IBM

TRUE PARTNERSHIP AND SHARED VISION DRIVES NLYTE DCIM DEPLOYMENT

Approximately 70 internal data centers, four million square feet of space, and around 50,000 racks, double that with the client sites.

Quote:

"Resiliency doesn't just happen by focusing strictly on the word resiliency. You've got to get the foundation under control, the coordination, and the data sharing, then the workflow and workforce involved and aligned."

– John E. Miller
Senior Technical Staff Member
Infrastructure Management and Vended Services - IBM

To begin, we sat down with a cross-functional team from across the organization and talked about what we needed. We came up with a very long list of things, as probably anyone who's doing data center management would, but we were able to net it down to these two items:

Resiliency in the data center

- Robust facility infrastructure
- Redundant connectivity (power & network)
- Predictive placement and failure simulation
- Global standardization to reduce human error

Resource optimization

- Cost takeout and revenue generation decisions
- Physical utilization (space, power, cooling, network)
- Collaboration and synergy – processes, application, data
- Workforce and organizational compliance and accountability

"There was no question that Nlyte brought an infrastructure that was by far the best of those we evaluated. Nlyte was the most cost-effective of all, by magnitudes, over anyone else."

The first thing we evaluated was how much cost takeout we were going to get; also, we were able to point to an opportunity for revenue generation. We placed considerable focus on standardization and what was needed to address human error, human participation, and workforce involvement. We are looking at the physical utilization of all of our resources, and clearly, that's an area where DCIM tools drive efficiencies, which in turn drive costs down. What's more important, we're seeing the kind of collaboration synergy that we had hoped in terms of process applications and data sharing across organizations. This collaboration leads to higher cost takeout the more we build on the Nlyte DCIM solution. We get calls all the time now from other groups saying they want to join in. Lastly, but not least, anytime we look at what we're trying to accomplish, we have to talk about the workforce, organizational compliance, and accountability. In today's environment, the churn is enormous, with people leaving and resource cutbacks. We believe now that we have got our hands around that, but it took Nlyte's structure to get there.
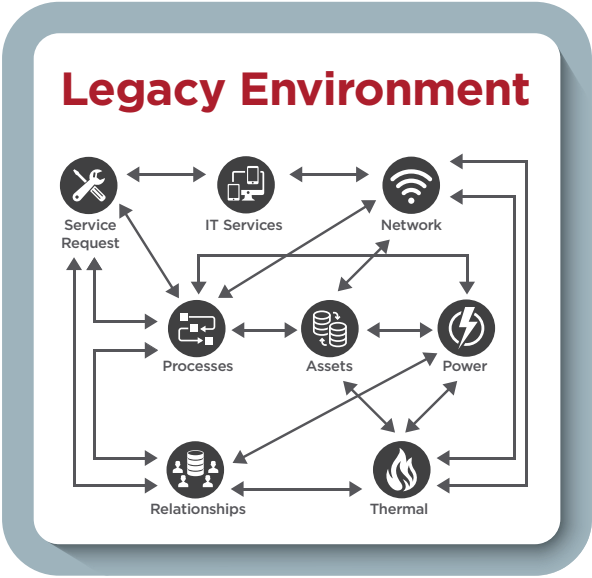
IBM

Twelve years ago, we first started calling this environment the green data center, and it's still somewhat valid. We had the pieces; what we didn't have was an efficient way of putting it together in a very cohesive structure. With Nlyte, we've been able to do that.

From a functional solution, we needed to be able to look at the different tiers of space and inventory, relationship management, power connectivity, network connectivity, and lifecycle management for everything. We also needed to tie it all into IT Services. Then we evaluated the growth between those echelons. They all have interdependencies horizontally as well as vertically. We needed to make sure everything fit cohesively to produce the reporting that we needed to get our capacity planning, analytics, simulations, and other metrics.

Also essential for any project is the consideration of the nontechnical items as well. Where you're changing tools out, processes that come with them are generally going to change. It is important to follow the capability maturity model. Don't roll tools out all at once, but in modules, and not in any random path. We started with space and inventory.

Everything we did in the DCIM arena prior had been a heroic effort, which means that a handful of us drove it to get it to where we wanted it, and then utilized project management discipline. You have to have your whole organization embracing the DCIM initiative; otherwise, it will not work. We recognized that from day one, anyone involved with DCIM knew it's an organizational level commitment. Tools don't work magic, they facilitate all the right things that we need to do and the right data, but you still need people.

