Session TRD 4

Why Aren't You Using DCIM?: Exploration of the Pros and Cons of DCIM

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DCIM And Beyond

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Why Aren't You Using DCIM?: Exploration of the Pros and Cons of DCIM

The explosion of DCIM offerings from vendors, DCIM definitions from analysts, and DCIM media coverage can leave people wondering what DCIM is and question how they might successfully select and implement a solution for the long term. This session will cover how to choose the most appropriate DCIM solution for your unique goals, what it takes to use DCIM to manage your data center effectively, and why DCIM implementations don't always deliver on the initial promise.

DATA CENTER CHALLENGES AND CHANGES

Problems in the Datacenter – last 12 months

Source: Koppy, Jennifer, IDC. "What IT Managers Want from DCIM: Results of IDC's 2013 Datacenter Survey" March 13, 2014.

Data Center Challenges

- Pressure to deliver new applications / service more rapidly
- Move to virtualization or software defined data center
- Mixed data center models of owned and third partly co-lo sites
- Lack of information or standard workflow
- Reduce outages, reduce Capex, improve Opex
- Communication challenges between IT and Facilities

WHAT IS DCIM?

DCIM Definition - 451

- DCIM enables managers to track & analyze information about a datacenter's operational status, assets & resource use (space, power, cooling, connectivity)

- DCIM systems analyzes this information in ways that help managers meet business & service-oriented goals & to optimize a datacenter's performance

DCIM Definition - Gartner

Gartner defines DCIM as tools that monitor, measure, manage and/or control data center resources and energy consumption of both IT-related equipment and facilities infrastructure components. DCIM tools are data-center-specific, rather than general building management system (BMS) tools, and are used to optimize data center power, cooling and physical space. Solutions do not have to be sensor-based, but they do have to be designed to accommodate real-time power and temperature/environmental monitoring and support resource management, as well as have the reporting and visualization capabilities necessary to analyze the data collected in ways that are meaningful to several constituencies, such as DC operators and managers, facility managers and C-level executives. In addition, DCIM solutions may also include other functionality, such as predictive analysis, modeling/simulation, airflow and pressure monitoring, and related capabilities.

"DCIM encompasses the required infrastructure, equipment, connectivity and environmental information inside and around the data center. DCIM provides a consolidated view of the data; including historical, current and future infrastructure states. It must support processes to assure data is maintained and easy to update. DCIM enables facilities and IT groups to plan together."

Infrastructure

Equipment

Connectivity

DCIM

Environmental information

(DCIM should be driven by data center pain rather than a single definition)

DCIM BENEFITS

Spreadsheet Management vs. DCIM

	Spreadsheets	DCIM
Single database	Limited	✓
Manages records	✗	✓
Up-to-date records	Occasionally	✓
Secure, multi-user data	✗	✓
History of changes	✗	✓
Linked information	✗	✓
Planning capabilities	✗	✓
Data Analysis	✗	✓
Mobile-enabled	✗	Depending on vendor

IDC Survey - Ranking of DCIM Benefits

1. Create a link between spending on IT and business value
2. Reduce spending on energy
3. Providing data to management team
4. Workflow management
5. Keep track of assets
6. Calculating PUE
7. Faster deployment of assets

Based on mean importance ratings based on a scale of 1 to 5 with 1 = not at all important and 5 = very important; N = 401

Source: Koppy, Jennifer, IDC. "What IT Managers Want from DCIM: Results of IDC's 2013 Datacenter Survey" March 13, 2014.

451 - What Does DCIM Really Do?

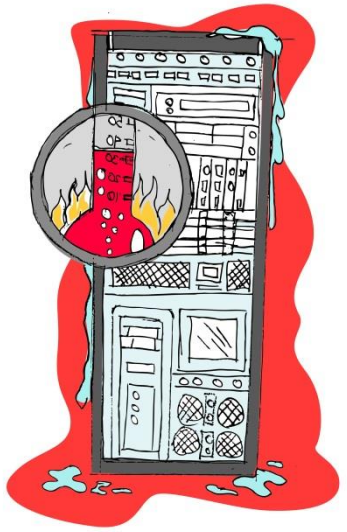
DCIM Enables Manager to:

- Understand the overall performance of a facility
- Visualize & compare power usage vs capacity vs provisioning
- Determine actual cooling requirements
- Visualize assets, connections & requirements
- Spot anomalies, emerging issues
- Plan for new equipment & understand requirements
- Determine capacity requirements today & in the future

DCIM – REASONS NOT TO INVEST

Reasons not to invest in DCIM?!

