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framework®

# DCiM

## Data Center Infrastructure Management



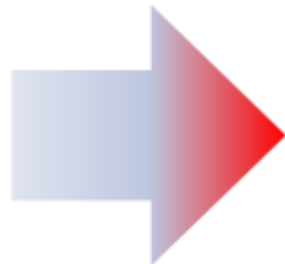
# When You Are Out of ANY of These ...

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Power



Cooling



Space



# What DCIM Can Do for You

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- Power, cooling and physical space optimization → capital deferral
- Modeling and simulation → "what-if" scenarios
- IT/facilities integration → bridge the gap, enhance capacity management
- Energy management → cost savings
- Asset management enhancement → facilities, interrelationship, location

# Niagara Data Center Solutions

- Tridium provides data center Monitor, Manage, Power, & Cool solutions
- 900+ Instances of DCiM Solutions Installed
- 320+ Customers
- Over 50 international projects
- Over 120 international instances
- YTY growth over 30%





# Tridium Niagara DCIM

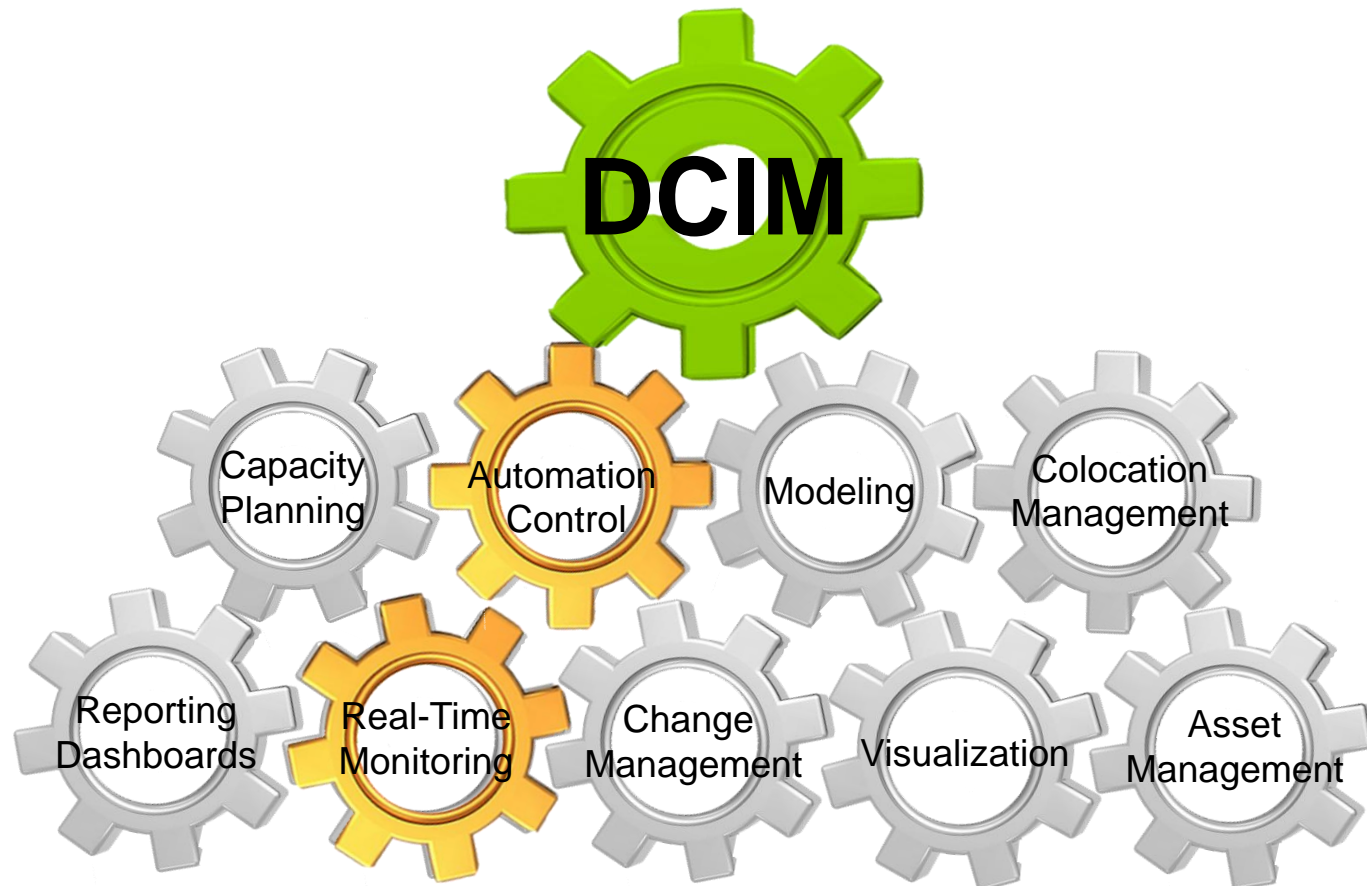
**Enterprise Solution** - enterprise level monitoring and management system designed to provide visibility across your entire datacenter's infrastructure

