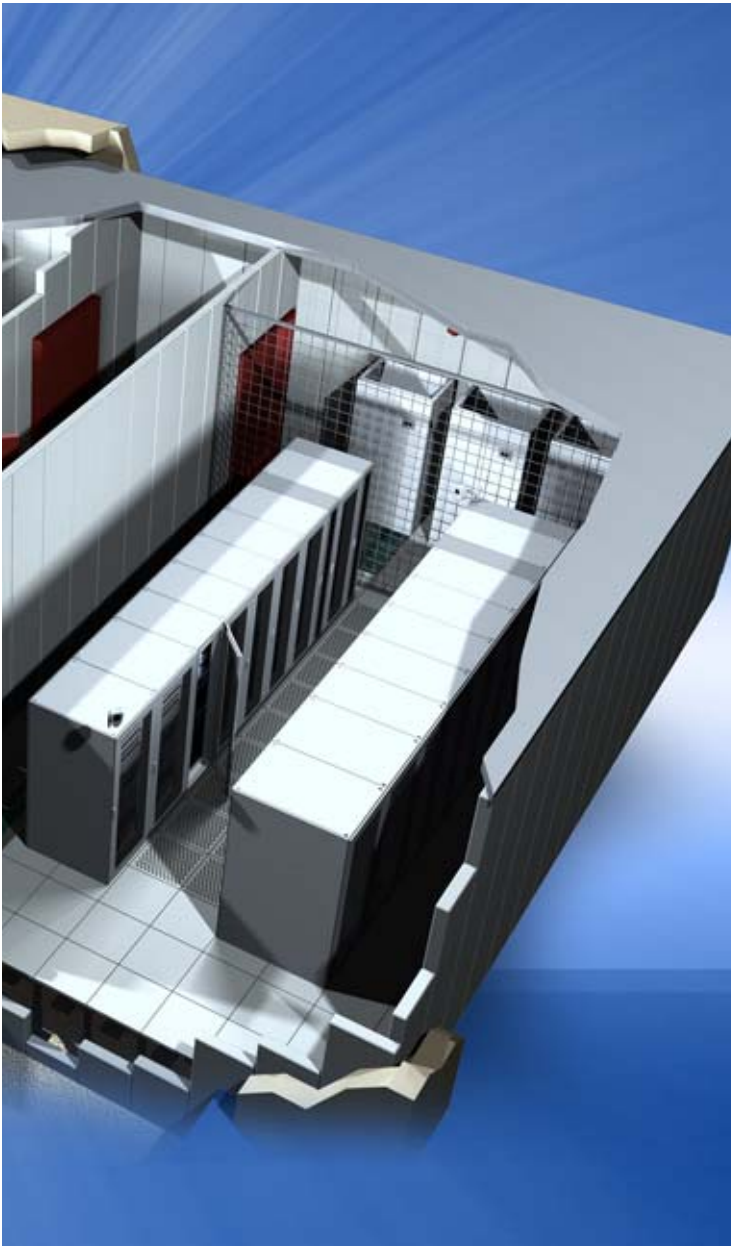


RiZone – perfect support of Rittal IT infrastructure components

Rittal components – from server enclosures to climate control, power supply to security and monitoring technology – receive optimum support during integration and in the operational phase, thanks to coordinated sensors and control.

- Incorporation of the physical data centre infrastructure into a network management system
- Simple project management
- Automatic detection of Rittal components
- Workflow editor for user-defined scenarios (what happens if . . .)
- Increased security and reliability
- Energy optimisation in the data centre

Rittal RiZone plus Rittal components –
the Rittal system solution with maximum energy efficiency



Dynamic Rack Control
Intelligent asset management for all active IT components in a rack – achieved within RiZone. For the data centre operator, this enables a permanent check of IT assets. Accurate down to the last height unit!



Rittal CMC-TC rack monitoring system
CMC-TC logs parameters such as temperature, access or electrical output for forwarding to RiZone. Via CMC-TC, climate control and access control components may also be integrated into RiZone.



Active Rittal socket modules (PSM)
These report the electricity requirements per phase or even per assigned slot. With RiZone it is possible to precisely ascertain and log the power consumption of equipment.



Lampertz IT security
Modular IT security rooms (room-within-a-room concept) and IT security cabinets, with an emphasis on fire and theft protection. Software incorporation into RiZone via BACnet.

