Data Center Infrastructure Management

optimiz yourdata center with of DCIM weather static



Your business technologists. Powering progress

Are you feeling the heat of your data center operations?

Data center management and operations today are becoming a hot topic and are being driven by several business drivers. These include the ever-present need for greater efficiencies and 'doing more with less', the extraordinary growth in big data and the success of the 'cloud', and the need to be fully in control of your operations to satisfy ever-greater regulation and compliancy issues. Finally there are increasing concerns about the environment leading to more sustainable strategies.

Added to that is the complication that, in the past, data center facilities and the IT within them have been typically managed separately. The facilities are often managed as part of the building, involving investments that are depreciated in 15 to 30 years, whereas the IT is typically managed as part of a company's core business, where IT equipment and software are typically depreciated in 3 years, or reporting to the CFO.

So, in a time when there is both a growing need for, and an increased dependency on, IT, Atos and Siemens have both recognized that there is a better way to manage a data center. A way that takes into account the building, the power, the cooling and IT management. A way in which IT and facilities are brought together as one to more closely meet your business needs.

Business drivers for DCIM

Efficiency

Doing more with less: Optimization of projects and operations in order to do more business with less effort. The growing demand for optimization is now

also affecting data centers.

Growing need for IT

Cloud computing: Availability of your data - always and everywhere.

Big Data: The huge increase of data and therefore the need to improve the capacity of data centers.

Sustainability

The environment: A sustainability strategy is now becoming a factor for a growing number of IT companies in the IT industry, and in particular those operating data centers.

Being in-control

Being in-control and managing risks are core aspects of managing a data center. Due to growing amounts of **rules and regulations,** being fully in-control of your data center is becoming more and more important.



- a a a a

-

To achieve this, Atos has realized a Data Center Infrastructure Management (DCIM) solution that covers both the facilities and the IT management of a data center in an holistic and transparent way. This is a robust and scalable solution that enables you to much more closely meet the business needs of your data center. The result is an improved and integrated DCIM solution that combines Atos' proven systems performance management capabilities with Siemens global expertise in data center solutions. This joint approach brings together significant improvements in four main functional areas:

- ► Asset Management
- ► Real-time
- Accurate scenario planning and forecasting
- Increased collaboration within your IT and facility management

Together, these improvements lead to increased usability and a much more efficient data center. A data center where DCIM acts as a sort of 'weather station', putting you in complete control of and allowing you to both monitor and predict the 'weather' in your own data center environment. The result is a very high degree of insight and control that allows you to make confident and high-impact business decisions based on accurate, reliable, real-time information and 'what if' analysis.



Asset management



Scenario planning



Real time reporting



Collaboration



Cool down the costs without raising the temperature in the board-room!

Integrated Data Center Infrastructure Management (DCIM) is essentially a way of integrating a data center's IT layer and its physical layer and extracting valuable data from them in such a way that it can be presented and exploited in various formats. The DCIM solution integrates facets of the various IT systems, building systems, energy management systems and financial management systems, connecting the various components and allowing real-time and endto-end data center management.

In response to today's business drivers, and building on our joint experience, we have now improved and enhanced the solution in four key functional areas:

► Asset Management: With DCIM you now get a tool that gives you a complete visual and spatial impression of your own data center with all the relevant IT overlaid. In effect, a single source of truth for all the information coming from the various IT items such as the network, servers, racks etc, overlaid on top of your facilities such as airco, pillars, doors etc. This represents a powerful model that records exactly where each item of equipment is, its characteristics, and what it is doing. This Asset Management tool supports the other functionality areas and delivers increased accuracy and completeness of your data enabling you to manage both in real time and based on hard facts

▶ Real time reporting: This provides you with real-time measurements and an intelligent combination and aggregation of data into information which provides an accurate insight about exactly what is going on in a data center. This is presented in a variety of visual formats and ensures accurate and up-to-date data that forms the foundation for decision-making leading to higher utilization and lower costs. Our solution now moves beyond the benefits of spatially distributed 3D modeling to provide scalable 4D dashboards using intelligent attributes/ tags that can offer rack or server reporting covering cooling, power, and the physical U-space. Whatever system you prefer, you will be able to identify how you can lower energy consumption and spot and eliminate waste or spare capacity, while maximizing the uptime of cooling systems. And furthermore, you will be able to link energy costs to business criticality and thus optimize workload allocation relative to energy costs.

Scenario planning: This allows you to see what the occupation rate is of the various racks etc, which may be critical when planning any changes in capacity or usage. Through scenario planning you can see if any operational work, such as moving servers, needs to be done in multiple phases and also whether there are any other infrastructure projects going on that may interfere. All changes are first simulated using integrated CFD (Computational Fluid Dynamics) modeling. This ensures that, before actually performing those changes, the DCIM system knows very accurately what changes are envisioned and when. You then have the possibility to experiment with different move execution dates and also different approaches to simulate the result and check if there is no interference with any other ongoing projects. The prediction model we use is also continually updated with our own data as a benchmark and for comparison. The scenario planning feature also adds value to facility management in terms of being able to plan and decide on new layouts and designs etc.

► Collaboration: When combined with the reporting enhancements, DCIM allows for greater information sharing across different teams, and not just about IT data. This closes the knowledge gap and leads to just one version of the truth which means much greater insights and more effective planning and decision making. This means not only greater interfacing, integration and collaboration between the IT and facilities areas, but also with and across other important stakeholders such as different suppliers or technicians leading to greater usability and availability and helping you to achieve your key targets.

