Data Center Facility Management

- Strategic floor space utilization to lower costs
- Rack space utilization for better Data Center life and IT efficiency
- Measure power consumption to lower overall operations costs
- A new paradigm in Data Center management that integrates facility and IT

Integrated Data Center Management Solution

that focuses on a drawing centric approach to Data Center Management where the architectural Floor plan drawings of the data center spaces are used for providing a visual interface for managing the data center operations.

The zDataCenter[™] is a drawing-centric Integrated Data Center Infrastructure Management (DCIM) solution for data centers. It provides a precise view of the Data Center Spaces, the infrastructure components, and the related IT architecture. This exact representation of the equipment layout enables accurate reporting of space utilization and an ability to reference the cooling and power system layouts based on floor density requirements.

Data Centers are not just a repository of data bases and applications, they are "manufacturing plants" that require a robust Facility Management (FM) infrastructure to support the complex IT systems architectures. $zDataCenter^{m}$ offers a holistic view to address cooling, power, space and IT planning issues that define operational effectiveness of data centers.



Value Proposition

- Infrastructure planning based on locating components on accurate CAD floor plans
- Visualization of racks and space utilization to enable growth planning
- Common platform for FM and IT collaboration
- Capability to manage power based on real-time measurement and analysis
- Integrated views of IT and FM data to manage separate life cycles of IT and FM components
- Ability to manage capital planning and expansion base on a holistic view of FM and IT requirements

Space Management

zDataCenter[™] drawing centric approach is designed to provide a precise view of the data center space utilization. As the demand for data center space continues to grow optimizing the existing space utilization is critical to capital budgets that focus on business requirements rather than infrastructure expansion. zDataCenter[™] provides a platform than can visually detail existing space use and planning scenarios for reconfigurations and expansions.

Power Management

Power is the major life line of any data center and probably the single largest operational cost component. Yet information about power utilization, requirements and cost remains elusive; often the total cost of data center power is buried in the overall facility or building metering. Not only can new servers impose large new power loads, but related cooling and operational infrastructure costs can magnify that requirement several times.

Space Utilization

The Space Module offers a broad set of functional capability that includes:

- Exact location of all components on the floor plan using symbols created to scale
- Representation of cages in the drawing using pre-drawn AutoCAD blocks
- Option to allocate components to different billing accounts and areas
- Ability to differentiate various datacenter zones based on density
- Search option to locate components based on various attributes

Rack Management

Do you know how many racks you have? Simple but sometimes not easy to answer - given a growing set of rack types based on size, power, density, and the type of IT component. Data center planning is a complex exercise; some studies indicate that some of the planning strategies could result in rack utilization as low as 50%. Right sizing rack space can have a major impact on data center operational and capital costs. The zDataCenter™ Rack Module is designed to visualize rack utilization, management and reconfiguration in an environment that can be shared between FM and IT. The placement, loading, and rack use can be a collaborative effort between those who need to optimize IT architectures and network connectivity, and those that need to ensure the availability of adequate power and cooling.

Major features that enable the integration of infrastructure systems and IT components:

- A digital representation of the floor plan with location of racks, cages, PDUs and infrastructure equipment
- Rack utilization display shows rack space, and connectivity to power distribution and infrastructure equipment
- Rack elevation view to manage Rack and Rack Components
- Option to identify suitable rack space based on space and power requirements
- Ability to move components between racks
- Easily identify and totalize Rack components

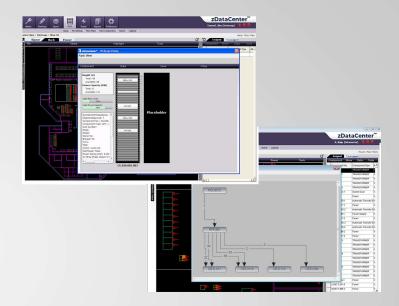
Power Measurement

The key to better understanding the power requirements is the ability to continuously measure power consumption of all operational data center components including the Data Center inbound power, PDU equipment, Racks and Servers. The zDataCenter $^{\text{TM}}$ Power Module provides a powerful capability to measure, analyze, and visualize power consumption based

on real time measurement of use and display in the graphical context of the data center floor plan. Key capabilities provide ability to:

- Locate and detail Panels and Power Distribution Units
- Set rules for connectivity among various power components
- Allocate power to any component that draws or distributes power
- Set Phase Type, Total Number of circuits or Outlets, Input Voltage and Ampere while defining Power Distribution Components; and
- Measure real time use at the PDU, Rack or component level

The powerful zDataCenter™ metrics can quickly aggregate real time FM and IT information dynamically in a collaborative environment. This includes the ability to define realtime PUE information based on acutal power consumtion of various IT components coupled with current space and rack utilization based on accurate floor plans and rack layouts.



Consolidated Dashboards

Managing the data center is a joint effort between those who provide the physical infrastructure of space, cooling, power and networks and those responsible for delivering the computing utility. The powerful zDataCenter™ metrics can quickly aggregate real time FM and IT information dynamically. These include the ability to define real time PUE information based on actual power consumption of various IT components coupled with current space and rack utilization based on accurate floor plans and rack layouts.

