

Delivering the InteropNet With DCIM; the Benefits To Enterprise IT

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This Session

- DCIM Myths & Reality
- DCIM: Definition & IT Use
- InteropNet Benefits from DCIM
- Considerations in Adopting & Selecting a Solution
- Q & A



DCIM MYTH VS. REALITY

DCIM myth vs. reality

- *“DCIM has one meaning”*
 - It’s **more like** a ‘four letter’ word right now
 - Far too broad a term to have one meaning
- *“DCIM tools don’t need to be bought with services to implement them and really auto-discovery will do most of the work.”*
 - Implementation by a professional, experienced company (that may not be the software vendor) is vital to make DCIM work. Big area of disappointment.
 - Auto discover is at best a validation tool, it’s not going to document your most of your physical infrastructure, especially where things are.

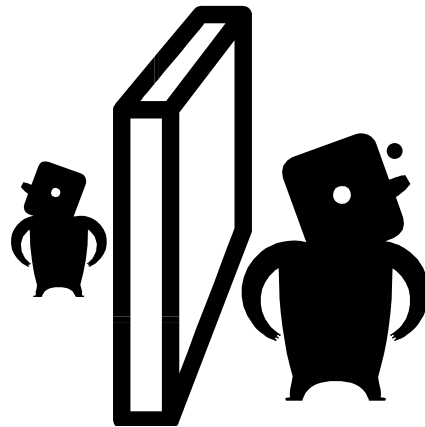
DCIM myth vs. reality

- *“Once you have implemented a DCIM solution your records will be perfect – all the time.”*
 - Something like 30% of the success of any DCIM solution is process change/enforcement. Often missed entirely.
- *“With a DCIM solution you will be going home at 4 PM and will never get another phone call at 2 AM.”*
 - *If only!*

DCIM IN THE CONTEXT OF IT

The Data Center Divide

- Facilities - Suppliers
 - Supplies Power
 - Supplies Cooling
 - Supplies Space
- Limited visibility of facility information to IT
- IT - Consumer
 - Consumes Power
 - Requires Cooling
 - Uses Space
- Limited feedback of deployment plans to facilities
- Limited interest in facility data



Shared pressure to collaborate to deliver more with the existing infrastructure

The Data Center Infrastructure

- Halls
- Racks
- Network Equipment
- Structured Cabling
- VLANs
- Power to the rack
- UPS
- Generators
- CRAC / HVAC
- High Voltage Power



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Infrastructure in red usually managed by a BMS



DCIM: The Data Center Infrastructure

- Halls
- Racks
- Network Equipment
- Structured Cabling
- VLANs
- Power to the rack
- UPS
- Generators
- CRAC / HVAC
- High Voltage Power
- Servers
- Data Storage
- MDF/IDF rooms
- Store/Staging rooms
- Other equipment



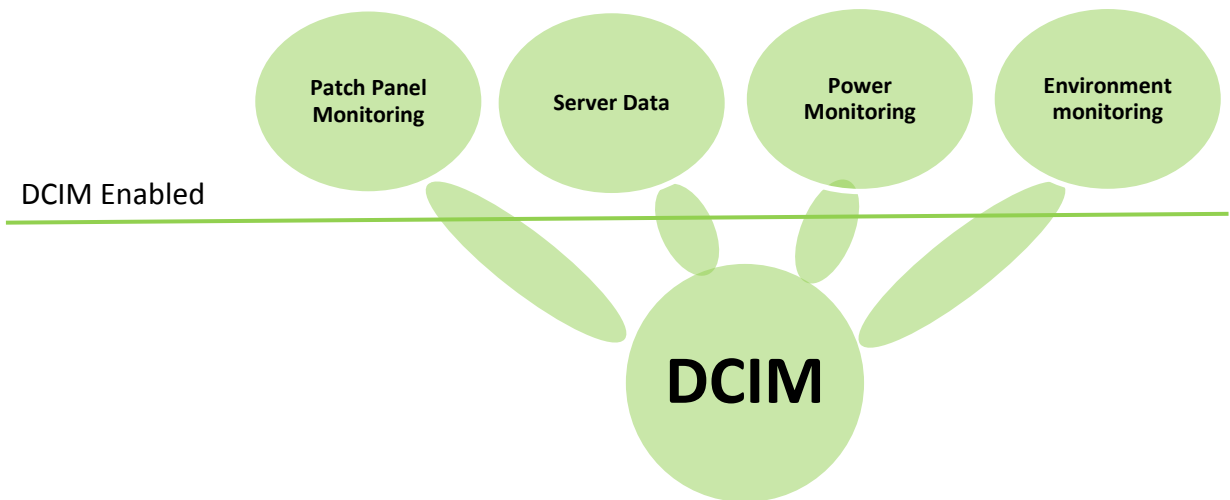
DCIM – not one size fits all

- DCIM solutions come in all shapes and sizes, with more or less specializations, including
 - Power
 - Asset
 - Space
 - Connectivity
 - Monitoring
 - Environmental
 - Work management
- Some solutions are better suited to specific organizational size from a single site, to a global enterprise
- DCIM is not
 - NMS
 - BMS
 - Ticket system (well not entirely)
 - Server control.
 - Load management
 - Process management