- DCIM is an immature market
- Too many solutions
- Confusing offerings
- Not proven
- No budget / no ROI
- Too hard to implement
- Process change would be impossible in my organization
- No need I know what is going on in the DC
- I love my spreadsheets!



I like my racks looking like this one!

SELECTING A DCIM SOLUTION

DCIM Selection

- Set your solution goals
- Consider your current & future DC models
- Evaluate DCIM professional service offerings
- Look for pilot or phased options
- Contact customer references

Gartner – DCIM selection advice

- Understand what DCIM's various capabilities really are, and determine how they align with your organization's specific needs.
- Study the technical implementation details of your shortlist vendors to ensure you understand how they achieve what they claim to do.
- Probe beyond the technical implementation to understand the solution's modularity; scalability; openness; startup complexity; level of integration that has already been done, versus what will be required; degree of training required; and delivery models.
- Focus on your specific requirements, and look for the best match.
- Consider the supporting processes that will be needed both before and after implementation, and train your staff accordingly.

Selection Process Example

Requirements and Limitations

Identify

Rank

Match vendor

Requirements

- 1 Power/env. management
- 2 Capacity management
- 1 Asset/equipment management
- 2 Plan/change/workflow
- 1 Services
- 2 Connectivity management
- 2 Workflow management
- 1 Mobility
- 3 Analytics/Reporting
- 3 Interfacing Capability
- 2 Phased Rollouts