**Local/Site Solution** – is a comprehensive set of products designed to manage rack level data and white space with a single point of Integration.



# Niagara DCiM Solution

Enterprise Level Monitoring and Management System Designed to Provide Visibility Across Your Entire Datacenter's Infrastructure



# Enterprise Solution

## Pre-Configured

- Individualized GUI
- Dashboards
- Multi-site management
- Alarm Console
- Drill Down Navigation



# Enterprise Solution

## Floor Plan Views

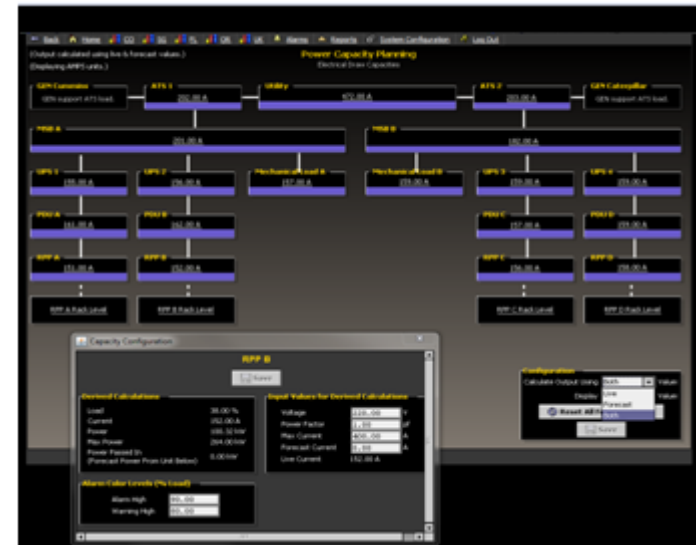
- Kw / rack
- Available RU / rack
- Temperature / rack
- Thermographic view



# Enterprise Solution

## Electrical Monitoring

- Power One-Line
- Capacity Planning with “What if” scenarios
- Equipment monitoring
- Consumption tracking
- Energy Cost Analysis
- Real Time tracking of power consumption and cost



# CRAC Sequencer

## Mechanical Monitoring

- CRAC/H Control
- Demand Based Cooling
- Reduce Energy Costs
- Leverage Predictive Tools

The screenshot displays the CRAC Sequencer interface, which is divided into three main sections:

- Status Table:** A table showing the operational status of five CRAC units. CRAC-2 and CRAC-3 are ON, CRAC-4 is in FEEDBACK FAILURE, and CRAC-1 and CRAC-5 are OFF.
- Sequencer Configuration:** A panel on the left with various settings such as Average Temp (72.80), Temp Maximum (90.00), and Minimum On (2).
- Floorplan:** A 3D perspective view of a server room with CRAC units placed on the ceiling. The status of each unit is indicated by a small icon above it.