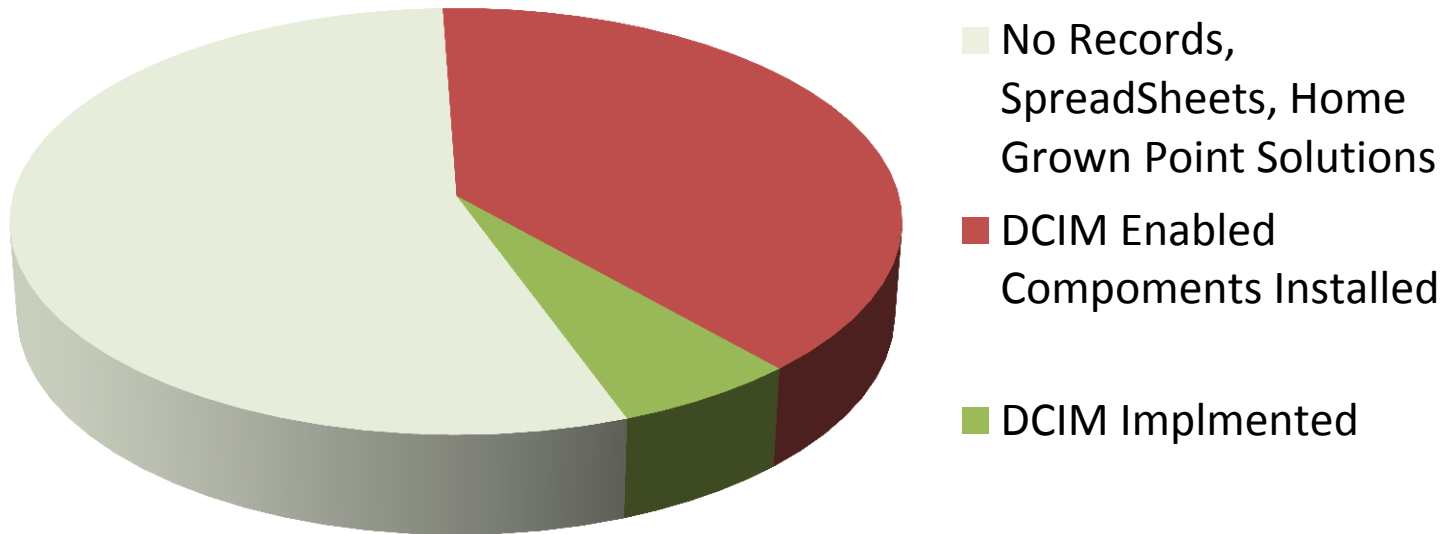


DCIM & DCIM Enabled

- Over one hundred self-claimed DCIM vendors
- Even if we assume some are not just jumping on the bandwagon, we can assume that they are not all identical or even focusing on the same areas of the Data Center.
- A number of solutions might be better described as “DCIM enabled” than DCIM



End-User Infrastructure Management Market Today



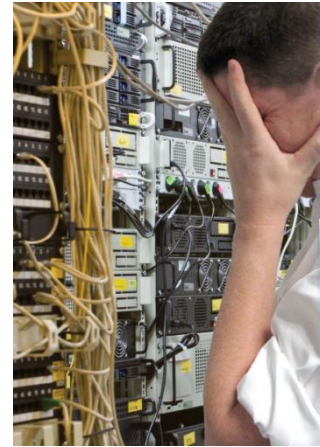
The current IT DC paradigm

- Inconsistencies in current documentation, multiple copies, multiple processes, many stakeholders.
 - XL misery
- Local databases
- Scripts pulling data off devices
- Scripts pulling data out of databases and putting it somewhere else
- Dreading monthly reporting
- Change management problematic and historical data impossible



Data Center IT Challenges

- As data centers fill up finding available capacity is not an easy task
- Modern network equipment and servers are more demanding of resources
- Need to protect the data center life
- Enforcing processes, managing change
- Complying with regulatory bodies & internal/external audits
- Green IT initiatives (EPA and EU)



