



DCIM Software

What & Why?



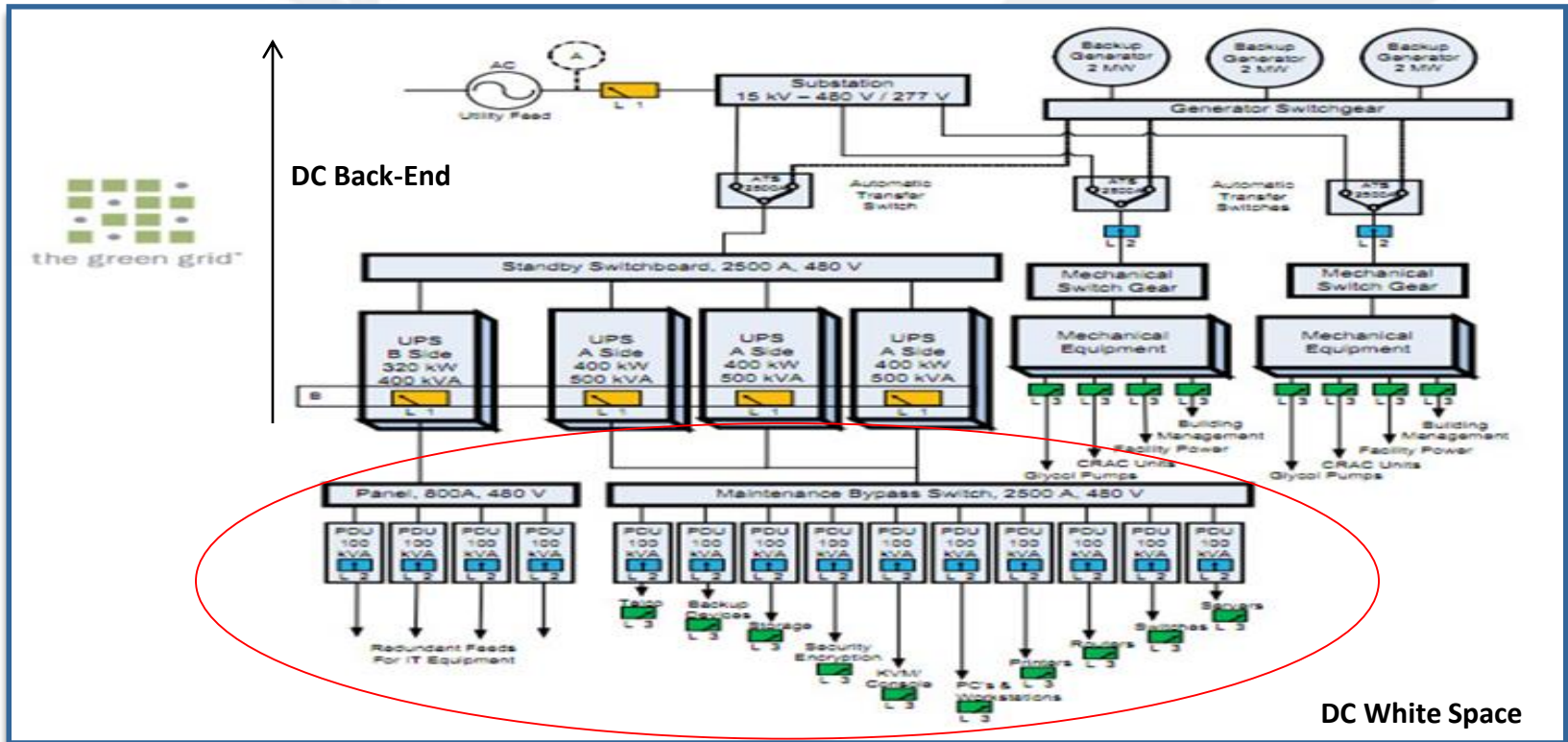
The Data Center Challenge



High Availability versus Efficiency



White Space & The Back-End: The Great Divide



Q1: How Do You Avoid Single Point of Failure?
Q2: How Do You Reduce Data Center Costs?