Legacy Environment

Service Request — IT Services — Network — Processes — Assets — Power — Relationships — Thermal

What non-technical considerations must also be addressed?
– organizational maturity & expectations

	LEVEL	RESULT
Process improvement focus	5 **Optimizing** — Continuous Process Improvement	**Productivity & Quality**
Process measured & controlled	4 **Quantitatively Managed** — Quantitative Management	
Process characterized for the organization and is proactive *(Projects tailor their process from the organization's standard)*	3 **Defined** — Process Standardization	
Process characterized for projects and is often reactive *Lacking executive sponsor, PM without authority, under-resourced (staff, funds)*	2 **Managed** — Basic Project Management	
Process unpredictable, poorly controlled and reactive	1 **Primal** — Heroic Efforts	**Risk & Reward**

It addresses Challenges

- Evolves grassroots ideas to enterprise sponsored initiatives
- Progresses them from heroic efforts to organization-wide adoption
- Establishes and maintains operational capability beyond the project phase

Exploits opportunities

- Maintains a robust and resilient data center environment
- Leverages synergy (shared data, applications, infrastructure, etc.)
- Provides end-to-end workflow awareness and traceable accountability
- Uses cross-competency teams to execute the "big" CTO and revenue options

Provides Structure and Discipline essential to success

- Communicates clear objectives and expectations to all related stakeholders
- Aligns processes, tools, and workforce to address recognized business needs
- Improves "capability maturity model" posture – technically and organizationally

What specific technical functionality is required?

ENABLE	**Capacity planning, analytics, simulation, forecasting, billing**	**Resiliency, control, automation, resource & workload efficiency**
REPORT	**Data aggregation, integration, alert notification, reporting**	

ANALYZE

High
↑
Maturity
↓
Low

Space & Inventory	Parent-child Relationship	Power & Path Management	Thermal Management	Network Management	Lifecycle Management	IT Services & Systems
Location	Assets/racks	Capacity	Capacity	Infrastructure	Assets	Utilization
Ownership	Location	Utilization	Utilization	Connectivity	Symbols	Cosolidation
Unique IDs	Energy/power	Validation	CFD Modeling	Convergene	Roles	Virtulation
Dimensions	Environmental	Redundancy	**AHU Efficiency**	Redundancy	Simulations	Cloud
Specifications	Network	Resiliency		Flexibility	Relationships	Optimization
Capacity	Ownership					Integration
Utilization	Services					Resiliency

COLLECT — **Inventory tracking, instrumented metering and lifecycle changes**

This list represents IBM's view of what DCIM should look like, and we were glad to see that Nlyte was on the same page and had taken it even further.
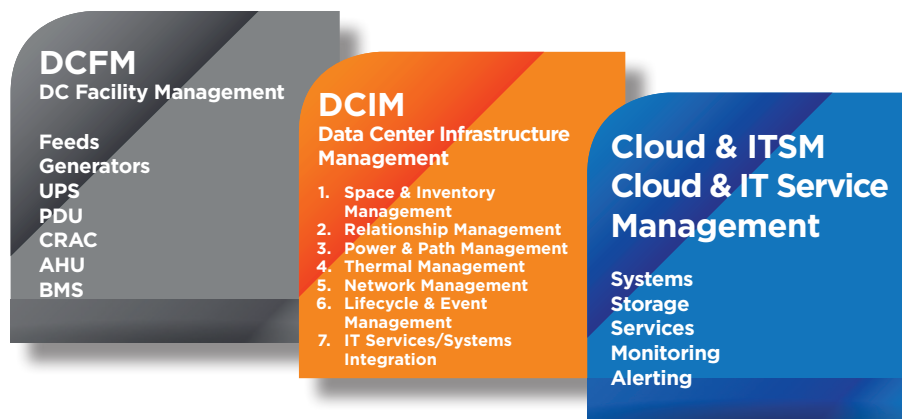
Our team has always promoted significant opportunities DCIM could afford us. IBM does strategic outsourcing, and there's significant activity always going on in our environment. The more we can improve competency there; by realigning the data centers in such a way that they are optimized, the further we can drive tremendous revenue opportunities. We've built on a couple of leadership data centers that are more current and then migrated more towards that.

General cost takeout by just squeezing is one thing, but looking at it in terms of making strategic jumps like our workforce project discipline and accountability is something that Nlyte certainly facilitates. We looked at Fannie Mae, whom we serve at their client site, and we saw they were using Nlyte's DCIM, and using the workflow capability to improve efficiencies. That was one of the things we hadn't built into our homegrown version and saw that that was the missing element that we needed. That's the kind of strategic importance DCIM represents.

DCIM tool selection

- Bridges the gap between traditional DCFM and ITSM environments and operations

- Infuses processes, applications, governance (e.g., standards, policies, architecture)

- Provides a coordinated approach for data collection, analysis, reporting, and compliance

- Enables optimization of critical resources (space, power, cooling, network, and workforce)

- Facilitates assessment and improvement of both technical and business tools and procedures

- Achieves significant improvements in cost efficiency, resiliency, and accountability

We listed what our needs were and what vendors could best serve those needs. Also, at the same time, we said, "What do we expect from a DCIM solution?" We had Data Center Facility Management and IT Service Management teams to consider. We needed our DCIM solution to be the cohesion between the two, and thankfully it has tied us all together and filled gaps. In addition to improving the communication gap, it has pointed out that you can only do a little from either end, but you need to fill the void. DCIM has become the most critical piece in cross-organizational management, tying us all together.