A Data Center Infrastructure Management Definition

Our Definition

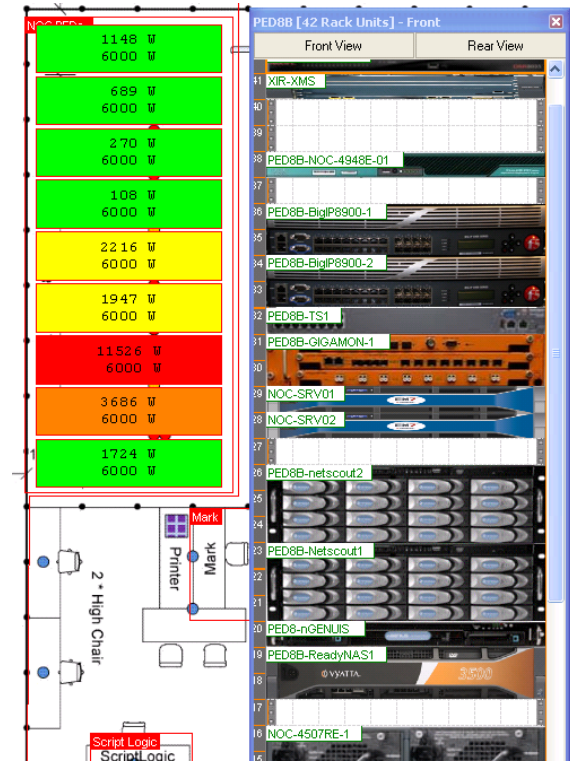
“DCIM encompasses all of the IT infrastructure, assets and connectivity inside and around the data center and provides a consolidated view of the physical and network queried data. It should assure data is easy to access and update. DCIM will enable facilities and IT to plan together.”

How DCIM defined is driven more by your data center pain than a single definition, broad term like “DCIM” may never have one defined definition.

DCIM IT USE & BENEFITS

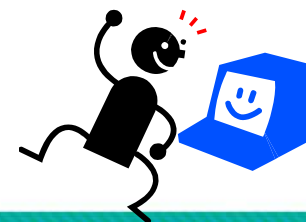
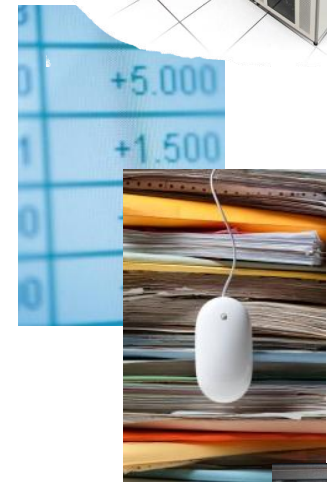
What IT need from DCIM

- Data store
 - Every piece of equipment and device – passive or active, within the data center and associated spaces, including manufacturers values
 - All connectivity including copper, fiber, SAN, power
 - Power/Temperature/BMS integration
- Visualization and Reporting of data



DCIM & IT

- Consolidating existing data silos, spreadsheets and paper records
 - Contextualizing previously disparate data
- Driving, monitoring and measuring process change, through implementation of DCIM
- Using DCIM as a common language for all of IT (and facilities) when they talk to each other