Unit	Mode	Sequencer State	Active Time	In Delay	Zone Temp	Minimum Zone Temp	Feedback	Feedback Pending	Feedback Failed
CRAC-1	Force Off	FORCED OFF	0ms		74.34	0.00			
CRAC-2	Automatic	ON	47.812sec		76.09	0.00			
CRAC-3	Automatic	ON	3mins 0.047sec		69.43	70.00			
CRAC-4	Automatic	FEEDBACK FAILURE	0ms		66.72	0.00			
CRAC-5	Automatic	OFF	0ms		75.42	0.00			



# Maintenance Manager

## Maintenance Manager

- Schedule pre-defined maintenance tasks
- Receive Reminders
- Document Instructions
- Track Maintenance Activities
- Automatically place devices in Maintenance Mode

**Scheduled Event**

**Title:** UPS Load Test

**Schedule:** The First Monday of every month

**Devices:**  
 CO\_DAC/UPS-4  
 CO\_DAC/UPS-3  
 CO\_DAC/UPS-2  
 CO\_DAC/UPS-1

**Personnel:** Jim

**Instructions:** **Tools:** No tools   
**Detail:** Reference doc 123547547

**Recipients:**  
**Email:** **Subject:** Task %taskName% is now %taskStateString%

**Links:**

schedule.scheduleDialog.title

← Prev Page ← Prev Month Today Next Month → Next Page →

May 2013							Jun 2013							Jul 2013							Aug 2013							
s	m	t	w	t	f	s	s	m	t	w	t	f	s	s	m	t	w	t	f	s	s	m	t	w	t	f	s	
			1	2	3	4						1																
5	6	7	8	9	10	11	2	3	4	5	6	7	8	7	8	9	10	11	12	13	4	5	6	7	8	9	10	
12	13	14	15	16	17	18	9	10	11	12	13	14	15	14	15	16	17	18	19	20	11	12	13	14	15	16	17	
19	20	21	22	23	24	25	16	17	18	19	20	21	22	21	22	23	24	25	26	27	18	19	20	21	22	23	24	
26	27	28	29	30	31		23	24	25	26	27	28	29	28	29	30	31				25	26	27	28	29	30	31	

**Event Start Time:** 08:00:00 AM EDT

**Event Length Time:** +00001h 00m 00.000s

**Auto Event Mode:**

**Reminder Minutes:** -00000h 15m 00.000s

**Once** **Weekly** **Monthly** **Yearly**

Day  of every month

The   of every month



# Tenant Manager

- Tenant Billing
  - Tenant-by-Tenant management features for multi tenant data center market
- Track Real Time Usage
  - Peak and non-peak rates can be applied by actual usage
  - Schedule rate changes and upcoming events
- Automatically Generate Tenant Invoices
  - Invoice via e-mail or printed mail



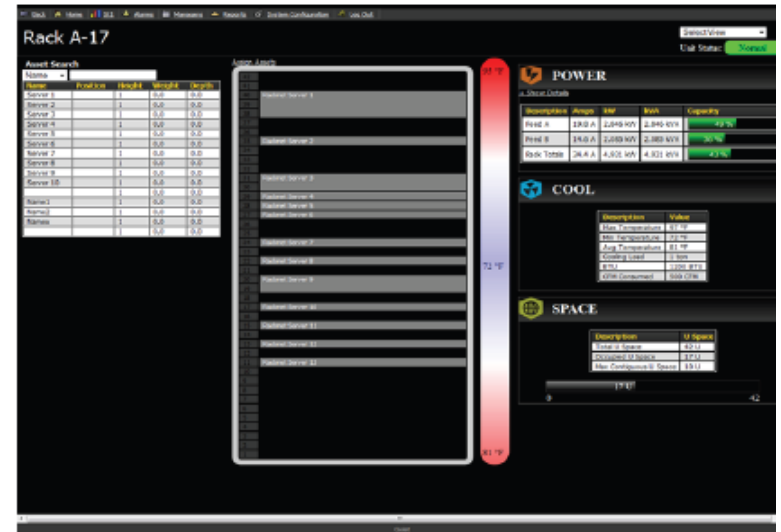
Tenant	Contact	Usage	Billing
ABC Co.	John Doe	1000 kWh	\$1000.00
DEF Co.	Jane Smith	2000 kWh	\$2000.00
GHI Co.	Bob Johnson	3000 kWh	\$3000.00
JKL Co.	Alice Brown	4000 kWh	\$4000.00
MNO Co.	Charlie White	5000 kWh	\$5000.00

The Tenant Manager allows you to track tenant account details such as contact information and billing details.