Optimize your Data Center with our DCIM weather station

王



Answering the issues driving business transformation today

Delivering a more efficient and better run data center, will allow you to concentrate on the value your IT delivers, rather than worrying about compliancy or risk, or your dependency on critical business processes. And as a result of these improvements, you will get a better understanding of the complex component interdependencies affecting the major physical infrastructures in the data center.

The tabel below shows the benefits per each functional area when mapped against today's business drivers.

		r difetional di eus			
		Asset Management	Real Time Reporting	Scenario Planning	Collaboration
Ricinoss drivers	Efficiency	More efficient use of capacity due to rack utilization optimization.	 Real time measurements of KPI's enabling proactive and timely response to deviations. Identification of under-utilized servers. Longer lifetime of data center equipment by proactive issue identification. 	 More efficient decision making on investments through simulation. Lower project costs by timely identification of cross-project interference. 	 Rewards behavior within IT operations and helps improve DC optimization. Enables implementation of cross departmental KPI's
	Growing need for IT	More effective use of capacity due to planning of Racks and Servers.	 Higher uptime due to proactive prevention of issues and reduction of risk. Identification of under-utilized servers to optimize already available capacity 	 More efficient decision making on investments through simulation. Easier project growth due to what-if scenario's and avoidance of cross-project interference. 	 Cross departmental workflows, supporting a smooth change process.
	Sustainability	 Longer equipment lifetime leads to a smaller footprint. Identification of servers that are 'on' without a purpose 	 Real time measurements of PUE enabling proactive energy management. Specific energy zones can be identified and benchmarked. Equipment and airflows can be tuned. Smart reporting on dynamic behavior of servers to identify applications that could run with less power without performance loss. 	Simulation of a datacenter during design stages is crucial for an optimal data center.	 Creating joint approaches in Facilities and IT to reduce energy consumption.
	Being in control	 Single source of truth for all reports. Powerful role-based access control. 	 Power and CO2 reports fully traceable to real-time data. Possibility to have alerts on near-critical thresholds. Risk avoidance by proactive prevention of issues. Full transparency of your data center in a single dashboard. 	The effects of operational changes as well as larger projects in the datacenter can be analyzed before executing those changes or projects/	 Workflows to enforce compliance to processes.

Furthermore, our integrated DCIM solution can realize efficiency improvements of 20% on IT operations. This is on top of the operational benefits that can be delivered through more-rigorous management of the physical data center environment.

An approach and way of working that offers you a windfall!

Atos has performed large and small, regional and global, data center consolidation and transformation engagements for more than 10 years. These are based around Atos Consulting's 'cloverleaf' model which channels their experience in the fields of technology, people and culture, processes, and management and organizational change to execute a successful data center consolidation strategy.

We have found that the best results are achieved when also managing the nontechnical aspects of data centers and change management. Technology is only part of the equation and many IT organizations are not structured for successful negotiations and governance with the lines of business to consolidate into a common shared pool of IT resources. Business and IT Governance strategies are critical to changing the way IT serves the business – IT must become like a broker of services that are sourced both internally as well as externally.



Working together to accelerate progress

Atos leverages its experience in data center consolidation to execute a successful data center transformation project on time through a number of key steps, all planned together with you and tailored to your specific requirements.

- Intake This allows you to decide whether or not to launch a DCIM project. It involves the mapping of (High level) business requirements and drivers to the current data center operations and considers the impact of cloud, applications, infrastructure, and facility lifecycles. It will also determine the next steps and set the ambition level.
- Detailed design and project planning This phase collects the detailed requirements of the DCIM solution and creates a financial business case for the internal and external

financial accountability of the DCIM solution. This is all scoped into a detailed solution design and mapped into an overall transformation plan.

- Execution of project plan This covers the holistic implementation of the design and the required DCIM solution according to the Atos Consulting cloverleaf model, including the transfer to operations. The plan can be executed with different approaches (Agile, Prince2).
- Maintenance & Support After user acceptance testing, the Data Center operations team assumes control leveraging the new operating plans based on the DCIM solution. The Atos DCIM solution team makes sure all the requirements are delivered and data center operations are able to optimize the data center themselves with a continuous improvement approach that keeps pace with your evolving business needs.





Engineering the future of IT

Atos is the number 1 European provider (number 3 worldwide) of vendor-independent managed infrastructure services. This means that we can develop and deliver the most cost-effective and suitable solutions using multiple leading market providers to manage customer-owned data centers. We also have early access to new technologies, enabling us to produce and deliver innovative technical solutions.

Atos' data center services are focused on enabling business strategy and value through advanced technology and high value consulting services. We have extensive, proven integration and implementation experience on a global scale, including:

- Vast experience in Data Center Consolidation, Virtualization, Optimization & Transformation projects
- ICT moving accumulated experience over the last 10 years with more than 800 ICT projects
- Global capabilities at DC Managed Services:
 - 13 Global Data Centers and 80 Local/ Regional Data Centers
 - ► A highly-virtualized environment
 - ► 110 PB of storage, distributed in online and offline storage

Atos is also a global Partner of the Siemens Group, one of the largest – and oldest – technology companies in the world. Siemens provides key products and systems for customers in a wide range of industries, from energy to mining, from healthcare to household goods, from chemicals to communications and consumer goods.

Experience DCIM in action!

For more information about DCIM or to arrange a live demo of the solution in action, please visit atos.net/dcim.

imize your Data Center with our DCIM we



About Atos

Atos is an international information technology services company with annual 2012 revenue of EUR 8.8 billion and 76,400 employees in 47 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 sector, Healthcare & Transport; 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: DCIM@atos.net

atos.net/dcim