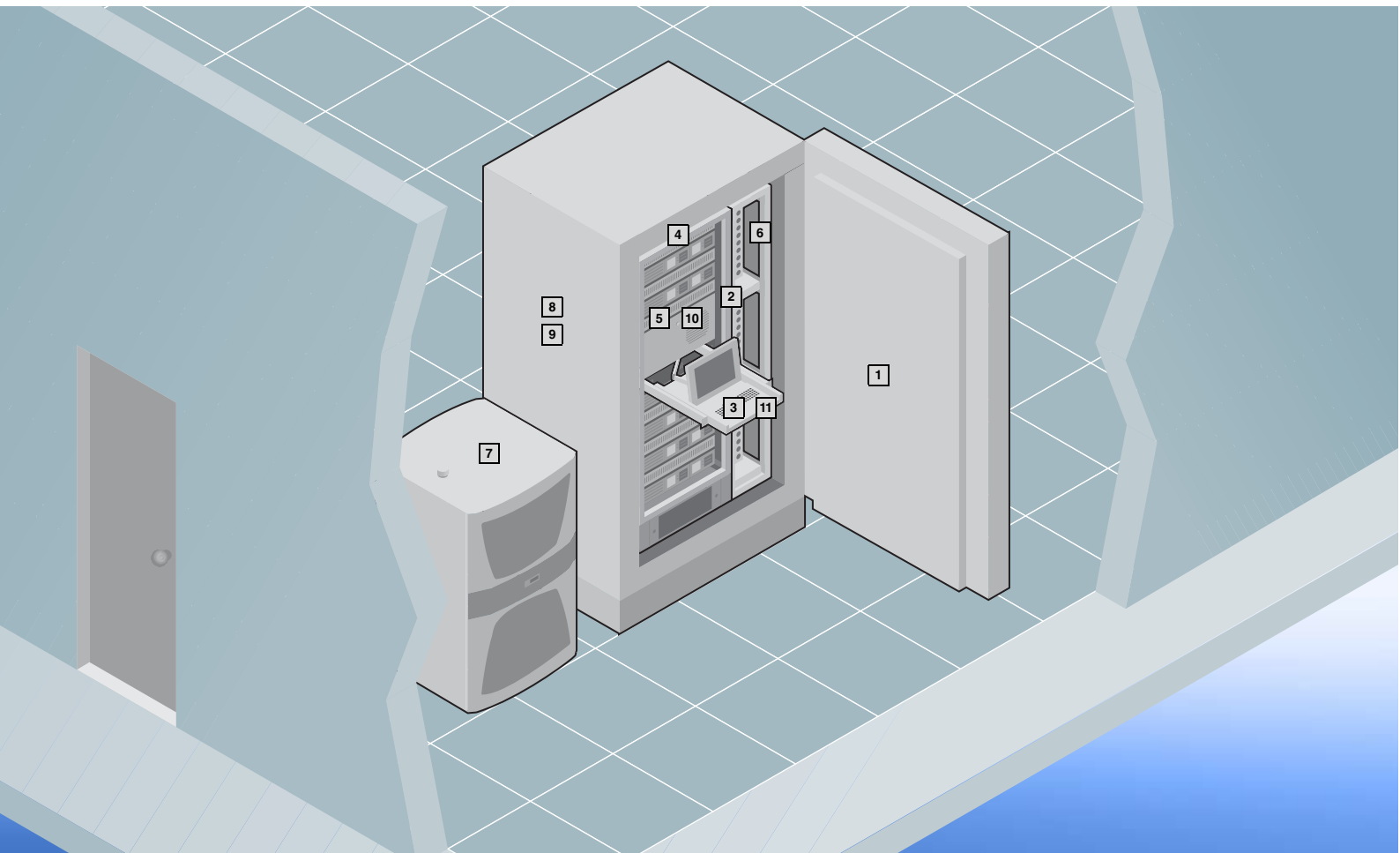


RiZone “Autodiscovery” module – RimatriX5 components are automatically detected in the network.

RiZone “Project Planning” module – Allocation of sensors and components in the diagrammatic view of a data centre.

RiZone “Visualisation” module – Critical deviations and optimisation potential are identified.

RiZone – the solution for your data centre, from the very first rack



RiZone application example for monitoring and control of the infrastructure in individual server racks

The requirements governing the control algorithms of RiZone are identical, whatever the size of the data centre. This means that RiZone is designed for use in any IT application. It supports the management of any IT infrastructure components.

RiZone is composed of several licence modules.

- Users can distinguish between an “Appliance Standard” licence and an “Appliance High-MTBF” licence, depending on the requirements placed on the server room or data centre.
- The second element in the modular licence system is the number of monitored nodes (IP addresses). Depending on requirements, users can choose between licences ranging from 10 to 1000 nodes. RiZone adapts ideally to the needs of small companies.