# Asset Manager

- Asset Inf.
  - Rack Elevation Views
  - Asset Tag inf.
- Import Wizard
- Space
  - Total U Space
  - Occupied U Space
  - Max Contiguous U Space



- Power Details
  - A Feed B Feed Totals
- Cooling Details
  - Min, Max, Current
  - CFM Consumed

Name	Make	Model	Serial Number	Asset Tag	Install Date	Warranty Expiration	Position	Primary Contact Name	Primary Contact Phone	Primary Contact Email	Rack	Device Type	Height	Weight	Depth	Notes
server1		12345	abc123		04/01/2013	01/01/2020	path					1	0.0	0.0		
server2		23456	abc234	assets	04/01/2013	01/01/2020	path2					1	0.0	0.0		
server3	Ford	Mustang	98765	tags	03/25/2013	01/01/2010	40					1	0.0	0.0		
server5.1	Dell	50456	44445	asset tag	03/25/2013	01/01/2010	38					1	0.0	0.0		
server6	Dell	50456	44446	asset tag2	03/25/2013	01/01/2010	37					1	0.0	0.0		
test5					04/01/2013	01/01/2010	30					1	0.0	0.0		
test11					04/01/2013	01/01/2010						1	0.0	0.0		
test13					03/31/2013	01/01/2020						1	0.0	0.0		
Name12					04/01/2013	01/01/2020						1	0.0	0.0		
Name22					04/01/2013	01/01/2020						1	0.0	0.0		
Server1.1	Dell	DRD5340	giveruo897897	Dell Server	04/08/2013	04/08/2023	35					1	0.0	0.0		
Server2.2	Dell	DRD5340	giveruo897897	Dell Server	04/08/2013	04/08/2023	36					1	0.0	0.0		
Server3.3	Dell	DRD5340	giveruo897897	Dell Server	04/08/2013	04/08/2023	37					1	0.0	0.0		
Server4.4	Dell	DRD5340	giveruo897897	Dell Server	04/08/2013	04/08/2023	38					1	0.0	0.0		
Server5.5	Dell	DRD5340	giveruo897897	Dell Server	04/08/2013	04/08/2023	39					1	0.0	0.0		
HP Server 1	HP	ABC123	12345		04/09/2013							1	0.0	0.0		
HP Server 2	HP	ABC123	12345		04/09/2013							1	0.0	0.0		
HP Server 3	HP	ABC123	12345		04/09/2013							1	0.0	0.0		
Server with contact info	HP	abc234	90235jk	tag2	04/09/2013	01/01/2020	17					1	0.0	0.0		Notes feed
Name test 3												1	0.0	0.0		



# Local / Site Solution

A single point of access for managing rack power strips and environmental information.

