

Data Centre Solutions...energy efficient by design



APC Management Software



Creating an effective workspace environment



A vendor neutral software suite, which provides a unified view and analysis of complex IT physical data centre infrastructure and communicates with building, enterprise and network management systems.

Data Centre Management Software Overview

Organizations struggling with the complexities of availability, server consolidation, virtualization and energy management are increasingly looking for more intelligent physical infrastructure data centre management systems. Traditional enterprise management, building management systems and network management systems do not address the physical infrastructure supporting IT assets.

Workspace Technology brings customers proactive data centre management through APC by Schneider Electric InfraStruxure Data Centre Management Software, which shares a centralized database, enabling design, real-time monitoring, inventory management and planning through predictive simulation.

APC's InfraStruxure Management Software's end-to-end management approach allows data centres to run more smoothly on a daily basis. Its built-in business tools enable planning and budget management providing accurate control of capital, operational and energy use costs.

InfraStruxure® Management Software Benefits Include:

- Open standards multivendor support
- Holistic management of the entire data centre infrastructure
- Integration of traditional Modbus / BACnet systems
- Visibility and transparency of the data centre assets
- Ability to balance resources
- Faster, more intelligent decision making
- Easy deployment of new hardware
- Improved planning and forecasting capabilities
- Streamlined inventory management

Workspace Technology is one of the UK's leading APC Elite Data Centre Management Integration partners.





InfraStruxure Central Management Platform

InfraStruxure Central is a vendor neutral, scalable monitoring system which collects, organizes, and distributes critical alerts, surveillance video and key information, providing a unified view of complex physical infrastructure environments from anywhere on the network.

InfraStruxure Central will support real-time monitoring, of power, cooling, security, and environment with user-defined reports and graphs. Instant fault notification and escalation enable quick assessment and resolution of critical infrastructure events that can adversely affect IT system availability.

This centralized repository of critical information can be accessed by multiple users from anywhere on the network, creating a consolidated view of the physical infrastructure. This open and flexible architecture expands with changing business needs through additional device licenses, add-on surveillance, and a complete suite of Data Centre Management software which includes, operations, capacity and change management modules, and seamless integration with traditional enterprise and building management systems.

Data Centre Management Software

InfraStruxure Data Centre Management is a vendor neutral software suite which provides a unified view and analysis of complex IT physical data centre infrastructure and communicates with building, enterprise and network management systems to ensure quality, gain energy and cost efficiencies and aid in short and long term planning and provisioning of data centre equipment resources.

Software Modules



InfraStruxure Operations

Asset management and documentation of data centre operations through inventory management.



InfraStruxure Capacity

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



InfraStruxure Change

Fully integrated workflow management for your IT physical infrastructure.



InfraStruxure Mobile

Wireless operation of your data centre.



InfraStruxure Energy Cost

Instant overview of rack energy usage.



InfraStruxure Energy Efficiency

Intelligent PUE analytics at subsystem level.



InfraStruxure Operations

InfraStruxure Operations enables vendor neutral inventory management with real-time device monitoring as well as recommendations on how to resolve issues.

A location based drill-down view provides a structured overview of data centre locations, from a global to local view down to single assets. Additional features include PUE calculator and real-time device alarms.

InfraStruxure Capacity

Simulation, planning, and optimization of infrastructure capacities to right-size the data centre. InfraStruxure Capacity predicts the optimal location for physical infrastructure and rack mounted 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 optimized use of the physical infrastructure and avoids unplanned downtime.

With its sophisticated simulation based on live data, InfraStruxure Capacity proactively analyzes 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

InfraStruxure Change

Fully integrated workflow management for your IT physical infrastructure. InfraStruxure Change enables operators to gain control over the data centre environment by implementing organized moves, adds, and change work processes, significantly reducing the risk for 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 lifecycle. The optional InfraStruxure Mobile device provides you with your operational changes while on the data centre floor, enables barcode scanning and ensures data integrity, as well as improved operational efficiency.