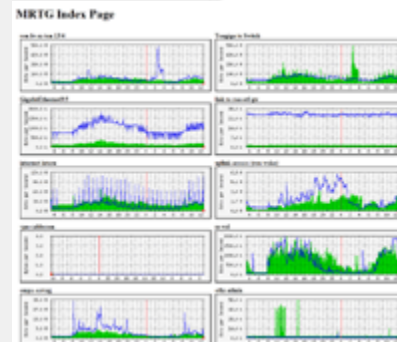
Traditional Data Center Operations

Monitoring in Silos

Facilities w/BMS



IT w/System Management Tools



Data Center Failure is Inevitable



Traditional Data Center Operations

Asset Management Through Multiple Spreadsheets

	2010	2010	Q1	Q2	Q3	Q4	2011	2011	Q1	Q2	Q3	Q4	2012	2012	Q1	Q2	Q3	Q4
Revenue																		
Customer Set-up Fees	1,480,000	59.68%	0	0	370,000	1,110,000	8,700,000	42,050	1,785,000	1,785,000	2,175,000	2,855,000	19,440,000	33,52%	3,675,000	3,675,000	4,860,000	7,230,000
Total Direct Sales	1,000,000	40.32%	0	0	250,000	750,000	4,656,867	22,51%	750,000	750,000	1,164,167	1,902,500	11,206,867	19.49%	1,902,500	1,902,500	2,821,867	4,480,000
Total Channel Sales	0	0.00%	0	0	0	0	7,333,333	35.44%	1,500,000	1,500,000	1,833,333	2,500,000	27,260,000	47.01%	5,235,000	5,235,000	6,815,000	9,875,000
Total Revenues	2,480,000	100.00%	0	0	620,000	1,860,000	20,690,000	100.00%	4,035,000	4,035,000	5,177,500	7,447,500	57,398,867	100.00%	10,912,500	10,912,500	14,496,867	21,685,000
Customer Services	48,633	1.96%	0	0	13,783	34,850	378,765	1.83%	72,855	77,447	87,507	131,256	1,100,831	1.89%	196,328	205,341	316,717	382,540
Engineering	5,244,185	211.48%	1,029,900	1,294,385	1,380,780	1,531,200	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550
Cost of Service	5,292,819	213.42%	1,029,900	1,294,385	1,380,780	1,531,200	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550	1,541,550
Gross Profit	(2,812,819)	-113.42%	(1,029,900)	(1,294,385)	(1,380,780)	(1,531,200)	(1,541,550)	(1,541,550)	(1,541,550)	(1,541,550)	(1,541,550)	(1,541,550)	(1,541,550)	(1,541,550)	(1,541,550)	(1,541,550)	(1,541,550)	(1,541,550)
Sales	1,233,500	49.74%	0	0	452,000	781,500	4,368,000	21.11%	918,500	1,063,300	1,152,000	1,233,000	12,814,100	21.75%	1,424,700	1,455,100	3,755,900	3,960,400
Marketing and Business Development	1,232,000	48.47%	120,000	290,000	321,000	471,000	4,003,200	19.35%	825,800	925,800	1,225,000	1,225,000	7,674,000	13.26%	1,918,600	1,918,600	1,918,600	1,918,600