Safe and rack technology, access protection

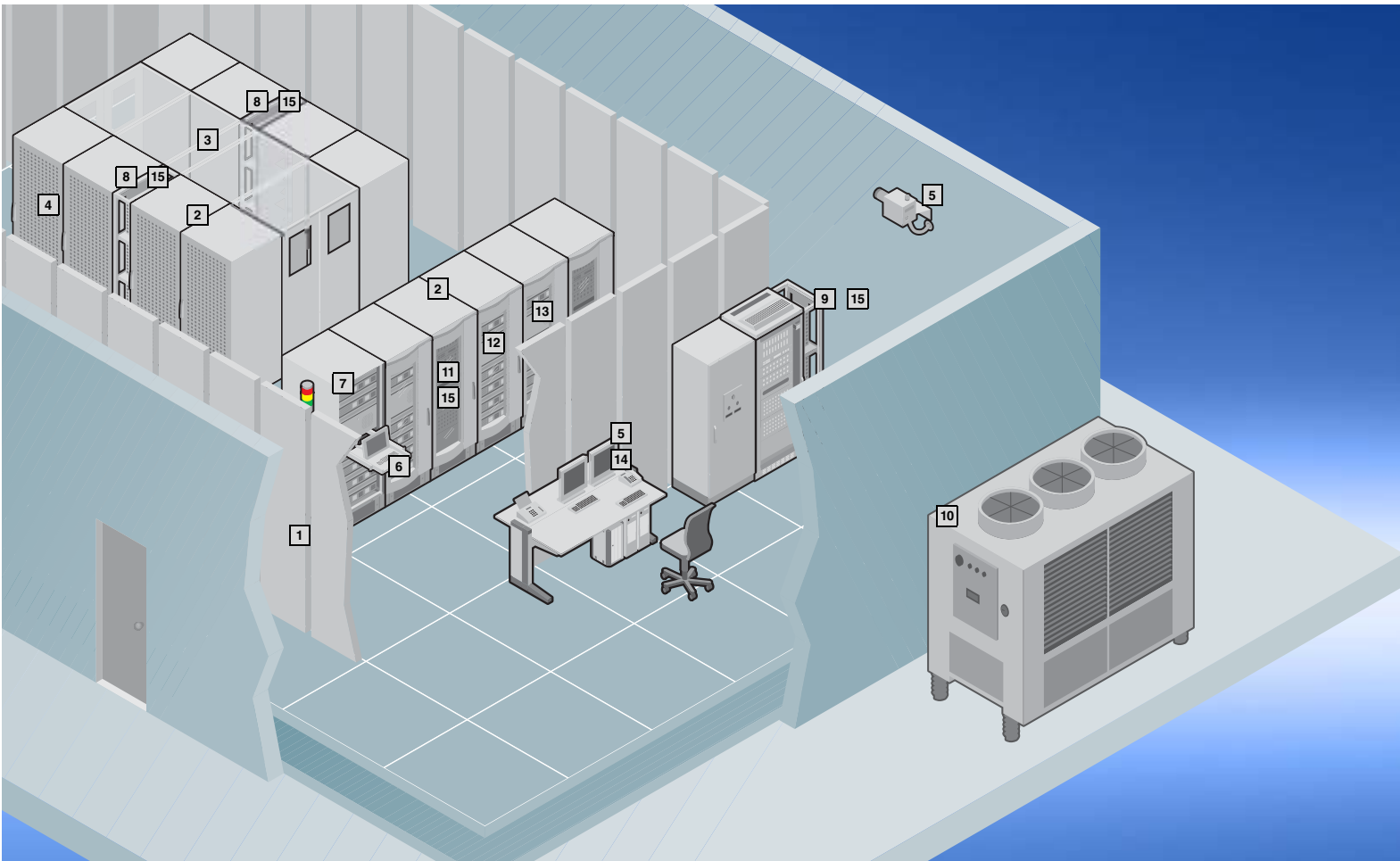
1	Lampertz modular safe, fire and theft protection, single safe or bayable
2	TS 8 server rack, 42 or 47 U
3	Monitor/keyboard unit
4	Compact light, door operated switch
5	CMC-TC access and interior monitoring

Climate control, power supply, security

6	Redundant climate control 4 kW (modular), Rittal LCP, bayable with TS 8 server rack
7	Mini-recooling system up to 6000 kW
8	Redundant power distribution via Rittal Power System Module
9	Redundant, uninterruptible power supply from 1 – 3 kVA
10	Rittal CMC-TC cooling and power sensors
11	Rittal RiZone infrastructure management



The availability of the IT infrastructure must be protected regardless of the size of the company, be it a “one-rack data centre” or a large “server farm”. Big or small, RiZone always offers full functionality for controlling and monitoring all IT components. RiZone can be adapted to the size of the company with a flexible licence model.



RiZone application example for monitoring and control of the IT infrastructure in small and medium-sized data centres

RiZone adapts ideally to all the requirements of a data centre, enabling it to keep pace with a company's IT requirements.

- The workflow editor is capable of mathematically linking components with different protocols.
- Support of the SNMP and BACnet protocols allows RiZone to administer components from building system control which supply the data centre infrastructure (e.g. climate control components). This technology highlights new opportunities in the optimum use of such resources.
- Conversely, it also allows the BACnet protocol to transmit messages from a data centre administered by RiZone to the building control system.