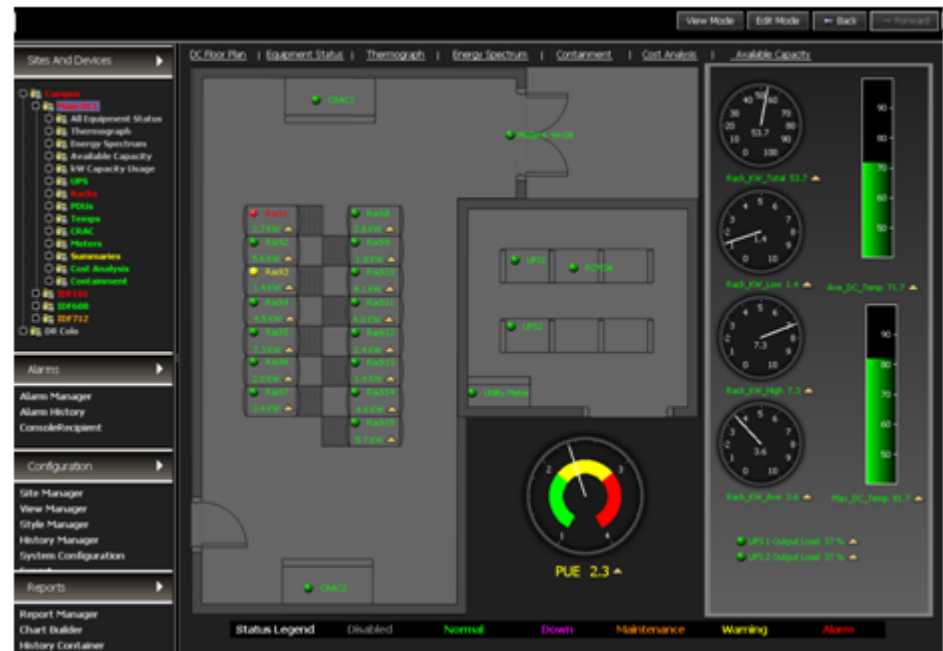
Vendor Independent

Manage Intelligent Rack Power Strips

Environmental Monitoring

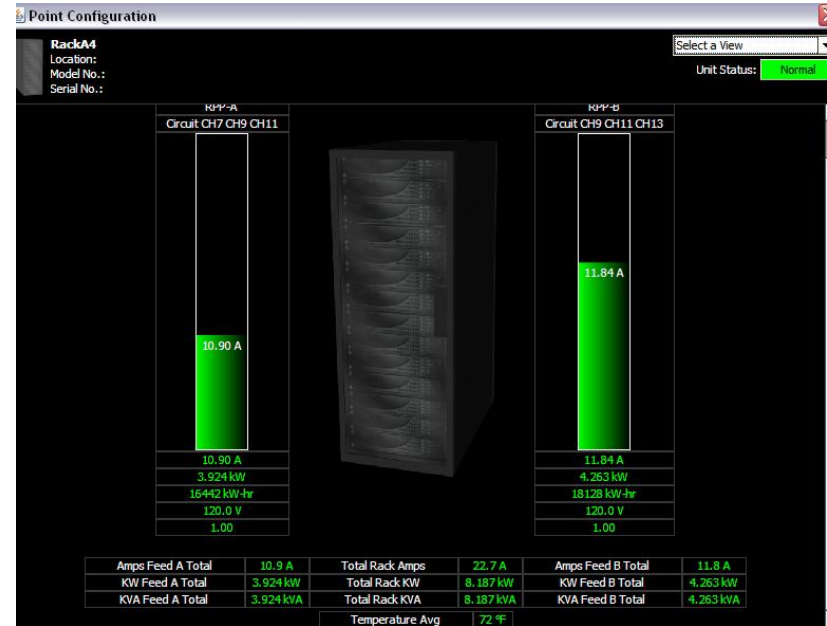
Stand Alone Appliance or V

Auto Discovers SNMP Devices



# Rack Manager

- Rack Manager
  - Define Custom Rack Views & Calculations
    - Associating circuits to individual Racks
    - Total Amps, kW, KVA, Power Factors
    - Load Balance
    - Environmentals



Name	Location	Rack U	RU Free	Max Cont Free U	Total Amps	Total KW	Total KVA	Top Temp	Middle Temp	Bottom Temp
RackA1	CO	42	12	4	23.65 A	8.514 kW	8.514 kVA	74.6	73.9	63.2
RackA2	CO	42	20	12	21.35 A	5.124 kW	5.124 kVA	72.0	67.1	68.3
RackA3	CO	42	12	4	20.25 A	4.861 kW	4.861 kVA	81.1	82.4	67.4
RackA4	CO	42	19	14	22.79 A	8.205 kW	8.205 kVA	80.6	66.6	67.0
RackA5	CO	42	9	5	25.44 A	9.161 kW	9.161 kVA	81.5	81.9	66.8
RackA6	CO	42	18	14	17.29 A	6.227 kW	6.227 kVA	80.4	67.8	67.3
RackA7	CO	42	2	1	23.05 A	5.533 kW	5.533 kVA	74.5	73.5	66.8
RackA8	CO	42	17	15	25.12 A	6.030 kW	6.030 kVA	73.0	67.4	66.9





Questions?