Limitations

3

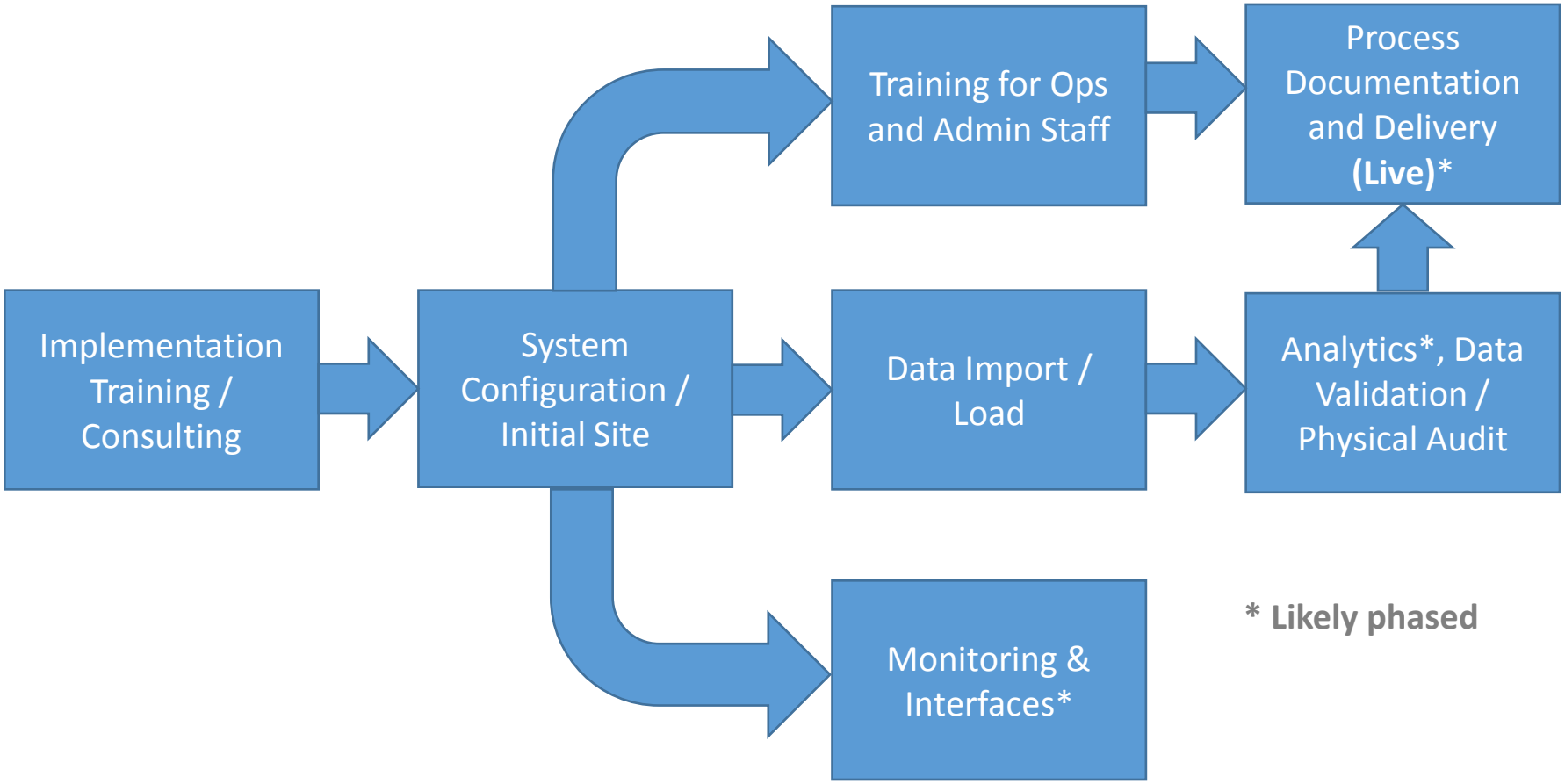
2 Process

1

- Vendor A
- Vendor B
- Vendor C
- Vendor D
- Vendor E
- Vendor F
- Vendor G
- Vendor H

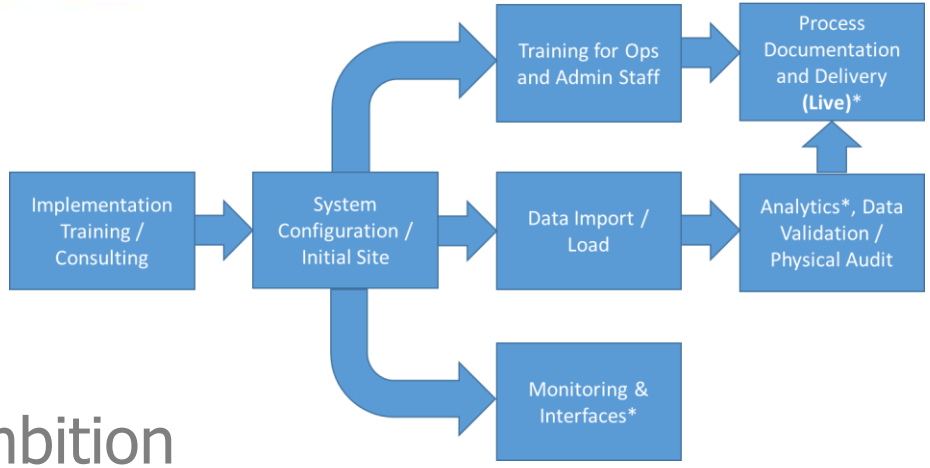
IMPLEMENTING A DCIM SOLUTION

Initial DCIM Deployment Process



*** Likely phased**

What to Expect?



- Make sure budget and ambition match
- Get help - even DIY DC's
  - Mistakes are expensive!
- Your data is not as good as you think!
- Some people won't be happy
- Scope: be realistic, this is a journey
- It can be hard to be successful

Planning the initial site

Implementation Training / Consulting

System Configuration / Initial Site

- Limit initial scope in breadth and in geography
  - Money follows success
- Define who will use the system, work back from there:
  - Outputs required
  - High level work processes
  - Interfaces & Monitoring (sensors)
  - Document system config needs
- Confirm data sources, be honest about quality
  - Physical audit requirements?
- Configure:
  - Data elements, equipment in environment & template, security, etc.
  - Include planned interfaces and monitoring

The Tricky Bits

Training for Ops and Admin Staff

Data Import / Load

Monitoring & Interfaces*

- Data import can take a significant amount of planning
  - Often once imported you will be live
  - Only import (and plan to collect) data that is actually useful
- Training needs to happen to ensure everyone is ready.
  - Implementation plans drive who needs training
- Keep monitoring and interfaces to a minimum at first since they are more complex than they appear.