General and Administration	1,510,014	60.89%	221,833	240,177	374,174	673,829	3,112,083	15.04%	791,368	789,014	757,500	784,361	3,862,806	6.64%	879,581	832,282	951,773	980,311
SG&A	3,845,514	159.09%	341,833	330,177	1,147,174	1,926,329	11,483,883	55.50%	2,330,688	2,758,114	3,136,550	3,264,081	24,141,856	41.63%	4,322,841	4,322,841	6,636,323	6,878,381
Net Earnings Before Tax	(6,758,332)	-272.51%	(1,371,733)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)
Federal & State Income Tax	0	0.00%	0	0	0	0	0	0.00%	0	0	0	0	0	0.00%	0	0	0	0
Monthly Income (loss)	(6,758,332)	-272.51%	(1,371,733)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)
Cumulative Net Income (loss)	(6,758,332)	-272.51%	(1,371,733)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)	(1,824,563)
Headcount	111		46	67	92	111	139		113									
Customer Services	1	0	0	1	1	4	2											
Customer Services Outsourced	13	0	0	3	13	32	13											
Engineering	23	15	17	18	23	23	23											
Engineering Outsourced	39	24	38	39	39	39	39											
Sales	20	0	0	16	20	24	24											
Marketing and Business Development	8	4	8	8	8	8	8											
General and Administration	7	3	4	7	7	9	9											
Customers																		
Monthly Add - Direct Sales	148	-	-	-	37	111	440	90										
Monthly Add - Channel Partners	-	-	-	-	-	-	860	177										
Total Monthly Customers	148	-	-	-	37	111	1,300	267										
Cumulative Direct Sales	148	-	-	-	37	148	588	238										
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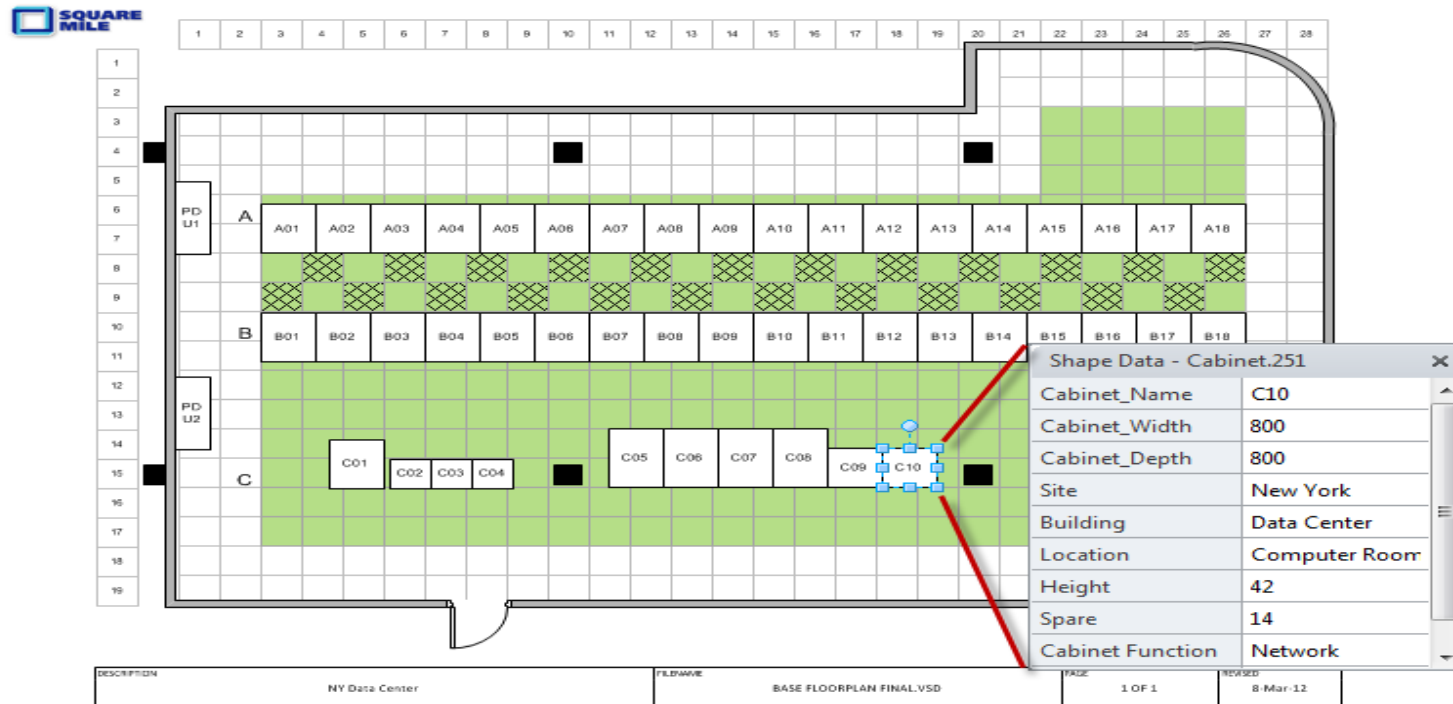
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Total Channel Sales	0	0.00%	0	0	0	0	7,333,333	35.44%	1,500,000	1,500,000	1,833,333	2,500,000	27,260,000	47.01%	5,235,000	5,235,000	6,815,000	9,875,000
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Data Inconsistency & Complexity in Management: Source of High Costs



