

Data Centre Infrastructure Management (DCIM) Software

StruxureWare Data Centre Operation Software

End-to-end management and operation of the physical infrastructure from the IT systems to the building



Schneider
Electric™



Answer the global call for energy efficiency

As The Global Specialist in Energy Management™, Schneider Electric™ is paying attention to the familiar mantra at companies around the world: “We need to do more with less.” This call to action applies to all areas of conducting business, including running a business-centred data centre. Managers at all levels, including data centre and IT managers, are looking for meaningful ways to permanently reduce energy consumption and boost performance for the sake of the environment as well as the bottom line.

Today’s energy crisis is no longer a future concern; the crisis is upon us. In short, the energy supply very soon will fail to meet the world’s ever-increasing energy demand, which is expected to double by 2050. We simply can’t change the earth’s finite generation of energy capacity, as we have learned the hard way in recent decades, nor can we supplement that supply with alternative means as quickly as needed.

Companies around the world have begun to take note of data centres’ role in this imbalanced equation. As Eric Woods, Industry Analyst, Pike Research, points out, “In the same way as the world is coming to realise the true cost of a carbon economy, the energy costs of IT are becoming visible for the first time. The information and communications technologies (ICT) industry is believed to be responsible for approximately 2 percent of global CO₂ emissions, and its energy consumption is rising rapidly, with data centres representing the fastest-growing contributor.”

Saving energy with active energy management architecture

We’re all past efficiency talk. Now, we need efficiency tools — tools that facilitate real change. That’s where Schneider Electric globally steps in with EcoStruxure™ integrated hardware and software system architecture.

EcoStruxure architecture is a pre-tested configuration of the software, hardware, and services offered by Schneider Electric across five domains of expertise: power, process, IT room, buildings, and security. It acts as a solution ecosystem, delivering compatibility across key application areas and leveraging open standards across both Schneider Electric and third-party offers.

EcoStruxure architecture takes multiple, siloed systems and adapts them to an integrated solution to reduce energy usage, minimise risk, and prepare your organisation for the energy demands of the next century. EcoStruxure system architecture allows you to see, measure, and manage energy use across your data centres, industrial plants, and buildings, with guaranteed compatibility among your critical energy domains.

And because EcoStruxure integrated system architecture is scalable and can be applied to both existing facilities and new construction, you can leverage it to achieve up to 30% savings on expenses across your entire enterprise, starting today.



Today’s energy crisis is no longer a future concern; the crisis is upon us.

* Disclaimer coming from Karissa

Intelligent energy management without the complexity

StruxureWare™ software applications and suites enable EcoStruxure architecture. Specifically, it allows users to see, measure, and manage efficiency across buildings, industrial plants, and data centres, realising up to 30% savings in capital and operational expenditures, including energy.

Powerful and innovative software applications are unified from shop floor to top floor across three levels to maximise efficiency:

Control level: Experts, on site or remotely, can control process performance and ensure business continuity in real time, while tracking energy consumption in a highly ergonomic and secured environment.

Operations level: Functional managers can optimise operations, energy, and assets through smart analytical tools, often spanning multiple sites.

Enterprise level: C-level executives can drive their sustainability strategy efficiently, choosing the best scenario that meets their business objective to conserve enterprise-wide resources.

StruxureWare software suites address specific challenges across buildings, industrial plants, and

data centres. Each suite provides easy integration with third-party offers and legacy systems, an open, scalable platform, and a consistent user experience.

StruxureWare software applications and suites simplify integration time, improve reliability, enhance visibility to energy information, and streamline operational efficiency.

