

The Siemens logo is displayed in a white rectangular box with a thin black border. The word "SIEMENS" is written in a bold, teal, sans-serif font. The background of the slide features a dark blue field with a grid of small dots and a network of glowing cyan lines forming various geometric shapes, resembling a data network or infrastructure map.

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Brian Parrott | Boston, September 09, 2015

Data Center Infrastructure Management (DCIM): A Real Life Case Study

Overview of contents

- 1 Project overview and business benefits realized by using DCIM**
- 2 Implementing DCIM – Practical findings and recommendations from the project
- 3 Conclusion and recommendations

Background

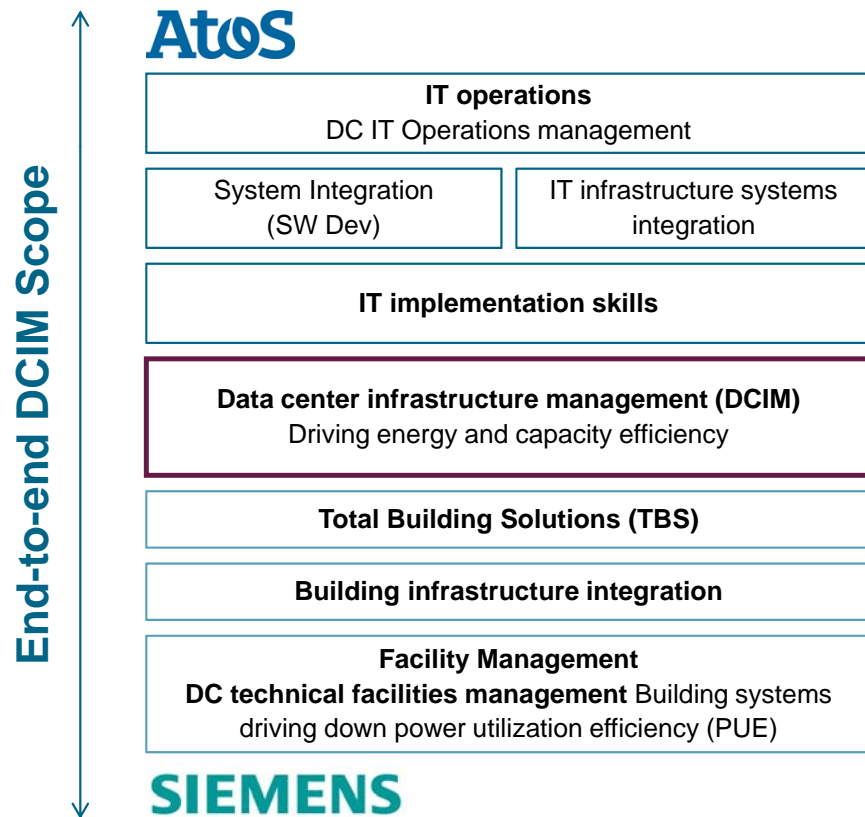
Atos

- Global IT Services organization
- Annual revenues in excess of \$11bn
- 93,000 employees in 72 countries
- 85 Data Centres in 30 countries
- 27 Strategic DC's in 13 metropolitan areas
- 4 UK Strategic Data Centres

DCIM in Atos

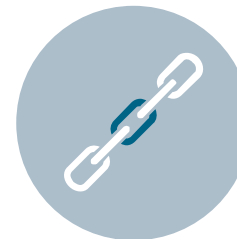
- Jointly fine tuned DCIM product in collaboration with Siemens, as part of joint Atos-Siemens alliance – “DC Clarity LC” product – agreement to use as the Strategic DCIM tool of choice within Atos
- Technical product evaluation conducted in Atos NL Data Centre in 2012
- Operational Project run in one of Atos UK Strategic Data Centres from Nov. 2014 – May 2015 using DC Clarity LC V1.2 > V2.2.1

The starting point: Proving evidence of benefits from our DCIM solution within a real data centre

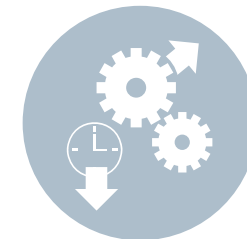


What does it bring in daily operations in terms of ...