Going Live

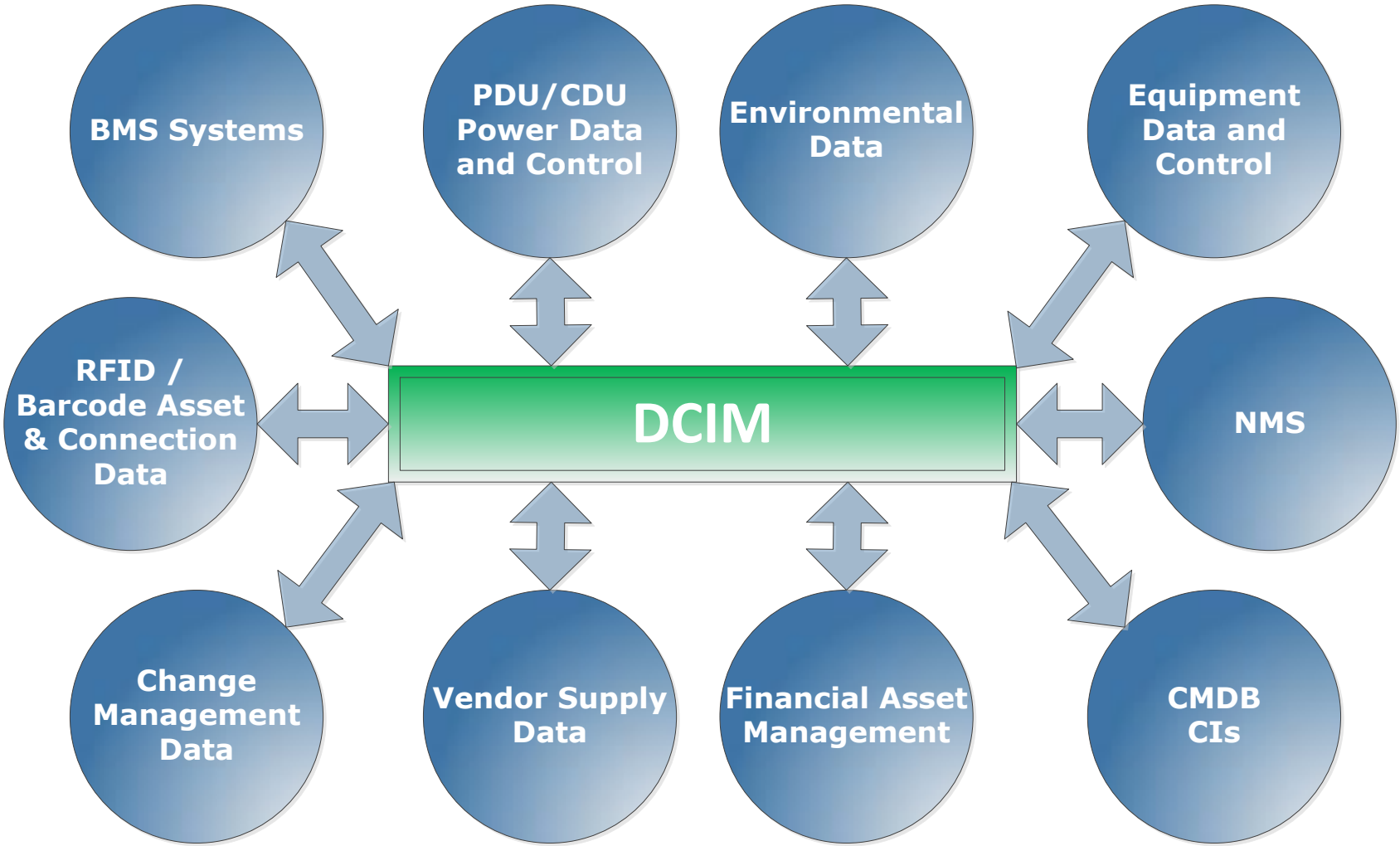
Process Documentation and Delivery **(Live)***