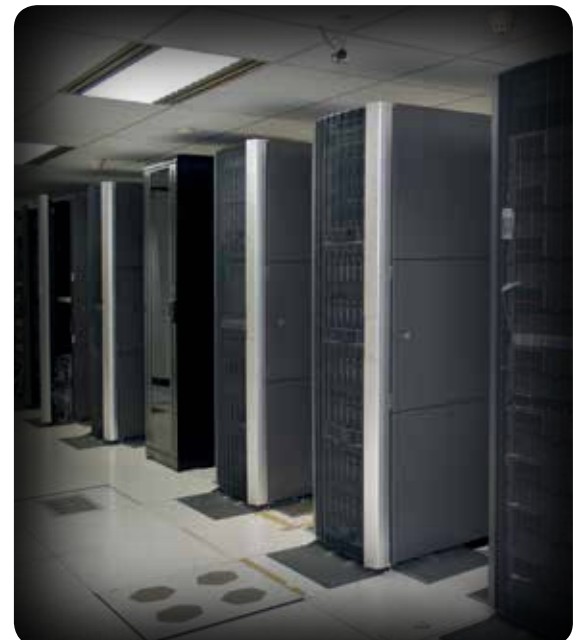
The key to data centre energy savings

StruxureWare for Data Centres is the specific management software suite designed to plan, monitor, and operate the data centre from server to rack to row to room to building. A unique data centre infrastructure management (DCIM) offer, it combines previously disparate offerings for monitoring, automation, planning, and implementation to provide a multifaceted, complete view of all data centre functions.

The result? A simple, integrated experience for many users and groups who manage both the facility and IT infrastructure environments. Not only does the software suite streamline operational efficiencies, it enables intelligent energy management, helping data centres play a critical role in responding effectively to the energy crisis.



StruxureWare for Data Centres is designed to plan, monitor, and operate the data centre from server to rack to row to room to building.





Make informed data centre decisions

At the core of the StruxureWare for Data Centres suite is StruxureWare Data Centre Operation, the physical infrastructure management application. Unlike other DCIM platforms, it provides an integrated dashboard that facilitates vendor-neutral inventory management. What's more, this dashboard displays real-time device failures and data within the data centre physical infrastructure layout, as well as recommendations on how to resolve issues.

StruxureWare Data Centre Operation bridges the gap between IT and facilities by providing complete visibility from the building level all the way down to the server level. As a result, it allows C-level executives, data centre managers, and facility managers alike to have complete insight and control over their data centre's daily operations in order to make informed decisions related to capacity planning, equipment changes, and availability. It's a powerful tool for simulation through the creation of "what if" scenarios across the data centre physical infrastructure (e.g., the impact of server placements on power and cooling).

Not only does the software suite streamline operational efficiencies, it enables intelligent energy

management, helping data centres play a critical role in responding effectively to the energy crisis. The ability to make such informed decisions from a "building-to-server" perspective can be multilayered with the addition of optional modules created to meet specific user requirements, including:

- > **Capacity:** Simulation, planning, and optimisation of infrastructure capacities to right-size the data centre
- > **IT Optimise:** Gain insight into IT power consumption and utilisation to increase efficiency and decrease cost
- > **Change:** Fully integrated workflow management for IT physical infrastructure
- > **Energy Efficiency:** Intelligent PUE analytics at the subsystem level
- > **Energy Cost:** Instant overview of rack energy usage
- > **Insight:** Comprehensive tool for customising report designs to visualise data
- > **Dashboard:** Live overview of data centre operations using widgets and data sets
- > **Mobile:** Wireless operation of your data centre allowing for real-time tracking of adds, moves, and changes
- > **VIZOR:** On-the-go access for smartphone and tablet applications



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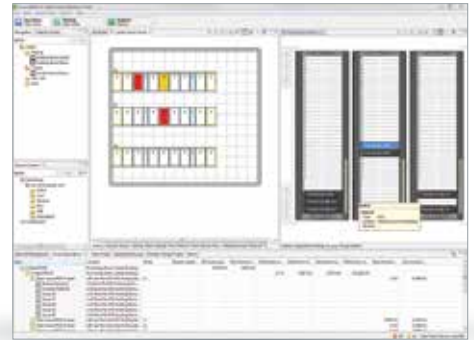
A new level of business intelligence for your data centre

With its capability of communicating with building, enterprise, and network management systems, StruxureWare Data Centre Operation optimises energy and cost efficiencies and aids in short- and long-term planning and provisioning of data centre equipment and resources.