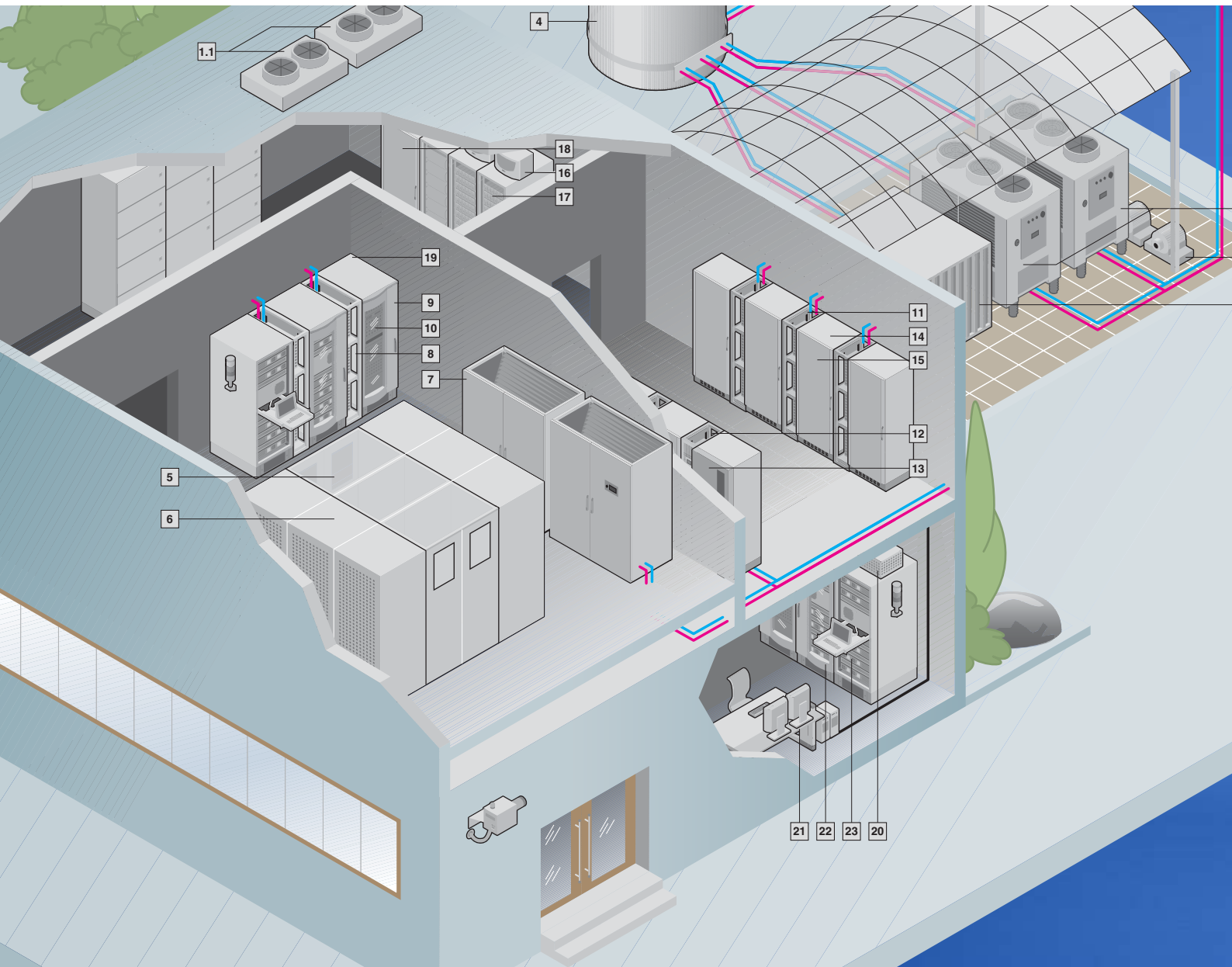
Room and rack technology, access protection

1	Lampertz security room to ECB-S, high-MTBF protection for IT systems
2	Server rack, based on TS 8, 42/47 U, bayable
3	Cold aisle containment for climate optimisation
4	Dynamic Rack Control: Effective capacity utilisation
5	CMC-TC access and interior monitoring via wireless sensors and video
6	Monitor/keyboard unit
7	Compact light, door-operated switch

Climate control, power supply, security

8	Redundant, efficient cold aisle cooling via Rittal LCP Inline, useful cooling output up to 30 kW
9	Rittal Liquid Cooling Package, LCP
10	Chillers for IT cooling,
11	UPS, Rittal Modular Power Concept – PMC 800
12	IT low-voltage distributor, PDR flex
13	Power Distribution Unit, power distribution in the rack
14	Rittal RiZone infrastructure management
15	Rittal CMC-TC cooling and power sensors

RiZone – Outstanding transparency for complex applications



RiZone application example for monitoring and control of the entire IT infrastructure with a complex data centre and a cooling concept for efficient use of electricity, water and air.

High heat loads in modern data centres, maximum availability, and the most energy-efficient climate control system available. To accommodate all three of these requirements, you need an individual concept.

Room and rack technology, low-voltage distribution and UPS, cooling generation and targeted distribution can operate reliably and efficiently if coordinated by an all-in-one administration, monitoring and control concept.

The main aim of RiZone: Maximum cost savings!



RiZone is qualified for operation in large data centres

High-MTBF up to Tier IV

The opportunity of operating a high-MTBF management application for the data centre infrastructure with RiZone also qualifies RiZone for operation in large data centres up to Tier IV high-MTBF.

With the appliance high-MTBF licence, RiZone offers the opportunity to

- Operate two redundant RiZone servers and
- Monitor the redundant infrastructure as well as
- The two RiZone servers.

This technology provides the ultimate in reliability for data centre infrastructure operation.

Security in the event of damage

The powerful RiZone core means that all messages are reliably processed, even in the event of damage to the data centre. The RiZone core selects according to message levels and ensures that these are represented in the GUI and the user is not unnecessarily supplied with redundant information.

Management of a distributed company-wide infrastructure

RiZone is capable of managing complex infrastructures, making it possible to monitor a company-wide IT landscape (even distributed over several locations). The geographical layout of RiZone (corresponding to the sites) facilitates easy browsing through a company's IT infrastructure.

The IT infrastructure is adapted to the IT load.

For the first time, the opportunity of forwarding data from RiZone into a management tool for the server, operating system, visualisation and application allows data centre operators to adapt the IT infrastructure to the IT load.