IT Process Management with DCIM



How the InteropNet benefits from Cormant's CableSolve DCIM Solution

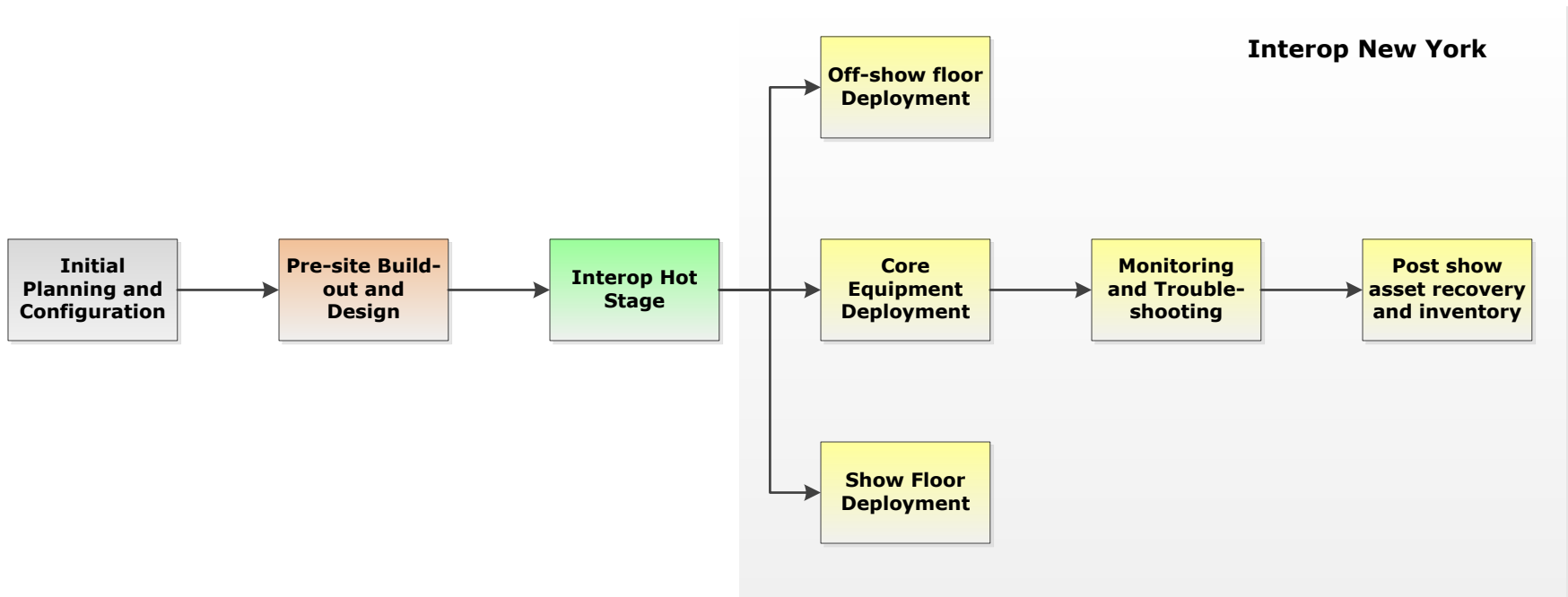
(to deliver the worlds largest, most
advanced, temporary network)

Documenting the InteropNet

- The key challenge of documenting and InteropNet infrastructure is the geographic scale of the network and the speed at which it is put together.
 - Size - 160,000 sq. ft. show floor, 200,000 sq. ft. off show floor
 - 3 co-location facilities in San Jose, Denver, New York
 - Around 2,000 IT assets and 14,000 connections, including 40 Wi-Fi access points and over 120,000 attributes of information
 - 5 days to deploy the New York network



The InteropNet DCIM Process

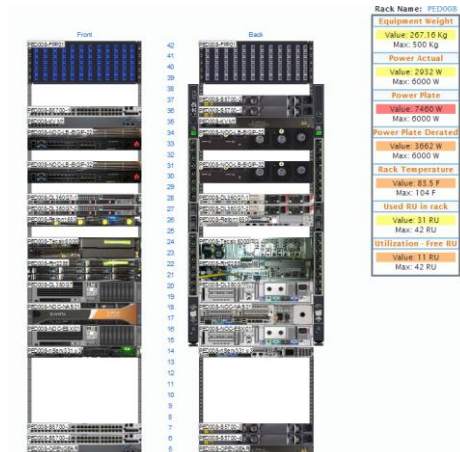


Initial Planning and Configuration

- Understanding the project scope
 - What do the InteropNet team leads want from CableSolve
- Build and configure the solution
 - Equipment types (chassis, cards, devices, UPS, etc.)
 - Attributes (power, RU, capacities, status)
 - Confirm basic infrastructure

‘Hot Stage’ Pre-site Build-out and Design

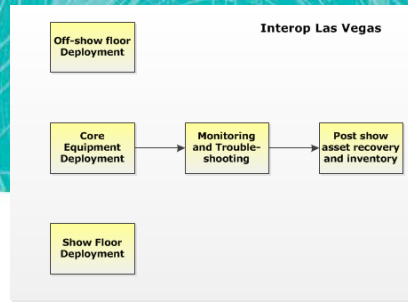
- CableSolve DCIM use starts four weeks before physical set-up
- CableSolve used to logically plan infrastructure
 - Building the racks logically finds errors before build out
 - Ensures dense racks are optimally organized
 - Confirms port and power capacity



Interop Hot Stage

- Implement the design
 - Confirm racking, manage change.
- Connectivity recording
 - Power, Data cables - Copper & Fiber
- Confirming the design and recording discrepancies with mobile handheld computers using barcode/RFID scanners
- Device query for environmental data
- Rack, Power, Inventory, Connectivity reports
- Asset inventory tracking





Interop New York

- Core equipment deployed and re-connected quickly using records from Hot Stage and mobility
- Connectivity to show floor delivered with JDSU and Cormant – a once paper process now paperless
- All asset locations and connectivity recorded
- Environmental data tracked, including power, temperature, UPS health.
- Used extensively by team leads for troubleshooting and status updates
- At show end, data used for accurate, rapid recovery of equipment.