Traditional Data Center Operations

Data Center Layout with Visio-like tools

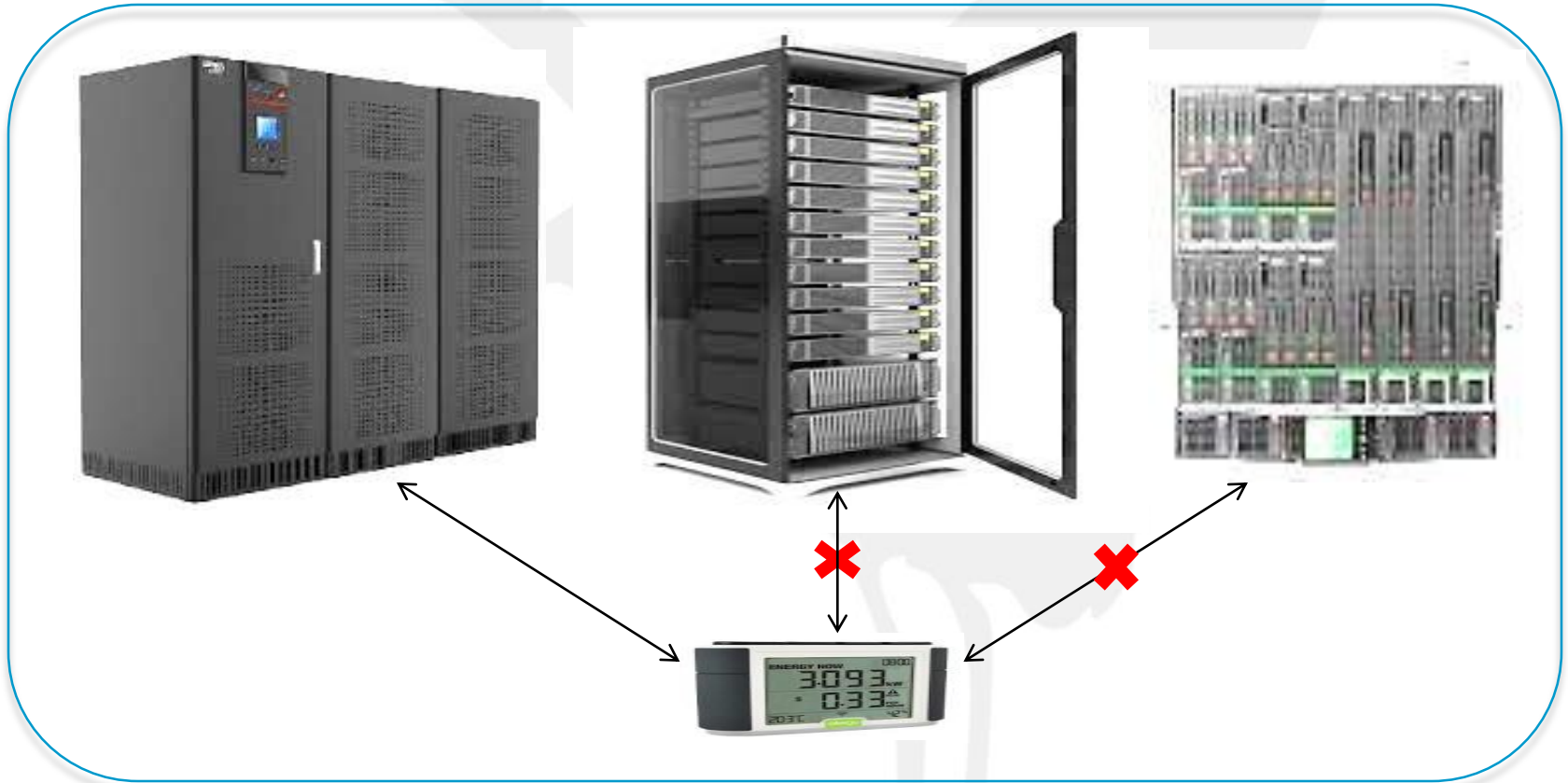


**Static and No Real-time View of Available Power & Space Capacities.
Lack of Capacity Planning Leads to High Capex & Poor Asset Utilization**