In conjunction with RiZone, parts of the data centre may be switched to idle mode, and activated as and when needed. When the required computing capacity drops off, e.g. during the evening or at weekends, RiZone in conjunction e.g. with Microsoft System Center Operations Manager and the System Center Virtual Machine Manager is able to concentrate the IT load onto a few selected enclosures, and thus increase the data centre's efficiency.

Rittal RiZone ensures **optimum use of the data centre infrastructure** and **reduced energy costs**.

A node licence model for **up to 1000 IP addresses** covers even large-scale infrastructure installations.

System-wide

Components	
1	IT chiller, redundant configuration, also with integral free cooling device
1.1	or external free cooling function
2	Double pump unit
3	Water/water heat exchanger
4	Buffer store

Data centre with raised floor

Components	
5	Rittal aisle containment
6	Server racks for aisle containment
7	CRAC systems for raised floor and aisle flooding
8	Room temperature-neutral server extension, cooling with LCP Standard, Plus or Smart
9	Server racks, based on TS, bayed with LCPs
10	System accessories for server racks (cable management devices, monitor/keyboard unit, KVM switch, power distribution, plug-in modules, component shelves, base/plinths and much more besides)

Server room without raised floor, UPS

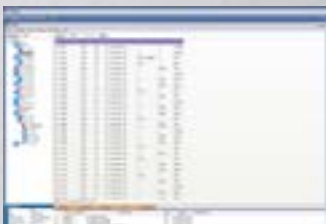
Components	
11	Separate servers in the development department, cooling with LCP Standard, Plus or Smart
12	LCP Inline
13	LCP Extend
14	Server racks, based on TS, bayed with LCPs
15	System accessories for server racks
16	Air/water heat exchangers for UPS cooling
17	UPS: Power Modular Concept PMC, rack basis TS 8
18	Power distribution: Power Distribution Rack PDR
19	Socket strips: Power System Module PSM

Server and network administration, video monitoring

Components	
20	Roof-mounted fan for the office sector
21	CMC-TC, modular system for monitoring climate, access and power supply
22	Network enclosures, based on Rittal TS 8
23	System accessories for IT (patch panels, component shelves)

RiZone Appliance: Software and hardware modules

RiZone Appliance – Total resource control.
In every variant, this is THE device for much simpler administration and super-efficient management of your data centre and beyond.



RiZone Appliance Standard

RiZone is supplied as an appliance or a software appliance.

As an appliance, RiZone is supplied with global support, installed on a powerful server. The software appliance is available as a virtual server which can easily be used on existing hardware in the data centre.

Version	Model No. DK
Appliance	7990.001
Software Appliance	7990.003

! Also required:

RiZone Appliance licence according to the number of IP nodes available.



RiZone Appliance High-MTBF

In addition to the standard version, the high-MTBF version scales up to Tier IV availability as per the definition of the Uptime Institute.

As with the RiZone Standard, we supply two variants, appliance and software appliance.

As an appliance, RiZone is supplied with global support, installed on a powerful server. The software appliance is available as a virtual server which can easily be used on existing hardware in the data centre.

Version	Model No. DK
Appliance	7990.002
Software Appliance	7990.004

! Also required:

RiZone Appliance licence according to the number of IP nodes available.



RiZone Appliance licence

The flexible RiZone licence model allows optimum adaptation to any project size, while at the same time being capable of growing with the data centre.

The volume licences for the IP nodes are graduated from 10 to 1000 nodes and may be adapted precisely to the size of the data centre. For each active Rimatrix5 component or other SNMP-compatible component to be covered, one node licence is required.

For no. of IP nodes	Console licences included ¹⁾	Model No. DK
10	2	7990.005
25	4	7990.006
50	4	7990.007
100	8	7990.008
250	10	7990.009
500	15	7990.010
1000	20	7990.011

¹⁾ If additional consoles are required, these may be purchased as Client Access licences.

Client Access licence

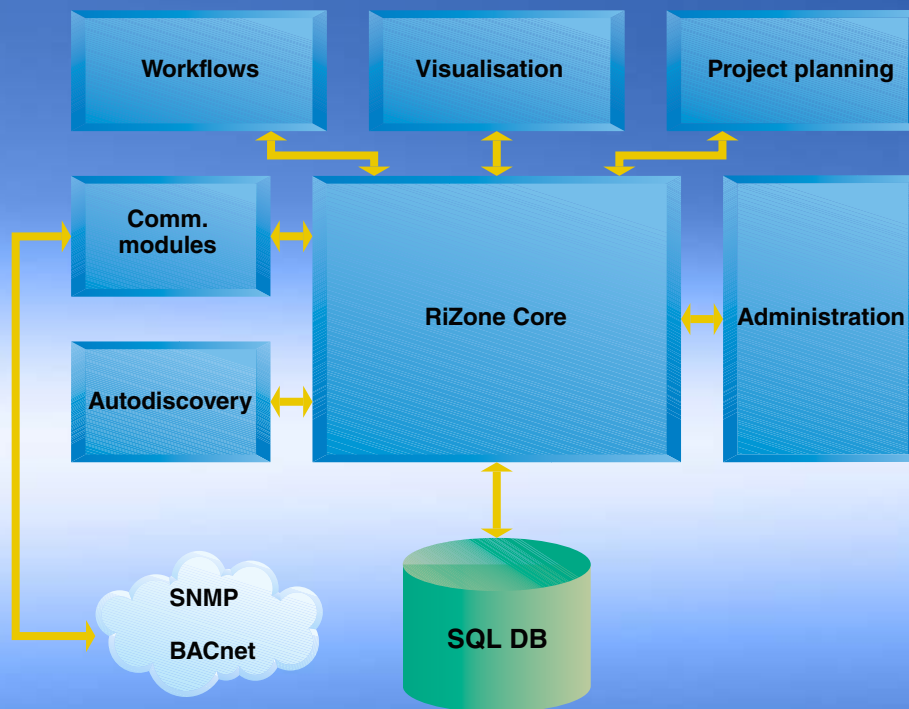
Additional licence for operation of another RiZone console.