Operation

StruxureWare Data Centre Operation enables vendor-neutral inventory management with real-time device failures and data shown within your data centre physical layout, as well as recommendations on how to resolve issues. Its capabilities include the following:

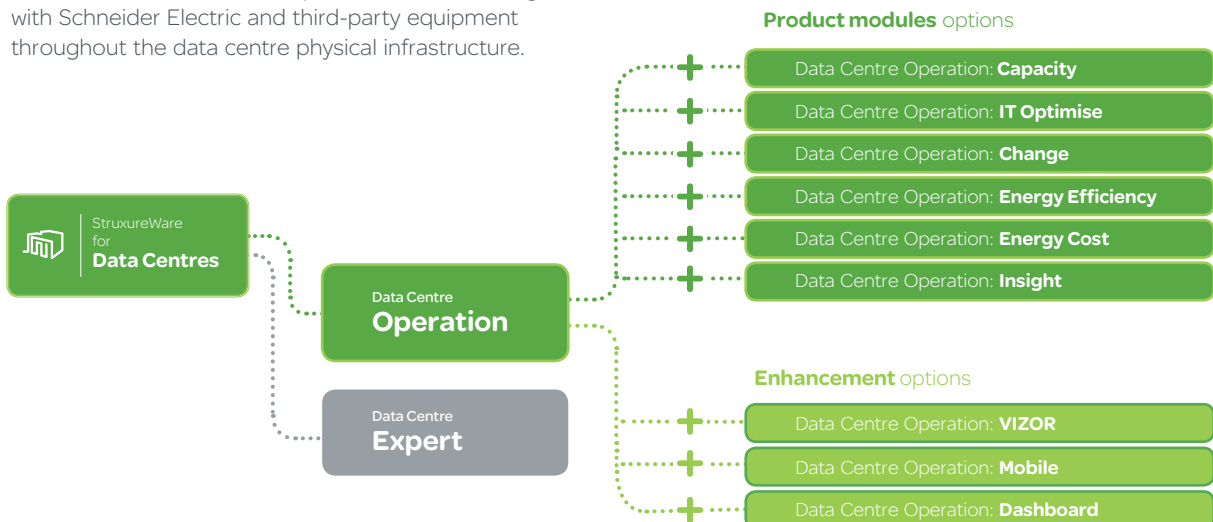
- > A location-based drill-down view provides a structured overview of data centre locations, from a global to local view down to single assets.
- > A network management tool offers support for incomplete routes and a patch panel to patch panel mapping.
- > Virtualisation capabilities through integrations with VMware vSphere™ and Microsoft® System Centre Virtual Machine Manager ensure that virtual loads always have healthy host environments.
- > The Power Usage Effectiveness (PUE) calculator supplies information on daily utilisation of energy to help monitor and streamline energy use.
- > StruxureWare Data Centre Operation is a scalable DCIM framework that can run on any physical or virtual server.
- > Data Centre Operation: Mobile provides access to StruxureWare Data Centre Operation information via handheld PDA for instant updates on the go.
- > An optional dashboard provides a rack-front view for status of data centre operations, while uniquely showing device details and asset attributes within the physical layout.



Instant overview of data centre operations through inventory management, PUE calculator, real-time device alarms, and location-based drill-down

Our scalable software portfolio for data centres

StruxureWare Data Centre Operation software integrates with Schneider Electric and third-party equipment throughout the data centre physical infrastructure.



A closer look at the product modules for StruxureWare Data Centre Operation

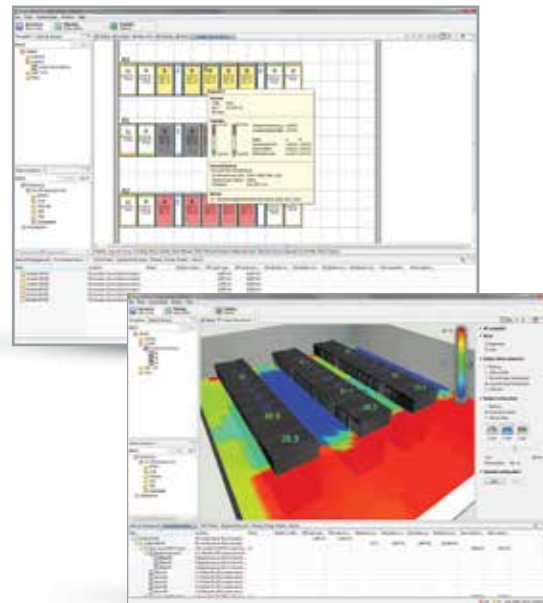
Optional modules allow you to scale the platform to your specific business needs:

Capacity

Planning and optimising utilisation of actual physical infrastructure capacities via shared data centre model enables efficient equipment provisioning and right-sizing of your data centre

Simulation, planning, and optimisation of infrastructure capacities to right-size the data centre

Data Centre Operation: Capacity predicts the optimal location for physical infrastructure and rack-based IT equipment based on the availability and requirements of physical infrastructure capacity and user-defined requirements such as redundancy, network, and business use grouping. It reduces stranded capacity through optimised use of the physical infrastructure and avoids unplanned downtime. With its sophisticated simulation based on live data, **Data Centre Operation: Capacity** proactively analyses the impact of changes before they occur, enabling informed decision-making and planning, ensuring that your physical infrastructure provides the required capacity for current and future needs. Device details and asset attributes are shown within the physical layout.

