

Data Center Infrastructure Management

leverage

real-time data center information
to achieve greater energy and capacity efficiency



Your business technologists. Powering progress

SIEMENS **Atos**

Secure, energy-efficient and compliant Data Center solutions in real time



Siemens and Atos collaborate to provide safe, secure, energy-efficient Data Center solutions and services. In general, data center services are defined as all activities for the 'Design, Build, Improvement and Management' of IT and data center capabilities on a customer's premises.

The two organizations have entered into a strategic partnership to offer a complete portfolio of integrated data center solutions and services that put you firmly in control.

Siemens Building Technologies, as a global leader in the building automation market, integrates and combines several decades of experience in systems automation, power integration, control and monitoring, fire safety and security.

Contributing to the Partnership approach, Siemens develops jointly with Atos a new integrated data center solutions and services, with a strong involvement starting from the development phase, working on the integration of the low and medium voltage systems, data center control and monitoring applications, fire safety and security applications.

Siemens' integrated, tailored solutions and services efficiently detect and respond to a wide variety of events that can threaten a data center's business continuity and profitability - all in compliance with regulatory requirements. Siemens one-stop-shop solutions fully integrate:

- ▶ Medium & low voltage power distribution
- ▶ Fire detection, evacuation, and extinguishing
- ▶ Access control, video surveillance, and intrusion detection
- ▶ Building automation and energy management systems

Atos is responsible for the system integration and systems management aspects in the IT infrastructure area. Atos' integrated data center services cover three key areas:

- ▶ Data Center Consulting & Transformation Solutions
- ▶ Data Center Managed Services
- ▶ Data Center Infrastructure Management (DCIM)

As a proof of concept and feasibility, Atos and Siemens have already implemented DCIM in three Atos data center buildings.

The result is a unique and complete offering from two market leaders, Atos and Siemens, that combines Atos' proven systems performance management capabilities with Siemens global expertise in Data Center Building Automation and Control Systems.

Management based on facts not assumptions!

Nobody likes to manage based on assumptions not facts, certainly not CIOs! And certainly not in an economic climate where every resource and cost has to be accurately accounted for and exploited to its maximum.

For example, power currently averages 12% of a data center's operating costs. And with costs increasing by more than 20% annually, this is the fastest growing part of an enterprise's budget. Then on top of that, cooling-energy usage accounts for more than 40% of the total data center's consumption. But here, proper monitoring and management could offer potential ongoing savings of 20% on top of the operational benefits that can be delivered through more rigorous management of the physical data center environment.

Are you really in control of your data center?

Today, data center management is typically split between managing the IT and point solutions for managing energy, cooling and facilities separately. However, there is always a difference between what suppliers and equipment providers claim and what is actually being delivered. And can you really combine all the mass of information and data you are receiving so as to deliver greater added value, increased efficiency and energy savings? And furthermore, do you have to rely on a disaster recovery plan rather than ensuring proper prevention in the first place?

But energy saving and CAPEX reduction are just two of the challenges facing data center operators. There is also the need to ensure ever-greater compliancy and risk management, to improve availability and increase operational transparency, to have more accurate (sub) billing for DC costs and to guarantee a better recovery should any disaster occur. And from an environmental perspective, the continuing social pressure to reduce CO2 emissions and overall footprint puts businesses increasingly under the spotlight.

To overcome these business challenges, what is really needed is a solution that enables CIOs and data center managers to gain real control over their entire data center by giving them a real-time, transparent and holistic view.

Gain control over your entire data center with a real-time, transparent and holistic view.



Real-time capacity efficiency and energy management



Data Center Infrastructure Management (DCIM) is essentially a virtual integration layer between a data center's IT layer and its physical layer. The DCIM services connect the various components and allow end-to-end management of data centers by connecting IT management into energy, cooling and facility management. This allows you to create a complete and transparent view of your data center and so drive greater energy and capacity efficiency.

DCIM tools integrate facets of the various IT systems, building systems and energy management systems to:

- ▶ Measure power usage effectiveness
- ▶ Monitor consumption in real time
- ▶ Manage power consumption across physical and virtual assets

Key elements of the DCIM solution include:

- ▶ Real-time PUE and DCIE measurements to enable dynamic control-loops and tuning of set points
- ▶ Monitoring and benchmarking of all facility equipment, such as Gensets, UPS, Cooling equipment, CRACs, etc.
- ▶ Decreasing hotspots by using real data for planning
- ▶ Decreasing the duration of hotspots by monitoring data from IT equipment itself
- ▶ Shorter reaction time to alarms/events
- ▶ Improved effectiveness of first response to incidents due to better information, available by remote access; also from IT users!
- ▶ Auditable, real-time measurements and cost allocation
- ▶ Increasing the planned computing/rack capacity for a given cooling/power capacity
- ▶ Preventing peaks in the IT layer
- ▶ Timely (automated) mitigation/avoidance at data center level
- ▶ Timely (automated) mitigation/avoidance at IT level

As a result you can get a better understanding of the complex component interdependencies affecting the major physical infrastructures in the data center. Data can be displayed as a dashboard or on an excel sheet. Whatever system you prefer, through it you will be able to identify and control how you can lower energy consumption and maximize the utilization of current assets and uptime of cooling systems by spotting and eliminating waste or spare capacity. And furthermore, you will be able to link energy costs to business criticality and thus optimize workload allocation relative to energy costs.