Extension	Model No. DK
Client Access licence	7990.013

Microsoft Operations Manager Management Pack

Management Pack for integrating RiZone into the Microsoft Operations Manager.

Extension	Model No. DK
Microsoft SCOM Management Pack	7990.012



- **Workflows**
Control loops for optimisation of the data centre and individual escalation management
- **Visualisation**
Visualisation of all monitored components in the data centre infrastructure
- **Project planning**
Graphical configuration of logical links in the monitored infrastructure
- **Communication**
Communication with the outside world (SNMP, BACnet)
- **Autodiscovery**
Detection of all IP-compatible RimatriX5 components
- **Core & Database**
High-MTBF core, SQL database
- **Administration**
Configuration of RiZone (rights management, network integration)

Modular and scalable, Rittal IT infrastructure components for access, climate control, power supply and security are administered, monitored and controlled via RiZone. The infrastructure and servers can be logically interconnected via Microsoft Management Pack (SNMP). The building control system may also be integrated (e.g. via BACnet).

Use of RiZone Appliance is **exceptionally simple and effective**.

In every variant, this is THE device for super-efficient management of your data centre and beyond, be it in a combination of software and hardware, or as pure software appliances with a virtual computer. In all cases, the configuration is tailored to your specific requirements for optimum results.

The relevant consideration for users is **cost reduction through maximum energy efficiency, while at the same time ensuring extremely high availability**.

RiZone admin features in detail: Advantages at a genuine low-cost effect.



RiZone “Autodiscovery” module – RimatriX5 components are automatically detected in the network.

With the “Autodiscovery” module, RiZone offers users the opportunity to automatically identify all Rittal RimatriX5 components in the network.

RiZone scans a prescribed IP address range and identifies all active RimatriX5 components. Based on this identification, RiZone determines which device is connected and which data is supplied by that device.

The detected active RimatriX5 components are graphically depicted in the autodiscovery tree. The identified components may be dragged and dropped into the project tree during project planning.

RiZone “Project planning” module – Allocation of sensors and components in the diagrammatic view of a data centre

The RiZone project planning module allows users to allocate the sensors and components detected in auto-discovery to real devices/enclosures in the diagrammatic representation of their data centre.

Project planning supports a hierarchical company view, so that data centres distributed across several rooms or buildings may be represented.



Within the context of project planning, logical relationships are created between the sensors/actuators and appliances which are monitored and controlled.

Example:

RiZone has identified several temperature sensors. However, without knowing the enclosure and position in which these sensors are installed (cool incoming air or warm waste air), the measurements supplied cannot be interpreted.

RiZone “Visualisation” module – Critical deviations and optimisation potential are identified

With the aid of visualisation, flexible views of data development may be created. Based on trend patterns, critical deviations and optimisation potential can then be identified.

Using the software the user compiles the required graphs himself. In this way, RiZone supports a customer-specific data view.

Visualisation makes it possible to represent the efficiency of the data centre and the energy consumption of individual racks. RiZone is also capable of determining individual hot spots in a data centre.

Rittal + Microsoft, RiZone + SCOM: A brand new dimension in efficiency



What does the RiZone Management Pack do?