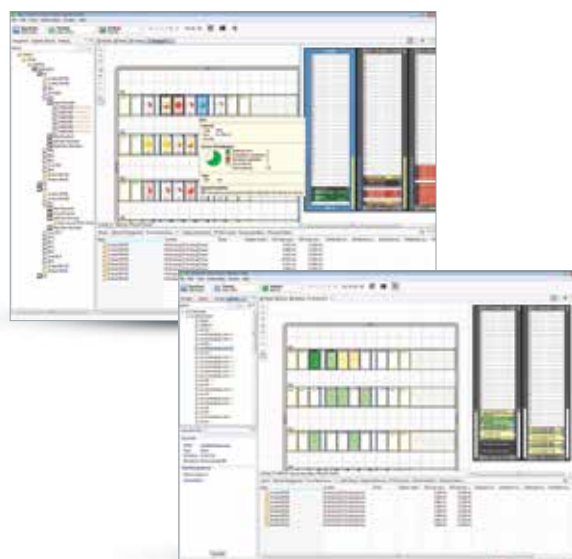


Planning and optimising utilisation of actual physical infrastructure capacities via shared data centre model enables efficient equipment provisioning and right-sizing of your data centre

IT Optimise

Increased utilisation of infrastructure and IT assets through accurate, detailed energy consumption profile of data centres, server by server and rack by rack

Data Centre Operation: IT Optimise monitors IT asset utilisation and power consumption to help reduce costs associated with over-provisioning, under-utilisation, and imbalanced power and cooling throughout the data centre. Business critical analytics tie IT costs to business groups for chargeback; provide critical information for build vs. buy decisions; and track capacity at the rack, row, and room level.



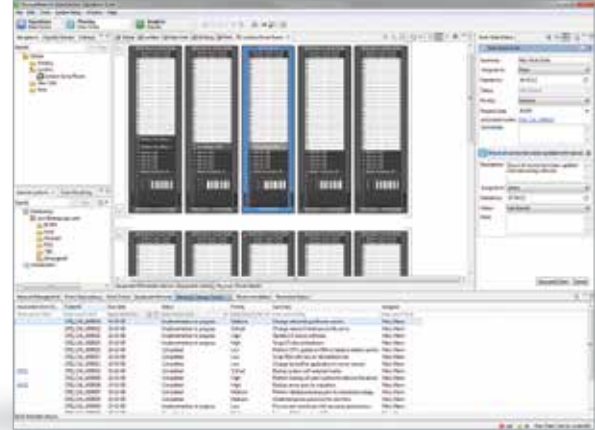
Reduce IT system energy usage through in-depth optimisation of server-utilisation for increased data centre performance

Change

Workflow management facilitates easy tracking and execution of moves, adds, and changes of equipment in the data centre

Fully integrated workflow management for your IT physical infrastructure

Data Centre Operation: Change enables operators to gain control over the data centre environment by implementing organised moves, adds, and change work processes, significantly reducing the risk of inadvertent downtime. With its automated workflow system, operators can assign work orders, reserve space, track status, and extract an audit trail for complete visibility and history into the change life cycle. The **Data Centre Operation: Mobile** (see page 8) provides you with your operational changes while on the data centre floor, enables bar code scanning, and ensures data integrity, as well as improved operational efficiency.