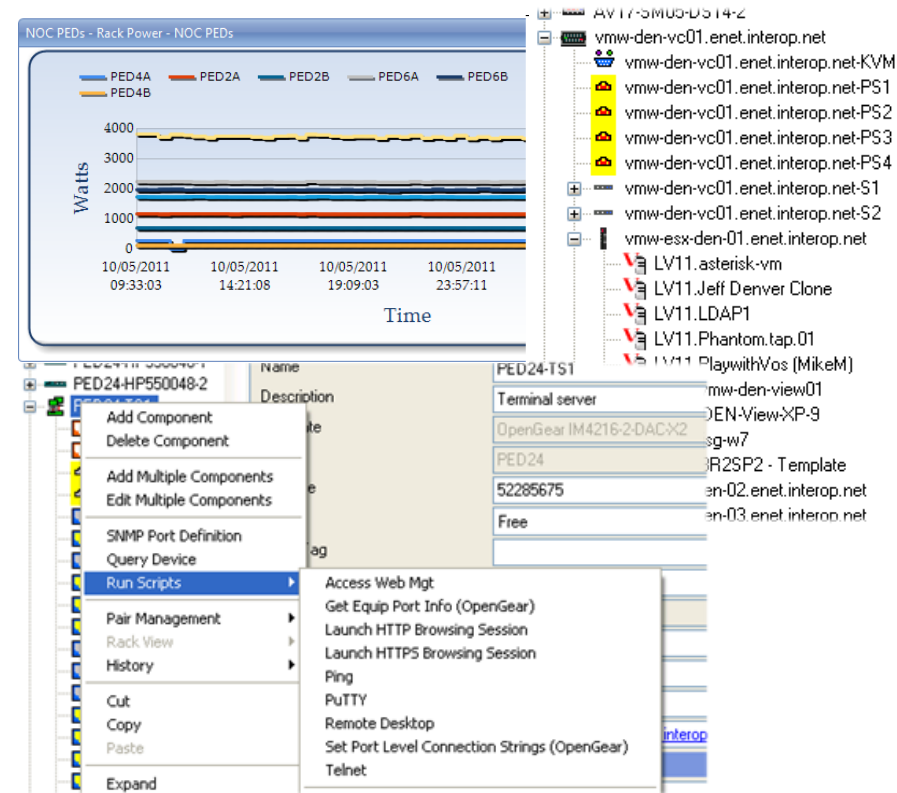
InteropNet DCIM Mobility

- To document the infrastructure we relied heavily on mobile devices. These allowed the NOC team to document as change was made.
- Barcodes were used to make identification instant.
- Now that the InteropNet is live CableSolve is being used to trace equipment and paths of connectivity.
- Used to confirm asset recovery at the end of the show.



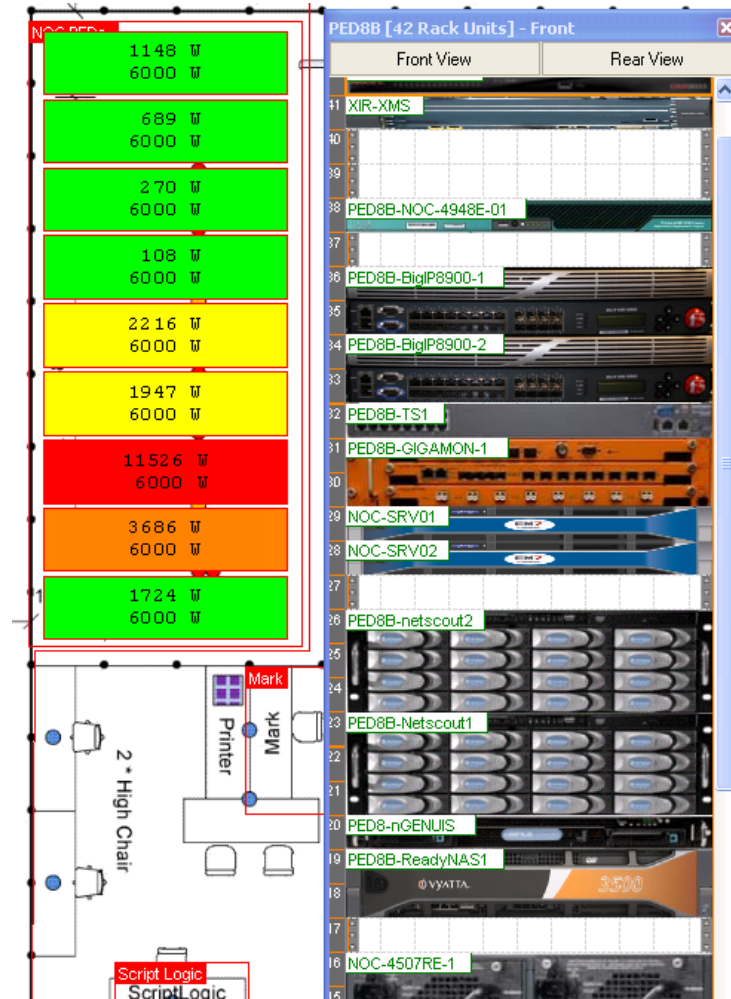
Physical Layer enhanced with Logical Layer Data