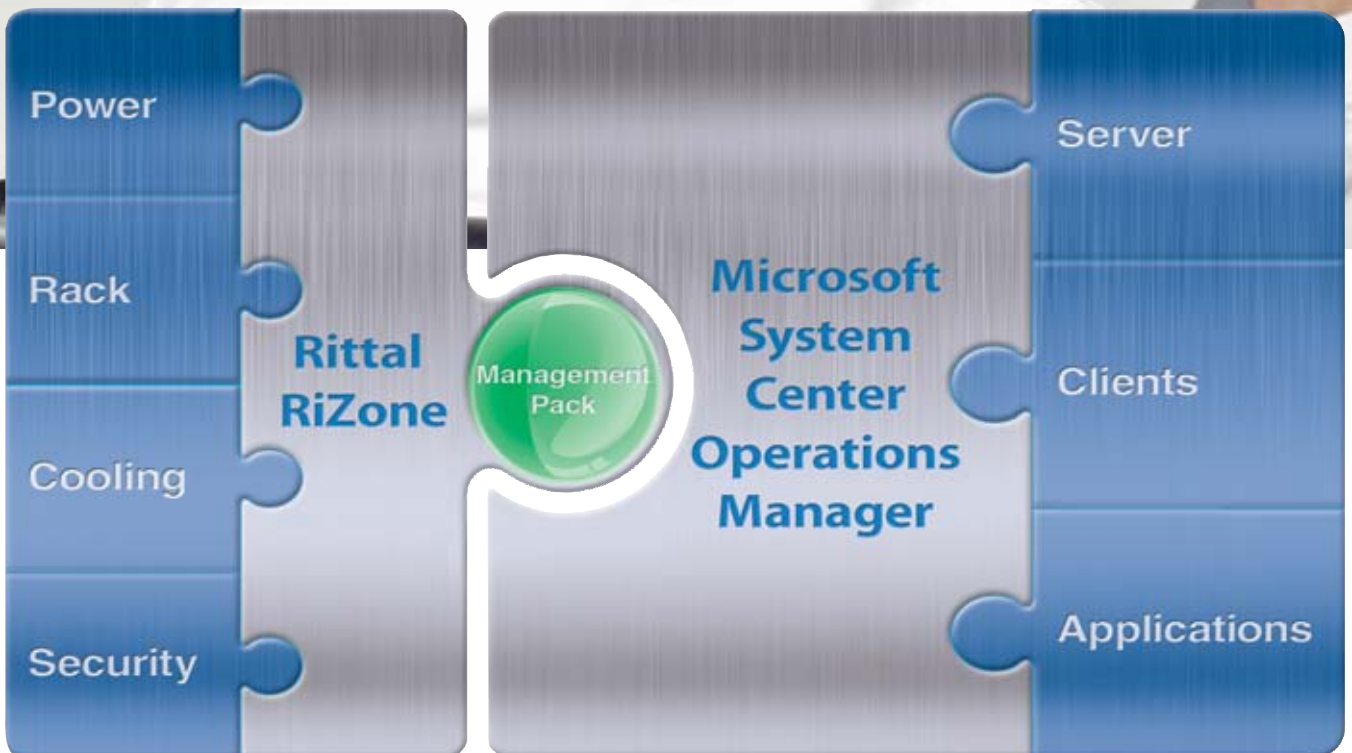
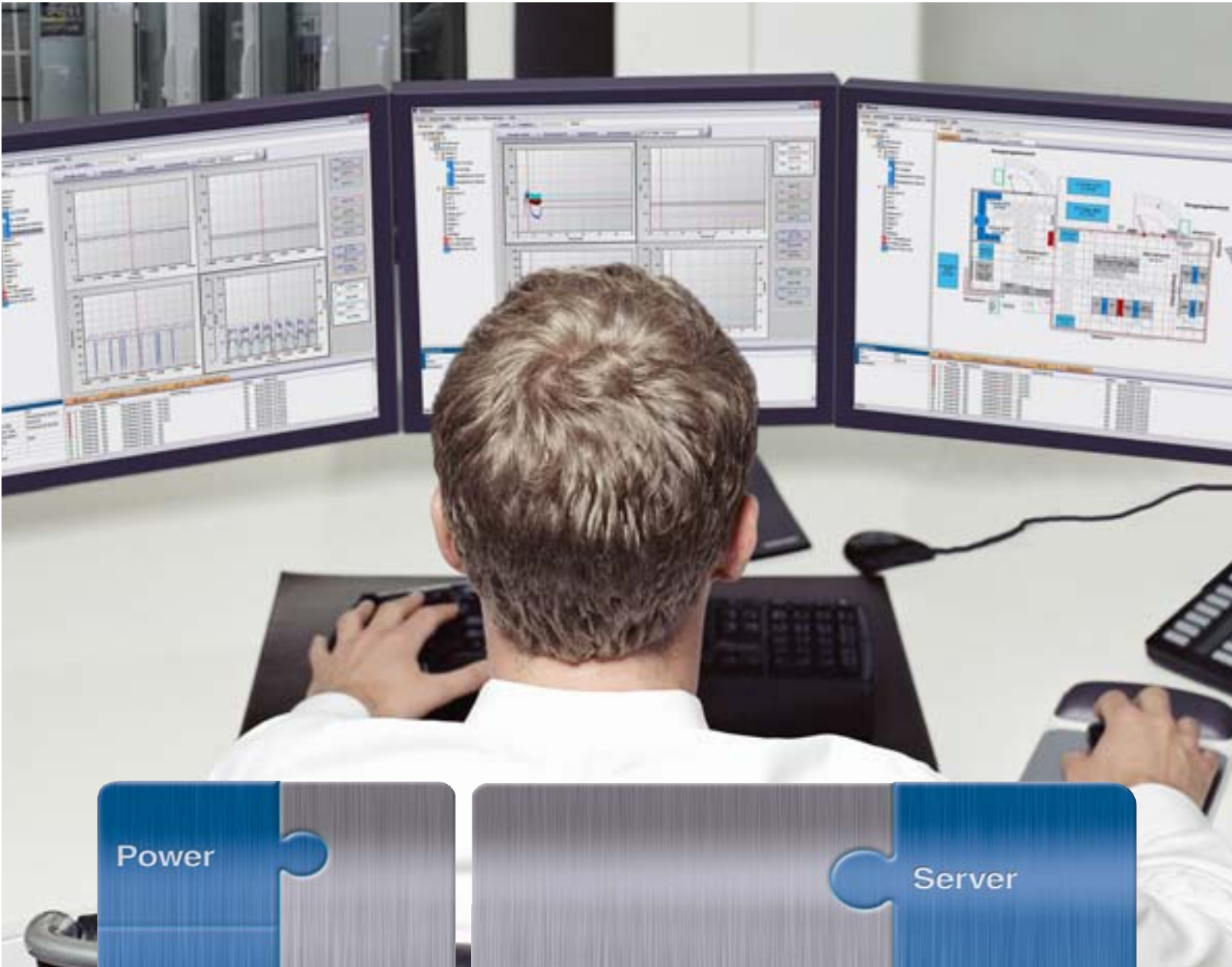
1. The Microsoft System Center Operations Manager shows the same view of the IT infrastructure as Rittal RiZone