Workflow management allows for easy tracking and execution of moves, adds, and changes of equipment in the data centre

Energy Efficiency

Full insight into energy usage costs and current and historical energy efficiency for the facility identifies efficiency losses and enables improved PUE/DCiE values at subsystem level

Intelligent PUE/DCiE analytics at subsystem level

Data Centre Operation: Energy Efficiency provides current and historical Power Usage Effectiveness (PUE) values, enabling a fact-based understanding of how much power is devoted to driving the installed IT equipment compared with the total facility consumption. It provides a detailed insight into how effectively energy is utilised down to subsystem level, as well as an understanding of how to improve energy efficiency. Subsystem data can either be measured or estimated, also allowing customers with few power meters to benefit from the application. The web-based dashboard view includes efficiency data on current and historical PUE, as well as detailed subsystem cost analysis. **Data Centre Operation: Energy Efficiency** is available via StruxureWare Data Centre Operation, which enables integrations with StruxureWare Data Centre Expert and third-party enterprise systems.



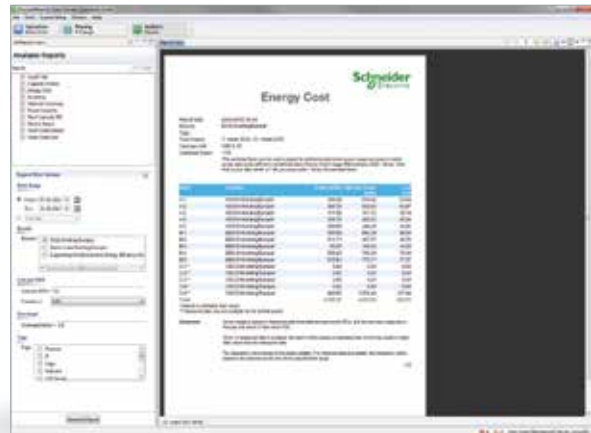
Full insight into current and historical energy efficiency for facilities identifies efficiency losses and enables improved PUE/DCiE values at subsystem level

Energy Cost

Cost analysis of energy use on a kW/h basis, detailed to the rack level aids in calculating cost of energy consumption and therefore chargeback and efficient budgeting

Instant overview of rack energy usage

Data Centre Operation: Energy Cost provides an Energy Usage Report, which shows energy consumed within the data centre by the kWh and cost per kWh, detailed to the rack level. The energy usage is based on metered data, gathered over a specified period of time. If no metered data is available, estimated power draw will be calculated based on the power draw of the individual IT assets or nameplate values. The Energy Usage Report provides the option of including an overhead factor accounting for energy losses through PUE. The report can be customised based on optional groupings by use of tags, such as department, tenant, purpose, density, etc.

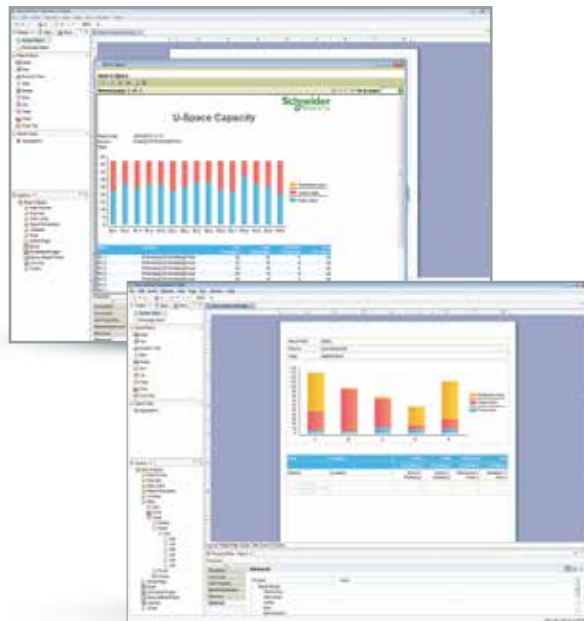


Cost analysis of energy use on a kW/h basis, detailed to the rack level, aids in calculating cost of energy consumption for specified equipment and therefore chargeback and efficient budgeting

Insight

Report generator customised to meet your individual business needs tracks data centre capacity utilisation with transparency into data centre key performance indicators

Data Centre Operation: Insight is an advanced report design tool that provides unlimited options for customising and visualising data centre reports to match your business needs. The module itself provides default templates, data sources, data sets, and filter parameters, while providing the option of generating individual designs. Reports designed in **Data Centre Operation: Insight** allow for combining data from StruxureWare Data Centre Operation with any external data point obtainable via web services or databases. Any report can be published in StruxureWare Data Centre Operation or to a number of different file formats.