InfraStruxure Mobile

InfraStruxure Mobile, based on Motorola (Symbol) MC70 hardware, provides you with your data centre inventory while on the data centre floor. The integrated barcode scanner makes light work of implementing work orders and identifying equipment. Using your wireless network, InfraStruxure Mobile automatically synchronizes server locations, ensuring data integrity, removing human error and improving operational efficiency.

InfraStruxure Energy Cost

The InfraStruxure Energy Cost module 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 Power Usage Effectiveness (PUE). The report can be customized based on optional groupings by use of tags, such as department, tenant, purpose, density etc. and can aid business in charge back and efficient budgeting.

InfraStruxure Energy Efficiency

InfraStruxure 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 utilized 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. InfraStruxure Energy Efficiency is available via InfraStruxure Operations, which enables integrations with InfraStruxure Central and 3rd party enterprise systems.



Data Centre Management Software Applications

Energy Efficiency - Increasing energy usage calls for energy efficient solutions to combat energy costs in data centres. A 1MW data centre that uses management software to reduce energy consumption by 10% will typically save £87,000 per year, or £435,000 over five years (not including equipment and software investment).

APC by Schneider Electric's InfraStruxure Energy Efficiency provides customers with detailed insights into the energy usage of their data centres and supporting facilities.

Based on intelligent modelling of the electrical and mechanical topology, the flow and usage of energy through subsystems is analyzed and presented on web-based dashboards. The product enables data centre managers to provide a high level overview of energy usage and costs back to the organization as well as deep insight into where each kW is spent. Up until now, Energy Efficiency has been focused on just identifying PUE, the next step is to understand how to improve the PUE, while at the same time improving the cost of running the data centre.



Virtualization - Virtualization enhances the need for effective power and cooling to safeguard availability. Virtualization can result in increased rack density, but it also introduces issues that go beyond high density alone and which must be considered in power and cooling systems supporting a virtualized environment.

Effective deployment of virtualization emphasizes the need for an integrated capacity management solution with real-time visibility to the power, cooling and physical space capacities at the rack and server level, to ensure efficient use of resources and to warn of scarce or unusable ones.

APC by Schneider Electric's InfraStruxure Capacity provides automated intelligence and modelling of the physical infrastructure capacities, suggests the best place for adding equipment, as well as simulates the effect of proposed changes and recognizes conditions in time for corrective action to be taken. With this intelligence, virtualization can fulfil its potential for efficiency and business value.



Visibility and Transparency -

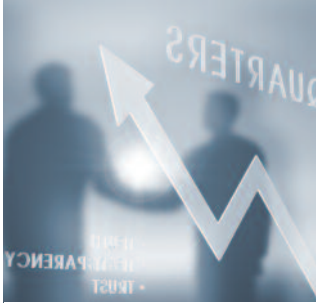
A fundamental requirement of the modern data centre is visibility and transparency into the complete inventory of the data centre. Knowing exactly where a specific piece of equipment is located is key in order to provide a quick resolution to any problem occurring in the data centre as well as identifying what other equipment could be affected by the problem.

As data centres get larger and more complex, the task of finding a particular device or server tends to get more complicated and time consuming for the data centre manager. This causes higher mean time to repair and less than optimal use of resources.

Until recently, data centre inventory and documentation would be managed in spreadsheets or home-grown databases that were often hard to maintain. These manual methods provided little or no version control and often did not reflect the actual inventory. With the introduction of business regulations such as the Sarbanes-Oxley Act, data centres are now required to be in compliance with the documentation and audit requirements of these regulations. Failing to comply on a data centre level now puts constraints on the rest of the business.

InfraStruxure Operations product allows for registration of all data centre assets, from the switchgear, through UPS, distribution and servers to network cables including additional asset information according to your needs. The data can be viewed in a number of ways including: through a floor layout, a rack layout, an organization wide search, a hierarchical structure browse or an inventory information export.