2. All important alarms and parameters from the IT infrastructure are depicted in the interface of the Microsoft System Center Operation

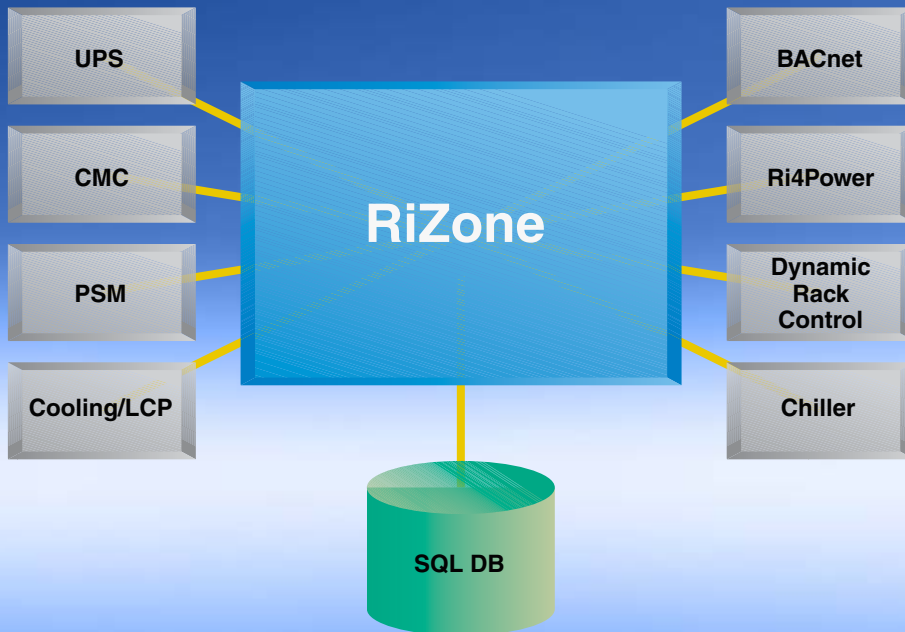
- Security information
- Consumption figures
- Efficiency calculations
- Detailed information via RiZone activation from within the System Center Operations Manager

3. Holistic optimisation (server and infrastructure) of the data centre with regard to

- Energy efficiency
- Message chains
- Availability/security



RiZone – Customer-focussed, cost-efficient



Measurements of RiZone-compatible components (example)

UPS

- Inverter status
- Status of primary network
- Battery status

CMC

- Temperature
- Humidity
- Access

PSM

- Current measurement of PSM bars
- Measurement of the power consumption per socket with active PSM
- Switching of individual sockets

Cooling/LCP

- Inlet temperature
- Setpoint (target value)
- Averaged air injection temperature

BACnet

- Building control system

Ri4Power

- Current
- Voltage
- Energy
- Power

Dynamic Rack Control

- Basic rack data (location etc.)
- Basic component data (manufacturer, type, U etc.)
- Extended component data (device category, electrical output data etc.)

Chiller

- Inlet and return temperature
- Pump speed
- Operating mode
- Current consumption

Seven good reasons to choose RiZone

- Energy optimisation throughout the entire data centre
- Simple project management
- Automatic detection of Rittal components
- Increased security and reliability of the data centre
- Incorporation of building control system components
- Linking of the physical data centre infrastructure into a network management system
- RiZone can communicate with external products via SNMP and BACnet

Combine the sum total of all RiZone benefits with the particular benefits offered by Rittal, whatever your requirements

- Comprehensive consultation and services
- Holistic system concept
- Fast, immediate delivery service
- Global and local presence



- **Targeted cooling**
- **Scalable system**
(pay as you grow)
- **Optimised availability and security**
- **User-friendly configuration**
(supports RimatriX5 components, incorporation into management systems)



Success does not happen by itself

It is the result of intelligent, perfect interplay between supply and demand. For this reason, customers worldwide benefit hugely from Rittal's unique range of expertise.

Customer satisfaction from the outset

After all, as a customer, your requirements do not begin and end with the acquisition itself. Our global service is a promise to meet your expectations at all times.

All in all – solutions from Rittal

Rittal has one of the largest ranges of enclosures available for immediate delivery. However, Rittal also supplies integrated solutions – up to Level 4. This comprises mechanical installation, power supply, electronic components, climate control and central monitoring. For all of your requirements. Fully assembled and functional.

Wherever in the world you develop and implement solutions for yourself and your customers, we are close at hand. The global alliance between production, distribution and service guarantees closeness to the customer. Worldwide!



Enquiries and information

We will be happy to send you further information or advise you in person.

Please send me the following brochure(s):

- IT News 2009
- IT Catalogue
- Dynamic Rack Control

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