DCFM
DC Facility Management

Feeds
Generators
UPS
PDU
CRAC
AHU
BMS

DCIM
Data Center Infrastructure Management

1. **Space & Inventory Management**
2. **Relationship Management**
3. **Power & Path Management**
4. **Thermal Management**
5. **Network Management**
6. **Lifecycle & Event Management**
7. **IT Services/Systems Integration**

Cloud & ITSM
Cloud & IT Service Management

Systems
Storage
Services
Monitoring
Alerting

We look at the process of application governance and the end-to-end lifecycle so that policies are applied uniformly, and there is a unified understanding across the organization. IBM does strategic outsourcing, and we have thousands of accounts that we are bringing together on this platform. Many of these accounts run hybrid computing environments with a portion of their data center operations inside IBM, another portion at their client site, and they always want everything to work together seamlessly. We realized that if you do all of these things with the Nlyte DCIM solution, we can control costs, efficiency, resiliency, and accountability.

There was no question that Nlyte brought an infrastructure that was by far the best of those we evaluated. Nlyte was the most cost-effective of all, by magnitudes, over anyone else.

Nlyte Differentiators

- flexible pricing model and volume thresholds provide multiple options

- centralized, streamlined architecture to minimize hosting costs

- large capacity, robust functionality; scored highly in POC evaluations

- enables both flexibility and discipline to enhance organizational maturity

- Bulk Data Management tools greatly simplify transitioning from existing tools

- web-based client with standard OS/database simplifies operational support

- integrated administration module greatly simplifies configuration

- access can be managed both by workforce roles and locations

- provides extensive out-of-the-box integration and robust customization

- demonstrates true partnership and a shared vision

Workflow implementation

We've been using Nlyte's workflow for a lot of administrative things, and it promotes organizational maturity. We use Nlyte for our data center operations, install, move, add, change, and life cycle. In IBM, we are bringing in or moving out over 500 racks per day. We needed one workflow tool that was end to end and comprehensive. Nlyte provides us the capability to extract, transform, and load during an initial migration well as supports bulk data management as well. Our customers demand that we move very quickly, so having this kind of life cycle management is critical to our customers and our competitive advantage. Nlyte's workflow and lifecycle management allow us to go from the beginning stage of sizing and costing through the steady-state operations of it, and everything in between is critical.

Nlyte's Workflow Functionality at IBM: Administration and Operations

- Comprises location, business groups, materials, (BDM & ETL)
- Allows end-users to leverage restricted administrative tool capabilities
- Permits Administrator compliance and integrity review before BDM loads
- Supports operational needs beyond initial tools migration phase

Data Center Operations: IMACD Lifecycle

- Provides visibility to end-to-end process scope
- Introduces essential discipline: process compliance and task accountability
- Helps guide end-users through workflow tasks, use of standards, etc.
- Allows significant flexibility via the use of forms, weblinks, and file attachments

At one point we had over 50 different tools. By the time we initiated the DCIM project we still had 24 discrete tools we were using, four of them were from a previous niche level DCIM provider. We had one programmer trying to sustain everything, and it was not simple. We kept saying–how many of these workloads can we move to Nlyte? After the Nlyte implementation, we are down to 5 tools the team uses.

We know there are still capabilities that we haven't exercised, we knew that going in. As we mature and become more comfortable with Nlyte's DCIM, we discover more we can do and are starting to look at additional modules, including Asset Explorer's discovery, Nlyte Asset Optimizer's receiving and audit, and Nlyte Energy Optimizer's machine learning.

About IBM

International Business Machines Corporation (IBM) is an American multinational information technology company headquartered in Armonk, New York, with operations in over 170 countries. IBM bets that cognition is the ignition for growth. The company is investing in what it calls cognitive computing systems, led by the Watson artificial intelligence platform, that help customers analyze massive amounts of data to make better decisions. Among other areas the company is betting on for growth are analytics, artificial intelligence, security, cloud, blockchain, and quantum computing. IBM's information technology, business services, and software units are among the largest in the world. IBM maintains enterprise server and data storage product lines that are among industry leaders.

Nlyte Software helps teams manage their hybrid infrastructure throughout their organization – from desktops,networks, and servers to IoT devices – across facilities, data centers, colocation, edge, and the cloud. Using Nlyte's monitoring, management, inventory, workflow, and analytics capabilities, organizations can automate how they manage their hybrid infrastructure to reduce costs, improve uptime, and ensure compliance with organizational policies.

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