Traditional Data Center Operations

PUE Monitoring Absent , Inconsistent or Incomplete

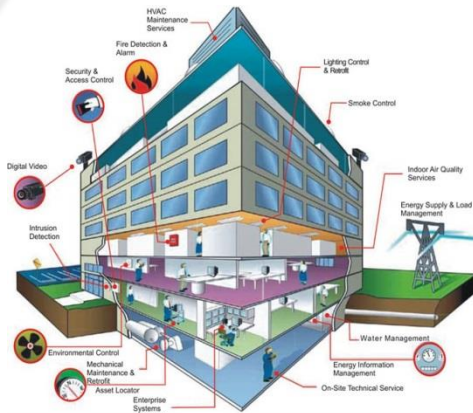


High Power Usage Accounts for >40% Operating Costs of Data Centers

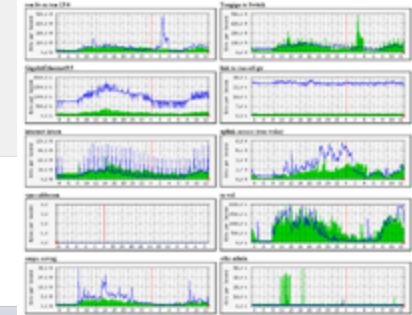


Traditional Data Center Operations

Multiplicity of non-integrated tools



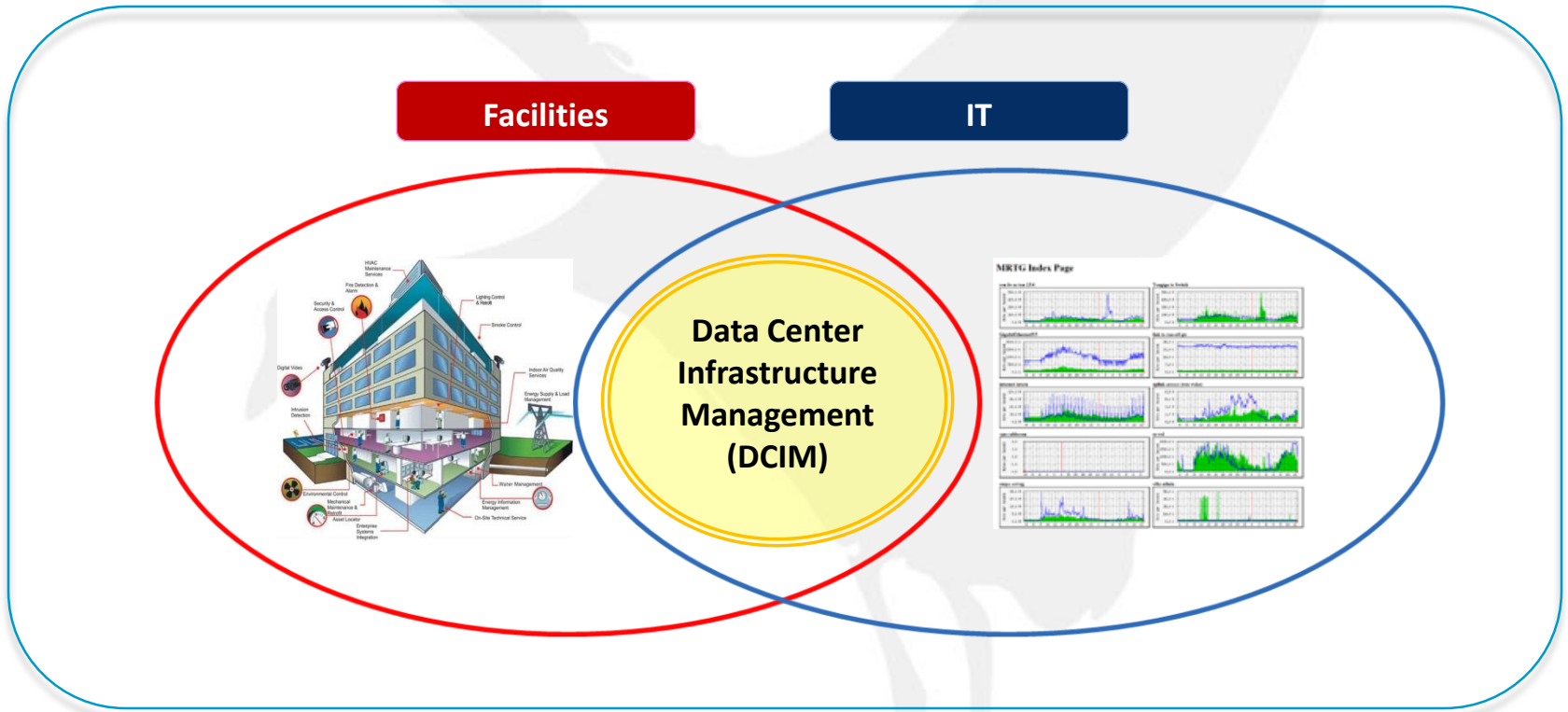
MRTG Index Page



No Analysis of Data Collected in Different Systems : Higher Capital Costs, Higher Operating Costs, Higher number of failures