Risk mitigation and cost improvements?



Performance?



Agility?

Initial objectives and realized benefits of the Atos UK Project

	Original Project Goal	Status	Progress and benefit
	Provision of real-time Power consumption at rack level	✓	Now available via both dashboards and reporting
	More accurate and auditable customer invoicing, based on actual measured data	✓	Billing reports have been generated based on actual rack readings via DCIM -> Increased transparency of costs & customer trust
	Increased customer trust due to demonstrable measures, customer references	✓	Customer References for Italy Intesa and Injazat (UAE) provided to Siemens already
	Less risk of downtime due to physical intervention in computer rooms	✓	Power Single Point of Failure (SPOF) Report now available Improved thanks to 3D model – we can now see an overview – but needs network cabling information to be complete
	More efficient and effective Change Management through better Asset Management	✓	Now at > 95% accuracy and providing a “single view of DC”
	Better utilisation of DC capacity through 3D modelling/ “what if” installation planning	●	Still to be proven – likely in Q3/4 2015
	Improved Network Cable Management	●	Still to be proven – likely in Q3/4 2015
	Reduced energy costs through improved PUE – DCIM will highlight areas to improve	●	Still to be proven – likely in Q3/4 2015

Atos UK DCIM Project benefits: Most pilot benefits have been realized, new ones obtained, further ones are expected

Cost & Risk



Benefits realized:

- Usage based reporting & invoicing

Additional benefits:

- Better understanding of resource, duration and cost of Data Cleansing
- Reduce SLA penalties, due to SPOF report

Expected further benefits:

- Energy efficiency
- Higher utilization
- Pass on reduced costs for our customers

Performance



Benefits realized:

- Identify and eliminate SPOFs
- Higher availability
- Reduced downtime
- Increased customer confidence
- Better service to our customers
- More accurate IT Asset and M&E Power Infrastructure – “a single view of the DC”, leading to improved internal DC process

Expected further benefits:

- More accurate Network Cabling information

Agility



Additional benefits:

- Better understanding of deployment and how to position tool with customer
- Quicker response time thanks to “known status” of DC capacity
- Reduced deployment time for DC Clarity in other Atos UK DC’s

Expected further benefits:

- Better utilization of DC capacity through 3D modelling/ “what if” installation planning

Providing evidence: Cost improvements and risk reductions



- Usage based reporting and invoicing
- Better understanding of resource, duration and cost of data cleansing

Power consumption/cost allocation according to DCIM				
Period 9 th March to 9th April				
Sum of Average	Column Labels			
Row Labels	Red	Yel	Client Total DCIM rate	
Aots Customer 1	10651 VA	10254 VA	20905 VA	£7,054.13
UK/ATOS DC SHARED	8969 VA	9049 VA	18019 VA	£6,080.08
UK/ATOS NSCS	10072 VA	10255 VA	20327 VA	£6,859.00
UK/Atos Tools Automation GEM	388 VA	593 VA	981 VA	£330.92
Atos Customer 2	1411 VA	1179 VA	2590 VA	£873.87
Atos Customer 3	2431 VA	2674 VA	5105 VA	£1,722.51
Atos Customer 4	11087 VA	12679 VA	23765 VA	£8,019.15
Atos Customer 5	24837 VA	25589 VA	50426 VA	£17,015.17
Atos Customer 6	0 VA	1 VA	1 VA	£0.34
Atos Customer 7	781 VA	839 VA	1620 VA	£546.47
Atos Customer 8	916 VA	818 VA	1734 VA	£585.26
Client Total	71543 VA	73930 VA	145473 VA	£49,086.90
* Data Anonymised to protect Customer				