- Physical layer information is supplemented with queried information. This includes VM locations, power, temp and OOB server data.
- Physical and network information together ensures single window access to all devices



InteropNet Delivery

- Our fourth show.
 - We have seen it go from being managed with multiple spreadsheets to none.
- Mobility used by all InteropNet volunteers
 - Paperless, documented delivery impossible without mobility
- Web client used by team leads



Interop Benefits

- Pre-planning saves time and speeds deployment of equipment
- Initial equipment deployment, connectivity and asset records means planning for New York driven by data, not assumptions
 - Exact rack inventory and connectivity data reported
 - Assets to New York known
- Mobility used to record as change is made, including equipment inventories, no lag in information
- Working with JDSU, the booth network deployment is now a 1 pass, paperless process
 - Mobility critical to achieving this
- Full asset inventory, stops lost equipment
- Network queries tracks power, temperature, UPS health and confirming switch port connectivity.

Enterprise DCIM Benefits

DCIM: Single Repository IT Benefits

- Infrastructure, connectivity and asset records means planning driven by joined-up-data, not assumptions
- Full life cycle asset inventory, stops lost equipment
- Pre-planning saves time and speeds deployment of equipment
- Network queries tracks power, temperature, UPS health and confirming switch port connectivity.
- Visibility, helps find under utilized capacity
- Remove assets you don't need