When adding the capabilities of InfraStruxure Change, all the moves, adds and change activities are structured through workflows. Every action is documented and time stamped, and can be retrieved on a server, rack, room or building level through a standard report.



Resource Balancing - According to Gartner most data centre operators are unaware of the loading and current power and cooling capability of their data centres, even at a total bulk level. Installing equipment that exceeds the design density of the data centre, and the resultant stresses on the power and cooling systems, are causing downtime from overloads, overheating, and loss of redundancy. Balancing supply & demand The IT Infrastructure Library (ITIL) defines capacity management as the discipline that ensures infrastructure is provided at the right time in the right volume at the right price, and that it is used in the most efficient manner. The critical success factors are: - Providing accurate capacity forecasts, and - Providing appropriate capacity to meet business needs.

Data centre operators typically do not have the information they need to effectively deploy new equipment at the rate required by the business, and are unable to answer simple questions relating to the power and cooling capabilities at a specific rack.

What is the impact on the availability of existing equipment ?

Can I deploy new hardware technology, such as blade servers, using my existing power and cooling infrastructure?

When will I reach the limits of my current power and cooling infrastructure and require additional capacity?

APC's InfraStruxure Capacity provides the visibility to the current capacities of the data centre, and enables data centre operators to analyze and plan ahead for future capacity needs. By right-sizing the required capacity to fit the current demand it is possible to avoid stranded capacity, reduce waste and increase overall efficiency of the data centre.



Integration - As energy management becomes a key consideration for data centres, organizations are increasingly looking for more intelligent physical infrastructure management systems which integrate with existing enterprise management systems and building management systems for a full overview of where the power is used. Integrating with other systems through APIs and Web Services.

Most IT organizations have already invested in a number of tools to support their systems independently, including enterprise management systems (EMS) used by the IT department and building management systems (BMS) used by the facilities organization.

A third, emerging type of management system is the data centre physical infrastructure management (DCPIM™) system, marking the convergence of traditional facility responsibility with that of the IT department, and normally used by the data centre operator.

For the first time in the history of the IT industry, the availability of physical infrastructure is often the limiting factor in the deployment of new, denser technologies. The interactions between the IT loads, power, cooling and physical space are simply too complex for traditional data centre monitoring and operations processes. This drives a need for integrating information between the three systems to compile intelligent and comprehensive DCPIM systems, offering greater oversight and more efficient use of available energy.

The APC solution Open Application Programming Interfaces (APIs) and Web Services are an integral part of APC by Schneider Electric's InfraStruxure Management software, and new integrations are constantly added, to ensure a management system which can easily be integrated with existing systems.

The integrations currently include: Microsoft Systems Centre Operations Manager, Microsoft Systems Centre Virtual Machine Manager, Microsoft Essentials, IBM Tivoli, IBM Active Energy Manager, BMC Remedy, HP OpenView, Cisco EnergyWise, TAC Andover Continuum, TAC Vista & PowerLogic ION Enterprise. Integrating the different energy management systems provides data centre operators with critical information to design, operate and monitor their physical infrastructure.

About Workspace Technology

Workspace Technology's Data Centre Solutions division provide expert data centre, communications and server room solutions and services for public sector and corporate clients across the UK.

Workspace Technology is proud to be an approved "Endorser" for the European Commissions "Code of Conduct for Data Centre Efficiency" Workspace Technology is committed to help clients reduce their carbon footprint through the deployment of "Best Practice" energy efficient technology and design, for new and existing data centre environments.

Further details of Workspace Technology's products and services can be found at www.workspace-technology.com.



Approved "Endorser" EU "Code of Conduct on Data Centre Efficiency"



APC Elite Partner
Data Centre Certified

APC is a registered trade mark of Schneider Electric Ltd.



Workspace Technology's "Commitment to help clients reduce their carbon footprint through the deployment of energy efficient technology and design".



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