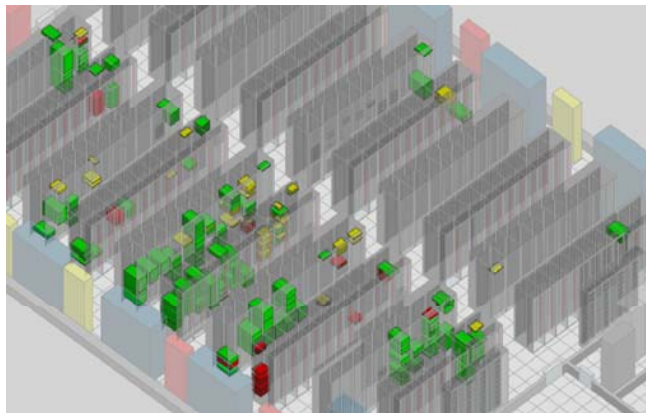
- Accurate billing to customers, based on >8m readings of power consumption per month instead of single reading (once per month)!
- Future projects can better be costed, better estimates for future implementations

Providing evidence: Performance improvements (1/2)



Identify and eliminate SPOFs

- Higher availability
- Reduced downtime ► better service to our customers, improved customer confidence



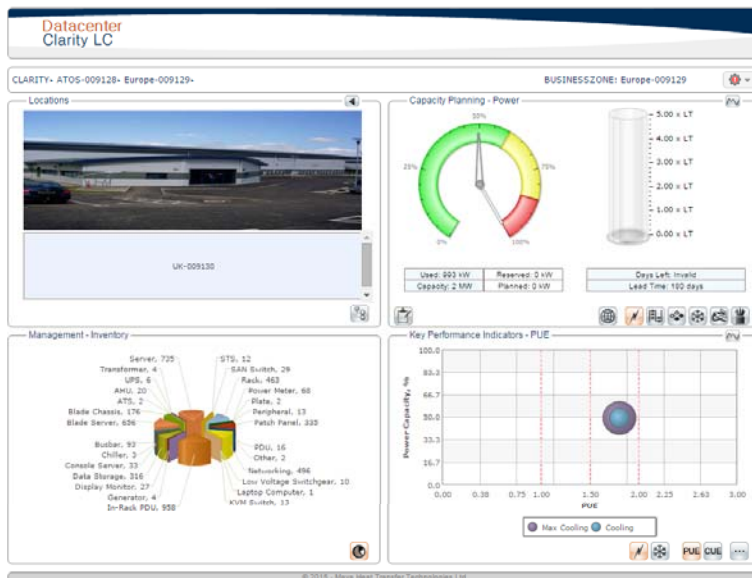
	A	B	
1	Asset Status	Operational	↓
2	Maintenance Hours	(Multiple Items)	↓
3	Mounting Type	Rack	↓
4	Asset Type	(Multiple Items)	↓
5	Number of Used Inlet Sockets	1	↓
6	Room	Glencoe	↓
7			
8	Row Labels	Count of Asset Name	
9	Atos Customer 1	12	
10	Atos Customer 2	7	
11	AtosOrigin.UK.NetworksSharedSvcs	10	
12	Atos Customer 3	6	
13	Atos Customer 4	23	
14	Atos Customer 6	1	
15	Grand Total	59	
16			
17	* Data Anonymised to protect Customer		

- Engage with key internal and external customers to eliminate power SPOF's
- Replace equipment or install static transfer switches to give dual power

Providing evidence: Performance improvements (2/2)



More accurate IT Asset and M&E power infrastructure – “a single view of the DC“, leading to improved internal DC process