User-friendly report design tool to meet individual business needs to configure and design custom reports complete with data obtainable from StruxureWare Data Centre Operation, web services, or external databases

Dashboard

Easily configurable web dashboards creates transparency to data centre key performance indicators

Data Centre Operation: Dashboard provides transparency to data centre key performance indicators and business metrics, displaying customisable information for a high-level overview of data centre operations. StruxureWare Dashboard is configured via a choice of predefined portlets, and provides the option to create custom portlets through an integrated, easy-to-use configurator. The portlets are based on a comprehensive and detailed charting library, enabling the user to easily add interactive charts and graphs to the StruxureWare Dashboard. The open source environment, based on the Liferay® platform, provides the option to display web content and metrics from other applications, such as Power Monitoring Expert, Building Expert (Continuum™ or TAC Vista™), and StruxureWare Data Centre Expert.



Easily configurable web dashboards creating transparency to data centre key performance indicators

VIZOR

View key capacity indicators on your smartphone or tablet.

High level data centre parameters on the go via your tablet or smartphone

Data Centre Operation: VIZOR provides key data centre capacity parameters on power, cooling, space, and network, straight to a smartphone or tablet, while delivering predictions of remaining capacity based on current growth rate. Observing your data centre on the go is made easy with a drill-down function into any location or room.



Its simple user interface enables you to gain quick access to a complete overview of asset inventory in the data centre. (Currently available for iPhone®, iPad®, and Android™-based phones)

Mobile

Handheld, wireless bar code scanner aids in viewing, creating, and instantly synchronising changes on the go

Wireless operation of your data centre

Data Centre Operation: Mobile provides you with your data centre inventory while on the data centre floor.

The integrated bar code scanner makes light work of implementing work orders and identifying equipment.

Data Centre Operation: Mobile automatically synchronises server locations, ensuring data integrity, removing human error, and improving operational efficiency.



Handheld, wireless bar code scanner for viewing, creating, and instantly synchronising changes on the go. Based on Motorola® MC75 hardware

Peace-of-mind software services

Schneider Electric has the services you need to protect your investment, efficiency, and availability. Our comprehensive software services portfolio, which supports third-party integrations, is designed to ensure your applications receive the care they need to operate at optimal levels – at all times – from installation to ongoing operations.

Software installation

We offer Software Installation Services that will accelerate the value of your newly purchased StruxureWare for Data Centres application. We use repeatable industry best practices for installing and registering in accordance to manufacturer specification. The service is fulfilled by highly skilled and certified field service engineers, ensuring that all software products are installed correctly and are ready for use in your dynamic data centre. We recognise the importance of smooth and successful startup. By choosing our Software Installation Services, you will increase your efficiency by decreasing your time to deployment.

Software configuration

By choosing Software Configuration Services, you gain the most value from your new StruxureWare for Data Centres application investment. By quickly and precisely configuring the system to emulate your unique data centre, you will be able to take advantage of the features and benefits of the tools included in the software. In turn, you can make critical decisions that will save you time and money. Our certified field service engineer will configure the application down to the rack and row level, including IT devices for your as-purchased solution. Our services manage the complete deployment of your software, giving you the data you desire to run an efficient data centre today, while planning for tomorrow.

Software integration

The Software Integration Service provides planning, designs, and project management for the integration of StruxureWare for Data Centres software products into your existing system, providing you with a customised view into your existing applications. Our highly skilled and certified software engineers will utilise industry best practices to integrate or enhance our StruxureWare for Data Centres applications to meet your individual business requirements.

Software education

Are you interested in learning more about your StruxureWare for Data Centres tool set and want to be empowered with the knowledge to make educated changes? If so, our Software Education Services provide you with expert training, enabling you to get the most from your investment by learning operational skills and best practices for your solution. Our Education Services are designed to provide a practical learning experience for professionals with real-life, hands-on exercises. Training focuses on key features of StruxureWare Data Centre Operation, thereby allowing you the ability to pick and mix training services to meet your needs and availability.

We also offer Post Configuration Review, which provides you with a review of how the StruxureWare for Data Centres application was configured, enabling you to quickly take control of your environment. This approach to transfer knowledge lowers your cost of implementation by maintaining your operations in house.



We offer comprehensive software services that accelerate the value of your newly purchased StruxureWare for Data Centres application.