Analytics*, Data Validation / Physical Audit

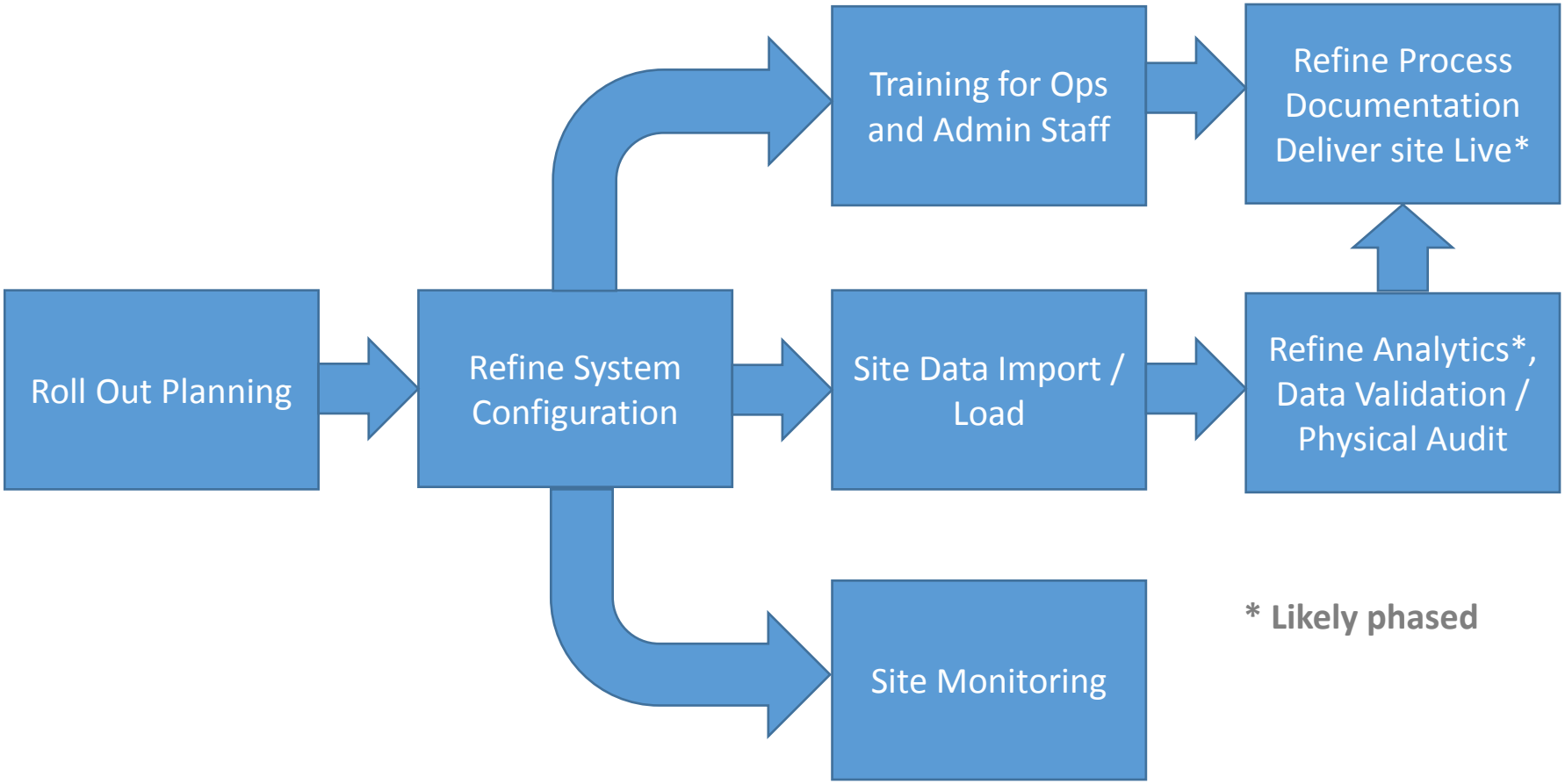
- Success or possibly months of problems depend on how well people are trained and how integrated DCIM is into the site processes.
- Reporting and other outputs are refined and used
  - Visible use keeps people honest
- Data quality often requires physical audits
  - But is not an excuse not to be live