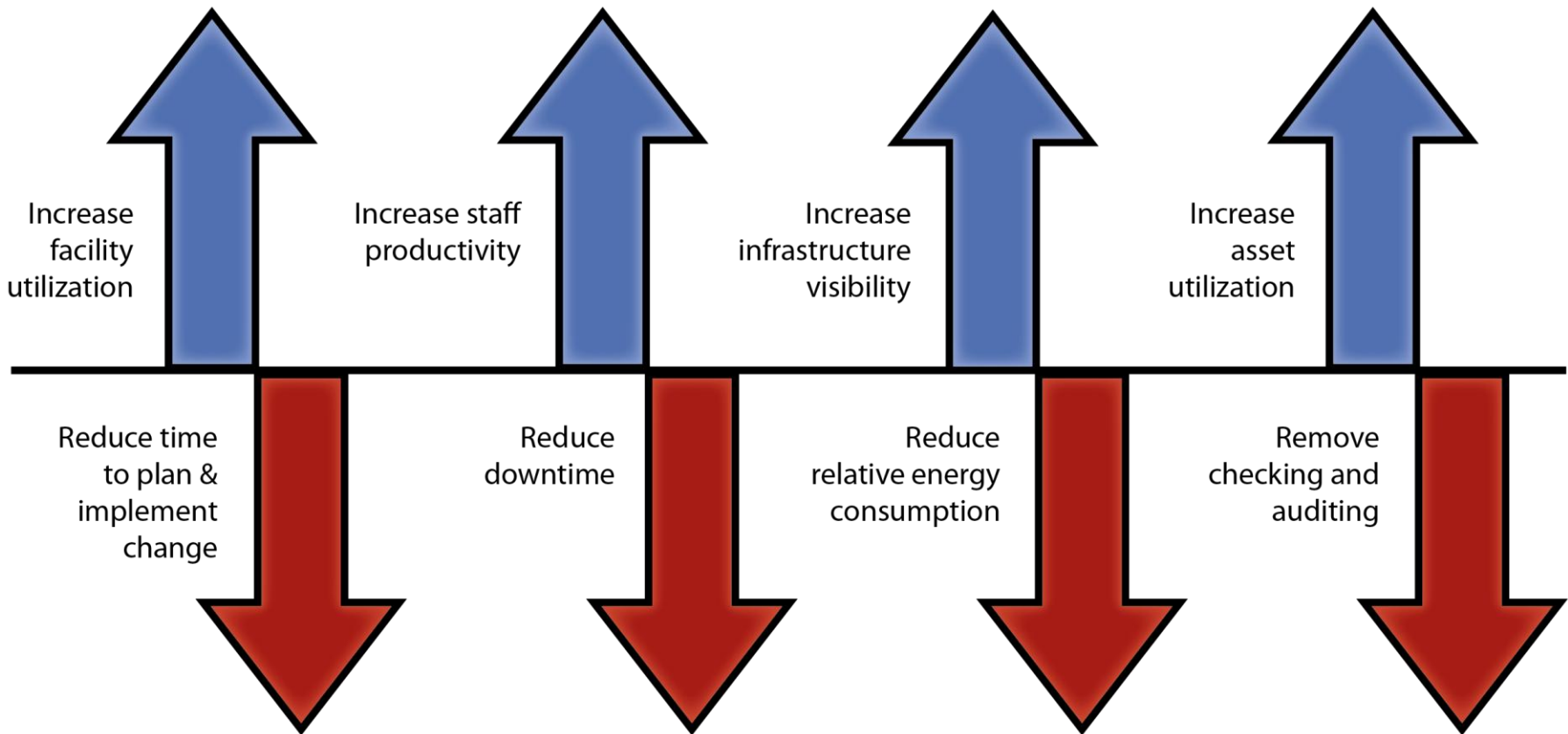
ROI

- Asset & Infrastructure recovery and budget planning
 - Visibility & Management of assets ensures targeted cost effective change
- Increased uptime
 - Operational improvements, mitigate risk
- Labour and time saving for administering network changes
 - Accurate information speeds planning change
- Process Improvement
 - Act of implementing a DCIM solution should cause process improvement
- Power saving
 - Consuming the facility more efficiently



ROI is possible within 6 – 12 months

DCIM IT Benefits



The Cormant Infrastructure Management Difference

Cormant Infrastructure Management

Cormant IM provides a holistic approach to the documentation and management of the entire IT infrastructure, including assets, power, connectivity, space and work-flow.

Since 2003 Cormant has been providing trusted, configurable, flexible and portable IM solutions, providing complete visibility into the physical layer, including all assets and connectivity, along with data gathered directly from devices.

The CableSolve does not stop at just DCIM; it supports management of the IT infrastructure within the enterprise environment, including work-areas and campus environments.



Cormant IM Configuration

- Highly configurable to meet your requirements:
 - Attributes – allows customers to add data elements to meet their data requirements
 - Templates – templates of equipment brings together CableSolve attributes, icons, scripts, images and default data to represent any equipment/asset
 - Icons and Images - to represent exactly what the customer want.
 - Connectivity – store any connectivity; copper, fiber, SAN, power, conduits
 - Configurable color coded rack/data center views – to see exactly the data required
 - Historical data capture and dashboard views
 - Scripting – read/write to network or BMS and store data
- Full role security
- Full read/write Web services XML API

Cormant Unique Mobility

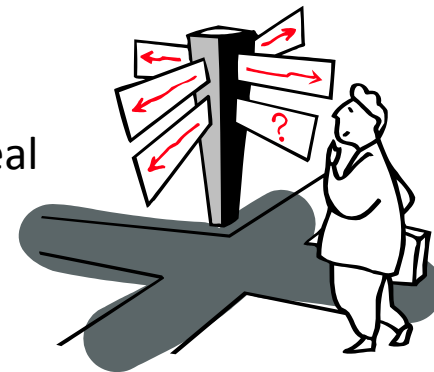
- Fully Mobile – Smart Phone, Tablet, Pocket PC
 - Portability ensures records are updated in ‘real time’ as changes are made
 - Off-line synchronized rich Pocket PC version
- Implementation
 - Mobility means implementation of CableSolve is usually faster and cheaper than competitive systems!
- Change Management
 - Plan and efficiently execute accurate changes with CableSolve work-order management then execute on the mobile device when the change is made



DCIM Adoption in an Enterprise Environment

Where to Start – Initial Planning

- Understanding the project scope
 - What does IT want from this project
 - List the top pain points around data center IT management
- Engage with the facilities teams and discuss pain points between the groups
- Goal
 - no XL
 - Common understanding of the infrastructure
 - Fix your top issues
- Keep the initial deployment simple: Money follows Success
 - Don't get too carried away with size, focus on solving some real problems
- Think Small (that maybe 1,000 racks!) and geographically limited