The Origin of DCIM: *Bridging the Gap*



DCIM: Single solution for end-to-end data center operations



DCIM Today: for DC Operations, Planning & Management

**DCIM
Policies
(Data
Center
SOPs)**

Power & Environment Monitoring with Alerts

Asset Lifecycle Management

Capacity Planning with What-if

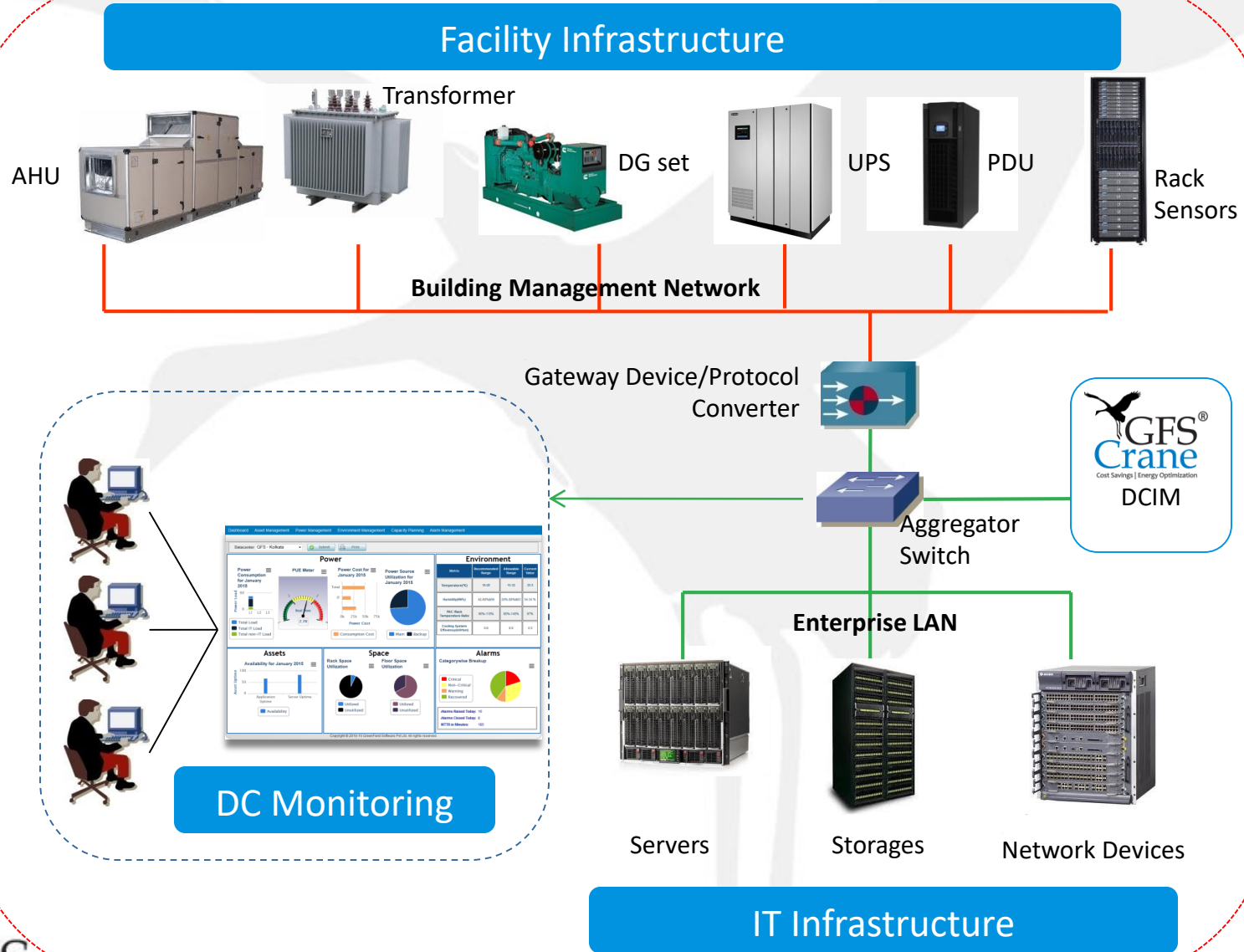
DC Layout - Visualization & Modelling

Change Management - Workflow & Audit Trail

Dashboard, Analytics & KPIs