As well as providing an innovative solution for data center management, DCIM gives you the benefits of being able to choose the information in graphs or readings and also to see the values over different time periods, rather like viewing a company's share price. An additional benefit here is that an automatic historical record is also built up that aids compliancy reporting and risk management.

DCIM enables you to establish real-time and immediate active management and delivers real-time integral reporting, verifiable lower emissions, optimal efficiency and maximum processing output. Furthermore, this real-time information can be accessed from a PC without the need to physically access the data center itself.



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Benefit from a holistic view of your entire data centre



DCIM is an end-to-end offering covering strategy, design, implementation, run and assessment that enables data center managers to have a holistic view of their entire data centre. Implementing DCIM gives you real-time information and control on your data center, enabling a number of promising results:

- ▶ **Energy Saving** - Reducing infrastructure and power costs through complete, real-time reporting on all data center variables. And having a lower optimized footprint resulting from that as well
- ▶ **Compliance, Risk Management** - Increase operational transparency leading to informed decisions on changes using scenario-planning based on real-time data
- ▶ **Improve Availability** - Forward capacity planning using historic data and scenario-planning
- ▶ **Accurate (Sub) Billing for DC Costs** - End-to-end billing of capacity utilization per end-customer
- ▶ **Lower Capex Investments and Lower Opex**
- ▶ **Better Disaster Prevention** - Prevent IT failure through correlations between IT, Energy and Cooling systems behavior and ability to respond more quickly to (potential) issues

Data Center Infrastructure Management (DCIM) delivers greater control over, and proven improvements in:



Why Atos? Working together to accelerate progress

As business technologists with over 30 years of history, we have built up a deep understanding of the challenges and business opportunities facing enterprises today.

With a presence in more than 48 countries and a workforce of 74,000 business technologists, we can offer our clients in-depth market expertise, an extended global reach and an impressive services portfolio. Our strong industry heritage gives us the understanding and the flexibility to adapt easily to our clients' culture and way of working wherever they are in the world. Everything we do - advising, designing, implementing, integrating, coordinating and managing - we do with a unique talent for technology and a deep understanding of our clients' business.

At the intersection of technology, people and business, we believe there are insights and innovations that can lead to positive steps forward. We want to contribute to a future where businesses demonstrate responsibility towards society through its 'Consulting & Technology Services' and 'Systems Integration'.

Our integrated Data Center services are focused on enabling business strategy and value through advanced technology and high value consulting services. Here Atos' knowledge and experience of data center/IT operations is unique in the market through its 'Consulting & Technology Services' and 'Systems Integration'.

Atos has extensive, proven integration and implementation experience on a global scale. We are also independent from IT hardware and any data center tooling vendors and widely employ 'off the shelf' products.

Not only that, but as the Worldwide IT Partner for the Olympic Games since 1992, and as the lead integrator of the London 2012 Games, Atos integrates, manages and secures the vast IT system that relays results, events and athlete information to spectators and media around the world.

The Atos IT systems integrating the Olympic Games are just a part of the solutions that we provide for businesses around the world which include:

- ▶ Smart Mobility Solutions
- ▶ Identity, Security and Risk Management Solutions
- ▶ Managed Services
- ▶ Enterprise Content Management Solutions
- ▶ Testing & Acceptance Solutions

Atos brings extensive international IT experience to the Olympic Games, including global expertise and leadership in consulting, systems integration, operations management, information security and software applications development.



At the intersection of technology, people and business, we believe there are insights and innovations that can lead to positive steps forward.

About Atos

Atos is an international information technology services company with annual 2011 pro forma revenue of EUR 8.5 billion and 74,000 employees in 48 countries. Serving a global client base, it delivers hi-tech transactional services, consulting and technology services, systems integration and managed services. With its deep technology expertise and industry knowledge, it works with clients across the following market sectors: Manufacturing, Retail, Services; Public, Health & Transports; Financial Services; Telecoms, Media & Technology; Energy & Utilities.

Atos is focused on business technology that powers progress and helps organizations to create their firm of the future. It is the Worldwide Information Technology Partner for the Olympic and Paralympic Games and is quoted on the Paris Eurolist Market. Atos operates under the brands Atos, Atos Consulting & Technology Services, Atos Worldline and Atos Worldgrid. For more information, visit: atos.net

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About Siemens

The Siemens Infrastructure & Cities Sector (Munich, Germany), with approximately 87,000 employees, offers sustainable technologies for metropolitan areas and their infrastructures. Its offerings include integrated mobility solutions, building and security technology, power distribution, smart grid applications, and low- and medium-voltage products. The Sector comprises the Divisions Rail Systems, Mobility and Logistics, Low and Medium Voltage, Smart Grid, Building Technologies, and Osram AG. For more information, visit www.siemens.com/infrastructure-cities

The Siemens Building Technologies Division (Zug, Switzerland) is the world leader in the market for safe and energy-efficient buildings ("green buildings") and infrastructures. As a service provider, system integrator, and product vendor, Building Technologies has offerings for building automation, heating, ventilation and air conditioning (HVAC), fire protection and security. For more information, visit www.siemens.com/buildingtechnologies

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