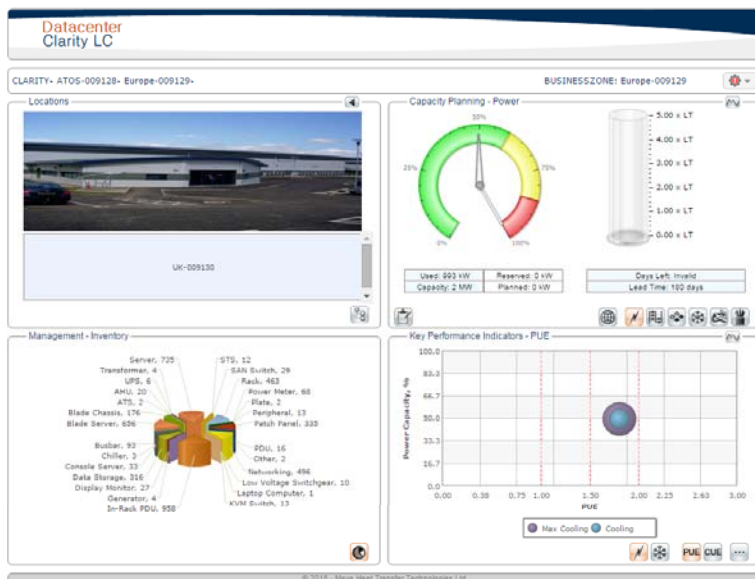
Single view of data centre means no more “multiple sources“, maintenance much simpler, all in one tool!

► **More accurate information and efficiency, less errors**

Providing evidence: More agility (1/2)



- Now understand how to deploy DC Clarity LC better
- Better understanding of how to position tool with customer
- Quicker responds to our customers' needs, given "known status" of DC capacity in our UK DC

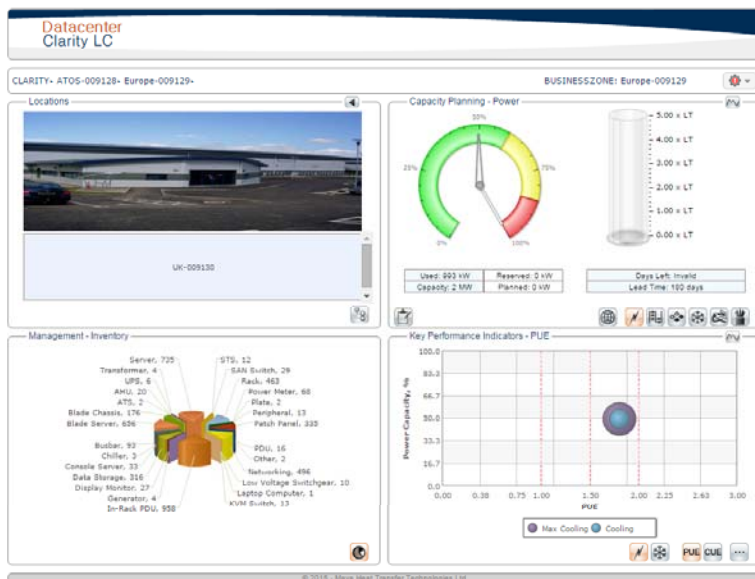


- Importance of data population/import activities
- Early identification connectivity requirements for deployment
- Better understanding of how to align tooling benefits to the customer situation
- Real life experience of benefits and affect on data centre performance
- Given accurate, known status of Atos UK DC, changes can be made more efficiently and accurately

Providing evidence: More agility (2/2)



- Reduced time to deploy DC Clarity for future Atos DC's (infrastructure [UK only] and methodology in place) and external customers
- Ability to access system from any Atos workstation globally



- Internal infrastructure now installed and scalable for future UK sites
- User and migration guides written and can be re-used
- Methodology can also be used for external projects

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Key findings and lessons learnt

1	Infrastructure setup	▶	Use tried and tested infrastructure services before deploying the tool
2	Input source data	▶	Check for accuracy and completeness
3	Data cleansing and migration	▶	Allow significant time and effort for this
4	Toolset integration	▶	Consider integration with other toolsets (e.g. ATF – Atos Technology Framework), CA Spectrum, SDM12, etc.
5	Product maturity	▶	Significant enhancements added to product equipment library following extensive contribution by Atos in pilot

Detailed overview of lessons learnt

Assumption: key issues resolved in V2.1

- Significant improvements from v1.1 to version v2.1.2, but some still to be addressed
- Asset library completeness – has been significantly improved in V2.2.1
- Data validation – still to be improved - lack of data validation when entering key data
- Cabling resolved - now available in both fat and web client
- Performance – resolved, also much improved web client
- Usability – much improved via web client