Operations: Single Monitoring Console for Facilities & IT





Planning: Capacity Forecasting, Maintenance Scheduling & Asset Rationalization

Capacity Forecasting for Power Space & Cooling:

- avoiding stranded capacities
- Inventory management & provisioning

Preventive Maintenance Scheduling:

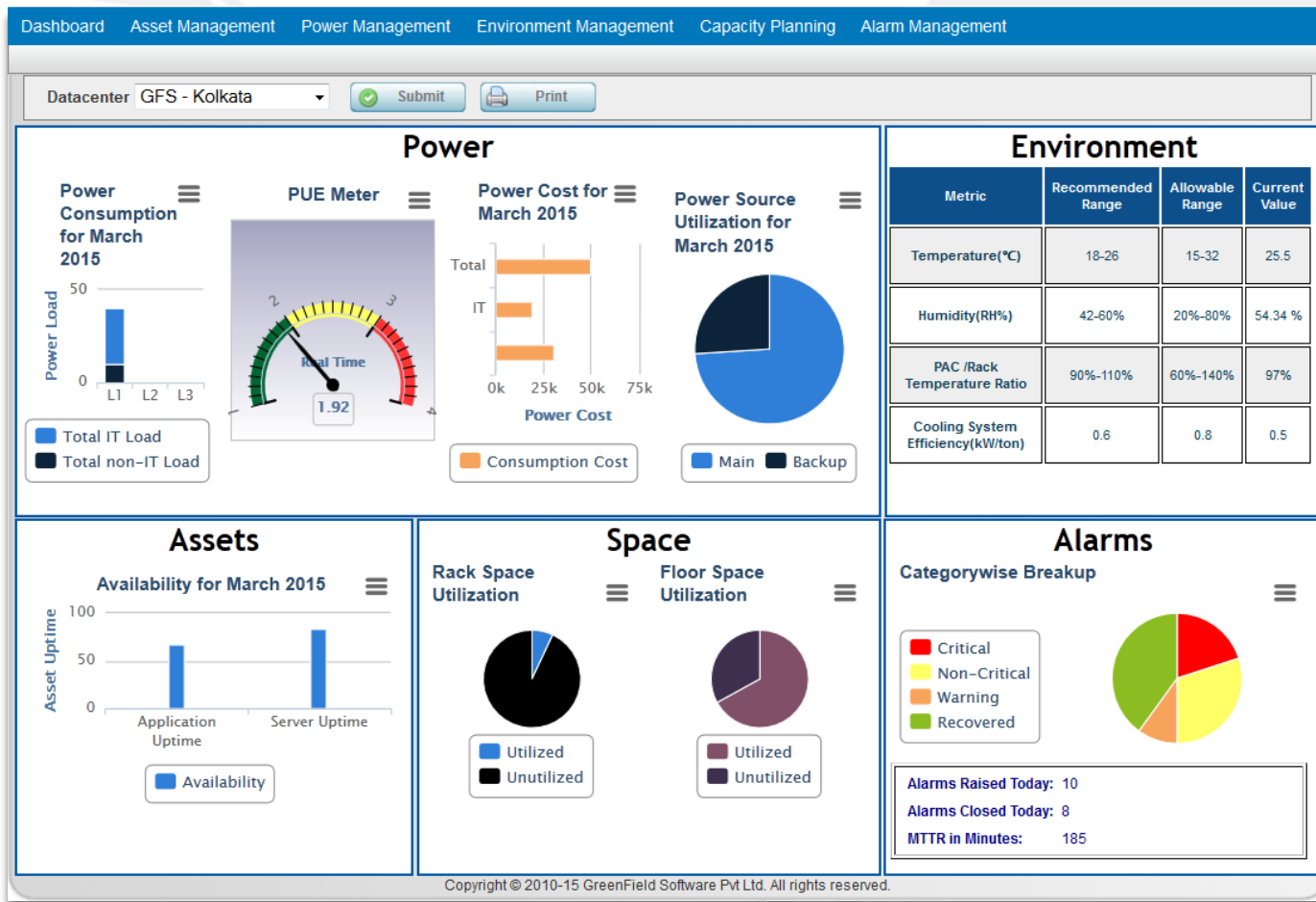
- Power chain shows dependencies
- coordination to avoid disruption of critical services