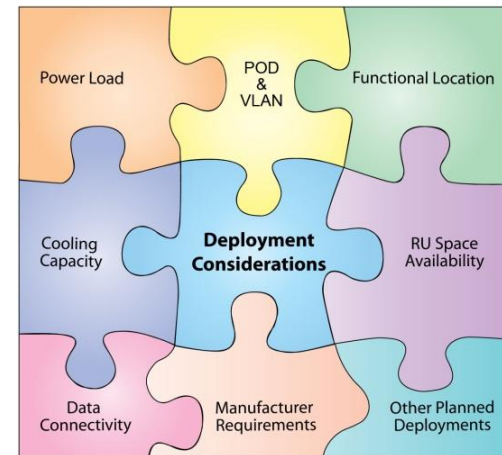
Initial Scope

- Be realistic
 - Cross function agreement is hard
 - “Let’s manage everything”, may not be realistic or even desired.
 - Just enough management
- Be very very clear on the post implementation process and document it at the start
- Look at ROI – will you see a (realistic) return?
 - Including equipment, training and implementation costs
- Use a maturity model approach to use
 - Get control of what you have
 - Start to monitor
 - Use the data to for analysis and diagnosis



DCIM Deployment

- Use the post implementation process to drive deployment
 - How will the infrastructure be maintained
 - Data output
- Set-up global configuration information at the start
- Use outside help to get going
 - Most people too busy with the day to day
- Import existing data and then use mobility to confirm it



DCIM Pitfalls

- Too broad an initial project scope
- Collecting data that is of no use
- Expecting DCIM to solve problems without recognizing what is vital
- Choosing a solution that requires developer customization to be useful
- Not being clear on precisely how you intend to use the solution
- Not getting external implementation help



WHAT TO CONSIDER WHEN SELECTING A DCIM SOLUTION

Starting the Selection Process

- Prioritize Your Problems; e.g.
 - I am running out of space for servers
 - I am running out of power
 - Finding servers when there are problems is almost impossible
 - I know I have zombies, but I don't know where
- Pick a DCIM solution that has a proven ability to grow. There is no limit to the future problems a good solution can solve
- Consider how the DCIM solution will stay up-to-date

Questions to ask yourself, before you start

1. What are my biggest problems today?
2. How good is my documentation of what I have today?
3. Do I understand what problems I want to solve?
4. Do I want on-going help to manage the solution?
5. Do I have the will to enforce a single process?
6. What cross department buy in do I have?
7. What is our go-live process, do we have issues with that or with finding equipment later (during downtime)?

Questions to ask vendors

1. Current customer base and type are they similar to you?
2. Solution maturity, what version is this?
3. What implementation support is available?
4. Is mobility built into the solution – tablets, handhelds, etc.?
5. What additional hardware is required?
6. Is the product configurability (user managed) or require customization (developer managed)?
7. How will the solution scale?
8. What interfaces does the solution have?
9. What is the support model?
10. What parts of my problem set does the solution cover and what it does not?
11. Road map, where is the solution going? (but don't buy futures)

Selection process

- Is a full version proof-of-concept possible
 - this is the best way to kick the tires.
 - If it's not, why not (don't buy complexity)
- Ease of installation
 - a big cost and understanding what is possible needs to be part of the decision process
- What is the expected ROI
 - how is that derived, do you believe ;



SUMMARY

DCIM - What really works?

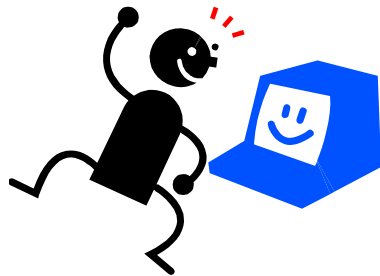
- Simplicity
 - Aids adoption within core group, makes training easy, allows for churn, means further adoption as success is demonstrated
- Accessibility
 - If it's easy to get access to the data it's far more likely to be used
- Data Center Process Change
 - Processes need to change to take advantage of DCIM solution
- Flexibility
 - The solution should be grow with the enterprise and solve new challenges
- Just enough management
 - Solve the biggest problems

Solution + Process + Maturity = DCIM Success

HOLISTIC IT INFRASTRUCTURE MANAGEMENT

Dashboards • Historical • Plans • Reports • Exports

STANDARDIZATION	PLANNING	CONTROL	INTEGRATION	VISUALIZE	MONITORING
Single repository Single data dictionary	Change management Capacity views Historical data	Work orders Handheld capture Scripting Network Discovery	XML API SNMP/WMI Network Scripting	Data Center Views Rack Views Floor Plans	Alerts Change Management Audits Color Coding
Web • Client • Imports • Handheld capture • SNMP/WMI • Scripting • API					



Thank You

Learn More at Booth 837

www.cormant.com/interopnet-video

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