Project infrastructure pre-requisites

- Inability to use existing Atos UK cloud infrastructure due to network constraints
- The requirement 'DCIM access from regular Atos workplace' required (re)design work due to security policies
- We now have the flexibility to give DCIM reference demo from any Atos location globally

Others

- Cleansing and accuracy of input data – significantly longer than expected, lack of library entry data in product
- Both Power (2 weeks) and network cabling (significantly longer...) data gathering required significant manual audits – existing source data inadequate
- Major improvements made based on Atos feedback and first-hand experience. These were included in V2.2.1 and installed in July 2015
- Operational integration with other toolsets – CA spectrum (networks) , SDM12 (workflow) etc...

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DCIM UK pilot – next steps

Nurturing of technical benefits

- Continued use of real time reporting to identify and eradicate power SPOF
- Enhance customer billing based on actual readings
- Continued use of capacity planning module for “what-if” modelling & installation planning

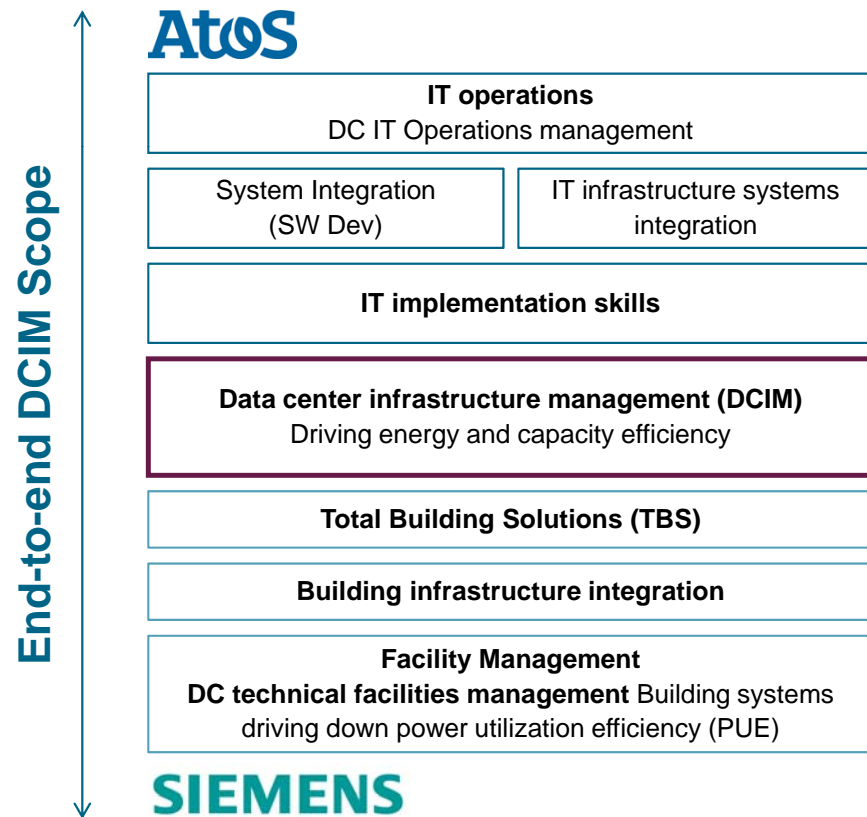
Further technical improvements

- Improved network cable management
- Seek to reduce energy costs through reduced PUE

Internal blueprint and external reference

- UK - subject to final evaluation of pilot use as basis for rollout to other Atos UK strategic DC's
- Atos NL/FR/US - subject to final evaluation of UK project use as basis for rollout to Atos NL/FR/US strategic DC's
- Atos UK to be used for customer references and site visits

Conclusions and recommendations



The pilot has shown that...