Asset Rationalization:

- Based on Aging Analysis, Replacement Policies and Utilization: which servers to decommission, replace or virtualize



Management: Analytics, Dashboards & KPIs



Role & Customer-based Dashboards



How DCIM Helps

Since DCIM Software dynamically captures information related to asset utilization, power consumption, environmental conditions , it:

- Helps Data Center Manager avoid unnecessary over-provisioning
- Helps plan investments and new capacity
- Helps reduce the capital costs
- Helps reduce power use and other operating costs
- Helps reduce risk of failures through critical alerts
- Helps adapting to technical and business change more easily
- Helps improvement plans through real-time metrics & dashboard



Customer Value Proposition

Smaller DCs (20-50 racks)

1. Mitigates risk of data center failures or fires. Smaller data centers do not have a tool to monitor temperature, UPS or rack load.
2. Provides up-to-date centralized asset inventory with preventive maintenance schedules.
3. Provides visibility into hidden capacities of the data center such as power, cooling and space. Helps avoid costly upgrades by extending the DC life

Mid-size Captive/CoLo DCs (50-200 racks)

1. Better capacity forecasting with simulation and 'what if' analysis to optimize DC resource utilization
2. Provides uptime reports of critical devices in SLA-driven operations; provides impact analysis capability, change management and audit trails
3. Improves data center PUE and energy efficiency of the data center as part of overall cost optimization and sustainability drive of the organization



DCIM FAQ

Questions	Answers
I have a BMS and a System Management Tool. Why do I need DCIM?	BMS is a monitoring tool for Facility devices. It does not provide visibility to IT on changes & problems at Facilities end that can impact rack loads. Vice versa, System Management Tools do not help Facility Teams for deciding if extra (or less) power or cooling is required.
DCIM needs a BMS. I am not willing to invest in that.	Yes, traditional DCIM does need a BMS for raw data. But GFS Crane is different. It provides the software layer of a BMS. All you need are a few environmental probes & power meters – rest will be done by GFS Crane.
How do I get L3 PUE from DCIM if we are not allowed to directly monitor the IT devices?	GFS Crane DCIM provides L3 PUE reading rack power from iPDU. If OIDs are available for sockets, then socket level power data will provide, in non-intrusive manner, actual power consumption of rack device.
There's too much manual effort involved in creating Asset Database	With Auto-discovery and in-built OEM Library, we have automated this area.
DCIM is too expensive	GFS Crane allows modular licensing – you can procure additional licenses as needs increase. We also have annual subscription licensing for those who prefer this to CAPEX model.



For more details:

Visit

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Or email

sales@greenfieldsoft.com