THE DCIM JOURNEY

DCIM Ecosystem Interfaces

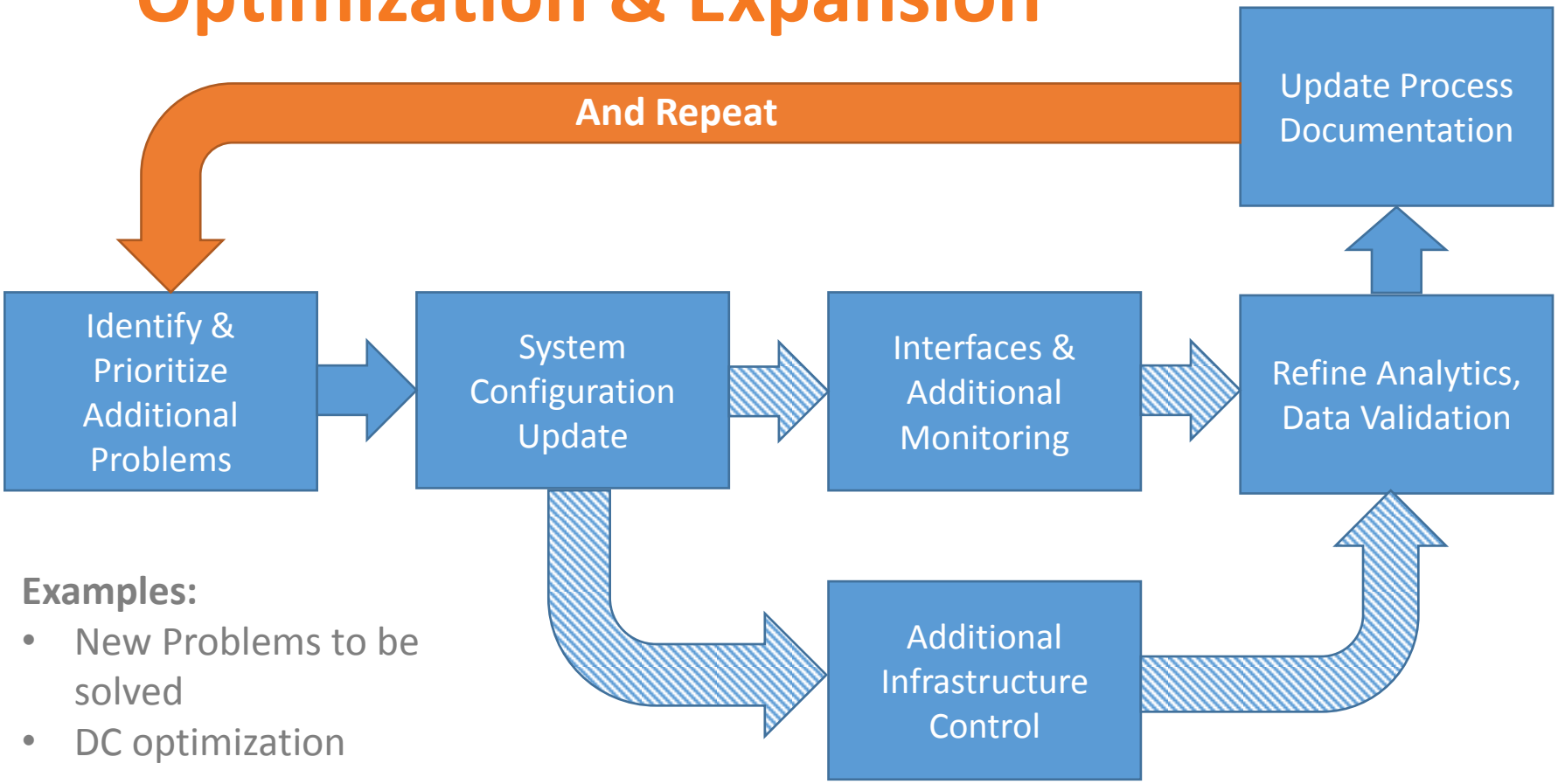


DCIM Journey – Rollout to sites



*** Likely phased**

DCIM Journey – After Rollout: Optimization & Expansion



Examples:

- New Problems to be solved
- DC optimization

DCIM – WHAT CAN GO WRONG

451 – DCIM End User Challenges

- DCIM asset, change and configuration management systems
  - Populating the asset database
  - Maintaining the accuracy of the asset database
  - Process change (i.e., new internal operational/business processes or changes were required to implement the system)
- DCIM monitoring, reporting and analysis systems
  - Integration issues with existing systems and/or external data
  - Inadequate data reporting
  - Technical bugs/failures

Source: 451 Research DCIM End-User Survey 2014, N=100

Enterprise Challenges Causing DCIM Failure

- Complexity of silos within IT/DC infrastructure
- Data integrity
- Long implementation cycles
- Unclear intent of use
- No designated DCIM leader

DCIM Solution and Process Failure

- Project scope is too broad
- Collecting useless data
- Relying on DCIM to 'solve' problems without internal process change
- Not getting external implementation help
- Not following best practice advice

DCIM SUCCESS & SUMMARY

Example of DCIM Success

BARCLAYS

Saved $10 Million in 2012 – 2014

Removed or freed in 2 years:

- Nearly 15,000 physical servers
- 20,000 network ports
- 3,000 storage area network ports

Saved:

- $7.9 Million on electricity (5.5MW power)
- $2.1 Million on legacy maintenance costs

McKESSON

Saved $734,550 in 2012- 2013

Removed or freed in 1 year:

- 586 physical servers

Saved:

- $734, 550 on electricity (931kW power)

Source: Booth, Nick. "Barclays Saves US$6M By Weeding Out Dead Servers." Datacenter Dynamics, 13 May 2014. http://www.datacenterdynamics.com/focus/archive/2014/05/barclays-saves-us6m-weeding-out-dead-servers.

451 Research – DCIM Summary

DCIM is a journey, deploy features over time

Develop best-practices in tandem with DCIM

DCIM is not an island … it will need to be integrated

Choose DCIM to manage your datacenter today & tomorrow

Datacenters are becoming more dynamic, more complex – consider DCIM as necessary for efficiency, availability & agility …

DCIM - What Really Works?

Simplicity – Eases adoption and training, increases use and allows for staff turnover.

Accessibility – Increases likelihood of use.

*Avoid solutions that license in a per seat or per session model.

*Seek out solutions with mobility for enhanced accuracy.

Process Integration – Ingrain the DCIM solution in the DC processes so the data will stay relevant and therefore used long term.

Flexibility – Ability to scale and grow with the organization.

The best solution for you – Don't only consider solutions from vendors you use today.

Interfaces – DCIM is not monolithic, but part of an ecosystem.

Just enough management – Solve the biggest problems first.

A final word on long-term DCIM success

"The most-critical component of all DCIM solutions is the viability of the data, and as such, the key success factor for long-term DCIM benefits is tight integration between creating the asset dataset, and keeping it up to date. This implies not only strong import and integration tools between existing processes, but also automated discovery of new assets and, most importantly, a tight linkage into the change management process to ensure that all changes, of any kind, get updated to the dataset automatically. Without that, the initial euphoria of a DCIM product's benefits will dwindle rapidly. Training prior to installation is important, but ongoing training is even more critical after the initial implementation team goes back to their normal jobs."

Gartner: Best Practices: Optimize Your Data Center Utilization With DCIM

SOFTWARE
+ PROCESS
+ MATURITY
= DCIM SUCCESS

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DCIM Procurement

Questions to ask your organization before you start

1. Do we understand what problems we want to solve and what are our biggest problems today?
2. How good is our documentation of what we have today?
3. Do we have the will to enforce a single process?
4. What cross department buy in do we have or need?
5. What is the cost of inaction, can we keep doing things with a spreadsheet?
6. What DC initiatives are coming up?

DCIM Procurement

Questions to ask the DCIM Vendor

1. What parts of my problem set does the solution cover?
2. Current customer base and type; are they similar to you?
3. What implementation support is available?
4. Is mobility built into the solution – tablets, handhelds, etc.?
5. What additional hardware is required?
6. How configurable is the product (user managed)?
7. How will the solution scale?
8. What interfaces does the solution have?
9. What is the support model?
10. Solution maturity, what version is this?
11. Road map, where is the solution going?