...we can implement a single system that provides a holistic, "single-view" of the DC environment

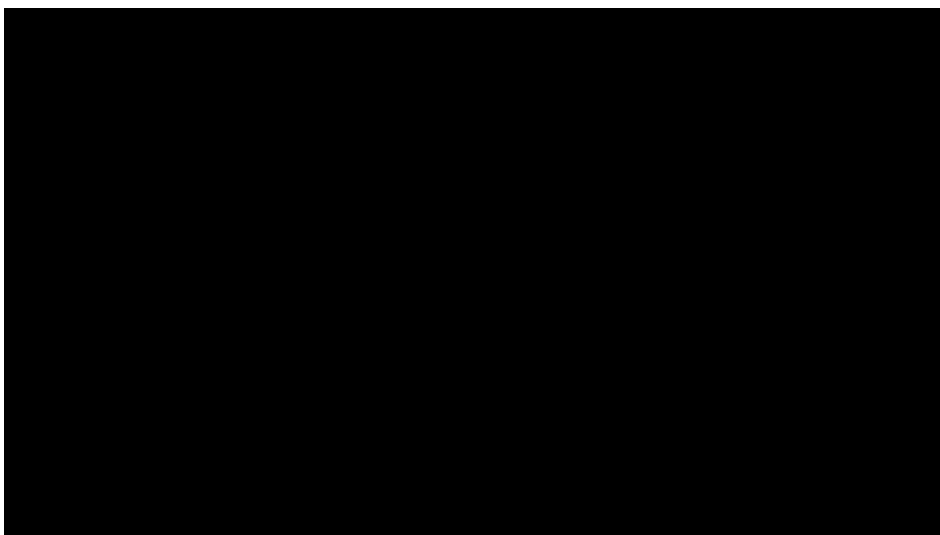
... we can provide vital reporting such as SPOF analysis and usage based customer billing

... detailed consideration should be given to data input, cleansing and migration

... any future deployment should be on tried and tested infrastructure

Reference case video interview and DCIM animation

Atos DCIM reference video



<http://www.youtube.com/watch?v=Ctviyi0L4bo>

Atos DCIM reference flyer

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Atos

Leading IT services firm gains greater transparency into data center operations with Siemens Datacenter Clarity LC.

When corporations place their trust in Atos, a global leader in IT services, they also place their trust in its data centers. With four data centers strategically located throughout the United Kingdom, Atos is responsible for ensuring the security, reliability, and continuity of its customers' critical business information and resources.

Customer Challenges
Atos takes pride in "Powering Progress" for its customers around the world. To improve its own operations to meet future growth, the company focused on adopting the highest standards in data center management. Success required complete transparency – having the right information in the right hands to facilitate decision-making. It required a state-of-the-art data center information management (DCIM) solution that could enhance its data center IT and facilities operations from a single ecosystem.

DCIM solutions provide data center managers a consolidated, single view of their entire facility and IT operations. As data centers become more complex and costly to manage, DCIM is rapidly being adopted to help enable smart decision-making and reduce the risk.

For Atos, its DCIM solution needed to meet three key requirements. First, it wanted to streamline management and the decision-making process. Atos required a single, holistic view of its data centers' IT and facilities infrastructure. "We had a variety of different asset management tools, products, and spreadsheets," recalls Brian Parrott, UK Data Center Strategy Manager for Atos. "We needed a tool that could just bring them together in the right place to help us make timely, accurate decisions."

Atos also wanted to improve its asset management capabilities. Through better reporting of capacity and the ability to do "what-if" modeling of infrastructure, Atos would be able to respond more quickly to customer needs. Better information on power consumption was another key driver for Atos. Armed with detailed, rack-specific consumption data, Atos wanted to increase overall energy efficiency, reducing utility costs for all its customers.

www.siemens.com/dcim

"Having a single view is essential when taking the pulse to really understand the health of your data center."