Business-wise, Future-driven™ data centres

Today's data centres no longer are just cost centres. Instead, they can contribute significantly to overall business value. DCIM software enables the business to respond more quickly to market demands, support cost-saving and energy-efficient approaches such as virtualisation and unified computing, and streamline operational processes.

What's your most pressing business need?

1 Planning a new data centre or retrofit?

StruxureWare Data Centre Operation shows you the current physical state of the data centre, and simulates the effect of future physical equipment adds, moves, and changes, to answer:

- > Where is the next physical or virtual server placed?
- > Will I still have power or cooling redundancy under fault or maintenance conditions?
- > Do I need to spread out my blade servers to get reliable operations?
- > What will the impact of new equipment be on my redundancy and safety margins?
- > Can existing power and cooling equipment accommodate new technologies?

2 Ensuring highest availability?

Visibility and transparency are fundamental to protecting system availability without compromising efficiency. StruxureWare Data Centre Operation's end-to-end view enables comprehensive monitoring and proactive management of risks before they affect availability.

3 Optimising your servers?

Today, server optimisation is being deployed all the way down to the CPU-level, focusing on IT power consumption and ensuring that server sprawl is reduced.

Data Centre Operation: IT Optimise also includes real-time monitoring of server status for information on utilisation, uptime, power consumption, and costs.

The detailed information enables instant identification of under-utilised or idle servers, and is ideal for consolidating or retiring servers and virtual machines.

4 Virtualising your data centre?

StruxureWare Data Centre Operation gives IT room operators the ability to support load shifting as one concrete way to save energy and, in turn, operational cost. Integration directly with the VM manager enables sharing of power, cooling, and other data, allowing safe, automated placement of new and existing VMs. It also communicates in real time with the leading virtualisation platforms: VMware vSphere and Microsoft System Centre Virtual Machine Manager. The software's built-in automated response capabilities ensure that virtual loads always have healthy host environments. With your VMs on healthy hosts, you can focus on running your data centre more efficiently.

5 Meeting energy regulations?

The StruxureWare Data Centre Operation energy-related modules (Energy Efficiency and Energy Cost) generate current and historical Power Usage Effectiveness (PUE) values so you know at any time how much power you need to run the IT equipment in relation to the facility's energy use at large. Armed with this understanding, as well as energy cost reporting capabilities right down to the rack level, you can manage energy consumption proactively and effectively.

Saving energy through Data Centre Operation's VM integrations

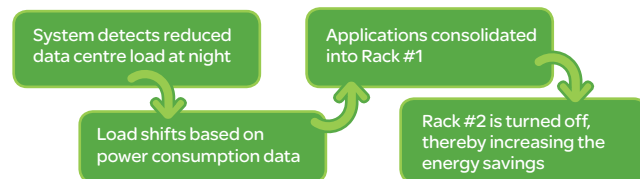
Traditional Approach



Energy savings > **NONE**

Vs.

Updated Approach



Energy savings > **HIGH**

For more information ...

Get an in-depth look at Schneider Electric Data Centre Infrastructure Management (DCIM) software and StruxureWare Data Centre Operation!

Demo:

Visit www.apc.com/software to learn more about StruxureWare for Data Centres and StruxureWare Data Centre Operation!

Read:

Visit whitepapers.apc.com to download:

["How Data Centre Infrastructure Management Software Improves Planning and Cuts Operational Costs"](#) (White Paper #107)

["Avoiding Common Pitfalls of Evaluating and Implementing DCIM Solutions"](#) (White Paper #170)

["Virtualisation and Cloud Computing: Optimised Power, Cooling, and Management Maximises Benefits"](#) (White Paper #118)

["Guidelines for Specification of Data Centre Power Density"](#) (White Paper #120)

["Allocating Data Centre Energy Costs and Carbon to IT users"](#) (White Paper #161)

["Estimating a Data Centre's Electrical Carbon Footprint"](#) (White Paper #66)

View:

Visit tv.schneider-electric.com to watch our StruxureWare for Data Centres videos and customer testimonials!

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 tv.schneider-electric.com

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 DCIMsupport.apc.com

 blog.schneider-electric.com/datacentre

Contact Us:

To find out more about StruxureWare Data Centre Operation, please do not hesitate to contact us. The Schneider Electric Sales team can give you all the background information you need to make an informed and smart investment in DCIM software.

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Make the most of your energySM

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