Brian Parrott
UK Data Center Strategy Manager, Atos

Siemens Solutions
To meet its needs, Atos turned to Siemens and its Datacenter Clarity LC™ DCIM solution. Datacenter Clarity LC provides Atos the advanced monitoring and management solutions it needs to meet key goals for its data centers, including:

- Real-time monitoring of power consumption of the rack level – Datacenter Clarity LC provides Atos detailed power usage information delivered via dashboard and regular reporting. With a better view of its power consumption, Atos can take steps to increase efficiency, reducing energy costs for its customers.
- Billing reports generated from detailed rack readings – Atos can provide more accurate and auditable invoices for its customers. Generating more than 7 million power readings per month, Datacenter Clarity LC increases billing transparency and customer trust.
- Advanced 3D modeling – The 3D modeling feature in Datacenter Clarity LC offers Atos engineers an intuitive interface to view assets, helping to identify possible points of failure and ensuring the highest levels of uptime and reliability for its customers.
- "What-if" installation planning – Using the 3D modeling, Atos has a more efficient and effective way to conduct change management and ensure its assets can support customer needs for capacity.
- Remote monitoring capabilities – Datacenter Clarity LC can be accessed from any Atos workstation globally, giving the management team the agility and flexibility they need to ensure uptime and address customer issues.

Atos implemented Datacenter Clarity LC at its first data center in late 2014. One of four Atos sites in the UK, it provides fully managed IT services to clients across a range of industries and has a capacity of 490 racks and 960kW.

Customer Results
Datacenter Clarity LC has already helped Atos achieve a number of its key objectives for the project. "Our team now has one clear view of the data center," states Mr. Parrott. "They can see everything from mechanical and electrical infrastructure to IT assets, all on one screen."

The system is also generating more accurate billing reports for its customers. Whereas past billing was determined by one monthly reading for the site, current invoices are informed by real-time monitoring at the rack level, generating millions of data points and providing greater transparency in billing.

With more accurate, real-time monitoring of assets and power consumption, Atos expects that Datacenter Clarity LC will support its company-wide efforts to improve Power Usage Effectiveness (PUE). "As we improve PUE, our power consumption costs decrease," says Mr. Parrott. "And that is a saving that is passed directly on to our customers."

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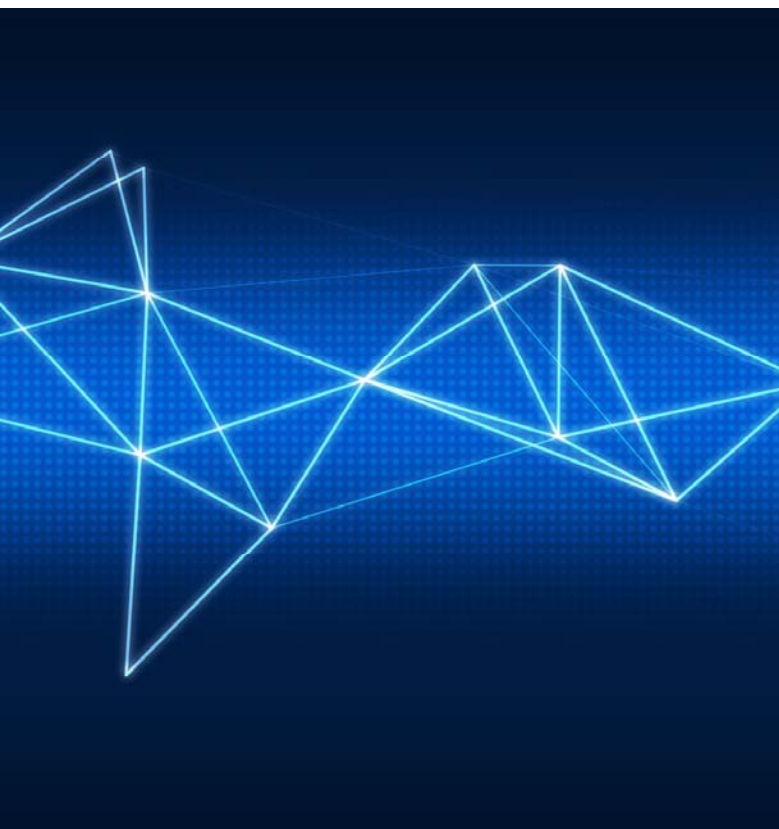


A large, abstract geometric pattern of glowing blue lines and triangles, resembling a network or a complex structure, is centered on a dark blue background with a fine grid pattern. The lines are bright blue and create a sense of depth and connectivity.

Brian Parrot

Thank you!

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